Deployment of e-freight in the Western Balkans and implementation of the Regulation (EU) 2020/1056 on electronic freight transport information

Final report

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Revision history

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1.0	2 December 2022	EY	Final report
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1 Introduction to the project

Digitalisation of freight transport in the Regional Partners (The Republic of Albania, Bosnia and Herzegovina, North Macedonia, Kosovo*[1], Montenegro and the Republic of Serbia) is driven by a number of strategic directions in the region:

- Under the Treaty establishing the Transport Community, the Regional Parties have committed to ensure the development of the indicative extension of the TEN-T comprehensive and core networks to the Western Balkans.
- Sustainable and Smart Mobility Strategy in the Western Balkan perspective sets actions to greening and digitalising transport in the region. In particular, the strategy provides actions related to paperless freight transport.
- The Regional Partners have included implementation of the eFTI Regulation into the *Sustainable and smart mobility strategy*[2]. The Western Balkans can benefit from implementation of the eFTI Regulation, digitalising the freight information exchange, thus, achieving faster progress on freight-forwarding procedures and moving of goods while focusing on electronic procedures.

The Permanent Secretariat of the Transport Community (hereafter referred to as "TCT") issued a tender (No. PS/SRV/EFR/017/2021) for the deployment of e-freight in the Western Balkans and implementation of eFTI. This project focuses on identifying challenges preventing deployment of e-freight in the Western Balkans and implementation of eFTI as well as on other aspects related to deployment of digital applications for freight transport information exchange.

The scope of the "Deployment of e-freight in the Western Balkans and implementation of the Regulation (EU) 2020/1056 on electronic freight transport information" project includes four key phases:

1. Phase 1 - ALIGN: the European Union`s institutional and legal framework and best practice examples;
2. Phase 2 - UNDERSTAND: state of play and gap analysis in the Regional Partners;
3. Phase 3 - ASSESS: impact assessment of the Regulation;
4. Phase 4 - DESIGN: implementation plan / roadmap and pilot projects.

2 The European Union`s institutional and legal framework and best practice examples

In the EU, the transport sector is experiencing a number of digital developments to support the transition to cleaner, greener and smarter mobility, in line with the objectives of the EU policies. The efficiency of freight transport is the key for the competitiveness of the EU transport, economy and the functioning of the internal market. For this reason, the European Commission supported the need to accept and use electronic freight data in a number of initiatives in different areas, including legal, technical and organisational. Regulation (EU) 2020/1056[3] on electronic freight transport information aims to establish electronic exchange of freight information and creates the incentives for dematerialised transport documents to be used between businesses and authorities.

As digitalisation of freight transport documents in the Regional Parties is driven by strategic directions and will need to keep the pace with the EU, it is important to analyse the EU initiatives and practices relevant to the digitalisation of freight transport.

The report on assessment of the European Union`s institutional and legal framework and best practice examples highlights the EU initiatives and practices relevant to the exchange of electronic freight data.

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[1]. * This designation is without prejudice to positions on status, and is in line with UNSCR 1244 (1999) and the ICJ Opinion on the Kosovo declaration of independence

[3] Regulation (EU) 2020/1056 of the European Parliament and of the Council of 15 July 2020 on electronic freight transport information. More at: http://data.europa.eu/eli/reg/2020/1056/oj

The assessed initiatives and practices represent six important areas to establish the exchange of electronic freight data:

1. Key EU institutional and legal framework;
2. International conventions and transport documents;
3. Key EU and global technical solutions and other initiatives;
4. Technical standards;
5. Technical enablers;
6. And other supporting EU frameworks.

Key EU institutional and legal framework is analysed because the legal framework creates a basis for the acceptance and exchange of electronic transport documents and data. The following initiatives / practices are analysed in this area:

- **eFTI Regulation and latest updates on the implementation progress** aims to establish electronic exchange of freight information. In April 2020, the Council of the European Union has adopted Regulation on electronic freight transport information, which provides that by August 2025 all competent authorities in the EU MSs will be required to accept freight transport information provided electronically on certified platforms, whenever companies choose to use such format to provide information as proof of compliance with legislative requirements.

- **Trans-European Transport Network (TEN-T) policy** aims to construct new physical infrastructures, modernise and upgrade current infrastructures and platforms and embrace innovative digital technologies, alternative fuels and universal standards. In terms of this project, it is important to align the physical and digital infrastructures in the trade environment, which may help to facilitate the acceptance of e-freight documents along the transport networks.

- **Digital Transport and Logistics Forum (DTLF)** has working groups specialising in digitisation of transport information exchange. In particular, the expert group is working on specifications for eFTI Regulation.

- **Sustainable and Smart Mobility Strategy** includes specific actions relevant to exchange of electronic freight information, such as development of paperless options for information exchange in all modes.

The second area of the analysis is **international conventions,** which are important being a legal instrument that applies to international transport contracts. Three international conventions are analysed:

- **Convention on the Contract for the International Carriage of Goods by Road (CMR), Protocol to the CMR, and the Additional Protocol to the CMR Concerning the Electronic Consignment Note (e-CMR)** is the key convention in road transport. The additional protocol added value to the digitisation of the road transport providing rules for electronic consignment notes that have the same evidentiary value and produce the same effects as a paper consignment note.

- **Convention concerning International Carriage by Rail (COTIF)** is the key convention in rail transport. The convention allows but does not require a consignment note to be in electronic form.

- **The Budapest Convention on the Contract for the Carriage of Goods by Inland Waterways (CMNI)** is the key convention in inland waterway transport. The convention states that electronically signed transport documents are recognised as full value if the law of the State where the document is issued so provides.

The third area of the analysis is the key **EU and global technical solutions and other initiatives,** which were selected to provide examples of practical initiatives / practices in the area of digitisation of transport and logistics.

- **FEDeRATED** tests how to construct and validate the federative network of platforms approach to enable data sharing in the logistics chain through providing interoperability between individual platforms.

- **FENIX** aims to support the development, validation and deployment of the digital information systems along the TEN-T Core Network**.** The initiative's results might be reflected in system specifications of eFTI Regulation.

- **DIGINNO-Proto** is an example of a working eCMR prototype for cross-border exchange of information in the road transport in the Baltic sea region. **DINNOCAP** improved the working

> prototype of DIGINNO-Proto by aligning the system to the international standards for data exchange and improving security.

- **Benelux eCMR pilot** implements a cross-border pilot for eCMR implementation.
- **5STAR eCorridors EDIH initiative** promotes advanced digital technologies and more effective use and sharing of data in **S**ea/**T**ruck/**A**ir/**R**ail logistics. This initiative is likely to develop and pilot a data exchange solution in a multi-modal corridor in 2022.
- **Digital Transport Corridor concept in the Eastern partner countries** was developed under the EU initiative - EU4Digital Facility. During the initiative a 3-year programme was designed to establish a Digital Transport Corridor, including establishment of technical components, legal and policy adjustment, cross-border governance and harmonisation with the EU practices.

The fourth analysed area is **technical standards,** which are important as standards provide rules and requirements for the data exchange from technical perspective. The analysed technical standard is **UN/CEFACT Multi Modal Transport Reference Data Model.** It was selected for the analysis because although standards for the data exchange for eFTI Regulation are in the process of development, the UN/CEFACT data model is considered to be an input to define the standards.

The fifth area of the analysis is the **EU technical enablers** that includes a **Connecting Europe Facility (CEF) building block - eDelivery.** eDelivery provides a possibility to exchange logistics documents in an agreed manner between B2B and B2A and to register the necessary information from documents (eCMR and other key logistics documents) with the responsible authorities. eDelivery solution can be used in any project to facilitate the delivery of digital public services across borders.

The sixth area in the analysis is **other supporting EU frameworks**. One framework that is in particular relevant to the exchange of electronic freight information is **Electronic Identification Authentication and Trust Services (eIDAS).** The framework defines conditions under which Member States recognize electronic identification means and establish the legal equivalence between electronic documents and traditional paper documents. For seamless exchange of transport and logistics information there should be equivalence of electronic documents and traditional paper documents. Overall, the digitalisation of transport documents and processes should also take into account other broader frameworks (e.g., European Interoperability Strategy (EIS) and European Interoperability Framework (EIF), the European Green Deal) and future initiatives (e.g., national projects for eFTI implementation across Europe, cross-border eFTI alignment project in Ukraine) that were not in details defined in this report but might provide guidance during e-freight projects in the Western Balkans Partners.

About eFTI Regulation

eFTI Regulation and latest updates on the implementation progress aims to establish electronic exchange of freight information in the EU's Digital Single Market. In April 2020, the Council of the European Union has adopted Regulation on electronic freight transport information, which provides that by August 2025 all competent authorities in the EU MSs will be required to accept freight transport information provided electronically on certified platforms, whenever companies choose to use such format to provide information as proof of compliance with legislative requirements.

eFTI platform means a solution that is based on information and communication technology (ICT), such as an operating system, an operating environment, or a database, intended to be used to process eFTI between businesses and authorities (B2A).

The approach is decentralized and will be implemented through setting certain standards that participating stakeholders will have to follow. These standards will be developed gradually as per the indicated timeline – common data set, then eFTI platforms and service providers requirements, following with rules of certification for eFTI platforms and service providers as only certified parties will be a part of this network. It will be necessary to develop / modify platforms according to the specifications and requirements that are being developed. Only the certified platforms will participate in this network.

Platforms then can exchange information with authorities according to illustrative scenario such as:

- Company carries goods from country A to country B. Company may decide to submit information about the goods digitally;
- Company selects a certified eFTI platform and submits the data;

- Operator of the eFTI platform returns an ID for this cargo;
- In case of control by the authorities (for example inspection), the carrier will communicate the unique ID and the authority may verify the data as they have access to specific information that is relevant only for that authority. The authority is accessing this information through a national authority access point.

