

Table of Contents

1. Introduction	3
1.1 Audience	3
1.2 Complementary Documents	4
1.3 Terminology Clarification.....	4
2. Background	4
3. Usage of the Tool.....	5
4. Questions.....	6
5. Results	14
6. Example of Application	25



1. Introduction

In the context of the EU Project e-IMPACT it was identified the need to build a toolkit containing the adequate artefacts to support an interested party (to be designated simply by adopter hereafter) in the adoption of the e-Freight Common Framework.

Activity 1 of the project aimed the development of the artefacts. They have two natures: documents and software. In Sub-Activity 1.1 the artefacts were identified, and the ones that are documents were developed.

The present document is included in the list resulting from the identification process (done under SubAct 1.1, Task 1.1.1). Its aim is the presentation of **a set of questions to allow the adopter to assess the opportunity and the gaps, business and/or technical ones, to adhere to e-Freight**. For each question or group of questions, several possible results apply. These results are grouped and commented, in order to provide the adopter with the looked up feedback.

With this feedback the adopter will be clarified on its **current situation** from an e-Freight perspective and the **points of concern** when starting the e-Freight adoption process.

This shouldn't be understood as pre-requisites because a wide range of starting points is applicable. Depends on each adopter particular current and future situation. As a consequence, also the issues to handle and the path to follow are specific for each case.

This is why comments' results may look generic or open. With finite set of alternative results for each subject, every adopter may find the alternative closer to the situation.

Care must be taken because if the same result is equally closer to two adopter's cases, it doesn't mean the two cases are identical and the same precise path is to be followed.

<p>Important: Set of questions to allow the assessment of the adopter current situation and a feedback on the points of concern when starting an e-Freight adoption process.</p>
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As more e-Freight adoption projects are implemented, lessons learned provide valuable information in order to assess the adequacy of the contents of this document. Changes to the content of this document are expected, and even desirable, to provide a better set of questions and/or results to other adopters.

1.1 Audience

This document is to be used by everyone interested or involved in the adoption of e-Freight as a document interchange format, whether another existent system is already in place or not, and whether the adherence to the UBL v2.1 business processes' is intended.

It is important to have deep knowledge of its own business scenario, context, requirements and data,



where e-Freight is being applied.

Important: It is this degree of involvement that will support the adequate choices during message, process specification and implementation.

1.2 Complementary Documents

By the nature of the toolkit, this document is complemented by other documents. The “e-IMPACT_Fundamentals” and the Mapping Templates¹ are the most relevant ones to consider. In the “e-IMPACT_Examples” document it can be found a possible way to get guidance from this document.

1.3 Terminology Clarification

Typically UBL refers to Business Information Entities (BIE) according to what it is defined in ISO/TS 15000-5:2005 Electronic Business Extensible Markup Language (ebXML) – Part 5: ebXML Core Components Technical Specification, Version 2.01. In practical terms, they all end up in being XML elements that are used or not in the messages. For the purpose of this document the term “element” is preferred.

Having this in mind, it may be complementary used the words “composite” and “simple” if the context of the text requires this qualification for clarity purposes. The “composite” word will be used to refer ABIE and ASBIE indifferently, and “simple” word will be used to refer BBIE. So we will have “composite element” and “simple element” when appropriate.

2. Background

In the recent years, “a number of EU funded research and development projects have been addressing the issues of information and communication technologies in transport and logistics”². One of these projects is e-Freight, and one of its results was a common framework containing the definitions of a set of messages to support business documents interchange between several actors in the logistics and transport business.

This common framework was incorporated into ISO/IEC 19845 – “Information Technology – Universal Business Language Version 2.1 (UBL v2.1)”³. UBL v2.1 models the processes and defines the documents supporting the interaction between logistics actors.

However there are three issues that need to be addressed in order to transform these results into

¹ Made of “e-IMPACT_Mapping_Template_Manual” and the “e-IMPACT-... – MapTemplate - ...” files.

² Pedersen, Jan Tore – “*One Common Framework for Information and Communication Systems in Transport and Logistics – Facilitating Interoperability*”, June, 2011.

³ UBL v2.1 can be found at <http://docs.oasis-open.org/ubl/UBL-2.1.html>.



practical solutions:

- e-Freight itself defines extensions to the definitions in UBL v2.1, both in terms of the existent messages in UBL and in terms of additional messages, since not all the common framework was included in UBL v2.1⁴.
- Simultaneously e-Freight messages included in the UBL v2.1 are a subset of the corresponding messages in UBL v2.1 since not all elements of the standard are used in e-Freight.
- It is difficult to apply the e-Freight definitions into practice mainly in situations of existent messages interchanges processes, lack of knowledge or experience in an adoption process of standards, and limited resources.

To address these issues, e-IMPACT project has as one of its goals the development of a toolkit containing a set of artefacts or tools. The choice of which artefacts to include was done in the context of Task 1.1.1, in Sub-Activity 1.1 of Activity 1 of e-IMPACT. A future adopter of e-Freight can use the artefacts in the toolkit that he finds convenient when going through the process of adopting e-Freight.

One of the identified artefacts is a set of questions to assist the adopters in the clarification of their starting point when entering an e-Freight adoption process, points of concern and actions to take.

3. Usage of the Tool

Questions are grouped according to a particular subject. Each subject has a particular nature. However there are several natures.

For each subject there are several results with comments. Each result depends on the answers given to the questions in the subject.

Questions are of multiple choices between the following values:

- Yes (Y)
- No (N)
- Unable to Answer (UA)
- Not Relevant (NR)

Subjects are identified by uppercase "S" followed by a two-digit number. Questions are identified by sequential numbers in each subject. Results or answers, are identified by uppercase "R" followed by one digit number, being grouped and related to the corresponding subject.

