



DIRECTORATE GENERAL FOR
NEIGHBOURHOOD AND ENLARGEMENT
NEGOTIATIONS – DG NEAR

**Short term high quality studies to support activities under the Eastern Partnership
HIQSTEP PROJECT**

**STUDY ON THE HARMONISATION OF THE DIGITAL
MARKETS IN THE EASTERN PARTNERSHIP: ETRADE,
ELOGISTICS & DIGITAL TRANSPORT CORRIDORS**

STUDY REPORT

March 2018

This report has been prepared by the KANTOR Management Consultants Consortium. The findings, conclusions and interpretations expressed in this document are those of the Consortium alone and should in no way be taken to reflect the policies or opinions of the European Commission. Any errors are the responsibility of the authors.

PREFACE

This cross-country report on the Harmonisation of the Digital Markets (HDM) in the Eastern Partnership is produced by the project ‘Short term high-quality studies to support activities under the Eastern Partnership – HiQSTEP, EuropeAid/132574/C/SER/Multi’, carried out by an international consortium under the management of Kantor Management Consultants.

The study was implemented by a team under the leadership of Vladimir Abramytchev (Study Team Leader, Electronic Trade), and composed of a senior international expert Vytautas Vitkauskas (Electronic Logistics, Digital Transport Corridors), and national experts: Vahan Hovsepyan (Armenia), Tofiq Babayev (Azerbaijan), Sergey Yenin (Belarus), Eka Katamadze (Georgia), Eugeniu Hristev (Moldova) and Oleksandr Fedorov (Ukraine). Valery Virkovski (EU4Digital: eTrade Network Coordinator) and Paulius Valiulis provided their contribution to the study report.

Overall supervision was carried out by Przemysław Musiałkowski, Team Leader of the HiQSTEP Project. Administrative management was provided by Vassilis Kopanas (DG CONNECT), Francesco Nicoletti and Viola Calabrese (DG NEAR)¹.

Deep appreciation is expressed by the entire team to all staff members of the European Commission and specialists in the Eastern Partnership (EaP) Countries who directly or indirectly helped to complete this study, and in particular to the EC officials who helped define the European Union (EU) baseline and stakeholders in the six EaP Countries who provided information through interviews and by responding to questionnaires. Sincere gratitude is also addressed to the participants of HDM Workshops and the affiliates of the HDM Working Groups for their highly valuable feedback and data.

March 2018

¹ For any request about the study, please contact Vassilis Kopanas (Vassilis.Kopanas@ec.europa.eu) and Vladimir Abramytchev (va@sorbonne.eu.com).

TABLE OF CONTENTS

Preface	2
Abbreviations	3
Executive summary	7
1 Purpose and objectives of the harmonisation	19
2 Study Methodology	19
2.1 Paperless Trade Supply Chain Reference Model	20
2.2 Approach to data collection, gap analysis and design of roadmaps	22
2.3 Methodology of monitoring the progress of harmonisation	23
3 European Union baseline	26
3.1 EU baseline in Paperless Trade	26
3.2 EU baseline in electronic Logistics	31
4 Analysis of the Partner Countries	35
4.1 Armenia	36
4.2 Azerbaijan	48
4.3 Belarus	59
4.4 Georgia	72
4.5 Moldova	91
4.6 Ukraine	101
5 Regional analysis	11
3	
5.1 State of play and gap analysis of the Region	113
5.2 Benefit analysis	120
5.3 Regional roadmap	126
5.4 Monitoring of harmonisation progress	133
6 Conclusions	13
6	
References	13
7	
Annexes	13
9	
6.1 EU4Digital: eTrade Network Action Plan 2018-2020	139
6.2 Correlation between the Study Report's recommendations and the action plan	140
6.3 Summary of the recommended pilot projects	142
6.4 Description of the recommended pilot projects	143
6.5 Summary of the recommended actions by the EaP Countries in paperless trade	151
6.6 Summary of the recommended actions by the EaP Countries in electronic logistics	154
6.7 Detailed EU baseline in Paperless Trade	155
6.8 Detailed EU baseline in Electronic Logistics	165

ABBREVIATIONS

AA	Association Agreement
ABADA	Azerbaijan International Road Carriers Association
ANNA	Advanced National Networks for Administrations project
A2A	Administration to Administration
A2B	Administration to Business
AEO	Authorised Economic Operator
ASYCUDA	Automated System for Customs Data
ATA	Temporary Admission of Goods
AWB	Air Waybill
BCCI	Belarus Chamber of Commerce and Industry
BOL	Bill of lading
B2B	Business-to-business
B2C	Business-to-consumer
CC	Customs Code
CCC	Community Customs Code
CCTV	Closed-Circuit Television
CEF	Connecting Europe Facility
CEFACT	Centre for Trade Facilitation and Electronic Business
CeT	Coordinator for e-transformation
CIIS	Customs Integrated Information System
CIM	Uniform Rules on the Contract of International Carriage of Goods by Rail
CIS	Commonwealth of Independent States
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CJSC	Closed Joint Stock Company
CMR	Convention on the Contract for the International Carriage of Goods by Road
CTC	Common Transit Convention
CO	Certificate of Origin
eCO	Electronic Certificates of Origin
eCommerce	Electronic commerce
eGC	e-Government Centre
eID	Electronic identification
COTIF	Convention concerning International Carriage by Rail
CVED	Common Veterinary Entry Document
C2C	Customs-to-Customs
DCFTA	Deep and Comprehensive Free Trade Areas
DEA	Data Exchange Agency
DTC	Digital Transport Corridors
DTLF	Digital Transport and Logistics Forum
EaP	Eastern Partnership
ECU	Eurasian Customs Union
EEC	Eurasian Economic Committee
EEU	Eurasian Economic Union
EU	European Union
eAWB	Electronic Air Waybill
EDI	Electronic data interchange
EIF	European Interoperability Framework
eIDAS	Electronic IDentification, Authentication and trust Services
eLogistics	Electronic logistics
EIF	European Interoperability Framework
EIS	European Interoperability Strategy
EIS	European Information System

eCMR	Electronic consignment note under the Convention on the Contract for the International Carriage of Goods by Road
eCO	Electronic Certificates of Origin
EDIFACT	Electronic Data Interchange for Administration, Commerce and Transport
EDS	Electronic digital signature
eSMGS	Electronic consignment note of the Agreement on Direct International Goods Transport by Rail & Procedure Instruction
eTrade	Paperless trade
eTFS	Electronic trade facilitation
FFM	Freight forward manifest
FIATA	International Federation of Freight Forwarders Associations
GCCI	Georgian Chamber of Commerce and Industry
GNC	Globally Networked Customs
GoG	Government of Georgia
GRS	Georgian Revenue Service
GS1	Global Standard 1
GSP	General System of Preferences
GUAM	Georgia, Ukraine, Azerbaijan, and Moldova
HDM	Harmonisation of digital markets
HS	Harmonised System
IATA	International Air Transport Association
IADFS	Inter-agency Documents Flow System
ICC	International Chamber of Commerce
ICCU	Ukrainian National Committee of the International Chamber of Commerce
ICAO	International Civil Aviation Organisation
ICT	Information and Communication Technology
IDMS	Inter-agency Document Management System of Government bodies
IMP	Integrated Maritime Policies
IRU	International Road and Transport Union
IPCS	Information Port Community System
ISO	International Standardisation Organisation
JICA	Japan International Cooperation Agency
JSC	Joint Stock Company
L/C	Letter of credit
LEPL	Legal Entities of Public Law
MCI	Ministry of Communication and Informatisation
MoESD	Ministry of Economy and Sustainable Development of Georgia
MoF	Ministry of Finance of Georgia
MoJ	Ministry of Justice of Georgia
MSs	Member States
NAIS	National automated information system
NAPR	National Agency of Public Register
NCTS	New Computerised Transit System
NPTS	National Paperless Trade System
OELAS	Irish Online Export Licensing Application System
OSJD	Organisation for Cooperation between Railways
PAdES	PDF Advanced Electronic Signatures
PSDA	Public Service Development Agency of Georgia
QTSP	Qualified Trust Service Provider
RA	Republic of Armenia
REX	Registered Exporter System
RFID	Radio Frequency Identification
RoLa	Rolling highway
RTGS	Real Time Gross Settlement
SAD	Simplification of Formalities in Trade of Goods Conventions
SEAP	Single Electronic Access Point
SCC	State Customs Committee

SCSU	State Customs Service of Ukraine
SCV	Supply Chain Visibility
SME	Small and Medium Enterprises
SMGS	Agreement on Direct International Goods Transport by Rail & Procedure Instruction
SSFS	State Service for Food Safety
SW	Single Window
SWS	Single Window Systems
TAG	Trade Advisory Group
TDC	Trade Documents Cloud
TFA	Trade Facilitation Agreement
TIR	Transports Internationaux Routiers
TRACES	TRAdE Control and Expert System
TRACECA	Transport Corridor Europe-Caucasus-Asia
UCC	The Union Customs Code
UCCI	Ukrainian Chamber of Commerce and Industry
UCP	Uniform Customs and Practice for Documentary Credits
UITE	Union of Information Technology Enterprises
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
UNECE	United Nations Economic Commission for Europe
VPN	Virtual private network
XML	eXtensible Markup Language
WCO	World Customs Organisation

Country codes

AM	Armenia
AZ	Azerbaijan
BY	Belarus
GE	Georgia
MD	Moldova
UA	Ukraine
LT	Lithuania
LV	Latvia
PL	Poland
RO	Romania

EXECUTIVE SUMMARY

Objectives of the study

The overall objective of the study was to assess the readiness of digital markets in the Partner Countries for harmonisation with the EU's Digital Single Market. The study report evaluates the level of digital market infrastructures, regulation and electronic services development in the Eastern Partnership Countries in paperless trade (eTrade) procedures and in electronic logistics (eLogistics) operations. It also targets facilitation of the homogenisation of the Partners' national systems for eTrade and eLogistics, including Digital Transport Corridors, in line with relevant EU norms and practices.

eTrade is an overarching topic which addresses digital aspects of the full import-export cycle for goods and services. Therefore, eTrade encompasses several aspects of the topics such as commerce, customs, logistics, and cross-border procedures. The main purpose of harmonisation in paperless trade is the implementation of electronic procedures in the supply chains between the EU Member States and the EaP Countries.

The principal goal of harmonisation in electronic logistics between the EU Member States and the EaP Countries is to provide exact information about transported goods and cargos at any moment during the way from the point of departure to the point of destination through transit countries.

The Study Report evaluates the degree of the usage of electronic documents and paperless procedures along all stages of the supply chain by involved participants from the EaP Countries. It also assesses the feasibility of a Digital (multimodal) Transport Corridor between the Black Sea and the Baltic Sea, with possibility to extend to the other EaP Countries.

Methodology

The Study Team developed a Paperless Trade Supply Chain Reference Model as a quantitative measurement of the degree of maturity of paperless trade and electronic logistics within a given country. The model describes procedures required to conduct electronic trade at all stages of the supply chain from purchasing to delivering goods to buyers, which include:

- Buying products and services;
- Export procedures;
- Logistics operations;
- Import procedures;
- Payment procedures.

As the overarching requirement for paperless supply chain, a national framework for paperless trade specifies the minimum essential legal provisions that a country needs to adopt in the national legislation in order to assure the legal basis of electronic trade and logistics.

Stocktaking in the six Partner Countries and comparison with the EU baseline allowed identification of gaps in the implementation of fully paperless trade and electronic logistics between the Partner Countries and the EU's Digital Single Market. The EU baseline comprises descriptions of the state of play in the relevant EU legislation, best practices, standards, and ICT platforms for every benchmark.

The analysis of gaps leads to recommended follow-up actions in the form of a roadmap, for eTrade and eLogistics areas and for each Partner Country. A roadmap for the Region describes the activities that all six Eastern Partnership Countries are recommended to conduct collectively

to implement paperless trade and electronic logistics practises among them.

The European Union Baseline

The EU baseline consists of pertinent EU best practices that provide answers to the challenge of harmonisation in paperless trade and in electronic logistics between the EaP Countries and the EU Member States. The harmonisation aims at implementing technical solutions that permit usage of electronic procedures.

The baseline in paperless trade embraces relevant EU legislation, business processes and procedures implemented in the EU; international and European technical standards, electronic services and ICT platforms that enable paperless operations.

The principal EU and international best practices of the baseline in eTrade include, among others:

- **Legal framework for cross-border data exchange** on Electronic IDentification, Authentication and trust Services (eIDAS – **eDelivery Regulation**);
- **European Interoperability Strategy (EIS)** is the overarching strategic plan in cross-border interoperability that provides guidance regarding the interaction, exchange and cooperation between European public administrations for the delivery of European public services across national borders and sectors;
- **European Interoperability Framework (EIF)** offers concrete recommendations on how to improve governance of public administrations interoperability activities, establish cross-organisational relationships, streamline processes supporting end-to-end digital services;
- **Connecting Europe Facility's (CEF) eID (eidentification), eInvoicing, eSignature and eDelivery building blocks** provide reusable specifications, software and services that offer a possibility to create a wide variety of IT systems for public administrations to exchange electronic data and documents with other public administrations, businesses and citizens, in an interoperating and secure way;
- **International Chamber of Commerce International Electronic Certificates of Origin Global Accreditation Chain** offers authorities the possibility to verify online the authenticity of Certificates of Origin;
- **TRAdE Control and Expert System (TRACES)** is an integrated web-based veterinary system, maintained by the European Commission DG Health and Consumer Protection that manages electronic permits;
- **European Information System (EIS)** has the goal to facilitate customs processes for the movement of goods into and out of the European Union and is built in compliance with international standards that allows interoperability with third countries' systems;
- **Electronic presentations of letter of credit documents** to trade bank offices enable exporters and freight forwarders to create accurate trade documents and deliver original documents over the Internet to major international trade banks and buyers.

The EU baseline in electronic logistics is composed of relevant EU best practices in legislation, procedures, standards, electronic services and ICT platforms that allow managing of logistics operations in paperless form. A key development predicted in the next decade is the transition from the current independent supply chains, where transport and logistics resources cannot be shared or accessed by different cargos and shippers and opening of global transport networks where resources are compatible, accessible and easily interconnected.

The main EU and international best practices of the baseline in eLogistics:

- **eCMR** electronic consignment note of the Convention on the Contract for the International Carriage of Goods by Road facilitates electronic management of road transport;
- **CIM/SMGS** electronic consignment note for international goods transport by rail (CIM-Uniform Rules Concerning the Contract of International Carriage of Goods by Rail / SMGS - Agreement on Direct International Goods Transport by Rail and Procedure Instruction);
- **RoLa (rolling highway) freight train** is a transmodal logistics for trucks loaded on railway platforms that offer an alternative solution for road transport – a way to avoid traffic jams on border crossing points;
- **The Viking train** is an intermodal chain involving sea-rail or road-sea transportation. It was designed as a RoRo (Roll-on/Roll-off) and a Lo–Lo (Lift-on/Lift-off) transport solution. Lo-Lo cargo offers a connection between short sea and deep-sea shipping on the Baltic and Black Sea and to the Eastern European neighbourhood. In Ro-Ro cargo case, Viking Train is an attractive alternative for long distance truck drives.
- **Electronic Air Waybill (eAW)** solution allows electronic filing of transport document of an air cargo shipment to a carrier or an authorised agent;
- **eManifest** format, complying with United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) standard format, simplifies the submission of data elements required by different authorities for cargo formalities with the aim to facilitate and reduce the administrative burden for ship data providers;
- **Maritime National Single Windows.** The Directive 2010/65/EU (Reporting Formalities for Ships arriving in/departing from EU ports) harmonises the reporting procedures by establishing a standard electronic transmission of information for ships arriving in and ships departing from EU ports. The EC intends a new proposal establishing European Maritime Single Window environment. It will introduce a National Single Window interface harmonised at the EU level.
- **Radio Frequency Identification (RFID)** uses electromagnetic fields to automatically identify and track tags attached to cargos within road and rail movement monitoring;
- **EU initiatives on Electronic documents for freight transport** aim to foster the electronic exchange of documents and information along the transport and logistic chains, particularly as regards multimodal and cross-border transport operations;
- **The new EU Customs Code** (enacted in May 2016, in full power till 2020) creates possibility to exclude paper from customs procedures in the EU area. Different actions and initiatives have been initiated in relation to eTrade and eLogistics operations;
- **The Digital Transport and Logistics Forum** is an expert group at the EU level. The Forum aims to support digitalisation of freight transport and logistics.

The study gap analysis provides a comparison of the state of play at each EaP Country with the EU baseline. The harmonisation aims at implanting solutions that reduce gaps in paperless procedures between the EU Member States and the EaP Countries.

State of play and gap analysis of the Partner Countries in electronic trade

The Study Team identified several aspects where the Partner Countries have done good progress towards the cross-border electronic trade. The digitalisation of procedures for processing of pre-arrival customs declarations and payment procedures in foreign trade are the most advanced areas of electronic trade. In these aspects, all the Partner Countries have achieved the biggest

progress. The best achievements of the Partners are:

- **Processing of pre-arrival declarations** in all Partner Countries is conducted in electronic form. Traders submit declarations and supporting documents to the customs for advance processing and releasing of goods faster upon arrival of the goods into the country.
- **Cross border payments of Business-to-business (B2B) and business-to-consumer (B2C) transactions** can be conducted by traders in all Partner Countries towards foreign countries using electronic means.
- **Payment of customs duties and fees** is conducted electronically using online bank transfer or electronic payment gateways available at government portals. In most of the EaP Countries, payments of customs duties can also be carried out through payment terminals, web and mobile applications, and online payment operators.

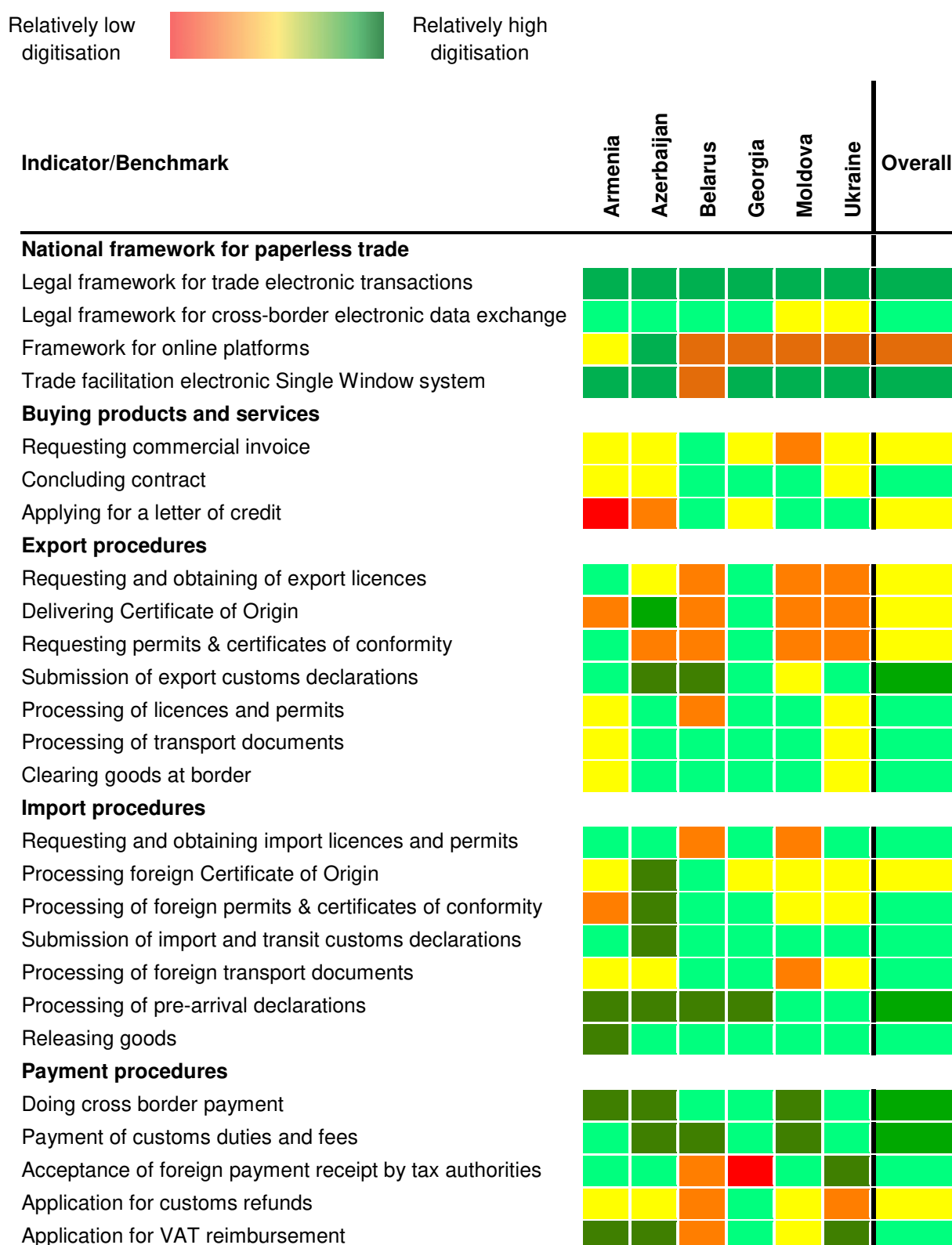
The weakest aspects of the electronic trade in the Partner Countries are in digitising of the export procedures. Most of procedures for issuance of export documents, such as export licences and permits, are still conducted using paper documents and administrative procedures are not automated. The most unsound aspects in the Partner Countries are:

- Administrative processes of **requesting and obtaining permits (phytosanitary, veterinary, and others) and certificates of conformity for exported goods** are partially implemented in electronic form only in Armenia and Georgia². Applications for requesting permits and certificates of conformity in other four countries are submitted in paper form. Traders are required to submit the same data and information to different authorities. In several Partner Countries, customs services do not have access to electronic data on permits and certificates of conformity that are issued and managed by other administrations. This issue indicates the weakness of the interoperability between information systems of different administrations. By consequence, traders are requested to scan the issued paper certificates or permits and afterwards submit them electronically to the customs services together with declaration.
- The process of **requesting and obtaining of export licences** is implemented in electronic form in Armenia, Azerbaijan and Georgia³. Applications for requesting permits and certificates of conformity in other Partner Countries are submitted only in paper form. Most of data related to traders and their activities required for issuance of an export licence are already contained in electronic registers of different administrations (business register, registers of state agencies regulating different types of business activities, tax services). Insufficient interoperability of information systems of different government organisations obstructs automation of the processes of application for export licences.
- **Submission of application electronically and delivery of the Certificate of Origin** in electronic form is only implemented in Azerbaijan and Georgia. All other Partner Countries use paper procedures. Applications are submitted in paper form and certificates are delivered as paper originals. None of the Partner Countries participates in the International Chamber of Commerce (ICC) International Certificate of Origin Global Accreditation Chain (ICC World Chambers Federation) that offers Chambers and customs authorities the possibility to verify the authenticity of Certificates of Origin.

² For some of permits

³ In Azerbaijan, an electronic application must be duplicated by submitting paper copy of application and its supporting documents.

Figure 1 – Overall state of play and gaps of the EaP Countries in eTrade



Source: results of interviews conducted in the EaP Countries by the Study Team

- **Application for customs refunds** can be submitted electronically in Armenia, Azerbaijan, Moldova and Georgia. In Moldova, requests for customs refunds are submitted to the tax service electronically and must be duplicated by paper copies of the required documents. In Ukraine, applications for refunds by the customs authorities are carried out by submitting additional customs declarations or corrigendum sheets to customs declaration.

Grounding the assessment on the indicators and benchmarks defined in the methodology, the Study Team identified some areas where individual EaP Countries have achieved good progress towards the cross-border paperless trade, while other procedures are still conducted in a paper form. Figure 1 illustrates in a shorten way the state of play of the individual EaP Countries, and the Region as whole, in digitisation of trade procedures and transformation of procedures in paperless form.

The gradation used indicates in red the areas where trade procedures are conducted using paper documents; green colour indicates high level of digitisation with the procedures using electronic data. Intermediate colours indicate procedures where paper and electronic documents are combined. The Overall indicator is a rough attempt to measure the digital progress and adoption of paperless technologies at Regional level.

Detailed assessment of the state of play and gap analysis of each of individual EaP Country, as well as all EaP Countries together, against the EU baseline provides justification for the proposed actions to enhance harmonisation in the area of paperless trade.

Roadmap of actions recommended in paperless trade

Recommended harmonisation actions are presented at two levels. In order to harmonise paperless trade between the EaP Countries and the EU, the Report provides individual roadmaps in the form of recommended actions for each EaP Country individually. The roadmaps are presented in the corresponding countries Chapters. The summary of the recommended actions by the EaP Countries in paperless trade is presented in the Annexe 6.5.

Another level summaries actions recommended for implementation by all EaP Countries together as the Region. The regional roadmap presents the actions required for the development of matching national platforms for paperless trade that are interoperable among the Partner Countries and between the Partner Countries and the EU. They involve several improvements of national legal frameworks, re-engineering of administrative processes, development of electronic services and implementation of technical infrastructures. The following Table 1 summarises the actions recommended to the ensemble of the EaP Countries at regional level:

Table 1 – Recommended activities in paperless trade by the EaP Countries at regional level

1. Regional framework for paperless trade
Create a Regional framework for trade-related electronic transactions
Establish a legal framework for cross-border electronic data exchange among the Partner Countries and with the EU
Develop an interoperability framework for the Region
Develop a harmonised interoperability framework between the Partner Countries and the EU
Define interoperability between the national electronic Single Window systems

2. Buying products and services
Set up a framework for mutual recognition of electronic contracts and invoices among the Eastern Partnership countries
Set up a framework for mutual recognition of electronic contracts and invoices between the Region and the EU
3. Export procedures
Feasibility of connecting to the SIGL integrated system of import licences
Integration into the Certificate of Origin Global Accreditation Chain
Feasibility study of a Regional transit system and its integration with the New Computerised Transit System (NCTS) of the EU
4. Import procedures
Automated validation of permits from TRACES system to import customs declarations from EU
Exchange of pre-arrival declarations between the Partner Countries and with the EU
Implement eATA Carnet between the Partner Countries and the EU
5. Payment procedures
Electronic presentations of letter of credit documents between major banks of the Partner & the EU countries

Based on the above actions, the following Table 2 presents pilot projects recommended to the Partner Countries to start the development of harmonised national platforms for electronic trade. Detailed correlation between activities recommended by the Study Team and the proposed pilot projects is presented in Annex 6.2. Dots indicate the participating countries:

Table 2 – Recommended cross-border pilot projects for EaP Countries

Projects for eTrade platforms and building blocks of digital infrastructures	AM	AZ	BY	GE	MD	UA
Business process re-engineering for eTrade taking into account the EU and international best practices	•	•	•	•	•	•
Integration platform for national eTrade Single Window systems enabling cross-border paperless trade transactions	•	•	•	•	•	•
eInvoicing, eDelivery, eID, eSignature and Automated Translation digital infrastructure building blocks in Partner Countries, based on the CEF framework.	•	•	•	•	•	•
Interoperable eCommerce cloud-based platform for SMEs in the Partner Countries ⁴	•	•	•	•	•	•

⁴ This recommendation is based on the results of the “Study on the harmonisation of the Digital Markets (HDM) in the Eastern Partnership countries: eCommerce”

The following pilot projects between the Partner Countries and the EU Member States are recommended to develop harmonised national platforms for electronic trade. Dots indicate the participating countries:

Table 3 - Recommended projects for paperless trade between Partner Countries and EU Member States

Multilateral projects	AM	AZ	BY	GE	MD	UA	LT	LV	PL	RO
Cross-border Pilots										
Pilot cross-border eTrade between Partner Countries and EU MS.	•		•		•	•		•	•	•
Pilot interoperable eCommerce trading platforms between Partner Countries and the EU ⁴ .			•			•	•	•	•	

The focus of harmonisation at national and regional levels is on the integration and adaptation of the existing best practices and IT solutions of the EU Member States. This approach would allow faster composition of paperless trade pilot projects between the Partner Countries and the neighbouring EU Members States.

A summary of the recommended pilot projects and their main parameters is presented in Annex 6.3, the details of the pilot projects are presented in the Annexe 6.4.

State of play and gap analysis of the Partner Countries in electronic logistics

The assessment of individual EaP Countries has identified logistics processes where the Region has achieved good progress in implementation of electronic solutions, and other aspects that are still using paper-based procedures.

Figure 2 illustrates the overall state of play of the Partner Countries in the different aspects of electronic logistics. The Partner Countries achieved a quite high level in implementing electronic identification technologies in logistics. On average, they widely implemented electronic solutions for road tax payment for cargo and passenger vehicles. On the opposite side, the least digitised procedures are the usage of electronic letter for road transport under the Convention of Road Transport of Goods (eCMS), usage of RFID for monitoring of cargo movement in real time and implementation of online export and import declarations for passengers.

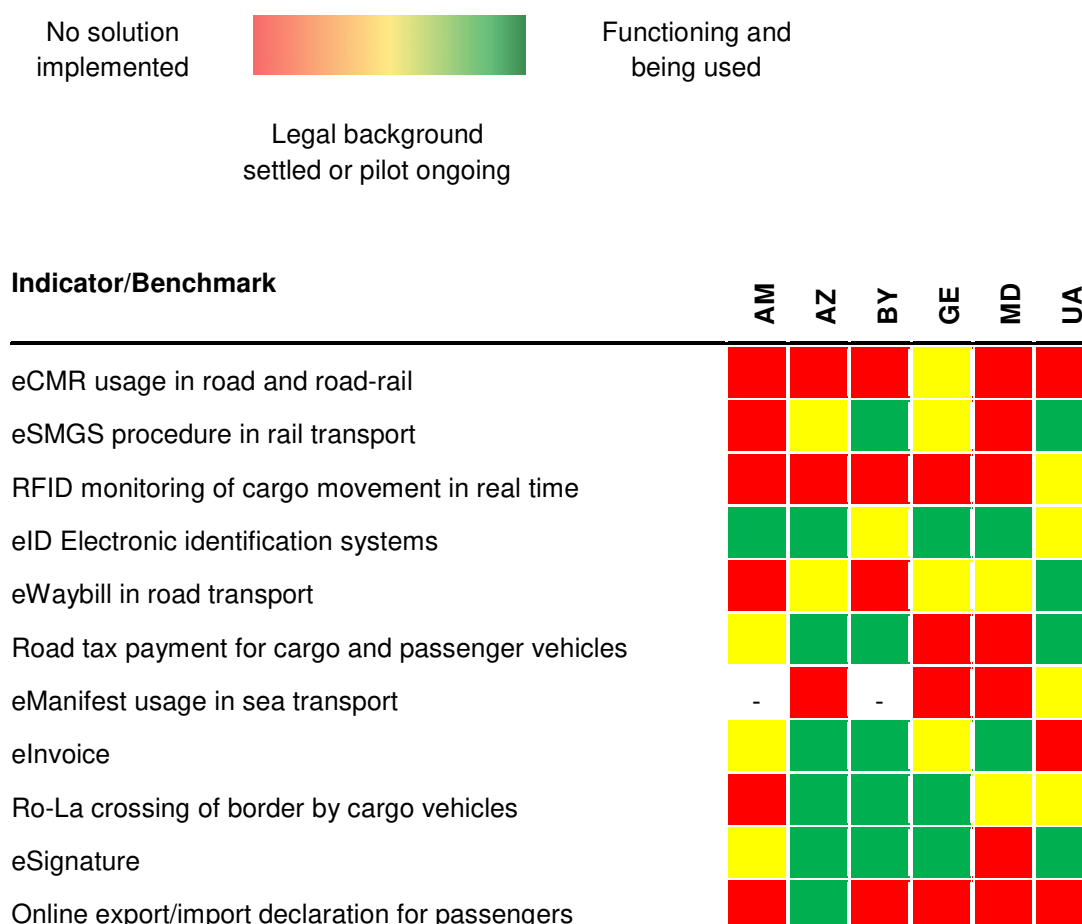
In the Figure 2, red colour indicates the areas where no electronic solutions are implemented in logistics procedures; yellow indicates that the required legal background has been settled or pilot is undergoing; green colour indicates that electronic solutions are functioning and being used.

For electronic logistics, the current legislative framework in all EaP Countries must be deeply analysed and approximated with the EU legal requirements from the perspective of benefits from harmonisation.

The status of Authorised Economic Operator should be wider used in logistics. The status granted by one Partner Country or one EU Member State should be recognised by another Partner Country and by any EU Member State. An Authorised Economic Operator should benefit from

facilitated transport and customs controls, simplified and accelerated documents verification, and faster release.

Figure 2 – Technology gap of the Eastern Partnership countries in eLogistics



Source: results of interviews conducted in the EaP Countries by the Study Team

Actions recommended in electronic logistics

To ensure harmonisation of electronic logistics practices between the EaP Countries and the EU, the Study Team proposed the required actions at two levels. For each EaP Country, individual roadmaps with recommended actions per country are presented in the corresponding countries' Chapters. The summary of the recommended actions by the EaP Countries in electronic logistics is presented in the Annexe 6.6.

At the Regional level, several actions are recommended for implementation by all EaP Countries together as the Region. The following Table 4 summarises the recommended actions in eLogistics by the Eastern Partnership countries at regional level:

Table 4 – Recommended actions in the EaP Countries at regional level for eLogistics harmonisation

Actions by individual EaP Countries
1. Sign international agreements and harmonise conventions
COTIF/CIM, eSMGS, approximation with the Customs Union and the EU legislation
2. Create Authorised Economic Operator institutions
International cluster for information exchange, creation of single window database for eLogistics data
3. RFID and Electronic Seals implementation
Stationary real-time system for monitoring of cargo movement by rail and road using RFID technology (such as tags, electronic seals, etc.)
4. eCMR implementation
Sign and ratify Additional Protocol to the Convention on the Contract for the International Carriage of Goods by Road (except Georgia)
5. eID implementation
Harmonise with EU standard CEF eID building block
6. eSignature implementation
Harmonise with EU standards of CEF building block (eSignature)
7. eInvoice implementation
Harmonise with EU standards of CEF building block (eInvoicing)

Several pilot projects are proposed in eLogistics. The first project pilots the RFID technology for rail transport in co-operation with one of EU countries. Another pilot project adapts the EU CEF digital infrastructure building blocks to be used in the Partner Countries. To implement a cross-border eTrade project, the existing CEF building blocks of digital infrastructures should be customised and piloted in Partner Countries. In particular, the customisation should apply to data and documents module (eDelivery), mutual recognition of electronic documents and signatures (eSignature) and secure cross-border authentication (eID). Detailed correlation between activities recommended by the Study Team and the proposed pilot projects is presented in the Annex 6.2. Table 5 summarises the recommended pilot actions in the area of eLogistics. Dots indicate the participating countries:

Table 5 – Recommended pilot projects in eLogistics

Actions by individual countries	AM	AZ	BY	GE	MD	UA
1. RFID and Electronic Seals implementation						
Pilot projects using RFID technology (such as tags, electronic seals, etc.) for rail transport with one of EU countries in stationary real-time system for monitoring of cargo movement by rail and road			•			•
2. eID implementation						

Pilot eID digital infrastructure building block by customising solutions provided by the CEF framework			•			•
3. eSignature implementation						
Pilot eSignature digital infrastructure building block by customising solutions provided by the CEF framework	•				•	
4. eInvoice implementation						
Pilot eInvoicing digital infrastructure building block by customising solutions provided by the CEF framework	•			•		•

A detailed description of the recommended pilot projects is presented in the Annexe 6.4.

Feasibility of a Digital Transport Corridor

The main advantage of a Digital Transport Corridor (DTC) is to provide customers with real-time data on the cargo movement status with no territorial, technical or legal limits. Real-time data would be openly shared between manufacturers, suppliers, transporters and buyers. This approach will lead to better mutual transport cooperation, faster cargo movement and easier document processing.

The vision of DTC aims at organisation of logistics processes based on electronic transport documents and data. Partner-oriented services would provide opportunity for a sleek and instant document exchange between traders, freight forwarders, customs, other government agencies and consumers.

The networked national eLogistics systems and data centres would form a unified information space, that combines Rail, Road, Air and Sea participants – clients, forwarding and port agents, hauliers, stevedores, consignees, etc. They use services in electronic form based on electronic documents, electronic signature, identification and other digital technologies. The infrastructure for cargo tracking and monitoring could be based on RFID technology applications, such as tags, electronic seals, etc.

The following Table summarises the required actions for the implementation of a pilot project for Digital (multimodal) Transport Corridor between the Black Sea and the Baltic Sea, with a possibility to extend to the other EaP partners, and for eSMGS (Electronic consignment note of the Agreement on Direct International Goods Transport by Rail) implementation:

Table 6 – Recommended actions for a pilot Digital Transport Corridor and eSMGS

Actions by individual countries	AM	AZ	BY	GE	MD	UA
1. Pilot project between EU Members States and Eastern Partner Countries						
Assess perspective of DTC pilots: - between Baltic and the Black Sea; - based on extension of TEN-T corridors to EaP Countries			•			•
Develop the core digital platform for national eLogistics systems providing services for multimodal cargo shipments	•		•			•
Develop DTC supply chain visibility sub-system for cargo			•			•

tracking						
Harmonise eDocuments standards related to multimodal transport, based on the concept of a unified system of documentary support for carriage of goods	•		•			•
Attract new countries to the agreement		•		•		
2. eSMGS implementation						
Agreement on International Goods Traffic by Rail (SMGS) adoption in electronic format			•			•
Extend pilot project of eSMGS usage to other countries	•	•		•	•	

The overall objective of the pilot project is to develop the core solution for digital platform that is capable to serve multimodal cargo shipments. The pilot project will also prove the concept of DTC as a federated eLogistics system enabling the effective transit, control and monitoring of cargo movements via the territory of the Eastern Partnership countries. Details of the recommended pilot projects are presented in the Annexes.

1 PURPOSE AND OBJECTIVES OF HARMONISATION

The present Study Report evaluates the level of digital market infrastructure, regulations and services development in the Eastern Partnership Countries focusing on two components with the following purposes of harmonisation:

- eTrade – implement paperless trade procedures between the EaP and the EU countries to increase trade among the EaP Countries, and between the EaP Countries and the EU Member States;
- eLogistics – provide comprehensive and precise information about status of goods at any moment of transportation between the EU Member States and the EaP Countries.

eTrade is an overarching topic which addresses the digital aspects of the full import-export cycle for goods and services. Therefore, eTrade encompasses several topics such as commerce, customs, logistics and cross-border procedures.

The main purpose of harmonisation in paperless trade between the EU Member States and the EaP Countries is implementation of electronic procedures in the supply chains between the EU Member States and the EaP Countries.

The focus of the harmonisation in the paperless trade is to assure maximum interoperability of paperless international trade supply chains of the EU and the EaP Countries. The study targets to identify EU practises and existing information systems that can be adapted in the Partner Countries to increase paperless trade between the EU Member States and the EaP Countries.

The main purpose of harmonisation in the area of electronic logistics between the EU Member States and the EaP Countries is to be able to provide exact information about transported goods and cargos at any moment of time during all the way from the point of departure to the point of destination through transit countries. The study evaluates the degree of the usage of electronic documents, data and paperless procedures along all stages of the supply chain by involved participants from the EaP Countries.

Electronic services are indispensable to support transport operations along the European transport corridors. This is especially important for logistics between the EU and the EaP region due to important physical distances, multiple interchange points, multi-languages and cross border interaction of multiple stakeholders. The integration between different transport modes involving transport operators, freight owners, infrastructure owners and finally government and enforcement authorities is crucial for better logistics in terms of efficiency, transparency, safety and security.

2 METHODOLOGY OF THE STUDY

The methodology applied in this Study aimed at providing a tool to assess the readiness of the Partner Countries for harmonisation with the EU's Digital Single Market in paperless trade and electronic logistics. The assessment approach consisted in applying several indicators to evaluate the state of play of each Eastern Partnership Country. Indicators describe elements that are necessary to introduce paperless trade and electronic logistics procedures between the EaP Countries and the EU Member States.

Each indicator comprises several detailed benchmarks. Each benchmark measures one element of paperless trade and electronic logistics' value chain. The measurement reflects the state of play and progress towards harmonisation in a given EaP Country.

Stocktaking in six EaP Countries and comparison with the EU baseline allows identification of

gaps that prevent the implementation of fully paperless trade and electronic logistics between the EaP Countries and the EU. The EU baseline comprises the relevant EU legislation, best practices, standards, information systems and electronic services.

Results of the gap analysis lead to necessary follow-up actions and to a roadmap for each Partner Country. A roadmap for the Region describes the activities that all six Eastern Partnership Countries are recommended to undertake collectively in order to implement paperless trade and electronic logistics procedures among themselves and in their trade with the EU.

2.1 Paperless Trade Supply Chain Reference Model

The Study Team developed a Paperless Trade Supply Chain Reference Model as a quantitative measurement of the degree of maturity of the paperless trade and electronic logistics within a given country. The model is developed based on 'Buy-Ship-Pay' International Supply Chain Reference Model of UN/CEFACT⁵. The concept breaks down each of five phases of the UN/CEFACT model into paperless procedures. These procedures describe what is required to complete in paperless form from purchasing of goods to their delivery to buyers.

Figure 3 – Paperless Trade Supply Chain Reference Model



National framework for paperless trade is an overarching imperative for operating of the paperless supply chain in a country. The national framework specifies the required legal provisions that a country needs to adopt in the national legislation to assure a minimum required legal basis of paperless trade operations.

The paperless trade describes the main commercial, regulatory and financial procedures that seller, exporter, buyer, importer, third party intermediates and administrations need to accomplish in paperless form. The model includes electronic transport and logistics procedures from country of export to country of import. The study takes into consideration the most used transport modes between the Eastern Partnership countries and the EU countries such as road transport by trucks, sea shipment, transport by air cargo and by railway trains. Due to the required scope of the study, only main trade and logistics procedures are taken into consideration.

2.1.1 Indicators and Benchmarks of paperless trade

Several assessment indicators are associated to the paperless trade area. Their purpose is to assess in which extend the trade procedures integrate digital technologies. The indicators characterise the main aspects of harmonisation between the EU Member States and the Partner Countries. Paperless trade area contains five indicators: 1) National framework for paperless trade, 2) Buying products and services, 3) Export procedures, 4) Import procedures, 5) Payment

⁵ UN/CEFACT. BPAWG Reference Model of the international supply chain. s.l. : UN/CEFACT, 2003. UN/CEFACT/BPA/BP044

procedures.

Each indicator includes several qualitative benchmarks that correspond to trade business processes. A benchmark aims to assess in depth the degree in which a process applies paper or paperless practice. For each benchmark a corresponding EU best practice is identified. Altogether, they define the EU baseline that comprises relevant EU legislation, standards applied in the Member States, paperless procedures, IT platforms and electronic services.

Table 7 – Indicators and benchmarks to assess the degree of harmonisation in paperless trade between the EU and the EaP Countries

Indicators	Benchmarks to assess the degree of harmonisation in paperless trade between the EU and the EaP Countries
National framework for paperless trade	<ul style="list-style-type: none"> - Legal framework for trade electronic transactions - Legal framework for cross-border electronic data exchange - Framework for online platforms - Trade facilitation electronic Single Window system
Buying products and services	<ul style="list-style-type: none"> - Requesting commercial invoice - Concluding contract - Applying for a letter of credit
Export procedures	<ul style="list-style-type: none"> - Requesting and obtaining export licences - Delivering Certificate of Origin - Requesting and obtaining permits and certificates of conformity - Submission of export customs declarations - Processing of licences and permits - Processing of transport documents - Clearing goods at border
Import procedures	<ul style="list-style-type: none"> - Requesting and obtaining import licences and permits - Processing foreign Certificate of Origin - Processing of foreign permits and certificates of conformity - Submission of import and transit customs declarations - Processing of foreign transport documents - Processing of pre-arrival declarations - Releasing goods
Payment procedures	<ul style="list-style-type: none"> - Doing cross border payment - Payment of customs duties and fees - Delivering foreign payment receipt acceptable by tax authorities - Application for customs refunds - Application for VAT reimbursement

Procedures in the Paperless Trade Supply Chain Reference Model are associated with a number of indicators describing the key processes in paperless trade. Five indicators together represent the entire paperless trade supply chain. A benchmark is the smallest criterion used to assess a particular aspect of the readiness of the digital market in a Partner Country on its way towards harmonisation with the EU's Digital Single Market.

2.1.2 Indicators and benchmarks of electronic logistics

Electronic logistics area contains five indicators: 1) Road transport, 2) Rail transport, 3) Air transport, 4) Sea transport, and 5) Transport corridors.

Each indicator includes several qualitative benchmarks that characterise logistics processes. A benchmark aims to assess in more depth the degree in which the logistics process is implemented using paper-based or paperless technologies.

Table 8 – Indicators and benchmarks to assess the degree of harmonisation in electronic logistics between the EU and the EaP Countries.

Indicators	Benchmarks to assess the degree of harmonisation in electronic logistics between the EU and the EaP Countries
Road transport	<ul style="list-style-type: none">- eCMR procedure usage in road and road-rail transport to the EU, between the EaP Countries and for transit with the EU- Use of electronic way billing in road transport- Paying of road tax for cargo vehicles- Paying of road tax for passenger cars
Rail transport	<ul style="list-style-type: none">- Use of eSMGS procedure in rail transport- Crossing of the border by cargo vehicles using RoLa freight train (truck loaded on the train)
Air transport	<ul style="list-style-type: none">- Use of electronic airway bill in air transport
Sea transport	<ul style="list-style-type: none">- Use of bill of lading in sea transport- eManifest procedure usage in sea transport
Transport corridors	<ul style="list-style-type: none">- Monitoring of cargo movement in real time during rail and road transport- Electronic invoicing (eInvoice)- Electronic identification systems (eID)- Export and import declarations for passengers

For each benchmark, a corresponding EU best practice is associated. The ensemble of EU best practices defines the EU baseline in the electronic logistics area. The best practices comprise relevant EU legislation, standards, procedures, ICT platforms and electronic services.

2.2 Approach to data collection, gap analysis and design of roadmaps

Stock taking in the Partner Countries was based on assessment questionnaires prepared for each area. Each question corresponds to one benchmark.

Assessment was based on scores assigned to questions. These scores show the status of a country on each benchmark. Evidence was collected (adopted legislation and regulations, implemented procedures, used international standards, and implemented IT infrastructure and electronic services) to justify the assigned scores.

Gap analysis between the state of play in each Partner Country and the baseline was based on evaluation of scores of individual benchmarks in comparison to the EU baseline level. The comparison of the gaps of individual countries with the EU baseline served to identify follow-up actions and the comprehensive roadmap for each Partner Country in eTrade and eLogistics

areas.

2.3 Methodology of monitoring the harmonisation progress

The proposed methodology for monitoring of the progress in harmonising eTrade and eLogistics implies that the state of play and gap analysis will be assessed again and the benchmarks rescored after implementation of certain recommended activities. Progress will be monitored by comparing the new results with these presented in this report.

The overall purpose of harmonisation is to implement entirely paperless trade and logistics procedures between the EaP Countries and the EU. Several progress indicators are defined to facilitate tracking of overall harmonisation progress. Each phase of the paperless supply chain between the EaP and EU countries has its objectives of harmonisation. Progress indicators are assigned to each phase. Progressive achievement of the indicators shows harmonisation progress in eTrade and eLogistics.

The objectives of harmonisation of each phase of the paperless trade supply chain together with corresponding progress indicators for eTrade are presented in following Table:

Table 9 – Objectives of harmonisation of each phase of the paperless trade supply chain and corresponding progress indicators for eTrade

1. National framework for paperless trade
National legal frameworks enable cross-border exchange of business and regulatory electronic data for trade transactions between the EaP Countries and with the EU: <ul style="list-style-type: none">- Have laws on trade electronic transactions been enacted?- Has the Regulation EU – 910/2014) on electronic identification and trust services (eIDAS) been approximated into national legislation?- Does your country have a National Interoperability Framework that enable cross-border paperless trade operations among all involved actors (business and administrations)?- Does your National Interoperability Framework take into account the European dimension of paperless trade delivery?- Have laws on online trade platforms for cross-border services been enacted?- Have laws on single window for trade and transport requirements been enacted?
2. Buying products and services
National legal framework and technical infrastructure enable paperless procedures of invoicing, contracting and application for letter of credit for cross-border transactions: <ul style="list-style-type: none">- Have laws on eInvoice including from foreign countries been enacted?- Is national infrastructure of CEF eInvoice building block operational?- Have laws on eContract including from foreign countries been enacted?- Is national infrastructure of CEF eDelivery building block operational?- Do your country major banks accept electronic applications for a letter of credit from traders?- Do major banks issue Electronic Letter of Credit according to ICC eUCP rules⁶?
3. Export procedures
All trade regulatory, transport and customs documents for export operations are issued and processed in

⁶ The International Chamber of Commerce Supplement to the Uniform Customs and Practice for Documentary Credits for Electronic Presentation rules.

electronic format. The country exchange electronically all required data with the EaP and EU countries. Data are verifiable, and actors are authenticated.

- Have applications in electronic format for any export licences been implemented?
- Has application in electronic format for Certificates of Origin been implemented?
- Is your country connected to the International Chamber of Commerce International Certificate of Origin Global Accreditation Chain?
- Have applications in electronic format for export permits and certificates of conformity been implemented?
- Does trader submit entirely electronic export customs declaration?
- Does your country submit electronic pre-arrival (export) customs declarations to other EaP and EU countries?
- Does your National Interoperability Framework provide access to electronic export licences, permits, Certificates of Origin, certificates of conformity to any authorised public administrations?
- Does the customs authority of your country process international transport documents in electronic (structured) format?
- Have procedures of clearance at border crossing points completed using only electronic documents or data?

4. Import procedures

All trade regulatory, transport and customs documents for import operations are issued and processed in electronic format. The country exchange electronically all required data with the EaP and EU countries. Data are verifiable, and actors are authenticated:

- Have applications in electronic format for import licences and permits been implemented?
- Does your National Interoperability Framework provide access to electronic permits, Certificates of Origin, certificates of conformity of other EaP & the EU countries (TRACES, other systems)?
- Does your country connect to New Computerised Transit System?
- Does your National Interoperability Framework provide access to electronic transport documents from other EaP and the EU countries?
- Does your country receive electronic pre-arrival customs declarations from other EaP and EU countries?
- Have procedures of clearance and releasing of imported goods completed using only electronic documents or data?

5. Payment procedures

The banks of the EaP Countries present electronically letter of credit documents to the banks of the EU countries. Traders submit electronic payment orders to their banks.

- Do major banks of your country provide electronic presentation of letter of credit documents with banks in the EaP the EU countries?
- Do major banks of your country accept orders in electronic form for payments towards banks in the EaP and EU countries?

The objectives of harmonisation of the transport and logistics phase of the paperless trade supply chain together with corresponding indicators are presented in the following table:

Table 10 – Objectives of harmonisation of each phase of the paperless trade supply chain and corresponding progress indicators for eLogistics

1. Road transport

National legal framework and technical infrastructure enable usage of electronic transport documents by

operators, traders and administrations for cross-border road transport operations with the EaP and the EU countries.

- Has eCMR procedure for road and road-rail transport been implemented and it interoperates within the EaP and EU countries?
- Has electronic waybill in road transport with the EaP and EU countries been used by national operators and administrations?
- Has electronic payment of road tax for cargo vehicles been implemented?
- Has electronic payment of road tax for passenger cars been implemented?

2. Rail transport

National legal framework and technical infrastructure enable usage of electronic transport documents by operators, traders and administrations for cross-border rail transport operations with the EaP and EU countries. Crossing of the border by cargo vehicles using RoLa freight train is operational:

- Has eSMGS procedure been implemented, used by operators, traders and administrations and interoperates with other EaP and EU countries?
- Is crossing of the border by cargo vehicles using RoLa freight train operational?

3. Air transport

National legal framework and technical infrastructure enable usage of electronic airway bill by operators, traders and administrations for cross-border air transport operations with the EaP and EU countries:

- Do air companies, traders and administrations use electronic airway bill?

4. Sea transport

National legal framework and technical infrastructure enable usage of electronic transport documents by operators, traders and administrations for cross-border sea transport operations with the EaP and EU countries.

- Has electronic bill of lading been used by transporters, traders and administrations?
- Has eManifest procedure been implemented and used by transporters, traders and administrations?

