eManifest Pilot Project

Open Issues for Discussion

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EMSA

Document History

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1. Introduction

This document lists the open issues which need to be addressed by the eManifest pilot project. Where necessary, references to the respective business rules or system requirements have been included for ease of reference. These open issues require further analysis and discussion with Member States and Industry representatives.

The document first describes each open issue to be considered and provides a proposal and possible implementation scenario.

Section 2 presents the issues that still need to be addressed after the end of the project and section 3 the issues that were addressed during the project.

The objective of this document is to support the eManifest pilot project. All parts of the document related to the future steps of MSW prototype shall be considered provisional and assumptive. The interfacing between the MSW prototype and concerned customs systems, in particular ICS2 and PoUS, will be further studied after decisions regarding the architecture of MSW prototype are taken and after the development of respective customs systems has progressed to the extent allowing technical discussions.

2. Issues to be addressed

2.1 Re-use of data

Issue: One of the objectives of the pilot project is to assess whether the re-use of data at EU level can minimise the reporting obligations for ships trading between EU ports, and what would be the implications related to liability and data protection. (Ref: Business Rule 36, 47, 49, 51 and SRS 5.3.3)

The re-use of data can be applied in different business scenarios. In order to decompose the concepts, several types of re-use were identified:

- Type 1: Re-use of data by data providers: data elements provided in an earlier submission by a data provider should be re-used by the same or another data provider for the same or other formality.

- Type 2: Re-use of arrival data for departure during a call of a vessel: Information available upon arrival of a vessel is re-used to prepare the departure eManifest/submissions.

- Type 3: Re-use of data in subsequent ports/re-use between calls from departure to arrival: The information available upon departure of a vessel will be provided to the MSW in order to be used by the data provider of the next call.

- Type 4: Re-use of reference data/certificates: Reference data available on EU or national level could be made available to the data provider to facilitate the fulfilment of formalities.

- Type 5: Data provision for subsequent supply chain participants: Information provided to the MSW by the reporting parties could be re-used to facilitate supply chain (e.g. data providers to the railways systems) operations following arrival of a vessel or vice versa for the departure.

- Type 6: Re-use of data for several reporting formalities, abolishment of submissions: A complete data set could be expected to be provided in one submission only and hence being re-used by the authorities for all the formalities.

A further explanation of the re-used types is provided in the appendix.

Status: Up to project phase 3, data providers could re-use Notifications previously submitted for other calls of the same ship in order to prepare new Arrival Notifications and re-use data from arrival to departure (types 1, 2 and 3). However the re-use of cargo data was not implemented because the inclusion of departure formalities was considered as a pre-requisite to develop a mechanism of keeping track of all cargo carried on-board.

The MSW as foreseen in the eManifest concept merely functions as interface for the communication of the cargo formalities from the reporting party to the authorities and vice-versa for the response messages. Data submissions are considered as single pieces of information in the exchange with the authorities as shown in Figure 1:
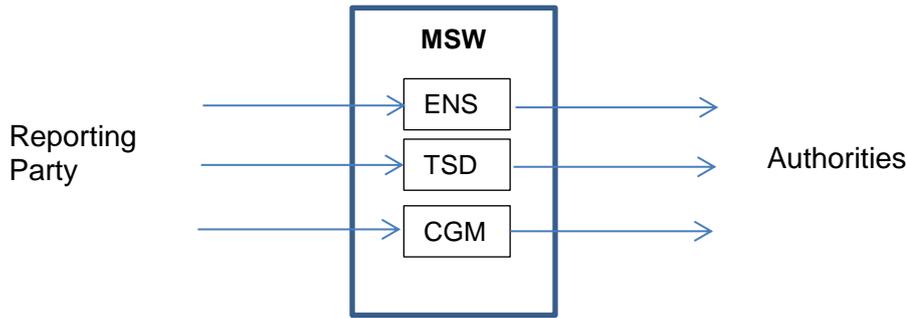
Figure 1 : MSW concept until phase 4

Data submissions may be combined in order to avoid that the same data element is repeated but this does not address the issue of re-using data when formalities are submitted at different times or at different port calls. Therefore data elements re-appearing in subsequent formalities should not be required to be provided again if they have already been provided in earlier formalities.