Although eFTI specifications and certification rules are planned to be introduced by August 2023 and March 2024 respectively, the preliminary checklist of functionalities for eFTI platforms and national access points includes[4]:

- Personal and commercial data can be processed in accordance with Regulation (EU) 2016/6793. Note: rules for access are under development;
- A unique electronic identifying link can be established between a shipment and the related data elements, including a structured reference to the eFTI platform where the data is made available, such as a unique reference identifier;
- Data can be processed solely on the basis of authorized and authenticated access;
- All processing operations are duly recorded in order to allow, at a minimum, the identification of each distinct operation, the natural or legal person having made the operation and the sequencing of the operations on each individual data element; if an operation involves modifying or erasing an existing data element, the original data element shall be preserved;
- Data can be archived and remain accessible for an appropriate period of time, in accordance with the relevant regulatory information requirements;
- Data is protected against corruption and theft;
- The data elements processed correspond to the common eFTI data set and subsets and can be processed in any of the official languages of the Union;
- Economic operators shall receive access / interface so they could input freight information;
- Interlink between eFTI platforms and a national access point shall be established to display freight information at the source on demand.

The acceptance by competent authorities (e.g. competent authorities in the areas of environment, taxes, phytosanitary and veterinary authorities, border authorities, road and railway authorities would use eFTI gates and platforms for the inspections) of information in electronic form with common specifications is expected to ease not only communication between competent authorities and economic operators but, indirectly, also the development of uniform and simplified business-to-business electronic communication across the Union. At the same time, eFTI Regulation is only intended to facilitate and encourage the provision of freight information between the economic operators and competent authorities (B2A) by electronic means, as illustrated on the figure below.

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[4] Regulation (EU) 2020/1056 on electronic freight transport information (eFTI). More: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020R1056

Figure 1. eFTI Regulation facilitates and encourage B2A exchange of freight information
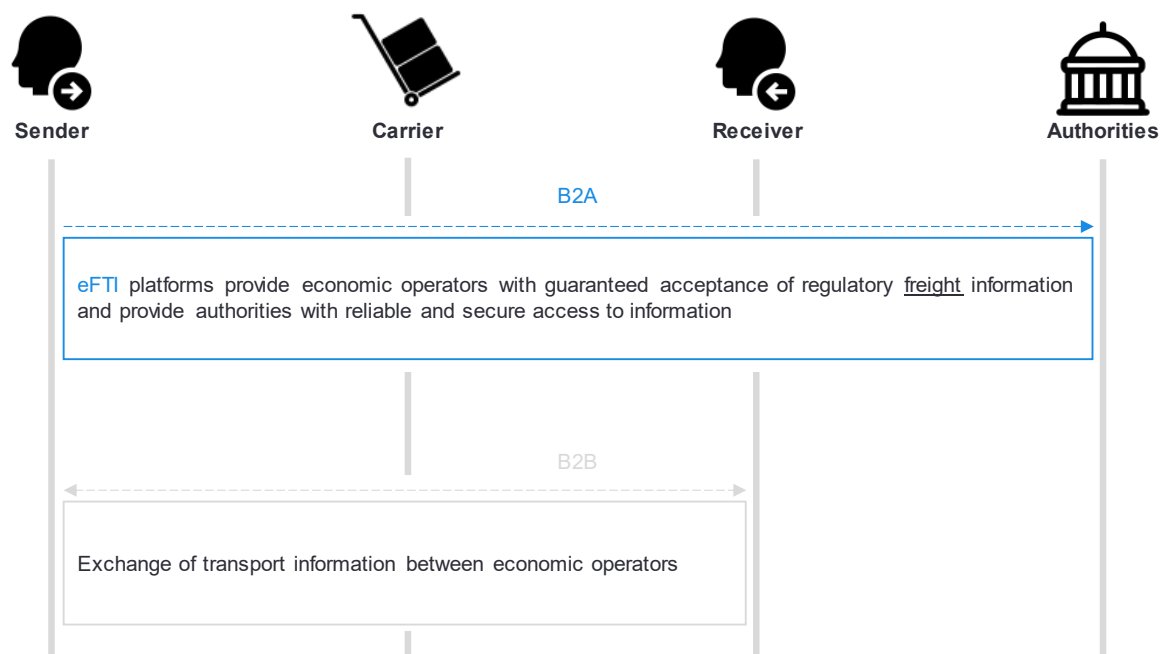
3 State of play and gap analysis in Regional Partners

The analysis of the EU initiatives and practices relevant to the digitalisation of freight transport and logistics[5] demonstrates that the process of preparation for eFTI Regulation has started in the EU. Moreover, it is a complex process to prepare for eFTI Regulation. The EU MSs are increasing awareness between stakeholders, implementing legal changes, launching and testing technical solutions, preparing planning and allocating budgets. As the MSs have already started the preparation to be ready for the roll-out of eFTI Regulation by 2025, the Western Balkans Partners have already planned to prepare by setting the strategic direction to harmonise with the eFTI Regulation. In addition, this project was initiated to develop an implementation plan to prepare the Regional Partners for the deployment of the eFTI Regulation.

To initiate the preparation, an integrated programme should be launched that would address legal, institutional and organisational, technical, and commercial specifics of the region. This report aims to support the design of such programme by assessing the current state of play of the freight information exchange in the Regional Partners. The aim was reached by identifying gaps and challenges in the Western Balkans Partners to achieve seamless exchange of electronic transport information on the national level and cross-border.

As the "freight digitisation train" has departed in the Digital Single Market relatively recently, an expectation that the Regional Partner or the EU MSs are well-prepared is unreasonable. At the same time, there is a number of positive aspects where the Regional Partners demonstrate **advanced developments**, such as:

- There are regional and national strategic documents that set the direction to align with the EU in terms of digitising freight information exchange. The strategic documents and initiatives plan budgets on the regional and national levels for the overall digitisation of the transport sector;
- There is a strong presence of regional systems that facilitate the exchange of freight information with different scopes (e.g., SEED+, ORFEUS by RailData, River Information Services). The

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[5] Introduced in the report "Assessment of the European Union`s institutional and legal framework and best practice examples"

existence of such systems allows to explore opportunities to enhance them and pilot eFTI platforms with the existent technical solutions, allocated EU-funding and governance structure;

- Even though the existing legal framework has to be improved in terms of the recognition of electronic documents / information, there is developed and aligned with the EU horizontal legislation that supports the acceptance of electronic documents by authorities (i.e., legislation in electronic identification and trust services that is mostly aligned with the EU's eIDAS Regulation).

At the same time, the analysis of the state of play demonstrates that the Regional Partners face **similar challenges in digitisation of the freight information exchange**. The key barriers are the following:

- **Legal perspective:**
  o Fragmented legislation with inconsistent obligations and rules to submit, accept and recognise freight transport information. The legislation does not include requirements / specifications for the acceptance of electronic transport documents / information. Also, the legislation does not explicitly define any data elements / specific information that is checked by the authority during inspections;
  o Not all international conventions are ratified in the major modes of transport – road, rail and inland waterways (for Serbia, Bosnia and Herzegovina and North Macedonia). For example, although international convention in the road transport field (CMR) is ratified in all the Regional Partners, the additional protocol to this convention (eCMR) is not ratified in any, which could provide the legal basis for the cross-border exchange of electronic documents following the path outlined by other European countries.

- **Technical perspective:**
  o Technical environment is also fragmented with missing enabling solutions or with solutions that do not support B2A exchange of freight information according to the international standards. At the same time, it is important to highlight that there are regional solutions that participate in the exchange of freight information with different scopes. Such solutions could create the basis for piloting eFTI platforms (e.g., SEED+, ORFEUS by RailData, River Information Services).

- **Organisational / institutional perspective**:
  o From the institutional and organisational perspective, the eFTI Regulation states that conformity assessment bodies shall be accredited for the purposes of performing the certification of eFTI platforms and eFTI service providers. In the Regional Partners, ministries driving the overall digitisation of the transport area have limited number of dedicated human resources working on digitisation of freight information exchange. The responsible ministries for the transport area and other involved parties should decide on the national supervisory body and further build own capabilities in the area of digitisation of freight information through dedicated working groups and other coordination processes.

Similarities in challenges and achievements in the Regional Partners provide **possibilities to design a regional approach** to prepare for eFTI Regulation through joint programmes or even actions.

Thus, the **regional** overview of the state of play of the exchange of freight information is presented below.

Red colour indicates that developments supporting competent authorities to accept information made available electronically by economic operators do not exist.

Yellow colour indicates that developments (partially) exist but are not sufficient to support competent authorities to accept information made available electronically by economic operators.

Green colour indicates that developments exist and do not have major challenges to support competent authorities to accept information made available electronically by economic operators.

Grey colour indicates that information is not received or the point is not applicable.

Table 1: regional overview of the state of play of the exchange of freight information

Component	Perspective		RS	ME	AL	BA	XK	MK
Logistics documents	Legal	Road	red	red	red	red	red	red
		Rail	green	yellow	yellow	yellow	red	yellow
		IWW	green	grey	grey	red	grey	grey
	Technical	Road	red	red	red	red	red	red
		Rail	yellow	red	yellow	red	red	red
		IWW	yellow	grey	grey	grey	grey	grey
	Standards	Road	red	red	red	red	red	red
		Rail	yellow	red	red	red	red	red
		IWW	red	grey	grey	red	grey	grey
	Digitisation of freight information	Road	red	red	red	red	red	red
		Rail	yellow	red	red	red	red	red
		IWW	red	grey	grey	red	grey	grey
Enablers	eID and eSignature		green	green	green	yellow	yellow	green
	eDelivery		yellow	yellow	yellow	yellow	yellow	yellow
	Monitoring solutions		yellow	yellow	yellow	yellow	yellow	yellow
Strategic framework			yellow	yellow	yellow	yellow	yellow	yellow
Institutional / governance structure			yellow	yellow	yellow	yellow	yellow	yellow
Commercial perspective			yellow	yellow	yellow	yellow	yellow	yellow

4 Impact assessment of e-freight deployment in Regional Partners

In the Western Balkans, **volumes of freight transport are increasing**. In terms of cross-border trade volumes, the **EU is the leading trade partner** for all Regional Partners, with almost 70% of the region's total trade. From 2011 to 2021, EU trade with the Western Balkans has grown by almost 130%. In the same period, the Western Balkans exports to the EU have increased by 207%.[6]

Based on the state of play and gap analysis performed in the Western Balkans[7], major **business operators**, such as transport and logistics companies, **are in favour of digitisation of freight information**. Major business operators invest in technical tools, such as internal systems to prepare, store and exchange freight information and documents electronically. At the same time, the **use of electronic freight documents and digital freight information exchange with the government authorities is limited or non-existent inside the Regional Partners and for cross-border operations**. Paper documents that are requested by controlling authorities include customs declarations, waybills, invoices and other supporting logistics documents.