<p><i>Example:</i></p>	<p><i>(Questions section)</i> <i>S01: subject whatever.</i></p> <p><i>1. Do you this?</i> <i>2. Do you that?</i> <i>3. Etc.</i></p> <p><i>(Answers section)</i> <i>S01: subject whatever.</i></p>
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⁴ However it is known that steps are being taken in order to incorporate the missing issues in a future revision of UBL.



R1. If you can answer “Yes” to 1 and 2, then you are able to do the other stuff.
R2. If you can answer “Yes” to 3, then you can do the first stuff.

The number of results for each subject doesn't have to be the same as the number of questions in that subject.

There are no correct or wrong answers; they are just different. Additionally they can be partially applied. It is not a yes/no situation.

The results are not recipes. Their purpose is just to motivate a thinking process in the adopter mind, for further discussion, given clues and orientation.

It is advised to follow the subjects by the order they appear.

4. Questions

This chapter contains the questions that, in conjunction with the answers in next chapter, will help you to assess your current situation.

The main purpose of the questions is to push the adopter into a reflection and clarification process before starting the adoption of e-Freight. So this set of questions should not be understood as a formal process, but a guidance to create awareness of the work ahead.

Each question should have only one answer (only one box checked).

S01 – General business environment. These questions aim to give awareness of the context where the adopter operates or plans to operate. Depending on the context, it could be easier or more difficult to adopt e-Freight and/or have a quicker investment return.

- | | | | | |
|--|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| 1. Do you have or use any IT system running software applications to support your business operations? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 2. Do your usual clients (goods or services) have or use any IT system running software applications to support their business operations? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 3. Do your usual suppliers (goods or services) have or use any IT system running software applications to support their business operations? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 4. Do your national governmental agencies use software applications to support their role? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 5. If you use software applications, do you have capability to directly influence the features existent in the application? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |



- | | | | | |
|--|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| 6. If all your partners (clients or suppliers) use software applications, do they have capability to directly influence the features existent in the applications? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 7. If some of your partners (clients or suppliers) use software applications, do they have capability to directly influence the features existent in the applications? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 8. Is your management available and open to invest in changes and novelty? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 9. Are all your partners (clients or suppliers) available and open to invest in changes and novelty? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 10. Are some of your partners (clients or suppliers) available and open to invest in changes and novelty? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 11. Is your management available and open to invest in changes and novelty, even if that implies automatic share of sets of data, under long-term agreement between you and them? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 12. Are all your partners (clients or suppliers) available and open to invest in changes and novelty, even if that implies automatic share of sets of data, under long-term agreement between you and them? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 13. Are some of your partners (clients or suppliers) available and open to invest in changes and novelty, even if that implies automatic share of sets of data, under long-term agreement between you and them? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
-

S02 – Internal business environment. These questions aim to give awareness of the internal context where operations occur. It will provide a perception of the effort required to get internal acceptance and “number” of changes in procedures.

- | | | | | |
|---|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| 1. Are logistics services provision the core business of your company? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 2. Are logistics activities aggregated in a single internal organic unit with its main manager at the board level? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 3. Is your organization highly hierarchical? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 4. Is there a practice of inter-departmental cooperation at operational level for achieving a common goal? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 5. In the last 15 years was there any experience in significant changes in the operational procedures? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |



- | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 6. Is the regular revision of the operational procedures a common practice? | Y | N | UA | NR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Is the operative personal receptive to the adoption IT technologies? | Y | N | UA | NR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
-

S03 – IT proficiency. Assess the depth and width of Information Technology usage in the adopter environment. It will allow a clarification on which technical issues will require more attention and/or will take longer to achieve.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Are you capable of performing business/user requirements' identification, analysis, high-level process design and/or functional tests over the software? | Y | N | UA | NR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Are your operations supported by a software system developed in-house, or developed externally but tailor made, to satisfy your requirements, capable of supporting continuous operations 24/7 or during business hours at least? | Y | N | UA | NR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Are your operations supported by external proprietary software of the type ERP or standard package, with the appropriate customizations to meet your requirements? | Y | N | UA | NR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Are your operations supported by external proprietary software of the type ERP or standard package without any specific modules to meet your requirements? | Y | N | UA | NR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Do you use applications, standard or tailor made, to assist the support functions of the company (invoice, human resources, client management, accounting, etc.)? | Y | N | UA | NR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Is your operational software integrated with other internally used applications (invoice, human resources, client management, accounting, etc.)? | Y | N | UA | NR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Does the operational software you use allow some kind of workflow operation? | Y | N | UA | NR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Is your operational software available to outside access from external entities? | Y | N | UA | NR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Is your business operations supported by standard office tools? | Y | N | UA | NR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Do you have your operational business processes documented internally? | Y | N | UA | NR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Do you have your data model documented internally? | Y | N | UA | NR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
-



S04 – Usage of electronic documents. Independently of the IT capabilities, it is focused specifically on electronic documents usage and/or standards usage. Capability level for the use of the Common Library.

- | | | | | |
|--|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| 1. In your daily operations, do you exchange data/documents with internal or external parties or systems, using electronic messages based on standard formats? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 2. In your daily operations, do you exchange data/documents with internal or external parties or systems, using electronic messages based on internal or mutual agreed format? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 3. Are you aware of the existence of electronic message/document standard formats? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 4. Are you familiar with messages implementation guidelines, interchange agreements, and mapping between formats? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 5. Are you familiar with translation, mapping software? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 6. Are you familiar with connectivity software? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 7. When using web forms, are they similar between them in terms of the required data? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |

S05 – Electronic procurement and/or sourcing. Capability level for the use of Transport Service Description Request (TSDR) or Transport Service Description (TSD). Consider “detailed description” when a service is described with data on routes, service levels, actions performed (like cross-docking, labelling or packaging), timetables, regular prices, etc..