5. Transport corridors

National legal framework and technical infrastructure enable usage of electronic invoices, electronic identification by operators, traders and administrations for cross-border transport operations with the EaP and EU countries. Monitoring of cargo movement in real time during rail and road transport within the national territory is operational:

- Has monitoring of cargo movement in real time during rail and road transport been implemented?
- Has eInvoice been implemented and used by traders, administrations for cross-border operations with other EaP and EU countries?
- Has eID been implemented and used by traders, administrations for cross-border operations with other EaP and EU countries?
- Has electronic procedure for filling-in export and import declarations for passengers been implemented?

Chapter 5.4 presents objectives and targets for monitoring of harmonisation progress regionally among the Partner Countries and between the EaP and the EU.

3 THE EUROPEAN UNION BASELINE

The EU baseline consists of relevant EU best practices, legislation, standards and processes that provide solutions to the challenge of harmonisation in paperless trade and in electronic logistics between the EU Member States and the EaP Countries. The following section describes the EU baseline by providing a short outline for each benchmark presented in the Chapter 2.1.1. Detailed profiles of the EU best practices in paperless trade and in electronic logistics are presented in the Annexes 6.7 and 6.8.

3.1 The EU baseline in Paperless Trade

The harmonisation is aimed at adoption of solutions that make paperless trade possible between the EU Member States and the EaP Countries. The EU baseline in paperless trade consists of relevant EU regulations, implemented procedures, international and European technical standards, electronic services and IT platforms that enable paperless operations.

3.1.1 *National framework for paperless trade*

Legal framework for trade electronic transactions. The Council Resolution⁷ of 5 December 2003 endorsed the Commission's Communication on creating a paperless environment for customs and trade⁸ provides a vision of a modern customs service communicating electronically with trade.

Legal framework for cross-border electronic data exchange. The Regulation⁹ on electronic identification and trust services (eIDAS – **eDelivery Regulation**) creates appropriate conditions of the EU digital single market for mutual recognition of key enablers across borders, such as electronic identification, electronic documents, electronic signatures and electronic delivery services, and for interoperating e-government services across the European Union.

European Interoperability Strategy (EIS)¹⁰ is the overarching strategic plan in cross-border interoperability, developed by the European Commission in conjunction with the Member States' Chief Information Officers. The EIS provides guidance regarding the interaction, exchange and cooperation between European public administrations for the delivery of European public services across national borders and sectors.

The new European Interoperability Framework (EIF)¹¹ offers concrete recommendations on how to improve governance of public administrations interoperability activities, establish cross-organisational relationships, streamline processes supporting end-to-end digital services, and

⁷ **2003/C 305/01.** Council Resolution of 5 December 2003 on creating a simple and paperless environment for customs and trade. [Online] [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32003G1216\(01\)](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32003G1216(01))

⁸ **COM/2003/452.** COM/2003/452 of 24/07/2003. Communication from the Commission to the Council, the European Parliament and the European Economic and Social Committee - A simple and paperless environment for Customs and Trade. [Online] <http://eur-lex.europa.eu/procedure/EN/184452>

⁹ **(EU) 910/2014.** Regulation (EU) 910/2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS Regulation). [Online] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2014.257.01.0073.01.ENG

¹⁰ https://ec.europa.eu/isa2/actions/continuously-updating-european-interoperability-strategy_en

¹¹ https://ec.europa.eu/isa2/eif_en

align both existing and new legislation¹². The EIF targets the Commission priority to create a Digital Single Market in Europe.

Framework for online platforms. The Decision on a paperless environment for customs and trade¹³ specifies how traders should have access to information portals and single electronic access points for import and export transactions and for security-related customs procedures, irrespective of the Member State in which the transaction starts or ends.

Trade facilitation electronic Single Window system. The legal basis for the use of data processing techniques for the provision of information by the customs is the Decision on a paperless environment for customs and trade¹⁴. The Decision also lays down the foundation for establishing Single Window services providing the seamless flow of data. This exchange should be organised between economic operators and customs authorities, between customs authorities and the Commission, and between customs authorities and other administrations or agencies, and enabling economic operators to submit all information required for import or export clearance to customs, including information required by non-customs-related legislation.

The Union Customs Code (UCC) defines the priorities of the global shift to paperless environment for customs and trade¹⁵. The Article 6 of the UCC requires that all exchanges of information, such as declarations, applications or decisions, between customs authorities and between economic operators and customs authorities, and the storage of such information, as required under the customs legislation, should be made via electronic data-processing techniques.

EU Customs Single Window system has as objective to enable Economic Operators to lodge electronically, and only once, all the information required by customs and non-customs legislation for the EU cross-border movements of goods. It foresees several implementation steps, first of which consists in automated validation of supporting documents to the customs declaration. The first project implements the validation of the Common Veterinary Entry Document (CVED).

3.1.2 Buying products and services

Requesting commercial invoice. Since 1 January 2013, all EU Members must accord the same legal status to electronic invoice processes as they do for paper invoices. The Communication¹⁶ and the Directive on the common system of value added tax¹⁷ as regards the rules on invoicing

¹² **COM/2017/0134.** COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS European Interoperability Framework – Implementation Strategy. [Online] <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1494635732817&uri=CELEX:52017DC0134>

¹³ **Decision 70/2008/EC.** Decision N 70/2008/EC of the European Parliament and of the Council of 15 January 2008 on a paperless environment for customs and trade. [Online] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2008.023.01.0021.01.ENG&toc=OJ:L:2008:023:TOC

¹⁴ **Decision 70/2008/EC.** Decision N 70/2008/EC of the European Parliament and of the Council of 15 January 2008 on a paperless environment for customs and trade. [Online] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2008.023.01.0021.01.ENG&toc=OJ:L:2008:023:TOC

¹⁵ Regulation (EU) No 952/2013. Regulation (EU) No 952/2013 of the European Parliament and of the Council of 9 October 2013 laying down the Union Customs Code. s.l. : OJ L 269, 0.10.2013

¹⁶ COM(2010) 712 final. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Reaping the benefits of electronic invoicing for Europe. [Online] <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52010DC0712>

¹⁷ Directive 2010/45/EU. Directive 2010/45/EU on the common system of value added tax as regards the rules on invoicing. [Online] <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32010L0045&locale=en>

set out new value added tax rules (VAT). They include provisions regarding eInvoicing and remove obstacles to the uptake of eInvoicing by creating equal treatment between paper and electronic invoices, while also ensuring that no additional requirements are imposed on paper invoices.

EU Member States start mandating the use of eInvoicing for suppliers to their public sectors¹⁸. The Directive also calls for the definition of a common European standard at semantic level. Starting from 1 January 2017, French big companies and the public sector are obliged to accept electronic invoices, and until 1 January 2020 this obligation will be extended to companies of all size. **The Connecting Europe Facility's (CEF) eInvoicing building block** provides technical specifications and free software components that offer basic capabilities for Administration to Business (A2B) and Administration to Administration (A2A) electronic invoicing services¹⁹.

Using electronic contract. The EC Directive on electronic commerce (2000/31/EC) defines the principles of equal validity of electronic contracting and contracts concluded offline. This applies to all stages and acts of the contractual process, such as the contractual offer, the negotiation and the conclusion of the contract by electronic means.

Electronically signed contracts are legally binding documents and electronic signatures are admissible in a court of law as introduced in the eIDAS Regulation. The Digital Single Market Strategy adopted by the Commission on 6 May 2015 announced a legislative initiative on harmonised rules for the supply of digital content and the online sales of goods. The Commission made proposals of two Directives that make an improvement on certain aspects concerning contracts for the supply of digital content, and a proposal on certain aspects concerning contracts for the online and other distance sales of goods²⁰. **The Connecting Europe Facility's (CEF) eDelivery building block** provides reusable specifications, software and services that offer a possibility to create a wide variety of IT systems for public administrations to exchange electronic data and documents, including contracts, with other public administrations, businesses and citizens, in an interoperating and secure way²¹.

Applying for a letter of credit. Electronic application for a letter of credit provides several considerable advantages compared to traditional presentation of original paper documents. For this reason, major EU banks accept electronic applications for a letter of credit from traders. Applicant (importer) applies to the issuing bank for opening an electronic letter of credit that is subject to the latest version of Electronic Letters of Credit Rules.

3.1.3 Export procedures

Online application for export licences. In the EU, licences²² are needed for several categories of goods, including dual use technologies, artworks, plants and animals, medicines and chemicals. The EU countries manage individual online databases for processing licence

¹⁸ Directive 2014/55/EU. Directive 2014/55/EU of the European Parliament and of the Council of 16 April 2014 on electronic invoicing in public procurement. [Online] <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0055>

¹⁹ <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eInvoicing>

²⁰ COM/2015/0635. Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on certain aspects concerning contracts for the online and other distance sales of goods. [Online] <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1450431933547&uri=CELEX:52015PC0635>

²¹ <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery>

²² Depending on products and countries of destination, there are several different types of licences such as Global Export Licence, Open General Licence (OGL), Standard Individual Export Licence (export of a quantity of specified goods to a specified importer), Open Individual Export Licence (specific to an individual exporter allows multiple shipments of specified goods to specified destinations).

applications. Most of licences can be applied for fully online. The best EU practises are SPIRE online export licensing system from the UK²³, and the Irish Online Export Licensing Application System (OELAS)²⁴.

The EC Directorate General for Trade operates an integrated system called SIGL for the management of licences for imports of textiles, clothing, footwear, steel and wood to the EU²⁵. SIGL is a computer system linking the European Commission with the departments issuing import authorisations in the Member States. SIGL also provides real-time information to traders on quota levels, licensed amounts by Member State for imports of clothing, footwear, steel and wood products applied in the European Union.

Delivering Certificate of Origin. Electronic Certificates of Origin (eCO) systems offer electronic application, issuance, completed with digital rubber stamps of the chamber and signatures of authorised officials. They ensure a greater level of transparency, reduce costs and save time among customs administrations, exporters, importers, banks and stakeholders. The use of eCO also enhances and raises the level of acceptability of eCO for letter of credit clearance, insurance companies and importers. International Chamber of Commerce International CO Global Accreditation Chain²⁶ offers Chambers and customs authorities the possibility to verify the authenticity of Certificates of Origin online. The participating Chambers from the EU include Belgium, Bulgaria, France, Netherlands, Slovenia, Slovakia and United Kingdom.

Processing of transport documents. Article 233 of the Union Customs Code (UCC) foresees the usage of an electronic transport document as transit declaration in the New Computerised Transit System (NCTS). The system requirements include an analysis of possible new technological or modernised ways of data capturing (i.e. automatic reading of electronic-seal numbers, attachment of documentation/images) and new means of adding, verifying and securing data 'on the road' by operators and customs.

3.1.4 Import procedures

Requesting and obtaining import licences and permits. TRAdE Control and Expert System (TRACES)²⁷ is an integrated web-based veterinary system, maintained by the European Commission DG Health and Consumer Protection. It networks veterinary authorities and business users in all Member States, EFTA/EEA countries (Iceland, Liechtenstein and Norway) and a certain number of third countries with whom the Commission has special agreements. TRACES is a management tool for tracking movements of animals, products of animal origin and plants from both outside and within the European Union. It also covers imports to the European Union of feed and food of non-animal origin as well as plants, seeds and propagating materials. TRACES allows digitisation of the entire certification process and linked procedures. It facilitates the exchange of information between all involved trading parties and control authorities from more than 80 countries worldwide and speeds up the administrative procedures. All harmonised export certificates to the EU are available in the last updated version and translated into all EU official languages. TRACES allows communication between the national competent authorities in non-EU countries and with EU and EFTA countries, to speed up the administrative processes at the

²³ <https://www.spire.trade.gov.uk>

²⁴ <https://oelas.djei.ie/>

²⁵ <http://trade.ec.europa.eu/sigl/>

²⁶ ICC World Chambers Federation. Certificates of origin authenticity verification online. International Chambers of Commerce world Chambers Federation. [Online] [Cited: 10 May 2017.] <https://certificates.iccwbo.org/>

²⁷ http://ec.europa.eu/food/animals/traces_en

EU Border Entry Point. For export from the EU, several certificates and documents are available to any non-EU country on a voluntary basis.

European Information System's (EIS) goal is to facilitate customs processes for the movement of goods into and out of the European Union. The EIS is built in compliance with international standards that allow interoperability with third countries' systems²⁸. Computerised customs systems are interfaced with the existing and future systems in areas other than customs. All authorities and agencies involved in import and export transactions are enabled to exchange electronic information, including with third countries, if an international agreement provides for this. Customs take a leading role in establishing a single window for these authorities and agencies.

Processing of foreign Certificate of Origin. The EU Registered Exporter System (REX) aims to updated and completed information available on Registered Exporters established in non-EU countries that are General System of Preferences beneficiary countries (GSP) exporting goods to the EU under preferential trade arrangements. Exporters should be registered with the competent authorities of the beneficiary countries to be entitled to make out statements on origin. To register exporters, each EaP Country should use the REX managed by the European Commission. Through the system, the Economic Operators in the EU Member States should be able to check, before declaring goods for release for free circulation if their supplier is a registered exporter in the beneficiary country.

Processing of foreign permits and certificates of conformity. Automated validation of the Common Veterinary Entry Document to the customs declaration is the first phase of the EU Customs Single Window (SW) programme that foresees several implementation steps. The aim of the EU SW-CVED is to provide for automated validity checks of the CVED submitted with customs declarations. This project consists in interconnecting the Member States Customs Systems and the DG SANTE TRACES system that holds the CVED through the DG TAXUD SPEED 2 platform. The next phase of the programme foresees an evolution of the EU SW-CVED Phase 1 and inclusion of additional permits – provisionally: FLEGT (timber import), COI (organic products import) and CHED-PP (plant products import), handled at the TRACES platform of DG SANTE.

Processing of pre-arrival declarations. EU-Russia 'Green Corridor' pilot project offers faster customs clearance and reduction of customs controls for the goods exported by participating Authorised Economic Operators (AEOs) from one of the participating EU Member States with the destination in Russian Federation, moved by the road mode of transport²⁹. Benefits for the participating AEOs would be offered at the border crossing points and inland customs offices where an import declaration will be lodged. Export declaration data (agreed subset, which is only exchanged on EU Common Domain) would be sent to Russia. Control results at import would be sent back to the EU. Implementation of the international exchanges between the EU and Russia is based on the WCO Globally Networked Customs (GNC) Utility Block for Control Mutual Recognition³⁰.

Releasing goods. ATA Carnet (Temporary Admission of Goods)³¹ is an international customs document that mainly permits the duty-free temporary importation of goods for up to one year. ATA Carnets cover commercial samples, professional equipment and goods for presentation or

²⁸ Used international standards: the WCO data model, ISO and UN norms, s standards of International Maritime Organisation (IMO), number or European Vessel Identification (ENI), IATA/ICAO flight numbers, IATA structure of a number of ULD containers.

²⁹ This is a flagship pilot project that use the AEO principle in paperless procedures between the EU and non-EU county

³⁰ MASP rev. 2016. Electronic Customs Multi-Annual Strategic Plan 2016 yearly revision. s.l. : DG TAXUD, 2016

³¹ http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/conventions/pf_ata_system_conven.aspx

use at trade fairs, exhibitions, shows. The contracting parties participating in the Istanbul Convention on Temporary Admission are in the process to replace the current paper-based ATA Carnet System by a decentralised eATA Carnet System. This system is based on the WCO Globally Networked Customs (GNC) Utility Block for eATA Carnet. The EU develops a single central system to exchange eATA Carnet System data on issued guarantees with other participating parties.

3.1.5 Payment procedures

Letter of credit document presentations. Electronic submissions of letter of credit documents to major EU trade banks enable exporters and freight forwarders to create accurate trade documents and deliver original documents over the Internet to major international trade banks and buyers. This service is largely used by European companies and international banks in the EU countries and abroad. To standardise terms and procedures and assure interoperability, a set of international rules for letters of credit have been developed by the International Chamber of Commerce - Uniform Customs and Practice for Documentary Credits (UCP) and eUCP³². To exchange and examine electronic documents, all letter of credit parties, such as beneficiary, applicant, issuing bank, advising bank and confirming bank must connect to the same secure online platform that enables electronic presentations and electronic document examinations.

Payment of customs duties and fees. The Decision on a paperless environment for customs and trade indicates that the collection and the repayment/remission of customs duties will be handled by the customs authority responsible for the location where the importer/exporter is established and keeps his customs records.

3.2 EU baseline in electronic Logistics

The EU baseline in electronic logistics is composed of relevant EU best practices in legislation, procedures, standards, electronic services and ICT platforms that allow conducting logistics operations in electronic form. A key development in the next decade will see the transition from the current independent supply chains, where transport and logistics resources cannot be shared or accessed by different cargos and shippers and opening of global transport networks where resources are compatible, accessible and easily interconnected.

3.2.1 Road transport

eCMR. The CMR Convention (Convention on the Contract for the International Carriage of Goods by Road) is a United Nations convention signed in Geneva on 19 May 1956. It relates to various legal issues concerning transport of cargo by road. It has been ratified by most of European states. In February 2008, a protocol was added to use electronic CMR (eCMR). This protocol entered into force on 5 June 2011, and so far, eleven countries have ratified this new electronic system. These include Bulgaria, Czech Republic, Denmark, Estonia, Latvia, Lithuania, France, Netherlands, Slovakia, Spain and Switzerland.

Road tax collection and payments. Its objective is to put forward the implementation of electronic fee collection systems by developing a single interface. EC Decision 2009/750/EC defined the European Electronic Toll Service (EETS) and its technical elements³³.

³² eUCP – Supplement to the Uniform Customs and Practice for Documentary Credits for Electronic Presentation

³³ Interoperability constituents of the EETS were defined in the report 'EETS – Guide for the Application of the Directive on the Interoperability of Electronic Road Toll Systems' (EC, 2011)

3.2.2 Rail transport

COTIF/CIM and SMGS/CIM consignment notes are used for international carriage of goods transported by rail. Convention of International Carriage by Rail (COTIF) together with Uniform Rules Concerning the Contract of International Carriage of Goods by Rail (CIM) is valid in the EU countries. Both consignment notes are active in some Central Europe countries (Poland, Latvia, Lithuania, Estonia, Ukraine, Albania, Bulgaria).

RoLa freight train is a transmodal solution for trucks loaded on railway platforms. Lithuanian Railways together with Belarussian Railways have accomplished a common piggyback train project Nemunas, connecting Vilnius and Minsk intermodal terminals. It is a unique logistic solution in Central and Eastern Europe. Trucks with trailers are transported on special railway platforms. Project Nemunas is an alternative solution for road transport – a way to avoid traffic jams on border crossing points. Nemunas train is convenient not only for road transport companies, but also to other parties included in transport process (consignors, consignees, freight forwarders) and it is environmentally friendly.

The Viking Train is an intermodal chain involving sea-rail or road-sea transportation. It was designed as a RoRo (Roll-on/Roll-off) and a Lo-Lo (Lift-on/Lift-off) transport solution. Lo-Lo cargo offers a connection between short sea and deep-sea shipping on the Baltic and Black Sea and to the Eastern European neighbourhood. In Ro-Ro cargo case, Viking Train is an attractive alternative for long distance truck drives that might be concerned with insufficient development of transport infrastructures to tackle congestion as well as security. It assures faster customs procedures, reduced time required for cargo shippers and cost savings. The Viking Train is a joint project of Lithuanian, Ukrainian, Belarusian, Romanian, Bulgarian, Georgian and Azeri Railways launched in 2003. The route crosses Ukraine, Belarus and Lithuania and links the network of sea container lines of the Baltic and the Black seas, Mediterranean and Caspian seas. The Viking Train Project promoted the use of the new CIM/SMGS consignment note that does not require rewriting documents, and the whole transport can be done using only one consignment note.

3.2.3 Air transport

Electronic Air Waybill (eAWB). “eAWB solution allows the electronic filing of transport document of an air cargo shipment to a carrier or an authorised agent. eAWB is an industry-wide initiative by International Air Transport Association (IATA) to replace paper AWB. Electronic Air Waybill Resolution 672 (MeA) removes the requirement for a paper AWB. The digital advancement has enabled more exporters to process documents much quicker. With the replacement of AWB with eAWB it allows quicker turnover of electronic contract of carriage between the freight forwarder and the airline to make cargo transport by air faster, more reliable and cost effective”³⁴. As August 2017, the eAWB penetration in Europe reached 39.6% with the global world penetration reaching 50.7%³⁵.

3.2.4 Sea transport

eManifest. The overall objective is to identify procedures that would simplify the submission of data elements required by different authorities for cargo formalities with the aim to facilitate and reduce the administrative burden for ship data providers. The harmonised manifest encompasses several cargo related formalities for the carriage of goods by sea, creating a maximum data set to cover all the functionalities and information required by EU and national legislation. It minimises

³⁴ <https://globaletrade.services/electronic-air-waybill-eawb/>

³⁵ <https://www.iata.org/whatwedo/cargo/e/eawb/Documents/e-awb-monthly-report-r17.pdf>

reporting by the shipping industry and the risk of errors by providing the possibility to apply the reporting once principle. The shipping industry can submit a comprehensive eManifest comprised of data required by the maritime and custom authorities. eManifest is compatible with the EU Customs Data Model and WCO Data Model.

In 2016, DG MOVE and DG TAXUD together with the European Maritime Safety Agency launched the eManifest pilot project³⁶. Its overall objective is to simplify the submission of data elements required by both maritime and customs authorities using a harmonised cargo data set, with the aim to reduce administrative burden for ship data providers. Individual data elements should be submitted in a standardised format to the relevant authorities and not asked separately

Maritime National Single Windows³⁷.. The main purpose of the Directive 2010/65/EU (Reporting Formalities for Ships arriving in/departing from EU ports) is to simplify and harmonise some of the reporting procedures. This is achieved by establishing a standard electronic transmission of information and by rationalising reporting formalities for ships arriving in and ships departing from EU ports. The measures reduce administrative burden for shipping companies. The EC intends to revise the RFD by adopting a new proposal establishing European Maritime Single Window environment. This proposal will introduce a National Single Window interface harmonised at the EU level, maximum data set for reporting including exit and entry customs notifications, rules and rights for sharing the data (e.g. for logistic facilitation). The foreseen adoption date is May 2018.

Two major projects have been initiated in this area. The Integrated Maritime Policies (IMP) demonstrator project aims to develop software and service components that would be used to support the participating Member States (Bulgaria, Greece, Italy, Malta and Romania) and Norway in implementing their national single window solutions in compliance with the Reporting Formalities Directive³⁸. This would allow the participating countries to reduce costs and time required for implementation of the national single windows.

The Advanced National Networks for Administrations (AnNa) project aims to facilitate and foster an effective and sustainable Maritime Single Window development in line with the Directive 2010/65/EU. It allows smooth flow of data between users and involved national administrations, as well as assures suitable communication between the national systems³⁹.

The IMP demonstrator and the AnNa project help the Member States to implement the Reporting Formalities Directive.

3.2.5 Transport corridors

RFID (Radio Frequency IDentification) uses electromagnetic fields to automatically identify and track tags attached to objects. The tags contain electronically stored information. RFID serves a variety of purposes. It is assumed that RFID technology is the most prospective technology in Industry 4.0 revolution and the internet of things. The process of development of cargo monitoring is based on RFID technology (GS1 standard and namely on RFID badges technology, which is a real time tool to track the cargo status: crossing the border, arriving, leaving cargo logistics centres, ports, changing the multimodality (sea – rail, rail – road, etc). Badges are widely used across the EU. There have been several pilot projects on RFID, like for example the use of Liber-T devices in France that speed the passage of vehicles through highway toll booths. The Swedish

³⁶ <http://www.emsa.europa.eu/component/flexicontent/download/4436/2834/23.html>

³⁷ https://ec.europa.eu/transport/modes/maritime/digital-services/e-maritime_en

³⁸ https://ec.europa.eu/maritimeaffairs/policy_en

³⁹ <http://www.annamsw.eu/>

Transport Administration completed the first phase of railroad monitoring project Trafikverket in 2012–2013 using RFID technology. This is one of the leading RFID projects that won a lot of awards not only Europe, but also worldwide (GOLDEN TAG and Mini TAG at the European TAG Award, Global GS1 prize for the world's top project-all categories). It covers Swedish Rail (Baltic Sea -Nord sea direction) but also logistic centres and sea ports on that direction (240 readers and more than 4000 wagons in 2016).

eSignature legal framework and interoperability technical solutions across the borders.

This type of signature provides the same legal standing as a handwritten signature as long as it adheres to the requirements of the specific regulation it was created under (e.g., eIDAS in the European Union, NIST-DSS in the USA or ZertES in Switzerland).

AEO (Authorised Economic Operator). “AEO concept is based on the customs-to-business partnership introduced by the World Customs Organisation (WCO). The EU established its AEO concept based on the internationally recognised standards, creating a legal basis for it in 2008 through the ‘security amendments’ to the ‘Community Customs Code’ (CCC) (Regulation – EC – 648/2005) and its implementing provisions. The EU has concluded and implemented Mutual Recognition of AEO programmes with Norway, Switzerland, Japan, Andorra, the US and China. In addition, the EU is providing technical assistance to a number of countries to prepare them to set up AEO programmes”.⁴⁰ AEO status, which simplifies international customs procedures, starts to be very important for the members of the GUAM (Georgia, Ukraine, Azerbaijan, and Moldova) Organisation for Democracy and Economic Development and EEU countries as new EEU customs code starts to be active on 1 January 2018.

eFreight. The European eFreight project expresses the vision of paperless freight transport processes where an electronic flow of information is linked to the physical flow of goods. It develops European freight capabilities for co-modal transport. The eFreight targets development of the following generic eFreight solutions:

- **Next Generation National Single Window (NGNSW)** – a B2A application. A facility that will allow parties involved in trade and transport to lodge standardised information and documents on a single-entry point to fulfil all reporting obligations both for trade and transport for all modes within an EU Country. NG National Single Window will provide interconnections with EU platforms with SafeSeaNet (SSN), eCustoms, RIS, TAF/TSI, etc.;
- **Central EU National Single Windows’s Support Services** – an A2A application, a central EU level module which facilitates information exchange among Next Generation National Single Windows, holds the registry of all NGNSWs, provides for keeping regulatory requirements and policies changes updated and for other statistical and data services;
- **Collaborative Security Risk Management** – an A2A application intended to support real-time tracking of high risk trucks and vessels and security risk information exchange and sharing among authorities and administrations in different regions of a country;
- **Setting up Co-modal Transport Networks** – a B2B application, addressing cooperation strategies, based on electronic interactions, to provide quality transport services while improving the environmental footprint of the entire supply chain;
- **Co-modal Shipment Planning** – a B2B application to assist transport clients in specifying, comparing and negotiating the terms of a required co-modal transport service;
- **Monitoring of Transport Services execution** – a B2B application to support monitoring of

⁴⁰ https://ec.europa.eu/taxation_customs/general-information-customs/customs-security/authorised-economic-operator-aeo/authorised-economic-operator-aeo_en

the status of co-modal transport services and detection of deviations from the agreed transport plan;

- **Single Transport Document** – a B2B application consisting of a universally available Service which generates electronic transport Documents (waybills) from existing operational data, based on a common standardised Schema (data model).
- **EU initiatives on Electronic documents for freight transport** aim to foster the electronic exchange of documents and information along the transport and logistic chains, particularly as regards multimodal and cross-border transport operations⁴¹.

eID (electronic identification). Secure electronic identification is an important enabler of data protection and the prevention of online fraud. eID can guarantee the unambiguous identification of a person and make it possible to get the service delivered to the person who is really entitled to it. Cross-border connection of electronic identification and authentication infrastructure (**e-SENS**) is the pan-European project to strengthen the EU digital single market and facilitate public services across borders. Germany, the Netherlands and Austria have successfully connected their electronic identification and authentication infrastructure, making it possible to use Austrian and German eID to access Dutch online public services. Specific examples include an agricultural portal, handling traffic fines and services delivered by municipalities. The endeavour was carried out within the framework of the Citizen Lifecycle Pilot of the e-SENS project, co-financed by the EU.

The new EU Customs Code (enacted in May 2016, in full power by 2020) creates the possibility of excluding paper from customs procedures in the EU area. Different actions and initiatives have been initiated in relation to eTrade and eLogistics operations. These are the Digital Transport and Logistics Forum; the EC initiative on electronic transport documents; the EC initiative on Maritime Single Window environment, and RFID technology application for goods and cargo monitoring.

The Digital Transport and Logistics Forum⁴². The European Commission published on 9 April 2015 the Decision on setting-up an expert group on Digital Transport and Logistics. The Forum aims to further support digitalisation of freight transport and logistics. It brings together Member States and stakeholders from all transport and logistics communities with the aim of identifying challenges and areas where common action in the EU are needed. It provides recommendations and works on the implementation of these recommendations. The Forum proposes to create a solution for data sharing that would enable logistics enterprises, transport operators, regulators and law enforcement agencies to efficiently perform and optimise their processes. This solution is called a federative platform⁴³.

4 ANALYSIS OF THE PARTNER COUNTRIES

This Chapter analyses the digital markets in the six Partner Countries, using as a baseline the EU legal framework, European and international best practices, standards and IT platforms, in view of developing interoperating systems in the Partner Countries. It assesses the gaps of national systems for eTrade and eLogistics in the Partner Countries from the point of view of harmonisation with the EU's Digital Single Market.

⁴¹ https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2017-2546864_en

⁴² https://ec.europa.eu/transport/media/news/2015-04-15-setting-up-dtlf_en

⁴³ http://www.dtlf.eu/sites/default/files/public/uploads/fields/news/field_file/dtlf_sg2_federative_platform.pdf

4.1 Armenia

4.1.1 Country profile

National legislation

Armenia has well defined legislative and regulatory framework related to the paperless trade and electronic logistics. Notably, the legal framework includes provisions on electronic trade platforms, on the special issues connected with the trade via online trade platforms, eDocument and eSignature, trade via electronic communication, consumer rights protection.

As a member of the Eurasian Economic Union, the country has adopted the relevant Resolutions of the Customs Union. The most important include the New Customs Code.

At the international level, Armenia has signed the TIR Agreement (Transports Internationaux Routiers) and Agreement with International Road and Transport Union (IRU).

Relevant national organisations

The Ministry of Economic Development and Investments Armenia is responsible for development of innovation and technological development (except for ICT) as well as trade policies in Armenia. It is responsible for coordination of the EU technical assistance programmes in the country.

The State Revenue Committee integrates two main functions. The Customs Service plays the main role of the customs operations in the country and is the operator of the National Single Window for external trade. The State Revenue Committee mission is to ensure revenues collection through full and equal application of tax legislation.

The Ministry of Transport, Communications and Information Technologies regulates issues related to the transport procedures, railways, roads and ICT.

EKENG Closed Joint Stock Company (CJSC) is the coordinator of e-government projects in Armenia. Its main responsibilities are preparation and implementation of policies in the field of e-government, including the usage of electronic signatures, coordination of e-government initiatives of state bodies. It designs, develops and operates the national electronic interoperability framework.

Recently, the Government of Armenia approved a decision to establish a 'Digital Armenia' foundation. It will oversee Armenia's digital agenda implementation that is: elaboration of a new digital strategy, formation of a united digital environment in all the spheres of state government, modernisation of government systems to provide better services to citizens and businesses.

The Union of Information Technology Enterprises has initiated and promoted the implementation of changes in Armenia's legislation on Electronic Commerce and Trade. It is the largest ICT association in Armenia and has good ties not only with companies, but also with the government.

The Union of Freight Forwarders of Armenia represents the freight forwarding industry and safeguards its interests domestically and abroad. It represents Armenia in the International Federation of Freight Forwarders Associations (FIATA).

Decision-making process

Armenia has a well-functioning decision-making process between the private and public sectors for implementation of initiatives in the areas related to paperless trade and electronic logistics.

Several initiatives come from the private sector. In particular, changes in the legislation to foster eTrade have been initiated by the Union of Information Technology Enterprises (UITE). These initiatives were supported by the Ministry of Economic Development and Investments of RA and

the Ministry of Justice. This brought to the development of legislative improvements in several legal acts, taking into account the relevant EU legislation and best practices.

National implementation plans

Trade, including eTrade policy development in Armenia is implemented by the Ministry of Economic Development and Investments. The Ministry together with other private and public stakeholders drafted a legislative package taking into consideration the international experience and the relevant EU acquis that was adopted by the RA Parliament in 2016.

Armenia currently has three levels (political, legislative and executive) of the implementation of the initiatives in the areas of electronic trade and logistics, but for the moment, there is no national implementation plans for electronic logistics.

Being a landlocked country, Armenia depends on transport and cross-border access. Only the borders with Iran and Georgia are currently opened. The North-South Road Corridor (550 km) connects Central Asia to Europe, Iran, Armenia and Georgia:

- Two multiple-lane highway routes and one rail link providing access to the Black Sea ports of Batumi and Poti (Georgia) and further to the EU by sea (TRACECA corridor);
- One South road through Iran to the Persian Gulf.

The Industrial Strategy identifies the upgrading of the transport and logistics infrastructure as a key issue for Armenia competitiveness. The most important projects will be implemented under the North-South Road Corridor investment programme, with the support of the Asian Development Bank, JICA and European Investment Bank. Armenia signed Memorandum of Understanding, launching the Single Support Framework for EU support to Armenia.

National best practices

A good practice of Armenia in eTrade and eLogistics areas is the National Single Window System for external trade⁴⁴ and the national electronic interoperability framework.

International standards

The Eurasian Economic Union technical regulations together with the WCO standards are applied for the implementation and operation of paperless trade and electronic logistics.

ICT platforms and information systems

The main platforms and information systems that are implemented to operationalise paperless trade and electronic logistics procedures in Armenia include:

- National Single Window system for external trade;
- Trade Documents Cloud (TDC) application allows traders to store their scanned documents in a dedicated cloud and share their documents with authorities, directly from the cloud. This application is a part of the National Single Window system.
- The system of the Ministry of Health handling Certificate for import or export of medicines and pharmaceuticals. The system is also operational at all border crossings;
- The system of the State Service for Food Safety (SSFS) handling phytosanitary, veterinary and food safety certificate. The system is operational at all border crossings;

⁴⁴ www.trade.gov.am

- The system of the Ministry of Transport, Communications and IT handling Radio Frequency Equipment Import License;
- Risk management system;
- Postal Items Clearance System.

4.1.2 Paperless Trade

4.1.2.1 State of play and gap analysis

The Licensing and Permits Agency is a detached subdivision of the Ministry of Economic Development and Investments. It provides services envisaged by the legislation in the spheres of its competence, acting on behalf of the State. The agency accepts applications on paper, electronically via the governmental official site or by e-mail.

Armenia has adopted the CIS Council Decision on Certificates of Origin Definition and the Agreement on Joint Rules on the Definition of the Country of Origin. Traders submit paper or electronic (scanned, by email) applications to the subsidiary company of the Chamber of Commerce and Industry and get the Certificate of Origin in hard copy. Electronically signed (e-signed) application and issuance of electronic Certificate of Origin are not yet implemented. The Armenian Chamber of Commerce and Industry and the Customs Service have no possibility to verify the authenticity of Certificates of Origin online through International Chamber of Commerce International Certificate of Origin Global Accreditation Chain (ICC World Chambers Federation).

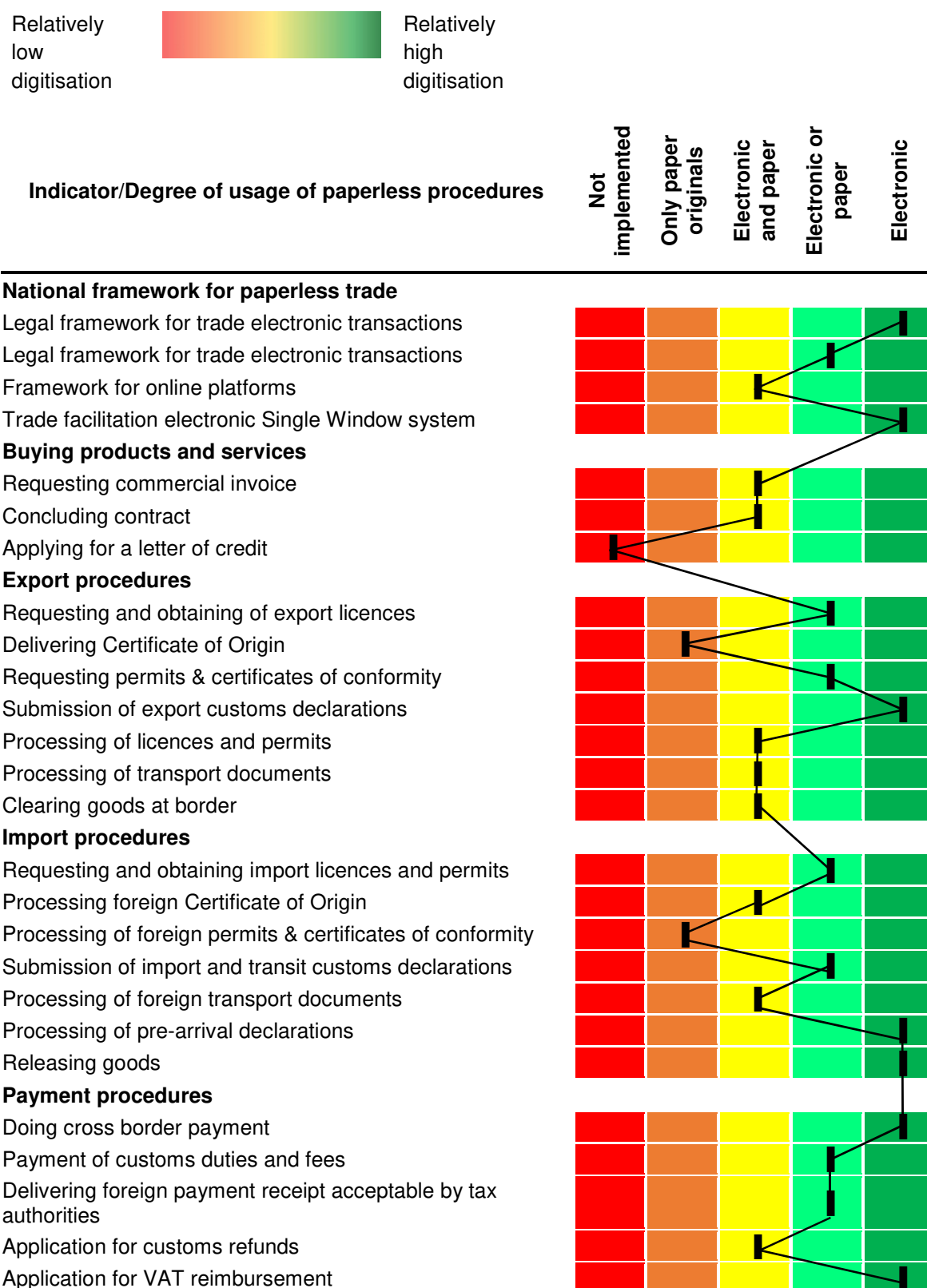
Traders can apply in electronic format for phytosanitary and veterinary export permits to the State Service for Food Safety; for export certificates of medicines and pharmaceuticals to the Ministry of Health and for radio frequency equipment import license to the Ministry of Transport,

Communications and IT through the National Single Window system. The authorities deliver permits in electronic and in paper forms. All these systems are components of the National Single Window system. Applications for other permits and certificates (declarations) of conformity are accepted in paper form and the relevant authorities deliver paper original certificates.

Traders can submit export customs declaration to the Customs Service in electronic format, including all supporting documents, through the Customs Portal being part of the National Single Window system. A custom declaration in form of the Single Administrative Document is used for supports all types of customs procedures. The Customs Union Single Administrative Document is the harmonised version for the Eurasian Economic Union. It implements the exchange of customs declaration information between the EEU member countries.

presents the overall status of digitisation of trade procedures in Armenia. Used gradation indicates in orange colour the aspects where the trade procedures are conducted using paper documents, green colour indicates high level of digitisation with the procedures using electronic documents. Intermediate colours indicate procedures where paper and electronic documents are combined. For each indicator, the black bar indicates the status of usage of paperless procedures in the country in each corresponding trade process.

Figure 4 – Overall state of play in eTrade of Armenia



Source: results of interviews conducted in the EaP Countries by the study team

4.1.2.2 National framework for paperless trade

The national legal framework includes the requirements for legal recognition of trade-related data and electronic documents. The Civil Code⁴⁵ includes specific provisions related to offer of services and acceptance in electronic communication, on warranty conditions, electronic trade platforms and trading via online platforms. The Law on 'Trade and Services'⁴⁶ regulates trade procedures via electronic communication. The law on e-documents and e-signatures was adopted in 2004. The law on 'Consumer Rights Protection'⁴⁷ includes the conditions on obligatory information to be indicated on a trading website or electronic application, and the return or exchange rules for the non-food goods.

Agreement on Joining Eurasian Economic Union adopted in 2014 provides legal recognition of foreign trade-related data and documents with the EEU countries. An initiative to establish a regulatory framework with Iran and Georgia have been initiated by State Revenue Committee and agreements have been drafted. There are no agreements in place with the EU Member States or other Eastern Partnership countries on legal recognition of trade-related data and electronic documents.

The Civil Code regulates specific aspects of electronic trade platforms and trading via online Buying products and services

The Customs Service and other regulatory authorities accept invoices and contracts for cross-border operations either as paper or in scanned electronic format of original documents. They are uploaded into the Trade Documents Cloud and submitted using the National Single Window system. The traders can only apply for letters of credit from banks in paper format. This procedure is not yet automated in Armenian financial institutions.

4.1.2.3 Export procedures

Licensing and Permits Agency is a detached subdivision of the Ministry of Economic Development and Investments. It provides services envisaged by the legislation in the spheres of its competence, acting on behalf of the State. The agency accepts applications on paper, electronically via the governmental official site⁴⁸ or by e-mail.

Armenia has adopted the CIS Council Decision on Certificates of Origin Definition⁴⁹ and the Agreement on Joint Rules on the Definition of the Country of Origin. Traders submit paper or electronic (scanned, by email) applications to the subsidiary company of the Chamber of Commerce and Industry and get the Certificate of Origin in hard copy. Electronically signed (e-signed) application and issuance of electronic Certificate of Origin are not yet implemented. The Armenian Chamber of Commerce and Industry and the Customs Service have no possibility to

⁴⁵ Article 450 on e-signature usage, article 451 on some definitions of offer in electronic communication, article 454 on the definition of acceptance in electronic communication, article 517 on warranty conditions

⁴⁶ Chapter 4.1, Article 1, point 3

⁴⁷ Particularly articles 10.1 and 23.

⁴⁸ www.e-gov.am

⁴⁹ Adopted on 30.11.2000

verify the authenticity of Certificates of Origin online through International Chamber of Commerce International Certificate of Origin Global Accreditation Chain (ICC World Chambers Federation).

Traders can apply in electronic format for phytosanitary and veterinary export permits to the State Service for Food Safety; for export certificates of medicines and pharmaceuticals to the Ministry of Health and for radio frequency equipment import license to the Ministry of Transport,

Communications and IT through the National Single Window system. The authorities deliver permits in electronic and in paper forms. All these systems are components of the National Single Window system. Applications for other permits and certificates (declarations) of conformity⁵⁰ are accepted in paper form and the relevant authorities deliver paper original certificates.

Traders can submit export customs declaration to the Customs Service in electronic format, including all supporting documents, through the Customs Portal being part of the National Single Window system. A custom declaration in form of the Single Administrative Document is used for supports all types of customs procedures. The Customs Union Single Administrative Document is the harmonised version for the Eurasian Economic Union. It implements the exchange of customs declaration information between the EEU member countries.

The Customs Service receives licences and permits, which are submitted together with customs declarations, in scanned format and in hard copy, if requested. The validity of some types of permits can be checked online through the interoperating information systems of the State Service for Food Safety (phytosanitary and veterinary certificates) and of the Ministry of Health (sanitary certificates) and of the Ministry of Transport, Communications and Information Technologies (radio frequency equipment import licence). The authenticity of other permits, certificates of conformity and licences presented in scanned format cannot be verified online.

Scanned transport documents, such as CMR international consignment note, CIM consignment note, air waybill, multimodal bill of lading, packing list can be submitted to the Customs Service through the Trade Documents Cloud of the National Single Window system. Original paper documents may be requested by the Customs Service depending on the results of risk management assessment.

Customs declarations and supporting documents are processed by the customs at border crossing points in electronic format as they are submitted in advance through the National Single Window system. All documents are verified and validated in their original paper format at border crossing points. This practice slows down the clearing of goods and increases the release time.

4.1.2.4 Import procedures

A new electronic system for permits applications was developed and integrated with the National Single Window for external trade. Traders can apply for phytosanitary, veterinary and sanitary import permits, for import certificates of medicines and pharmaceuticals, and for radio frequency equipment import license to relevant agencies only in electronic format through the National Single Window system. The State Service for Food Safety conducts safety checks and process applications at border crossing points. Applications for import licences for radio frequency equipment can also be submitted electronically to the Ministry of Transport, Communication and Information Technologies. 100% of importers use the electronic system and approximately 40% of them use the system directly, without customs broker services. The authorities deliver permits

50 <http://www.sarm.am/en/sertifikacum> - The National Institute of Standards

in electronic format. Traders use the Trade Documents Cloud to store electronic documents and attach them to declarations. Applications for other import permits and certificates (declarations) of conformity are accepted only in paper form and the relevant authorities deliver paper original documents.

The Customs Service and the authorities connected to the National Single Window system can process scanned foreign Certificates of Origin, foreign permits and certificates of conformity. If request by the Customs Service, traders must present original paper documents to confirm the authenticity of scanned documents. All other Armenian authorities only process original hard copies of Certificate of Origin, original foreign permits and certificates of conformity. There are no systems in place that allow online validation of foreign Certificates of Origin, even with the Eurasian Economic Union's Member States.

The Customs Service processes import and transit customs declaration only in electronic format. The transit declaration processing system supports all types of transit operations and guarantees their management. The Eurasian Economic Union operates a unified system. It implements electronic exchange of transit declarations information between the member countries.

Foreign transport documents must be scanned and uploaded into the Trade Documents Cloud for processing by the customs service. Electronic submission has to be duplicated by the original hard copies of transport documents. Currently, there is no automated exchange of electronic transport documents with any of transport carriers, air transport operators or national or foreign transport operators.

The Preliminary Notification system will be deployed by the end of 2017. The Advance Cargo Information component will allow traders or their representatives to provide preliminary information in electronic format prior to the arrival of goods at the border.

The procedure of releasing of goods takes place with all required documents submitted in electronic format. 'Electronic Release of Goods' System registers the actual exit of goods and supports exit processing within the borders of the Customs Union member states.

4.1.2.5 Payment procedures

Cross border B2B and B2C payments can be conducted via banking wire transfer in electronic form. The traders can pay customs duties and fees either electronically or in traditional way through banks. The customs information system integrates Centralised Accounting and Payment component that guarantees that duties and fees are paid at the time of the release of goods. The system also handles financial guarantees in case of non-compliance with certain conditions, including trade operations within the Customs Union.

The national legislation allows foreign payment receipts to be legally used in paper and electronic formats. Tax authorities of Armenia handle scanned payment receipts uploaded by traders or in paper original. Likewise, applications for customs refunds can be submitted to the Customs Service either electronically or in hard copy. Electronic invoice for VAT reimbursement is submitted via accounting software package provided by the tax authorities⁵¹.

4.1.3 Roadmap

The Study Team proposes a number of measures and projects to improve the digital trade processes in Armenia by harmonising them with the EU Single Digital Market practises. Their implementation will lead to significant economic benefits for both sides. At the same time, several

⁵¹ <http://e-invoice.taxservice.am/>

harmonised measures within the Eastern Partnership Countries will increase opportunities for trade development between them.

4.1.3.1 National framework for paperless trade

Improve the legal framework to include cross-border electronic data exchange. The good practice in this area is the EU eDelivery Regulation⁵² on electronic identification and trust services (eIDAS) that creates appropriate conditions of the EU digital single market. Armenia is encouraged to adopt legal provisions for the mutual recognition of key enablers across borders, such as electronic identification, electronic documents, electronic signatures and electronic delivery services, and for interoperating electronic services. The next step will be a signature of bilateral or multilateral agreements with the European Union and the Eastern Partnership Countries.

Extend the national interoperability strategy and implementation plan for cross-border interoperability with the EU. The European Interoperability Strategy⁵³ and the new European Interoperability Framework⁵⁴ should be used as a model to extend the national interoperability strategy in the area of cross-border interoperability for trade-related information services with the EU. The harmonisation with its provisions would allow interaction, exchange and cooperation with European public administrations for the delivery of electronic trade services across national borders and sectors.

Further development of the National Single Window for foreign trade. The development of the National Single Window requires several activities. Among the most important is the integration of information systems of other government and not government bodies involved in foreign trade. A Single Application Form will allow traders to submit trade-related data only once. The automation of validation of supporting electronic documents or records contained in the information systems of state agencies will remove the obligation to submit scanned copies of supporting documents and protect against counterfeited permits and certificates.

4.1.3.2 Buying products and services

Electronic presentation of export documents under a letter of credit. Electronic application for letter of credit helps to transform the process of paper-based financial transactions and make them paperless. The improvement would consist in implementation of a digital platform (integrated with the National Single Window system) that allows electronic application for a letter of credit to major trade banks of the country. It should support electronic presentations of UCP 600 (eUCP) compliant letter of credit documents.

4.1.3.3 Export procedures

Online application for export licences. The National Single Window system should be extended by an electronic service for online application for export licences. The Ministry of

⁵² (EU) 910/2014. Regulation (EU) 910/2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS Regulation). [Online] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2014.257.01.0073.01.ENG

⁵³ A European Interoperability Strategy was adopted in 2010 as part of the Communication 'Towards interoperability for European public services'

⁵⁴ COM/2017/0134. COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS European Interoperability Framework – Implementation Strategy. [Online] <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1494635732817&uri=CELEX:52017DC0134>

Economy would use the system to receive applications in electronic format. Their processing would be automated, and the Ministry would deliver electronic licences. Issuance of paper licences would not be required anymore if validity of any licence could be checked online. The best EU practices that could serve as inspiration are SPIRE online export licensing system from the UK⁵⁵, and Irish Online Export Licensing Application System (OELAS)⁵⁶.

Electronic Certificate of Origin. A service for submitting of electronically signed applications and issuance of electronic Certificate of Origin would streamline the procedure of issuance of certificates by the Armenian Chamber of Commerce and Industry. The service should be integrated into the National Single Window portal. The information system of the Armenian Chamber of Commerce and Industry can interact with the system of the International Chamber of Commerce International Certificate of Origin Global Accreditation Chain. The interoperability would allow the availability of Certificates of Origin delivered by the Armenian Chamber of Commerce and Industry in the ICC CO Accreditation Chain. At the same time, Armenian customs and other authorities would have a tool to verify online the authenticity of Certificates of Origin delivered in foreign countries. The national interoperability framework would make electronic Certificates of Origin available to other state agencies (for procedures of issuance of permits and certificates) and to the Customs Service (for the customs clearance procedures).

Single Application Form for export permits and certificates. The National Single Window should integrate an electronic Single Application Form for trade permits and certificates of conformity. This single form should allow for once-only submission of all data required by different agencies. The internal administrative processes of the state agencies for issuance of the permits and certificates should be automated. The national interoperability framework would make electronic permits and certificates available to other state agencies and to the Customs Service.

Integrate with TRAdE Control and Expert System for export of live animals and animal products Integration of the permit system of the State Service for Food Safety with the TRAdE Control and Expert System (TRACES) will allow harmonised export certificates of Armenian exporters of live animals and animal products to be available for the EU authorities and importers. Veterinary permits will be automatically available in the last updated version and translated into all EU official languages. This will speed up the administrative processes at the EU Border Entry Points.

Electronic submission of transport documents. The National Single Window should be extended to allow the traders and their transport service providers to submit transport documents in electronic format (eLogistics Single Window). Electronic documents signed by digital signature or EDI format of transport documents such as CMR international consignment note, CIM consignment note, air waybill, multimodal bill of lading, packing list will be submitted through Trade Documents Cloud of the National Single Window. The Customs Service and other state agencies will be able to access them in electronic format.

Integration of the customs system with the EU New Computerised Transit System. Joining the customs transit system applied in the EU would create favourable conditions for trade enabling faster movement of goods, reduction of operational costs and supervision over the movement of shipments and prevention of misuse. This would require acceding to the Common Transit Convention (CTC) and Simplification of Formalities in Trade of Goods Conventions (SAD) by joining and subsequently integrating a New Computerised Transit System (NCTS).