Proposed way forward: To tap further potential for simplification, the MSW as foreseen in the eManifest concept will manage information per data elements with the view to make them available for re-use for later submissions. The data elements received in the MSW will form a fragment of the full vessel's eManifest, which will be completed in the MSW given more data elements are added in the itinerary of the vessel. For the purpose of re-use, the information will be stored in the MSW.

The same approach will be applied for ship-related formalities (e.g. waste, security, crew, passengers). The MSW will therefore handle the full dataset of information available as regards the ship. Data submissions will be reported to the authorities when triggered by the Reporting Party as presented below:
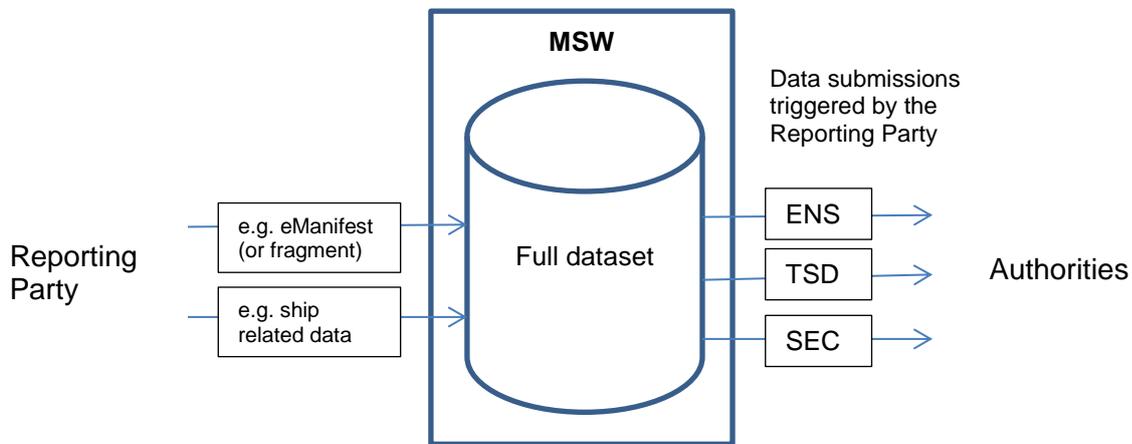

Figure 2: MSW concept in phase 4

The reporting party could provide the full eManifest at the outset of the exercise, before the vessel's departure from a third country (due to required ENS submission) in accordance with the legal requirements. This aspect has to be deeply evaluated, in respect of proposal of Regulation for EMSWe and architecture of ICS2. Another approach could be also chosen by the reporting party such as to provide only the information needed to fulfil a certain formality at a given point in time (not the full manifest) and the additional information would be added before this formality is triggered to the authorities.

For the dynamic part of the information, the dataset would have to be updated along the itinerary of the ship (e.g. unloading/loading of cargo or movements of passengers) in order to provide accurate reporting to the authorities. It is the responsibility of the reporting party to keep the information up-to-date. The access to data will be limited to the same reporting party.

The added value of the proposed solution is the multiple use of data, that has been provided already by the reporting party during the respective itinerary of the vessel in the EU waters which alleviates the burden of

submitting unchanged information more than once. It supports both, GUI and M2M communication, though the benefit for GUI users is more apparent as data are pre-filled in the forms for the different formalities. In M2M communication, the reporting party may choose to provide only the missing or changed attributes, or (depending on the own system architecture) provide the full data set again.

The interaction with the authorities does not change as they will continue to receive submissions regarding the different formalities submitted by the reporting party. The information stored and maintained in the MSW is not made available to the authorities until triggered by the reporting party.

The business requirements need to be discussed further to address the question on how to align the sequential approach of the data use and re-use when data is not provided in full sequence parallel to the itinerary of the vessel. Once the information is stored and maintained in the MSW, it needs to reflect the actual status of the vessel and the cargo in order to be able to provide correct submissions to the authorities. However, the business may not necessarily be executed in full sequence, e.g. a future call may be prepared while the ship is still on her way to the previous port or under operation in that port. This cannot be managed in a single dataset and a solution is needed to allow the implementation of type 3 re-use.