Given the increasing volumes of freight transportation and the limited uptake of the electronic information exchange, **potentially millions of cost-savings** and **opportunities for administrative simplification** as well as **better regulatory enforcement and policymaking, are missed**. Cost inefficiency stems from working hours that have to be spent to prepare and handle paper documents. An increased usage of paper as well as delays at the borders for mandatory inspections are **increasing the footprint on the environment** as well.

The **EU has already recognised the benefits of digitisation of the freight transport information**.

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[6]
The EU and the Western Balkans: towards a common future | EEAS Website (europa.eu)

[7] Please refer to 'Report on state of play and gap analysis in Regional Partners' prepared under project 'Deployment of e-freight in the Western Balkans and implementation of the Regulation (EU) 2020/1056 on electronic freight transport information' (this project)

The eFTI Regulation adopted in 2020, will roll out fully by 2025 and the EU member states have already started preparation activities to enforce the digitalisation of freight transport and logistics to reduce administrative and operational costs[8].

As the EU is one of the major partners, the **Western Balkans aim to align** with the EU developments, namely eFTI Regulation.

To prepare for the implementation of the eFTI Regulation, similarly to the EU, the economic and environmental impact needs to be assessed, as a result of the uptake of electronic transport information and documentation exchange.

Analysed options

To define an economically effective and sustainable path to digitisation of the freight transport information in the Western Balkans, several options are considered and evaluated in the impact assessment. The EU's roadmap to eFTI Regulation implementation shaped the options that in addition are aligned with the practical context of the Western Balkans:

- **The baseline option:** reflects developments under current trends and policies, without intervention by the national governments and regional organisations in the area of electronic transport documents. Electronic information exchange is expected to naturally increase over the years in the baseline option due to digitisation agenda of some companies, yet its acceptance by the authorities is not legally obliged.
- **The option 1 (O1):** legal commitment of the Regional Partners' authorities to accept the electronic freight information when completing inspections for cross-border freight deliveries within the Western Balkans only.
- **The option 2 (O2):** legal commitment of the authorities to accept the electronic freight information when completing inspections for cross-border freight deliveries within the Western Balkan region and with the EU. Western Balkan authorities are obliged to accept electronic freight information concerning the intra the Western Balkans trade and the trade with the EU. The same obligation applies to EU authorities to accept the digital freight information provided by the Western Balkan business representatives. For example, truck drivers can choose whether to hold electronic or paper version of freight related information when crossing borders and both EU and Western Balkan authorities are obliged to accept digital information.

Such options are defined to estimate the different impacts of implementing eFTI Regulation regionally and with the EU. According to option 1, Regional Partners would deploy principles of eFTI Regulation in the same timeframe as the EU but **only in the Western Balkan region**. While in option 2, the implementation of eFTI Regulation **inside the Western Balkan region and with the EU** will start after the full application of regulation in the EU and is assumed to happen in 2028. Only the cross-border exchange is considered in both options.

The information exchanged digitally will be only freight related in both options. Under both options, following the principle of eFTI Regulation, authorities must accept the electronically exchanged freight information while businesses can choose the format of exchange - whether it is digital or physical. Based on the principles of eFTI Regulation, authorities and businesses have access points to the common data set presented on the certified eFTI platform.

As the presented options differ in scope and take-up rates of electronic information, it is important to examine their economic impact on the transport sector businesses and authorities as well as environmental impact in the Western Balkans.

The comparison of the options in terms of economic and environmental impacts is introduced in the following sections, followed by the conclusion and recommendations for the Western Balkans freight digitisation.

Impact assessment

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[8] Analysed in the 'Assessment of the European Union`s institutional and legal framework and best practice examples' under this project.

This report provides an assessment of the impact on businesses and authorities of freight transport information digitalisation in each Regional Partner and the Western Balkans overall. The report analyses the effects of the digital freight information exchange from **economic perspective**, including:

- Administrative costs for businesses9;
- Printing and archiving costs for business10;
- Compliance costs for business11;
- Compliance costs for authorities12;
- Enforcement costs for authorities13;
- Modal shift14.

The report also focuses on the **environmental side** of the freight transport information digitalisation, including impact on:

- Emissions (CO_2, air pollution);
- Use of natural resources (trees).

The identified benefits and costs both for businesses and authorities will provide an input (business case) to the decision and modalities of the deployment of the electronic freight information exchange in the Western Balkans. It will also facilitate the communication and promotion of e-freight to the authorities and the wider public.

Important to notice, that impact assessment was performed using pessimistic scenario and the actual impact might be bigger due to potentially larger number of freight related documents exchanged and trade volumes.

Economic impact for businesses

As for economic impact, several effects on businesses are analysed:

- Reduction in administrative costs;
- Reduction in printing and archiving costs;
- Compliance costs.

In case of a **perfect scenario** that all businesses submit freight related information only digitally, the compliance costs would **pay off after less than 2 years** (21 months) and going forward will generate the **benefit of EUR 27.3 million annually** for all Regional Partners. However, to achieve this result, Western Balkan authorities have to oblige local businesses to share freight information only in digital form (while the EU allows businesses to choose if to share digitally or in paper format).

Table 2: Comparison of administrative burden reduction and costs of compliance and payback period if businesses submit freight related information only digitally

100% uptake of e-freight information exchange		
Administrative burden reduction (EUR, annual)	Compliance costs for businesses EUR, one-off)	Investment payback period (months)

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[9] Salaries of the employees working on freight related documents preparation.

[10] Printing costs include the cost of printers and their maintenance, the cost of printer consumables like ink, and the cost of printing paper.
Archiving costs include the raw materials such as the tapes, forms and office equipment which are necessary for the archive to operate. In addition, it includes the storage space and expenses on staff working with archive.

[11] One-off expenses on hardware and software needed to exchange freight information digitally in human readable format.

[12] Compliance costs include development of IT system and certification costs of IT solution providers.
Development of IT system includes investment into a new IT systems or adjustment of the existing ones.
Certification costs include the setup of a certification scheme of IT solutions as well as salaries of the employees in the certifying authorities working on certification of IT solution providers.

[13] Enforcement costs for authorities include maintenance costs incurred to operate the IT systems as well as time spent for conducting and supporting inspections

[14] Transition of transportation from one mode of transport to another transport mode.

27 250 344	47 857 250	21

If option 1 (intra-regional exchange of information) is followed, the compliance costs will pay off in less than 5 years, till 2029 (administrative burden reduction from 2025 to 2029 accumulates to EUR 21.2 million while one-off compliance costs are EUR 19.6 million), estimating that the take-up rate of electronic freight information exchange will rise gradually. Starting from 2030 businesses will be saving in administrative costs at least EUR 5.3 million annually.

Table 3: Comparison of one-off compliance costs and administrative burden reduction under option 1 (O1)

Compliance costs for businesses under O1 (EUR, one-off)	Administrative burden reduction under O1 (EUR)						Administrative burden reduction under O1 (EUR, annual)
2025	2025	2026	2027	2028	2029	2025 - 2029	2030
19 627 950	3 503 354	4 053 606	4 053 606	4 603 858	4 970 692	21 185 115	5 337 527

In 2028, if option 2 (O2) is started to be followed (intra-regional exchange of information and with the EU), the investments will be paid off in the same year (8 months after the initiation) and already in first year the benefit will be EUR 5.4 million. Important to note that such results can be achieved **only if O1 is followed in the region starting in 2025**. In the following years, under O2, the businesses will benefit the whole amount of administrative burden reduction, for instance, in 2029 reaching annual EUR 18.8 million savings and progressing to EUR 20.9 million in 2030.

Table 4: Comparison of one-off compliance costs and administrative burden reduction under option 2 (O2) and investment payback period

2028				2029	2030
Administrative burden reduction (EUR, annual)	Compliance costs for businesses (EUR, one-off)	Investment payback period (months)	Annual benefit (EUR)	Administrative burden reduction (EUR, annual)	
16 740 211	11 329 890	8	5 410 321	18 820 189	20 900 166

Between 2025 and 2030, under option 2, businesses could save over EUR 50 million more than under option 1 (EUR 80.2 million under O2 and EUR 26.5 million under O1). However, if businesses submit freight Information only digitally, they could save EUR 163.5 million in administrative burden reduction alone, which is more than a third of the total current administrative burden (EUR 467.7 million under baseline option). This means that over 2025 – 2030, with 100% uptake of freight information exchange, the administrative burden could be reduced to EUR 304.2 million.

Table 5: Administrative burden reduction under analysed options

Transport mode	Administrative burden reduction 2025 -2030 (EUR, accumulative)			
	Baseline option	O1	O2	100% uptake of e-freight information exchange
Road	464 335 055	26 117 193	79 120 175	161 681 140
Rail	1 955 452	369 776	687 251	1 020 334
IWW	1 432 670	35 673	400 060	800 590
Total	467 723 177	26 522 642	80 207 486	163 502 064

Economic impact for authorities

The economic impact for authorities is calculated based on compliance and enforcement costs:

- Compliance costs include two types of costs:
  - One-off implementation costs of the system (investment into new IT systems to develop eFTI platforms and gates or adjustment of the existing ones);
  - Certification costs of IT solution providers (include the setup of a certification scheme of IT

solutions, i.e., eFTI platforms as well as salaries of the employees in the certifying authorities working on certification of IT solution providers).