⁵⁵ <https://www.spire.trade.gov.uk>

⁵⁶ <https://oelas.djei.ie/>

4.1.3.4 Import procedures

Single Application Form for import permits and certificates. The National Single Window should integrate an electronic Single Application Form for trade permits and certificates of conformity required by the state agencies for import operations. The single form should allow for once-only submission of all data required by different agencies.

Integrate with TRAdE Control and Expert System for imported products (TRACES). For import from the EU, integration of the information system of the State Service for Food Safety with the TRAdE Control and Expert System (TRACES) would allow for getting several certificates and documents on live animals and animal products imported from the EU to Armenia, plants and plant products. This data from TRACES is available to any non-EU country.

Interoperate with European Information System (EIS). The European Information System (EIS) allows for electronic exchange of information between any EU authorities and agencies involved in import and export transactions with third parties if an international agreement so provides. Exchange of data with Armenia can include electronic export and import permits, transport documents and electronic Certificates of Origin.

Automate registration of exporters in the Registered Exporter System (REX). The automation of registration of Registered Exporters established in non-EU countries (GSP beneficiary countries) and exporting goods to the EU under preferential trade arrangements would replace the current paper-based certification process. Data on Armenian exporters registered with the competent national authority would be submitted to REX. This entitles Armenian exporters to make out statements on origin.

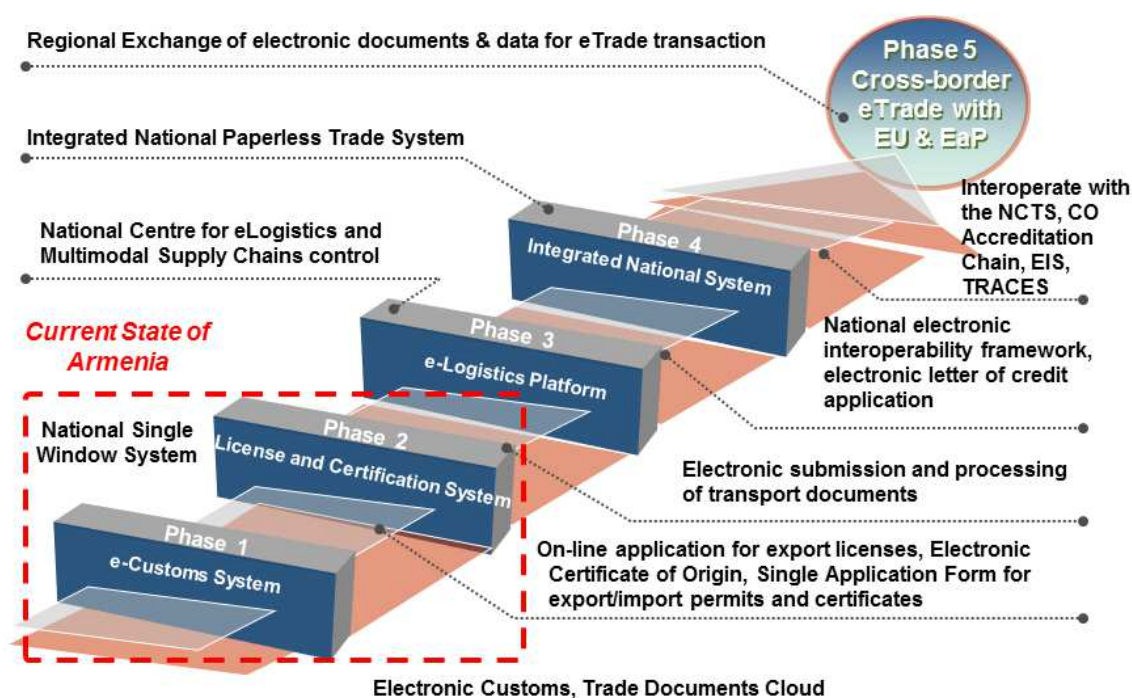
With the focus on harmonisation in the area of paperless trade between EU Member States and Eastern Partner Countries, components of the overall roadmap are represented in accordance with the main phases of National Paperless Trade System (NPTS) development recommended by the United Nations Economic Commission for Europe (UNECE) and illustrated by the Figure 5.

Based on the findings of this Report, Armenia is in phase 2 of the NPTS development. In phase 3, a National platform for eLogistics should be created. This is an integration platform for multimodal supply chain's management and control with goods flow tracking⁵⁷. In the 4th stage, all the above platforms and systems should to be integrated in a full-scale National System and the NPTS operator should be defined and authorised by the government to provide a complete portfolio of paperless trade services.

To ensure the provision of cross-border eTrade services for businesses among Partner Countries and with the EU, the implementation of national modules for eInvoicing, eDelivery, eID, eSignature as well as the corresponding international agreements will be required to make Armenia NPTS-ready for regional eTrade transactions.

⁵⁷ Described in more details in the eLogistics section of the country report.

Figure 5 – Main phases of NPTS development in Armenia



4.1.4 Electronic Logistics

4.1.4.1 State of play and gap analysis

4.1.4.1.1 Road transport

Because of very low cargo transit activities eCMR is not used in Armenia. Association of International Road Carriers of Armenia has 51 members, owning 530 vehicles that fulfil international standards. They receive only 1500 TIR/per year (~ 4 TIR per day). There is no legislative basis in place for the usage of CMR.

There is no centralised system for waybill, for road tax-gathering and for the payment of road tax for cargo vehicles and passengers' cars. Instead, multiple separate systems are implemented by private companies. The main problem is the absence of a specific legal framework, of international agreements and inter-institutional agreements.

4.1.4.1.2 Rail transport

It is necessary to remark that according to the concession contract signed on February 13, 2008, operation of Armenian railways system is transferred to 'South Caucasus Railways' closed Joint-Stock Company, established by 'Russian Railways' Open Joint-Stock Company. eSMGS is not used in Armenia.

There is currently no possibility to use international RoLa freight trains in Armenia.

4.1.4.1.3 Air transport

No information was collected about the usage of electronic air waybill in Armenia.

4.1.4.1.4 Transport corridors

Centralised infrastructure for real time cargo movement monitoring is missing in Armenia. Only separate systems, such as RFID, Closed-Circuit Television (CCTV), X-ray, radioactive materials detectors and seals are used.

Armenia uses 'Taxpayer-3' system that allows the taxpayers to submit reports, invoices and other documents, defined by the law, in electronic way. The system is used by 100% of taxpayers concerned.

Armenia uses electronic identification (eID) and all documents should be signed using eID. Although the platform recognises digital Armenian eID, the system does not support eID or SmartCards issued by other countries. There are no international and inter-institutional agreements or policies, which would allow mutual recognition of eID/SmartCards between Armenia and European Countries. The absence of international agreements is the main obstacle towards mutual recognition of eID cards. Armenia currently does not conduct any technical discussions on the required infrastructures.

Paper form for export and import declarations for passengers is used if a passenger has goods to declare. EEC countries are exempted. At the same time, entrepreneurs in Armenia can declare 100% electronically. However, the examination is done only in one centre – in Yerevan. The interfaces for the export, import and transit areas are different, but they operate in the same environment and can exchange information among each other. The systems are fully interoperating within the country but are not connected to other countries' systems.

4.1.4.2 Roadmap

From the perspective of the EU best practice and the context of the country, Armenia should focus on the following specific policies, actions and pilot projects:

4.1.4.2.1 Road transport:

- Review the legislation, to accept and sign the Additional Protocol to the Convention on the Contract for the International Carriage of goods by road (CMR) concerning the Electronic Consignment Note;
- Implement a pilot project for centralised eWaybill system and sign appropriate agreements.

4.1.4.2.2 Rail transport

- Implement pilot project of eSMGS with EaP Countries.

4.1.4.2.3 Transport corridors

- Implement a pilot project of united stationary real-time system for monitoring cargo movement in rail and road by using RFID technology (GS1 standard) together with EaP Countries;

- Implement a pilot project connecting the existing 'Taxpayer-3' with other EaP Countries and the EU e-invoicing systems;
- Sign international and inter-institutional agreements concerning eID recognition in other countries;
- Implement a pilot project for eID application in EaP and EU countries;
- Implement internal infrastructure for electronic declaration for export and import submission through Customs portal or e-Kiosk available at every Customs border checkpoint.

4.2 Azerbaijan

4.2.1 Country profile

The legal framework

The main legislative act that defines the legal framework for the organisation and implementation of eTrade in Azerbaijan, the rights, duties, and responsibilities of eTrade participants for violation of the respective legislation is the Law on E-Commerce, № 908-IIQ, dated 10.05.2006. The Law regulates all spheres of eTrade excluding financial market, insurance and securities market. There are also some provisions in the Civil Code that regulate the eTrade activities.

The central legislative acts determining the legal framework for the organisation and implementation of eLogistics in Azerbaijan are the Laws on Transport, № 683-IQ, dated 11.06.1999, on Automobile Roads, № 778-IQ, dated 22.12.1999, on Aviation № 944-IIQ, dated 24.06.2005, on Automobile Transport, № 556-IIIQ, 01.04.2008. Azerbaijan joined the Convention on International Carriage by Rail (COTIF) by the Law No 1257-IVQ, dated 14 April 2015; and the Convention on the Contract for the International Carriage of Goods (CMR) by the Law No. 812-IQ, dated 11 February 2000. However, Azerbaijan have not yet signed and ratified the Additional Protocol to the Convention on the Contract for the International Carriage of Goods (CMR) concerning the Electronic Consignment Note.

Azerbaijan is a member of the Organisation for Cooperation between Railways (OSJD).

Relevant national organisations

There is no single state entity responsible for the paperless trade and electronic logistics. However, the Ministry of Taxes, the Ministry of Economy, and the State Customs Committee are involved at their level of responsibility in the implementation of state policy on eTrade and eLogistics. Some other state agencies and companies are responsible for the regulatory and control aspects of different means of transport (sea, air, road, and rail).

There are also some other public and private organisations that are involved in the development of this area. Some of the most important are:

- The Centre for Analysis of Economic Reforms and Communication was established in 2016 by a Presidential Decree and is responsible for proposing economic reforms;
- Azerbaijan International Road Carriers Association (ABADA)—is a non-profit public organisation that unites natural and legal persons of Azerbaijan, engaged in international carriage of goods by road. It is a member of IRU. ABADA is a guarantee association on application of TIR custom convention 1975 in the territory of Azerbaijan;

- eTrade Public Union—consisting of 58 members, including public and private organisations, with the purpose to improve the legislation and raise trust in eTrade websites.

National implementation plans

As the spheres of paperless trade and electronic logistics are quite new in Azerbaijan, there had been no specific national implementation plans or programmes adopted or implemented up to now. Recently a Strategic Road Map for the Development of Logistics and Trade in Azerbaijan was announced and approved by the Decree of the President dated 6 December 2016. Notably, the roadmap foresees the following priorities: to strengthen the role of Azerbaijan as a regional logistics and trade hub; to complete logistics projects such as Baku Trade port, Astara - Astara (Iran) rail road, to make Baku a trade hub of regional importance, to create logistical and trade centres in Baku and different regions of Azerbaijan.

International agreements

EU-Azerbaijan bilateral trade relations are currently regulated by a Partnership and Cooperation Agreement in force since 1999. Azerbaijan is working to accede to the World Trade Organisation. The country has signed bilateral free trade agreements with seven CIS countries.

National best practices

The main best practice of Azerbaijan in the trade and logistics area is Azexport web portal launched in December 2016⁵⁸. It is integrated with the most popular eTrading platforms and the leading global and local transport and logistics companies participate in it. Azexport offers secure payments by credit cards. Within 8 months of 2017, export orders totalling 310 million USD were realised via the portal.

There is a One-Stop-Shop Export Support Centre under Azexport. The aim of the Centre is to support local businesses in exporting their goods, to help with the filling of export documentation. The Centre also grants permissions and issues quality, origin and other certificates required for export of goods.

Another recent best practice for the development of logistics is the construction of new Baku Trade Port. The location of new Port of Baku at Alyat, 70 km away from Baku at the junction of TRACECA and North-South corridors which is in a transport hub (railways and highways) linking the West (Black Sea), South (Iran) and North (Russia). The port still needs to be equipped with information technology infrastructure.

On 8 July 2017, with the initiative of Azerbaijan at the OSCE Parliamentary Assembly Silkway Support Group was established. The group co-founded by 17 states will play the role of a platform for the development of mutually beneficial economic and trade projects.

The Baku–Tbilisi–Kars (BTK) became operational on October 30, 2017. The Baku-Tbilisi-Kars project is intended to complete a transport corridor linking Azerbaijan to Turkey (and therefore Central Asia and China to Europe) by rail.

International standards

In marine transport, Azerbaijan uses several Bello identification numbers. In air transport, the country applies IATA standards. In rail transport, Azerbaijan applies SMGS Consignment Note rules. The Customs Committee uses the World Customs Organisation data model.

⁵⁸ www.azexport.az

ICT platforms and information systems

The main platforms and information systems that are implemented to operationalise paperless trade and electronic logistics procedures in the country are Azexport portal, SME market platform⁵⁹, Unified Automated Management System of the State Customs Committee of Azerbaijan, and eGovernment portal⁶⁰. It is estimated that 12.5% of companies in Azerbaijan use eTrade services. 21% of population use eServices (eGov, eBusiness). In total 73.2% of population is digitally literate.

4.2.2 Paperless Trade

4.2.2.1 State of play and gap analysis

Figure 6 presents the overall status of digitisation of trade procedures in Azerbaijan. Used gradation indicates in orange colour the aspects where the trade procedures are conducted using paper documents, green colour indicates high level of digitisation with the procedures using electronic documents. Intermediate colours indicate procedures where paper and electronic documents are combined. For each indicator, the black bar indicates the status of usage of paperless procedures in the country in each corresponding trade process.

4.2.2.1.1 National framework for paperless trade

The legal framework of Azerbaijan includes the main requirements on legal recognition of trade-related data and electronic documents. There are several related laws, Decisions of the Cabinet of Ministers and Presidential Decrees - the Law on Electronic Commerce and the Law on Electronic Signature and Electronic Document.

The Legal recognition of foreign trade-related data and documents is achieved through the multilateral protocol among GUAM Member States' customs administrations on the organisation of electronic exchange of preliminary information about goods and means of transport crossed through the state borders of GUAM members. Mutual recognition of key enablers across borders, such as electronic identification, electronic documents, electronic signatures and electronic delivery services with the EU is not yet established.

The Decree of the President dated 22 February 2017 on Additional Measures for the Strengthening of Azerbaijan's Position as a Digital Trade Hub and the expansion of foreign trade operations defines the basis for operating trade platforms. The legislation should, however, be amended to include specific provisions for cross-border services for B2B, B2C, C2C types of eCommerce platforms.

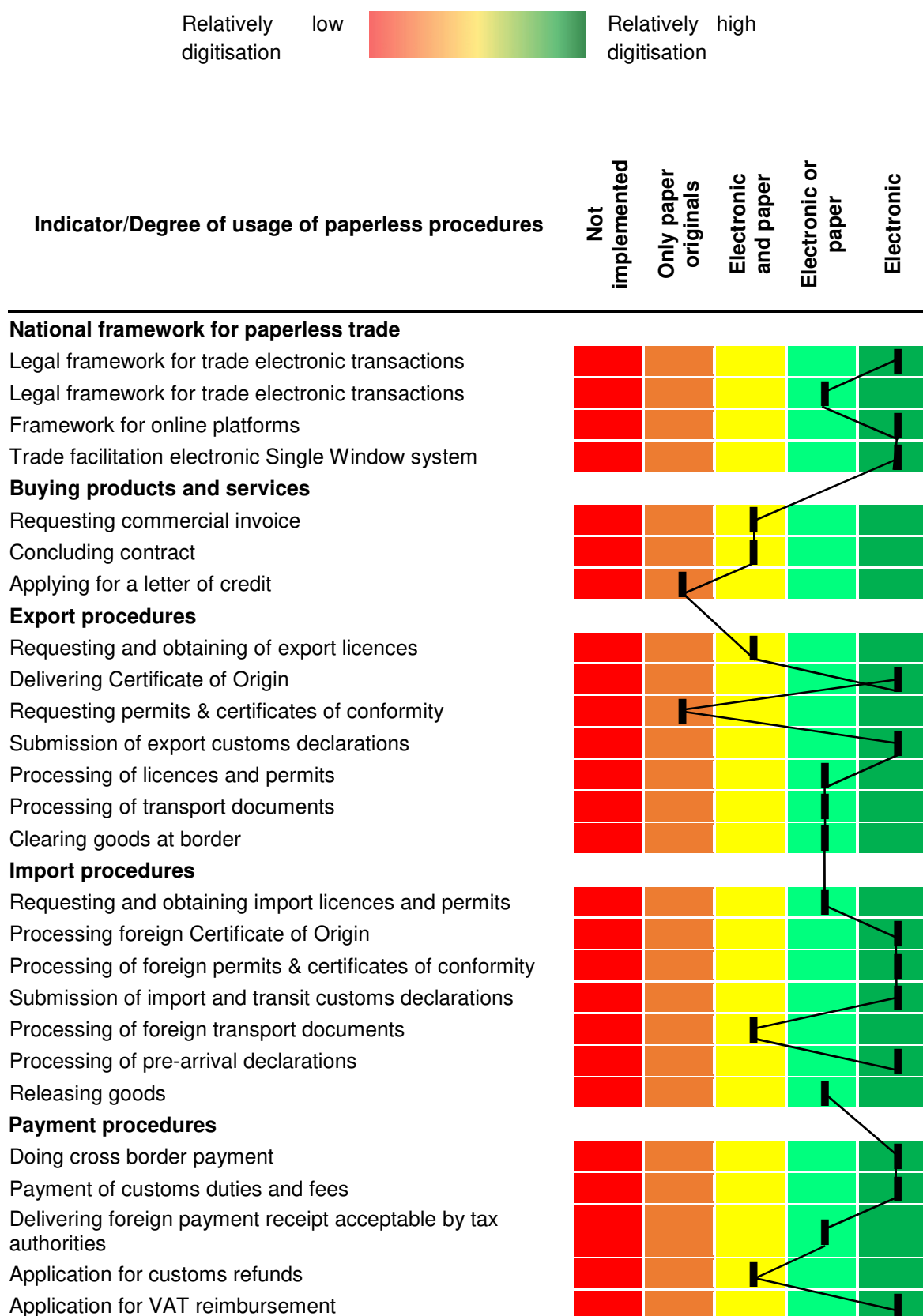
Legal provisions on the single window system are defined in Decree of the President on Application of the Single Window Principle during the Inspection of Goods and Cargo Vehicles moving across the Border Crossing Points at the state border of Azerbaijan. The Decree specifies the requirements for services at the border crossing points and defines a framework for the National Single Window for external trade that allows the parties involved in trade and transport to lodge uniformed information and documents with a single-entry point to fulfil all import, export, and transit-related regulatory requirements. The information system of the National Single Window is in the process of development. Several state agencies, ministries the Central Bank,

⁵⁹ <http://tr.sme.market/>

⁶⁰ www.e-gov.az

Postal Service and banks are integrated into it.

Figure 6 – Overall state of play in eTrade of Azerbaijan



Source: results of interviews conducted in the EaP Countries by the study team

4.2.2.1.2 Buying products and services

The Customs Service of Azerbaijan processes invoices and contracts for cross-border operations in scanned form. They are uploaded into the United Automated Management System. Paper originals are submitted upon request of the customs body or other government agencies at border crossing points when transported goods are considered risk. The practice of electronic invoicing is not widely spread, though some elements of technical platforms for its implementation have been implemented. Electronic invoicing for cross-border operations is not used. Traders can only apply for letters of credit from banks in paper format. This procedure is not yet automated in the financial institutions of Azerbaijan.

4.2.2.1.3 Export procedures

Applications for all types of export licences are submitted either electronically through eGovernment Portal⁶¹ or in paper format. The electronic system allows processing of applications and supporting documents for special permits for export, imports, re-export, re-import and transit of goods. Licences issued by relevant authorities are delivered to the applicant in hard copy – an original paper document with stamps and ink signature. All information about issued licences and about applicant is also registered in the database of the Customs Service.

Certificates of origin are issued by the Ministry of Economy. Applicants may obtain Certificates of Origin either via website of the Ministry of Economy or online through the Electronic Government Portal. In addition, under new Digital Trade Hub initiative, exporters file single application to obtain various export-related documents from government agencies at Azexport, including Certificates of Origin, which are delivered in hard copy only. Azerbaijan does not participate in the International Chamber of Commerce International CO Global Accreditation Chain that offers customs and other authorities an online authenticity verification tool of Certificates of Origin. As the Certificate of Origin is not delivered electronically, its utilisation for cross-border operations is restrained and requires paper or scanned documents.

Certificates of conformity are issued by the Standardisation, Metrology and Patents Committee offices. Traders can only submit applications on paper and certificates are issued in hard-copies only. Some related services are available online, such as technical regulations, standards and quality assessment procedures. Applications for sanitary, phytosanitary and veterinary permits can be submitted either electronically, through eGovernment portal or in paper. There is no exchange or validation of electronic certificates of conformity and permits with authorities of foreign countries.

Export declarations are lodged to the State Customs Committee via Electronic Government Portal and signed with digital signatures. Declarations can also be lodged electronically on Azexport Digital Trade Hub portal.

As of 12 September 2017, non-residents, both foreigners and Azerbaijan citizens, can apply for e-signature at diplomatic missions and consulates of Azerbaijan⁶².

Traders lodge scanned export licences and permits to the State Customs Committee via Electronic Government Portal. The Customs Service process documents through the electronic service 'Copies of documents required for customs clearance'. Despite the data of licences and permits are already contained in electronic format in the government agencies, the traders still

⁶¹ www.e-gov.az

⁶² The Rule of granting electronic signature certificate to non-residents via diplomatic missions and consulates of Azerbaijan' approved by the Decree No.1598 of the President of Azerbaijan- <http://vilnius.mfa.gov.az/content/61>

need to submit scanned copies. Scanned documents are lodged to the Customs Committee via Electronic Government Portal.

Scanned transport documents are lodged to the United Automated Management System of the Customs Service via Electronic Government Portal. Paper originals are presented on demand basis when the exporter or consignment are considered as a risk. It is not yet possible to submit transport documents in original electronic formats in eXtensible Markup Language(XML) or using Electronic data interchange (EDI).

Traders can submit pre-arrival information electronically via customs website or paper declaration and documents can be submitted directly at the border to Single Window facility.

4.2.2.1.4 Import procedures

All import licence and permit applications are submitted electronically via Electronic Government Portal⁶³. The relevant authorities deliver permits as original paper document. All information about issued document is entered in the database of the Customs Service of Azerbaijan together with the information on the applicant.

Foreign Certificates of Origin are submitted in scanned format via customs website through the electronic service 'ePre-Arrival Information'. There are no services in place that allow online validation of foreign Certificates of Origin delivered in the EU or other Eastern Partnership country. Electronic Certificates of Origin cannot be submitted.

Foreign permits and certificates of conformity are submitted in scanned format via customs website. The Customs Service checks them for compliance with the sample certificates provided to them by the customs bodies of the countries with whom Azerbaijan has trade relations. Online validation or exchange of data on foreign electronic certificates is currently not conducted.

Import and transit declarations are lodged to customs authorities at the Electronic Government Portal via an electronic service. Declarations are signed with digital signatures.

Paper foreign transport documents are submitted to the Single Window facility at the border and then scanned and added to the United Automated Management System of the Customs Service. The scanned documents then used for customs clearance purposes supported by original paper documents if required. Lodging e transport documents digitally is not possible.

Traders lodge pre-arrival declarations through an online service 'ePre-Arrival Information' of the State Customs Committee. Electronic exchange of pre-arrival information is carried out about goods and cargos crossing the state borders with Georgia, Ukraine, and Iran. Electronic messages are exchanged by Web Service in XML via a virtual private network (VPN) channel.

4.2.2.1.5 Payment procedures

Payments for imported goods and services can be conducted electronically using banking applications and through payment services at Azexport portal. Customs duties and fees are paid through Government Payments Portal where the system authorises the access based on Taxpayer's Identification Number of taxpayers or based on customs declaration unique reference number.

The foreign payment receipts are legally accepted in both electronic and hard copy formats. If tax authority requests the proof of receipts, they can be submitted in scanned form or in hard copy. Requests for customs refunds are submitted electronically to the State Customs Committee and

⁶³ Electronic service called 'Receiving application for obtaining import quarantine permit for the import of plant and plant products.'

duplicated by paper original. The taxpayer submits an electronic application for VAT reimbursement through eServices system of the Ministry of Taxes.

4.2.2.2 Roadmap

4.2.2.2.1 National framework for paperless trade

Improve the legal framework to include cross-border electronic data exchange. In alignment with the EU eDelivery Regulation on electronic identification and trust services (eIDAS), Azerbaijan needs to extend the legal framework with provisions for the mutual recognition of key enablers across borders. This includes electronic identification, electronic documents, electronic signatures and electronic delivery services, and interoperating electronic services. The next step will be to sign bilateral or multilateral agreements with the European Union and the Eastern Partnership Countries.

Develop the national interoperability strategy and implementation plan harmonised with the European Interoperability Framework. The European Interoperability Strategy and the new European Interoperability Framework should be considered as the starting points to develop a national overarching strategic plan in the area of cross-border interoperability for trade-related information services. The harmonisation with its provisions would allow interaction, exchange and cooperation with European public administrations for the delivery of electronic trade services across national borders and sectors.

Extend the legal framework for online platforms including provisions for cross-border services. In alignment with the Decision on a paperless environment for customs and trade (Decision 70/2008/EC), the legislation should include provisions to regulate access to information portals and single electronic access points for import and export transactions. The legal framework should include specific aspects of online platforms such as contracts concluded by parties having different nationalities and based in different countries, cross-border delivery of goods and services, consumer protection, tax and customs procedures, competition, fair access to online platform services for SMEs, liability, privacy and data protection, dispute resolution.

4.2.2.2.2 Buying products and services

Introduce the use of electronic invoices for cross-border operations. Progressive introduction of electronic invoicing for cross-border operations will significantly accelerate paperless trade. A pilot project to accept electronic invoices from a Partner Country will require setting up an infrastructure of trusted third party for validation of electronic signatures and the definition of a common data set at semantic level. The Connecting Europe Facility (CEF) eInvoicing building block provides technical specifications and free software components that offer basic capabilities.

Electronic presentation of export documents under a letter of credit. A service of electronic application for letter of credit will help to transform the process of paper-based financial transactions and make them paperless. The improvement consists in implementation of a digital platform (integrated with the Single Window system) that allows electronic application for a letter of credit to major trade banks of the country. The submission should support electronic presentations of eUCP rules compliant letter of credit documents.

4.2.2.2.3 Export procedures

Integrate the Certificate of Origin Global Accreditation Chain. The information system of the Ministry of Economy of Azerbaijan will interact with the system of the International Chamber of Commerce International Certificate of Origin Global Accreditation Chain. This will allow Certificates of Origin delivered by the Ministry to be available in the ICC CO Accreditation Chain for the use by the importers and administrations in the EU countries.

Improve the interoperability framework for processing of export licences and permits. The electronic service 'Copies of documents required for customs clearance,' managed by the State Customs Committee of Azerbaijan should be able to access export licences and permits issued by the state agencies and already contained in the Electronic Government system. The traders will not be required to submit scanned documents anymore.

Automate validation of the export licences and permits to the customs declaration. Automated validation of supporting documents to the customs declaration provides automated validity checks of the export licences and permits submitted with customs declarations. Submission of scanned documents will no longer be required.

Integrate with TRAdE Control and Expert System for export of live animals and animal products. Integration of the system containing issued veterinary permits with the TRAdE Control and Expert System (TRACES) of the EC will allow veterinary permits of exporters from Azerbaijan to be available to the EU authorities and importers. Veterinary permits will be automatically available in the last updated version and translated into all EU official languages. This will speed up the administrative processes at the EU Border Entry Points.

Electronic submission of transport documents. The National Single Window should be extended to allow the traders and their transport service providers to submit transport documents digitally. Electronic documents signed with a digital signature or EDI format of transport documents will be submitted to the National Single Window system without scanning paper documents. The Customs Service and other state agencies will be able to access them via computerised channels.

Integration of the customs system with the EU New Computerised Transit System. Joining the customs transit system applied in the EU will create favourable conditions for trade enabling faster movement of goods. This will require acceding to Common Transit Convention (CTC) and Simplification of Formalities in Trade of Goods Conventions (SAD) as well as by joining and subsequently integrating a New Computerised Transit System.

4.2.2.2.4 Import procedures

Interoperate with European Information System (EIS) to validate permits. The European Information System (EIS) allows exchange of electronic information between any EU authorities and agencies involved in import and export transactions with third parties if an international agreement provides for this. The exchange of information can include electronic export and import permits, transport documents.

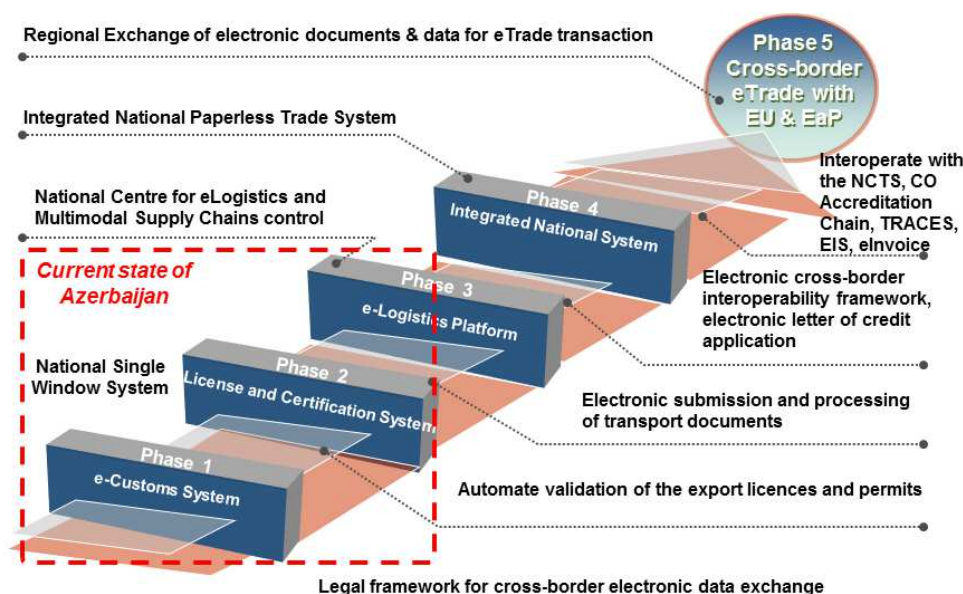
Validate foreign Certificates of Origin through the Certificate of Origin Global Accreditation Chain. By integrating with the information system of the International Chamber of Commerce International Certificate of Origin Global Accreditation Chain, the Customs Service and other authorities of Azerbaijan would have a tool to verify online the authenticity of Certificates of Origin delivered in the EU countries.

Integrate with TRAdE Control and Expert System to validate import permits of live animals and animal products. Integration of the administration of Azerbaijan responsible for veterinary control of imported products with the TRAdE Control and Expert System (TRACES) of the EC will

allow veterinary permits of importers from the EU to be validated in Azerbaijan⁶⁴.

With the focus on harmonisation in paperless trade between EU Member States and Eastern Partner Countries, the components of the overall roadmap are represented in accordance with the main phases of National Paperless Trade System development recommended by UNECE and illustrated on the following Figure:

Figure 7 – Main phases of NPTS development in Azerbaijan



In view of the current assessment, Azerbaijan is at the phase 3 of the NPTS development. At this phase, a national platform for eLogistics has been created. This is an integration platform for multimodal supply chain's management and control with goods flow tracking.

At the 4th stage, all the above platforms and systems are to be integrated in a full-scale National System and the NPTS operator should be defined and authorised by the government for the provision of a complete portfolio of paperless trade services. Besides, to ensure the provision of cross-border eTrade services for businesses among Partner Countries and with the EU the implementation of national modules for eInvoicing, eDelivery, eID, eSignature as well as the corresponding international agreements will be required to make Azerbaijan NPTS ready for regional eTrade transactions.

4.2.3 Electronic Logistics

4.2.3.1 State of play and gap analysis

4.2.3.1.1 Road transport

eCMR. Although Azerbaijan joined the Convention on the Contract for the International Carriage

⁶⁴ For import from the EU, several certificates and documents are available to a non-EU country for animals, animal products (Common Veterinary Entry Document for animal Products – CVEDP), Common Health Entry Document for Plants and Plant products (CHED-PP).

of Goods by Road (CMR) by the Law No. 812-IQ, of 11 February 2000, eCMR is not used in road transport for cargo movement. Azerbaijan has not yet signed and ratified the Additional Protocol to the Convention on the Contract for the International Carriage of Goods by Road (CMR) concerning the Electronic Consignment Note. eCMR has not been enacted in the national legislation.

Waybill. There is no centralised e-waybill system in Azerbaijan. Waybills are scanned and uploaded.

Payment of road tax for cargo vehicles and passengers' cars. Road tax for cargo vehicles and passengers' cars is paid via a specially designed tax programme called AVISwitch. It helps eliminate paperwork as billing and payments of all invoices are computerised. In addition, road taxes for cargo vehicles can be paid online at the government payments portal⁶⁵ in customs section.

4.2.3.1.2 Rail transport

eSMGS. When cargo crosses the state border, SMGS is submitted in a paper form at the railway point. Employees of the Azerbaijan Railways transform the data from the paper SMGS into an electronic format and forward it to the Head Office. The customs register the cargo based on paper SMGS. At the same time, the Azerbaijan Railways send the electronic SMGS data to the customs. There is no digital connection between the EU and Azerbaijan Railways, all information pass through e-mails. It takes approximately 30 minutes to go through this procedure. There is a legal framework for using eSMGS, there are no issues in this respect. Azerbaijan is a member of Organisation for Cooperation between Railways and applies SMGS Consignment Note. Azerbaijan joined the 'Convention concerning International Carriage by Rail (COTIF)' by the Law No 1257-IVQ, of 14 April 2015. Information exchange between the customs and the railways is based on EDIFACT standard.

Freight train. All infrastructure is in place for using RoLa freight train in Azerbaijan. Railway lines are being modernised in Azerbaijan with the latest technology and brand new and fast rail stock will be added and will replace the old rail stock that are still in service. Baku–Tbilisi– Kars railway project connecting railways of Azerbaijan, Georgia and Turkey was successfully completed and officially opened on 30 October 2017. The first freight train from Kostanay (Kazakhstan) to Mersin (Turkey) running through this new route successfully completed its journey. The freight market share of railways is also expected to rise rapidly after completion of Baku–Tbilisi– Kars railway project.

4.2.3.1.3 Air transport

Air waybill. Pre-AWBs are received through the internal airport system that meets the standards of IATA. The FFM (Freight Forward Manifest) message is sent upon flight departure. Silk Way West Airline ground handling department fulfils the requirements of EU Customs since 2011 and of Eurasian Customs Union (ECU) since 2017. Air transport is mainly controlled by Silk Way West Airline, they use an electronic system for airway billing. It is a web-based programme designed to bill invoices digitally for avoiding any type of paperwork. Unfortunately, paperwork still exists in parallel but will be completely excluded soon in the company's operations. Electronic airway billing is used in customs. Information on cargo is submitted electronically to Baku Air Cargo Terminal by logistic companies. All the requirements are fulfilled on line with notifications from participants of the EU and the ECU. The information is sent to the given addresses in case of export and via

⁶⁵ www.gpp.az

e-mail of Azerbaijan State Customs Committee four hours prior to flight arrival in case of import. Now the process does work well. Data provision is based on notifications of participants currently only from the EU and ECU.

4.2.3.1.4 Sea transport

Bill of lading. There is no practice of using a system for electronic bill of lading for sea transport. Nevertheless, a project is being developed on the initiatives of Baku Alyat Sea Port where electronic documents will be introduced based on best international practices.

eManifest. Nowadays, hard copies of cargo manifest are signed and then scanned copies of them are sent to the port of discharge prior to the vessel's arrival. Based on that, consignee makes necessary formalities related to customs clearance of cargo. Once the authority is on board, they take the original hard copy of the manifest.

4.2.3.1.5 Transport corridors

Real time movement monitoring. The State Customs Committee has developed a Cargo Trace and Track System based on GPS/GSM technologies to ensure the control of goods transported by roads all along the country. Target centre of the State Customs Committee is monitoring road transports from their headquarters using its risk management system.

Electronic invoicing. Taxpayers providing goods and services as well as performing works are required to issue electronic invoices through the web page of the Ministry of Taxes effective from 1 April 2017 and 1 January 2018 for VAT and non-VAT payers respectively. Although, the government is yet to introduce detailed rules of electronic invoicing, it is already stipulated that taxpayers acquiring goods or services without an electronic invoice may be subject to a financial sanction of up to 40% of the transaction value.

Electronic identification (eID). ASAN Imza (Easy signature), established by the Ministry of Taxes in partnership with ASAN Service Centre and the Ministry of Communication and Technologies, is a service that allows clients to use mobile phones as a form of secure electronic ID. Like the ID Card, it can be used for accessing secure e-services and digitally signing documents but does not require an ID card reader. The system is based on a specialised Mobile-ID SIM card which the customer requests from a mobile phone operator. Private keys are stored on the mobile SIM card along with a small application for authentication and signing.

Export and import declarations for passengers. Declarations by passengers and travellers for export and import are submitted online through an electronic service provided by customs at e-government portal, customs website and e-kiosks available at every customs border checkpoints.

4.2.3.2 Roadmap

From the perspective of EU best practices and the context of the country, Azerbaijan should focus on the following specific policy and pilot projects:

4.2.3.2.1 Road transport

- Review legislative basis, to accept and to sign the Additional Protocol to the Convention on the Contract for the International Carriage of goods by road (CMR) concerning the Electronic Consignment Note;
- Implement a pilot project of a centralised e-waybill system.
-

4.2.3.2.2 Rail transport

- Implement a pilot project of eSMGS with EaP Countries;
- Expand RoLa freight train usage possibilities signing collaboration agreements with other EaP Countries, participating in the Viking project.

4.2.3.2.3 Sea transport

- Create eLogistics single-window portal, managed by AEO, to fill bills of lading and e-manifests electronically.

4.2.3.2.4 Transport corridors

- Implement a pilot project of united stationary real-time system for monitoring cargo movements on rail and road by using RFID technology (GS1 standard) together with EaP Countries and one EU country;
- Sign international and inter-institutional agreements concerning eID recognition in other countries;
- Implement a pilot project for eID application between Azerbaijan and the EU Member States.
-

4.3 Belarus

4.3.1 Country profile

Since the acceptance of WTO Trade Facilitation Agreement in 2013 (so-called Bali Package) Belarus has been actively developing its digital market infrastructure and solutions for electronic trade and logistics systems. As the country with the favourable geo-market position and a well-developed ICT sector Belarus, conceived in 2012 a proposal of a creation of a unified trade-information environment in the EEU countries. In 2014, Belarus conceived a European initiative for harmonisation of digital markets in the Eastern Partnership Countries (HDM initiative). In 2015, following a proposal by Belarussian experts, eTrade and eLogistics were included as HDM priority topics in the EaP Ministerial Declaration on Digital Economy. Besides, Belarus has played an active role in the development of the digital agenda and corresponding eTrade/eLogistics plans of Eurasian Economic Commission (EEC) on the formation of EEU digital single market place.

National legislation

The Law on Foreign Economic Activity' adopted on 25 October 1990 was the first comprehensive act regulating foreign economic activity in Belarus. In June 2005 the Law No. 347-Z on State Regulation of Foreign Trade entered into force.

State regulations of foreign trade in Belarus are carried out by the Presidential Decrees and Edicts, national laws and Council of Ministers resolutions as well as by other legislative acts of authorised ministries and governmental agencies in accordance with above laws. The following are the most important documents regulating eTrade and eLogistics in Belarus:

- Law № 231- 3 of 28 July 2003 "On Trade" with provisions dedicated to Electronic Trade;
- Law № 113-3 of 28 December 2009 "On Electronic Document and Digital Signature";
- Resolution № 1074 of 9 August 2011 "On Electronic Services provision and implementation of governmental duties in the electronic form";

- Resolution № 599 of 9 July 2013 “On particular tasks for creation of Transport and Commercial documents in the electronic form”.

The Council of Ministers and the authorised state bodies within their competence coordinate the development of foreign and domestic trade regulations unless the President decides otherwise.

Relevant national organisations

The State Programme on Development of the Digital Economy and Information Society is the main policy document governing the creation of digital market infrastructures including eTrade and eLogistics systems. The corresponding Resolution of the Council of Ministers nominated the Ministry of Communication and Informatisation (MCI) in charge of its main sub-programmes.

At the initial stage of the state programme implementation in 2016, there were three separate interagency working groups in charge of sub-programmes and tasks. Such governance model did not prove to be effective, so the Prime Minister decided in May 2017 to consolidate efforts and ordered a creation of a single Interagency Working Group dealing with the main tasks of digital transformation of Belarus economy. Deputy Ministers and heads of twenty governmental agencies, institutions and representative federations of the private sector were included in this high-level group co-chaired by the two Deputy Prime Ministers. Among the institutions of the group are eleven Ministries, the National Bank of Belarus, the State Customs Committee, the State Committee of Border Control, the National Chamber of Commerce, the State Committee for Science and Technology, the Academy of Science, Digital Business Confederation and High-Tech Park.

The Interagency Group was responsible for developing by the end of 2017 a legislative act envisaging the digital sector development and creation of a favourable business environment. The group was entitled to form subcommittees and project committees to govern specific projects related to the digital transformation of Belarus economy.

Foreign trade and export/imports policies are dealt with by a similar Interagency Council led by the First Deputy-Prime Minister. The Council of Ministers supervises the governance structure for eTrade and eLogistics in Belarus.

To harmonise interests of these institutions and to take into account interests of the business community, a specialised Project Sub-Committee should be formed under the umbrella of the Interagency Working Group to plan, coordinate and control activities dedicated to eTrade/eLogistics project implementation and future systems operation.

Decision-making process

The President of Belarus, the Parliament and the Council of Ministers are the main state powers regulating foreign economic activities in the country. Analysis of the decision-making process in digital economy area shows that the Government of Belarus has strong intention to develop national systems of eTrade and eLogistics with the primary involvement of such leading agencies as MCI, Ministry of Transport, State Customs Committee (SCC) and other key governmental agencies.

The current decision-making process for informatisation and development of digital economy in Belarus is headed by the President while the Council of Ministers coordinates the main national programmes. At the next level, the decision process involves the Information Analytical Centre, the Committee of Information Society Development and the National Electronic Service Centre that take specific decisions for implementation of sectoral programmes.

So far, ICT related projects have been executed by each governmental agency. Currently, the MCI centrally coordinates various efforts for national informatisation and digital economy

programme development. There is some duplication of roles between different organisations related to ICT and digital infrastructure projects, and this has unfortunately led to duplications and in some cases omission of key issues related to informatisation in the country. There is no single organisation in charge of coordination of all ICT issues.

National implementation plans

In 2016, the Council of Ministers adopted a new State Programme on Development of the Digital Economy and Information Society in Belarus for 2016–2020 enacted by the Decree N560 of 18 July 2016. It contains practical plans for development of national paperless and eLogistics systems in the country. The programme consists of three sub-programmes: information and communication infrastructure, computerisation infrastructure, and digital economy.

In a combined list of actions under these programmes, the following planned projects can significantly contribute to eTrade/eLogistics platform and subsystems development:

- Creation of a National Service-Payment System;
- Creation of a National Paperless Trade System (NPTS);
- Creation of an Automated Information System 'Interagency Communication';
- Creation of a Transport Control Centre for Transit Corridors;
- Enhancement of an ITC infrastructure for the information systems of border control;
- Development and deployment of an information system for monitoring cargo & goods flow.

The NPTS has been considered as the national eTrade-type of system and institutionalised as a priority state project. By its nature, it will require a close interagency cooperation during the system deployment and creation of a national operator for its operation and maintenance.

Besides, there is a sectoral programme developed by the Ministry of Transport to develop a Logistics System and Transit Potential for 2016–2020. This programme contains practical project plans for the development of main sub-components of the national eLogistics infrastructure, like e-Freight system, cargo monitoring and goods traceability systems.

International agreements signed by the country

The main international agreements which Belarus is bound by in the areas of trade and logistics are the Eurasian Economic Union (EEU) Treaty ratified in 2011 and the new EEU Customs Code (CC EEU)⁶⁶ which will come into force on 1 January 2018. The new Customs Code (CC) of the EEU is intended to ensure uniform rules and customs operations for all EEU Member States, which will simplify cooperation within the framework of foreign economic activity and facilitate the implementation of eTrade/paperless trade approach.

The State Customs Committee (SCC) has signed international agreements with some foreign governmental bodies for information and data exchange. A special Cooperation Group was created in October 2016 between DG TAXUD and the SCC for harmonisation of legislation and development of bilateral eCustoms activities.

The following international agreements were signed by Belarus in relation to eCustoms/eTrade:

- In 2010, the Agreement on Creation, Functioning and Development of the Integrated Information System of Foreign and Domestic Mutual Trade of the EEU;
- In 2011, the Agreement on Principles of Harmonisation of Technical Regulations of Member States of EEU, which stipulates options for application of international, regional,

⁶⁶ The most significant novelties of the CC EAEU which facilitates the eTrade are listed in the Annexe.

and national standards, as well as national technical regulations.

National best practices

Thanks to consolidated efforts of its leading digital vendors, Belarus has become the coordinator of the expert network EU4Digital: eTrade|. It was established by the European Commission in the Eastern Partnership Countries and composed of the following digital topics: electronic/paperless trade, eCommerce, eCustoms, eLogistics including Digital Transport Corridors.

Besides, the consolidated group of Belarus and international experts won the Eurasian Economic Commission bid and successfully implemented a project for the development of etalon Single Window model for foreign trade in EEU countries.

During the development and operation of nationwide platforms and information systems, the leading Belarus digital vendors have gained a lot of practical expertise and learned the best practices for electronic services provision. As a result, several project concepts have been proposed by Belarus for EU4Digital: eTrade Network Action Plan for 2017–2020.

The latest example of the best eTrade practises in Belarus is development and deployment of a nationwide system for VAT invoices processing in the paperless format.

International standards

In its development of the national eTrade and eLogistics systems Belarus applies international standards and recommendations of World Customs Organisation (WCO), United Nations Economic Commission for Europe (UNECE), United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT), International Standardisation Organisation (ISO), Global Standard 1 (GS1), The International Air Transport Association (IATA) and International Civil Aviation Organisation (ICAO). Belarus follows several ISO standards and rules for the development of information systems and their components as well as for the information exchange in eTrade and eLogistics systems. GS1 standards are widely used in Belarus trade and trade-related environment for information exchange. Belarus airlines are a member of IATA and ICAO and use the ICAO/IATA codes and system of cargo load identification. Belarus also developed several relevant National Standards that are applied for development and operation of eTrade/eLogistics systems⁶⁷.

ICT platforms and information systems

The State Customs Committee is the main user of different information systems that automate customs procedures applicable to import, export and transit of goods. Most of these systems are integrated into a single automated information system of the customs authorities. It includes the unified electronic system of preliminary exchange of information between the customs services of Belarus and Ukraine.

In the area of national data exchange, Belarus currently develops an Inter-agency Documents Flow System (IADFS). At the moment, there are several information systems providing interaction among various state bodies:

- Inter-agency Document Management System of Government bodies (IDMS);
- PKI certification centre, which is the national root system for publication of open key certificates;
- National automated information system (NAIS) which is the state information system designed to integrate state information resources, implement administrative procedures in

⁶⁷ Detailed list of applied standards, specifications and recommendations is presented in the Annexe.

electronic form.

These systems are operated by the National Centre of Electronic Services, but they are not integrated yet with information systems of other governmental agencies involved in foreign trade to be used as the Single Window platform for paperless trade.

There is no centralised repository of electronic documents (e-Documents) in Belarus, which could serve all state information resources and information systems. However, NAIS and the following information systems can perform certain functions of electronic repositories:

- Data Bank of electronic passports of goods, which is the centralised information resource containing description of products in compliance with international e-commerce standards;
- Information system for identification, registration and traceability of meat products;
- EDI repository.

Belarus has a portal of public services: portal.gov.by (single portal of electronic services). eGovernment services are provided through a single portal operating on the basis of the National Automated Information System (NAIS). RUE 'National Centre for Electronic Services' (NCES) is the organisation responsible for the maintenance of the portal⁶⁸.

4.3.2 Electronic Trade

4.3.2.1 State of play

The

4.3.2.2 Roadmap

Paperless trade is considered by Belarus government as the important instrument to stimulate digital market development and increase revenues from international trade. In particular, eTrade approach becomes an effective driver for the development of a national digital market regulatory framework and infrastructure.

Figure 8 presents the overall status of digitisation of trade procedures in Belarus. Used gradation indicates in orange colour the aspects where the trade procedures are conducted using paper documents, green colour indicates high level of digitisation with the procedures using electronic documents. Intermediate colours indicate procedures where paper and electronic documents are combined. For each indicator, the black bar indicates the status of usage of paperless procedures in the country in each corresponding trade process.

4.3.2.2.1 National framework for paperless trade

The Legal framework in Belarus includes several acts and regulations supporting the paperless trade environment but there is no dedicated law on e-Commerce/eTrade and online platforms in the country. The legal framework for cross-border electronic data exchange and trade transactions with the EU and EEU countries must be developed on the base of bilateral and multilateral agreements. Despite the inclusion of the National Paperless Trade System (NPTS) project in the State Programme for digital economy development, the Council of Ministers has not endorsed the resolution deciding on its organisational and financial model yet. The Single Window

⁶⁸ The more detailed functionality of all the listed systems is described in Annexe.

concept for foreign trade facilitation was endorsed by the government but the actual platform has not been implemented yet. In 2015–2016, the NPTS feasibility study was undertaken in Belarus a detailed roadmap for a nationwide project is currently under development with the World Bank's support.

4.3.2.2.2 Buying products and services

The comprehensive e-Customs and EDI systems in Belarus enable automated processing of commercial contracts and documents in the electronic format inside the country. For cross-border electronic transactions, import-export procedures should be re-engineered for eTrade and harmonised with the legislation of the EU and EEU countries. Banking institutions process letter of credit (L/C) and payment documents in electronic format based on international standards and act as agents of foreign trade transactions control. The main obstacles for a wide usage of paperless trade procedures are considered to be their complexity in absence of a single-window platform and low level of digital skills of trade operators in Belarus.

4.3.2.2.3 Export procedures

Export procedures in the SCC are well automated and all documents are processed in electronic format in the NASED system. At the same time, low level of information and service systems in the respective ministries and governmental agencies complicates the issuance and delivery of electronic Certificates of Origin (Chamber of Commerce & Industry), export licences (Ministry of Trade), permits and sanitary, phytosanitary and veterinary certificates (Ministry of Agriculture) and processing of transport documents for multimodal shipments in the international supply chains (Ministry of Transport). Besides, without a single-window platform and proper integration of information systems of governmental agencies, exporters have to do multiple inputs of their data and documents. As a result, G2B services provision to Belarus exporters is definitely lacking.

4.3.2.2.4 Import procedures

The SCC process foreign import licences, permits, Certificates of Origin and conformity in electronic format but importers must provide paper documents for scanning at the border crossing points. The SCC's import and transit processing systems interoperate with each other, which enables a seamless flow of data. However, it does not ensure the data exchange with customs systems of the EU Member States. Another complication is related to the strict requirement to provide a Russian translation of the main commercial documents and to obtain the proper Belarus classificatory codes for imported goods that differ from the EU classification. Electronic submission of pre-arrival information for importers from the EU is not possible yet though Belarus has implemented a successful pilot PRINEX for processing pre-arrival declarations with Ukraine. Being the entry gate to the EEU countries Belarus uses the Automated Transit subsystem of the Customs Union that is not yet interoperating with the EU SPEED platform, EIF and NCTS.