The eManifest already envisages a unique Call-ID for each call, hence different calls have to be managed in different data sets. Each call is considered by the MSW as one business transaction. What needs to be ensured is either the parallel maintenance of the business content for each call with respective Call-IDs of one itinerary (copies for each call) or an easy transfer of information between the different calls (and hence re-use of that information), e.g. by freezing of a dataset for a previous and finalized call and assumption of the business content in the dataset for the upcoming call.

The proposed solution for the re-use of information is taking advantage of the eManifest and its harmonized shape for the structure and the data elements. Concerning the business re-use of information, it must however be noted that the solution mainly provides an assisting functionality by pre-filling information for subsequent formalities and avoid keying-in information several times and that the MSW operates as a data management and storage system.

2.2   Message Standards and inclusion of EDIFACT

Issue: Several message standards are currently being used by the NSW systems of the Member States to receive information from the Industry. The most common ones are the ISO 28005 standard for electronic port clearance in XML, the World Customs Organisation's (WCO) data model in XML and EDIFACT, and the messages defined by the UN/CEFACT in EDIFACT.

For the purpose of the eManifest pilot project, EMSA elaborated the XML message structures covering the reporting formalities of the RFD and the eManifest from the ISO 28005 standard and tested them through EMSA's European Maritime Single Window (EMSW) prototype.

The Commission and EMSA currently analyse how to define harmonised messages allowing the Industry to report to the Maritime Single Windows the information requested by the Reporting Formalities Directive 2010/65/EU (RFD) and the eManifest pilot project. (Ref: Business Rule 37, 38)

Status: Work has been carried out with WCO, UN/CEFACT and ISO as follows:

- ■ WCO: Message structures based on the WCO Data Model have been elaborated with the support of a WCO expert. This resulted in a Message Implementation Guide (MIG) encompassing reporting formalities from the RFD and the eManifest in XML and EDIFACT (GOVCBR message). The MIG was approved by both DG MOVE and DG TAXUD on 4 November 2016 and was presented to the WCO Data Model Project Team (DMPT) at its meeting of 10 January 2017.

- ■ UN/CEFACT: EMSA performed a mapping of the RFD dataset with the EDIFACT messages using as reference the IMO FAL Compendium (FAL.5/Circ.40 of 4 July 2013). The work covered the messages CUSREP, CUSCAR, INVRPT, PAXLST, IFTDGN and BERMAN. A meeting with the Transport and Logistics Domain group of UN/CEFACT was arranged on 5 July 2016 with the objective of setting up a working group to continue the work of EMSA. At a meeting on 30 January 2017 with EMSA and the Commission, UN/CEFACT considered that the work should wait for the outcome of the revision of the

IMO Compendium, which would start around mid-2018 at the next FAL Committee meeting. This approach was confirmed at the eManifest Group meeting of 9 February 2017.

■ ISO: The ISO TC8 group is currently working on the revision of ISO 28005, which currently only covers the information from the FAL forms (except the maritime declaration of health). TC8 is considering as input the eManifest XML message structures and the NSW data mapping report with the objective of incorporating the reporting requirements from EU legal acts (Part A formalities) and the maritime declaration of health in the standard. A teleconference meeting was held on 21 November 2017 between a TC8 expert and EMSA to finalise the list of proposed changes.

In the meantime an "IMO FAL Compendium Technical Maintenance" Focus Group composed of experts from UNECE, WCO, ISO, IPSCA, IACS and some States has been set up by the WCO to harmonize the data definitions and mapping relationships between the different standards. The result of the work should be presented at the FAL Committee in 2019 (FAL 43), and be used a basis for the revision of the FAL Compendium.

Proposed way forward:

The EMSW prototype may be used to test the compatibility and interoperability of the messages from WCO, ISO and UN/CEFACT by providing a service which would translate messages in these three standards.

■ WCO: Before developing the interfaces, EMSA needs to update the MIG to include the additional formalities and changes incorporated in the eManifest during project's phase 3. Reusing and adapting the existing MSW WCO Data Model's Derived Information Package (MSW DIP) will be assessed.