- | | | | | |
|--|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| 1. Do you have services’ detailed description of your usual supplied services (<i>if the answer is ‘no’ skip the following questions of this subject</i>)? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 2. Do you keep your services’ detailed description of your usual supplied services in your software application? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 3. Do you advertise your usual supplied services with a detailed description? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 4. Do you advertise your usual supplied services with detailed description using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 5. Do you receive requests for your usual supplied services demanding a detailed description? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |



- | | | | | |
|--|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| 6. Do you receive requests for your usual supplied services demanding a detailed description using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 7. Do you keep the services characteristics of your suppliers in your software application? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 8. Do you ask your services' suppliers for the detailed descriptions of the available services? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 9. Do you ask your service supplier for the detailed descriptions of the available services using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 10. Do you receive your suppliers' detailed descriptions of the available services? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 11. Do you receive your suppliers' detailed descriptions of the available services using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |

S06 – IT systems for operations planning support. Capability level for the use of Transport Execution Plan Request (TEPR), Transport Execution Plan (TEP) and Goods Item Itinerary (GII). Consider “detailed plan” when for each particular service that you hire or provide, you register the most complete set of data (like number and/or identifications of units of cargo, schedules, routes’ milestones, operations, formalities’ fulfilment, etc.) suitable to measure and/or characterised the contracted service.

- | | | | | |
|--|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| 1. Do you have detailed plans for each time one of your usual supplied services is contracted (<i>if the answer is ‘no’ skip the following questions of this subject</i>)? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 2. For each time a supplied service is contracted do you keep your detailed plans for it in your software application? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 3. Do you share defined detailed plans each time a supplied service is contracted? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 4. Do you share defined detailed plans each time a supplied service is contracted using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 5. When establishing a contract for you to provide, do you receive requests for detailed plans? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 6. When establishing a contract for you to provide, do you receive requests for detailed plans using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 7. Do you keep detailed plans of the services you hire from providers? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |



- | | | | | |
|--|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| 8. When hiring a service, do you send requests to your providers for detailed plans? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 9. When hiring a service, do you send requests to your providers for detailed plans using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 10. When hiring a service, do you receive detailed plans of the service you hire? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 11. When hiring a service, do you receive detailed plans of the service you hire using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |

S07 – Goods movement follow-up and short notice changes. Capability level for the use of Transportation Status Request (TSR) and Transportation Status (TS). Consider the goods/units of cargo under your responsibility and the services hired.

- | | | | | |
|---|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| 1. In your daily operations do you keep updated records of the goods services' progress (<i>if the answer is 'no' skip the questions of this subject</i>)? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 2. In your daily operations do you keep updated records of the goods services' progress in your software application? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 3. In your daily operations do you provide requested data on the current situation of a goods service progress? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 4. In your daily operations do you provide requested data on the current situation of a goods service progress using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 5. In your daily operations do you receive requested data on the current situation of a goods service progress? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 6. In your daily operations do you receive requested data on the current situation of a goods service progress using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 7. In your daily operations do you request data on the current situation of a goods service progress? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 8. In your daily operations do you request data on the current situation of a goods service progress using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 9. In your daily operations do you receive requests for data on the current situation of a goods service progress? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |



10. In your daily operations do you receive requests for data on the current situation of a goods service progress using electronic means? Y N UA NR

S08 – Transport means movement follow-up. Capability level for the use of Transport Progress Status Request (TPSR) and Transport Progress Status (TPS). Consider a transport mean operated by you or containing goods/units of cargo under your responsibility.

1. In your daily operations do you keep updated records of the transport services' progress (if the answer is 'no' skip the following questions of this subject)? Y N UA NR

2. In your daily operations do you keep updated records of the transport services' progress in your software application? Y N UA NR

3. In your daily operations do you provide requested data on the current situation of a transport service progress? Y N UA NR

4. In your daily operations do you provide requested data on the current situation of a transport service progress using electronic means? Y N UA NR

5. In your daily operations do you receive requested data on the current situation of a transport service progress? Y N UA NR

6. In your daily operations do you receive requested data on the current situation of a transport service progress using electronic means? Y N UA NR

7. In your daily operations do you request data on the current situation of a transport service progress? Y N UA NR

8. In your daily operations do you request data on the current situation of a transport service progress using electronic means? Y N UA NR

9. In your daily operations do you receive requests for data on the current situation of a transport service progress? Y N UA NR

10. In your daily operations do you receive requests for data on the current situation of a transport service progress using electronic means? Y N UA NR

S09 – Electronic service booking and contract. Capability level for the use of Multimodal WayBill (MWB). Whether there are long-term agreements with your clients/suppliers or it is just a spot contract, an evidence of a particular service is required. Applicable only to transport services.



- | | | | | |
|--|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| 1. In the relation with your suppliers is there any transport document involved, where the parties related with the goods and goods' description are provided, and evidencing the transport contract (<i>if the answer is 'no' skip the questions 2 to 4 of this subject</i>)? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 2. In the relation with your suppliers do you have the data that is part of a document as described in 1 without having the document itself? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 3. From 2 is this data kept in your software application? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 4. From 2 do you receive transport document data or even the transport document itself using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 5. In the relation with your clients is there any transport document involved, where the parties related with the goods and goods' description are provided, and evidencing the transport contract (<i>if the answer is 'no' skip the questions 6 to 8 of this subject</i>)? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 6. In the relation with your suppliers do you have the data that is part of a document as described in 6 without having the document itself? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 7. From 6 is this data kept in your software application? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 8. From 6 do you provide transport document data using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |

S10 – Electronic declarations to authorities. Capability level for the use of Common Reporting Schema (CRS). Consider under this context goods under your responsibility or transport means operated by you.