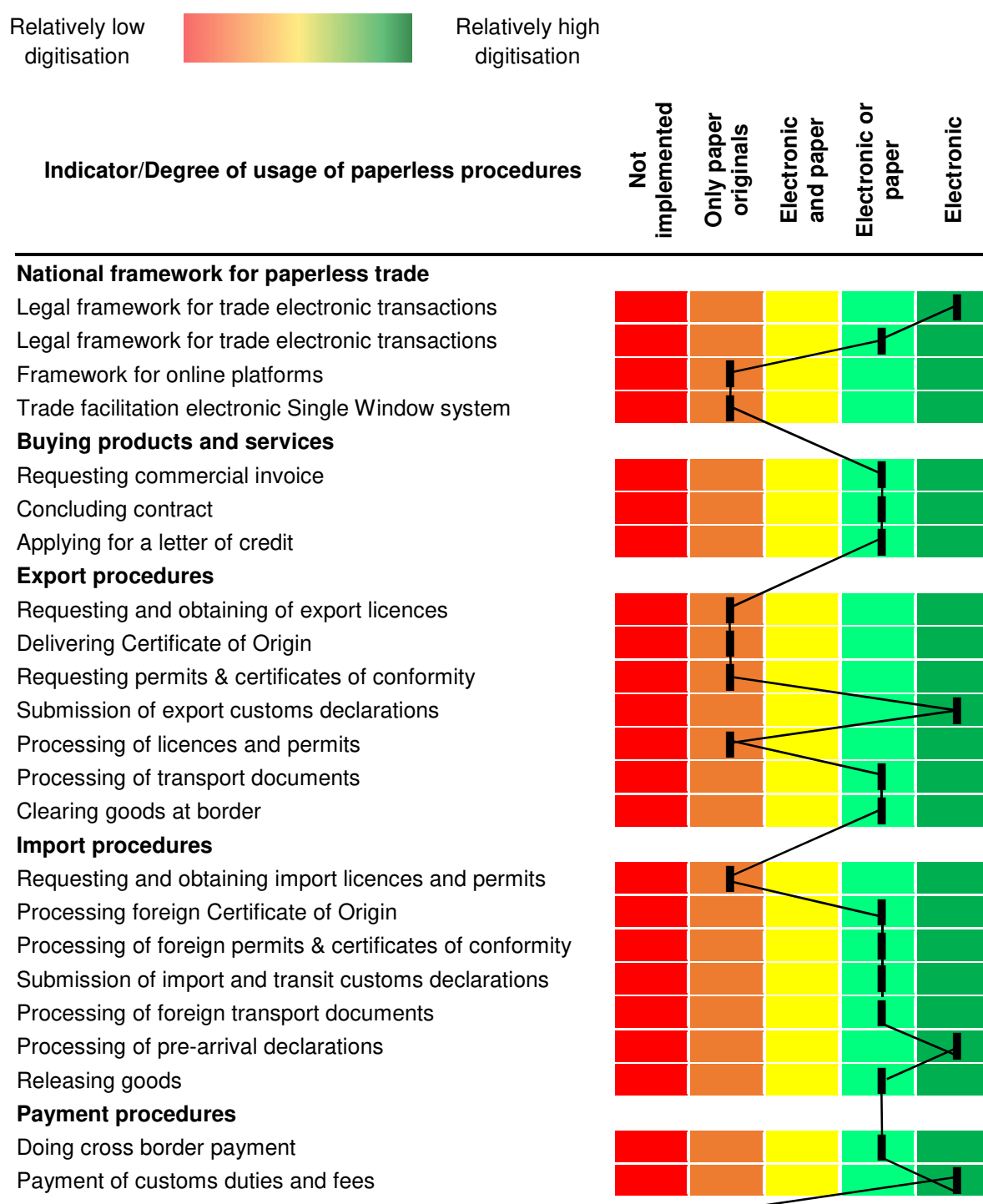
4.3.2.2.5 Payment procedures

Acting as agents of foreign transactions control, Belarussian banks request copies of commercial documents for cross-border payments. Customs duties and fees are paid via single window national payment system ERIP. However, applications for Customs refund can be made only in paper form. Processing of VAT invoices and applications are done by a newly developed online portal with the services provided by a designated commercial operator. The National Bank of Belarus is currently implementing a plan for adoption of ISO 20022 methodology into the payment system of Belarus, which should be completed by the end of 2017.

4.3.2.3 Roadmap

Paperless trade is considered by Belarus government as the important instrument to stimulate digital market development and increase revenues from international trade. In particular, eTrade approach becomes an effective driver for the development of a national digital market regulatory framework and infrastructure.

Figure 8 – Overall state of play in eTrade of Belarus



Delivering foreign payment receipt acceptable by tax authorities
 Application for customs refunds
 Application for VAT reimbursement



Source: results of interviews conducted in the EaP Countries by the study team

It's expected that implementation of the National Paperless Trade System (NPTS) in Belarus will significantly decrease administrative costs for export-import and transit procedures and less revenue should be lost through fraud and non-compliance. Automation can limit the room for discretionary subjective decisions and lower the scope of corruption. Besides, eTrade is to increase the security and transparency of trade operations by providing electronic data which can be used for the effective and real-time monitoring of the country import-export flows and trade balance. Finally, paperless trade will allow Belarus Government to reduce delays and costs at the border and increase digital services provision to businesses and citizens.

As for Belarus businesses paperless trade will increase efficiency of the national and cross-country supply chains and provide new opportunities for value-added services. It stimulates the harmonisation and use of common standards for integration of cross-border supply chain processes and their automation on the base of the single window platform. As result eTrade will eliminate the operational costs related to manual paper processing and improve the information exchange between trading partners in EaP Countries and with the EU. With NPTS in place, Belarus businesses are expected to become more competitive on the level of the digital services provided.

For citizens, paperless trade will reduce market prices and ensure better quality and choice of imported goods. In case of using the paperless approach to Belarus internal market eTrade will provide cutting market costs, increase trade volumes and contribute to improving trade transparency.

As Belarus plays the role of a 'digital bridge' between the EU, EEU and Eastern Partner markets, the proposed eTrade roadmap focuses on to assuring the maximum interoperability of paperless international trade supply chains crossing the country.

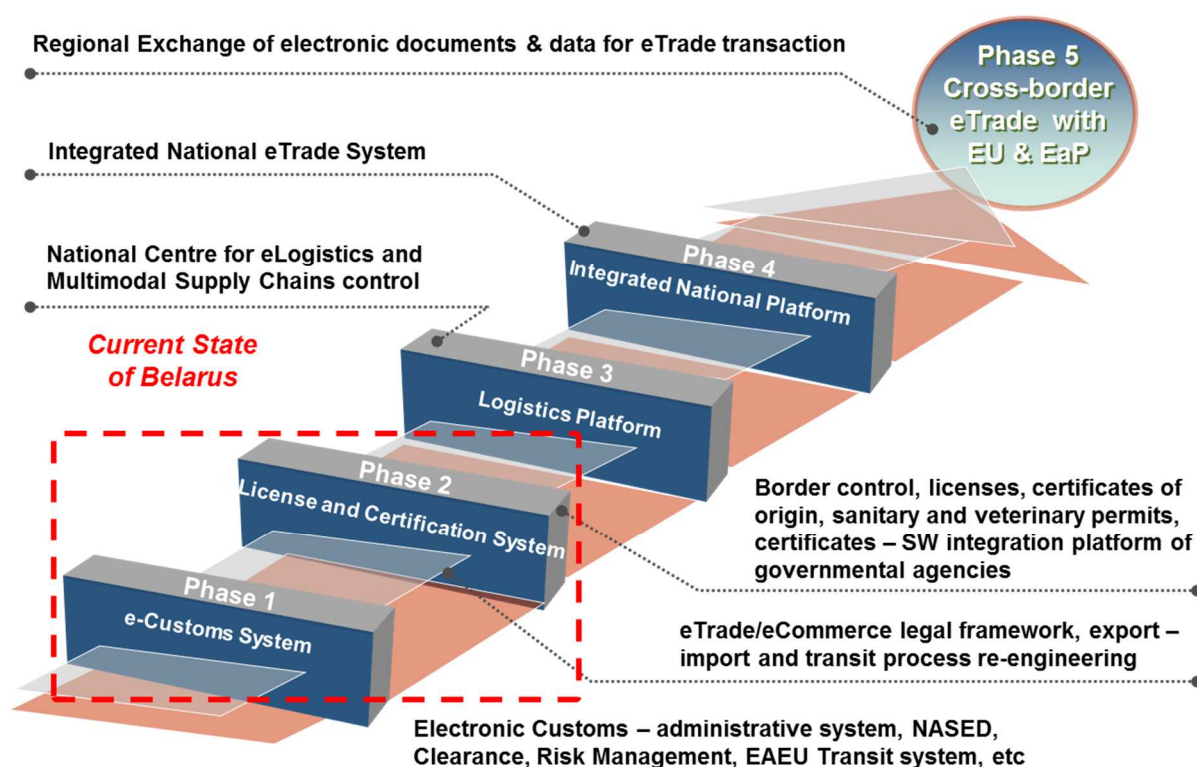
With the focus on harmonisation in the area of paperless trade between EU Member States and Eastern Partner Countries the components of this roadmap are designed in accordance with the main phases of NPTS development recommended by UNECE and illustrated in Figure 9.

4.3.2.3.1 National framework for paperless trade

National law on Electronic Trade and eCommerce. Create a legal framework supporting and regulating the paperless trade environment, cross-border electronic data exchange and trade transactions as well as operations of online platforms in the country harmonised with the EU *acquis* and eIDAS Regulation. Explore the opportunity for signing bilateral agreements with the EU-Member States to pilot cross-border electronic trade transactions.

Council of Ministers resolution on Electronic Trade Facilitation. It is proposed to approve the Single Window concept for foreign trade in Belarus aligned with the etalon model recommended by the Eurasian Economic Commission and to endorse organisational and financial models for NPTS development in the country. At the NPTS development stage, it will include ensuring the interoperability of Belarus Single Window with the international paperless trade systems in accordance with UNECE recommendations, European Interoperability Framework as well as EU Decision on paperless environment for customs and trade.

Figure 9 – Main phases of NPTS development in Belarus



In view of the current state of Belarus approaching phase 2 the development of the proper eTrade/eCommerce legislation and re-engineering of procedures should be prioritised.

4.3.2.3.2 Export, import and transit procedures re-engineering and digitalisation

Re-engineering of business procedures for eTrade. Revise and develop the import/export processes based on electronic documents and harmonised with the new EU and EEU Customs regulations. Adopt CEF digital building blocks approach and consider the usage of electronic contract, eSignature, eDelivery and eInvoicing modules for cross-border trade transactions with the EU MSs and Eastern Partners countries. As a result, the following digitalisation projects can be recommended to governmental bodies:

- **Chamber of Commerce**
 - Develop online procedures for submission and issuing electronic Certificates of Origin.
 - Modernise the information system to provide the corresponding paperless trade services harmonised with the EU systems for Electronic Certificates of Origin. A

service of electronic application and issuance of electronic Certificate of Origin (C/O) is to streamline the procedure of issuance of certificates by the Chamber of Commerce and Industry (BCCI). The service should be integrated into the NPTS portal. BCCI information system will interact with the system of the International Chamber of Commerce (ICC) International Certificate of Origin Global Accreditation Chain. This will allow Certificates of Origin delivered by BCCI to be available in the ICC CO Accreditation Chain. At the same time, Belarussian customs and other authorities would have a tool for online verification of the authenticity of Certificates of Origin delivered in foreign countries. The national interoperability framework will make electronic C/Os available to other state agencies (for procedures of issuance of permits and certificates) and to the Customs Service (for the customs clearance procedures).

- **Ministry of Trade**

- Develop online procedures for submission and issuing Export Licences in electronic format.
- Modernise the information system to provide the corresponding paperless trade services.

- **Ministry of Agriculture and Food**

- Develop online procedures to apply for and to issue sanitary, phytosanitary, veterinary permits and certificates in electronic format.
- Modernise the information system to provide the corresponding paperless trade services in a way harmonised with the EU TRACES. Integration of the permit system of the Ministry of Agriculture with the TRAdE Control and Expert System (TRACES) will allow harmonised export certificates of Belarus exporters of live animals and animal products to be available for the EU authorities and importers. Veterinary permits will be automatically available in the last updated version and translated into all EU official languages. This will speed up the administrative processes at the EU Border Entry Points. For import from the EU, integration with TRACES will allow getting several certificates and documents on live animals and animal products, plants and plant products imported from the EU to Belarus. This data from TRACES is available to any non-EU country.

- **Customs**

- Automate the delivery and processing of all export documents for submission in electronic format on the base of Single Window approach.
- Explore the opportunity to register Authorised Economic Operators from Belarus in the EU Registered Exporter System.
- Enhance the Customs import procedures enabling the submission of documents in the electronic format. It includes automated translation in Russian language of pre-arrival information.
- Automate the search of Belarus' classificatory code for imported goods using electronic services of Belarus Data Bank of electronic passports of goods.
- Extend the success story of PRINEX project. Implement a pilot project of exchanging pre-arrival declarations with the EU Member States and endorse this pilot project by the DG TAXUD – Belarus Customs Cooperation Group
- Explore the opportunity of signing an international agreement with the EU to enable the exchange of electronic information between the Automated Transit subsystem of

the Customs Union and the European Information System. Joining the customs transit system applied in the EU will create favourable conditions for trade by enabling faster movement of goods, reducing operational costs, improving supervision over the movement of shipments and preventing misuse. This will require, the accession to the Common Transit Convention (CTC) and to Simplification of Formalities in Trade of Goods Conventions (SAD). Subsequently, Belarus should join the New Computerised Transit System (NCTS).

- **State Border Committee**

- Use the integrated border management approach to consolidate all the required export/import or transit procedures at the border crossing points.
- Develop and implement the core solution for local information system enabling and managing the paperless procedures at the border crossing points.

Extend the national interoperability strategy for cross-border interoperability with the EU.

The European Interoperability Strategy and the new European Interoperability Framework is proposed to be used as a model to extend the national interoperability strategy on cross-border interoperability for trade-related information services with the EU. Harmonisation with its provisions would allow interaction, exchange and cooperation with European public administrations in the provision of electronic trade services across national borders and sectors.

Electronic submission of transport documents. The NPTS logistic component should be developed to allow traders and their transport service providers to submit transport documents in electronic format (eLogistics Single Window). Electronic documents signed by digital signature or EDI format of transport documents such as CMR international consignment note, CIM consignment note, air waybill, multimodal bill of lading, packing list will be submitted to the NPTS e-documents repository to enable the customs and other state agencies will to access them in digital format.

4.3.2.3.3 Nationwide digital platforms and projects

Following the phase of e-engineering trade procedures and modernisation of governmental information systems, the main nationwide digital platforms should be implemented:

Single Window integration platform. Create an online platform integrating the existing elements of national digital infrastructure and information systems of the governmental agencies into the Single Window portal for foreign trade.

National e-Documents repository. Create an electronic document repository which should ensure the management and storing of eTrade documents using a single mechanism including online distribution and processing.

National platform for eLogistics (phase 3). Create an integration platform for multimodal supply-chain management and control with cargo/goods flow tracking (to be described in more details in the eLogistics section of the country report).

At the 4th stage all the above platforms and systems should be integrated into a full-scale National System and the NPTS operator should be defined and authorised by the government to provide a complete portfolio of paperless trade services. Such entity should act as the National Centre for eTrade services certification. To ensure the provision of cross-border eTrade services for businesses among partners and with the EU, Belarus should implement the national modules for eInvoicing, eDelivery, eID, and eSignature. Implementation of the relevant international agreements will be required to make Belarus NPTS-ready for regional eTrade transactions. Finally, Belarus' NPTS should be interoperable with the European Information System (EIS)

which allows exchange of electronic information between any EU authorities and agencies involved in import and export transactions with third parties if an international agreement so provides. Information exchange can include electronic export and import permits, transport documents and electronic Certificates of Origin, etc.

4.3.3 Electronic Logistics

4.3.3.1 State of play and gap analysis

The status of eLogistics in Belarus is presented in the following analysis according to the defined indicators.

4.3.3.1.1 Road transport

eCMR is not used in the country.

For the International road transport, there is no operable or pilot projects for electronic way-billing system in Belarus.

Payments of road tax for cargo vehicles and passengers are carried out electronically via the ERIP information system in the country⁶⁹.

4.3.3.1.2 Rail transport

eSMGS is applied for railway cargo between Belarus and Russian Federation, Lithuania, and Latvia using Electronic Data Interchange for Administration, Commerce and Transport (EDIFACT) and EDS (Electronic digital signature) standards. For mutual recognition of EDS, the mechanism of the third trusted party is used. The procedure of forming eSMGS is quick. Information is immediately available at the point of destination. There are some issues of technical nature not solved yet through all SMGS Parties that prevent the usage of eSMGS Consignment Note in full scope. These issues include, in particular, the format of the electronic consignment note for information exchange, and application of legally significant electronic documents of carriage by applying a trusted-third-party technology in the exchange of electronic documents to ensure validity of carriage documents. One more issue is the absence of legal acts, recognising validity of scanned copies of shipping documents. At present, the carriage of goods on international railways, the SMGS Consignment note is mandatorily accompanied by Certificates of Origin and other permits issued by the control agencies of the country of departure.

There is a technical possibility for cargo vehicles to cross a border using RoLa freight train (truck loaded on the train). RoLa trains to the EU countries can be put in place and require bilateral agreements between Belarus and the EU.

4.3.3.1.3 Air transport

Air waybill. Currently, due to the lack of electronic interaction, cargo processing at the airport can take up to five days. Once an air-cargo information system is implemented, it will be possible to exchange information about cargos between the air freight participants, and to forward this information to the customs authorities. Belarus has signed the international agreements such as:

⁶⁹ <http://www.raschet.by>

- Montreal Convention for the Unification of Certain Rules for International Carriage by Air of 28 May 1999 (MC99);
- Multilateral e-AWB Agreement;
- IATA Resolution 672, eAWB360 Standard Operating Procedures (SOP) developed at selected airports, containing the operational steps that stakeholders of the air cargo supply chain should follow when using e-AWB, CargoXML for Advanced Cargo Information (ACI);
- WTO Trade Facilitation Agreement (Articles on Expedited shipments and Information Exchange).

4.3.3.1.4 Transport corridors

Real time movement monitoring. Electronic seals are used to monitor cargo in real time in Belarus railways. However, their use is not regulated by law, which causes certain problems. International road carriers use GPS systems to monitor the movement of vehicles.

Electronic invoicing. Two systems of electronic e-invoice exchange are used in Belarus:

- EDI-provider (www.topby.by), ensuring the exchange of e-invoices in accordance with international standards – EDIFACT, GS1 along with other commercial documents;
- A specialised portal <http://www.vat.gov.by> for the filing and processing of electronic VAT invoices. The format of electronic VAT invoices is not harmonised with international standards.

A number of global, national, regional and proprietary standards on electronic invoices exist in general and are fragmentarily used in Belarus. An open and royalty-free single semantic data model agreed at a global level, such as UN/CEFACT Cross Industry Invoice (CII), could be used to provide the foundation of all these varying invoice content and data set requirements.

Electronic identification system (eID) is not used in Belarus

Export and import declarations for passengers and travellers for export and import (depending on their status) are submitted in paper form by passengers themselves.

4.3.3.2 Roadmap

From the perspective of EU best practice and the context of the country, Belarus should focus on the following specific policy and pilot projects:

4.3.3.2.1 Road transport:

- Review Legislative basis, to accept and sign the Additional Protocol to the Convention on the Contract for the International Carriage of goods by road (CMR) concerning the Electronic Consignment Note;
- Implement a pilot project for centralised e-waybill system.

4.3.3.2.2 Rail transport

- Review legal framework to recognise validity of scanned copies of shipping documents;
- Expand RoLa freight train usage possibilities by signing collaboration agreements with other countries. It is necessary to develop a detailed legal framework for regulating this type of transport.
- Set up combined transport routes that are linked to the network of important combined transport lines contained in the annexes to the European Convention on Important

International Combined Transport Ordinance and related facilities (1991), to which Belarus joined in 2005. A wide-ranging information policy on the introduction of this kind of freight transport is a necessary step towards establishing a system of special training and awareness of society and enterprises in this area;

- In the context of the implementation of combined transport between Belarus and the EU Member States, study a feasibility of implementing the initial and/or final stages of road transport. This is an integral part of combined transport and may or may not include the crossing of the border (which will enable Belarusian carriers to start combined transport services in Belarus and to finish them in a Member State of the EU), as provided for in Directive 92/106 for a Member State.
- A possible accession of Belarus to the United Nations Convention on International Combined Transport of Goods (Geneva, May 24, 1980) could be considered as another measure to implement a system of combined freight transport.

4.3.3.2.3 Air transport

- Negotiate amendments to bilateral agreements on information exchange.

4.3.3.2.4 Transport corridors

- Implement a pilot project of a united stationary real-time system for monitoring cargo movement on rail and road by using RFID technology (GS1 standard) or electronic seals together with EaP Countries and one EU country.
- Implement eID system in the country
- Sign international and inter-institutional agreements concerning eID recognition in other countries.
- Implement internal infrastructure for electronic declaration for export and import submission through Customs portal or e-Kiosk available at every Customs border checkpoint.

As other EaP Countries, Belarus is advised to set up an information centre to coordinate its activities of eLogistics harmonisation and development of Digital Transport Corridors among the EaP and with the EU Member States. Among other activities, the centre should set up an action plan for creating cross border e-services.

It is proposed to implement the single window approach to process cargo logistics documents in Belarus and to move forward the interoperability across the whole region. Important investments in development of cross-border information systems and infrastructure will be required. Implementation of RFID infrastructure will require important investments. Public-private partnership's models will be considered to carry out the ownership of the RFID infrastructure and information systems.

4.4 Georgia

4.4.1 Country profile

National legal framework

Georgia does not have any specific legislation directly regulating the areas of eTrade and

eLogistics. However, the current legislation assigns full legal force to electronic transactions and documents signed digitally, which enables paperless trade and logistics procedures. The national legislation in force delegates the authority of mutual recognition of electronic data and documents between countries to international agreements and mutual agreements between private parties to trade operations.

There are several laws and by-laws that indirectly affect the areas. The Law on 'Electronic Document and Electronic Trust Services'⁷⁰ defines a general framework for the legal recognition of electronic documents and electronic signatures. Customs operations accept the flow of both paper and electronic documents. The law is fully aligned with the EU standards (eIDAS Regulation (Regulation (EU) N°910/2014), which technically and legally enable the recognition of Georgian Qualified Trust Services in the EU Member States. The Tax Code of Georgia (2010) with several by-laws regulates all customs operations. The by-laws allow the submission of any scanned original documents, including veterinary and phytosanitary permits⁷¹. Original documents could be additionally required by the customs officials only if the consignment is selected by the risk-management system for closer examination. No special provisions are dedicated for the submission of electronically signed documents. However, according to the Law on Electronic Document and Electronic Trust Services, electronic documents signed by qualified electronic signature and paper documents are granted the same force and enjoy the status of original documents.

The Tax Code regulates the rules and procedures for VAT reimbursement⁷², including that originated by international transactions. According to the regulations, for a tax reimbursement request can to be submitted either electronically or in paper.

The Civil Code and several by-laws regulate the relations between citizens, businesses and public authorities and legal force of trust services, which in turn are regulated by the law on Electronic Document and Electronic Trust Services.

The Civil Code defines the terms for issuance of letter of credit and bank guarantee, and the procedure for request of the coverage of the guarantee. It provides no limitation on the form of the application and the guarantee document itself and allows electronic requests of the coverage by the beneficiary of the guarantee⁷³ through the electronic document turnover system – a platform managed by the National Bank of Georgia. According to the law⁷⁴, the beneficiary is not required to submit a written request for payment to the guarantor if there is an agreement between the beneficiary and the guarantor about the receipt of the payment of cash via the electronic document turnover system.

The Ministry of Economy and Sustainable Development (MoESD) is in the process of elaborating a draft law on e-Commerce of Georgia in compliance with the eCommerce Directive and the obligation resulting from the DCFTA to define rights and commitments of intermediary service providers in Georgian legislation. The law also seeks to establish a legal framework to protect consumers during the e-commerce process.

⁷⁰ Law of Georgia on "Electronic Document and Electronic Trust Services" in effect since April 21, 2017

⁷¹ According to the Decree No. 430 of the Government of Georgia on "Approving the Forms and Rules of Issuing Veterinary Certificates used in Exporting Products Subject to Veterinary Control" and the Decree No. 427 "Approving the Forms and Rules of Issuing Phytosanitary Certificates and Re-exportation Phytosanitary Certificates"

⁷² Including Tax return, VAT invoice, waybill, complaints, and other services

⁷³ The Order № 145/01 of President of the NBG, dated as of November 24, 2010, "On Approval of Regulations on Use of the Electronic Documents and Digital Signature for Electronic Operations in Payment and Securities Systems (GPSS)"

⁷⁴ Article 885

Railway cargo transport is regulated by the 'Railway Code of Georgia', which defines the general framework for railway operations, and by the subordinated 'Rules for Railway Cargo Transportation'⁷⁵. The rules set-down a framework for transport of cargo through the railway and define requirements and forms of railway transport documentation. The Georgian Railway is assigned with the authority to standardise and introduce forms of the transport documents on its own behalf, including introduction/change of electronic documents.

The Georgian Revenue Service (GRS), a tax and customs administration and SPS border control agency of the country, established a practice of signing special bilateral or multilateral agreements with both governmental agencies and private entities. According to such agreements, selected information received from the party via electronic channels is assigned legal force, even if it is not signed digitally. The institute of Authorised Economic Operators is under development and is in full alignment with the EU Regulations.

Relevant national organisations

The main players involved in eTrade and eLogistics, are the Ministry of Economy and Sustainable Development, the Ministry of Finance, and the Ministry of Justice of Georgia. Each organisation is responsible for different components of eTrade and eLogistics and acts through its agencies (Legal Entities of Public Law, LEPL) or key departments.

MoESD is responsible for elaborating foreign trade policy, transport and logistics policy, electronic communications, IT, post and eCommerce. The Communications, Information and Modern Technologies Department of the Ministry is responsible for the elaboration and implementation of the state policy of ICT and Post, as well as for modern technologies and scientific and technological innovations. The Department is also responsible for the implementation of special measures for integration of the country's electronic communications and postal networks into the global electronic communications and postal networks. Additionally, the Department coordinates the activities of the Georgian Post Ltd. (100% state owned enterprise) and Georgia's Innovation and Technology Agency (GITA), both entities are involved in the eCommerce development activities.

The ministry mainly supports the environment for B2B activities and acts through several departments. The Transport and Logistics Development Policy Department of the ministry is responsible for the policy and strategy development and coordination of activities enabling transport and logistical hard infrastructure in Georgia. However, so far, there is a low emphasis on eLogistics. JSC Partnership Fund supervises activities of the Joint Stock Company (JSC) Georgian Railway (100% state owned enterprise) and four agencies under MoESD, which carry out supervision of different transport areas⁷⁶. These agencies are in charge of technical supervision and support only and are not directly involved in eTrade and eLogistics. They are in close communication with carriers but have no direct or indirect involvement in the procedural issues.

Georgian Revenue Service (GRS), the legal entity of public law subordinate to the Ministry of Finance of Georgia (MoF), represents tax, customs, sanitary and phyto-sanitary border control administration of the country. GRS can be considered as a body, most heavily involved in both development and implementation of policies in eTrade and/or eLogistics.

The Ministry of Justice (MoJ) is responsible for policy development in e-Government, especially in the areas such as the availability of electronic services, electronic documents, e-Identification

⁷⁵ Approved by Order #26 of the Minister of Transport and Communications of Georgia as of 18/04/2003

⁷⁶ Land Transport Agency, Civil Aviation Agency, and Maritime Transport Agency

and e-Signature⁷⁷. The MoJ has not been assigned to work on eTrade and/or eLogistics directly, but it has some authority to work on these issues (development the e-trade and e-logistics is part of development of e-governance).

The Unified National Body of Accreditation – Accreditation Centre is a body enabling eTrade and eLogistics and is granted ISO accreditation rights.

Decision-making process

Euro Integration Commission is responsible for the EU approximation issues (including DCFTA, eServices, etc.). The Trade Facilitation Committee is expected to be established within the Trade Facilitation Agreement (TFA). The MOESD and MOF are jointly responsible for coordinating the implementation of the WTO Trade Facilitation Agreement, but implementation of the agreements is led by the Government of Georgia. The Private-Public Dialogue platform on trade-related issues and the Trade Advisory Group (TAG) consist of the representatives nominated by 11 business associations. The main objective of TAG is to identify industry problems, come up with trade-related issues and provide policy papers on these issues.

National implementation plans

There is no national strategy or a unified national plan for implementation of I initiatives in the area of paperless trade and electronic logistics. Many initiatives, which support but not directly imply implementation of paperless trade and electronic logistics, are already considered in various plans of different institutions under the scope of numerous agreements, policies and strategies. With the technical assistance of the World Bank, MoESD is in the process of elaboration of Georgia's National Logistics Strategy and its Action Plan. Notably, one of their key directions would be a development of e-logistics and e-transport corridor platforms. The documents will be adopted by the Government of Georgia during 2018.

Georgia's logistics Strategy and Action plan will have a separate chapter on e-logistics. The areas of international trade are covered mainly in the Social and Economic Development Strategy of Georgia 2020 (mainly focused on DCFTA approximation) and eGeorgia Strategy and Action Plan 2014–2018 (with provisions on eBusiness and eCommerce). eTrade and eLogistics areas do not have a particular owner, which results in the absence of policy makers and decision makers.

International agreements

The Association Agreement between Georgia and the European Union has entered into force on 1 July 2016. Specific articles of the Agreement define the terms of cooperation on regulatory issues raised by electronic commerce, which inter alia address such issues as the recognition of certificates of electronic signatures and the facilitation of cross-border certification services⁷⁸.

Georgia is a Member State of the Organisation for Democracy and Economic Development GUAM (Georgia, Ukraine, Azerbaijan, and Moldova). Establishment of a free trade area between the GUAM Member States, harmonisation, acceleration and simplification of cross-border trading and movement procedures represents one of the core directions of activities of the organisation.

⁷⁷ Through its three key agencies: LEPL Public Service Development Agency (in charge of electronic identification, eID, eSignature, and the issuance of Business Stamps, people's identification system of civil register), LEPL Data Exchange Agency (enables the coordination of eGovernment issues, supervision of qualified trust service providers' activities and gives an authorisation to them, managing and administration of unified portal for electronic public services (MYGOV.GE), administration of data exchange infrastructure, e-identification and e-signature policy areas, information and cyber security issues, CERT.GOV.GE (national and governmental CERT) operates under DEA), LEPL National Agency for Public Registry (responsible for real property and business registries, business transactions and notary services).

⁷⁸ Article 128 of the Agreement on "Cooperation in Electronic Commerce"

Additionally, Georgia has acceded to the following multilateral agreements:

- The International Convention on Harmonisation of Frontier Controls of Goods, Geneva 1982 (Harmonisation Convention). Georgia acceded to the convention in 1999;
- The Customs Convention of the International Transport of Goods Under Cover of TIR Carnets (TIR Convention), 1975. Georgia acceded to the convention in 1994;
- The International Convention on the Harmonised Commodity Description and Coding System (HS Convention), 1996. Georgia acceded to the convention in 2009 and reported complete adoption of the HS classification in its operations in 2011;
- The Convention on Temporary Admission, Istanbul, 26 June 1990. Georgia acceded to the convention in 2010.

On 12–13 December 2013, the 19th Meeting of the GUAM Trade and Transport Facilitation Project Steering Committee approved the text of the ‘Protocol between the Customs Administrations of GUAM Member-States on Organising the Exchange of Preliminary Information on Goods and Vehicles Transiting across the State Borders of GUAM Member States’. The protocol was expected to be officially signed and ratified by Member States in 2014 but is still in the process. According to the approved draft of the Protocol, Member States agree to exchange advance information received by parties through handling customs procedures with goods leaving one member state’s territory and moving towards another member state’s territory for transit or discharge purposes.

A bilateral Protocol between the Revenue Service of the Ministry of Finance of Georgia and the State Customs Service of Ukraine (SCSU) on Organising the Exchange of Preliminary Information on Goods and Vehicles Transiting across the State Borders of Georgia and Ukraine became effective in 2009. Significant steps have been undertaken to ensure regular exchange of information: technical details are officially approved, the project has been launched, and data is exchanged on a regular basis. Involved parties agree to exchange advance information of goods moving to the contracting party’s territory for transit or discharge purposes.

In 2010 the Governments of Georgia and Turkey signed an agreement on the Joint Use of Land Crossing Points of ‘Sarpi - Sarp’, ‘Kartsakhi – Cildir/Aktas’ and ‘Akhaltzikhe – Posof/Turkgozu’. Agreement on joint use of land crossing points is aimed at ensuring the facilitation of border crossing and customs procedures by avoiding any duplication in operation and data entry through real-time provision of electronic information (declarations regarding passengers, vehicles and goods) from the country of exit to the country of entry.

In 2013, the Government of Georgia and the Government of Armenia signed an agreement on the Joint Use of Land Customs Crossing Points of ‘Sadakhlo – Bagratashen’, ‘Sadakhlo – Airum’, ‘Guguti – Gogovan’ and ‘Ninotsminda – Bavra’.

The Revenue Service of Georgia and the State Customs Committee of Azerbaijan signed an Administrative Agreement on Mutual Assistance in Customs Matters, based on the model WCO agreement. The agreement was signed at the WCO Europe Regional Conference of Customs Heads on 17 March 2014, in Tbilisi (Georgia). The conclusion of the administrative agreement will create a sound legal platform for information exchange between the two countries.

A memorandum of understanding between the Customs Department of the Revenue Service, Georgian International Road Carriers Association and the International Road Transport Union (IRU) for the Capture, Transmission, Management and Dissemination of Data for the Termination of the TIR Carnet Operations at Customs Offices of Destination was signed in 2000 and updated on 17 June 2011.

As mentioned above, the Georgian legislation (Law on Electronic Document and Electronic Trust

Services) has been aligned with eIDAS Regulation (Regulation – the EU – N°910/2014). However, no bilateral agreements have been signed between Georgia and EU Member States, as well as EaP Countries on mutual recognition of electronic identification and electronic signature. It is expected that such agreements will be signed after completion of an audit of eID/eSignature infrastructure.

National best practices

There are no large-scale developments in the area of eTrade and eLogistics to be considered as a showcase. Initiatives of developments in these areas are mainly skewed to the government sector. The GRS is the flagship of these developments: the import-export operations are almost paperless.

TradeNet electronic trade facilitation (eTFS) project (a single-window portal for participants of international trade operations, enabling the entities involved in trade to exchange information electronically) was initiated in 2012 and is under the ownership of Data Exchange Agency (DEA). So far, only seaport – off-dock terminal part of the chain is implemented. The system ensures the transmission of electronic manifests between shipping lines and the WCO Cargo Targeting System (CTS) used by the Georgian customs for the risk management purposes. Launching of the system is currently suspended due to prolonged negotiation of the service fees and final contracting between parties. Proposals have been considered that the GRS and MoESD, with DEA playing the role of a technology enabler, take the ownership of the system and its future development.

The electronic identification and signature standards (PAdES, PDF Advanced Electronic Signatures), as required by the eIDAS Regulation (Regulation – the EU – N°910/2014) are completely adopted and both legislation and technology are aligned with the above-mentioned standards. ISO standards in different sectors are officially recognised by Georgia. In the field of Information Security, several ISO standards are mandatory to apply. Currently, DEA and the Public Service Development Agency (PSDA) draft sub-laws, so called technical requirements, for CAs and rules for authorisation and supervision of CAs. Within the scope of these two acts, specific and relevant ISO and ETSI standards will be mandatory to apply.

The implemented national information systems and infrastructures

The government-owned technical infrastructure to support the current and future development of the paperless trade and logistics procedures in the country, is well established and could be considered as one of the significant strengths of the national environment. It is based on modern technologies and information systems; all new initiatives are technically aligned (or could be easily aligned) with the adopted EU requirements, where applicable.

The following national-wide technical infrastructure is available:

- The technical infrastructure, supporting paperless customs and tax-related operations, including inter-agency and cross-border Customs-to-Customs (C2C) information exchange, owned and managed by the RSG;
- The technical infrastructure, supporting issuance of electronic identification documents and authentication of electronic transactions and documents, owned and managed by the SDA;
- The data exchange and integration infrastructure, enabling systematic exchange of electronic information on the national level, owned and managed by the DEA;
- The electronic payment-processing infrastructure jointly owned and managed by the National Bank of Georgia and private financial institutions (commercial banks, payment system operators, and processing centres);

- The business register infrastructure, enabling electronic registration of business transactions, owned and managed by the National Agency of Public Register (NAPR).

eCustoms system, managed by RSG, enables paperless processing of most of customs operations. The infrastructure is integrated with the information systems of other state authorities providing inputs to (or consuming data from) customs operations, such as permits, licences and certificates.

The infrastructure for issuance and maintenance of the electronic identification documents and well issuance of qualified electronic signatures and qualified electronic stamps, is managed by the SDA. In addition to the management of the infrastructure, the SDA represents a Qualified Trust Service Provider (QTSP) authorised to create, examine, and store qualified electronic signatures, seals, time stamps and certificates related to them.

The Unified Georgian Governmental Gateway (G3), managed by the DEA, is an integration platform enabling systematic exchange of electronic information on the national level. The infrastructure, initially designed as an enabler of information exchange between governmental bodies, currently provides a wide spectrum of services, gating data between the government and business entities, as well as between business entities.

The electronic payment infrastructure is managed by the National Bank of Georgia (NBG) through the Real Time Gross Settlement (RTGS) system and is jointly operated by commercial banks and other payment system operators.

The technical infrastructure of the business register managed by the NAPR under the MOJ is also worth mentioning here.

4.4.2 Paperless Trade

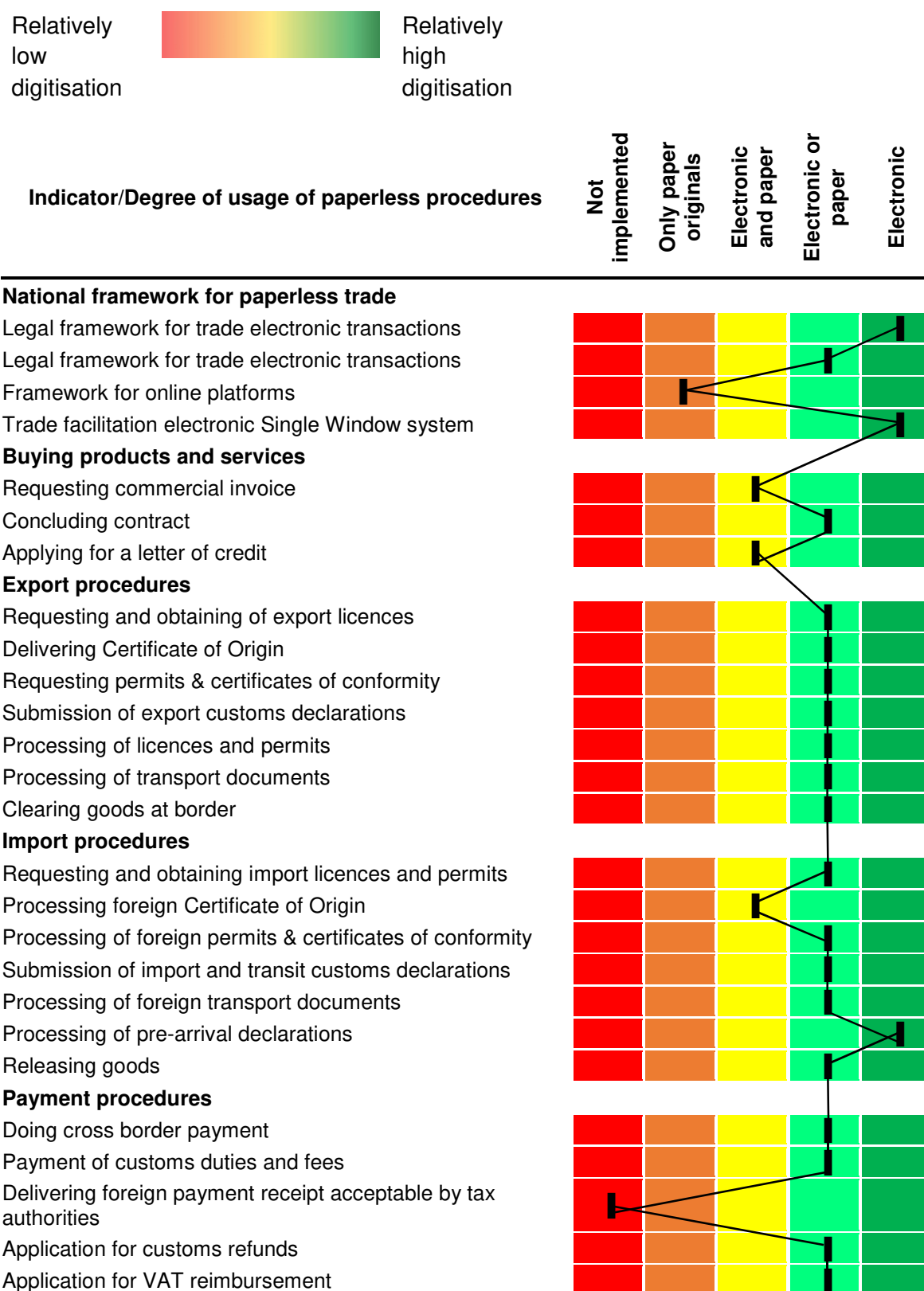
4.4.2.1 State of play and gap analysis

Figure 10 presents the overall status of digitisation of trade procedures in Georgia. Used gradation indicates in orange colour the aspects where the trade procedures are conducted using paper documents, green colour indicates high level of digitisation with the procedures using electronic documents. Intermediate colours indicate procedures where paper and electronic documents are combined. For each indicator, the black bar indicates the status of usage of paperless procedures in the country in each corresponding trade process.

4.4.2.1.1 National framework for paperless trade

The legal framework of Georgia includes requirements on legal recognition of trade-related data and electronic documents. There are several related laws, Decisions of the Cabinet of Ministers and Presidential and decrees. Notably, these are the Law on 'Electronic Document and Electronic Trust Services' (in effect since 21 April 2017). Qualified electronic documents may be used in all legal relations, where documents are required in a written form. The law is harmonised with the EU regulations (eIDAS Regulation (Regulation (EU) N°910/2014)) enabling the recognition of Georgian Qualified Trust Service in the EU Member States. The Civil Code and several by-laws regulate have a few provisions on electronic transactions. The draft of Law on Electronic Commerce is being currently elaborated by the MoESD and is aligned with the eCommerce Directive and the obligations taken from DCFTA. The Order No. 290 (26 July 2012) of the Ministry of Finance on 'Instruction on Movement and Clearance of Goods across the Customs Territory of Georgia' specifies the requirements regarding forms of customs declarations, supporting documents and permits used in the international trade.

Figure 10 – Overall state of play of Georgia in eTrade



Source: results of interviews conducted in the EaP Countries by the study team

Legal acceptance and validity of trade-related data and electronic documents originated abroad is partially assured. The cross-border enforcement of provisions of the Law on 'Electronic Document and Electronic Trust Services' requires mutual cross-border recognition of electronic certificates, but no such agreements have been signed so far⁷⁹. Georgia has signed several bilateral and multilateral agreements with neighbouring countries, recognising electronic customs data exchanged by the customs authorities. The agreements have been signed between the Government of Georgia and the Governments of Turkey, Azerbaijan and Armenia as well as with the customs administrations of GUAM Member States.

Georgia has not yet established a national legal framework for online trade-related platforms including provisions for cross-border services. The aforementioned draft law on eCommerce is expected to regulate mainly ISP and customer protection issues.

There is no specific legislation regulating the use of the single window for external trade. The Ministry of Finance issued the Order No. 290 (26 July 2012) on 'Instruction on Movement and Clearance of Goods across the Customs Territory of Georgia' which enables submission of all trade-related documents electronically. The country has several access points from where traders can submit the required documents. The Taxpayer's Portal⁸⁰, managed by the Revenue Services, is a single-window access point for legal entities where all tax and customs electronic services are accessible. eCustoms portal enables submission of customs-related information by the authorised trade operators. However, trade operators must access other systems/services (managed by other state authorities) to get documents necessary for customs operations (such as permits, licences, certificates).

The back-end processes of the inter-agency operations are consolidated, and all documents are uploaded to the 'Integrated electronic system of licences, permits and certificates' directly by the issuing authorities. All documents are available for the customs administration for verification and validation of documents, submitted by the trade operators through the eCustoms system. The TradeNet project (or eTFS – electronic trade facilitation) is a single-window platform, enabling exchange of both B2B and B2G information in the international trade context. However, the small portion of operations (see port – off-dock terminals) are functional so far. All large trade operators have access to the eCustoms system. Two sea ports, all shipping lines and all off-dock terminals, as well as customs are connected to the eTFS system.

4.4.2.1.2 Buying products and services

In compliance with the law on 'Electronic Document and Electronic Trust Services' and the Order No. 290 (26 July 2012) of the Ministry of Finance, the invoices and other commercial documents for clearance purposes are accepted in electronic (scanned) format. PAdES standard for electronic signatures and electronic stamps is employed, however, not adopted by the customs so far (expected to be adopted by July 2018). Invoices, only scanned so far, can be uploaded together with the declaration and submitted electronically either directly to eCustoms system or through the electronic services portal. eCustoms system does not provide the infrastructure for uploading and validation of electronically signed documents in accordance with the new legislation. However, the project, aimed at enabling such mechanisms is initiated by the GRS. The system upgrade is supposed to start in the second half of 2018 upon entry into force of the relevant legislation. The Revenue Service operates the Taxpayer's platform where electronic VAT invoices and waybills between business parties are submitted and exchanged. However, no

⁷⁹ The law is in force only from April and it is not sufficient time for signing such bilateral or multilateral contracts.

⁸⁰ www.RS.ge

international exchange of electronic invoices has been initiated.

Electronic contracts are legally accepted on the basis of the Law on Electronic Document and Electronic Trust Services. The form of contracts between parties, including recognition of several forms of electronic signatures, is subject to an agreement between parties. The law's provisions obliging all state organisations to accept documents signed by qualified electronic signature and/or stamp and use the qualified electronic signature or stamp on their documents will enter into force from 01 July 2018. The Order No. 290 of the Ministry of Finance allows the use of scanned contracts uploaded electronically and without electronic signature for customs procedures. Scanned contracts are submitted through eCustoms system. Currently, there are no bilateral international agreements in place for the mutual recognition of electronic signatures between Georgia and other countries and their preparation is in progress.

The Civil Code defines the terms for issuance of letter of credit as well as the procedure for request of the coverage. Some banks offer electronic applications through the online banking system. However, such services are not always available, have limits and requires additional communication with the bank officials. The letter of credit is provided in the paper form at bank offices. No banks issue the letter of credit via the eDocuments flow system of the National Bank (ESDS portal)⁸¹.

4.4.2.1.3 Export procedures

The Georgian Customs issue export permits for dual-use items only. No other export licences are applicable for export operations. It is possible to receive a permit for export, import, re-export or transit of dual-use products at any of the Border Crossing Points as well as at the Customs Department, based on a written or electronic application. All required documents can be scanned and attached to the application. The applicant is notified about the decision on the issuance of the permit through the taxpayer portal, as well as by SMS.

According to the Order No. 420 (29 December 2010) of the Government of Georgia on 'Criteria for Determining the Country of Origin of Goods and Approving the Instructions on Filling and Issuing the Certificate of Origin', the Revenue Service and the Chamber of Commerce and Industry (GCCl) issue Certificates of Origin. Both entities provide electronic interfaces for submission of requests for such certificates. The Revenue Service receives applications and all supporting documents electronically through the taxpayer's portal. An inter-agency platform for issuance of permits ('integrated electronic system of licences, permits and certificates') enables cross-validation of certificates issued by the GRS and GCCl. Georgia has a mutual assistance agreement with several countries, enabling these countries to request of the customs to check the Certificates of Origins. However, the GCCl and the GRS do not participate in the International Chamber of Commerce International Certificate of Origin Global Accreditation Chain that offers the possibility of verifying the authenticity of Certificates of Origin online.

Veterinary and phytosanitary certificates are issued by the National Food Agency under the Ministry of Agriculture, or by GRS at the Customs Control Zones only. Applications for these certificates can be submitted electronically or in a paper form. Electronic certification may be provided to the country of import if agreement between countries exists. The issuing administration sends an electronic veterinary certificate directly to the veterinary service of the importing country. The phytosanitary certificate must be an original document, or - under specific circumstances - a certified copy. Electronic certificate can be issued if this format and security level are acceptable by the importing countries, the information provided is consistent with the

⁸¹ www.esds.ge

appropriate model and the identity of the issuing authority can be adequately established. Applications for permits relating to species listed in annexes of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) can be submitted in a paper or electronic form. Only paper certificates are issued. Applications for export permits for medications subjected to special control (issued by the State Regulation Agency for Medical Activities under the Ministry of Labour, Health and Social Affairs or by the Revenue Service) must be submitted online. All permits and certificates are uploaded by the issuing administrations to the inter-agency integrated electronic system of licences, permits and certificates and are considered as presented at the customs check points.

Customs declaration can be presented in a paper or electronic form through eCustoms or RS.ge electronic service portals. If submitted electronically, all documents, attached to the declarations, must be scanned and uploaded to the system.

Customs authorities process licences and permits in electronic format. All permits and certificates are available on the inter-agency integrated platform. The applicant must indicate the identification number of permits and certificates issued in electronic form. If a document is issued on paper, the applicant must attach its scanned copy to the customs declaration. The validity of documents presented at the border is checked by the customs service through the integrated portal.

According to the Order No. 290 (26 July 2012) of the Ministry of Finance, transport documents can be uploaded in scanned form and submitted electronically through eCustoms system or RS.ge portals together with the declaration. The customs declarations and supporting documents can be processed by the customs at border crossing points either in electronic or in paper format.

4.4.2.1.4 Import procedures

Applications for permits, issued by the Revenue Services, can be submitted in paper form or electronically through RS.ge portal. The LEPL National Food Agency under the Ministry of Agriculture accepts applications for veterinary and phytosanitary (also issued by the GRS) certificates in a paper or electronic form. Phytosanitary certificates are delivered as original documents, or - under specific circumstances - as certified copies. Permits and certificates are loaded to the integrated platform and automatically validated. Applications for permits relating to species listed in annexes of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) can be submitted in a paper or electronic form. Only paper permits are issued. Applications for import permits for non-iodised salt can be submitted in a paper or electronic form to the LEPL National Food Agency under the Ministry of Agriculture of Georgia, or to the GRS. Permits are delivered in an electronic or paper form.

The customs and other authorities exchange and process foreign Certificates of Origin in scanned format whereas original paper documents are kept by applicants and are presented upon request. Scanned format does not allow automated validation of certificates.

The customs and other authorities accept and process foreign permits (sanitary, phytosanitary, veterinary, and other certificates) and certificates of conformity (quality certificate) in a scanned form. Herewith licenses, permits, certificates and documents proving grant are kept in original form. The authenticity of foreign permits cannot be automatically validated.

Scanned copies of transport documents are attached to customs declarations in electronic form and submitted through RS.ge or eCustoms portals. The waybill is issued in electronic form via the e-page of the Taxpayer and enables each and every transportation operation to be recorded electronically in the tax database of Revenue Service, allowing this information to be matched with other sources for risk assessment purposes. Paper copies of transport documents are

submitted if the declaration is also in a paper form. Transport documents are compliant with the international standards (CMR, SMGS, CIM/SMGS, IATA standards for air waybills).

Declarants can submit customs declarations and supporting documents to the customs in electronic form 45 days prior to the arrival of the goods. Under the Association Agreement, Georgia is obliged to accede to the Convention on a Common Transit Procedure and SAD Convention (and, consequently, to the NCTS community⁸²) during 2018. Electronic exchange of transit information with the EU countries through the NCTS system is in the process of implementation.

Confirmation of the release of the goods by the customs service is based on a submitted declaration and accompanying documents and is issued electronically through the eCustoms system. The release order, delivered by the shipping line of freight forwarder should be presented at the customs control zone. If the goods are released from the customs control zones, operated by the Revenue Service (Customs clearance zones – GEZI), the release order could be submitted electronically through the eCustoms system or in a paper form. If released from the privately-owned customs control zone (terminals, warehouses), the form of the release orders is subject to the operational practice and agreements between parties. In most cases, e e-mail communication is adopted. Paper documents (release orders) are rarely used.