■ ISO: The schedule for the revision of ISO 28005 is not known yet and it will depend on the revision of the FAL Compendium. In the meantime, EMSA has designed an extension of the current version of ISO 28005 to cover the EU requirements (Part A formalities), the maritime declaration of health and the eManifest.

■ UN/CEFACT: No action would be expected from UN/CEFACT before the revision of the FAL Compendium.

3. Issues addressed during project's execution

3.1 Reporting by different data providers

Issue: Ship data providers are responsible to submit notifications to the EMSW. There may be more than one ship data provider who is authorised to submit data in respect of a ship call in a port. It is important to ensure the protection of commercial sensitive data. (Ref: Business Rule 14 and SRS section 5.1.4)

Status: In order to address the confidentiality and liability issues, the following solution was applied in phase 2:

■ By default only one data provider organisation is allowed to submit Notifications for the same ship arrival or departure. This organisation is identified by the system as the "ship data provider organisation" for that notification.
■ That ship data provider organisation may identify cargo data provider organisations which are allowed to complement the notification with additional cargo consignments. Each cargo data provider organisation will only be allowed to view and update its own cargo consignments. The ship data provider organisation or other cargo data provider organisations will not be allowed to see or update these cargo consignments.

There may therefore be for a unique notification:

■ One ship data provider organisation, and
■ Several cargo data provider organisations. Each cargo data provider may be the source of one or several cargo consignment.

3.2   National Requirements

Issue: The eManifest project will define the maximum data set to cover the eManifest formalities. The EMSW is configurable in accordance with national legislation to only consider a part of the data set. This issue shall be further analysed to cover the real operational needs. A difficult task will be to identify the inventory of national requirements, for which the assistance of the Member States will be requested (for port formalities). For customs formalities, the data requirements are laid down in the UCC Delegated Act (2015/2446) Annex B, Title I, Chapter 3, Section 1 "Data Requirements Table" (Ref: Business Rule 1,2, 39, 40 and SRS 4.1, 6.3).

Status: The eManifest is developed with information required at EU level, as identified in the annex of the Business Rules document. The identification of the data elements which are supported by the EMSW and required by a Member State is be done through configuration by the National EMSW Administrator. The National EMSW Administrator may activate or deactivate individual data elements within the list of all data elements supported by the EMSW.

It is not expected that there would be national data requirements for customs purposes because Customs formalities and the maximum data sets are defined in the UCC. National data requirements may be required by other authorities. Therefore, the discussion on this subject would continue within the Single Window sub-group of the High Level Steering Group for the Governance of the Digital Maritime System and Services.

It is important that when proposing additional data elements Member States assess their added value. Ideally only data elements required by a number of Member States are considered for inclusion in the EMSW. These data elements will be added to the maximum data set supported by the EMSW once harmonised. The validation by the shipping industry will improve the quality of this inventory.

3.3   Feedback from Customs authorities

Issue: The EMSW acts as a two way communication where authorities may report back their decisions, with respect to port clearance notifications, or provide comments (e.g. request for additional information or clarifications). It is important to assess what kind of customs feedback may be provided by Customs authorities in response to the submission of cargo formalities (Ref: Business Rule 46 and SRS sections 3, 5.2.2).

Status: In phase 1, the EMSW addressed the port clearance and simple textual feedback from customs authorities. Since phase 2 the EMSW offers the possibility to record a customs feedback per individual customs formality. If several customs formalities are reported for an individual consignment, a distinct customs feedback will be provided for each individual formality. Customs feedback is only expected for cargo consignments with customs formalities (cargo consignments with no customs formalities will not be subject to customs feedback). There is therefore none, one or several customs feedback per consignment.

The customs feedback includes the following information per customs formality:

- A status ("accepted" or "not accepted") which indicates whether the customs formality is accepted by the customs authority,
- An MRN number defined by the customs authority, where relevant, and
- A textual comment from the customs authority.