- | | | | | |
|---|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| 1. In the context of your business activity do you have the legal or regulatory obligation to submit data to authorities (<i>if the answer is 'no' skip the following questions of this subject</i>)? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 2. In the context of your business activity, are the authorities in your local/region/district/country interested on collaborating with private operators allowing facilitated procedures when this collaboration occurs (<i>if the answer is 'no' skip the following questions of this subject</i>)? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 3. In your daily operations do you submit data to authorities using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 4. In your daily operations do you receive responses and/or data from authorities using electronic means? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |



S11 – Miscellaneous

- | | | | | |
|---|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| 1. Does your software application exchange data with web portals, business platforms, cloud services, or similar independent or sectorial services? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 2. When using web forms, do you access to web portals, business platforms, cloud services, or similar independent or sectorial services? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 3. Does your software application exchange data with web portals, business platforms, cloud services, or similar, operated by specific partners? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 4. When using web forms, do you access to web portals, business platforms, cloud services, or similar, operated by specific partners? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 5. Do you exchange data using SMS or similar mobile services using your software application? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 6. Do you exchange data using SMS or similar mobile services manually? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
| 7. Do you cross data from different sources on a regular base and look to results in an integrated view? | Y
<input type="checkbox"/> | N
<input type="checkbox"/> | UA
<input type="checkbox"/> | NR
<input type="checkbox"/> |
-

5. Results

This chapter contains the responses to the questions in the previous chapter, grouped by subjects. Although subjects are aligned between chapters, the responses are not. This means that you may have x questions in a subject, but have y answers to that subject.

Another issue to take into account is that several answers may be applicable in the same subject. Answers are not mutually exclusive even being related. In some cases they present alternative and/or complementary views on a particular topic.

For the simplicity of the following contents questions are identified by their numbers only when being referred individually.

S01 – General business environment. These questions aim to give awareness of the context where the adopter operates or plans to operate. Depending on the context, it could be easier or more difficult to adopt e-Freight and/or have a quicker investment return.

- R1.** If you have answered ‘yes’ to all questions then the adoption of e-Freight should be a straightforward and relatively quick process. There are technical means, management alignment and a favourable context to start a changing process. The main costs will be



technical ones in adapting or developing specific software add-ons or modules. But with a fast entrance into production it will pay-off quickly.

- R2.** If you have answered ‘no’ to 1, ‘yes’ to 2 and 3 and 8, independent of the other answers, then you have a good context surrounding you. However internal processes will have to go through a more detailed re-engineering work in order to leverage the application of IT to daily operations. The adoption process may be a good excuse for the change, but it is not the main issue in this case. Expect resistance to change, instability and overwork during this period, but your management is ready to support you.
- R3.** If you have answered ‘no’ to 1 and 8, independent of the other answers, then although you can see the advantages, the internal context is not ready and/or receptive to a change of this kind, yet. An internal evolution with the usage of IT applications simultaneously with operational changes is required, but the level of effort, disruption and financial allocation may be unacceptable at the moment.
- R4.** If you have answered ‘yes’ to 1, and ‘no’ to 2 and 3, your major difficulty is to get your partners at the same technical level. It is useless to adopt e-Freight if you have no one to talk to. It will help, even in motivational terms, that your technical and operational personal could assist you partners. It will create empathy.
- R5.** Following **R4**, then depends on the answers in 8, 9 and 10. A ‘yes’ to these three questions mean that all management boards are willing to support the effort. A ‘no’ to 9 or 10 will define the boundaries of your project. You will have e-Freight for upstream flows or for downstream flows. Start with the ‘yes’ partners in order to:
- a) get quick wins;
 - b) focus on the e-Freight stuff;
 - c) encourage the ‘no’ partners.
- R6.** If you have answered ‘yes’ to 1 and 4, even having ‘no’ on 2 and 3, mean that even if your direct or near partners are not as advanced as you on IT usage, there is a general societal environment that encourages a general movement to IT upgrade.
- R7.** If you have answered ‘yes’ to 5, 6 and 7, means that a quicker adoption of e-Freight is possible because:
- a) The level of integration between the pieces of software and the IT application is high allowing a smoother alignment and evolution between the existent and the new items.
 - b) The pieces of software to be developed may become a standard feature of the IT application. Then your partners that use the same IT application can benefit from these or share the costs with you.

This is valid for your and for your partners.

- R8.** Following **R7**, for the 5 to 7 questions that you got a ‘no’, it means that probably you or your partners will have an extra effort and cost for the developing of the new features. You and/or they may have to involve a new software supplier and may end up having independent software in hand.
- R9.** If you have answered ‘no’ to question 11 to 13, independent of the other answers, it means that barriers to collaboration will be found. It does not mean that e-Freight cannot be adopted. But maximization of its usage in terms of what it will be possible in operational and integration terms between partners will be difficult to reach.



S02 – Internal business environment. These questions aim to give awareness of the internal context where operations occur. It will provide a perception of the effort required to get internal acceptance and “number” of changes in procedures.