- Enforcement costs might be divided into:
  - o Time spent for conducting and supporting inspections of freight information;
  - o Maintenance costs needed to operate the data systems through which e-freight information exchange happens.

The total economic impact for authorities differs depending on whether authorities decide to develop new eFTI platforms or to update the existing platforms in the freight transport area by aligning them to eFTI requirements and specifications. For example, there are regional systems in the Western Balkans (e.g., SEED) that share certain common principles with eFTI platforms - decentralised Infrastructure, ability to generate IDs as references, data access management, etc. The monetary difference of implementing a new platform versus adjusting an existing system is approximately EUR 7.5 million.

Certification costs of IT solution providers that will sell or offer subscription services to the system, through which the electronic freight information will be exchanged, are stable over the years (EUR 62,956 annually), only higher in 2025 for the certification related to the one-time set-up of a certification scheme (EUR 105,216).

Enforcement costs are likely to increase between 2025 and 2030 to EUR 5.7 million in total. If new eFTI platforms are developed, the authorities will have to pay EUR 18.3 million from 2025 to 2030 for compliance and enforcement expenses combined; if eFTI platforms are based on the existing solution, the authorities will be economically impacted less (EUR 10.8 million).

Table 6: Economic impact for authorities under option 1 (O1, until 2028) and under option 2 (O2, 2028 – 2030)

Newly developed eFTI platform									
	2025, O1	2026, O1	2027, O1	2028, O2	2029, O2	2030, O2	2025-2030	One-off implementation costs (EUR)	Total costs for authorities 2025 - 2030 (EUR)
Certification costs (EUR)	105 216	62 956	62 956	62 956	62 956	62 956	**419 996**	12 500 000	**18 610 453**
Enforcement costs (EUR)	292 647	729 912	729 912	1 167 177	1 312 662	1 458 147	**5 690 457**		
Platform based on existing solution									
	2025, O1	2026, O1	2027, O1	2028, O2	2029, O2	2030, O2	2025-2030	One-off implementation costs (EUR)	Total costs for authorities 2025 - 2030 (EUR)
Certification costs (EUR)	105 216	62 956	62 956	62 956	62 956	62 956	**419 996**	5 000 000	**11 110 453**
Enforcement costs (EUR)	292 647	729 912	729 912	1 167 177	1 312 662	1 458 147	**5 690 457**		

Environmental impact

As for environmental impact, several impacts are recognised for businesses, this includes:

- Reduced CO_2 emissions;
- Reduced CO_2 costs;
- Reduced external costs of air pollution;
- Saved trees.

CO_2 emissions savings are related to overall changes in volumes and patterns in traffic, as a result of the uptake of electronic transport information exchange. The reduction in CO_2 emissions during 2025 - 2030 is estimated cumulatively at around 723 tonnes under option 1 and 2,584 tonnes - under option 2

relative to the baseline. Related CO_2 cost savings would amount to EUR 143,547 in option 2 and EUR 40,193 in option 1 (baseline option amounts EUR 746 million) during 2025 - 2030.

The associated reduction in external costs of air pollution (includes air pollution, congestion, climate change) would amount to EUR 79,533 under option 2 and EUR 22,269 under option 1 over the same time horizon (2025 - 2030).

The limited positive impacts are explained by the slight increase in the overall traffic relative to the baseline (i.e., rebound effects), despite shifts taking place towards rail and waterborne transport. The rebound effects are driven by the lower costs for transport operators.

Table 7: Decrease in CO_2 emissions relative to the baseline during 2025 - 2030

CO_2 emissions 2025 – 2030 under the baseline option and difference to the baseline (tonnes CO_2)		
Baseline option	**O1**	**O2**
10 567 673	723	2 584

Table 8: Decrease in CO_2 costs relative to the baseline during 2025 - 2030

CO_2 costs 2025 - 2030 under the baseline and difference to the baseline (EUR)		
Baseline option	**O1**	**O2**
745 518 779	40 193	143 547

Table 9: Decrease in external costs of air pollution relative to the baseline during 2025 - 2030

External costs of air pollution 2025 - 2030 under the baseline and difference to the baseline (EUR)		
Baseline option	**O1**	**O2**
231 986 766	22 269	79 533

Environmental benefit is associated with the natural resources, more precise - the reduction of paper use. Documents during transport operations result in more than 236 million papers exchanged per year in the Western Balkans.

Assuming that on average in **export and transit declarations** there are 2 items and each of them has 4 documents of 1 page, which have to be copied about 3 times (minimum 1, maximum 5), in total 24 pages per shipment would no longer be printed. While when importing goods, 60 pages would not be printed per shipment as **import declarations** typically has more items listed (on average - 5). As about 8,889 sheets of paper are produced per tree, under option 1, **25 thousand trees could be saved** and under option 2 – **81 thousand trees could be saved** during 2025 – 2030 (baseline option - 156 million trees).

If businesses submit freight information only digitally, businesses could save 159,549 trees during 2025 - 2030. Road transport mode is the dominant one when comparing to rail and inland water ways transport mode in regards of trees saved under all analysed options.

Table 10: Trees saved relative to the baseline during 2025 - 2030

Transport mode	Trees saved 2025 - 2030 (accumulative)			
	Baseline option	**O1**	**O2**	**100% uptake of e-freight information exchange**
Road	158 421	25 606	80 681	158 421
Rail	667	229	461	667
IWW	461	21	228	461
Total	**159 549**	**25 855**	**81 369**	**159 549**

5 Roadmap of eFTI implementation in the Western Balkans

Based on the impact assessment, the recommended pathway of eFTI Regulation deployment in the Western Balkans is for authorities to start accepting electronic freight information intra-regionally in 2025 and in 2028 - to expand the acceptance to the electronic freight information related to the trade with the EU. This is subject that the arrangements will be reached with the EU and EU authorities will be able to accept information from the Western Balkan businesses and *vice versa*.

Experience of the EU member states highlights that preparation for the implementation of eFTI Regulation is a complex process that requires ongoing legal adjustments and technical solutions development. Therefore, the proposed roadmap marks the start of practical e-freight deployment in the Western Balkans in the beginning of 2023.

The roadmap focuses on the importance of adjusting the organisational, legal and technical ground overall to reach the impactful digitisation of freight information exchange. Only when the environment is ready for digitisation, for instance, the legal basis is prepared and responsible parties are assigned, the implementation of practical solutions should be initiated.

The roadmap is designed by distributing the deployment process in 3 cycles to highlight the importance of gradual eFTI implementation and harmonisation with the EU. Each of the cycles include technical, organisational and legal activities.

Cycle 1: E-freight pilot in road

During Cycle 1 the focus should be on establishing and testing eFTI concept to submit, accept and recognise electronic freight transport information (instead of paper documents) in the road transport mode. During Cycle 1, E-freight pilot in the road transport mode should be launched to technically and organisationally test exchange of electronic freight information between selected businesses and authorities. E-freight pilot in road should be developed based on existing solution SEED, to test its fit for being the basis of national eFTI platform and eFTI gate.

Cycle 2: Regional multimodal E-freight Living Lab

During Cycle 2 the focus should be on establishing and testing eFTI concept to submit, accept and recognise electronic freight transport information (instead of paper documents) in all transport modes (road, rail, and inland waterways) and all Regional Partners. During Cycle 2, multimodal regional E-freight Living Lab should be launched to technically and organisationally test exchange of electronic freight information between selected businesses and authorities and later – run live as intra-regional Western Balkan eFTI network.

Cycle 3: Connection with the EU

During Cycle 3 the focus should be on connecting multimodal eFTI gates[15] and platforms in the Regional Partners with the EU. Importantly, in the end of Cycle 2, the coordinating ministries should initiate testing arrangements with the EU, in order to begin the actual testing of the connection between the Western Balkan eFTI gates and platforms with the EU at the beginning of Cycle 3.

The target state – 'the North Star' of the activities by 2030

- Multimodal Western Balkan eFTI gates and eFTI platforms are live and being scaled to enable businesses to exchange electronic freight transport information with authorities intra-regionally and with the EU;
- Ongoing harmonisation with eFTI Regulation and concept;
- Responsible authorities and working groups are mobilised and active on national, regional and EU / DTLF level and cooperate.

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[15] eFTI gate serves the function of National Access Point.