4.4.2.1.5 Payment procedures

Cross border payments B2B and B2C can be conducted from Georgia to other countries based on either electronic (via online banking systems) or paper payment order. There is a limitation on wire transfers exceeding 30,000 GEL (approximately 9,700 EUR) where copies, including electronic copies, or original documents (contracts, invoices) must be obligatorily submitted. Procedures may differ among commercial banks, with selected banks enabling upload of electronic copies of original documents (invoices) through their online banking systems.

Customs duties and fees should be paid via bank (wire transfers), and through electronic payment system(s)⁸³. No cash payments are accepted. However, in the context of wire transfers, scanned or electronic (downloaded from the online banking system) payment orders are still required to be uploaded for payments of some fees (mainly service fees). Such requirements are due to limited integration between the customs information system and the banking systems.

Foreign payment receipts are not used in Georgia and the tax authorities do not request foreign payment receipts. The refund of overpaid customs duties could be requested at the service facilities of the Revenue Service, and directly from the taxpayer's portal RS.ge using the corresponding application. Taxpayer's requests can be submitted to the tax authority in an electronic or paper form together with supporting documents. On 15 July 2016, a new Automatic Refund programme was launched providing a simple, convenient and cost-free method of tax return filing. Majority of tax returns are submitted electronically. In addition, overpaid taxes will be recorded at gross and not by each type of tax individually. The excess amounts will automatically be offset against tax liability by the end of the day.

In 2016, the Georgia Revenue Service introduced a single taxpayer account (unified treasury code). This simplifies the tax payment system, reduces the number of procedures and saves time.

⁸² Countries, exchanging information through the NCTS system.

⁸³ Electronic payment is available directly from the rs.ge portal, or other electronic payment services, like fast payment terminals, web applications, PayPal of payment system operators.

In the new system, taxpayers must only indicate one treasury code for any type of tax payment, instead of indicating codes for different transactions (previously up to 125 codes).

4.4.2.2 Roadmap

4.4.2.2.1 National framework for paperless trade

Improving the legal framework to include cross-border electronic data exchange. The cross-border enforcement of provisions of the Law on 'Electronic Document and Electronic Trust Services' requires mutual cross-border recognition of electronic trust services. In this extent, the signature of bilateral or multilateral agreements with the European Union and the Eastern Partnership Countries will be required in order to facilitate paperless trade.

Developing a national strategy and implementation plan for cross-border interoperability. The European Interoperability Strategy and the new European Interoperability Framework should serve as a basis for the development of a national overarching strategic plan in the field of cross-border interoperability for trade-related services. Harmonisation with its provisions will facilitate exchange of electronic data with the European public administrations and enable access to electronic services across national borders.

Extending the legal framework for online platforms including provisions of cross-border services. Following the development of cross-border eCommerce and electronic trade, the legislation of Georgia should be extended to regulate access to online platforms for cross-border electronic transactions. The legal framework should include specific aspects of online platforms such as contracts concluded by parties having different nationalities and/or based in different countries, cross-border delivery of goods and services, consumer protection, tax and customs procedures, competition, fair access to online platform services for SMEs, liability, privacy and data protection and dispute resolution.

4.4.2.2.2 Buying products and services

Introducing the use of electronic invoices for cross-border operations. Progressive introduction of electronic invoicing for cross-border operations will accelerate paperless trade. Georgia should consider a pilot project to exchange electronic invoices with a Partner Country and/or an EU Member State. This will require setting up an infrastructure of trusted third party for validation of electronic signatures and the definition of a common data set at semantic level. The eInvoicing building block of the Connecting Europe Facility provides technical specifications and free software components that offer basic capabilities.

Introducing the use of electronic contracts for cross-border operations. The Law on Electronic Document and Electronic Trust Services of Georgia is harmonised with the provisions of the eIDAS Regulation concerning electronic contracts. Similar to electronic invoices, the introduction of electronic contracts will dematerialise and speed up all stages of contracting process, such as offer, negotiation and contract conclusion by electronic means. It will also facilitate the confirmation by official authorities of the authenticity of commercial contracts presented by traders. Georgia should consider a pilot project to exchange electronic invoices with a Partner Country and/or an EU Member State. eDelivery CEF building block provides reusable specifications, software and services that offer tools to create a variety of interoperating and secure IT systems for public administrations to exchange electronic contracts with other public administrations, businesses and citizens.

4.4.2.2.3 Export procedures

Integrating with the Certificate of Origin Global Accreditation Chain. The Georgian Revenue Service and the Georgian Chamber of Commerce and Industry issue Certificates of Origin in electronic format. The proposed activity consists in creating an exchange mechanism between the Georgian inter-agency platform for issuance of permits and the system of the International Chamber of Commerce International Certificate of Origin Global Accreditation Chain. Thus, the Certificates of Origin delivered in Georgia will be available in the ICC CO Accreditation Chain.

Integrating with TRAdE Control and Expert System for export of live animals and animal products. Data exchange between the inter-agency integrated electronic system of licences, permits and certificates of Georgia with the TRAdE Control and Expert System of the European Commission will allow harmonised export certificates of Georgian exporters of live animals and animal products to be available for the EU authorities and importers. Veterinary permits will be automatically available in the last updated version and translated into all EU official languages. This will speed up the administrative processes at the EU Border Entry Points.

Submitting transport documents for export in electronic format. Implementation of an electronic service will allow traders and their transport service providers to submit transport documents directly in original electronic format used between transport operators without printing paper documents and scanning them. The customs authorities and other state agencies will be able to process electronic data directly.

4.4.2.2.4 Import procedures

Integrating with TRAdE Control and Expert System for imported products. For import from the EU, integration of the information system of the State Service for Food Safety with the TRAdE Control and Expert System will allow getting several certificates and documents on live animals and animal products, plants and plant products imported from the EU to Georgia.

Validating foreign Certificate of Origin within the Global Accreditation Chain. A validation service should be created within the system of the International Chamber of Commerce International Certificate of Origin Global Accreditation Chain. The service would allow the Georgian customs and other authorities to verify online the authenticity of Certificates of Origin delivered in foreign countries for goods imported to Georgia.

Interoperating with European Information System (EIS) for import from the EU. The European Information System allows exchange of electronic data between any EU authority or agency involved in import and export transactions and third parties if an international agreement so provides. The information exchanged can include data of electronic import permits and transport documents for goods imported from the EU to Georgia. Data exchange can be channelled through the Georgian integrated platform thus making the data available to the relevant Georgian state authorities. eDelivery CEF building block provides reusable specifications, software and services.

Submitting transport documents for imported goods in electronic format. Implementation of an electronic service will allow traders and their transport service providers to submit transport documents for imported goods directly in original electronic format without printing paper documents and scanning them. The customs authorities and other state agencies will be able to directly process electronic data. Use of electronic transport documents will facilitate its use as a transit declaration in the EU New Computerised Transit System.

Integrating with the EU New Computerised Transit System. Joining the customs transit system applied in the EU will create favourable conditions for trade by enabling faster movement of goods, reduction of operational costs and supervision over the movement of shipments and prevention of misuse. Georgia has already initiated the process of acceding to Common Transit

Convention and Simplification of Formalities in Trade of Goods Conventions and of joining and subsequently integrating a New Computerised Transit System.

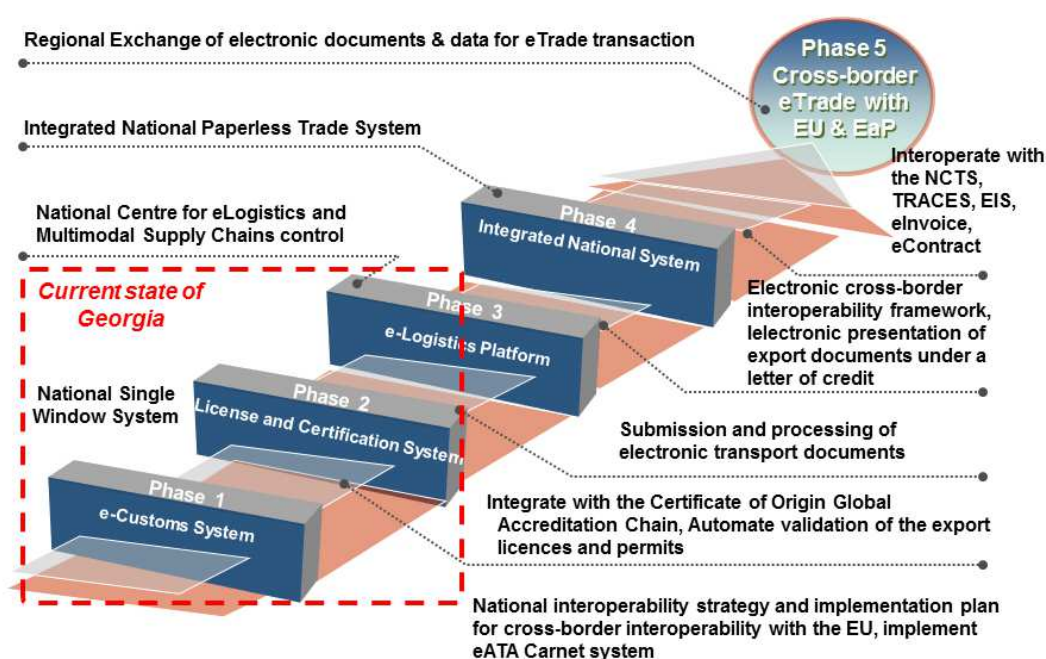
Implementing the eATA Carnet system. Through the implementation a national component of the eATA Carnet system Georgian traders would benefit from the duty-free temporary importation of goods for up to one year with other countries participating in the ATA Istanbul Conventions. The Georgian segment will be able to exchange eATA Carnet System data on issued guarantees with the EU single central system.

4.4.2.2.5 Payment procedures

Introducing the electronic presentation of export documents under a letter of credit. Georgia already has established a practice of electronic application for a letter of credit. The next step will be a pilot project with one or several Partner Countries for electronic presentation of export documents under a letter of credit. All letter of credit parties, such as the beneficiary, applicant, issuing bank, advising bank and confirming bank must connect to the same secure online platform⁸⁴ that enables electronic submissions and electronic document examinations. To ensure international interoperability, the platform should comply with the Electronic Letters of Credit Rules (eUCP) developed by the International Chamber of Commerce.

With the focus on harmonisation in the area of paperless trade between EU Member States and Eastern Partner Countries, the components of the overall roadmap for Georgia are represented in accordance with main phases of National Paperless Trade System development recommended by UNECE and illustrated in Figure 11.

Figure 11 – Main phases of NPTS development in Georgia



⁸⁴ The eDocuments flow system of the National Bank of Georgia (ESDS portal) may interface with this international platform after being used for the exchange of electronic letters of credit inside the country.

Analysis of the state of play performed by the Study Team indicates that Georgia has approached Phase 3 of the NPTS development. This phase requires the creation of a national platform for eLogistics, which would integrate multimodal supply chain's management and control, including goods flow tracking. At the 4th stage, all the above platforms and systems should be integrated into a full-scale National System and the NPTS operator should be defined and authorised by the government to provide a complete portfolio of paperless trade services.

To ensure the provision of cross-border eTrade Services for businesses among partners and with the EU the implementation of the national modules for eInvoicing, eDelivery, eID, eSignature as well as the corresponding international agreements will be required to make Georgian NPTS ready for regional eTrade transactions.

4.4.3 Electronic Logistic

4.4.3.1 State of play and gap analysis

4.4.3.1.1 Road transport

eCMR. eCMR is not used in Georgia. According to customs regulations, the CMR document is used as one of legal basis to initiate customs procedures. Information provided in the CMR document is used by the customs for issuance of the Internal Transit Document (T1 form), when necessary. Presenting of the paper CMR document is required for transit operations (as a basis for the issuance/validation of T1 form). CMR is not required if the transport is moving under the TIR guarantee. For import/export/re-export operations, a scanned (electronic) version of CMR is required to be submitted together with import/export declaration (CMR is a basis for release of the goods, and to turn the transport to the customs control mode). The paper document is required for examination only if some risks are identified. Georgia has not yet signed international agreements related to use of eCMR documents, except the corresponding general amendments/protocols to the CMR convention (Additional Protocol to the Convention on the Contract for the International Carriage of Goods by Road – CMR – Concerning the Electronic Consignment Note). The current infrastructure of the Georgian Revenue Service enables the acceptance of scanned CMR documents. According to recent changes in the legislation, it is expected to be updated to receive electronically signed documents.

Waybill. The Revenue Service operates a platform, where electronic waybills are exchanged between parties: any transport must be obligatory reflected in the system. The system provides counterparts with the authorised user interfaces via the Taxpayer's Portal and enables integration of the operation (upload/download) through web services. Transportation under the customs regime is organised through the T1 form (Internal Transit Document), which can be considered as a C2B waybill (issued based on B2B CMR document). T1 document is electronic: no paper documents are in the proceedings. The information received from the neighbouring countries under the agreements of the joint control of border-crossing points (see more information in the National Background Information) is used automatically for filling of the T1 document. Local transport with electronic waybill is legally supported and no paper-based internal waybills are allowed. T1 form is electronic, but could be printed out and signed/stamped if required by internal procedures of a party

Payment of fee for road usage by cargo vehicles and passengers' cars. A fee for road usage is applicable only for transit cargo transported only via road route. A fee for one cargo vehicle is 200 GEL. Before leaving the Georgian territory, drivers of vehicles in transit, are required to pay a fee at any bank on the territory of Georgia or purchase a Road Use Card. The fee can be paid by cash, debit/credit cards, or via e-payment terminals.

4.4.3.1.2 Rail transport

eSMGS. The use of the electronically signed electronic documents (including eSMGS) is legally allowed if signed in accordance with the legislation. In the local context, the infrastructure for issuance of electronic signatures, is technically enabled. However, this infrastructure is poorly used by the local business operators and several activities to promote use of electronic signature are planned. Infrastructure for cross-border exchange of electronic documents is not yet interoperable within the international context. Significant steps in this direction are planned for 2018. The eSMGS solution, implemented by the Georgian Railway, is in full compliance with the Georgian legislation and, consequently, is aligned with international standards of PAdES (PDF Advanced Electronic Signatures). Technically, the infrastructure to get and process electronically signed transport documents (in the above-mentioned standards) is available and used on the local level. Correspondingly, as soon as electronically signed document will become available on the international level (in the context of the digital transport corridors, mutual recognition of electronic certificates, both legally and technically), the infrastructure of the Georgian Railway will be easily adopted to process the transport documentation in electronic format across the borders. The complete data sets, underlying issuance of electronic SMGS and CIM/SMGS documents are available. However, the Railway has not adopted any international standards for data structures and messaging, as defined by CEFAC and/or WCO Data Model.

Freight train. RoLa freight trains are under consideration, but currently it is not used because of cost inefficiency. Possibility to use RoLa transport is considered using the Baku – Tbilisi – Kars (BTK) railway. BTK is considered as an opportunity – RoLa could become cost effective. However, there are no real actions done in this direction and a detailed analysis of cost efficiency of RoLa for BTK would be required.

4.4.3.1.3 Air transport

Air waybill. Air transport processes are managed mainly by international airlines, all operating their own information systems. The ‘rules of the game’ established by airlines and shipping lines drive communication with/between local large logistical nodes, such as airports and cargo terminals. Paper documents and e-mail communication are dominant in the cargo movement context. A project initiated by Fly Dubai airline assumes a word-wide (including Georgia) implementation of an electronic platform, enabling integrated exchange of information (including electronic air waybill) between parties involved in cargo transport by air. Some preliminary agreements between Fly Dubai, Georgian customs and cargo terminal(s) regarding the project are in place.

4.4.3.1.4 Sea transport

Bill of lading. The TradeNet (eTFS) project assumes technical processing of electronic Bill of lading (BOL) in sea transport. The system enables shipping lines to receive and process electronic BOLs through EDIFACT messages. Based on capabilities of the shipping lines, BOLs are transmitted to the platform either using web services or by uploading of files. This part of the eTFS system is technically operational but has not been officially launched. On 9 February 2012, the Ministry of Justice, USAID, Mediterranean Shipping Company (MSC), Georgian Railway, APM Terminals, AFG, MAERSK, and others signed a memorandum between the involved parties. Currently, the tariffs of using the eTFS platform are being negotiated. Additionally, the customs authority participates in the Cargo Targeting System (CTS). Information received from the shipping line via the eTFS system is automatically uploaded to CTS for the risk management purposes. The system also allows to receive advance information about the goods transported via sea and its automatic processing in customs risk management system. There is no legislative

limitation of the use of the electronic BOL. Order N^o 290 by the Minister of Finance allows submission of documents in electronic form.

eManifest. eManifest is not used in Georgia. There is a need to conclude an agreement with shipping lines. Draft agreements between parties are ready but not signed so far.

4.4.3.1.5 Transport corridors

Real time movement monitoring. Information on arrivals and departures of rail cargo to stations on the territory of Georgia is available in real time in eCustoms system. Crossing of road borders is also monitored through a comprehensive CCTV system, operated by the customs authority. There is no monitoring system for movement of cargo through Georgia territory. In the context of business operations, several operators use different GPRS-based systems to monitor cargo movements both through Georgia and abroad. Several IT systems are available and used for planning and monitoring of routes.

Electronic invoicing. The VAT invoicing process between business parties is fully electronic on the local level. The Revenue Service operates a platform, where the electronic VAT invoices are exchanged between parties: any operations, which involve the VAT must be obligatorily reflected in the system and then confirmed by the counterpart (buyer of the product or service). The system provides the parties with authorised user interfaces via the Taxpayer's Portal, and enables integration of the operation (upload, download and confirmation) through web services.

Electronic identification (eID). Currently, no eID is used for international transport⁸⁵. All technical standards utilised in electronic identification system are compatible with the EU eIDAS requirements. No projects enabling exchange of electronic identification information with EU countries have been implemented so far. The Service Development Agency (SDA) manages the national eID infrastructure. The unified national eID platform does not currently interoperate with similar platforms across the EU. The SDA works on several projects to enable interoperability of the national eID system with similar platforms abroad.

Export and import declarations for passengers. Both electronic and paper import declarations are available to passengers. There is no export declaration for passengers. There is no specialised infrastructure, enabling filling of the declarations in an electronic form directly for the border crossing procedures. This is why paper-based filling is currently the only available option.

4.4.3.2 Roadmap

From the perspective of the EU best practice and in the light of the specific country context, Georgia should focus on the following specific policies and pilot projects:

4.4.3.2.1 Road transport

- Review the legislative basis to facilitate the usage of electronic documents for road transportation;
- Accept and sign the Additional Protocol to the Convention on the Contract for the International Carriage of goods by road (CMR) concerning the Electronic Consignment Note;

⁸⁵ 2.5 million of Georgian citizens have an ID card which is also a tool for electronic identification and electronic signature. The Citizen's Portal, MYGOV.GE, offers more than 50 services from public sector and DEA continues to work on integrating more services into this portal.

- Create access from e-waybill system to eLogistics single window portal, operated by AEOs.

4.4.3.2.2 Rail transport

- Adapt CIM/SMGS documents to international standards as defined by the Centre for Trade Facilitation and Electronic Business (CEFACT) and/or WCO Data Model;
- Expand RoLa train usage possibilities by signing collaboration agreements with other EaP Countries, participating in the 'Viking' project.

4.4.3.2.3 Sea transport

- Create e-logistic single-window portal, managed by an AEO, to fill bills of lading and e-manifests electronically.

4.4.3.2.4 Transport corridors

- Implement a pilot project of united, stationary, real-time systems of monitoring cargo movements in rail and road by using RFID technology (GS1 standard) together with EaP Countries and one EU country;
- Create a unified national eID platform, interoperating with similar platforms across the EU (this project is on the agenda of SDA).

4.5 Moldova

4.5.1 Country profile

The legal framework

In last years, Moldova has pursued a trade-focused development strategy. It consistently applies efforts to harmonise its trade regime with the requirements of the multilateral trading system. It also expands the scope and coverage of its bilateral and regional cooperation agreements. Moldova benefits from preferential market access to the EU within the Association Agreement (AA) together with the Deep and Comprehensive Free Trade Area (DCFTA). All the same, the country has not attained the expected benefits from its trade development strategy. The economy is still based on labour-intensive activities with low value-added. The effect of reforms has not been fully attained partially due to the lack of adequate market support institutions and transport infrastructure.

Since the AA signature, Moldova has been seeking to harmonise its national legislation with the EU directives in the fields of customs administration, transit trade, food safety, plant protection and quarantine, veterinary measures, technical standards, accreditation, and conformity assessment. Regulatory harmonisation has been followed by improving management practices and migrating to paperless systems in the country governance. An important 'Governance eTransformation Project' started in 2011 with the financial support of the World Bank. During this project, which ended in December 2016, the national Governance eTransformation Agenda has been developed and a modern service delivery platform has been established to improve access to public services. Besides, in accordance with the national Strategy for the development of the digital society 'Digital Moldova 2020' the important infrastructure components and digital platforms have been created, such as MCloud, MPay and MConnect.

The Trade Facilitation Study undertaken in 2016 by the UN Economic Commission for Europe

made the strong recommendation to the government to adopt gradual approach to Single Window development in Moldova and conduct detailed business process analysis within and across the State agencies involved in supporting export and import activities.

During the last 15 years Moldova actively embraced digital transformation agenda and joined the HDM initiative. Several legislative and normative acts have been prepared. Currently, there are several laws and governmental decisions in force that guide the digital harmonisation of Moldova with that of the EU.

In April 2017, the Parliament of Moldova adopted changes and additional chapters to the original Law on e-Commerce (#284/2004) which have been developed in accordance with the Directive of European Parliament and Council 2000/31/EC on the Information Society and Electronic Trade. The Law will enter into force in February 2018⁸⁶.

Relevant national organisations

The main governmental body in charge of foreign economic activities and implementation of national measures related to paperless trade is the Ministry of Economy and Infrastructure with the principal areas of responsibility such as information technology and communications, transport and trade.

The Customs Service of Moldova implements the state tax policy and controls the collection of taxes and duties. This governmental body is responsible for national customs procedures and their development, implementation and maintenance of customs information and telecommunications systems as well as organising the provision of electronic services for business entities.

The National Commission for e-Transformation was created as a result of the 'Governance eTransformation Project. The Commission is chaired by the Prime Minister with representatives of the government, private sector, academia and civil society. They provide a vision and leadership for Governance e-Transformation and approve major government initiatives and programmes. Besides, the e-Government Centre (eGC) and the Government Chief Information Office were established as public entities under the State Chancellery and Prime Minister's Office in August 2010.

eGC is responsible for the strategy and technical design of e-government architecture and for the implementation of e-services delivery infrastructure to enable governance e-transformation across the government. The Centre also guides the process of setting the proper legal and institutional frameworks, facilitates the deployment and adoption of e-services delivery platforms, knowledge exchange and capacity building activities under the e-Transformation Agenda. The e-Government Centre of Moldova aims to make all public services available online to citizens and businesses by 2020. To support this objective, it creates an electronic service infrastructure that handles security and identity, including the authentication of citizens and businesses; digital signatures; electronic payments; interoperability and delivery of electronic documents, as well as clients support.

To facilitate the sectorial e-Transformation, the Government established in each ministry a position of the coordinator for e-transformation (CeT) and the e-transformation division. Sectorial CeT are members of the Council of e-Transformation Coordinators, which ensures alignment and coordination of sectorial e-Transformation actions and initiatives⁸⁷. Subsequently, the line

⁸⁶ <http://lex.justice.md/ru/370018%20>

⁸⁷ The complete list and contact details of Moldovan organisations involved in the foreign economic activities and eTrade are tabulated in the Annexe.

ministries and state agencies are the main responsible governmental institutions for promoting digital agenda in Moldova. Inter-sectoral committees are established to coordinate relevant activities among various institutions. Harmonisation of Digital Markets (HDM) is one of the objectives that need a cross-institutional cooperation and elements of its implementation plan are included in each ministry's activity plans, and in various strategies adopted by the Government.

National implementation plans

The main national activities for the development of national digital market and paperless trade environment are stipulated in the Plan of Measures for the implementation of the Association Agreement between the EU and Moldova and planned in the National Strategy for the development of the digital society 'Digital Moldova 2020' and the 'Strategy on the increasing competitiveness of information technology industry for the period 2015–2021'.

National best practices

Following the implementation of various provisions from the above normative acts and strategies the following national information systems and electronic services were created:

- Common Governmental Technological platform – MCloud;
- Governmental Service for Electronic Payment – MPay;
- Paperless Government Initiative 'SIGEDIE';
- E-reporting government platform for business;
- Government platform for business authorisations;
- E-procurement;
- E-invoicing;
- E-justice;
- Interoperability Governmental Platform – MConnect.

The MConnect government interoperability platform will enable public authorities to exchange data in real time, exempting citizens and businesses from the obligation to provide certificates, reports, etc. Public authorities connect their information systems and databases to the MConnect platform to reduce administrative burdens on businesses and citizens. The MConnect government interoperability and data exchange platform aims to exclude redundancy in the public-sector procedures. It was implemented according to the provisions of the EU interoperability program. Currently, the MConnect platform is at the end of its pilot stage, with 15 (fifteen) public bodies connected to it.

International standards

International and national standards applied in Moldova to develop the above systems in the field of eTrade and eLogistics include technical specifications and recommendations of the following international organisations:

- World Customs Organisation (WCO);
- United Nations Economic Commission for Europe (UNECE);
- International Standardisation Organisation (ISO);
- The International Air Transport Association (IATA) and Civil Aviation Organisation (ICAO).

Since 2007, the Moldovan Customs Service has been operating under an organisational structure with optimised customs houses. The number of customs houses has been reduced from 7 to 3 Customs houses, covering the North, Centre and Southern parts of the country. Customs has also introduced an Authorised Economic Operator (AEO) scheme, which, drawing on the EU model, certifies AEOs. The Moldovan Customs has also been integrated into the web-based

Automated System for Customs Data (ASYCUDA World) to serve as the backbone for the Customs Integrated Information System (CIIS). ASYCUDA World, which is operational throughout the country at the Customs headquarters and regional offices, supports risk-based control through profiling and selectivity and accords the required flexibility for upgrades and connectivity with the IT systems of other national and international authorities.

ICT platforms and information systems

An important step towards migrating to paperless trade will be a national electronic system for permits and licences. The system, known as the 'multi-agency module', is maintained by the Chisinau-based Licensing Agency and will serve as an electronic 'one stop shop'. It will allow enterprises to submit applications online, upload the support documents, and receive the permits/licences via e-mail. The Moldovan government expected to launch the above system in operation by the end of 2017.

4.5.2 Paperless Trade

4.5.2.1 State of play and gap analysis

Figure 12 presents the overall status of digitisation of trade procedures in Moldova. For each indicator, the black bar indicates the status of usage of paperless procedures in the country in each corresponding trade process.

4.5.2.1.1 National framework for paperless trade

The legal framework in Moldova is composed of a long list of acts and regulations supporting the eGovernance but the original law for eCommerce was adopted rather long ago (2004) and needs to be significant updated to regulate the paperless trade environment, electronic transactions in line with the EU *acquis*. A legal framework for online platforms must be developed. The sectorial Single Windows implemented under the existing law of 2011 and its bylaws do not ensure the proper online connection to the customs authorities. Thus, a more developed interconnection is necessary to streamline electronic transactions and the integration platform MConnect should be more effectively used to ensure the interoperability of the sectorial Single Windows. The NPTS feasibility study has not been conducted.

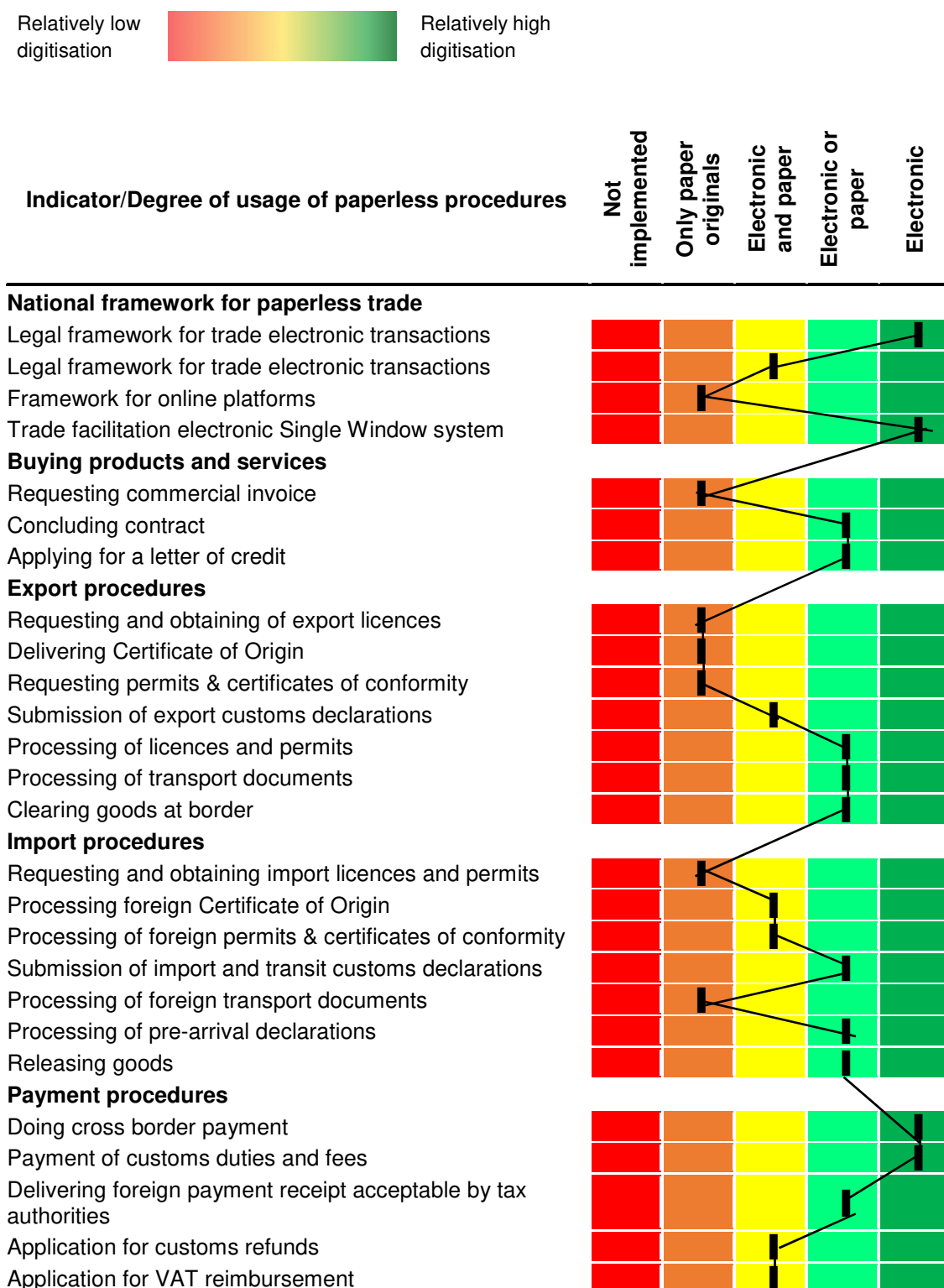
4.5.2.1.2 Buying products and services

The national eGovernance information systems in Moldova can process electronic contracts and invoices. eInvoicing system and services have been operational in Moldova since February 2014. However, levels of implementation of electronic procedures vary significantly across governmental institutions. So, re-engineering of business processes for eTrade must be done within and across state agencies involved in supporting export and import activities. Banking institutions process letter of credit (L/C) applications in form of scanned copies or paper documents. Insufficient capacities (both in terms of infrastructure and trained personnel) of some governmental institutions involved in international trade regulations are considered to be the main obstacle to fully adopt the paperless trade procedures.

4.5.2.1.3 Export procedures

Submissions of export declarations and processing of licences, permits and transport documents is done via ASYCUDA World/CIIS and based on electronic documents or scans (soft copies). Traders and their representatives can submit customs declarations for exports and imports (structured based on CIIS Single Administrative Document-SAD) online and upload all the

Figure 12 – Overall state of play of Moldova in eTrade



Source: results of interviews conducted in the EaP Countries by the Study Team

supporting documents issued in hard copies while inputting the identification number and issuing date of the electronic permits/licences. But the application process for Certificates of Origin, conformity, export licences, permits and sanitary, phytosanitary and veterinary certificates are still based mainly on paper documents and require repetitive submissions. Despite the information at the governmental portal⁸⁸ that electronic application is possible, the current practice shows that 'multi-agency' module for e-licensing services is still under development and not yet functioning with regard to the issuance of those permits and licences to legal entities.

4.5.2.1.4 Import procedures

On the import side, traders complain about the lack of clarity over the administrative procedures and documentary requirements. Border control agencies could demand additional support documents as they see fit. Major difficulties are related to obtaining and processing of the foreign Certificates of Origin, certificates of conformity and processing of foreign transport documents. The submission of import and transit declarations can be done electronically (with scanned documents) but efficiency gains are undermined by the requirement of submitting the original copies of the invoice, CMR and Certificates of Origin, including those issued in the EU. Current Moldovan customs rules and regulations allow eCMR but this creates some additional bureaucratic procedures for drivers, which makes them less time effective and creates some risks that are avoided by using paper CMR. Electronic submission of pre-arrival information for importers from the EU is not yet possible. The UNECE study⁸⁹ strongly recommended a development and implementation of pre-arrival declaration procedures and further development of the ASYCUDA World system to allow for extending online submission of customs declarations to other customs regimes such as transit, warehouse, temporary admission and releasing good.

4.5.2.1.5 Payment procedures

Moldovan banks process cross-border T/T payments by means of fully operational online services and traders can also do payments via Governmental M-Pay system. Customs duties and fees are paid electronically as well. Customs refunds are submitted to the tax service online but must be supported by paper copies of other required documents. VAT and excise taxes and customs payments are automatically processed by the customs IT system which is interconnected to the fiscal authority database.

4.5.2.2 Roadmap

Moldova is bound by the Association Agreement with the EU and has developed an advanced eGovernance infrastructure with modern information systems and sectorial Single Window solutions in the governmental agencies. Therefore, the following roadmap focuses on effective use of the existing infrastructure and systems to be integrated into the national paperless trade platform. The current state of play in Moldova and the proposed steps on the road to the integrated NPTS are presented in Figure 13.

4.5.2.2.1 National framework for paperless trade

Harmonisation of legal framework.

⁸⁸ www.servicii.gov.md

⁸⁹ Trade Facilitation and Paperless Trade Implementation Survey 2015. Europe and Central Asia Report, UNECE, 2015

- Modernise and develop national regulations for eCommerce and digital platforms to create a paperless trade legal environment, and to ensure that cross-border electronic data exchange and trade transactions are harmonised with the EU *acquis* and eIDAS Regulation.
- Update the relevant national legislation with components related to the regulations of national Single Window in Moldova.
- Revise the customs code and its implementing provisions to ensure harmonisation with the Union Customs Code (UCC) of the EU.

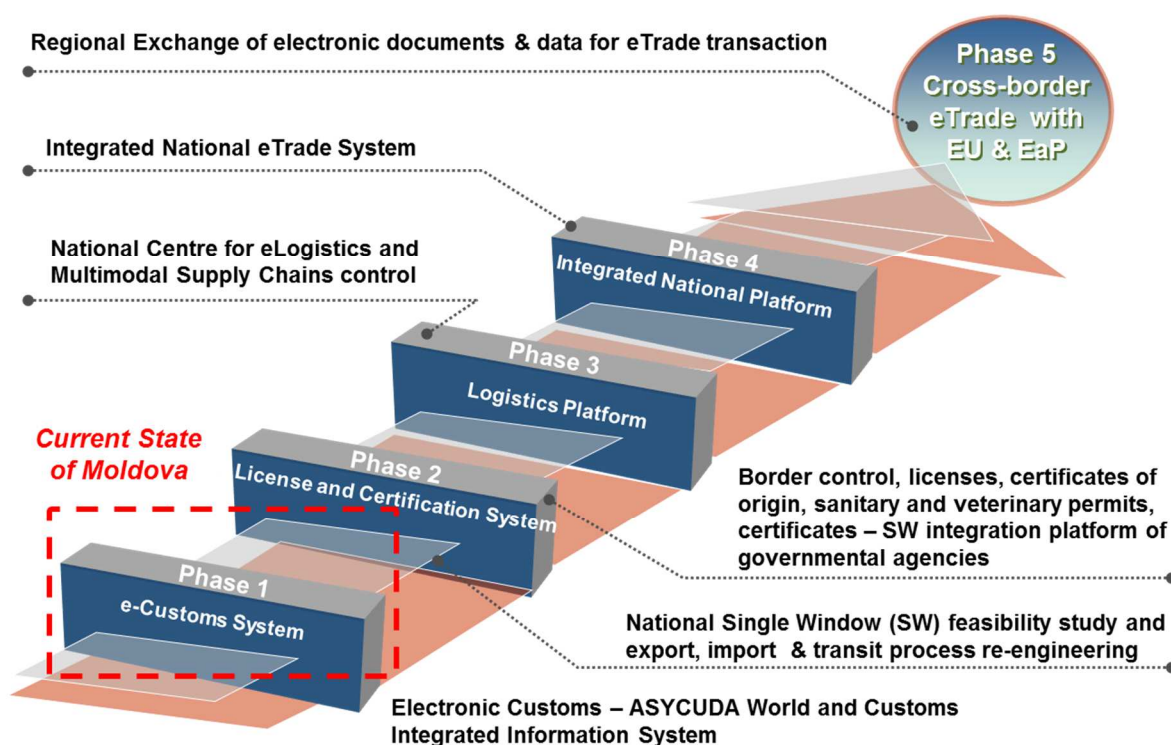
Governmental Decision on Electronic Trade Facilitation.

- Develop and adopt the Council of Ministers Decision dedicated to electronic trade facilitation in Moldova aligned with the European Commission Decision on a paperless environment for customs and trade (Decision 70/2008/EC), and based on the WTO TFA provisions.
- At the NPTS development stage, ensure the interoperability of the national Single Window with the international paperless trade systems in accordance with the latest UNECE recommendations and European Interoperability Framework.

National Single Window Feasibility Study.

- The NPTS feasibility study is worthwhile undertaking to form the common understanding of governmental bodies and include the corresponding strategic project in the 'Digital Moldova' 2020 programme to build the missing components of the digital market infrastructure and facilitate the creation of the paperless trade environment in the country.
- Undertake a relevant project with the main goal to analyse the country readiness for NPTS implementation and development of its organisational and financial models.

Figure 13 – Main phases of NPTS development in Moldova



4.5.2.2.2 Export, import and transit procedures re-engineering and digitalisation

- Conduct a detailed business process analysis within and across the State agencies involved in supporting export and import activities.
- Focus this analysis on: (i) document flow; (ii) data flow and data harmonisation issues; (iii) and, the regulatory requirements of each SW agency; (iv) and, the administrative procedures for issuing trade documents.
- To streamline the import-export processes, limit the lists of required documents to the minimum necessary.
- Harmonise all current trade documents into a single electronic form.

During re-engineering activities, further revision and development of complex supply chain management processes should be undertaken. These measures are required to accelerate the cross-border and cross-sector use of electronic identification (eID), including mobile ID, and trust services (in particular eSignature, website authentication and online registered delivery services).

Further development of cross-border trade business processes is required with the EU MS and Eastern Partners countries at B2B and B2C levels as well as adoption of CEF digital building blocks approach. Common seamless flow of information requires the definition of common data requirements, such as WCO Data Model, and implementation of interoperability interfaces.

For harmonisation with the EU base line in electronic trade, the following steps and actions can be recommended to the following Moldovan governmental bodies:

Ministry of Economy and Infrastructure:

- Modernise the 'multi-agency' module of the corresponding information system to provide paperless services in a way harmonised with the EU systems for Electronic Certificates of Origin and EU TRACES. The governmental Single Window system may be extended by electronic service for online application for export licences. Besides, the governmental Single Window should integrate an electronic Single Application Form for trade permits and certificates of conformity. This single form should allow for once-only submission of all data required by different agencies. The national interoperability framework will make available electronic permits and certificates to other state agencies and to the Customs Service of Moldova.
- Automate registration of exporters in the Registered Exporter System (REX) – such automation established in non-EU countries (GSP beneficiary countries) and exporting goods to the EU under preferential trade arrangements will replace current paper-based self-certification process. Data on Moldovan exporters registered with the competent national authority will be submitted to the REX. This entitles Moldovan exporters to make out statements on origin.
- The governmental Single Window could also be extended to allow the traders and their transport service providers to submit transport documents in electronic format (eLogistics Single Window). Electronic documents signed by digital signature or EDI format of transport documents such as CMR international consignment note, CIM consignment note, air waybill, multimodal bill of lading, packing list will be submitted to the trade documents kept in MCloud. The Customs Service and other state agencies will be able to access them in electronic format.

Customs Service:

- Implement data exchange between ASYCUDA Word system and the EU New Computerised Transit System (NCTS).
- Explore the opportunity to customise the PRINEX solution for pre-arrival declaration system with the EU Member States.
- Consider a more focused approach to the development of border crossing points on the base of the best EU practises for Integrated Border Management.

Ministry of Agriculture, Regional Development and Environment of Moldova:

- Develop online procedures to apply for and obtain sanitary, phytosanitary, veterinary permits and certificates in an electronic format.
- Modernise the corresponding component of 'multi-agency module' to harmonise the paperless trade services in with the EU TRACES.
- Integration of the permit system of the Moldovan Ministry with the TRAdE Control and Expert System (TRACES) will allow harmonised export certificates of Moldovan exporters of live animals and animal products to be available for the EU authorities and importers. Veterinary permits will be automatically available in the last updated version and translated into all EU official languages. This will speed up the administrative processes at the EU Border Entry Points. For import from the EU, integration with TRACES will allow getting several certificates and documents about live animals and animal products, plants and plant products imported from the EU to Moldova.

4.5.2.2.3 Nationwide digital platforms and projects

Following the phase of trade procedures re-engineering and governmental information systems modernisation, the main nationwide digital platforms should be implemented.

Modernisation of the governmental Single Window platform to be used as NPTS portal.

Create the online platform integrating the existing elements of national digital infrastructure and information systems of the governmental agencies into the Single Window portal for foreign trade in Moldova.

National platform for eLogistics (phase 3). Create the integration platform for multimodal supply-chain management and control with cargo/goods flow tracking (to be described in more details in the eLogistics section of the country report).

At the 4th stage all the above platforms and systems should be integrated in a full-scale National Paperless Trade System and the NPTS operator should be defined and authorised by the government to provide a complete portfolio of paperless trade services. Such entity should act as the National Centre for eTrade services certification. To ensure the provision of cross-border eTrade services for businesses among the EaP Countries and with the EU the interoperability of the national modules for eInvoicing, eDelivery, eID, eSignature should be provided with the corresponding CEF Building Blocks.

While developing NPTS in Moldova, the system should be made interoperable with the European Information System (EIS) which allows exchange of electronic information between any EU authorities and agencies involved in import and export transactions with third parties if an international agreement so provides. Electronic trade transactions and exchange of information can include electronic export and import permits, transport documents and electronic Certificates of Origin, etc.

4.5.3 Electronic Logistics

4.5.3.1 State of play and gap analysis

4.5.3.1.1 Road transport

eCMR is not used in road transport in Moldova, although some brokers may have such possibility. Due to the related fiscal issues (with VAT refunding that requires original sealed CMRs) and many copies necessary, logistics and transport companies prefer using paper-based CMR. This is due to the rather cumbersome procedures whereby accompanying original documents might be required which would extend the transport time in case of their absence.

Waybill. So far, selected private companies (mostly transnational ones) use the electronic way-billing system (mostly their corporate systems). Also state companies (like State Post and Registry) use such systems, which are developed by both local IT companies (like AlfaSoft) and international ones. However, there are no specific rules and regulations for electronic cross-border way-billing that impose the use of a such system by all road transport operators.

Payment of road tax for cargo vehicles and passengers' cars. All three methods (cash, card, e-payment) are available and most of companies already switched to e-payments.

4.5.3.1.2 Rail transport

eSMGS. In 2011, Moldova announced its accession to the eSMGS system, however till now, no legislation has been enacted and no draft legislation is being prepared. This is why the eSMGS has not been adopted as a standard procedure in the rail transport for cargo movement in Moldova. A kind of a pilot case was tested at Moldova's western Railway Border Crossing Point – Ungheni Cargo international railway station, which is the only trans-border checkpoint.

Freight train. Theoretically it is possible to use RoLa train, but due to the old infrastructure such transport is expensive and risky. It is used very rarely, and only until Ungheni (Western BCP).

4.5.3.1.3 Air transport

In Moldova all the air transport companies and carriers use electronic airway-billing systems.

4.5.3.1.4 Sea transport

Bill of lading. The only maritime port of Moldova is the Giurgiulesti Port (Giurgiulesti International Free Port) on Danube River. It offers its premises for various operators such as MSC MEDITERRANEAN SHIPPING COMPANY S.A, which have their own systems of electronic bill of lading (MSC Sea Waybill Terms and Conditions), available on their premises.

eManifest is not used in Moldova. Absence of a single window obstructs the harmonisation, coordination of information flows and procedures among involved governmental institutions.

4.5.3.1.5 Transport corridors

Electronic invoicing. Access to the tax electronic services (including e-Invoice) is ensured via the fiscal portal⁹⁰. The service is provided via state enterprise 'Fiscservinform'. Subscription to the service requires a submission of the company's statutory documents⁹¹.

⁹⁰ www.servicii.fisc.md.

⁹¹ see details at <https://servicii.fisc.md/Companies.aspx>

Electronic identification (eID). Electronic ID was launched in 2014 by the E-Government Centre in collaboration with several other government institutions. Also, in collaboration with mobile telecom providers, an Electronic Mobile ID service was created and launched into operation.

Export and import declarations for passengers. Types of declarations for passengers and procedure of their filling are defined in Customs Service's Orders based on general provisions of the Customs Code. Currently only paper declarations are available. There is no e-declaration service for passengers in place yet.

4.5.3.2 Roadmap

From the perspective of EU best practice and the context of the country, Moldova should focus on specific policy and pilot projects:

4.5.3.2.1 Road transport

- Review Legislative basis, accept and sign the Additional Protocol to the Convention on the Contract for the International Carriage of goods by road (CMR) concerning the Electronic Consignment Note.

4.5.3.2.2 Rail transport

- Finalise legislation amendment of eSMGS procedure.

4.5.3.2.3 Sea transport

- Create e-logistic single-window portal, managed by AEO, to fill bill of lading and e-manifest electronically.

4.5.3.2.4 Transport corridors

- Implement a pilot project of united stationary real-time system to monitor cargo movement in rail and road using the RFID technology (GS1 standard) in partnership with EaP Countries and one EU country;
- Create a unified national eID platform, interoperating with similar platforms across the EU;
- Implement an internal infrastructure for electronic export and import declaration through the Customs portal or an e-Kiosk available at every Customs border checkpoint.

4.6 Ukraine

4.6.1 Country profile

Trade facilitation is considered to be one of the main factors for successful integration of Ukraine with the EU and world markets. The proactive development of eTrade elements started in June 2011 with the initiative of the ICC Ukraine to implement a pilot project 'Single window – Local solution'.

National legislation

The main legislative acts regulating trade as well as eTrade/eLogistics in Ukraine⁹² are:

- The Law on Foreign Economic Activity of 16 April 1991, No. 959-XII admits the use of electronic invoice in certain types of transactions;
- The Law on Electronic Commerce of 3 March 2015 № 675-VIII, which relates directly or indirectly to electronic trade and introduces key changes to other legislative acts related to the general status of the electronic transactions;
- The Customs Code of 13 March 2012 No 4495-VI;
- The Decree of the Cabinet of Ministers No. 364 of 25 May 2016 on selected issues related to the implementation of the “Single Window” procedure for customs, sanitary, epidemiological, veterinary, phytosanitary, ecological, radiological and other kinds of state control.

Relevant national organisations

The main governmental body in charge of foreign economic activities and implementation of national measures related to paperless trade is the Ministry of Economic Development and Trade.

The State Fiscal Service (SFS) implements the state tax and customs policy and exercises control over the collection of taxes and dues, customs and other funds in the budget and state trust funds payments. This SFS is in charge of all customs procedures and their development. It implements and maintains ICT systems and technologies; implements automated procedures and electronic services for business entities.

In 2015, the State Agency for E-Governance was established in Ukraine and is responsible for the development of digital market infrastructures and systems.

In 2011, an Interagency Working Group on Trade and Logistics Facilitation in Ukraine was established and is composed of the representatives of most Ministries and Agencies as well as private businesses, chambers of commerce and associations related to transport, logistics and cross-border trade⁹³.

Decision-making process

The Cabinet of Ministers develops and approves detailed plans for the implementation of the measures containing task formulations, bodies responsible for implementation, and the dates for the fulfilment of assigned tasks by its acts.

National implementation plans

The main national activities for the development of paperless trade environment are stipulated in the above-mentioned Plan of Measures for the implementation of the Association Agreement between the EU and Ukraine with corresponding subsection consisted of Articles 139 and 140 ‘Cooperation on issues related to electronic commerce’. This subsection currently includes one item 121 ‘Regulatory and legal aspects of electronic commerce’. Besides, the draft version of Digital Agenda of Ukraine - 2020 ‘Conceptual framework’ included in 2016 several eTrade related articles.

⁹² The complete list of legislative acts regulating trade as well as eTrade/eLogistics in Ukraine is composed in Annexe.

⁹³ The complete list and contact details of Ukrainian organisations involved in the foreign economic activities and eTrade are tabulated in the Annexe.

International agreements

The recent impetus in the development of eTrade and eLogistics in Ukraine is considered to be due to the international agreements ratified by Ukraine.

In June 2014 Ukraine signed the Association Agreement with the EU, including the DCFTA, that contains a dedicated section on 'Electronic commerce' and 'Trade and trade-related issues' which should facilitate the development of paperless trade environment and cross-border supply of services in the country. In September 2014, the corresponding Plan of Measures for the implementation of the Association Agreement was adopted by the Government of Ukraine for 2014–2017.

In the Association Agreement between EU and Ukraine there is a number of actions related to the exchange of state information in accordance with the existing rules for cross-border exchange of state information services, in particular: border management (Article 16); non-adoption and non-maintaining any measure restricting the cross-border provision of electronic communication services (Article 121); gradual approximation to the law and the EU legal framework in the field of regulation of the information society and electronic communications (Article 394.1). Besides, Ukraine develops in the most active way the cooperation and international agreements on customs and transport procedures⁹⁴.

National best practices

In 2011–2012 the Ukrainian National Committee of the International Chamber of Commerce (ICC Ukraine) established, with the support of the Prime Minister, an expert Working Group on the implementation of the 'Single Window-local solution' project in the ports of Odessa region. The main goal was to implement the concept of simplification, harmonisation, standardisation and computerisation of international trade based on recommendations of UNECE and the World Customs Organisation.

This local project was undertaken to gain expertise and experience necessary to create the national 'Single Window' system. It brought Ukraine closer to the EU trade strategy, based on the networking between the Member States' 'Single Windows' systems processing cross-border transactions. Specific tasks included the development of appropriate software and information systems ensuring interoperability of public and private enterprises involved in the export/import and trade processes with the final aim of increasing foreign trade revenues. With such systems in place, the Ukrainian government and business community have achieved acceleration in the development of a favourable legal framework, harmonisation of data exchange between various stakeholders of the trade and transport process. 'Single window – Local solution' is the first step towards national 'Single Window' aiming at integration into European and international paperless supply chains.

International standards.

Ukraine applies international standards, technical specifications and recommendations of the following main international organisations for the development of digital market infrastructure: World Customs Organisation (WCO), United Nations Economic Commission for Europe (UNECE), International Standardisation Organisation (ISO), International Maritime Organisation (IMO), International Air Transport Association (IATA), International Civil Aviation Organisation (ICAO).

⁹⁴ The corresponding agreements signed, as well as international and national standards used in the country in the field of eTrade and eLogistics are listed in the Annexes.