- R1.** If you answered ‘yes’ to question 1, it means that you probably will embrace e-Freight from all perspectives and roles, mostly as Logistics Service Client (LSC) and Logistics Service Provider (LSP). All messages will be studied and probably implemented. Even if this looks a big task, it is facilitated by the fact that you have a complete knowledge of the logistics processes. This does not mean that you have to embrace all right from the beginning with the same level of detail. Partial approaches can be taken. But, if you from the beginning want to get it all, on taken a partial approach be careful to not lose yourself in the details of a particular message or process, and forget the whole working frame.
- R2.** If you answered ‘yes’ to question 2, then you have a good organizational context to implement e-Freight because of the importance given by the company to logistics activities, whether as core unit or as support unit, top management is an enabler of change. Also, having this organization may imply that a perspective of Total Cost is in place. This will facilitate the change of procedures that could happen, that may be advisable to grab more added value from e-Freight adoption, if a transfer of operational costs between sub-units is a consequence.
- R3.** If you answered ‘yes’ to question 3, it may happen that each organizational unit and/or sub-unit in the company is very pond. In these situations, extra care must be taken in order to involve personnel from the lower level of the hierarchy, right from the earlier stages of the adoption process. These people operate the daily business, knowing the ‘little tricks’ that if ignored cause a ‘big impact’. So their contribution will allow the identification of unsuitable approaches or implementations, and the identification of better paths of evolution. The danger in this type of organizational structure is that projects of adoption of new things have (almost only) middle management personnel included in the working teams. Depending on their background or career path, the accuracy or detailed level of knowledge may not be sufficient. Another danger is that the dialog between several hierarchical levels may not be easy or may be too much formal/bureaucratic, not facilitating the share of relevant information. Also, some rivalry may exist between sub-units not allowing full cooperation.
- R4.** If you answered ‘yes’ to question 4 means that a solid and business wide working team can be created allowing to maximise the benefits from the e-Freight adoption. People are used to cooperate and are aware of the benefits of this. Also, this can mitigate some of the problems described in R2.
- R5.** If you answered ‘yes’ to question 5 then it may happen that some of the people that participated in a past change process are still with you. That will make easier the changes, mainly the operational ones, which may result from the e-Freight adoption. Having passed through a previous situation, allow people to reduce the levels of anxiety or fear that changes processes induce. So they will more open and willing to cooperate in/with the working teams, contributing to maximize benefits from the e-Freight adoption.
- R6.** If you answered ‘yes’ to question 6 means that your company is agile or flexible enough to quickly apply the implemented solution, allowing an earlier return/pay-off from the project.



- R7.** If you answered ‘no’ to question 7 then you have a situation of resistance to the adoption of e-Freight. Normally this results from the preconception that IT destroys jobs. So people feel threatened. Even if you got a ‘yes’ in question 6 (see R6). This can have impact on the progress speed of the adoption process.
-

S03 – IT proficiency. Assess the depth and width of Information Technology usage in the adopter environment. It will allow a clarification on which technical issues will require more attention and/or will take longer to achieve.

- R1.** If you answered ‘yes’ to question 1 then you have high capacity to define your implementation requirements, the potential benefits and goals, and the possible obstacles after getting inception on the e-Freight Common Framework. Your degree of autonomy and technical knowledge will allow a fast process and an initial good degree of success. It is leverage if you answered ‘yes’ to question 10.
- R2.** If you answered ‘yes’ to question 2 then you have a solid base to implement e-Freight messages. Your processes are structured and support on IT. e-Freight will be just another feature of your system. The effort will be on mapping process and process alignment between you and your partners. It is leverage if you answered ‘yes’ to question 10.
- R3.** If you answered ‘yes’ to questions 1 and 2, you have a very powerful and advantageous starting point. It means you have the base totally responding to your needs, and the capacity to work at a detailed level with it. Your main effort will be raise your partners to the same level that you are.
- R4.** If you have answered ‘yes’ to question 3, you have a very good starting point, but you depend on third parties. The problem is that usually the third parties due to staff changes, don’t have the deep knowledge to implement this type of specific features quickly. Not is depends: if you answered ‘yes’ to question 1 then you will have to guide your third party partner by explaining from an IT perspective what it is required. But if you answered ‘no’ then the process may take longer due to a possible longer learning curve that may be needed form your third party partner.
- R5.** If you have answered ‘yes’ to question 4 and ‘no’ to questions 2 or 3 then the situation is not the best. Although you have an application software to support your business, it may be inflexible in terms of what changes to make and when to make them. Adopting e-Freight is more an issue of the software vendor’s agenda than yours.
- R6.** If you have answered ‘yes’ to question 5 means that from a direct perspective, you are not in position to adopt e-Freight straight away since you don’t have software application for operations. However the existence of software for other company functions means that an openness for the implementation of software applications exists. However, it will be a long way until e-Freight. But new developments may consider e-Freight as a requirement.
- R7.** If you have answered ‘yes’ to question 6, then there is an opportunity of getting extra revenue from e-Freight. This because the level of automation and integration between partners achievable by e-Freight, is added to the level of automation and integration existent currently inside your company. Additionally, you will be in condition to adhere to UBL v2.1 , that includes messages and processes not part of the e-Freight Common Framework.
- R8.** If you answered ‘yes’ to question 7 then you have an interesting feature. With it the



dynamics of the e-Freight processes can be put into practice, helping you to identify more accurately the needs for data in each e-Freight message type. It's not essential but it will help, mainly if also questions 1 and 2 were also answered with 'yes'.

- R9.** If you answered 'yes' to question 8 then you have an important capability to implement e-Freight. e-Freight and interconnectivity are closely related. Having the capacity to have systems to interconnect with other systems is a very relevant step to get full potential from e-Freight adoption.
 - R10.** If you answered 'yes' to question 9, then you are in a very early stage of maturity in order to implement e-Freight. It is possible mainly to send data, but will always be short for what is achievable with an e-Freight implementation supported by a proper support application.
 - R11.** If you answered 'yes' to question 10 then you have a documented support to work over that will assist you in the process of identifying the adjustments on the e-Freight messages required comply with your needs. This way some detailed or unusual situation may not be forgotten reducing the possibility of having implementation errors at later phases.
 - R12.** If you answered 'yes' to question 11, then it will be easier to identify which elements of the e-Freight messages do you require, validations rules to apply, code lists and/or codes to use, type casting, and how to map between e-Freight and your data model.
-

S04 – Usage of electronic documents. Independently of the IT capabilities, it focuses specifically on electronic documents usage and/or standards usage. Capability level for the use of the Common Library.