Figure 2: Roadmap of eFTI deployment in the Western Balkans
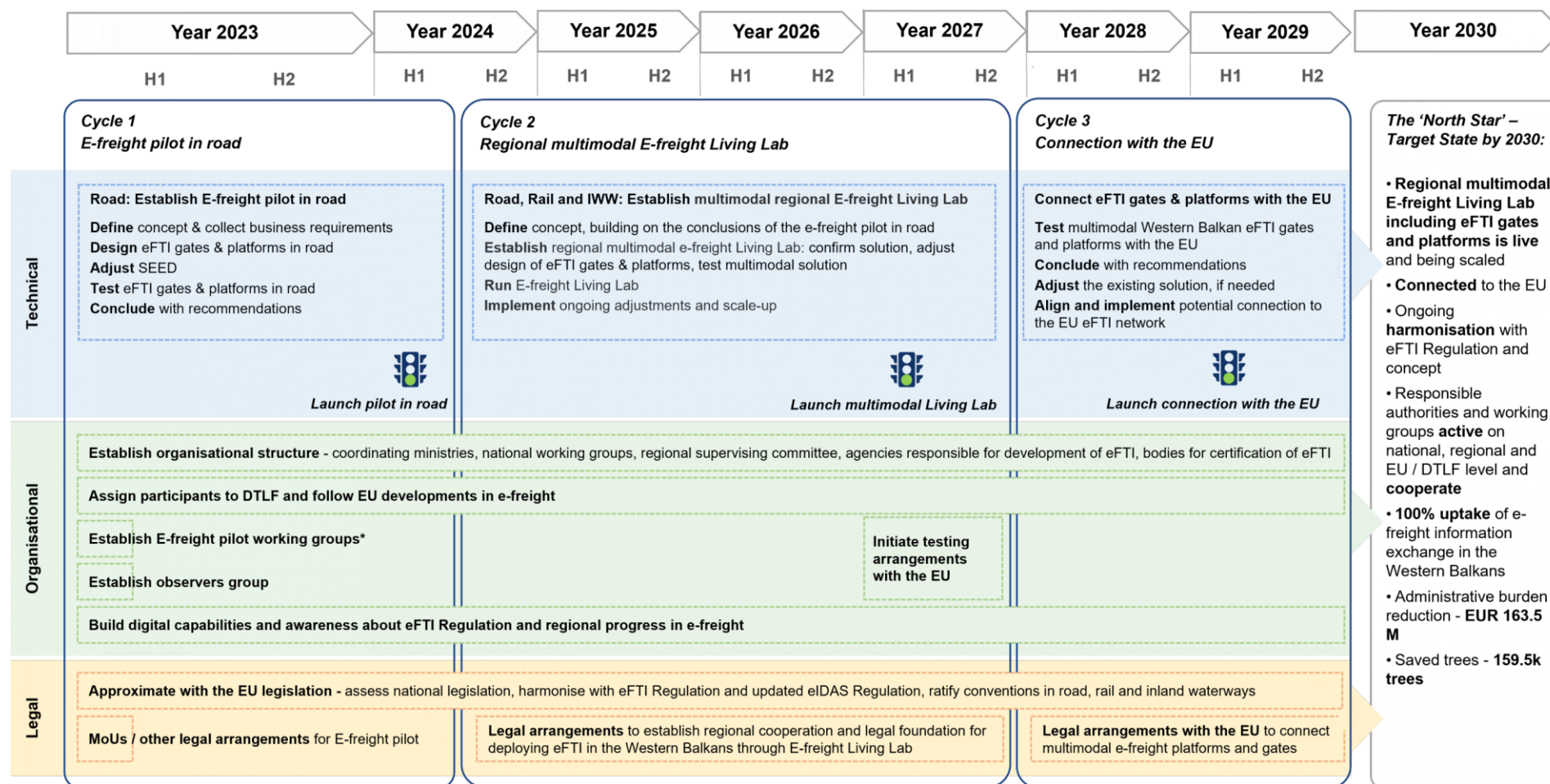
Budget

The total budget of the proposed roadmap towards eFTI deployment is estimated to be approximately **EUR 17.5 million**[16] (inflation adjusted)**.**

Table 11: Budget per each cycle adjusted with inflation rate, EUR

Cycle	Budget
Cycle 1: E-freight pilot in road	1 501 997
Cycle 2: Regional multimodal E-freight Living Lab	10 070 001
Cycle 3: Connection with the EU	5 326 085
All Cycles: Awareness Building sessions	608 695
Total	**17 506 778**

Alternatives of funding

The report analyses three alternatives of structuring the eFTI deployment in the Western Balkans from the funding allocation perspective:

- *Under Alternative 1*, the programme is implemented under single action with the budget of EUR 17.5 million. The funding source for the respective budget should be identified and planned.

- *Under Alternative 2*, the programme is implemented as a set of coordinated actions as per defined roadmap, grouping activities based on the availability and size of the funding, e.g. E-freight pilot in road, technical assistance in legal harmonisation, E-freight Living Lab establishment, connection with the EU, campaign to build awareness and capabilities and others. The allocation of initial funding for E-freight pilot in road (EUR 1.5 million) should be prioritised; at the same time, the necessary steps should be taken to identify funding sources for other parts of the programme.

- *Under Alternative 3,* the programme is limited to the Cycle 1 (E-freight pilot in road) with estimated budget of EUR 1.5 million. After the pilot is complete, further steps are initiated to identify funding sources for the rest of the programme. Due to the time gap between Cycle 1 and Cycle 2, the programme implementation timeline might extend by more than 2 years.

Alternative 2 is considered as the preferred as it enables to start and progress with the eFTI deployment programme in the Western Balkans without potential delays in the proposed roadmap, considering that the short time until beginning of 2023 will be sufficient to mobilise smaller budget for the pilot (in comparison to the budget of the overall programme).

More detailed description of the roadmap is provided in the extended roadmap with the activities and specifications required to support the deployment of eFTI Regulation in the Western Balkans (Appendix A).

6   Conclusion and way forward

To summarise, based on the impact assessment, the recommended pathway of eFTI Regulation deployment in the Western Balkans is for authorities to start accepting electronic freight information intra-regionally and then to expand the acceptance to the electronic freight information related to the trade with the EU. The assessment estimates the result based on the assumption that the EU authorities will be able to accept information from the Western Balkan businesses and vice versa would apply to the freight information regarding shipments coming from the EU to Regional Partners.

Following the recommended pathway of eFTI Regulation deployment, businesses would be able to pay off the compliance costs in 2028; while with only the intra-regional freight information exchange the investments will pay off in 2029.

In terms of savings, **EUR 80.2 million** will be saved in administrative burden reduction between 2025 and 2030. And since 2030 businesses could save over **EUR 20 million annually** and the amount would

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[16] The budget is calculated under the condition that eFTI gates and platforms are developed based on SEED.

be growing each year till the uptake rate of electronic freight information exchange reaches the maximum level of 100% when the saving is **EUR 27.3 million**.

On a company level, it means that on average **40 cents** per document preparation would be saved. Therefore, each small company (10 - 49 employees) would save over EUR 5,000, medium company (50 - 149 employees) would save about EUR 26,000 and large company (250+ employees) would save about EUR 75,000 annually. It is important to note, that 100% uptake level, which brings the largest benefits to the businesses, is possible if measures towards the mandatory electronic exchange of freight information are taken in the Western Balkans.

As for the costs for authorities, the compliance costs which include certification and implementation will depend on whether new eFTI platforms are developed or the existing solutions are adjusted (e.g., SEED). The latter would potentially save EUR 7.5 million. If recommended pathway of eFTI Regulation deployment is followed, the enforcement costs (maintenance costs of the system) would accumulate up to **EUR 5.7 million** for the period from 2025 to 2030, making the total costs for authorities reaching EUR 18.3 million when developing new eFTI platforms and **EUR 10.8 million if the existing platforms are adjusted** as per eFTI specifications and requirements.

Regarding the environmental impact, following the proposed pathway, the accumulative impact on CO_2 costs would be reduction of EUR 143,547 comparing to EUR 745 million baseline CO_2 costs and decrease in external costs of air pollution would be EUR 79,533 comparing to EUR 232 million baseline external costs of air pollution during 2025 – 2030. The impact is relatively low because of unsignificant modal shift from less environment friendly transport modes like road and inland waterways towards more environment friendly as rail transport mode.

In addition, between 2025 and 2030, **81,369** trees could be saved which is half of the trees that would be cut if no electronic freight information would be introduced.

Way forward

To achieve the described impact, Regional Partners are recommended to implement the roadmap of eFTI deployment in the Western Balkans that begins with piloting the e-freight solution in road which should be considered as the priority. Afterwards, the solution should be upgraded to the regional level and include the aspect of multimodality. Most importantly, to achieve the highest desirable impact, the solution has to be connected with the EU.

To move forward from theoretical perception of the roadmap to practical implementation, crucially the responsible parties have to be assigned and the overall **organisational** structure has to be settled. Also, the **legal** acts have to be revised to avoid any legal limitations in enabling digitalisation of freight information exchange. In order to test the solution, the **technical** aspects have to be defined and it is of high importance to continuously approximate with the EU especially in legal and technical aspects (e.g. reviewing the Delegated and Implementing acts of eFTI Regulation) to smoothly connect the Regional multimodal E-freight Living Lab with the EU.

Given the assessed difference between the EU and the Western Balkan state in terms of progress towards the freight information exchange digitisation and the calculated potential economic and environmental impact such digitisation would have, the roadmap of e-freight deployment in the Western Balkans should be initiated at the soonest time possible and should be prioritised by the national and regional authorities in the Western Balkans.

In order to move from the starting point of the roadmap, it is crucial that the **coordinating ministries** for the deployment of eFTI Regulation are assigned together with the other key parties involved. From the legal perspective, Regional Partners have to continuously **approximate with the EU legislation** from the beginning of the roadmap (Cycle 1).

From the technical perspective, **E-freight pilot in road** (Cycle 1) should be prioritised to test the eFTI concept to submit, accept and recognise electronic freight transport information (instead of paper documents) in the region. The pilot is suggested to be completed based on SEED to test SEED's applicability for the eFTI gates and platforms.

In order to achieve the long-term goal of the e-freight deployment which is to maintain and increase trade with the EU which currently is the main trading partner and not to lose the competitive advantage

compared with other EU neighboring regions, the Cycle 2 and Cycle 3 must be completed. Implementation of **Regional multimodal E-freight Living Lab** (Cycle 2) would help the solution for the whole region and cover the aspect of the multimodality. While **connection with the EU** (Cycle 3) would focus on connecting multimodal eFTI gates and platforms in the Regional Partners with the EU.

In 7 years period of the roadmap, the Regional Partners should reach *'the North Star'*.

The target state – 'the North Star' of the activities by 2030

- Multimodal Western Balkan eFTI gates and eFTI platforms are live and being scaled to enable businesses to exchange electronic freight transport information with authorities intra-regionally and with the EU;
- Ongoing harmonisation with eFTI Regulation and concept;
- Responsible authorities and working groups are mobilised and active on national, regional and EU / DTLF level and cooperate.

In order to start the e-freight deployment roadmap, the budget has to be allocated. The total budget of the proposed roadmap towards eFTI deployment is estimated to be approximately **EUR 17.5 million** [17]

 (inflation adjusted).