ICT infrastructure and electronic services

On the base of these international and national standards, the following online platforms and systems have been developed in Ukraine for paperless trade facilitation:

- The State Fiscal Service uses the **Unified automated information system** for all customs procedures implemented in accordance with Decree of the Cabinet of Ministers 'On selected issues related to the implementation of the "Single Window" procedure for customs and other kinds of state control'. The Unified automated information system incorporates a single electronic database enabling various controlling authorities and customs offices to exchange automatically data on consignments passing the border of Ukraine and on the results of their inspection. This system also sets the procedures for information exchange between fiscal authorities, other state agencies and companies by using electronic data transfer tools.
- **Information Port Community System (IPCS)** is Single Window solution that integrates all participants of transport and cargo processes at the Black Sea ports of Ukraine into a single information space. The solution has capitalised on the experience of 'Single window – Local solution' project in Odessa port. It offers a possibility of accessing and exchanging information on import/export and transit processes based on the state-of-the-art digital and paperless technologies. IPCS was designed and implemented with the prospect of using the local experience. It creates a foundation for design of a national Single Window that should bring Ukraine to the development of full-scale paperless trade and eLogistics integrated system.

4.6.2 Paperless Trade

4.6.2.1 State of play and gap analysis

Figure 14 presents the overall status of digitisation of trade procedures in Ukraine. For each indicator, the black bar indicates the status of usage of paperless procedures in the country in each corresponding trade process.

4.6.2.1.1 National framework for paperless trade

The legal framework in Ukraine is reach enough in acts and regulations supporting the paperless trade environment but no practical steps have been taken towards the development and implementation of NPTS Single Window platform. The legal framework for cross-border electronic data exchange and trade transactions with the EU and Eastern Partner Countries needs to be developed based on bilateral agreements. Despite the success of IPCS and the local Single Window concept the NPTS project was not included in the Ukraine's Digital Agenda. A NPTS feasibility study should be undertaken in Ukraine to form the common understanding and political will of the government to build the required national digital market infrastructure and facilitate the integration of Ukraine into the international paperless supply chains.

4.6.2.1.2 Buying products and services

The e-Customs Single Window system provides the automated processing of the scanned commercial contracts and documents. For effective electronic data and commercial documents exchange inside the country, the nationwide EDI platforms and operators should be involved in paperless trade system development in Ukraine. To enable cross-border electronic transactions,

the national legal framework need to be harmonised with the legislation of the EU and Eastern Partner Countries. Import-export procedures need to be reengineered for eTrade. Banking institutions process L/C applications in electronic format. However, the administrative processes are still paper-based. The main obstacles for a wide usage of paperless trade procedures are outdated legislation and lack of ability of the public sector to process information workflow in the form of electronic data.

4.6.2.1.3 Export procedures

Submission of export declarations and processing of licences, permits and transport documents is done electronically through the customs Unified Information system. In other ministries and government agencies, the issuance and delivery of Certificates of Origin, export licences, permits and sanitary, phytosanitary and veterinary certificates is based mainly on paper documents. Besides, without the national Single Window platform and proper integration of the information systems of government agencies, exporters must submit documents several times and to different organisations.

4.6.2.1.4 Import procedures

The required import documents and permits can be submitted and processed in a paper form, in soft-copies (scanned) validated with digital signature, or in the form of an electronic document. Originals must be submitted with customs declaration at the point of clearance of goods. When goods are imported and released under a particular customs regime notified by the declarant, the procedure for submitting documents electronically through a single communication channel can be applied. According to this procedure, the declarant, together with the application in the form of an electronic document (validated with the digital signature), submits to the Unified Automated Information System of the State Fiscal Service scanned copies (also digitally signed) of documents and permits. The competent customs authorities have the opportunity, via an access to the information system, to carry out the necessary checks of electronic documents and notify the declarant on release decision status (including the possible need for submission of paper documents and/or physical inspections of goods). Electronic submission of pre-arrival information for importers from the EU is not possible yet though Ukraine has implemented a successful pilot PRINEX for pre-arrival declarations with Belarus.

4.6.2.1.5 Payment procedures

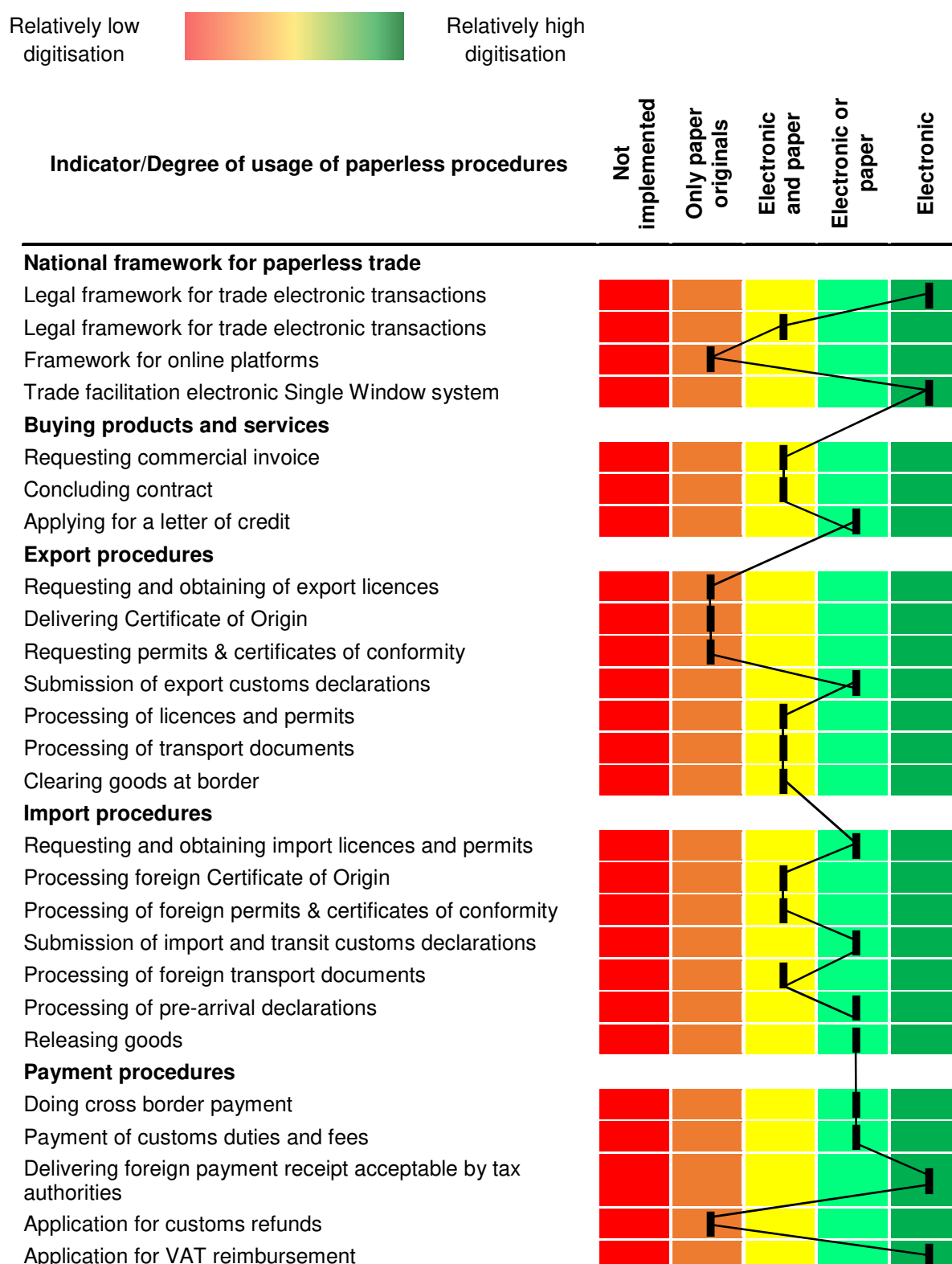
Ukrainian banks request copies of commercial documents for cross-border T/T payments. Customs duties and fees are paid electronically. Scanned copies, validated by digital signatures or electronic invoices issued abroad are accepted by the Ukrainian authorities as a proof of payment for imported goods. But the application for customs refund can be made only in the paper form. Request for VAT reimbursement is made by taxpayers in electronic form to the VAT return Register of the Ministry of Finance via Tax Authority's website.

4.6.2.2 Roadmap

As Ukraine is bound by the Association Agreement with the EU and has gained experience in implementation of local Single Window solutions (IPCS and eCustoms), the proposed roadmap is focused on effective use of the existing legal framework and best practices to streamline the development of the national Single Window paperless trade system.

The current state of play in Ukraine and the proposed steps on the road to the integrated NPTS are presented in Figure 15.

Figure 14 – Overall state of play of Ukraine in eTrade



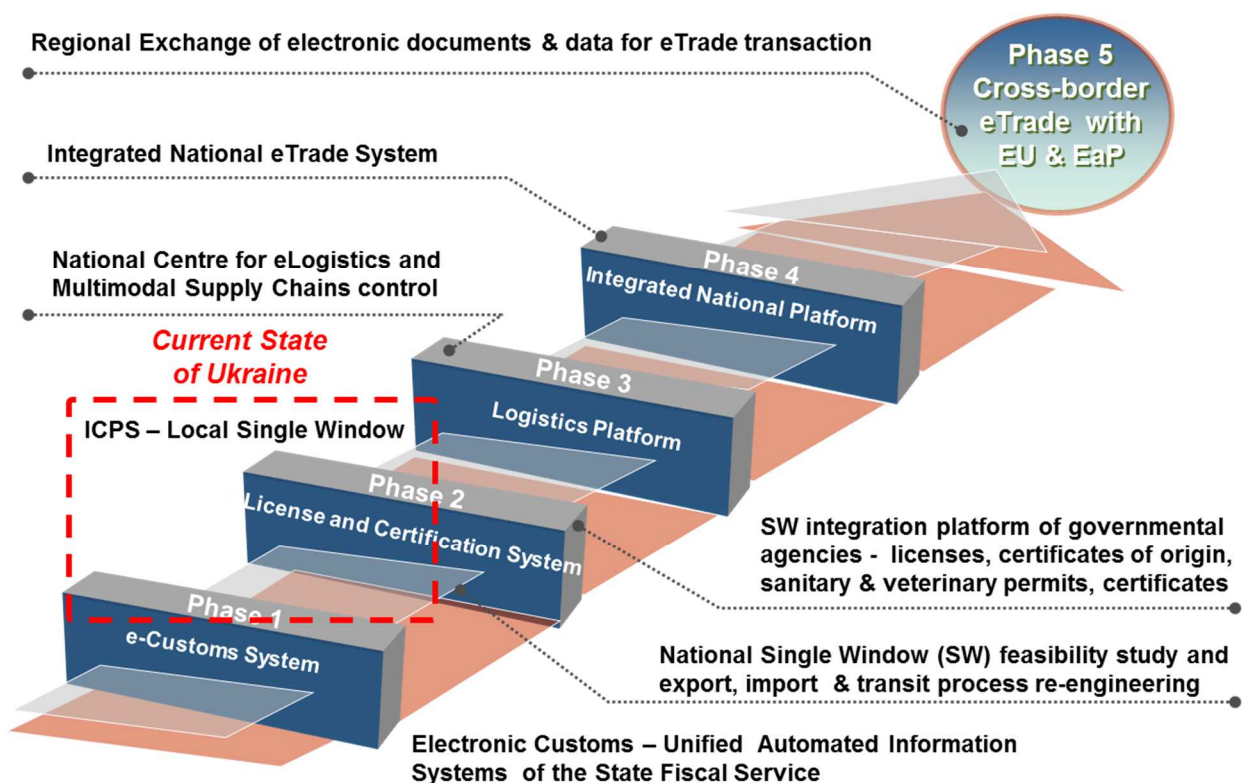
Source: results of interviews conducted in the EaP Countries by the study team

4.6.2.2.1 National framework for paperless trade

Harmonisation of legal framework.

- Amend and develop national regulations supporting a paperless trade environment, to ensure that cross-border electronic data exchange and trade transactions as well as operation of online platforms is harmonised with the EU *acquis* and eIDAS Regulation.
- Explore opportunities of signing additional agreements with the EU to pilot cross-border electronic trade transactions.

Figure 15 – Main phases of NPTS development in Ukraine



Governmental Decree on Electronic Trade Facilitation.

- Update and approve the national Single Window concept for foreign trade in Ukraine aligned with the European Commission Decision on a paperless environment for customs and trade (Decision 70/2008/EC), and based on the WTO TFA provisions.
- Ensure at the country NPTS development stage the interoperability of the national Single Window with the international paperless trade systems in accordance with the latest UNECE recommendations and European Interoperability Framework.

National Single Window Feasibility Study.

- Undertake a project to analyse Ukraine's readiness for NPTS implementation and development of its organisational and financial models.

4.6.2.2.2 Import, export and transit procedures re-engineering and digitalisation

Re-engineering of business processes for eTrade.

- A leading agency in this process should be nominated in Ukraine to ensure that the legal

and operational framework is appropriate to create the paperless environment for control agencies and traders and that interoperability between existing IT systems is achieved, while gaps and inconsistencies are filled in.

- Further efforts are needed to ensure development and implementation of existing international standards, technical specifications and recommendations.
- In the course of re-engineering activities, further revision and development of complex supply chain management processes should be undertaken to accelerate the cross-border and cross-sector use of electronic identification (eID), including mobile ID, and trust services (in particular eSignature, website authentication and online registered delivery services) based on electronic documents, best practices, and harmonised with the EU Customs regulations.
- Further development of cross-border trade business processes is required with the EU Member States and Eastern Partners countries at B2B and B2C levels as well as adoption of CEF digital building blocks approach, based on common seamless flow of information comprising common data requirements (such as WCO Data Model) and common interfaces.

As a result, the following steps and activities can be proposed to the Ukrainian governmental bodies for implementation in the eTrade area with the focus on harmonisation with the EU base line:

Ukrainian Chamber of Commerce and Industry (UCCI):

- Develop online procedures for application and delivery of electronic Certificates of Origin (C/O) and modernise the information system so that it can provide the necessary paperless trade services harmonised with the EU systems of Electronic C/O.
- The above service of electronic C/O should streamline the UCCI procedures and should be integrated into the Ukrainian NPTS portal. UCCI information system will interact with the system of the International Chamber of Commerce (ICC) International Certificate of Origin Global Accreditation Chain. This will allow Certificates of Origin delivered by UCCI to be available in the ICC CO Accreditation Chain.

Ministry of Ministry of Economic Development and Trade:

- It is recommended to extend the National Single Window system by creating electronic service for online application for export licences. The Ministry would use this system to receive electronic applications, to automate their processing and deliver electronic licences. Issuance of paper licences would not be required anymore if validity of any licence can be checked and validated online. Besides, the National Single Window should integrate an electronic Single Application Form for trade permits and certificates of conformity.
- This single form should allow for once-only submission of all data required by different agencies.
- Internal administrative processes within state agencies for issuance of the permits and certificates should be automated.
- a national interoperability framework would make electronic permits and certificates available to other state agencies, including the State Fiscal and Customs Service.
- Automate registration of exporters in the Registered Exporter System (REX) – such

automation established in non-EU countries (GSP beneficiary countries) and exporting goods to the EU under preferential trade arrangements would replace the current paper-based certification process.

- Data on Ukrainian exporters registered with the competent national authority would be submitted to the REX. This would entitle Ukrainian exporters to make statements on origin.

Ministry of Infrastructure:

- The National Single Window should be extended to allow the traders and their transport service providers to submit transport documents in electronic format (eLogistics Single Window).
- Electronic documents signed by digital signature or EDI format of transport documents such as CMR international consignment note, CIM consignment note, air waybill, multimodal bill of lading, packing list will be submitted to the Trade Documents Cloud of the National Single Window system. The Customs Service and other state agencies will be able to access them in electronic format.

Ministry of Agrarian Policy and Food and State Veterinary and Phytosanitary Service:

- Develop online procedures for application and delivery of sanitary, phytosanitary, veterinary permits and certificates in electronic format.
- Modernise the information system to provide paperless trade services harmonised with the EU TRACES. Integration of the permit system of the Ukrainian Ministry with the TRAdE Control and Expert System (TRACES) will allow harmonised export certificates of Ukrainian exporters of live animals and animal products to be available for the EU authorities and importers. Veterinary permits will be automatically available in the last updated version and translated into all EU official languages. This will speed up the administrative processes at the EU Border Entry Points. For import from the EU, integration with TRACES will allow getting several certificates and documents on live animals and animal products, plants and plant products imported from the EU to Ukraine.

The State Fiscal Service:

- Automate the delivery and processing of export documents for their submission in electronic format based on a Single Window approach.
- Extend the successful experience of PRINEX project into a pilot project on pre-arrival declaration solution with some EU Member States.
- Integrate the Ukrainian Customs System with the EU New Computerised Transit System (NCTS) – joining the customs transit system applied in the EU would create favourable conditions for trade enabling faster movement of goods, reduction of operational costs and supervision over the movement of shipments and prevention of misuse. This will require acceding to Common Transit Convention (CTC) and Simplification of Formalities in Trade of Goods Conventions (SAD) as well as by joining and subsequently integrating a NCTS.

The State Border Guard Service:

- Use the integrated border management approach to consolidate all the required export/import or transit procedures at the border crossing points.
- Develop and implement the core solution for local information system enabling and managing the paperless procedures at the border crossing points.

4.6.2.2.3 Nationwide digital platforms and projects

Following the phase of trade procedures re-engineering and governmental information systems modernisation, the main nationwide digital platforms should be implemented:

- **National Single Window integration platform.** Create the online platform integrating the existing elements of national digital infrastructure and information systems of the governmental agencies into the Single Window portal for foreign trade.
- **National e-Documents repository.** Create the electronic document repository which should ensure the management and storing of eTrade documents using a single mechanism including distribution and processing online.
- **National platform for eLogistics (phase 3).** Create the integration platform for multimodal supply-chain management and control with cargo/goods flow tracking⁹⁵.

At the 4th stage all the above platforms and systems should be integrated into a full-scale National System and the NPTS operator should be defined and authorised by the government to provide a complete portfolio of paperless trade services. Such entity should act as the National Centre for eTrade services certification. Besides, to ensure the provision of cross-border eTrade services for businesses among partners and with the EU the implementation of the national modules for eInvoicing, eDelivery, eID, eSignature as well as the corresponding international agreements will be required to get Ukraine's NPTS ready for regional eTrade transactions. At the final stage, the Ukrainian NPTS should be made interoperable with the European Information System (EIS) which allows exchange of electronic information between any EU authorities and agencies involved in import and export transactions with third parties if an international agreement provides for this. The exchange of information can include electronic export and import permits, transport documents and electronic Certificates of Origin.

4.6.3 Electronic Logistics

4.6.3.1 State of play and gap analysis

4.6.3.1.1 Road transport

eCMR. Since Ukraine did not accede to the Additional Protocol to the Convention on the Contract for the International Carriage of Goods by Road (CMR) concerning the Electronic Consignment Note, eCMR is not used for cargo transport.

Waybill. There is no operable or a pilot projects for electronic way-billing system in place in Ukraine

Payment of road tax for cargo vehicles and passengers' cars. Enterprises pay quarterly tax on trucks by advance payments. As for taxes on cars paid by individual entrepreneurs (SPD), it is paid according to a scheme set up for individuals. Payment can be made in cash, at financial institutions, by card or by bank transfer through a banking institution.

⁹⁵ Described in more details in the eLogistics section of the country report.

4.6.3.1.2 Rail transport

eSMGS is used by 'UKRZALIZNYTSYA' (Ukrainian Railroads) to transport empty railroad wagons of the Russian Railways since January 21, 2013, and for dispatching of empty freight wagons to Belarus. However, an inland freight transport procedure similar to eSMGS is used. It is based on the National Consignment note. Starting from July 1, 2011 'Ukrzaliznytsya' introduced an electronic document circulation for the carriage of goods within Ukraine, thanks to which the time of registration of the goods was reduced by 8–10 times, and it has become possible for the shippers to carry out the necessary operations directly from their office.

Freight train. Ukraine has not implemented all necessary infrastructure for paperless procedures to facilitate the use of Ro-La platforms. Currently, it is possible to fulfil cross-border RoLa transport operations from/to Ukraine based on bilateral multimodal agreements.

4.6.3.1.3 Air transport

Air waybill. Ukraine International Airlines is one of the airlines that joined the Multilateral e-AWB Agreement – the IATA Resolution 672. It provides a single standard agreement that airlines and freight forwarders can sign once with IATA and start doing e-AWB with all other parties. Nevertheless, Ukrainian providers widely use paper-based Air Waybill and information is still being cued in manually to submit it to the customs system.

4.6.3.1.4 Sea transport

Bill of lading. Some steps have been taken already on the introduction of e-Bills of Lading in maritime transport in Ukraine. Fragmentarily it is implemented at the sea ports when scanned copies are sent to the Port Community System and to the customs authorities in electronic way.

eManifest procedure is not widely used as it could be. It is used fragmentarily at sea ports of Ukraine when the shipping lines submit certain information from manifests (as for today related to sea containers) to the Port Community System, port authorities and customs authorities. There is also a pilot project to implement a Container Targeting System (CTS) based on an agreement between the WCO and Customs administration with the assistance of the Information Port Community System. At the same time, Ukrainian Sea Port Administration is on the way to implement the Regulation 2010/65/EU on Maritime Single Window with an eManifest component.

4.6.3.1.5 Transport corridors

Real time movement monitoring. In Ukraine the Customs authorities implemented the order of the Ministry of Finance 'On approval of the use of electronic locks with GPS function – GSM navigation. It determines conditions for the use of electronic locks with the information and telecommunication function of GPS – GSM navigation and the conditions for their registration and storage. It is used to ensure the identification of goods during their movement through the customs territory of Ukraine in accordance with the provisions of Article 326 of the Customs Code and is an integral part of the system of protection of transit movements.

Electronic invoicing. There is no specific system or a pilot project on e-Invoice in Ukraine. In practice, data from foreign e-Invoices or paper forms are cued into the corresponding fields of Customs Declaration Form (SAD), while originals are scanned and submitted as supporting documents.

Electronic identification (eID) is not used in international transport procedures.

Export and import declarations for passengers. Export and import declarations by

passengers/travellers (depending on their status) are submitted either in paper by passengers themselves or electronically via customs brokers when cargo is declared. The legal framework exists, but its technical implementation is not sufficient. Only about 4 million people have Electronic digital certificates (EDC) in Ukraine. Electronic ID cards, passports with the embedded EDC and Mobile ID (when the EDC are in the SIM-card of the phone) are not widely used.

4.6.3.2 Roadmap

From the perspective of EU best practice and in the light of the country context, Ukraine should focus on the following specific policies and pilot projects:

4.6.3.2.1 Road transport

- Review legislative basis, accept and sign the Additional Protocol to the Convention on the Contract for the International Carriage of goods by road (CMR) concerning the Electronic Consignment Note;
- Implement a pilot project for electronic Way-billing system.

4.6.3.2.2 Rail transport

- Expand RoLa train usage possibilities through collaboration agreements with other EaP Countries, participating in the 'Viking' project.

4.6.3.2.3 Sea transport

- Create e-logistics single-window portal, managed by an AEO, allowing electronic filling of bills of lading and e-manifests, which could be accessed from the existing systems.

4.6.3.2.4 Transport corridors

- Implement a pilot project of united stationary real-time systems to monitor cargo movement in rail and road by using RFID technology (GS1 standard) together with EaP Countries and one EU Member State;
- Create a legal framework for e-invoicing by signing and adopting required legislative documents;
- Create a unified national eID platform, interoperating with the similar platforms across the EU;
- Improve internal infrastructure for electronic export and import declarations.

5 REGIONAL ANALYSIS

5.1 State of play and gap analysis of the Region

5.1.1 Paperless Trade

The study has identified some areas where the Region has achieved good progress towards the cross-border electronic trade, and other areas that fully rely on paper documents.

As Figure 16 illustrates in a simplified way, the Region's countries have reached a quite high level in digitisation of payment procedures and in paperless import procedures. On the opposite side, buying products and services, and export procedures are the least digitised. The overall indicator is a rough attempt to measure digital progress and adoption at the Regional level.

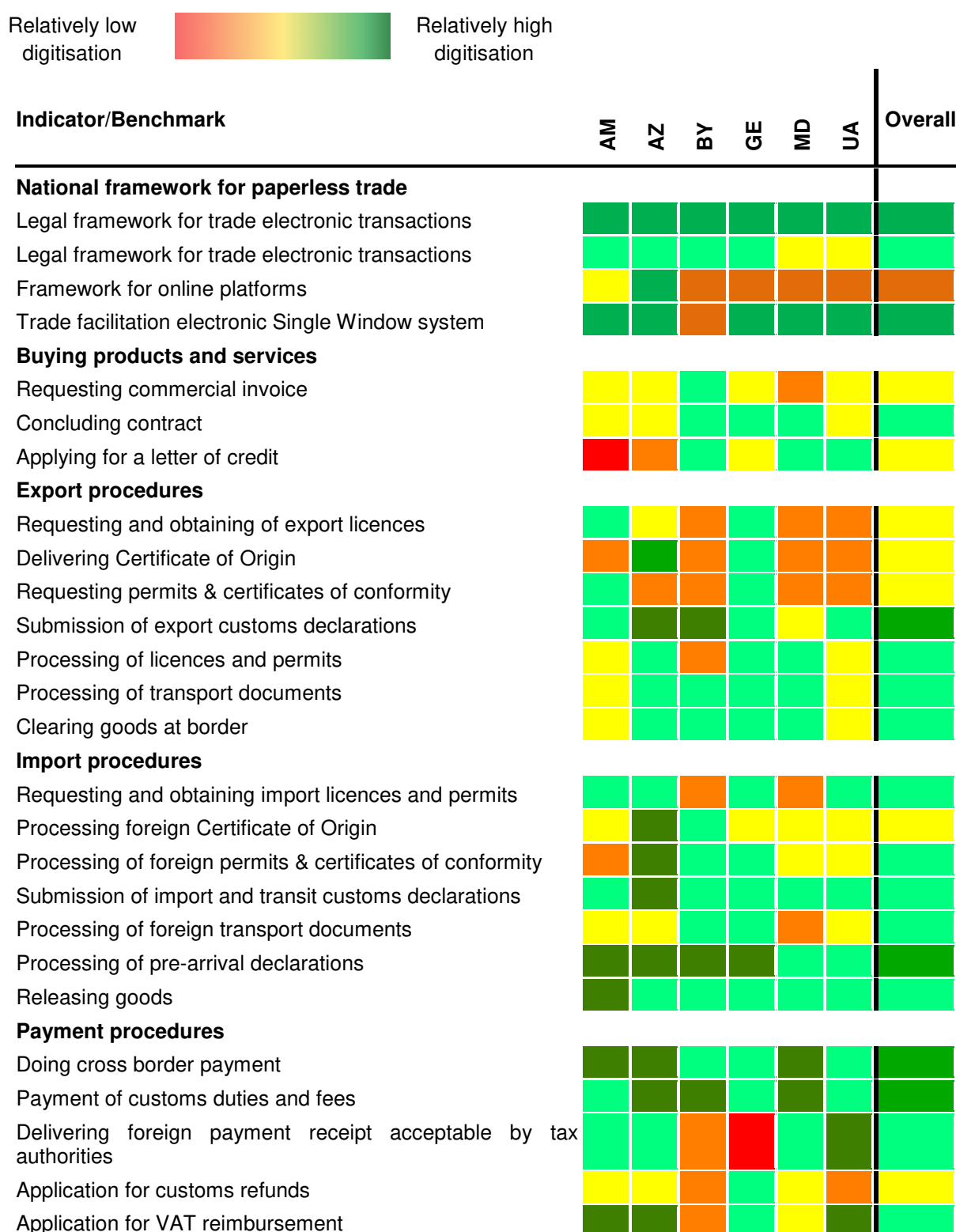
Digitalisation of procedures for processing of pre-arrival customs declarations and payment procedures of foreign trade are the areas of the electronic trade where all Partner Countries have achieved the biggest progress:

- **Processing of pre-arrival declarations** in all Partner Countries is conducted in electronic format. Pre-arrival processing allows traders to submit declarations and supporting documents to the customs for advance processing and releasing of goods faster upon arrival of the goods into the country.
- **Cross border payments of B2B and B2C transactions** can be conducted by traders in all Partner Countries to other countries via online banking.
- **Payment of customs duties and fees** is done via online bank transfers or through electronic payment gateways available at government portals. In most of the countries payments of customs duties can also be made through payment terminals, web and mobile applications, and online payment operators.

The weakest area of electronic trade in the Partner Countries is the digitalisation of the export procedures. Most of procedures for issuance of export documents, such as export licences and permits, are still based on paper documents and administrative procedures are not automated.

Administrative processes of **requesting and obtaining permits (phytosanitary, veterinary, and others) and certificates of conformity for exported goods** are available in electronic form only in two countries (Armenia and Georgia). Applications for permits and certificates of conformity in other four countries are submitted in hard copies. Traders are required to submit the same data and information to different authorities. In several Partner Countries, the customs services have no access to electronic data about permits and certificates of conformity issued and managed by public agencies and ministries. This issue indicates the weakness of the interoperability between information systems of different public organisations. By consequence, traders must scan paper certificates or permits and then submit soft copies electronically to the customs together with customs declaration. Unavailability of electronic data about the issued permits and certificates of conformity obstructs cross-border verification and validation of certificates and permits between the relevant authorities of different countries, such as with TRACES of the EC DG Health and Consumer Protection.

Figure 16 – Overall state of play and gaps of the Region in eTrade



Source: results of interviews conducted in the EaP Countries by the Study Team

The process of **requesting and obtaining export licences** is digitised in three countries (Armenia, Azerbaijan and Georgia), but in Azerbaijan an electronic application must be duplicated by its paper copy with all its supporting documents. Applications for permits and certificates of conformity in other Partner Countries are submitted only in a paper form. Most of data related to

traders and their activities that are required to get an export licence are generally contained in electronic registers of different public organisations (business register, registers of state agencies regulating different types of business activities, tax services). However, insufficient interoperability of information systems of different government agencies obstructs automation of the processes of application for export licences. For comparison: EU Member States manage individual online databases for processing licenses applications. Most of licences can be applied for online. The best EU practises are SPIRE - the UK⁹⁶ export licensing system, and Irish Online Export Licensing Application System (OELAS)⁹⁷.

Submission of application electronically and delivery of the Certificate of Origin in electronic form is only available in Azerbaijan and Georgia. All other Partner Countries use entirely paper-based procedures – from application to the delivery as paper originals. Electronic Certificate of Origin ensures a greater level of transparency, reduce costs and save time among customs administrations, exporters, importers, banks and stakeholders. Its use also enhances and raises the level of acceptability of Electronic Certificate of Origin for letter of credit clearance, insurance companies and importers. None of the Partner Countries participates in the International Chamber of Commerce International Certificate of Origin Global Accreditation Chain (ICC World Chambers Federation) that make it possible for Chambers and customs authorities to verify the authenticity of Certificates of Origin online. There are no systems in place between the EaP Countries that allow bilateral or multilateral online verification of issued Certificates of Origin. By consequence, all Partner Countries still must verify them by phone or fax.

Application for customs refunds can be submitted electronically in Armenia, Azerbaijan, Moldova and Georgia. However, in Moldova, electronic requests for customs refunds must be supported by the paper copies of the required documents. In Ukraine, applications for refunds of amounts taken by mistake and/or paid in excess by the taxpayer is carried out based on the submitted additional customs declaration or corrigendum sheet to customs declaration.

5.1.2 *Electronic Logistics*

As it was the case for eTrade, also in eLogistics the assessment of individual EaP Countries has identified areas where the Region has achieved good progress, and other areas that are still based on paper documents.

Błąd! Nie można odnaleźć źródła odwołania. illustrates that the Region has achieved a quite high level in implementation of solutions of electronic identification in logistics. The Region, on average, has widely implemented electronic solutions for road tax payment for cargo and passenger vehicles. On the opposite end, the least developed areas are the usage of electronic letters for road transport under the Convention of Road Transport of Goods (eCMS), the usage of RFID and electronic seals for monitoring of cargo movement in real time and the implementation of online export and import declarations for passengers.


Apparently, none of the Eastern Partnership Countries has a single state entity responsible for the paperless trade and electronic logistics.

Ministries responsible for economic development in the EaP Countries make certain progress in taking on board the relevant EU acquis and best practices. Nevertheless, none of the six countries has a specialised state agency responsible for the paperless trade and electronic logistics. Therefore, decision-making process in these areas is fragmented.

⁹⁶ <https://www.spire.trade.gov.uk>

⁹⁷ <https://oelas.djei.ie/>

Figure 17 – Technology gap of the Eastern Partnership countries in eLogistics

No solution implemented							Functioning and being used
	Legal background settled or pilot ongoing						
Indicator/Benchmark	AM	AZ	BY	GE	MD	UA	
eCMR usage in road and road-rail							
eSMGS procedure in rail transport							
RFID monitoring of cargo movement in real time							
eID Electronic identification systems							
eWaybill in road transport							
Road tax payment for cargo and passenger vehicles							
eManifest usage in sea transport	-		-				
eInvoice							
Ro-La crossing of border by cargo vehicles							
eSignature							
Online export/import declaration for passengers							

Source: results of interviews conducted in the EaP Countries by the Study Team

Electronic documents used in different transport modes such as road, sea or rail make a huge impact in terms of goods shipping and customs clearance time. Electronic waybill used for road transport is implemented in Ukraine only, who has developed very good logistics corridor, other EaP Countries still use paper documents.

Only Armenia has a slight improvement for eCMR usage and the other countries do not find it necessary. Although, this is not a trend yet in the EU as the first ever border crossing to use electronic consignment notes marks the launch of eCMR between Spain and France in January 2017. Part of a wider strategy to digitise trade facilitation systems, it offers increased efficiency and reduced operational costs.

A very similar situation stands for the eManifest, where Ukraine takes a breakthrough to lead the EaP Countries for using electronic document for the sea transport. Other countries of the Region either do not use it or are land-locked countries. The purpose of the Ukraine's Information Port Community System is to minimise paper documents circulation when performing technological operations at the port, optimising technological processes, reducing the time at each of the operations by providing all participants of the transport and freight process with operational, correct and legitimate information. It is worth mentioning, that Georgia has the new law on 'Electronic Document and Electronic Trust Services' that defines the general framework for the legal recognition of electronic documents and electronic signatures. TradeNet, part of the eTFS initiative, is a single-window portal for participants of the international trade operations enabling the entities involved in trade to exchange information electronically. So far, only seaport off-dock

terminal part of the chain is implemented. The system currently ensures the communication of the electronic manifest between shipping lines and the WCO Cargo Targeting System used by the Georgian customs for the risk management purposes. A very good practise that is also worth mentioning is evolving in Azerbaijan, who can be proud of its AzExport trade web portal⁹⁸, which was launched in December 2016. The portal is integrated with the most popular e-trading platforms makes the products available to potential buyers from anywhere in the world. Another recent best practice for the development of logistics is construction of new Baku Port.

Situation in rail-road electronic documentation (eSMGS) is significantly better, where Belarus has fully implemented the required systems. Moreover, these systems are also interoperable with Lithuanian's systems, the first case with the European Union member state. In fact, Ukraine has developed practices in eLogistics that include the use of an electronic transport document for the carriage of goods by rail. This transport document applies only for domestic transport. There is some positive progress in Georgia and Azerbaijan, who made first steps to implement the usage of electronic documents for rail. They still lacking behind.

Electronic identification systems, electronic signature and electronic invoicing reflect country readiness to cooperate with partners on digital platforms for financial aspects of trade. The electronic identification (eID) is a well-established service in the EU and EaP Countries are doing well in this area. Armenia, Azerbaijan, Georgia and Moldova have already implemented these services. Armenia has a well-established administrative framework for implementation of the initiatives in electronic logistics. However, at present there is no national implementation plan. EEC regulation is used for paperless procedures with the EEC member states. Electronic documents for electronic procedures with other countries are based on WCO data model. Armenia has the Single Window portal⁹⁹. The system is operational across the whole country but is not connected yet to other countries' systems.

Electronic invoice (eInvoice) is used or going to be used fully in almost all the EaP Countries, except in Ukraine. Despite of this fact, Ukraine has made progress towards the implementation of the eLogistics initiatives. The potential is reflected in the subsection of the Plan 'Accession to the Convention on Facilitation of Formalities in the Trade in Goods'. The cooperation aims at implementing national Information Society strategies, developing of a comprehensive regulatory framework for electronic communications, and increasing Ukraine's participation in the ICT research activities with the EU.

Electronic signature (eSignature) is used in all the Eastern Partnership Countries, except for Moldova, who needs to intensify its efforts to diminish the gap with the EU baseline. Management of critical information infrastructure, alert platforms, minimal security levels and cyber simulations score are even lower and need further attention. During the last 15 years, Moldova actively embraced digital transformation agenda and joined the open data initiative. Several legislative and normative acts have been sprawling.

Export declarations and movement tracking are the services of near future, where great examples come from EU, where RFID technology is used in the Scandinavian countries, especially in Sweden. As for the EaP Region, RFID monitoring of cargo movement in real time is only being tested within a pilot project in Ukraine. **The online export/import declaration** for passengers is used in the Region only in Azerbaijan. However, it is also not on a trend wave in the EU and around the world.

98 www.azexport.az

99 www.trade.gov.am

5.1.3 Digital Transport Corridors and their Feasibility Assessment

As it was stated in the Ministerial Declaration of the Eastern Partnership Countries on the Digital Economy¹⁰⁰ the coordinated development of transport and digital infrastructures is of paramount importance for effective cross-border eCommerce and eTrade in the EaP. There is a strong need for cross-border links of transport infrastructures and transport corridor connections between the EU and Partner Countries, as well as multimodal eLogistics platforms. Such platforms shall provide a portfolio of integrated added-value services to the main players of the supply chain - customs and tax authorities, trading companies, railway and cargo operators thus contributing to the development of the pan-European Digital Transport Corridors between the EU and the Partner Countries.

To address the above market demand, the European Commission set up in 2015 the Digital Transport and Logistics Forum (DTLF)¹⁰¹, which aims at fostering cooperation for the digitalisation of freight transport and logistics processes through electronic information exchange. One of the main themes the DTLF experts have been working on is the development of interoperable digital information systems to optimise cargo flows along transport corridors. Because of this development, the DTLF experts came up in April 2017 with the generic concept of a federative digital platform which is foreseen to bridge and interconnect many commercial and community logistic platforms in the EU, by integrating various technical solutions, different providers, and several individual systems of large public and private stakeholders in the trade supply chains.

Such a federative platform provides an overarching set of mutually agreed rules, allowing players in the supply chain to access and electronically share data. The main characteristics of the above generic concept are as follows:

- Definition/description of core specifications for sets of eLogistics services;
- Criteria according to which specifications should be developed;
- Rules on data categorisation;
- Principles of federated governance;
- Business models for better collaboration

Having considered the above approach as the EU base-line, a Digital Transport Corridor (DTC) concept was developed in the Eastern Partner Countries as a distributed and heterogeneous platform for collecting, processing and consolidation of information on vehicles, cargo and supplementary documentation at all stages of transport and technological operations. Such a platform is expected to enable a more effective transit, control and monitoring of transcontinental cargo flows via the territories of the Eastern Partnership Countries.

DTC is considered to become a digital cover which:

- Envelops the existing international transport corridors and creates an information environment for seamless cross-border electronic/paperless interaction between the main participants of supply chains and ensures effective administrative and customs procedures for transcontinental cargo shipments;
- Enables the supply chain visibility, cargo control and tracking along its whole transport line from the vendor to the client;
- Ensures harmonisation and balance of interests as well as provision of a comprehensive services portfolio to the core participants of international supply chains: clients, transport and logistic companies, freight forwarders, insurance companies, customs and border

¹⁰⁰ http://ec.europa.eu/newsroom/document.cfm?doc_id=42511

¹⁰¹ <http://www.dtlf.eu/>

control agencies.

DTC concept developed by the participants of EU4Digital: eTrade Network is based on the creation of a core integration platform for national eLogistics systems capable to serve multimodal cargo shipments on the road, railway and air transport. According to this concept, DTC is built as a Supply Chain Visibility (SCV) type of federated platform composed of national multimodal eLogistics systems in the participating countries. The core integration platform for national eLogistics systems is considered to become (in the terminology of EU CEF programme) the Building Block of Digital Infrastructure which can be developed for the support and provision of the effective cargo transit transport via main European transport corridors of TEN-T network and Eastern Partner Countries. In other words, such a digital platform should become the model «building block» which can be used by any Eastern Partner Country for a construction of national multimodal transport and interoperable eLogistics systems connected into international DTC chain serving transport corridors of the requested configuration.

In any country, DTC platform should perform functions of the information flows integrator and national eLogistics system processing the big data coming from the participants and controllers of multimodal cargo shipments as well as converting them into standardised electronic documents accompanying international transit cargo flows. In this way, a DTC platform, single-type means for cargo tracking and monitoring and standardised data formats and electronic documents can ensure interoperability of national segments of continental DTC and be integrated into scalable cloud-based system.

For SCV procedures and services it is important to use an advanced sub-system for vehicles control and cargo tracking & safety which can be based on RFID and electronic seal technologies. Such a sub-system would be a networked hardware-software solution enabling cargo control and safety in the whole transport line as well as optimisation of transport and logistics procedures in the real-time format.

During feasibility assessment, the following tasks were formulated for DTC implementation:

- Development and deployment of a core digital platform for multimodal eLogistics systems – the model DTC “building block”;
- DTC integration with information systems of the key participants of supply chain management and visibility processes;
- Selection of technology solutions for tracking and monitoring of cargo flows as well as their integration with a DTC platform;
- Ensuring adequate and timely access to transport and logistics data flows;
- Data synchronisation between DTC and external sources of information;
- Development of a standardised electronic documents portfolio for cargo flows;
- Generating consolidated reports for accountability and audit;
- Monitoring of DTC utilisation and operability;
- Ensuring information security;
- Development of a comprehensive digital services portfolio.

National eLogistics systems should form a digital transport corridor by collaborating with each other. Several good practices of transport corridors in the Eastern Partnership Countries and with the European Union already exist:

- The unified electronic system of preliminary exchange of information between customs services of Belarus and Ukraine;
- eSMGS document exchange agreement between Belarus, Ukraine and Lithuania and

Latvia;

- Organisation for Democracy and Economic Development GUAM (Georgia, Ukraine, Azerbaijan, and Moldova). Establishment of a free trade area between the GUAM Member States, harmonisation, acceleration and simplification of cross-border trading and movement procedures represents one of the core directions of activities of the organisation.
- The Revenue Service and the State Customs Committee of Azerbaijan signed an Administrative Agreement on Mutual Assistance in Customs Matters, which was based on the model WCO agreement. The agreement was signed at the WCO Europe Regional Conference of Customs Heads on March 17, 2014, in Tbilisi (Georgia). The conclusion of the administrative agreement will create a sound legal platform for information exchange between the two countries.

The proposed DTC concept is based on the national eLogistics systems which deal with the information flows generated in the supply chains. These national systems do not manage the related supply chains - this is the area of traditional transport logistics.

5.2 Benefit analysis

Harmonisation in paperless trade and electronic logistics seeks to eliminate differences between regulatory standards and to assure interoperability of information systems on grounds of economic efficiency. It stands as a trade policy development imperative between the EaP and the EU. Harmonisation in these areas is an efficient form of regulatory cooperation. It brings several benefits because it supposedly improves efficiency by reducing barriers to trade and thus better facilitates the flow of goods and services.

Digitalisation of logistics services and border crossing procedures increases the efficiency and the ease of doing trade, facilitates information sharing among all stakeholders participating in the trade supply chain. Digitisation also reduces costs associated with transporting goods from a producer to a consumer.

The opportunities created by eTrade, and in particular eLogistics of goods and services make it easier for businesses or consumers to find potential trade partners and to get information about regulations and standards related to their activities.

eTrade and eLogistics contribute to the reduction of costs related to the border crossing by increasing the efficiency of customs in risk assessment and management, transit. Implementation of eTrade and eLogistics technologies is aligned with the WTO TFA measures, including the implementation of the single window concept. Coordination and exchange of data among public and private entities, i.e. customs authorities and freight forwarders, can facilitate the implementation of transit agreements, helping to generate returns on investments and fiscal gain.

Digitalisation of trade and customs documents and information about shipments boosts the adoption of electronic documents and involves the recognition of electronic signatures, standardisation of data exchanges and interoperability across applications and systems, cyber security, and legal validity of electronic documents.

5.2.1 Paperless Trade

Harmonisation in eTrade at multilateral level between the EU and individual Partner Countries is highly challenging for a number of reasons. Instead, a harmonisation between the Partner Countries as a Region and the EU would bring more benefits at two levels. First, the

harmonisation of regulatory and technical principles between the Partner Countries, based on the EU best practices, will create a common basis for development of eTrade in the Region. Secondly, further harmonisation between the EU and the Region would be easier than a multilateral harmonisation with each individual country. Several economic, political and social benefits from harmonisation are expected in each Partner Country and the EaP as a whole.

According to the results of different studies, direct and indirect costs associated with trade documentation and cumbersome trade procedures are estimated at 1 to 15% of value of goods traded (for example, it makes about 350 billion USD annually for Asia and the Pacific regional trade)¹⁰². One day of delay prior to shipment reduces trade by 1%. A 5% reduction in direct export costs results in a 4% increase in exports.

The report of UNESCAP¹⁰³ shows that cross-border paperless trade has significant potential to reduce trade costs and boost trade. For the Asia-Pacific region, partial implementation of cross-border paperless trade measures would reduce the time required to export by 24% to 44%, and the direct costs by 17% to 31%, depending on the reform scenario considered.

The UNESCAP survey¹⁰⁴ measured that a 10% increase in a country's paperless trade implementation score is associated with an approximately 6% decrease in both export and import times. This means that implementing one extra measure would be associated with a decrease in trade times of about 8% for a hypothetical country with the regional average level of paperless trade implementation.

5.2.1.1 National framework for paperless trade

DFAT and FTEC¹⁰⁵ provide an estimate of the direct and indirect economic benefits from paperless trade among APEC economics. The removal of mandatory requirements for paper-based documents in international trade leads to cost savings ranging from 1.5% to 15% of the landed price of goods, depending on the product in question.

Developing of a **regional framework for trade-related electronic transactions** (a harmonised vision, strategy, objectives and milestones) will create a common understanding among the EaP Countries about the necessary paperless environment for logistics and trade among them. The governments will be able to deploy resources more effectively and efficiently.

Establishment of a legal framework for cross-border electronic data exchange among the Partner Countries and with the EU will create required conditions for a digital single market between the EaP Countries and the EU. The main benefits include improved traders compliance for cross-border paperless trade, enhanced security of trade operations, and increased integrity and transparency of the trade legal framework.

Development of harmonised interoperability principles between the Partner Countries and interoperability framework between the EaP Region as the whole and the EU will provide guidance regarding the interaction, exchange and cooperation between the EaP public administrations for the delivery of public services across national borders and sectors.

¹⁰² Y. Duval, Trade facilitation : ESCAP perspective and update, UNESCAP, 2016

¹⁰³ Ben Shepherd, Estimating the Benefits of Cross-Border Paperless Trade, UNESCAP, 2014

¹⁰⁴ UNESCAP, "Study on Regional Arrangements for Facilitation of Cross-Border Paperless Trade in Asia and the Pacific.", 2013, <http://www.unescap.org/tid/projects/bpatf-report.pdf>.

¹⁰⁵ DFAT and FTEC, "Paperless Trading: Benefits to APEC.", 2001, http://publications.apec.org/publication-detail.php?pub_id=5

Defining technical requirements for interoperability between the national electronic Single Window systems will allow economic operators to lodge electronically, and only once, all the information required by customs and non-custom legislation for the EU, EaP and cross-border movements of goods. The Partner Countries will benefit from commonly developed functional and technical specifications for information systems. This will significantly reduce cost of implementation of information systems and services required for cross-border paperless trade between the Region and the EU. Each Partner Country would benefit from similar experience of another Country. Standard building Blocks could be jointly developed and disseminated among the Partner Countries.

5.2.1.2 Buying products and services

Setting up a framework for mutual recognition of electronic contracts and invoices among the Eastern Partnership Countries will remove obstacles to the uptake of e-invoicing for cross-border trade operations by creating equal treatment between paper and e-invoices in the Region. Economic benefits will include reduced expenses by businesses and administrations for producing, processing, storing, dispatching of original paper documents across borders. Digitisation of these processes increase transparency and thus reduce corruption risks.

Setting up a framework for mutual recognition of electronic contracts and invoices between the Region and the EU for cross-border trade operations will simplify administrative processes and accelerate processing of trade documents. The most important benefit will be a better assurance of the authenticity of the origin and integrity of the content of invoices and contracts. These measures increase safety of business transactions, reduce possibility of fraud. Access to electronic files and electronic invoices tightens the tax and duties collection system and thus help prevent/detect fraud and reduce tax evasion.

5.2.1.3 Export procedures

Fully paperless technologies will make export procedures cheaper. The cost of export will decline and stimulate export from the Region. Another important benefit from introducing paperless export procedures is increased trust in documents issued in the Partner Countries. Documents signed electronically and submitted via trusted electronic channels will reduce the risk management effort of customs authorities in the EU countries and correspondingly simplify trade operations for EaP traders. Less risk-management related procedures, such as physical examination of documents, will be required.

Connecting to the SIGL system of import licences managed by the Directorate General for Trade will provide real-time information to traders of the EaP Countries on quota levels, licensed amounts by Member State for imports of clothing, footwear, steel and wood products applied in the European Union.

Integrating into the Certificate of Origin Global Accreditation Chain of the national Chambers of Commerce electronic Certificate of Origin systems of the Partner Countries will allow validation of the Certificates of Origin delivered in the EU and in the Partner Countries. Economic benefits from dematerialisation of the verification processes will be complemented by significant benefits from safer supplies of imported goods with confirmed origin.

APEC PSU¹⁰⁶ studies the benefits of introduction of electronic Certificates of Origin in cross-border paperless trade. The report is based on a small survey of Korean and Taiwanese traders who benefitted from a new electronic Certificate of Origin program. The study extrapolates these results (in percentage of baseline terms) to other APEC economies using the corresponding figures for per shipment document preparation and border clearance costs in the World Bank's Doing Business database. The report indicates that APEC region-wide adoption of electronic Certificates of Origin would result in cost savings of 6.79% of the baseline.

Creating of a Regional transit system and its integration with the New Computerised Transit System of the EU will bring significant benefits to cross border trade, make the economies of the Region more competitive and facilitate its linkages to the EU trading system. A computerised and operational transit system working in all EU Member States and the Eastern Partner Countries would allow simplification of duties, taxes and commercial policy measures that are applicable at import, thereby allowing customs clearance formalities to take place at the destination, simplify transit through the EaP Countries and significantly accelerate customs procedures in transit countries.

5.2.1.4 Import procedures

Documents, issued electronically in the EU Member States and submitted to the EaP Countries' customs administration via trusted electronic channels will significantly simplify local risk management procedures. The customs will also have access to the originally issued electronic documents, such as contracts and invoices, enabling more effective mechanism for managing tariff risks for both exporting and importing countries. Paperless procedures significantly contribute to trade facilitation by simplifying procedures, saving time for customs control and clearance. The Partner Countries will be more visible as trusted trade partners.

Automating the validation of permits from TRACES system to import customs declarations from the EU provides automated validity checks of permits for goods imported from the EU Countries (this measure also works for export from the Eastern Partnership Countries to the EU) to the EaP Countries. Benefits include exclusion of counterfeited import permits that increases product safety. The EaP Countries will make significant economies by reducing manual control and verification of import permits. In addition, TRACES allows communication between the national competent authorities of the EaP Countries and with EU and EFTA countries, to speed up the administrative processes at the EU Border Entry Point.

Exchanging of pre-arrival declarations between the Partner Countries and with the EU will offer faster customs clearance and reduction of customs controls for the goods exported by participating Authorised Economic Operators from the EU Member States and the Partner Countries. Less cuing on border makes drivers work more effective and increases their work satisfaction (they drive rather than standing in the lines at borders).

Implementing eATA Carnet between the Partner Countries and the EU will facilitate business of the Partner Countries to have a duty-free temporary export of goods for up to one year to the EU countries.