- R1.** If you answered 'yes' to questions 1 or 2 then e-Freight adoption should not be a big problem. You already have the experience of implement and operate the exchange of electronic messages. You know of the gains and difficulties of such thing. So e-Freight will not bring to you a completely new subject.
 - R2.** If you answered 'yes' to questions 3 or 7 then you have the perception of standard formats, and the common benefits of aligned usage. Having this perception, even if you did not answer 'yes' to questions 1 and 2, will help you to start the process of e-Freight adoption.
 - R3.** If you answered 'yes' to question 4, probably you also answered 'yes' to questions 1 or 2. Implementation guidelines, whatever the format or support they assume, are needed pieces for the implementation of message's exchange relations. So the documentation of your particular implementation of e-Freight will be straightforward to be produced.
 - R4.** If you answered 'yes' to question 5, probably you answered 'yes' to question 1. A translation process is needed to prepare the message to standard formats before it is sent. Symmetrically on reception, the translation is needed to fit the received data into your internal structures. However if you answered 'yes' to question 2, it does not mean that you have mapping software since you can work directly with your internal data structures.
 - R5.** If you answered 'yes' to question 6 then you are aware that exchanging electronic messages is not only a question of mapping data structures/documents. A connection to some kind of infrastructure must exist, including access control, partners checking and
-



confidentiality. The same applies with e-Freight.

S05 – Electronic procurement and/or sourcing. Capability level for the use of Transport Service Description Request (TSDR) or Transport Service Description (TSD). Consider “detailed description” when a service is described with data on routes, service levels, actions performed (like cross-docking, labelling or packaging), timetables, regular prices, etc..

- R1.** If you answered ‘no’ to question 1 then the adoption of the TSD and TSDR messages is not for now and the rest of the questions are not applicable. If there is no detailed description, independent of the media they are registered, you will not be able to provide content to the e-Freight messages to inform of your services, and you can hardly incorporate the content you receive (at most you can develop a webpage or use an editor program to view the received message). Having the services’ description is a requisite to use TSDR and TSD messages.
- R2.** If you answered ‘yes’ to question 2 or 7, then you have services’ descriptions structured and in a digital support. That means you have content to provide and a place for received content. Depending on which question you responded ‘yes’, a good base of data exists to implement TSD, TSDR or both, inbound and/or outbound directions. However two obstacles you may find. One is some resistance to sharing data. As data existence in digital support already should allow some optimized performance and productivity gains, the step of sharing can be presented as an additional performance level to reach. The other obstacle is the understanding of the messages’ mechanism and the impact on existent operational procedures.
- R3.** If you answered ‘yes’ to question 3 it means that the resistance described in R2 was overcome. Your focus will be on technical and detailed operational issues, and not on motivational questions.
- R4.** If you answered ‘yes’ to question 4, you regularly advertise your services using IT. So the adoption of outbound TSD message will be an easy process. The only expected difficulty is with the detailed mapping process.
- R5.** If you answered ‘yes’ to question 5 then there is an opportunity to adopt inbound TSDR. Your clients ask for data that you should have available, and internal resistance should not be a problem at this stage. As in R3, expect to focus on technical and detailed operational issues.
- R6.** If you answered ‘yes’ to question 6, you regularly receive requests on your provided services using IT. Considering that motivational, operational and some technical issues are solved, you have an excellent ground to adopt inbound TSDR.
- R7.** If you answered ‘yes’ to question 8, then you are in conditions similar to R3. The difference is the perspective. In this case you are “the asking person”, meaning the usage of outbound TSDR.
- R8.** If you answered ‘yes’ to question 9, you regularly ask for your suppliers’ services using IT. So the adoption of outbound TSDR message will be an easy process. The only expected difficulty is with the detailed mapping process.
- R9.** If you answered ‘yes’ to question 10, then you are in conditions similar to R7, but you are the consumer of the information; you suppliers’ services description. This means using inbound TSD.



- R10.** If you answered ‘yes’ to question 11, you regularly receive your suppliers’ services descriptions on using IT. Considering that motivational, operational and some technical issues are solved, you have an excellent ground to adopt inbound TSD.

S06 – IT systems for operations planning support. Capability level for the use of Transport Execution Plan Request (TEPR), Transport Execution Plan (TEP) and Goods Item Itinerary (GII). Consider “detailed plan” when for each particular service that you hire or provide, you register the most complete set of data (like number and/or identifications of units of cargo, schedules, routes’ milestones, operations, formalities’ fulfilment, etc.) suitable to measure and/or characterised the contracted service.

- R1.** If you answered ‘no’ to question 1 then the adoption of the TEP messages is not for now. If there is no detailed plans, independent of the media they are registered, you will not be able to provide content to the e-Freight messages to inform on how will your service be provided, and you can hardly incorporate the content you receive (at most you can develop a webpage or use an editor program to view the received message). Having the services’ plans is a requisite to use TEPR and TEP messages.
- R2.** If you answered ‘yes’ to question 2 or 7, then you have services’ plans structured and in a digital support. This implies a high organization and attention to detail. Over this capability, you can assemble several features and value added services, improving your internal performance and the performance of the overall supply chain in which a service is inserted. This also means you have content to provide and a place for received content. Depending on which question you responded ‘yes’, a good base of data exists to implement TEPR, TEP, GII or all, inbound and/or outbound directions. However two obstacles you may find. One is some resistance to sharing data. As data existence in digital support already should allow some optimized performance and productivity gains, the step of sharing can be presented as an additional performance level to reach. The other obstacle is the understanding of the messages’ mechanism and the impact on existent operational procedures.
- R3.** If you answered ‘yes’ to question 3 it means that the resistance described in R2 was overcome, so you are open to share your plans with your partners, in addition to that you already keep them in the software application. Your focus will be on technical and detailed operational issues, and not on motivational questions.
- R4.** If you answered ‘yes’ to question 4 then not only you regularly share your plans using IT but you do it in a standardize way. So the adoption of outbound TEP and GII messages will be an easy process. The only expected difficulty is with the detailed mapping process.
- R5.** If you answered ‘yes’ to question 5 then there is an opportunity to adopt inbound TEPR. Your clients ask for data that you should have available, and internal resistance should not be a problem at this stage. As in R3, expect to focus on technical and detailed operational issues.
- R6.** If you answered ‘yes’ to question 6, you regularly receive requests on your provided services plans using IT. Considering that motivational, operational and some technical issues are solved, you have an excellent ground to adopt inbound TEPR.
- R7.** If you answered ‘yes’ to question 8, then you are in conditions similar to R3. The difference is the perspective. In this case you are “the asking person”, meaning the usage of outbound TEPR.