The programme is suggested to be implemented as a set of coordinated actions as per defined roadmap, grouping activities based on the availability and size of the funding, e.g. E-freight pilot in road, technical assistance in legal harmonisation, E-freight Living Lab establishment, connection with the EU, campaign to build awareness and capabilities and others. The allocation of initial funding for E-freight pilot in road (EUR 1.5 million) should be prioritised; at the same time, the necessary steps should be taken to identify funding sources for other parts of the programme.

The authorities should consider obliging businesses to exchange freight information only digitally. Even though it is out of eFTI Regulation's scope, this measure taken by the authorities would allow Regional Partners benefit the most.

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[17] The budget is calculated under the condition that eFTI gates and platforms are developed based on SEED.

7 Appendixes

7.1 Appendix A – Activities with specifications required to support the deployment of eFTI Regulation in the Western Balkans

Table 12: Activities with specifications required to support the deployment of eFTI Regulation in the Western Balkans

Activity / Sub-activity	Specification	Activity owners / key stakeholders
ACTIVITIES SUPPORTING ORGANISATIONAL PERSPECTIVE		
1. Introduce the coordination mechanism for the deployment of eFTI Regulation, build awareness and capabilities in Western Balkans. **Final goal:** ensured coordination and alignment on national and regional levels, as well as with the EU. Increased collaboration of the stakeholders in Regional Partners.		
1.1. Assign **coordinating ministries** for the deployment of eFTI Regulation.	• *In Cycle 1*, coordinating institutions should be assigned in each Regional Partner. • These institutions should be responsible for the overall coordination of eFTI Regulation deployment on the national level, as well as for the alignment with regional counterparties and with the EU. They should closely network with stakeholders to oversee preparation activities, share practices, align approaches, identify funding for the eFTI Regulation deployment. • Coordinating ministries should coordinate / participate in all key eFTI deployment activities as defined in this table below, including recurring status / work sessions on the national and regional levels, networking with international stakeholders (e.g., participation in DTLF, conferences and other events). • The state of play analysis in the Western Balkans demonstrates that the ministries in the transport area in Regional Partners could become coordinating parties on the national level subject to readiness and willingness. • The coordinating ministries should be identified and assigned at the beginning of *Cycle 1*.	• Government / Ministries in the transport and digitisation areas. • Permanent Secretariat of the Transport Community.
1.2. Assign government **agencies responsible for the development** of national eFTI gates.	• In *Cycle 1*, government agencies responsible for the development of national eFTI gates (National Access Points) should be assigned. • These institutions should be responsible for the design, development, testing and implementation of national eFTI gates. • The state of play analysis in the Western Balkans demonstrates that customs authorities in the Regional Partners could be responsible for the development of national eFTI gates subject to readiness and willingness. Customs authorities operate SEED solution, which could create the basis for eFTI gates in the Western Balkans.	• Government / Coordinating ministries. • Customs authorities in the Regional Partners.

1.3. Establish **National eFTI Regulation deployment working groups**.	• In *Cycle 1*, National eFTI Regulation deployment working groups should be established in all Regional Partners.
	 • *During all Cycles* of the roadmap, these working groups should facilitate preparation activities for the eFTI Regulation deployment, facilitate cooperation and dissemination of updates.
	 • Groups should include the key institutions that are under the scope of eFTI Regulation, including:
	   o Coordinating and other relevant ministries;
	   o Customs authorities;
	   o Responsible bodies for certification of eFTI platforms and service providers;
	   o Other impacted government authorities, e.g., competent authorities in the areas of environment, taxes, phytosanitary and veterinary authorities, border authorities, road and railway authorities.
	 • On need basis, the working groups should consult with transport associations, chambers of commerce, representatives of the major systems / platforms in the transport and logistics sectors, and other stakeholders.
		• Coordinating ministries.
		 • Customs authorities in the Regional Partners.
		 • Other ministries, government authorities, organisations and private sector representatives.

1.4. Establish **regional eFTI Regulation deployment supervising committee**.	• In *Cycle 1,* on the regional level, the existing governance structures should be reused to form a regional eFTI Regulation deployment supervising committee. • This group could be represented by the coordinating ministries as well as the Permanent Secretariat of Transport Community. • It could act as an advisory board to align the developments on the regional level.	• Coordinating ministries. • Permanent Secretariat of the Transport Community.

Activity / Sub-activity	Specification	Activity owners / key stakeholders
1.5. Assign **participants to DTLF**.	• In *Cycle 1*, the coordinating ministries in each Regional Partner should assign participants who will follow EU developments in DTLF. The role and capacity of participation should be aligned with the European Commission. • Participation in DTLF *during all Cycles* of the roadmap will enable to follow EU developments timely, discuss the applicability of requirements and specifications for non-EU economies and *until Cycle 3* build the foundation for the potential connection to the EU eFTI network.	• Coordinating ministries. • Permanent Secretariat of the Transport Community.
1.6. Assign **bodies for certification of eFTI platforms and service providers**.	• By March 2024, rules for certification of eFTI platforms and service providers will be developed in the EU. • *By the end of Cycle 1,* national conformity assessment bodies and supervisory bodies should be assigned in all Regional Partners. • The state of play analysis in the Western Balkans demonstrates that the existing accreditation bodies responsible for certification of identification and authentication solutions in the region could be potentially assigned, i.e., National Authority on Electronic Certification and Cyber Security of Albania; Office for Supervision and Accreditation of Bosnia and Herzegovina; the Ministry of Public Administration, Digital Society and Media of Montenegro; the Ministry of Information Society and Administration of North Macedonia; the Ministry of Trade, Tourism and Telecommunications of Serbia. • Conformity assessment and supervisory bodies should be accredited for the purposes of performing the certification of eFTI platforms and eFTI service providers.	• Government / Coordinating ministries. • Accreditation bodies responsible for certification of identification and authentication solutions in the Regional Partners.
1.7. Raise **awareness** and build **capabilities** in the electronic exchange of freight information in public and private sectors.	• *During all Cycles of the roadmap*, it is important to ensure that the key stakeholders in the Regional Partners are informed about eFTI Regulation, its impact on the region, as well as benefits and the next steps to digitise the exchange of freight information in the Western Balkans. • Deployment of eFTI Regulation should go beyond technical solutions for businesses to submit and edit freight information electronically; stakeholders in public and private sectors should develop capabilities - mindsets, behaviors and skills - to support digitisation of freight information exchange. Empowered stakeholders could support eFTI Regulation deployment and sustain the electronic freight information exchange. • Awareness and capabilities building activities could be built around the network of Ministries of Transport, Chambers of commerce in Regional Partners to involve businesses, road and railway authorities, transport associations and other key stakeholders. • For effective awareness and capabilities building activities, the coordinating authority or assigned party could design and implement a program to inform about digitisation benefits and impacts, international practices, eFTI updates from the EU and the status in the Western Balkans. Such program could be delivered through existing and newly organised conferences in transport area, quarter or bi-annual status meetings, online learning initiatives, etc.	• Coordinating ministries. • Ministries of transport (if they are not coordinating ministries). • Permanent Secretariat of the Transport Community. • Chambers of Commerce in the Regional Partners. • Transport associations. •

1.8. Establish **E-freight pilot working groups**.	• In *Cycle 1*, E-freight pilot working groups should be established in up to three Regional Partners that will be confirmed to participate in the e-freight pilot in the road transport mode, indicatively – in Montenegro, North Macedonia and Serbia.
	
	• In *Cycle 1*, these working groups should actively participate and provide inputs during the preparatory and pilot implementation phases.
	
	• Groups should include the representatives from key organisations necessary for practical pilot implementation, including:
	
	  o Representatives from the customs authorities (customs operations and technical experts), responsible to participate and provide inputs during the pilot;
	
	  o Coordinating ministries and representatives from the Permanent Secretariat of the Transport Community to supervise pilot activities, share practices and align approaches;
	
	  o Legal specialists from coordinating ministries and customs authorities to coordinate memorandums of understanding
		• Customs authorities in the pilot Regional Partners.
		
		• Coordinating ministries in the pilot Regional partners.
		
		• Permanent Secretariat of the Transport Community.

Activity / Sub-activity	Specification	Activity owners / key stakeholders
	and / or other necessary legal arrangements for the pilot purposes.	

1.9. Establish **observers group.**	• In *Cycle 1*, E-freight pilot observers group should be established on regional level.
	• In *Cycle 1*, this group could observe the progress of pilot implementation, receive periodic updates and analyse the impact of e-freight deployment on regional level.
	• Group could include:
	  o Representatives from three non-pilot Regional Partners, at least coordinating ministries and customs authorities;
	  o Business representatives;
	  o Transport associations and chambers of commerce;
	  o Other parties that will be identified at the beginning or during the pilot.
		• Coordinating ministries from non-pilot Regional partners.
		• Customs authorities from non-pilot Regional Partners.
		• Other ministries, government authorities, organisations and private sector representatives.