106 APEC PSU, "Facilitating Electronic Commerce in APEC: A Case Study of Electronic Certificate of Origin.", 2011, http://publications.apec.org/publication-detail.php?pub_id=1215

5.2.1.5 Payment procedures

Electronic presentations of letter of credit documents between major banks of the Partner Countries and the EU will bring the benefits of cost reduction through operational efficiency because traditional paper documents have much higher operational costs compared to electronic documents (domestic Document gathering costs, international courier costs). Financial advantages will be achieved by reaching to payments faster via online presentations¹⁰⁷. Electronic letters of credit could eliminate or at least reduce various risks of the exporters and importers because electronic documents can be corrected easily which makes them less risky in terms of refusals by the issuing banks. Introduction of electronic processing of the letter of credit will simplify the international trade procedure, increase trust between trading partners, and simplify the reimbursement procedure in the case of resolution of disputes between the trading partners.

5.2.2 Electronic Logistics

The current legislative framework in all EaP Countries needs to be profoundly analysed and approximated with the EU legal requirements from the perspective of benefits from the harmonisation. The private sector should be involved from the initial phase in discussions and proposals development.

If the status of Authorised Economic Operator granted by one Partner Country or one EU Member State is recognised by the other Partner Countries and by any Member State, the Authorised Economic Operators will benefit from facilitated customs controls, increased security of transactions, and simplifications available under customs rules in the ensemble of the countries.

For example, economic operators from any EU or EaP Country can use a service jointly developed by the EaP Countries (submission of transit declaration). It would mean that customs administrations will not implement functionality (or systems) offering those same services. It will contribute to effective harmonisation of interfaces for free cargo movement through logistics chains via multimodal transport and eliminate redundant implementations of services of common functionality at the EU Member States and the EaP Countries level.

The use of RFID-enabled cargo monitoring brings several benefits. If a cargo has RFID badges, transport operators can use electronic documents and save about 10-15 % of logistics costs. Logistics and consumer retail are expected to undergo significant growth in RFID system use. The implementation of RFID technologies is expected to grow, driven by the trend of replacement of bar code in consumer sector¹⁰⁸.

During the Trafikverket project of Swedish Transport Administration of railroad monitoring, 300 RFID readers were installed and 500 wagons were marked with RFID tags. The conclusion of the project was that RFID technology greatly increases the efficiency of railroad operations but since 60-70% of containers come to Sweden from other EU countries there is a need of standardised information exchange system.

Viking train project promoted the use of the new CIM/SMGS consignment note that does not require rewriting documents, and the whole transport can be done using only one consignment note that can be issued electronically. Both contracts of carriage can be shown on a single sheet of paper. The consignment note is recognised as a banking document if a letter of credit is used

¹⁰⁷ Under paper-based presentations, beneficiaries could collect all required letter of credit documents within 4–5 days after the date of shipment. Documents could reach to issuing banks or confirming banks via expedited courier services 3–7 days under normal conditions.

¹⁰⁸ RFID Journal March 2016

and export formalities may be completed at the time the traffic is consigned. Unifications of CIM/SMGS procedures facilitated the creation of the New Customs Transit System leading to a reduction in border crossing times, elimination of extra costs of activities with no added value, errors avoidance by eliminating the transcription of consignment notes when traffic is re-consigned and higher levels of legal certainty for all participants.

Harmonisation of EU Customs Single Window and EaP single windows bring benefits to enable economic operators to electronically lodge once-only all the information required by customs and non-customs legislation for EU and EaP cross-border movements of goods. The national single windows can be connected to one another and will be supported by the Single Electronic Access Point (SEAP).

A feasibility study on introduction of uniform user management and usage of digital instruments based on a common solution for technological innovations for the logistics chain participants and other related authorities related to external trade would be beneficial.

5.2.3 Digital Transport Corridor

The main advantage is to provide customers with real-time data on the cargo movement status with no territorial, technical or legal limits. The perspective is that the real-time data would be open between manufacturers or suppliers and between shippers. Better mutual transport cooperation, faster cargo movement, easier document processing is the way forward.

The vision is settled under the organisation of logistics part of the business process based on electronic transport documents. Paperless procedures will provide opportunity for a sleek and instant document exchange between freight forwarders and business, business and customs, government and consumers.

A national eLogistics ISS and data centres would form a unified information space, that combines Rail, Road, Air and Sea participants – clients, forwarding and port agents, hauliers, stevedores, consignees, etc., who use services in electronic form such as documents, signature, identification and other. The whole infrastructure monitoring could be based on RFID technology applications (such as tags, electronic seals, etc.)

The expected benefits from DTC implementation are as follows:

- Real-time and adequate information about the transported goods and cargo flows as well as the operative exchange of such information with the organisations and clients in DTC participating countries;
- Tracking and monitoring of cargo transits on the way to their final destination;
- Accessibility of cargo information to DTC system clients and participants of the core business processes (depending on the access rights);
- Cargo documents formation from the single information source and database;
- Evaluation of the cargo documents completeness before the actual transport;
- Minimisation of the human factor and level of possible administrative wrongdoings;
- Remote and automated cargo checking via the modern inspection technologies;
- Increased effectiveness of the cargo handling, less time for customs clearance and remote authorisation for goods transit.

5.3 Regional roadmap

5.3.1 Paperless Trade

The following regional roadmap presents activities required for the development of harmonised national platforms for electronic trade that are interoperating among the Partner Countries and between the Partner Countries and the EU. The activities are either at national level or jointly at regional level. They concern several improvements of the national legal frameworks, re-engineering of administrative processes, development of electronic services and implementation of technical infrastructures. The focus is on the integration and adaptation of the existing best practices and IT solutions of the EU countries that would allow faster development of electronic trade between the Region and the EU.

5.3.1.1 Regional framework for paperless trade

Create a regional framework for trade-related electronic transactions. Using as a best practice the Council Resolution (2003/C 305/01) on the paperless environment for customs and trade and the multi-annual Strategic Plan for the creation of a European electronic environment, the Partner Countries need to elaborate a common vision of modern paperless trade services communicating electronically within the Region and between the Region and the EU.

Establish a legal framework for cross-border electronic data exchange among the Partner Countries and with the EU. The national legislations of the Partner Countries would benefit from adoption of the main provisions of the Regulation on electronic identification and trust services (eIDAS). The framework should include provisions for electronic identification, electronic documents, electronic signatures, and for interoperating electronic trade services.

Develop an interoperability framework for the Region. Partner Countries need a common overarching strategic plan in the area of cross-border interoperability for trade-related electronic services between them. The Regional interoperability framework will assure the governance of their interoperability activities, establish cross-organisational relationships, streamline processes supporting end-to-end digital services, and align both existing and new legislation.

Develop a harmonised interoperability framework between the Partner Countries and the EU. The Eastern Partnership countries will need to harmonise the EaP Interoperability Framework with the provisions of the new European Interoperability Framework. It requires interoperability activities for electronic trade transaction between the Eastern Partnership countries and the EU, establishing of cross-organisational relationships, and streamlining processes supporting end-to-end digital services. The actions of the European Interoperability Framework¹⁰⁹ most relevant to the harmonisation in eTrade and eLogistics areas are:

- Providing cross-border access to government data;
- Harmonising with the European Interoperability Architecture;
- Multilingual knowledge management infrastructure for the Digital Single Market;
- Trusted Exchange Platform (e-TrustEx);
- European Location Interoperability Solutions for e-Government (ELISE);
- Interoperability agreements on electronic documents and electronic file.

Define interoperability between the national electronic Single Window systems. The Partner Countries and the EU Member States have national Single Window systems at different

¹⁰⁹ https://ec.europa.eu/isa2/actions_en

levels of sophistication. At present, these Single Window systems do not allow exchange of data between them. To accelerate cross-border electronic trade, the Partner Countries need to establish a mechanism required for the interconnectivity of two or more Single Window facilities. The interconnectivity addresses the need for cross-border trade information exchange that requires the exchange of data/information beyond the national Single Window, i.e. across the border. The activity should take into account the Decision on a paperless environment for customs and trade (Decision 70/2008/EC) that stipulates how the Commission and the Member States set up secure, integrated, interoperating and accessible electronic customs systems and the UN/CEFACT Recommendation 36 on Single window interoperability.

5.3.1.2 Buying products and services

Set up a framework for mutual recognition of electronic contracts and invoices among the Eastern Partnership countries. The Partner Countries will benefit from defining harmonised rules on invoicing and setting out VAT rules regarding e-invoicing. This measure will allow equal treatment between paper and e-invoices in the Region.

The Partner Countries should define the mutual principles of equal validity of electronic contracting and contract concluded offline. To facilitate further the paperless trade, the principles should apply to all stages and acts of the contractual process, such as the contractual offer, the negotiation and the conclusion of the contract by electronic means.

For this purpose, the Partner Countries need to set up principles and a framework of mutual recognition of advanced electronic signatures¹¹⁰ based on a qualified certificate and electronic data interchange (EDI)¹¹¹ technologies for assuring the authenticity of the origin and integrity of the content of electronic documents.

The rules should specify the provisions on the minimum required level of legal information and contractual data that must be provided in electronic contracts. A harmonised EaP semantic data model and format of electronic invoices will need to be agreed.

At the next phase, the information systems of the customs and others involved trade authorities will need to be upgraded to allow processing of electronic contracts and invoices of cross-border operations. The Connecting Europe Facility (CEF) eInvoicing and eDelivery building blocks provide technical specifications, free software components and services that offer basic capabilities to exchange electronic data and documents, such as electronic invoices and contracts, between public administrations and businesses in an interoperating and secure way.

Set up a framework for mutual recognition of electronic contracts and invoices between the Region and the EU. The mutual recognition of electronic contracts and invoices between the Region and the EU for cross-border trade operations will accelerate processing of trade documents. The most important benefit will be better assurance of the authenticity of the origin and integrity of the content of invoices and contracts. The Digital Single Market Strategy announced a legislative initiative on harmonised rules. Proposal of two Directives make an improvement on certain aspects concerning contracts for the supply of digital content, and a

¹¹⁰ An advanced electronic signature within the meaning of point (2) of Article 2 of Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures*, based on a qualified certificate and created by a secure signature creation device, within the meaning of points (6) and (10) of Article 2 of Directive 1999/93/EC

¹¹¹ Electronic data interchange (EDI), as defined in Article 2 of Commission Recommendation 1994/820/EC of 19 October 1994 relating to the legal aspects of electronic data interchange, where the agreement relating to the exchange provides for the use of procedures guaranteeing the authenticity of the origin and integrity of the data

proposal on certain aspects concerning contracts for the online and other distance sales of goods. The technical specifications and free software components of the Connecting Europe Facility eInvoicing building block and eDelivery CEF building block offer basic technical capabilities.

5.3.1.3 Export procedures

Feasibility of connecting to the SIGL integrated system of import licences. The Directorate General for Trade operates an integrated system SIGL for the management of licences for imports of textiles, clothing, footwear, steel and wood to the EU¹¹². SIGL provides real-time information to traders on quota levels, licensed amounts by Member State for imports of clothing, footwear, steel and wood products applied in the European Union. A feasibility project would allow assessment of possibilities and benefits for the Partner Countries to get from SIGL real-time information on quota levels and other useful information for traders in the EaP Countries.

Integration into the Certificate of Origin Global Accreditation Chain. International Chamber of Commerce International CO Global Accreditation Chain (ICC World Chambers Federation) offer Chambers and customs authorities the possibility to verify online the authenticity of Certificates of Origin. Through the CO Global Accreditation Chain, Certificates of Origin issued in the Partner Countries will be made available to the EU trading partners and the EU authorities. On the other side, the authorities in the Partner Countries will be able to check the validity of Certificates of Origin for products imported from the EU countries.

Feasibility study of a regional transit system and its integration with the New Computerised Transit System of the EU. The efficient intra-regional movement of goods requires regional transport and trade facilitation measures. The establishment of a regional computerised transit system will simplify export & import procedures and remove the need of trans-shipment of goods at the borders between the EaP and the EU countries. Feasibility study will review regional risk management practices to facilitate the adoption of simplified procedures for compliant traders based on common risk management approaches and evaluate perspectives of coordinated border management on key transport corridors along which transit between/through the Region and the EU trade takes place.

Usage of international transport documents in electronic format will require a design of structured, standardised and integrated electronic data interchange systems to foster the interoperability of the national eLogistics systems. It will need to assure integration between transport modes, transport operators, freight owners, infrastructure owners and government organisations.

A feasibility study will require in-depth assessment of transit procedures and their alignment with the EU NCTS best practice. The regional initiative should take into account the provisions of the Action Plan for the Deployment of Intelligent Transport Systems in Europe¹¹³ and the Freight Transport Logistics Action Plan¹¹⁴.

The following step will be assessment of the feasibility to use a unified electronic transport document issued in an EaP Country as a transit declaration in New Computerised Transit System¹¹⁵.

¹¹² <http://trade.ec.europa.eu/sigl/>

¹¹³ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52008DC0886&from=EN>

¹¹⁴ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52007DC0607&from=EN>

¹¹⁵ The Article 233 of UCC foresees the usage of an electronic transport document as transit declaration.

5.3.1.4 Import procedures

Automated validation of permits from TRACES system to import customs declarations from the EU. Automated validation of supporting documents to the import customs declaration provides automated validity checks of permits for goods imported from the EU countries (and eventually from the Eastern Partnership countries) to the EaP Countries. This activity may consist in interconnecting the customs systems of the Partner Countries and the DG SANTE TRACES system that holds the permits. For import from the EU, the following certificates are available to any non-EU country on a voluntary basis: Common Entry Document (CED), Common Veterinary Entry Document: Animals (CVEDA), Common Veterinary Entry Document for Products (CVEDP), and Common Health Entry Document for Plants and Plant products (CHED-PP).

Exchange of pre-arrival declarations between the Partner Countries and with the EU. This pilot project would offer faster customs clearance and reduction of customs controls for the goods exported by participating Authorised Economic Operators from the EU Member States and the Partner Countries. For import from the EU¹¹⁶, export declaration data (agreed subset, which is only exchanged on EU Common Domain) would be sent to the Partner Country of destination. Control results at import would be sent back to the EU. Implementation of the international exchanges between the EU and the Region should be based on the WCO Globally Networked Customs (GNC) Utility Block for Control Mutual Recognition.

Implement eATA Carnet between the Partner Countries and the EU. The contracting parties participating in the Istanbul Convention on Temporary Admission are in the process to replace the current paper-based ATA Carnet System by a decentralised eATA Carnet System. The EU develops a single central system to exchange eATA Carnet System data on issued guarantees with other participating parties. By developing their eATA national systems, the Partner Countries will facilitate their business duty-free temporary export of goods for up to one year to the EU countries¹¹⁷.

5.3.1.5 Payment procedures

Electronic presentations of letter of credit documents between major banks of the Partner Countries and the EU. Electronic presentations to major trade banks between the Partner Countries and the EU will shorten payment cycles and reduce their risk and costs. The activity consists in implementation of a secure online platform (or using an existing one) to facilitate presentation of letter of credit documents to banks compliant with the Electronic Letters of Credit Rules (eUCP). The solution offers a safer, smarter and faster way to centrally manage letters of credit and electronic presentations. Buyers, sellers, banks and carriers can electronically exchange letters of credit, electronic bills of lading, insurance certificates and other trade documentation over a common digital network.

All letter of credit parties, such as the beneficiary, applicant, issuing bank, advising bank and confirming bank must connect to the same online platform that enables electronic presentations and electronic document examinations. The presentation needs to handle originals and copies of all required documents, including all types of original third-party e-transport documents, such as carrier bills of lading, house bills of lading, forwarder cargo receipts and air waybills.

5.3.1.6 Digital platforms and infrastructures for paperless trade

¹¹⁶ Similar procedure would be applied for export from the Partner Countries towards the EU.

¹¹⁷ ATA Carnets cover commercial samples, professional equipment and goods for presentation or use at trade fairs, exhibitions, shows.

The following regional projects are proposed for development of harmonised national digital platforms and infrastructures that enable paperless trade. The projects comprise several regional actions and create interoperable information systems among the Partner Countries and between the Partner Countries and the EU.

Develop an integration platform for national eTrade Single Window systems. In each Partner Country, a platform will assure interoperability between information systems of stakeholders within national eTrade Single Window. At Regional level, such platform will link national eTrade Single Window systems to relay cross-border paperless trade transactions between Partner Countries and the EU Members States. The corresponding multilateral pilots are proposed to be implemented in accordance with the targets planned in the HDM Section of the Commission Joint Staff Working Document «Eastern Partnership - 20 Deliverables for 2020»;

Implement invoicing, eDelivery, eID, eSignature and Automated Translation digital infrastructure building blocks in Partner Countries, based on the CEF framework. This action is to ensure the Electronic Data Interexchange between the eTrade systems of the Partner Countries and the corresponding digital platforms and systems of the EU Member States.

Develop Interoperable eCommerce cloud-based platform for SMEs in the Partner Countries. This action is to originate the multilateral pilot project for eCommerce cloud that should assist SMEs in their digital activities across the Eastern Partnership. Such interregional platform will significantly amplify market accessibility for SMEs, open new markets and assure a boost in electronic trade.

5.3.2 Electronic Logistics

The overall roadmap of activities to switch to eTrade and eLogistics is based on three stages:

- Enhancement of national legal frameworks allowing to use e-documents internally;
- Ratification of international agreements allowing the use of e-documents internationally;
- Implementation of the necessary IT infrastructure that would enable the use of e-documents internationally.

The proposed roadmap is based on several pillars to initiate actions in EU4Digital area. The implementation of these actions will allow national companies united in clusters to implement local IT projects. They will design common solutions to enable the exchange of all necessary documents in electronic format. The submission of data and exchange between countries will be activated through the interoperability of the national single window systems.

The following regional roadmap presents recommended activities in the field of eLogistics by the Eastern Partnership countries:

1. Signature/ratification of international agreements and harmonising conventions

- COTIF/CIM;
- Approximation with the Customs Union's legislation;
- eSMGS;
- Approximation with EU legislation.

2. Creation of Authorised Economic Operator (AEO) institutions

- Creation of an international cluster for information exchange;
- Creation of interoperability between the national single windows for eLogistics data exchange;
- Creation of a solution for submission of cargo data to customs offices prior to arrival of cargo.

3. Implementation of the core DTC platform

- Development of the core digital platform for national eLogistics systems providing services for multimodal cargo shipments and supply chain management as the new Building Block of Digital Infrastructures;
- Harmonisation of eDocuments standards related to transport and concept development for unified system of documentary support for multimodal cargo shipments.

4. Cargo monitoring projects, based on RFID technology and electronic seals technologies

- Stationary real-time system for monitoring of cargo movement by rail and road using RFID technology based on GS1 standards (such as tags, electronic seals, and other applications);
- Technical infrastructure that allows monitoring of cargo position and its status;
- Pilot project for rail transport between Belarus, Ukraine and one of EU countries.

5. eCMR implementation

- Signing and ratifying 'Additional Protocol to the Convention on the Contract for the International Carriage of Goods by Road concerning the Electronic Consignment Note';

6. eID implementation

- Harmonising with EU standards of CEF building block (eID);

7. eSignature implementation

- Harmonising with EU standards of CEF building block (eSignature);
- Adopting the electronic identification and signature standards (PADES, PDF Advanced Electronic Signatures), as required by the eIDAS Regulation N°910/2014;

8. eInvoice implementation

- Harmonising with EU standards of CEF building block (eInvoicing);

9. Developing RoLa infrastructure

- Implementing the necessary border-crossing facilities for cargo vehicles using RoLa freight train (truck loaded on the train) in the countries linked to Viking project: Azerbaijan, Belarus, Georgia and Ukraine.

The proposed pilot projects in the field of electronic logistics are:

1. RFID and Electronic Seals implementation

- Pilot projects using RFID technology (such as tags, electronic seals, etc.) for rail transport with one of EU countries in stationary real-time system for monitoring of cargo movement by rail and road (Belarus, Ukraine);

2. eID implementation

- Pilot eID digital infrastructure building block by customising solutions provided by the CEF framework (Belarus, Ukraine)

3. eSignature implementation

- Pilot eSignature digital infrastructure building block by customising solutions provided by the CEF framework (Armenia, Moldova)

4. eInvoice implementation

- Pilot eInvoicing digital infrastructure building block by customising solutions provided by the CEF framework (Armenia, Georgia, Ukraine)

The roadmap also recommends creating in every Partner Country a national cluster of stakeholders, IT companies and service providers. They will be responsible for implementation of software and hardware solutions to achieve the expected results in single windows interoperability and cross border paperless services in eLogistics area.

It is proposed to implement the single window approach for dealing with cargo logistics documents in every country and to move forward the interoperability across the whole region. Important investments in development of cross-border information systems and infrastructure will be required. The issue can be solved only by joint efforts. Building of RFID infrastructure will require important investments. Public-private partnership's models will be considered to carry out the ownership of the RFID infrastructure and information systems.

5.3.3 Digital Transport Corridor

The following section summarises the required actions for the feasibility of a Digital (multimodal) Transport Corridor between the Black Sea and the Baltic Sea, with possibility to extend to the other EaP partners:

1. A pilot project between the EU Member States and Eastern Partner Countries

- Assessing perspectives on container lines 'Viking', 'Zubr' and TEN-T transport corridors extension to Eastern Partner Countries within digital transport corridors pilots. This would initially concern Eastern Partnership countries Belarus and Ukraine and European Union countries like Latvia, Lithuania, Germany and Poland.
- Attracting freights for railway transport towards Europe-Caucasus-Asia destinations via TRACECA corridor;
- Assessing feasibility for transport of goods from Turkey and Middle East countries to Northern countries through the Black Sea;
- Attracting new countries to the agreement and creating favourable atmosphere for transport will facilitate putting the route through Georgia and Azerbaijan and to the Central Asia;
- Electronic document management implementation;
- Unified transport document;
- Transforming the 'Viking train' project into a real multimodal transport system.

2. eSMGS implementation

- Agreement on International Goods Traffic by Rail (SMGS) adoption in electronic format (Belarus, Ukraine, Lithuania and Latvia already use electronic document for SMGS – eSMGS);
- Pilot project extending eSMGS usage in Armenia, Azerbaijan, Moldova and Georgia.

3. Further suggestions for projects development

- 3.1. 'As Is' business processes analysis;

- Legal, logistics, software engineering expertise;
 - Existing procedures and standards mapping;
 - Legal environment analysis;
 - Main obstacles and challenges.
- 3.2. Business and government collaboration;
- Developing convergent business and governments needs and vision.
- 3.3. Common standards and procedures guidelines;
- Gap analysis across participating countries;
 - Detailed pilot project implementation roadmap;
 - Common logistics procedures description and process map preparation;
 - Selection of technical standards and solutions, evaluation and preparation for implementation;
 - Legislative proposals preparation for each country involved.

5.4 Monitoring of harmonisation progress

The overall purpose of harmonisation is implementation of entirely paperless trade and logistics procedures between the EaP and EU countries. Harmonisation activities are required at the level of individual EaP Countries, by the Region as whole (all six EaP Countries together), and between the Region and the EU. The progress indicators presented in the Chapter 2 facilitate tracking of harmonisation progress in eTrade and eLogistics achieved by implementing activities by individual EaP Countries. Monitoring of harmonisation activities regionally require a different set of indicators and targets.

Following the methodology for monitoring harmonisation progress, each phase of the paperless supply chain between the EaP and EU countries has its objectives of harmonisation. Progress targets are assigned to each phase of the paperless supply chain reference model. Progressive achievement of the targets shows harmonisation progress in eTrade and eLogistics.

The objectives of harmonisation of each phase of the paperless trade supply chain and corresponding progress targets are presented in the following table for two types of activities:

- Activities of harmonisation between six Partner Countries at the Regional level;
- Activities of harmonisation between the Region (six countries together) and the EU:

Table 11 – Objectives of harmonisation and corresponding progress monitoring targets at Regional level

Objectives of regional harmonisation	Targets for monitoring harmonisation progress between the Partner Countries	Targets for monitoring harmonisation progress between the Region and the EU
1. Framework for paperless trade		
Legal frameworks of the EaP Countries enable cross-border exchange of business and regulatory electronic data for trade	<ul style="list-style-type: none"> - A Regional framework for trade-related electronic transactions created - Interoperability framework for the Region developed - interoperability between the 	<ul style="list-style-type: none"> - A legal framework for cross-border electronic data exchange defined - Harmonised interoperability framework developed

transactions between the EaP Countries and with the EU.	national electronic Single Window systems defined	
2. Buying products and services		
Legal frameworks and technical infrastructure enable paperless procedures of invoicing, contracting and application for letter of credit for cross-border transactions between the EaP Countries and with the EU.	<ul style="list-style-type: none"> - Legal framework for mutual recognition of electronic contracts and invoices enacted - Technical infrastructure for cross-border processing of electronic contracts and invoices operated 	<ul style="list-style-type: none"> - Legal framework for mutual recognition of electronic contracts and invoices defined - Technical infrastructure for cross-border processing of electronic contracts and invoices implemented
3. Export procedures		
The EaP Countries exchange electronically all required export-related data within the EaP and with the EU countries	<ul style="list-style-type: none"> - Feasibility study of a Regional transit system conducted 	<ul style="list-style-type: none"> - Feasibility of connecting to the SIGL integrated system of import licences conducted
4. Transport and Logistics		
Legal frameworks of the EaP Countries and technical infrastructure enable usage of electronic transport documents by operators, traders and administrations for cross-border road transport operations within the EaP and with the EU countries.	<ul style="list-style-type: none"> - Implement RFID monitoring of cargo movement by rail & road - Sign international agreements and conventions, implement procedures for COTIF/CIM, eSMGS, eCMR - eCMR procedure between the EaP Countries implemented - Exchange of electronic waybill between the EaP Countries - Pilot eSMGS between some EaP Countries - Create Authorised Economic Operator institutions and single windows for logistics data - Sign eID recognition agreements/Pilot cross-border eID interoperability - Provide eSignature interoperability between the EaP Countries - Develop RoLa infrastructure and expend Truck-to-Train on Viking - Implement eInvoice 	<ul style="list-style-type: none"> - Exchange of electronic waybill with the EU implemented - Pilot eSMGS with some EU countries - Pilot RFID monitoring on rail transport with one EU country - Implement eID harmonised with CEF building block - Harmonise with eIDAS Regulation and implement eSignature CEF building block - Implement eInvoice CEF building block

	interoperability between the EaP Countries	
5. Import procedures		
The EaP Countries exchange electronically all required import-related data within the EaP and with the EU countries	<ul style="list-style-type: none"> - Exchange of pre-arrival declarations among the Region - Implement eATA Carnet 	<ul style="list-style-type: none"> - Exchange of pre-arrival declarations with the EU - Implement eATA Carnet harmonised with the EC system
6. Paying		
Electronic presentation of letter of credit documents between banks in the EaP and the EU countries is operational	<ul style="list-style-type: none"> - Electronic presentations of letter of credit documents between major banks of the EaP Countries 	<ul style="list-style-type: none"> - Electronic presentations of letter of credit documents between major banks of the EaP and EU

Another way of evaluating the progress in harmonisation process would be comparing the Region's scores in the Digital Economy and Society Index (DESI)¹¹⁸. DESI is a composite index that summarises relevant indicators on Europe's digital performance and tracks the evolution of EU Member States in digital competitiveness.

¹¹⁸ European Commission/Digital Agenda for Europe – <http://ec.europa.eu/digital-agenda/en/digital-economy-and-society-index-desi>

6 CONCLUSIONS

The overall objective of the study was to assess the readiness of digital markets in the Partner Countries for harmonisation with the EU's Digital Single Market and to facilitate and promote the harmonisation of the Partners Countries' national systems for electronic trade and electronic logistics including Digital Transport Corridors, in line with relevant EU norms and practices.

The Study Report analyses trade and logistics practices in the six Partner Countries, using as a baseline the EU legal framework, as well as European and international best practices, standards and ICT platforms, in view of developing interoperating eTrade and eLogistics procedures in the Partner Countries.

As its main result, national roadmaps and detailed actions are proposed for each Partner Country towards interoperating national eTrade and eLogistics systems among themselves and with the EU Member.

At the regional level, the study report provides a regional (EaP) roadmap with joint actions for improving the interoperability of the partners' eTrade and eLogistics systems, among them and with the EU. The most important regional recommendations in electronic trade include:

- Establishment of a Regional policy framework for paperless trade and electronic logistics, which would define targets and implementation strategies and allocate resources;
- Creation of an appropriate legal and regulatory environment that would allow a fully paperless trade and electronic logistics among the six EaP Countries and the EU Member States;
- Simplification of trade and logistics documents and reduction of the number of required documents;
- Integration of international and EU standards in trade and logistics procedures;
- Development of harmonised and standardised data sets, based on the UN/CEFACT framework, as a prerequisite for paperless and interoperating environment between the EU Member States and the Partner Countries;
- Development of an integration platform of the national eTrade Single Window systems enabling cross-border paperless trade transactions;
- Initiation and launching of pilot projects to testing paperless trade between the Partner Countries and with the EU.

With regards to electronic logistics, the most significant regional recommendations include:

- Creation of an AEO institution;
- Signing of appropriate agreements and protocols to switch to electronic services;
- Development of the core digital platform for national eLogistics systems to provide services for multimodal cargo shipments and supply chain management;
- Implementation of a project to launch a stationary real-time system for monitoring of cargo movement in rail and road by using RFID technology;
- Implementation of a pilot project for rail transport between Belarus, Ukraine and one of the EU countries capitalising on Viking experience;
- Undertaking of an additional study to assess the feasibility of a Digital Multimodal Transport Corridor between the North Sea, Baltic Sea and Black Sea and to explore the possibility of its extending to the EaP Countries.

Finally, the study estimates the economic benefits for the Partner Countries, the EaP as a whole,

and the EU that can flow from harmonised procedures and interoperating eTrade and eLogistics systems.

The Study Report is expected to contribute to the development of national systems for electronic trade and electronic logistics, including Digital Transport Corridors, in the Partner Countries through their harmonisation with the EU's Digital Single Market best practices. The main purpose is mutual economic benefits from extended trade flow between the EaP Countries, and between the Region with the EU countries.

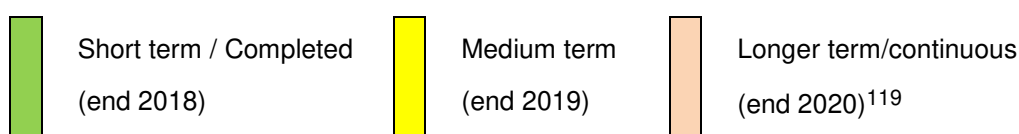
REFERENCES

1. UN/CEFACT. BPAWG Reference Model of the international supply chain. s.l. : UN/CEFACT, 2003. UN/CEFACT/BPA/BP044.
2. 2003/C 305/01. Council Resolution of 5 December 2003 on creating a simple and paperless environment for customs and trade. [Online] [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32003G1216\(01\)](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32003G1216(01)).
3. COM/2003/452. COM/2003/452 of 24/07/2003. Communication from the Commission to the Council, the European Parliament and the European Economic and Social Committee - A simple and paperless environment for Customs and Trade. [Online] <http://eur-lex.europa.eu/procedure/EN/184452>.
4. (EU) 910/2014. Regulation (EU) 910/2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS Regulation). [Online] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2014.257.01.0073.01.ENG.
5. COM/2017/0134. COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS European Interoperability Framework – Implementation Strategy. [Online] <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1494635732817&uri=CELEX:52017DC0134>.
6. Decision 70/2008/EC. Decision N 70/2008/EC of the European Parliament and of the Council of 15 January 2008 on a paperless environment for customs and trade. [Online] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2008.023.01.0021.01.ENG&toc=OJ:L:2008:023:TOC.
7. Regulation (EU) No 952/2013. Regulation (EU) No 952/2013 of the European Parliament and of the Council of 9 October 2013 laying down the Union Customs Code. s.l. : OJ L 269, 0.10.2013.
8. COM(2010) 712 final. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Reaping the benefits of electronic invoicing for Europe. [Online] <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52010DC0712>.
9. Directive 2010/45/EU. Directive 2010/45/EU on the common system of value added tax as regards the rules on invoicing. [Online] <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32010L0045&locale=en>.
10. Directive 2014/55/EU. Directive 2014/55/EU of the European Parliament and of the Council of 16 April 2014 on electronic invoicing in public procurement. [Online] <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0055>.

11. COM/2015/0635. Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on certain aspects concerning contracts for the online and other distance sales of goods. [Online] <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1450431933547&uri=CELEX:52015PC0635>.
12. ICC World Chambers Federation. Certificates of origin authenticity verification online. International Chambers of Commerce world Chambers Federation. [Online] [Cited: 10 May 2017.] <https://certificates.iccwbo.org/>.
13. MASP rev. 2016. Electronic Customs Multi-Annual Strategic Plan 2016 yearly revision. s.l. : DG TAXUD, 2016.
14. COM/2010/744 final. Annex 1 to the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of Regions Towards interoperability for European public services. [Online]
15. Decree No. 430 of the of the Government of Georgia on “Approving the Forms and Rules of Issuing Veterinary Certificates used in Exporting Products Subject to Veterinary Control”. 31 December 2010.
16. Order No. 101 of the Minister of Finance on “Determination of the list of documents to be submitted to the request for Return the overpaid tax and / or sanctions”. 30 March 2017.
17. Order No. 996 of the Minister of Finance on “Tax Administration” . 31 December 2010.
18. Law of Georgia "Civil Code of Georgia". 1997.
19. Law of Georgia “Railway Code of Georgia”. 2002.
20. Order No. 26 of Minister of Transport and Communications of Georgia on approval of “Rules for Railway Cargo Transportation”. 18 April 2003.
21. International Chamber of Commerce. Electronic Certificate of Origin. [Online] [Cited: 10 May 2017.] <https://iccwbo.org/resources-for-business/certificates-of-origin/electronic-certificates-origin/>.

ANNEXES

6.1 EU4Digital: eTrade Network Action Plan 2018-2020



Objective 1. Provide a platform for regular exchanges of information and expertise on issues related to eTrade including eCommerce, eCustoms and eLogistics / Digital Transport Corridors.	
1.1	Take stock of, monitor and assess partner countries' legislation and regulation on eTrade, as compared to EU and other international norms.
1.2	Facilitate experience exchange between partners and the EU, with international organisations, other regional networks and experts, regarding the promotion and development of eTrade and its components.
1.3	Raise awareness and stimulate networking between EaP eTrade ecosystem players (policy makers, investors, digital vendors, service providers, R&D centres, academia, banks, insurances, public administration and agencies) through thematic and technical workshops, training seminars, conferences, study visits etc., in order to stimulate implementation of appropriate national reforms .
1.4	Contribute to the preparation of reports, benchmarks, presentations, analyses and common positions on eTrade, by the partner countries, towards international institutions.
1.5	Promote the eTrade network activities towards EU Member States (MS) and seek to involve EU MSs in the activities of the Network.
Objective 2. Prepare recommendations on harmonisation and, on this basis, develop joint projects and regional initiatives for eTrade, incl. eCommerce, eCustoms and eLogistics / Digital Transport Corridors.	
2.1	Perform an EaP study for eTrade and eLogistics / Digital Transport Corridors, including gap analysis (against EU standards and international best practices) in the 6 partner countries, leading to regional harmonisation recommendations in the EaP. <i>(action under completion)</i>
2.2	Pilot cross-border eTrade among EaP partner countries and with the EU. This will include:
2.2.1	➤ Develop a single window integration platform for EaP partners' national eTrade systems, enabling cross-border paperless trade transactions among EaP partners and with the EU.
2.2.2	➤ Conduct business process re-engineering for cross-border eTrade in the EaP partner countries, taking into account EU and international best practices
2.2.3	➤ Develop a harmonised legislative framework for eTrade and its components in the EaP partner countries, taking into account EU and international best practices.
Component 2a. eCommerce for SME	
2.3	Pilot interoperable eCommerce trading platforms between partner countries and the EU. This includes:
2.3.1	➤ Develop a pilot ICT infrastructure (e.g. cloud-based) to enable cross-border eCommerce among EaP partners and with the EU;

¹¹⁹ As of May 2018

2.3.2	➤ Create a regional online trust-mark scheme based on EU best practice, notably the requirements of eCommerce Europe and other EU professional bodies;
2.3.3	➤ Create a regional online dispute resolution system , connected to the EU's online dispute resolution platform;
2.3.4	➤ Harmonise relevant legislation, standards, business processes and data formats among EaP partners and with the EU.
Component 2b. eCustoms	
2.4	Pilot mechanisms of exchange of information , including pre-arrival information and information from export declarations for goods, among EaP partner countries and with the EU.
2.5	Pilot interoperable anti-counterfeiting and anti-piracy systems , based on tracking-monitoring of the trade goods flow among EaP partner countries and with the EU.
2.6	Pilot data exchange between the EaP partner countries' customs and UPU (Universal Postal Union) through the national postal services.
Component 2c. eLogistics and Digital Transport Corridors	
2.7	Pilot a Digital Multi-modal (both maritime and land) Transport Corridor between the Baltic Sea and the Black Sea , with possibility to extend to the other EaP partners. This will include:
2.7.1	➤ Develop an integration platform based on the concept of National Centres for eLogistics, enabling multimodal transport services among EaP partner countries and with the EU;
2.7.2	➤ Develop a system for security & tracking of cargo containers based on RFID technology (tags, electronic seals, etc.);
2.7.3	➤ Harmonise eDocuments standards related to multimodal transport, based on the concept of a unified system of documentary support for carriage of goods.
Component 2d. Digital Infrastructure Building blocks for eTrade and its components	
2.8	Pilot eInvoicing, eDelivery, eID, eSignature and Automated Translation digital infrastructure building blocks in each of the EaP partner countries, by customising solutions provided by the CEF framework.

6.2 Correlation between the Study Report's recommendations and the action plan

Actions of the EU4Digital: eTrade Network action plan		Recommendation of the Study Report (Regional roadmap)
Objective 2. Prepare recommendations on harmonisation and, on this basis, develop joint projects and regional initiatives for eTrade, incl. eCommerce, eCustoms and eLogistics / Digital Transport Corridors.		
2.2	Pilot cross-border eTrade among EaP partner countries and with the EU. This will include:	
2.2.1	➤ Develop a single window integration platform for EaP partners' national eTrade systems, enabling cross-border paperless trade transactions among EaP partners and with the EU.	➤ Create a regional framework for trade-related electronic transactions ➤ Develop an interoperability framework for the Region

2.2.2	➤ Conduct business process re-engineering for cross-border eTrade in the EaP partner countries, taking into account EU and international best practices	<ul style="list-style-type: none"> ➤ Develop a harmonised interoperability framework between the Partner Countries and the EU ➤ Define interoperability between the national electronic Single Window systems ➤ Develop an integration platform for national eTrade Single Window systems ➤ Set up a framework for mutual recognition of electronic contracts and invoices among the Eastern Partnership countries ➤ Set up a framework for mutual recognition of electronic contracts and invoices between the Region and the EU
2.2.3	➤ Develop a harmonised legislative framework for eTrade and its components in the EaP partner countries, taking into account EU and international best practices.	<ul style="list-style-type: none"> ➤ Establish a legal framework for cross-border electronic data exchange among the Partner Countries and with the EU
Component 2a. eCommerce for SME		
2.3	Pilot interoperable eCommerce trading platforms between partner countries and the EU. This includes:	
2.3.1	➤ Develop a pilot ICT infrastructure (e.g. cloud-based) to enable cross-border eCommerce among EaP partners and with the EU;	<ul style="list-style-type: none"> ➤ Develop Interoperable eCommerce cloud-based platform for SMEs in the Partner Countries
Component 2b. eCustoms		
2.4	Pilot mechanisms of exchange of information , including pre-arrival information and information from export declarations for goods, among EaP partner countries and with the EU.	<ul style="list-style-type: none"> ➤ Feasibility of connecting to the SIGL integrated system of import licences ➤ Integration into the Certificate of Origin Global Accreditation Chain ➤ Automated validation of permits from TRACES system to import customs declarations from the EU ➤ Exchange of pre-arrival declarations between the Partner Countries and with the EU ➤ Implement eATA Carnet between the Partner Countries and the EU ➤ Electronic presentations of letter of credit documents between major banks of the Partner Countries and the EU
Component 2c. eLogistics and Digital Transport Corridors		
2.7	Pilot a Digital Multi-modal (both maritime and land) Transport Corridor between the Baltic Sea and the Black Sea , with possibility to extend to the other EaP partners. This will include:	<ul style="list-style-type: none"> ➤ Assess perspective of DTC pilots: <ul style="list-style-type: none"> - between Baltic and the Black Sea; - based on extension of TEN-T corridors to EaP Countries ➤ Attract new countries to the agreement
2.7.1	➤ Develop an integration platform based on the concept of National Centres for eLogistics, enabling multimodal transport services among EaP partner countries and with the EU;	<ul style="list-style-type: none"> ➤ Develop the core digital platform for national eLogistics systems providing services for multimodal cargo shipments

2.7.2	➤ Develop a system for security & tracking of cargo containers based on RFID technology (such as tags, electronic seals, etc.);	➤ Develop DTC supply chain visibility sub-system for cargo tracking
2.7.3	➤ Harmonise eDocuments standards related to multimodal transport, based on the concept of a unified system of documentary support for carriage of goods.	➤ Harmonise eDocuments standards related to multimodal transport, based on the concept of a unified system of documentary support for carriage of goods
Component 2d. Digital Infrastructure Building blocks for eTrade and its components		
2.8	Pilot eInvoicing, eDelivery, eID, eSignature and Automated Translation digital infrastructure building blocks in each of the EaP partner countries, by customising solutions provided by the CEF framework.	➤ Implement eInvoicing, eDelivery, eID, eSignature and Automated Translation digital infrastructure building blocks in Partner Countries, based on the CEF framework

6.3 Summary of the recommended pilot projects

The pilot projects		Impact	Investment required	Replicability	Risk in implementation
2.2	Pilot cross-border eTrade among EaP partner countries and with the EU.	Long term	Heavy	Medium	Medium
2.3	Pilot interoperable eCommerce trading platforms between partner countries and the EU	Long term	Light	High	Low
2.4	Pilot mechanisms of exchange of information , including pre-arrival information and information from export declarations for goods, among EaP partner countries and with the EU.	Short term	Light	High	Low
2.7	Pilot a Digital Multi-modal (both maritime and land) Transport Corridor between the Baltic Sea and the Black Sea , with possibility to extend to the other EaP partners.	Long term	Heavy	Medium	High
2.8	Pilot eInvoicing, eDelivery, eID, eSignature and Automated Translation digital infrastructure building blocks in each of the EaP partner countries, by customising solutions provided by the CEF framework.	Medium term	Light	High	Low

6.4 Description of the recommended pilot projects

6.4.1 Pilot cross-border eTrade among EaP Countries and with the EU

EU4Digital Network	eTrade, Component 2c – eLogistics & Digital Transport Corridors
Action 2.2	<p>Pilot cross-border eTrade among EaP partner countries and with the EU. This will include the following sub-actions:</p> <p>2.2.1 Conduct business process re-engineering for cross-border eTrade in the EaP partner countries, taking into account EU and international best practices</p> <p>2.2.2 Develop a harmonised legislative framework for eTrade and its components in the EaP partner countries, taking into account EU and international best practices.</p> <p>2.2.3 Develop a single window integration platform for EaP partners' national eTrade systems, enabling cross-border paperless trade transactions among EaP partners and with the EU.</p>
Sub-actions description	<p>To implement eTrade pilot the corresponding sub-actions shall be undertaken to re-engineer business processes for paperless trade in the Partner Countries, develop the harmonised legislative framework and create the necessary modules of digital infrastructure in the course of national paperless trade systems (NPTS) development:</p> <p>2.2.1 To re-engineer the business processes for eTrade it's essential to undertake the detailed As-Is analysis of such processes flow in Partner Countries starting from the border-crossing points up to the national points of customs registration taking into consideration the specifics of the corresponding procedures for all means of transport used. On the base of this analysis the proposals for optimisation of import-export procedures and new To Be processes shall be elaborated taking into account national legislation and prioritizing the application of the EU and international standards with the focus on electronic documents exchange and usage of standardised electronic forms in cross-border communications between the governmental agencies of Partner Countries involved</p> <p>2.2.2 The development of harmonised legislation and regulatory rules is to enable the implementation of cross-border paperless trade processes between the EaP and the EU countries. The EU legal framework will serve as the main approximation model (Regulations, Directives and Recommendations). Other international best practices may include the legal frameworks of regional economic unions (ASEAN, EEU) and UNCITRAL Model Law on Electronic Transferable Records. The developed framework will be thereafter transposed into the national legislation of the EaP Countries.</p> <p>2.2.3 The single window platform is considered to become the main building block for national paperless trade systems (NPTS) in the Partner Countries to integrate the existing elements of national digital infrastructure and information systems of the governmental agencies into the Single Window portal for foreign trade. Such platform shall perform functions of the information flows integrator and provide the single window access to NPTS services for participants & controllers of export-import transactions.</p> <p><i>(See the detailed descriptions of the development tasks for each sub-action in the individual descriptions attached).</i></p>

	<p>At the integration stage of cross-border eTrade pilot an information system shall be created that provides interoperability for data exchange among the national eTrade systems in the EaP Countries and the EU countries. The integration stage entails this system design, development of specifications, development of the main components of the cross-border integration platform, testing and commissioning. Such distributed integration platform will enable the mutual recognition of eIDs and eSignatures issued in different countries. This platform will insure required data protection and security for cross-border data transmission and its components will interconnect using existing public and private telecommunication networks.</p>
Outcome/Deliverable	<p>2.2.1 Analytical report with graphs visualizing the existing business processes As-Is and re-engineered processes To Be;</p> <p>Individual road maps for deployment of re-engineered import-export and transit processes in Partner Countries involved</p> <p>2.2.2 Harmonised legislative framework for cross-border eTrade that include:</p> <ul style="list-style-type: none"> • Mutual recognition of eSignatures and eID; • Legal recognition of cross-border electronic data exchange; • Mutual recognition of electronic data elements and eDocuments (contracts, invoices, permits, declarations etc); • Cross-border data security, privacy and data protection rules. • National legislation & regulatory rules in the EaP Countries transposed from the harmonised legislative framework. <p>2.2.3 Core solution for single window integration platforms of national paperless systems;</p> <p>Platform customised deployment in the Partner Countries involved;</p> <p>Interoperability of the national paperless trade systems during their integration in the main eTrade pilot.</p> <p>As result of integration stage of cross-border eTrade pilot the following deliverables are envisaged:</p> <ul style="list-style-type: none"> • System designs, functional and technical specifications; • Software application of the national gateway (a building block); • Software application for data exchange between the national gateways; • Common registers; • At least 3 servers per country (main production, hot reserve, backup).
Resources needed	Type of resource needed and indicative costs, per sub-action
Personnel	<p>2.2.1 72 person-months of the total workload and 360,000 Euro of estimated labour costs</p> <p>2.2.2 99 person-months of the total workload and 297,000 Euro of estimated labour costs</p> <p>2.2.3 33 person-months of the total workload and 270,000 Euro of estimated labour costs</p> <p><i>(See the detailed specification of personnel and daily rates required for each sub-action in the individual descriptions)</i></p> <p>At the integration stage</p>

Equipment, infrastructure, licences, hardware, software	<p>2.2.1 In total 52,000 Euro</p> <p>2.2.2 In total 98,500 Euro</p> <p>2.2.3 None</p> <p><i>(See the detailed components of indicative costs for the required equipment, infrastructure, licences, hardware and software per each sub-action in the individual descriptions)</i></p> <p>At the integration stage ...</p>
Travel	<p>2.2.1 24 one-person trips with estimated costs of 24,000 Euro (including per-diem fees)</p> <p>2.2.2 25 one-person trips with estimated total costs of 25,000 Euro (including per-diem fees)</p> <p>2.2.3 42 one-person trips with estimated total costs of 42,000 Euro (including per-diem fees)</p> <p>At the integration stage ...</p>
Other & Total costs	<p>2.2.1 Project coordination and management – 48,000 Euro and the total estimated cost of sub-action - 484,000 Euro</p> <p>2.2.2 Project coordination and management – 45,000 Euro and the total estimated cost of sub-action - 465,500 Euro</p> <p>2.2.3 Project coordination shall be implemented by Team Lead and the total estimated cost of sub-action - 312,000 Euro</p> <p>At the integration stage...</p>

6.4.2 Pilot interoperable eCommerce trading platforms between Partner Countries and the EU

EU4Digital Network	2a. eCommerce for SME
Action 2.3.	Pilot interoperable eCommerce trading platforms between partner countries and the EU
Sub-action 2.3.1.	Develop a pilot ICT infrastructure (e.g. cloud-based) to enable cross-border eCommerce among EaP partners and with the EU.
Sub-Action description	<p>To create a single "transparent" competitive market for consumer goods in the EaP Countries and improve the conditions for SMEs as well as increase the efficiency of cross-border eCommerce it's important to automate the choice of trade partners and information interaction between producers and sellers of consumer goods using EDI-technologies and international standards. In this respect the following ICT-infrastructure shall be created with the corresponding development tasks:</p> <ol style="list-style-type: none"> 1. Cloud-based EDI-platform for EaP partners' , enabling cross-border paperless trade transactions among EaP partners and with the EU (using building block eDelivery Access Point with eID), providing end-users with the opportunity to create, transmit, receive and store electronic documents & messages based on international UN / CEFACT standards up to the formation of payment electronic documents;

	<ol style="list-style-type: none"> 2. Various access channels have to be provided to the End-User System (web-interface, direct integration, access via mobile devices, etc.) 3. Single Catalogue of goods and services (SCGS) shall be created in EaP Countries, with a description of goods in accordance with European standards and / or international GS1 standards. 4. Synchronisation of the SCGS with the National Data Banks of products and services in each Partner's country; 5. Adaptation and synchronisation of the language versions of the SCGS 6. Expanding the infrastructure and operating in the mode 24*7*365 (e.g. cloud-based) 7. Implementation of EDI-roaming with EU-providers and provision of data to the international GDSN network with the purpose of output of subscribers' products to foreign markets;
Outcome/Deliverable	<p>Core solution for integration platform of cross-border data and document exchange mechanism for SME;</p> <p>Single Catalogue of goods and services (SCGS) in EaP, synchronised with national Data Banks ;</p> <p>Platform customised deployment in the Partner Countries involved.</p>
Resources needed	Type of resource needed and indicative costs, per sub-action
Personnel	<p>Project duration: 12 months (<i>with average 22 working days/month</i>)</p> <p>1 PM-project manager / public authorities contact – 12 months (with average daily rate of 240 Euros)</p> <p>2 BA-business analysts (and technical writers) - 9 months (with average daily rate of 200 Euros/person)</p> <p>3 SDEV-senior developers / specialists in the core development team - 9 months (with average daily rate of 200 Euros/person)</p> <p>1 CSS-cyber security specialist - 2 months (with average daily rate of 200 Euros/person)</p> <p>2 QA - quality assurance - 3 months (with average daily rate of 120 Euros/person)</p> <p>6 TR-Translator – 2.5 months (with average daily rate of 160 Euros/person)</p> <p>80 person-months of the personal workload and 338,800 Euros of estimated labour costs</p>
Equipment, infrastructure, licences, hardware, software	<p>In total 84,000 Euro, including:</p> <p>Servers hardware and data centre services – 36,000 Euro</p> <p>Computer hardware and infrastructure – 16,000 Euro</p> <p>ISP infrastructure & services – 32,000 Euro</p>
Travel	36 one-person trips with estimated costs of 36,000 Euro
Other	Administrative expenses & legal support – 30,000 Euro and the estimated total cost of the sub-action – 488,800 Euro