- R8.** If you answered 'yes' to question 9, you regularly ask for your suppliers' services plans using IT. So the adoption of outbound TEPR message will be an easy process. The only expected difficulty is with the detailed mapping process.
- R9.** If you answered 'yes' to question 10, then you are in conditions similar to R7, but you are the consumer of the information; you suppliers' services plans. This means using inbound TEP and/or GII.
- R10.** If you answered 'yes' to question 11, you regularly receive your suppliers' services plans on using IT. Considering that motivational, operational and some technical issues are solved, you have an excellent ground to adopt inbound TEP and/or GII.

S07 – Goods movement follow-up and short notice changes. Capability level for the use of Transportation Status Request (TSR) and Transportation Status (TS). Consider the goods/units of cargo under your responsibility and the services hired.

- R1.** If you answered 'no' to question 1 then the adoption of the TSR and TS messages is not for now. If there is no register of the progress for the goods services, independent of the media they are registered, you will not be able to provide content to the e-Freight messages to inform on how your service is progressing, and you can hardly incorporate the content you receive (at most you can develop a webpage or use an editor program to view the received message). Having the services on goods progressing is a requisite to use TSR and TS messages.
- R2.** If you answered 'yes' to question 2, then you have goods services' progress structured, in a digital support and updated. This implies a high organization and attention to detail. Over this capability, you can assemble several features and value added services, improving your internal performance and the performance of the overall supply chain in which a service is inserted. This also means you have content to provide and a place for received content. A good base of data exists to implement TS, inbound and/or outbound directions. However two obstacles you may find. One is some resistance to sharing data. As data existence in digital support already should allow some optimized performance and productivity gains, the step of sharing can be presented as an additional performance level to reach. The other obstacle is the understanding of the messages' mechanism and the impact on existent operational procedures.
- R3.** If you answered 'yes' to question 3 it means that the resistance described in R2 was overcome, so you are open to share the goods services' progress with your partners, in addition to that you already keep them in the software application. Your focus will be on technical and detailed operational issues, and not on motivational questions.
- R4.** If you answered 'yes' to question 4 then not only you regularly share your goods services' progress data using IT but you do it in a standardize way. So the adoption of outbound TS message will be an easy process. The only expected difficulty is with the detailed mapping process.
- R5.** If you answered 'yes' to question 5 then there is an opportunity to adopt inbound TS. Your clients ask for data that you should have available, and internal resistance should not be a problem at this stage. As in R3, expect to focus on technical and detailed operational issues.
- R6.** If you answered 'yes' to question 6, you regularly receive requests on your provided goods services progress using IT. Considering that motivational, operational and some



technical issues are solved, you have an excellent ground to adopt inbound TS.

- R7.** If you answered 'yes' to question 7, then you are in conditions similar to R3. The difference is the perspective. In this case you are "the asking person", meaning the usage of outbound TSR.
- R8.** If you answered 'yes' to question 8, you regularly ask for your suppliers' goods services progress using IT. So the adoption of outbound TSR message will be an easy process. The only expected difficulty is with the detailed mapping process.
- R9.** If you answered 'yes' to question 9, then you are in conditions similar to R3, but you are the consumer of the information; you suppliers' goods services progress. This means using inbound TSR.
- R10.** If you answered 'yes' to question 10, you regularly receive your suppliers' goods services progress on using IT. Considering that motivational, operational and some technical issues are solved, you have an excellent ground to adopt inbound TSR.

S08 – Transport means movement follow-up. Capability level for the use of Transport Progress Status Request (TPSR) and Transport Progress Status (TPS). Consider a transport mean operated by you or containing goods/units of cargo under your responsibility.

- R1.** If you answered 'no' to question 1 then the adoption of the TSPR and TPS messages is not for now. If there is no register of the progress for the transport services, independent of the media they are registered, you will not be able to provide content to the e-Freight messages to inform on how your transport is progressing, and you can hardly incorporate the content you receive (at most you can develop a webpage or use an editor program to view the received message). Having the services on transport progressing is a requisite to use TPSR and TPS messages.
- R2.** If you answered 'yes' to question 2, then you have transport services' progress structured, in a digital support and updated. This implies a high organization and attention to detail. Over this capability, you can assemble several features and value added services, improving your internal performance and the performance of the overall supply chain in which a service is inserted. This also means you have content to provide and a place for received content. A good base of data exists to implement TPS, inbound and/or outbound directions. However two obstacles you may find. One is some resistance to sharing data. As data existence in digital support already should allow some optimized performance and productivity gains, the step of sharing can be presented as an additional performance level to reach. The other obstacle is the understanding of the messages' mechanism and the impact on existent operational procedures.
- R3.** If you answered 'yes' to question 3 it means that the resistance described in R2 was overcome, so you are open to share the transport services' progress with your partners, in addition to that you already keep them in the software application. Your focus will be on technical and detailed operational issues, and not on motivational questions.
- R4.** If you answered 'yes' to question 4 then not only you regularly share your transport services' progress data using IT but you do it in a standardize way. So the adoption of outbound TPS message will be an easy process. The only expected difficulty is with the detailed mapping process.
- R5.** If you answered 'yes' to question 5 then there is an opportunity to adopt inbound TPS. Your clients ask for data that you should have available, and internal resistance should



not be a problem at this stage. As in R3, expect to focus on technical and detailed operational issues.