1.10. Initiate testing arrangements with the EU.	• In the end of *Cycle 2*, responsible coordinating ministries should initiate testing arrangements with the EU, in order to begin the actual testing of the connection between the Regional E-freight Living Lab and the EU member states at the beginning of *Cycle 3*.	• Coordinating ministries. • Regional eFTI deployment supervising committee. • Permanent Secretariat of Transport Community.
2. Allocate funding for the deployment of eFTI Regulation. **Final goal:** resources for technical, legal and organisational activities, awareness building and networking are planned and available to support the deployment of eFTI Regulation.		
2.1. Allocate **funding** for the deployment of eFTI Regulation.	• *Before the Cycle 1 and during all the Cycles*, the funding for the activity implementation should be available. The funding will be required for technical, legal and organisational activities, awareness building, networking and other activities in the roadmap. • Expenditure and further funding needs should be periodically reviewed on the national and regional level. • Budget estimations for the deployment of eFTI Regulation in the Western Balkans are provided *in chapter **Error! Reference source not found. Error! Reference source not found.**.*	• Permanent Secretariat of the Transport Community. • Coordinating ministries. • EU Delegation representatives from the Regional Partners / European Commission. • International Financial Institutions.
ACTIVITIES SUPPORTING LEGAL PERSPECTIVE		
3. Harmonise national legislations to prepare for the electronic exchange of freight information between controlling authorities and businesses. **Final goal:** exchange of freight information is possible on the national level, between Regional Partners, and with the EU MSs.		
3.1. Harmonise **national legislations** with eFTI Regulation.	• *In Cycle 1,* harmonisation of the national legislations with eFTI Regulation should start and likely could *last to Cycle 2*. • Specific actions to transpose eFTI Regulation should be planned on the national level (e.g., decision on the extend of transposition, technical assistance, resources and awareness building, as well as ongoing alignment with eFTI Regulation). • It is important to establish national legal frameworks that support the acceptance of electronic formats without limitations created by handwritten signatures and / or stamps. Electronic freight transport information should be accepted by authorities	• Coordinating ministries. • National eFTI Regulation deployment working groups.

Activity / Sub-activity	Specification	Activity owners / key stakeholders
	as a full equivalent of paper documents across all transport modes in case businesses decide to provide this data electronically. • Legislations should include requirements / specifications for the acceptance of electronic freight transport information, as well as explicitly define data elements / specific information that is checked by the authorities during inspections.	• Other relevant ministries.

3.2. Continue to harmonise **national legislations** with eFTI Regulation Implementing and Delegated Acts.	• As eFTI Regulation is rolling out as per its timeline, the controlling authorities and working groups should ensure consistent and ongoing alignment and harmonisation with the regulation *during all Cycles* of the roadmap.
	
	• Once eFTI Implementing and Delegated Acts roll out, the Regional Partners should review their national legislations to harmonise.
	
	• The following timeline milestones should be considered:
	
	  o eFTI data set and national requirements. Delegated Acts on eFTI data set and subsets and related national requirements – **February 2023**;
	  o Common rule for authorities. Implementing Acts on common procedures and detailed rules, including common technical specifications, for access by competent authorities to eFTI platforms, procedures for the processing of regulatory information and for communication between competent authorities and the economic operators concerned in relation to that information – **February 2023**;
	  o eFTI platforms and service providers specifications. Implementing Acts on requirements for eFTI platforms and service providers – **August 2023**;
	  o Rules for certification of eFTI platforms and service providers. Delegated Acts on rules on certification of eFTI platforms and eFTI service providers – **March 2024.**	

3.3. Assess national legislations to define required **freight transport information for controlling purposes** by competent authorities.	• In *Cycle 1*, it is important to establish clarity on the required freight information for controlling purposes by competent authorities as per the national legislation. For example, what dataset is checked by the police, phytosanitary and veterinary authorities, customs and other relevant authorities. Experts in DTLF are currently defining a common dataset with specifications, requirements and structure for the freight information exchange in different modes of transport and for different inspections in the EU. Trading partners should align the required freight information as per own specifics of the national legislation with this common EU dataset using it as a benchmark.	
3.4. Establish memorandum of understanding[18] (or other legal arrangements) between the pilot Regional Partners.	• *In cycle 1,* for the pilot in road purpose, cooperation between the pilot Regional Partners should be established by signing a memorandum of understanding or through other legal arrangements.	

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[18] The Memorandums of Understanding typically include the following articles: definitions; scope and implementation, responsibility for data authenticity and violations, sets of data, data exchange, joint working group and cooperation, personal data protection and duration.

Activity / Sub-activity	Specification	Activity owners / key stakeholders
3.5. Establish legal arrangements for regional cooperation and legal foundation for deploying eFTI in the Western Balkans through E-freight Living Lab should be made.	• *In cycle 2*, For the e-freight Living Lab to operate, cooperation arrangements or other legal arrangements should be defined and signed between all Regional Partners. • The usage of the solution should be legalised on the national and regional level.	
3.6. Review the updated **eIDAS Regulation and other necessary legal acts** and harmonise the national legislation (if needed).	• Once eIDAS Regulation is updated in 2023, it is recommended to harmonise national legislations in the Regional Partners. eIDAS is the key regulation in the EU on electronic identification and trust services making harmonisation with the regulation important for transactions with the EU. • Currently, the role of electronic identification and trust services in the eFTI Regulation deployment is under discussion by the experts in DTLF. • Also, other relevant EU legislations in the context of eFTI Regulations should be reviewed and harmonised, if needed.	
3.7. Ratify **international conventions** in road, rail and inland waterways.	• International conventions in the road, rail and inland waterways offer the possibility and rules to exchange transport documents electronically with countries that ratified the relevant conventions. • In case the conventions are not ratified, the Regional Partners should aim using the principles / requirements set in those conventions. *Refer to the state of play and gap analysis performed in the Western Balkans[19] and the assessment of the European Union`s institutional and legal framework and best practice examples[20].* • In *Cycle 1*, the focus should be on ratifying at least the convention in road to support the E-freight pilot. Conventions in other transport modes should be ratified by *the end of Cycle 1.* • To facilitate the adoption of the international conventions, awareness building activities should target working groups and other key stakeholders to solidify benefits of the conventions.	
3.8. Establish legal arrangements between the Regional Partners and the EU.	• *In cycle 2,* cooperation between the Regional Partners should be established by signing legal arrangements for deploying eFTI in the Western Balkans through E-freight Living Lab. • *In cycle 3,* cooperation between the Regional Partners and the EU should be established by signing legal arrangements to connect multimodal e-freight platforms and gates.	• Coordinating ministries. • National eFTI Regulation deployment working groups. • Other relevant ministries.

[19] Please refer to 'Report on state of play and gap analysis in Regional Partners' prepared under project 'Deployment of e-freight in the Western Balkans and implementation of the Regulation (EU) 2020/1056 on electronic freight transport information' (this project).

[20] Please refer to 'Report on assessment of the European Union`s institutional and legal framework and best practice examples' prepared under project 'Deployment of e-freight in the Western Balkans and implementation of the Regulation (EU) 2020/1056 on electronic freight transport information' (this project).

Activity / Sub-activity	Specification	Activity owners / key stakeholders
		• EU representatives.
ACTIVITIES SUPPORTING TECHNICAL PERSPECTIVE		
4. Pilot e-freight in the road transport mode to technically and organisationally test exchange of electronic freight information between selected businesses and authorities. **Final goal:** eFTI concept is established and tested to submit, accept and recognise electronic freight transport information (instead of paper documents) in the road transport mode.		
4.1. **Initiate** the pilot project.	• Regional Partners should start with defining and completing preparatory actions to launch the pilot. • The established working groups should consider the following: o Develop project planning and schedule; o Define participating parties and key stakeholders. o Plan quality and communication procedures; o Develop project governance structure; o Select E-freight pilot implementation service provider.	• Permanent Secretariat of the Transport Community. • Regional eFTI deployment supervising committee. • National eFTI Regulation deployment working groups. • E-freight pilot working groups.
4.2. Identify **Regional Partners for the pilot**.	• For the E-freight pilot in road, it is preliminary recommended to involve Montenegro, North Macedonia and Serbia, subject to their willingness and readiness to participate. The Regional Partners were selected due to the scope of their trade within the region, clear organisational structure on initiatives regarding digitisation and transport. It is suggested to pilot the solution in road between 2 - 3 Regional Partners that are not part of other facilitating agreements with specific terms of parties' interaction like 'Open Balkan'. • Regional Partners participating in the pilot should mobilise all required participants.	
4.3. Define **concept, use case** and collect business and technical requirements.	• In *Cycle 1,* the pilot should start with decisions on the scope, participants and concept of the pilot. • Further, the following activities should be considered: o Identify use case: type of businesses to participate, size of businesses to submit freight information, authorities to participate, etc.; o Further, the following scope of pilot should be considered: development of technical solution to submit freight information electronically, authenticate to edit this information, generate a unique ID, present the ID to controlling authority, controlling authority to assess and verify all required information, etc. The final scope should be developed by the responsible parties; o Document business and technical requirements based on the defined concept and use case • **Prerequisite**: E-freight pilot working groups should be established to coordinate pilot activities as highlighted in the organisational perspective.	• E-freight pilot working groups. • E-freight pilot implementation service provider.
4.4. Adjust SEED / develop the IT systems the **necessary functionality** to	• Based on the state of play and gap analysis performed in the Western Balkans[21], it was concluded that for the pilot purposes Regional Partners should start piloting based on SEED. • SEED is chosen as the preferred platform to be adjusted for eFTI platforms and gates because in addition to its strong presence in Western Balkans its architecture demonstrate similarities in terms of technical specifications that eFTI	• E-freight pilot working groups. • E-freight pilot implementation service

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[21] Please refer to 'Report on state of play and gap analysis in Regional Partners' prepared under project 'Deployment of e-freight in the Western Balkans and implementation of the Regulation (EU) 2020/1056 on electronic freight transport information' (this project).

Activity / Sub-activity	Specification	Activity owners / key stakeholders

support electronic exchange of freight information.	Regulation and the eFTI architecture concept highlights. During the pilot, SEED should be used both as an eFTI gate and eFTI platform.
	
	• The existing functionality of this regional solution should be re-used and customised to be in line with the upcoming eFTI specifications. This functionality includes:
	  o Authentication;
	  o Access by authorities with certain data management rights;
	  o Decentralized infrastructure approach;
	  o Data exchange and management;
	  o Ability to generate unique IDs for transactions.
	• **Note:** at the end of the pilot, the conclusion should be made regarding the suitability of SEED for eFTI concept as well as further technical considerations for *Cycle 2 and 3.*
	• In *Cycle 1*, based on the defined business requirements as per the scope and use case of the pilot, E-freight implementation service provider should work with E-freight pilot working groups to document technical requirements and specifications for the solution and adjust SEED for the pilot in the road transport mode.
	• Data set for the pilot should be based on the EU's common data set, as well as on the national requirements for freight information for controlling purposes by competent authorities (*see Activity 3.3. for more details*). Mapping between the EU's data set and the requirements in the Western Balkans should be done.
	• By August 2023, the EU plans to release specifications and requirements for eFTI platforms that should provide additional guidance for the technical requirements for the pilot.
		provider.