6.4.3 Pilot mechanisms of exchange of information

EU4Digital Network	eTrade
Action	<p>a) Pilot mechanisms of exchange of information, including pre-arrival information and information from export declarations for goods, among EaP partner countries and with the EU.</p> <p>b) Pilot interoperable anti-counterfeiting and anti-piracy systems, based on tracking-monitoring of the trade goods flow among EaP partner countries and with the EU.</p> <p>c) Pilot data exchange between the EaP partner countries' customs and UPU (Universal Postal Union) through the national postal services.</p>
Action description	<p>a) Pilot mechanisms of exchange of pre-arrival declarations between the Partner Countries and with the EU. This pilot project would offer faster customs clearance and reduction of customs controls for the goods exported by participating Authorised Economic Operators from the EU Member States and the Partner Countries. For import from the EU, export declaration data (agreed subset, which is only exchanged on EU Common Domain) would be sent to the Partner Country of destination. Control results at import would be sent back to the EU. Implementation of the international exchanges between the EU and the Region should be based on the WCO Globally Networked Customs (GNC) Utility Block for Control Mutual Recognition. Several sub-projects are related to the implementation of the Action:</p> <ul style="list-style-type: none"> • Develop a harmonised interoperability framework between the Partner Countries and the EU; • Define interoperability between the national electronic Single Window systems; • Connect to the SIGL integrated system of import licences; • Integrate into the Certificate of Origin Global Accreditation Chain; • Automated validation of permits from TRACES system to import declarations from the EU. <p>b) Pilot interoperable anti-counterfeiting and anti-piracy systems. The system is intended to enhance intellectual property rights protection by improving the cooperation and sharing of information between right-holders and the national Customs administrations and between all the Customs offices of the Region. An electronic service provides traders with the possibility to submit a claim asking the intervention of Customs in order to take measures against goods infringing certain intellectual property rights. The national Anti-Fraud Information System can exchange data within the Partner Countries and be connected with the EU centralised Anti-Counterfeiting and Anti-Piracy System (COPIS), which is accessible by all Member States.</p> <p>c) Pilot data exchange between the EaP partner countries' customs and UPU</p> <p>The Customs Declaration System (CDS), managed by the Universal Postal Union, helps streamline customs clearance. It allows participating posts and customs to exchange advance data and calculate required duties and taxes.</p> <p>The pilot consists in development of a national gateway (building block) for integration into the CDS. It will allow national posts to share information about the sender, contents and value with customs authorities via electronic data interchange messaging before the package is sent. This advance information can help customs decrease its own processing times. The CDS also enables customs authorities to send EDI messages to posts. Customs can use the platform to notify</p>

	posts if an item has been rejected during the screening process. This, in turn, allows posts to better track packages as they make their way through the supply chain.
Outcome/Deliverable	<p>a) Software application and Infrastructure for data exchange between electronic customs systems (or national single window systems) within the Region.</p> <p>b) A distributed Anti-Fraud Information System</p> <p>c) Software of a national gateway (building block) for integration into the CDS</p>
Resources needed	Type of resource needed and indicative costs, per sub-action

6.4.4 Pilot a Digital Multi-modal Transport Corridor between the Baltic Sea and the Black Sea

EU4Digital Network	eTrade, Component 2c – eLogistics & Digital Transport Corridors
Action 2.7	<p>Pilot a Digital Multi-modal (both maritime and land) Transport Corridor between the Baltic Sea and the Black Sea, with possibility to extend to the other EaP partners. This will include sub-actions:</p> <p>2.7.1 Develop an integration platform based on the concept of National Centres for eLogistics, enabling multimodal transport services among EaP partner countries and with the EU;</p> <p>2.7.2 Develop SCV system for security & tracking of cargo containers based on RFID technology (such as tags, electronic seals, etc.);</p> <p>2.7.3 Harmonise eDocuments standards related to multimodal transport, based on the concept of a unified system of documentary support for carriage of goods.</p>
Action description	<p>To implement DTC pilot the necessary modules of digital infrastructure and harmonised standards shall be developed and deployed in Partner Countries in the course of the corresponding sub-actions:</p> <p>2.7.1 The core integration platform for national eLogistics systems is considered to become the main DTC building block to serve the effective cargo transit transportation via Partner Countries. Such platform shall perform functions of the information flows integrator and process the big data coming from participants & controllers of multimodal cargo shipments as well as converting them into standardised electronic documents accompanying international transit cargo flows</p> <p>2.7.2 Supply Chain Visibility (SCV) sub-system shall be developed and deployed in Partner Countries as the second important building block of DTC infrastructure. This sub-system is to provide cargo monitoring and security functions using the existing solutions based on RFID technology.</p>

	<p>2.7.3 Harmonised eDocuments shall be developed in conformance with the recommendations of eLogistics study and EU/international standards related to cargo multimodal transportation in the supply chains.</p> <p><i>(See the detailed descriptions of the development tasks for each sub-action in the individual descriptions attached).</i> The description of the integration stage of multimodal DTC pilot can be done after the completion of sub-actions stage when the participating countries of multilateral project will be finalised and scope of work will be specified by the eTrade Network experts.</p>
Outcome/Deliverable	<p>2.7.1 Core solution for integration platform of multimodal eLogistics system; Platform customised deployment in the Partner Countries involved; Interoperability of the national eLogistics system during their integration in the main DTC pilot.</p> <p>2.7.2 Core technical solution for cargo monitoring and security; Deployment of customised SCV sub-systems in the Partner Countries involved; Interoperability of the national SCV sub-systems during their integration in the DTC pilot</p> <p>2.7.3 eDocuments for cargo multimodal transportation in the Partner Countries harmonised with the EU standards and recommendations of the European Digital Transport and Logistics Forum</p>
Resources needed	Type of resource needed and indicative costs, per sub-action
Personnel	<p>2.7.1 72 person-months of the total workload and 360,000 Euro of estimated labour costs</p> <p>2.7.2 99 person-months of the total workload and 297,000 Euro of estimated labour costs</p> <p>2.7.3 33 person-months of the total workload and 270,000 Euro of estimated labour costs</p> <p><i>(See the detailed specification of personnel and daily rates required for each sub-action in the individual descriptions)</i></p>
Equipment, infrastructure, licences, hardware, software	<p>2.7.1 In total 52,000 Euro</p> <p>2.7.2 In total 98,500 Euro</p> <p>2.7.3 None</p> <p><i>(See the detailed components of indicative costs for the required equipment, infrastructure, licences, hardware and software per each sub-action in the individual descriptions)</i></p>
Travel	<p>2.7.1 24 one-person trips with estimated costs of 24,000 Euro (including per-diem fees)</p>

	<p>2.7.2 25 one-person trips with estimated total costs of 25,000 Euro (including per-diem fees)</p> <p>2.7.3 42 one-person trips with estimated total costs of 42,000 Euro (including per-diem fees)</p>
Other & Total costs	<p>2.7.1 Project coordination and management – 48,000 Euro and the total estimated cost of sub-action - 484,000 Euro</p> <p>2.7.2 Project coordination and management – 45,000 Euro and the total estimated cost of sub-action - 465,500 Euro</p> <p>2.7.3 Project coordination shall be implemented by Team Lead and the total estimated cost of sub-action - 312,000 Euro</p>

6.4.5 Pilot eInvoicing, eDelivery, eID, eSignature and Automated Translation digital infrastructure building blocks

EU4Digital Network	Component 2d. Digital Infrastructure Building blocks for eTrade and its components
Action 2.8	Pilot eInvoicing, eDelivery, eID, eSignature and Automated Translation digital infrastructure building blocks in each Partner Country by customising solutions provided by the CEF framework.
Sub-action 2.8.1	Develop an Access Point infrastructure based on the solutions provided by building blocks of CEF framework
Sub-Action description	<p>To implement cross-border eTrade project the existing CEF building blocks of digital infrastructures shall be customised and piloted in Partner Countries. In particular, to customise the module for data and documents (eDelivery) with the modules for automatic translation of such documents (eTranslation), mutual recognition of electronic documents and signatures (eSignature) and secure cross-border Authentication (eID), the following development tasks have to be done:</p> <ol style="list-style-type: none"> 1. Comprehensive analysis of all relevant EU technical directives and requirements; 2. Infrastructure of a secure Data and Documents exchange (eDelivery) – Access Point based on 4-Corner Model is to be deployed on the base of existing EDI-operators/ Service Providers in Partner Countries with the appropriate conformance tests undertaken according to the e-SENS AS4 profile. This Infrastructure has to be brought into compliance with the current legislation of the Partner Countries and certified; 3. Set of information messages transmitted /received by Public Authorities and protocols of exchange have to be standardised. Data exchange mechanism is to be aligned with EU standards for eInvoicing (Directive 2014/55/EU); 4. Development of technical solution for receiving and processing "foreign" electronic signatures in compliance with the EU Regulation No 910/2014 on electronic identification and trust services for electronic transactions (eIDAS Regulation); 5. The mechanism of documents automatic translation into various languages with the possibility of requesting additional translation services is to be developed

Outcome/Deliverable	<p>Core solution for digital platform of data and document exchange (eDelivery Access Point) with eID & eSignature functions;</p> <p>Customised eInvoicing modules for the exchange of standardised data-messages with public authorities in Partner Countries;</p> <p>eTranslation modules implemented;</p> <p>Certified national infrastructures</p>
Resources needed	Type of resource needed and indicative costs, per sub-action
Personnel	<p>Project duration: 12 months</p> <p>63 person-months of the total workload and <u>302,040 Euros</u> of estimated labour costs, including:</p> <p>2 business analysts (and technical writers) - 9 month (with daily rate of 200 Euros/person)</p> <p>3 senior developers / specialists in the core development team - 9 month (with daily rate of 200 Euros/person)</p> <p>1 cyber security specialist - 5 month (with daily rate of 200 Euros/person)</p> <p>1 quality assurance - 3 month (with daily rate of 120 Euros/person)</p> <p>1 Computerised translation specialist - 4 month (with daily rate of 160 Euros/person)</p> <p>1 Justice specialist- 6 month (with daily rate of 240 Euros/person)</p>
Equipment, infrastructure, licences, hardware, software	<p>In total <u>96,000 Euro</u>, including:</p> <p>Servers hardware and data centre services – 48,000 Euro</p> <p>Computer hardware and infrastructure – 16,000 Euro</p> <p>ISP infrastructure & services – 32,000 Euro</p>
Travel	36 one-person trips with estimated costs of <u>36,000 Euro</u>
Other	Project management - <u>60,000 Euro</u> and total estimated cost of action – 494,000 Euro

6.5 Summary of the recommended actions by the EaP Countries in paperless trade

Table 10 - Recommended actions by individual EaP Countries for harmonisations in the area of electronic trade

Actions by individual countries	AM	AZ	BY	GE	MD	UA
1. National framework for paperless trade						
National law on Electronic Trade and eCommerce			●			
Government resolution on Electronic Trade Facilitation			●		●	●
legal framework for cross-border electronic data exchange	●	●	●	●	●	●

National interoperability strategy and implementation plan for cross-border interoperability with the EU	●	●	●	●	●	●
Legal framework for online platforms including provisions for cross-border services		●		●	●	●
National Single Window feasibility study					●	●
Enhancement of the National Single Window for foreign trade	●		●		●	●
Local information system enabling paperless procedures at the border crossing points (integrated border management)			●		●	
Create national electronic document repository			●			●
National platforms and systems integrated in the full-scale National System			●		●	●
2. Buying products and services						
Introduce the use of electronic invoices for cross-border operations		●		●		
Introduce the use of electronic contracts for cross-border operations				●		
Electronic submission of export documents under a letter of credit application	●	●				
3. Export procedures						
On-line application for export licenses	●		●			●
Electronic Certificate of Origin	●		●		●	●
Integrate with the Certificate of Origin Global Accreditation Chain		●	●	●	●	●
Single Application Form for export permits and certificates	●		●		●	●
Improve interoperability framework for processing export licenses and permits		●	●		●	●
Automate validation of the export licences and permits to the customs declaration		●	●			
Integrate with TRAdE Control and Expert System for export of veterinary products	●	●	●	●	●	●

Electronic submission of export transport documents	●	●		●		
Integration of the customs system with the EU New Computerised Transit System	●	●		●	●	●
4. Import procedures						
Single Application Form for import permits and certificates	●		●		●	●
Integrate with TRAdE Control and Expert System for imported products (TRACES)	●	●	●	●	●	●
Interoperate with European Information System (EIS)	●	●		●		
Validate foreign Certificates of Origin through the Certificate of Origin Global Accreditation Chain		●			●	
Submitting transport documents for imported goods in electronic format				●		
Automate registration of exporters in the Registered Exporter System (REX)	●				●	●
Implementing the eATA Carnet system				●		
5. Payment procedures						
Introduce electronic presentation of export documents under a letter of credit				●		

6.6 Summary of the recommended actions by the EaP Countries in electronic logistics

Table 11 - Recommended actions by individual EaP Countries for harmonisations in the area of electronic logistics

Actions by individual countries	AM	AZ	BY	GE	MD	UA
1. Road transportation						
Sign additional protocol to the Convention on the Contract for the International Carriage of goods by road (CMR)	•	•	•	•	•	•
Implement a pilot project for centralised eWaybill system	•	•	•			•
Create access from eWaybill system to e-logistic single window portal operated by AEOs				•		
2. Rail transportation						
Adopt CIM/SMGS documents as international standards				•		
finish legislation amendment of eSMGS procedure					•	
Implement pilot project of eSMGS with EaP Countries and one EU country	•	•				
Review normative legal acts recognising scanned copies of shipping documents			•			
Expand RoLA freight train usage possibilities by signing collaboration agreements with other EaP Countries participating in Viking project		•	•	•		•
3. Air transportation						
Amendments shall be done to bilateral agreements on information exchange			•			
4. Sea transportation						
Create e-logistic single-window portal, managed by AEO, in order to fill bill of lading and e-manifest electronically		•		•	•	•
5. Transport corridors						
Implement a pilot project of stationary real-time system for monitoring cargo movement in rail and road by using RFID together with EaP Countries and one EU country	•	•	•	•	•	•
Motivate to use „Taxpayer-3“	•					

Implement pilot project connecting the existing „Taxpayer-3“ with other EaP Countries and EU existing eInvoicing systems	•					
Create infrastructure for eInvoicing signing appropriate legislative documents						•
Implement eID system in the country			•			
Sign international and inter institutional agreements concerning eID recognition	•	•	•			
Create unified national eID platform interoperable with similar platforms across the EU				•	•	•
Implement a pilot project for eID application in EaP and EU countries	•	•				
Implement infrastructure for electronic declaration of export and import submission through Customs portal or e-Kiosk	•		•		•	•

6.7 Detailed EU baseline in Paperless Trade

The following section provides the description of benchmarks that form the EU baseline.

Table 12 – Description of EU baseline for eTrade

N	Benchmark	EU baseline
1	National framework for paperless trade	
	Framework for trade-related electronic transactions	<p>The Council Resolution (2003/C 305/01) of 5 December 2003 endorsed the Commission’s Communication on creating a paperless environment for customs and trade (COM/2003/452) which provided a vision of a modern customs service communicating electronically with trade.</p> <p>The Resolution requires a Multi-Annual Strategic Plan (MASP) for the creation of a European electronic environment, consistent with the operational and legislative projects and developments already scheduled or underway in the areas of customs and indirect taxation.</p> <p>The MASP sets down the vision, objectives, the strategic framework and the milestones to implement the electronic customs initiative. The MASP is also intended to provide interested parties with a short overview and background information on projects and key issues related to the evolution of the electronic customs initiative and the present state of play.</p>
	Legal framework for cross-border	eDelivery Regulation

	electronic data exchange	<p>The Regulation ((EU) 910/2014) on electronic identification and trust services (eIDAS) creates appropriate conditions of the EU digital single market for the mutual recognition of key enablers across borders, such as electronic identification, electronic documents, electronic signatures and electronic delivery services, and for interoperable e-government services across the European Union.</p> <p>European Interoperability Strategy (EIS)¹²⁰</p> <p>The European Interoperability Strategy is the overarching strategic plan in the area of cross-border interoperability, developed by the European Commission in conjunction with Member State Chief Information Officers.</p> <p>A European Interoperability Strategy was adopted in 2010 as part of the Communication “Towards interoperability for European public services” (COM/2010/744 final).</p> <p>The EIS provides guidance regarding the interaction, exchange and cooperation between European public administrations for the delivery of European public services across national borders and sectors.</p> <p>The new European Interoperability Framework (EIF)¹²¹ offers public administrations concrete recommendations on how to improve governance of their interoperability activities, establish cross-organisational relationships, streamline processes supporting end-to-end digital services, and align both existing and new legislation (COM/2017/0134).</p> <p>The new EIF is undertaken in the context of the Commission priority to create a Digital Single Market in Europe.</p> <p>The actions of the EIF¹²² most relevant to the HDM in eTrade and eLogistics areas:</p> <ul style="list-style-type: none"> • Improving cross-border access to government data • European Interoperability Architecture (EIA) • Public multilingual knowledge management infrastructure for the Digital Single Market • CAMSS - Common Assessment Method Standards and Specifications • Trusted Exchange Platform (e-TrustEx) • European Location Interoperability Solutions for e-Government (ELISE) • Interoperability agreements on electronic document and electronic file
--	---------------------------------	--

¹²⁰ https://ec.europa.eu/isa2/actions/continuously-updating-european-interoperability-strategy_en

¹²¹ https://ec.europa.eu/isa2/eif_en

¹²² https://ec.europa.eu/isa2/actions_en

	Framework for online platforms	<p>The Decision on a paperless environment for customs and trade (Decision 70/2008/EC)</p> <p>The Decision indicates that traders should have access to information portals and single electronic access points for import and export transactions and for security related customs procedures, irrespective of the Member State in which the transaction starts or ends</p>
	Trade facilitation electronic Single Window system	<p>eCustoms Decision</p> <p>The legal basis for use of data processing techniques for the provision of information by customs is the Decision on a paperless environment for customs and trade (Decision 70/2008/EC). The Commission and the Member States shall set up secure, integrated, interoperable and accessible electronic customs systems for the exchange of data contained in customs declarations, documents accompanying customs declarations and certificates and the exchange of other relevant information.</p> <p>The Decision also lays down the foundation for establishing Single Window services providing the seamless flow of data. This exchange should be organised between economic operators and customs authorities, between customs authorities and the Commission, and between customs authorities and other administrations or agencies, and enabling economic operators to submit all information required for import or export clearance to customs, including information required by non-customs-related legislation.</p> <p>The Union Customs Code (UCC)</p> <p>The UCC defines the priorities of the global shift to paperless environment for customs and trade (Regulation (EU) No 952/2013, 0.10.2013). The Article 6(1), of the UCC requires that All exchanges of information, such as declarations, applications or decisions, between customs authorities and between economic operators and customs authorities, and the storage of such information, as required under the customs legislation, shall be made using electronic data-processing techniques.</p> <p>UCC Economic Operators Registration and Identification subsystem 2 (EORI2)</p> <p>The Economic Operators' Registration and Identification System establishes a unique system of registration and identification for economic operators across the EU.</p> <p>The EORI2 aims to update the existing EOS/EORI system and the EOS webservice.</p> <p>EU Customs Single Window system</p> <p>The objective of the EU Customs Single Window is to enable Economic Operators to electronically lodge, and only once, all the information required by customs and non-customs legislation for EU cross-border movements of goods.</p>

		The EU Customs Single Window program foresees several implementation steps, first of which consists in automated validation of supporting documents to the customs declaration. The first project implements the validation of the Common Veterinary Entry Document (CVED).
2	Buying products and services	
	Requesting commercial invoice	<p>Electronic invoicing</p> <p>Since January 1st, 2013 all EU members must afford the same legal status to electronic invoice processes as they do for paper invoices.</p> <p>The Communication (COM(2010) 712 final) and The Directive on the common system of value added tax (Directive 2010/45/EU) as regards the rules on invoicing sets out new VAT rules regarding e-Invoicing and removes obstacles to the uptake of e-invoicing by creating equal treatment between paper and e-invoices, while also ensuring that no additional requirements are imposed on paper invoices.</p> <p>Advanced electronic signatures¹²³ based on a qualified certificate and created by a secure signature creation device or electronic data interchange (EDI)¹²⁴ are technologies for assuring the authenticity of the origin and integrity of the content of electronic invoices.</p> <p>EU Member States start mandating the use of eInvoicing for suppliers to their public sectors (Directive 2014/55/EU). The Directive also calls for the definition of a common European standard at semantic level.</p> <p>Starting from 1 January 2017, French big companies and the public sector have obligation to accept electronic invoices, and until 1 January 2020 this obligation will be extended to companies of all size.</p> <p>The Connecting Europe Facility (CEF) eInvoicing building block provides technical specifications and free software components that offer basic capabilities for Administration to Business (A2B) and Administration to Administration (A2A) electronic invoicing services¹²⁵.</p>
	Using electronic contract	<p>Electronic contract</p> <p>The EC Directive on electronic commerce (2000/31/EC) defines the fundamental principles of equal validity of electronic contracting and contract concluded offline. Contracts concluded by electronic means should have the same validity as contracts concluded offline by "traditional" means (equivalence principle). This applies to all stages</p>

¹²³ An advanced electronic signature within the meaning of point (2) of Article 2 of Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures*, based on a qualified certificate and created by a secure signature creation device, within the meaning of points (6) and (10) of Article 2 of Directive 1999/93/EC

¹²⁴ Electronic data interchange (EDI), as defined in Article 2 of Commission Recommendation 1994/820/EC of 19 October 1994 relating to the legal aspects of electronic data interchange, where the agreement relating to the exchange provides for the use of procedures guaranteeing the authenticity of the origin and integrity of the data

¹²⁵ <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eInvoicing>

		<p>and acts of the contractual process, such as the contractual offer, the negotiation and the conclusion of the contract by electronic means.</p> <p>Electronically signed contracts are legally binding documents and electronic signatures are admissible in a court of law as introduced in the eIDAS Regulation ((EU) 910/2014).</p> <p>The Digital Single Market Strategy adopted by the Commission on 6 May 2015 announced a legislative initiative on harmonised rules for the supply of digital content and the online sales of goods. The Commission made proposals of two Directives that make an improvement on certain aspects concerning contracts for the supply of digital content, and a proposal on certain aspects concerning contracts for the online and other distance sales of goods (COM/2015/0635).</p> <p>eDelivery CEF building block provides reusable specifications, software and services that offer possibility to create a wide variety of IT systems for public administrations to exchange electronic data and documents (including contracts) with other public administrations, businesses and citizens, in an interoperable and secure way¹²⁶.</p>
	Applying for a letter of credit	<p>Electronic application for a letter of credit provides several considerable advantages comparing to traditional presentation of original paper documents. For this reason, major EU banks accept electronic applications for a letter of credit from traders.</p> <p>Applicant (importer) applies to the issuing bank for opening an electronic letter of credit that are subject to latest version of Electronic Letters of Credit Rules.</p> <p>To standardise terms and procedures and avoid misunderstandings, a set of international rules for letters of credit have been developed by the International Chamber of Commerce (ICC). Most commercial letters of credit are governed by these rules, which are referred to as Uniform Customs and Practice for Documentary Credits (UCP).</p> <p>Electronic Letters of Credit Rules (eUCP). In year 2002 the Banking Commission created supplementary rules to UCP 500, updated to its current version UCP 600 in 2017, which enabled the presentation of electronic records alone or in combination with paper documents. The supplementary rules are known as the "Supplement to the Uniform Customs and Practice for Documentary Credits for Electronic Presentation" or simply "eUCP". eUCP came into effect on 01 April 2002.</p>
3	Export procedures	
	Requesting and obtaining of export licences	<p>On-line application for an export licence</p> <p>In the EU, licences are needed for import and export of military and paramilitary goods, dual-use and technology, artworks, plants and animals, medicines and chemicals. Licencing is regulated by the EU</p>

¹²⁶ <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery>

		<p>Directives transposed into national legislation of the EU Member States. Depending on products and countries of destination, there are several different types of licences such as Global Export Licence, Open General Licence (OGL), Standard Individual Export Licence (export of a quantity of specified goods to a specified importer), Open Individual Export Licence (specific to an individual exporter allows multiple shipments of specified goods to specified destinations). The EU countries manage individual on-line databases for processing licences applications. Most of licences can be applied fully on-line. The best EU practices are SPIRE online export licensing system from the UK¹²⁷, and Irish Online Export Licensing Application System (OELAS)¹²⁸.</p> <p>The Directorate General for Trade operates an integrated system SIGL for the management of licences for imports of textiles, clothing, footwear, steel and wood to the EU¹²⁹. SIGL is a computer system linking the European Commission with the departments issuing import authorisations in the Member States. SIGL also provides real time information to traders on quota levels, licensed amounts by Member State for imports of clothing, footwear, steel and wood products applied in the European Union.</p>
	Delivering Certificate of Origin	<p>EC Electronic Certificate of Origin (eCO)</p> <p>The European Community Certificate of Origin is a commercial or Customs clearance requirement to evidence the origin of the goods.</p> <p>Electronic Certificates of Origin systems offer electronic application, issuance, complete with digital rubber stamps of the chamber and signatures of authorised officials. They ensure a greater level of transparency, reduce costs and save time among customs administrations, exporters, importers, banks and stakeholders (International Chamber of Commerce, n.d.).</p> <p>Use of eCO also enhances and raises the level of acceptability of eCO for letter of credit clearance, insurance companies and importers.</p> <p>eCO includes safeguard measures, such as online verification of the authenticity of CO and optical watermarking technology. International Chamber of Commerce International CO Global Accreditation Chain (ICC World Chambers Federation, n.d.) offer Chambers and customs authorities the possibility to verify the authenticity of Certificates of Origin online. The participating Chambers from the EU include Belgium, Bulgaria, France, Netherlands, Slovenia, Slovakia and United Kingdom.</p>
	Processing transport documents of	<p>Use of an electronic transport document as a transit declaration in UCC New Computerised Transit System (NCTS)</p> <p>The Article 233(4)e of UCC foresees the usage of an electronic transport document as transit declaration.</p>

¹²⁷ <https://www.spire.trade.gov.uk>

¹²⁸ <https://oelas.djei.ie/>

¹²⁹ <http://trade.ec.europa.eu/sigl/>

		<p>The system requirements include an analysis of possible new technological or modernised ways of data capturing (i.e. automatic reading of electronic-seal numbers, attachment of documentation/images) and new means of adding/verifying and securing data <i>en route</i> by operators/customs, etc. (MASP rev. 2016, 2016)</p>
		<p>Management of data on guarantees under TIR Carnets through customs system</p> <p>Secure exchange of data between national customs systems of the Member States related to the international transport of goods under cover of TIR Carnets (TIR Convention) allows customs to manage the data on guarantees issued to holders authorised to use the TIR system by the guarantee chain.</p> <p>The aim is to enable the Member States to exchange information on TIR transports according to provisions of the TIR Convention between the contracting parties, the guarantee chain and the holders of the TIR procedure via the eTIR international system.</p> <p>The implementation of eTIR in EU comprises the enhancement of the Community customs transit systems (NCTS) to handle TIR operations and to enable the exchange of the data between NCTS and eTIR system (MASP rev. 2016, 2016).</p>
5	Import procedures	
	<p>Requesting and obtaining licenses import and permits</p>	<p>TRAdE Control and Expert System (TRACES)¹³⁰</p> <p>TRACES is an integrated web-based veterinary system, maintained by the European Commission DG Health and Consumer Protection. It networks veterinary authorities and business users in all Member States, EFTA/EEA countries (Iceland, Lichtenstein and Norway) and a certain number of third countries with whom the Commission has special agreements. TRACES is a management tool for tracking movements of animals, products of animal origin and plants from both outside and within the European Union. It also covers imports to the European Union of feed and food of non-animal origin as well as plants, seeds and propagating materials.</p> <p>TRACES allows digitisation of the entire certification process and linked procedures. It facilitates the exchange of information between all involved trading parties and control authorities from more than 80 countries worldwide and speeds up the administrative procedures.</p> <p>All harmonised export certificates to the EU are available in the last updated version and translated into all EU official languages.</p>

¹³⁰ http://ec.europa.eu/food/animals/traces_en

		<p>TRACES is established by the Commission Decision 2004/292/EC of 30 March 2004 on the introduction of the TRACES system and amending Decision 92/486/EEC.</p> <p>TRACES allows communication between the national competent authorities in non-EU countries and with EU and EFTA countries, in order to speed up the administrative processes at the EU Border Entry Point. The national competent authorities and their economic operators submit consignments in TRACES and automatically obtain updates related to the certification process, through the official document submitted in TRACES, by means of secure notification messages sent by TRACES:</p> <ul style="list-style-type: none"> • Veterinary certificate to the EU (IMPORT) - veterinary certificates for importing live animals, semen, embryos, ova and products of animal origin into the Community; • Declaration Documents required for imports of intermediate products (DECLAR) <p>For export from the EU, the following certificates and documents are available to any non-EU country on a voluntary basis:</p> <ul style="list-style-type: none"> • Common Entry Document (CED) • Common Veterinary Entry Document: Animals (CVEDA) • Common Veterinary Entry Document: Products (CVEDP) • Common Health Entry Document for Plants and Plant products (CHED-PP)
	5.2, 5.3, 5.5	<p>European Information System (EIS)</p> <p>Its goal is to facilitate customs processes for the movement of goods into and out of the European Union. The EIS is built in compliance with international standards that allows interoperability with third countries' systems¹³¹.</p> <p>Computerised customs systems are interfaced with existing and future systems in areas other than customs.</p> <p>All authorities and agencies involved in import and export transactions are enabled to exchange electronic information, including with third countries if an international agreement provides for this. Customs take a leading role in establishing a single window for these authorities and agencies.</p>
	Processing foreign Certificate of Origin	<p>Registered Exporter System (REX)</p> <p>The REX aims to make up-to-date and complete information available on Registered Exporters established in non-EU countries (GSP</p>

¹³¹ The applicable international standards: the WCO data model, ISO and UN norms, standards of International Maritime Organisation (IMO), number or European Vessel Identification (ENI), IATA/ICAO flight numbers, IATA structure of numbers of ULD containers.

		<p>beneficiary countries) exporting goods to the EU under preferential trade arrangements.</p> <p>Exporters should be registered with the competent authorities of the beneficiary countries in order to be entitled to make out statements on origin.</p> <p>In order to register exporters, each beneficiary country should use the REX managed by the European Commission. Through the system, the Economic Operators in the EU Member States should be able to check, before declaring goods for release for free circulation, that their supplier is a registered exporter in the concerned beneficiary country.</p> <p>The main purpose of the system is to replace paper-based certification process by an IT-supported self-certification process. A central database contains the registered exporters. The REX also offers the opportunity to Member States to enhance their national systems for customs declarations processing with an automated verification of the REX number from the declarations against that central database.</p>
	<p>Processing of foreign permits and certificates of conformity</p>	<p>Automated validation of the Common Veterinary Entry Document to the customs declaration</p> <p>Automated validation of supporting documents to the customs declaration is the first phase of the EU Customs Single Window program that foresees several implementation steps. The first implemented project is the validation of the Common Veterinary Entry Document (CVED).</p> <p>The aim of the EU SW-CVED is to provide for automated validity checks of the CVED submitted with customs declarations. This project consists in interconnecting the Member States Customs Systems and the DG SANTE TRACES system that holds the CVED through the DG TAXUD SPEED 2 platform. The system is in production phase in several Member States (for example, Lithuania developed the Single Window Information System based on interfaces of national customs declarations processing system and other national administrations). Several other Member States are considering joining.</p> <p>The next phase of the program foresees the evolution of the EU SW-CVED Phase 1 and inclusion of additional permits (provisionally, FLEGT (timber import), COI (organic products import) and CHED-PP (plant products import)), handled at the TRACES platform of DG SANTE.</p>
	<p>Processing of pre-arrival declarations</p>	<p>EU-Russia 'Green Corridor' pilot project</p> <p>The pilot project offers faster customs clearance and reduction of customs controls for the goods exported by participating AEOs from one of the participating EU Member States with the destination in Russian Federation, moved by the road mode of transport. Benefits for the participating AEOs would be offered at the border crossing points and inland customs offices where an import declaration will be lodged. Exporters, transport operators and importers, having an EU AEO status</p>

		<p>or RU Low Risk Operator status could participate in the pilot project on a voluntary basis. At a later stage the pilot project could be extended to cover the goods exported from Russia to the EU.</p> <p>Export declaration data (agreed subset, which is only exchanged on EU Common Domain) would be sent to Russia. Control results at import would be sent back to EU. Implementation of the international exchanges between the EU and Russia is based on the WCO Globally Networked Customs (GNC) Utility Block for Control Mutual Recognition (MASP rev. 2016, 2016).</p> <p>Exchange of advance customs information and TIR movement data with Republic of Moldova and Ukraine</p>
	Releasing goods	<p>eATA Carnet in EU</p> <p>ATA Carnet (Temporary Admission)¹³² is an international customs document that mainly permits the duty-free temporary importation of goods for up to one year. ATA Carnets cover commercial samples, professional equipment and goods for presentation or use at trade fairs, exhibitions, shows.</p> <p>The contracting parties participating in the Istanbul Convention on Temporary Admission agreed at Istanbul on 26 June 1990 are in process to replace the current paper-based ATA Carnet System by a decentralised eATA Carnet System.</p> <p>The eATA Carnet system operates under the ATA and Istanbul Conventions administered by the WCO and is based on the WCO Globally Networked Customs (GNC) Utility Block for eATA Carnet.</p> <p>The EU develops a single central system to exchange eATA Carnet System data on issued guarantees with other participating parties.</p>
6	Payment procedures	
	Payment of customs duties and fees	<p>The Decision on a paperless environment for customs and trade (Decision 70/2008/EC) indicates that the collection and the repayment/remission of customs duties will be handled by the customs authority responsible for the location where the importer/exporter is established and keeps his customs records</p>
	Letter of credit document presentations	<p>Fully electronic presentations of letter of credit documents to major EU trade bank offices</p> <p>Online letter of credit presentations enable exporters and freight forwarders to create accurate trade documents and deliver original documents over the internet to major international trade banks and buyers. This service is largely used by European companies and international banks in the EU countries and abroad.</p> <p>Letter of credit document presentations contain originals and copies of all required documents, including all types of original third-party “e-</p>

¹³² http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/conventions/pf_ata_system_conven.aspx

		<p>transport documents,” such as carrier bills of lading, house bills of lading, forwarder cargo receipts and air waybills.</p> <p>All letter of credit parties, such as beneficiary, applicant, issuing bank, advising bank and confirming bank must connect to the same secure online platform which enables electronic presentations and electronic document examinations.</p>
--	--	---

6.8 Detailed EU baseline in Electronic Logistics

- [DTLF](#) - Digital Transport and Logistics Forum, a Commission's expert group supporting the development of "e-transport" initiatives.
- [Customs transit](#) is a customs procedure used to facilitate the movement of goods between two points of a customs territory, via another customs territory, or between two or more different customs territories;
- [e-SENS](#) – Electronic Simple European Networked Services. The existing Large-Scale Pilots have already proven that providing cross-border services can be made simpler;

EU Best practices and projects

- [CEF building blocks](#) (eDelivery, eID, eInvoicing, eSignature, eTranslation). Based on existing formalised technical specifications and standards, the CEF building blocks facilitate the adoption of common technical specifications by public administrations;
- [CO-GISTICS](#) the first European project fully dedicated to the deployment of cooperative intelligent transport systems (C-ITS) focused on logistics;
- [BE LOGIC](#) aims to improve the efficiency within and across different modes of transport.
- [CLOSER](#) supports knowledge sharing between long and short-distance transport networks for both passengers and freight;
- [BESTFACT](#) promotes the use of best practices and innovations in freight logistics;
- [e-Impact](#) fosters the implementation of e-Freight so as to reduce the cost of exchanging information between different actors and transport modes along the chain.
- [e-freight](#) aims to take the paper out of air cargo and to replace it with the exchange of electronic data and messages;
- [SUCCESS](#) aims to explore green and efficient solutions regarding various issues in Construction Supply Chain and material freight logistics in urban areas;
- [FREME](#) aims to build an open innovative commercial-grade framework of e-services for multilingual and semantic enrichment of digital content.

Baseline

- RFID:
 - Swedish Transport administration completed first phase of railroad monitoring project using RFID technology (2012-2013);
 - Rail-Baltica project that will connect Western railroad system with Baltic one and further East was started by the EU in 2010;
 - Implementation of relevant e-procedures of a new Europe Customs Code valid from May 1, 2016.
- Tags, electronic seals and other RFID applications;
- e-Signature interoperability across the EU member states;
- EU (international) agreements on goods transport by rail, see, air and road:
 - COTIF/CIM – COTIF – Convention concerning International Carriage by Rail, CIM – Uniform Rules concerning the Contract of International Carriage of Goods by Rail;
 - SMGS – Agreement on the International Goods Transport by Rail;
 - e-TIR (legal framework, procedures, information services and IT infrastructure);
 - eCMR;
- Interoperability of transport and customs (also other regulatory agencies) information systems;
- Electronic form of documents for applications and supporting documents (packing list, way bill, invoice, ...);
- Bonded warehouses (temporary storage) – The Community Customs Code;
- Status of authorised Economic Operator for transport operators;
- EU New Computerised Transit System (NCTS), linkage of NCTS with e-TIR;
- i.MAS. Smart Tax Administration System;
- Specifically, the EU should work closely with the industry to secure appropriate implementing measures of a new Union Customs Code to secure without delay: 1. centralised clearance 2. electronic data processing (eCustoms) and 3. single-window for all administrative controls 4. substantial trade simplifications.

Table 13 – Indicators and the corresponding benchmarks for the e-logistics / Digital Transport Corridors

Indicators	Benchmarks to achieve harmonised Digital Market for the component
1. Policy, strategy and implementation framework	<p>1.1 Transport and transit facilitation agreement(s) with neighbouring countries</p> <p>1.2. DECISION No 70/2008/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 January 2008 on a paperless environment for customs and trade on a paperless environment for customs and trade shall provide information about the structure and means for the operations of electronic customs system, which are secure, integrated, interoperable and accessible for the exchange of data contained in customs declarations, documents accompanying customs declarations and certificates, and the exchange of other relevant information.</p> <p>1.3. The Regulation (EU) N°910/2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS Regulation) was adopted by the Council of the European Union on 23 July 2014. This new regulation establishes a new legal structure for electronic identification, signatures, seals and documents throughout the EU.</p>

2. Legal framework	<p>2.1 E-signature legal framework and interoperability technical solutions across the borders. refers to data in electronic form, which is logically associated with other data in electronic form and which is used by the signatory to sign. This type of signature provides the same legal standing as a handwritten signature as long as it adheres to the requirements of the specific regulation it was created under (e.g., eIDAS in the European Union, NIST-DSS in the USA or ZertES in Switzerland).</p> <p>2.2. AEO (Authorised economic operator) concept is based on the Customs-to-Business partnership introduced by the World Customs Organisation (WCO). The EU established its AEO concept based on the internationally recognised standards, creating a legal basis for it in 2008 through the 'security amendments' to the "Community Customs Code" (CCC) (Regulation (EC) 648/2005) and its implementing provisions. The EU has concluded and implemented Mutual Recognition of AEO programmes with Norway, Switzerland, Japan, Andorra, the US and China. Further negotiations are currently taking place or will be launched in the near future with the other most important trading partners. In addition, the EU is providing technical assistance to a number of countries to prepare them to set up AEO programmes.</p> <p>2.4. Harmonisation on EU legislation and Customs union legislation (COTIF/CIM and SMGS)</p>
3. Procedures	<p>3.1 Single window approach for transport and logistics data (submission of data in unified format only once to multiple systems, reuse of data, data transfer into different systems)</p> <p>3.2. Green lanes TIR and re-authorisation of the TIR System for internal transit within the European Union Green lanes at border crossing points for registered freight forwarders (facilitation measures for authorised operators).</p>
4. Electronic services	<p>4.1. NCTS (The New Computerised Transit System) is a European wide system, based upon electronic declarations and processing. It is designed to provide better management and control of Community and Common Transit. Implementation of the processes related to the use of an electronic transport document as a transit declaration. There will be two types of procedures available under NCTS; Normal Procedures and Simplified Procedures. Using the Normal Procedures any company connected to NCTS will be able to lodge declarations at any Office of Departure (OoDep). They will also have the facility to 'pre-lodge', i.e. to input a declaration prior to the physical presentation of the goods. Under the Simplified Procedures Authorised Consignors / Consignees will, as at present, be able to carry out Community Transit operations without presenting the goods and corresponding documents at the Customs Office. They must, however, become connected to the NCTS system and make their declarations electronically.</p> <p>4.2. Electronic services for the tax payers' transactions data collection, processing, management and delivery (i.MAS - Smart Tax Administration System) goal is to reduce the administrative burden on taxpayers, increase accounting for the taxpayer income, tax collection and performance of tax administration by installing electronic services and by shifting the tax payers' transactions data collection, processing, management and delivery to electronic space.</p> <p>4.3. Road tax collection/payments. The objective of this action is to put forward the implementation of electronic fee collection systems by developing a single interface.</p>

	<p>EC Decision 2009/750/EC defined the European Electronic Toll Service (EETS) and its technical elements. Interoperability constituents of the EETS were defined in the report "EETS - Guide for the Application of the Directive on the Interoperability of Electronic Road Toll Systems" (EC, 2011).</p> <p>4.4. EU Implementation of UNECE eTIR System - The Contracting Parties to the TIR Convention launched the 'eTIR Project' with the aim to provide an exchange platform for all actors involved in the TIR system (Customs authorities, holders and guarantee chain). The eTIR international system aims to ensure the secure exchange of data between national Customs systems related to the international transport of goods under cover of TIR Carnets (TIR Convention) and to allow Customs to manage the data on guarantees issued to holders authorised to use the TIR system by the guarantee chain.</p>
5. Technical infrastructure (ICT platforms)	<p>5.1. SSN (SafeSeaNet). SafeSeaNet is a vessel traffic monitoring and information system, established in order to enhance Maritime safety, port and maritime security, marine environment protection, efficiency of maritime traffic and maritime transport. It has been set up as a network for maritime data exchange, linking together maritime authorities from across Europe. It enables European Union Member States, Norway, and Iceland, to provide and receive information on ships, ship movements, and hazardous cargoes. Member States have to comply with the requirements of the SafeSeaNet Interface and Functionality Control Document (IFCD) where the data quality requirements are set. In terms of these provisions Member States should ensure that the agreed automatic data quality rules for SSN are applied prior to notifications being sent to the central SSN system. The XML Reference Guide includes specific data quality procedures</p> <p>5.2. SPEED2 usage for exchanging TIR data. Exchanges of information take place through the Single Portal for Entry and Exit Data (SPEED), which is a single interface between the EU and its partner countries. SPEED allows for automatic high-speed transmission of messages. It supports both UN/EDIFACT and XML message formats. SPEED provides for the filtering of the agreed data elements of the relevant NCTS/TIR message and their transmission. SPEED does not store the business content of the message. The portal only provides for a validation of the syntax (message form) and the semantics (message field type). A validation against the business rules and conditions falls under the responsibility of the system at the Member State of departure.</p> <p>5.3. RFID (Radio Frequency Identification) - uses electromagnetic fields to automatically identify and track tags attached to objects. The tags contain electronically stored information. RFID is one method for Automatic Identification and Data Capture (AIDC). Electronic Product Code (EPC)-enabled RFID technology uses Radio Frequency Identification (RFID) for the automatic identification of consumer products.</p>
6. Standards	<p>6.1. e-Manifest format complies with UN/CEFACT standard format. The overall objective is to identify procedures that would simplify the submission of data elements required by different authorities for cargo formalities with the aim to facilitate and reduce the administrative burden for ship data providers.</p> <p>6.2. e-Freight - European e-freight capabilities for co-modal transport. The E-FREIGHT project denotes the vision of paperless freight transport processes where</p>

	<p>an electronic flow of information is linked to the physical flow of goods. The e-Freight is developing the following generic e-Freight Solutions:</p> <ul style="list-style-type: none"> - Next Generation National Single Window (NGNSW) - a B2A application. A facility that will allow parties involved in trade and transport to lodge standardised information and documents on a single-entry point in order to fulfil all reporting obligations both for trade and transport for all modes within an EU Country. NG National Single Window will provide interconnections with EU platforms with SafeSeaNet (SSN), eCustoms, RIS, TAF/TSI, etc.; - Central EU National Single Windows' Support Services: an A2A application, a central EU level module which facilitates information exchange among Next Generation National Single Windows, holds the registry of all NGNSWs, provides for keeping regulatory requirements and policies changes updated and for other statistical and data services. - Collaborative Security Risk Management: an A2A application intended to support real time tracking of high risk trucks and vessels and security risk information exchange and sharing among authorities and administrations in different regions of a country. - Setting up Co-modal Transport Networks: a B2B application, addressing co-operation strategies, based on electronic interactions, in order to provide quality transport services while at the same time improving the environmental footprint of the entire supply chain. - Co-modal Shipment Planning: a B2B application to assist transport clients in specifying, comparing and negotiating the terms of a required co-modal transport service. - Monitoring of Transport Services execution: a B2B application to support monitoring of the status of co-modal transport services and detection of deviations from the agreed transport plan. - Single Transport Document: a B2B application consisting of a universally available Service which generates electronic transport Documents (waybills) from existing operational data, based on a common standardised Schema (data model) <p>6.3. COTIF/CIM application for international carriage of goods by rail. The Convention concerning International Carriage by Rail (COTIF) applies in Europe, the Maghreb and in the Middle East. OTIF Member States apply the majority of the appendices to COTIF (CIV, CIM, RID, CUV, CUI, APTU and ATMF Uniform Rules). Belorussia and Moldova are not a part of OTIF organisation. Azerbaijan and Georgia are part of OTIF organisation (COTIF legislation) but are missing CUV and CUI applications.</p> <p>6.4. SMGS/CIM application for international goods transport by rail. During the railway transport to the „East" it is necessary to tranship the goods from standard gauge wagons (1435 mm) to broad gauge wagons (1520 mm), and complete then so called reconsignment, i.e. data transfer from CN CIM to CN SMGS. Analogical situation is in the opposite direction, i.e. during the import from that countries. The matter of reconsignment results from the existence of two carriage rights, Convention concerning International Carriage by Rail (COTIF), which, together with Uniform Rules Concerning the Contract of International Carriage of Goods by Rail (CIM), controls the „Western" countries, and Agreement on International Goods Transport</p>
--	--

	<p>by Rail (SMGS), applies in CIS countries and some European (Poland, Latvia, Lithuania, Estonia, Ukraine, Albania, Bulgaria) and Asian countries.</p> <p>7.2. eCMR - frames the future of road transport. The CMR Convention (full title Convention on the Contract for the International Carriage of Goods by Road) is a United Nations convention that was signed in Geneva on 19 May 1956. It relates to various legal issues concerning transportation of cargo by road. It has been ratified by the majority of European states. Without full digitalisation of road transport, the deployment of the latest innovations – that are set to revolutionise mobility – will be unrealisable. In February 2008, a protocol was added to the CMR Convention, which requested that CMR could be managed electronically, via ‘e-CMR’. This protocol entered into force on 5 June 2011, and so far, 11 countries have ratified this new electronic system. These include Bulgaria, Czech Republic, Denmark, Estonia, Latvia, Lithuania, France, Netherlands, Slovakia, Spain and Switzerland, with additional countries showing strong interest.</p> <p>e-CMR can also be easily integrated with other services used by transport companies, e.g. customs declaration or transport & fleet management services. By moving to an electronic format, the three parties involved in each shipment benefit from increased overall efficiency of logistics, resulting in increased economic competitiveness. A final benefit, is greater road safety, as e-CMR can be linked to eCall, a system for trucks that automatically dials emergency services in the event of a road traffic accident.</p> <p>Status of the e-CMR implementation in the EU:</p> <p>e-CMR officially launched in January 2017 with the first ever border crossing to use electronic consignment notes between Spain and France, proving that the system works and is simple to implement and use.</p>
<p>7. Best practices</p>	<p>7.1. Transmodal solutions for trucks loading on railway platforms (Nemunas) transmodal solutions for trucks loading on railway platforms. Lithuanian Railways together with Belarussian Railways have accomplished a common piggyback train project Nemunas, connecting Vilnius and Minsk intermodal terminals. It is a unique logistic solution in Central and Eastern Europe: on special railway platforms trucks with trailers are transported. Project Nemunas is an alternative solution for road transport - a way to avoid traffic jams on border crossing points. Nemunas train is convenient not only for road transportation companies, but also to other parties included in transportation process (consignors, consignees, freight forwarders) and it is environmentally friendly.</p> <p>7.5. TENTacle - capitalising on TEN-T core transport network corridors for prosperity, growth and cohesion (www.tentacle.eu). A broad range of stakeholders are expected to be involved in a joint action to remove physical, technical, operational and administrative bottlenecks along these corridors by the year 2030.</p> <p>7.9. Cross-border connection of electronic identification and authentication infrastructure (e-SENS), the pan-European project to strengthen the EU digital single market and facilitate public services across borders. Germany, the Netherlands and Austria have successfully connected their electronic identification and authentication infrastructure, making it possible to use Austrian and German eID to access Dutch online public services. Specific examples include an agricultural portal, handling traffic fines and services delivered by municipalities. The endeavour was carried out</p>

	<p>within the framework of the Citizen Lifecycle Pilot of the e-SENS project, co-financed by the EU.</p> <p>7.11. SPOCS has finished and offers its Starter-Kit. SPOCS (Simple Procedures Online for Cross- Border Services) is a large-scale pilot project launched in May 2009. SPOCS aims to build the next generation of online portals (Point of Single Contact or PSC), which every European country now has in place, through the availability of high impact cross- border electronic procedures. Businesses seeking to expand into other countries often struggle to comply with all the regulations they need to follow. Applying for licenses, permits and completing other administrative procedures in another country can be very complicated. The EU Services Directive already requires all procedures involved in establishing a business and providing services in another EU country to be fully online. The deadline for Member States to implement the Services Directive was end 2009.</p> <p>7.12. eMAR (Strategic Framework and Simulation based Validation). The necessity to synchronise infrastructure development and support efficient and innovative intermodal transport services along the global transport networks requires new instruments for cooperation among the business, research and public institutions on international level. European E-Maritime Initiative promotes the development of seaport portals enabling port users to access all the required services (Port, Customs, etc.) through just one identifier, a single window.</p> <p>7.13. KIPIS is the basis of the Klaipeda seaport community IT system, that accelerates the exchange of data and information between various participants in the logistics chain and provides the conditions to enhance the competitive capacity of the port of Klaipeda.</p> <p>7.14. LUVIS system is designed for the automated management of navigation processes of large and small ships and for accounting of port duties. This system will also be beneficial to information systems of data of other institutions and to rendering e-services under a “single window” principle. It will also provide for separation of the real-time management of the navigation processes from process accounting functions.</p> <p>7.15. IT KROVINYS (Railway Information System) In order to optimise the process of freight transportation by railway and maritime transport through the development of the integrated freight transportation electronic services.</p>
--	---

The following section provides the description of qualitative and quantitative benchmarks that form the EU baseline:

Table 124 – Description of EU baseline for the e-logistics / Digital Transport Corridors

Benchmark	EU baseline
e-CMR	The CMR Convention (Convention on the Contract for the International Carriage of Goods by Road) is a United Nations convention that was signed in Geneva on 19 May 1956. It relates to various legal issues concerning transportation of cargo by road. As of 2013, it has been ratified by 55 states. All the European countries are members of this Convention.

RFID (Radio Frequency Identification)	RFID (Radio Frequency Identification) - RFID is now being used in everything from automobiles to security pass cards, and it serves a variety of purposes. In Europe there have been number of pilot projects. One of its widespread uses is in devices such as Liber-T in France that speed the passage of autos through highway toll booths. Also, the Swedish transport Administration completed the first phase of a railroad monitoring project (2012-2013) using RFID technology.
Smart Tax Administration System	Goal is to reduce the administrative burden on taxpayers, increase accounting for the taxpayer income, tax collection and performance of tax administration by installing electronic services and by shifting the tax payers' transactions data collection, processing, management and delivery to electronic space. System is comprised of general part - all overall functionality (messages, contact information, representations management, and settings for web services); Subsystems: electronic invoicing subsystem and electronic way-bill subsystem.
Road tax collection/payments.	The objective of this action is to put forward the implementation of electronic fee collection systems by developing a single interface.
e-Manifest	Harmonised manifest will encompass a number of cargo related formalities for the carriage of goods by sea, creating a maximum data set to cover all the functionalities and information required by EU and national legislation. Minimise reporting by the shipping industry and the risk of errors by providing the possibility to apply the reporting once principle. The shipping industry will be able to submit a comprehensive eManifest comprised of data required by the maritime and custom authorities for the formalities covered by the scope of the project.
RoLa freight train (truck loaded on train)	Transmodal solutions for trucks loading on railway platforms. Common piggyback train, connecting two cities or countries intermodal terminals. It is a unique logistic solution: on special railway platforms trucks with trailers are transported. It is an alternative solution for road transport - a way to avoid traffic jams on border crossing points. It is convenient not only for road transportation companies, but also to other parties included in transportation process (consignors, consignees, freight forwarders) and it is environmentally friendly.
eID	Secure electronic identification is an important enabler of data protection and the prevention of online fraud. eID can guarantee the unambiguous identification of a person and make it possible to get the service delivered to the person who is really entitled to it. However, the lack of common legal basis prevented Member States from recognizing and accepting eIDs issued in other Member States.