- R6.** If you answered ‘yes’ to question 6, you regularly receive requests on your provided transport services progress using IT. Considering that motivational, operational and some technical issues are solved, you have an excellent ground to adopt inbound TPS.
 - R7.** If you answered ‘yes’ to question 7, then you are in conditions similar to R3. The difference is the perspective. In this case you are “the asking person”, meaning the usage of outbound TSPR.
 - R8.** If you answered ‘yes’ to question 8, you regularly ask for your suppliers’ transport services progress using IT. So the adoption of outbound TSR message will be an easy process. The only expected difficulty is with the detailed mapping process.
 - R9.** If you answered ‘yes’ to question 9, then you are in conditions similar to R3, but you are the consumer of the information; you suppliers’ transport services progress. This means using inbound TSR.
 - R10.** If you answered ‘yes’ to question 10, you regularly receive your suppliers’ transport services progress on using IT. Considering that motivational, operational and some technical issues are solved, you have an excellent ground to adopt inbound TSR.
-

S09 – Electronic service booking and contract. Capability level for the use of Multimodal WayBill (MWB). Whether there are long-term agreements with your clients/suppliers or it is just a spot contract, an evidence of a particular service is required. Applicable only to transport services.

- R1.** If you answered ‘no’ to question 1 and 2 then inbound MWB is not a message for now.
 - R2.** If you answered ‘yes’ to questions 1 or 2 then adopting inbound MWB is possible. However before that a significant volume of work is required to create the data model in your software application to hold required data.
 - R3.** If you answered ‘yes’ to question 3 then you register data required for transport documents in your system. These data needs to be shared with your partners involved in the contract. So the focus of attention is on the technical issues like understanding of the messages’ mechanism and the impact on existent operational procedures, and mapping data into inbound MWB message.
 - R4.** If you answered ‘yes’ to question 4 then you already share data with your partners. So you the focus is on mapping inbound MWB.
 - R5.** If you answered ‘no’ to question 5 and 6 then outbound MWB is not a message for now.
 - R6.** If you answered ‘yes’ to questions 5 or 6 then adopting inbound MWB is possible. However before that a significant volume of work is required to create the data model in your software application to hold required data.
 - R7.** If you answered ‘yes’ to question 7 then you register data required for transport documents in your system. These data needs to be shared with your partners involved in the contract. So the focus of attention is on the technical issues like understanding of the messages’ mechanism and the impact on existent operational procedures, and mapping data into outbound MWB message.
 - R8.** If you answered ‘yes’ to question 4 then you already share data with your partners. So you
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the focus is on mapping outbound MWB.

S10 – Electronic declarations to authorities. Capability level for the use of Common Reporting Schema (CRS). Consider under this context goods under your responsibility or transport means operated by you.

- R1.** If you answered ‘no’ to question 1, then you have not need for CRS since you are not required to send declarations to authorities.
 - R2.** If you answered ‘no’ to question 2, then you have a problem on adopting CRS because the receiving party (the authorities) are not willing to adopt CRS to receive declarations. So you will have “no one to talk to” in terms of CRS.
 - R3.** If you answered ‘yes’ to question 3, then you have a good base to adopt CRS. The declarations to authorities, even under facilitation conventions in place, are complex in terms of volume of data and structure. If you already handle this in your software application, then it is “just” a question of dealing with mapping to CRS.
 - R4.** If you answered ‘yes’ to question 4, you are in an interested situation. In several cases, an authority provides not only a yes/no response (for acceptance or just to announce the reception of the declaration), but also provides data needed for business. Being able to receive this data, via CRS, then you can share it with your partners that may require it.
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S11 – Miscellaneous

- R1.** If you answered ‘yes’ to some of the questions 1 to 4 then you are generally used to interact with other systems to provide and/or receive information, by yourself or through your system. The systems have a diverse nature and operators but that is not a problem and you are aware of the differences.
 - R2.** If you answered ‘yes’ to question 5, then you have a good context to adopt e-Freight because already have automated procedures to exchange information quick and short manner. The relevance is that communication with small and mobile devices can be done by using messages between your software application and apps to be installed in the mobile devices. The constant communication with collaborators in the field provides a constant visibility on the execution of services.
 - R3.** If you answered ‘yes’ to question 6, although the advantage in relation to R2, the simple existent of a current practise means that a will to collaborate and share information exists. Then it is to make the technical path.
 - R4.** Having a global, it does not mean general, perspective of data means you can reach more conclusions and grab more value to yourself and your partners. There is a synergic effect. For example, suppose you have to report goods transportation status to one of your clients. If you have registers in which transport means these goods are located, then based on an inbound transport progress status, you can provide an outbound goods transportation status. You are not required to have goods inbound transportation status implemented in order to provide goods status information to orders.
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6. Example of Application

Examples of the Rules and Recommendations following can be found in the tool “e-IMPACT_Examples”, in particular section 3.2.

The examples are presented in the context of a hypothetical e-Freight adoption process. To make them interesting, the reader is driven through a business story where an analyst has to make some options on adopting e-Freight regarding the overall business goals.

The rules and recommendations are not alone in the Toolkit. The examples take this into account regarding specific points.