4.5. **Pilot** the exchange of electronic freight information in road.	• To implement and test the electronic exchange of freight information through the developed pilot solution, the following flow is suggested for completion with no issues reported:
	  o Economic operator decides to submit information about transported goods electronically. It authenticates through an authentication mechanism, selects an eFTI platform and submits the data;
	  o Operator of the eFTI platform returns a unique ID for this cargo to economic operator. This transaction is recorded in the eFTI gate;
	  o In case controlling authority inspects the cargo, the carrier (economic operator) communicates the unique ID and controlling authority verifies the data as it has access to specific information that is relevant only for that authority;
	  o The authority accesses this information through the eFTI gate, which is connected to the certified eFTI platform that the economic operator chose.
	• Before piloting as per the agreed flow, the following preparatory activities are recommended:
	  o Training for the pilot participants. For the successful launch of the pilot, it is recommended to carry out pre-pilot trainings and awareness sessions;
	  o Testing of the electronic exchange of freight information as per the flow prior piloting. Before the launch, it is recommended to perform test sessions to ensure that the solution functions with no interruptions and pilot participants are aware of their responsibilities.
	• The pilot should be launched and observed for the agreed period of time.
		• E-freight pilot working groups.
		• E-freight pilot implementation service provider.
		• National eFTI Regulation deployment working groups.
		• Regional eFTI deployment supervising committee.

4.6. Summarise **conclusions**,	• E-freight pilot implementation service provider and E-freight pilot working groups should collect feedback and discuss conclusions through workshops, sessions, reports or other communication methods. Feedback should be collected from	• E-freight pilot working groups.

Activity / Sub-activity	Specification	Activity owners / key stakeholders
feedback and recommendations for required improvements.	participants and observers and used to assess benefits, obstacles and other lessons learned. • Working groups should work with coordinating ministries and the Permanent Secretariat of the Transport Community to re-assess the fit for purpose of SEED as the piloted solution to exchange electronic freight information without interruptions. It should be considered building a new solution from start if SEED pilot is not satisfactory. • Pilot recommendations should be produced and aligned.	• E-freight pilot implementation service provider. • National eFTI Regulation deployment working groups. • Regional eFTI deployment supervising committee.
5. Establish multimodal regional E-freight Living Lab to technically and organisationally test exchange of electronic freight information between selected businesses and authorities and later – run live as intra-regional Western Balkan eFTI network. **Final goal:** solution is established, tested and ongoingly improved to submit, accept and recognise electronic freight transport information (instead of paper documents) in different modes of transport and cross-border.		

5.1. **Initiate** E-freight Living Lab as a project to launch the multimodal intra-regional exchange of electronic freight transport information.	• Regional Partners should start with defining and completing preparatory actions to launch the regional E-freight Living Lab.
	• The National eFTI Regulation deployment working groups should consider the following:
	  o Review Living Lab's implementation planning and schedule;
	  o Review participating parties and key stakeholders;
	  o Review the planned quality and communication procedures;
	  o Review the planned Living Lab's implementation and maintenance governance structure;
	  o Define operating model for the e-freight Living Lab, e.g., organisational structure, governance structure, processes, budget, list of key performance indicators.
	  o Select Living Lab implementation service provider.
		• National eFTI Regulation deployment working groups.
		• Regional eFTI deployment supervising committee.
		• Permanent Secretariat of Transport Community.

5.2. Establish a multimodal E-freight Living Lab (based on the tested eFTI gates and platforms).	• *In Cycle 2*, the Regional Partners should build onto the tested eFTI gates and platforms by testing additional scenarios and scope of the exchange of freight information – 1) multimodal, and 2) cross-border / regional.
	• Conclusions and recommendations from the pilot in road transport mode should be considered for further testing of the solution in rail and inland waterways modes of transport.
	• Key activities to consider are outlined below:
	  o Define concept, business case, and scope. The Regional Partners could decide to establish a full-scale regional solution or to limit the scope to certain businesses and authorities.
	  o Collect business and technical requirements based on the defined concept and scope and make technical adjustment. Multimodal E-freight Living Lab would require making adjustments, such as providing access to additional businesses, connecting additional controlling authorities to the system.
	  o Data set for the multimodal exchange of freight information should be based on the eFTI specifications and requirements, as well as on the national requirements for freight information for controlling purposes by competent authorities (see Activity 3.3. for more details). Mapping between the EU's data set and the requirements in the Western Balkans should be done.
	  o Regional Partners should consider performing the following preparatory activities before testing the multimodal e-freight Living Lab:
		• National eFTI Regulation deployment working groups.
		• Regional eFTI deployment supervising committee.
		• Permanent Secretariat of Transport Community.
		• Coordinating ministries.
		• Living Lab implementation service provider.

Activity / Sub-activity	Specification	Activity owners / key stakeholders
	▪ Training for businesses and authorities. For the successful testing, it is recommended to carry out trainings and awareness sessions; ▪ Before testing the electronic exchange of freight transport information, it is recommended to perform test sessions to ensure that the solution functions with no interruptions and participants are aware of their responsibilities. ○ Test the multimodal regional E-freight Living Lab. • As the multimodal exchange of freight information is the main process to be tested, based on the need E-freight Living Lab might include the testing for separate modes of transport. • After the successful testing, E-freight Living Lab should go live and start bringing benefits as intra-regional Western Balkan eFTI network.	
5.3. Perform ongoing improvements and scale-up.	• *In Cycle 2* and onwards, ongoing improvements should be performed based on the feedback of the parties on the national and regional level, decisions to scale as well as to align with the EU developments. • Technical development should continue to further optimise the solutions (e.g., usability, design, performance), develop additional functionality. • Legal harmonisation should continue in line with the EU developments. • Governance structure and organisational set-up should be adjusted if needed to support operations of the E-freight Living Lab. • Strategies to scale-up the e-freight Living Lab could be defined (e.g., targeting other businesses and countries to exchange freight information).	
6. Connect multimodal eFTI gates and platforms in the Regional Partners with the EU.		
Final goal: solution is tested and ongoingly improved to submit, accept and recognise electronic freight transport information (instead of paper documents) in different modes of transport with the EU and potentially connection launched to the EU eFTI network.		
6.1. Test the connection of the Western Balkan eFTI gates and platforms with the EU and make conclusions.	• *In Cycle 3*, it is important to connect the established multimodal eFTI gates and platforms in the Regional Partners with the EU eFTI network. • Testing the exchange of freight transport information with the EU may require the following: ○ Initiate a project to test the multimodal exchange of electronic freight information with the EU. Regional Partners should consider planning and scheduling, defining stakeholders, quality and communication procedures; ○ Establish cooperation agreements between the Western Balkans and the EU; ○ Mobilise participating parties. On the regional level, the alignment should be reached regarding the priority EU member states for the pilot. Discussions with the EU member states could take place on the basis of the DTLF network. It is recommended that the established working groups include representatives who participated in the establishment of eFTI gate and platform in the Western Balkans (*Cycle 1 and 2*); ○ Define concept, business case, and scope. Regional Partners and the EU could decide to establish a full-scale testing or to limit the scope to certain businesses and authorities; ○ Align on the flow to be tested. It is important to test multiple scenarios, such as: 1) businesses from the Western Balkans using a native eFTI platform to submit freight information that is later inspected by the EU controlling authorities, 2) businesses from the Western Balkans using an EU eFTI platform that is later inspected by controlling authorities in the Western Balkans, 3) and the opposite scenarios where the EU businesses use native eFTI platform,	• National eFTI Regulation deployment working groups. • Regional eFTI deployment supervising committee. • Coordinating ministries. • Permanent Secretariat of Transport Community. • Living Lab implementation service provider.

Activity / Sub-activity	Specification	Activity owners / key stakeholders

	and 4) the EU businesses use an eFTI platform of the Western Balkans;
	
	   o Define and discuss any additional business and technical requirements, implement necessary adjustments in technical solutions, if needed;
	
	   o For the successful testing, it is recommended to carry out pre-test trainings and awareness sessions;
	
	   o Before testing, it is recommended to perform test sessions to ensure that participants are aware of their responsibilities;
	
	   o Test the connection with the EU.
	
	• Pilot conclusions should be produced and aligned.	

6.2. Plan iterations and improvements if needed, design and align with the EU on the next steps.	• Once testing is complete and feedback is collected, *Cycle 3* could proceed with improvements based on need and the result of testing. • Regional Partners should discuss with the EU the next steps (e.g., a framework or an action plan for the Western Balkans to participate in the eFTI network of the EU).	
6.3. Potentially launch of the actual connection to the EU eFTI network.	• Subject to the agreement with the EU, once the adjustments on the tested connection with the EU are complete, the actual connection with the EU eFTI network might be potentially launched.	

7.2   Appendix B – Report on the European Union`s institutional and legal framework and best practice examples

[Provided in a separate document " TCT - Assessment of practices - v.3.0 - 14.04.2022 clean.pdf"]

7.3   Appendix C – Report on state of play and gap analysis in Regional Partners

[Provided in a separate document " TCT - State of play and gaps report - v.4.0 - 30.08.2022_.pdf"]

7.4   Appendix D – Report on impact assessment of e-freight deployment in Regional Partners

[Provided in a separate document " TCT - Impact assessment of e-freight deployment - v.3.0 - 2022.11.23.pdf"]

7.5   Appendix E – Report on roadmap of eFTI implementation in the Western Balkans

[Provided in a separate document "TCT - Roadmap of e-freight deployment report - v.3.0 - clean - 2022.12.08.pdf"]