3.4   Confidentiality and liability issues

Issue: Issues related to confidentiality and responsibility for accuracy of cargo data have to be considered. Cargo data is considered as commercially sensitive data. Therefore, access to such information has to be strictly regulated, to prevent unauthorised access. Likewise, when the SSN system is used to exchange information between Member States the possibility to retrieve information from SSN for further re-use or update should be limited to the parties that are defined as authorised for such access. (Ref: Business Rule 51 and SRS section 5.3)

Status: In phase 1, access to and re-use of Notification data was limited to data providers of the same agency. In phase 2, access and re-use of notification data was extended to complementary organisations as introduced in sections 3.1 above

3.5 ENS and formalities at departure (phase 3)

Issue: Phases 1 and 2 only addressed formalities required at arrival. In addition, the Entry Summary Declaration (ENS) was not included.

Status: The following formalities were added to the eManifest in phase 3:

- Entry Summary Declaration,
- Electronic Transport Document used as transit declaration,
- Exit Summary Declaration,
- Re-Export notification,
- Customs Goods Manifest.

The eManifest is kept at "master" level only. There would be therefore only one data owner per consignment: the carrier or operator (to address the issue of vessel sharing). This carrier or operator is the person submitting the formalities to customs. This corresponds to the "cargo data provider" from phase 2. In the case of ENS (ICS 2), the specific "house" level data, which is not included in the eManifest, in future would be reported directly in the ICS 2 system.

The T2L and T2LF departure formalities will be kept out of scope of the eManifest. The means to create a proof of Union status upon departure of a vessel would be the Customs Goods Manifest. The inclusion of references to existing T2L and T2LF at arrival as well as to Customs Goods Manifests endorsed by customs (non-authorised issuers) or lodged by authorised issuers are considered. .

3.6 Timing for submitting eManifest data (phase 3)

Issue: There is no legislation at EU level that regulates the submission of the eManifest but this may exist at national level. There is however EU legislation which establishes timeframes within which the individual formalities should be completed. From the customs perspective, the timeline of formalities is as follows (Ref: Business Rule 41, 43 and SRS 5.1.2):

- Entry Summary Declaration – before departure from the port of loading,
- Arrival Notification – upon arrival of the means of transport,
- Presentation Notification – immediately upon the arrival of goods at the designated customs office or any other place designated or approved by the customs authorities or in the free zone,
- Temporary Storage - at the latest at the time of the presentation of the goods to customs.

Status: In phase 2, the data provider could not submit a notification with customs formalities before all the corresponding data elements would be completed correctly. The data provider had to send the notification once all the required information was completed for all formalities.

Phase 2 tests have demonstrated that data providers do not have all data at once, which implies that cargo formalities are generally sent to the authorities in a sequence of messages. This also applies to maritime formalities where for instance the pre-arrival notification for ships eligible to expanded inspections may be sent 3 days before the arrival, or where booking of port terminals may be done even earlier.

In order to address the issue, a new approach was considered for Phase 3 where formalities forming part of the eManifest as well as maritime formalities will be reported in the form of submissions which may be sent distinctly or combined. This approach is further detailed in the Business Rules document.

3.7 Updating of Customs formalities (phase 3)

Issue: Amending or updating the eManifest is a complex issue. The procedures for amendments of customs formalities are inscribed in Customs legislation, e.g. the provisions for amendment and invalidation of a temporary storage declaration are laid down in Article 146 of the UCC. Amendment of arrival and presentation notifications is not envisaged.

Status: In phases 1 and 2, the eManifest did not allow updating any cargo data element that form part of the customs formalities.

The principle of reporting of information by Submissions foreseen for phase 3 allows applying processes as inscribed in the UCC. This addresses the issue of amendments and invalidations of customs formalities. Details concerning the single formalities are depicted in the Business Rules document.

3.8   Reporting of dangerous and polluting goods (phase 3)

Issue: The notification of dangerous or polluting goods (DPG) carried on board is not included in the scope of the eManifest because some MS and industry representatives indicated that they did not combine DPG and cargo details and that separate messages are currently created in the NSWs. The main reason provided is that DPG and cargo details are generally reported by different data providers. At the eManifest meeting of 25 October 2016, some participants enquired whether the DPG details could be considered for inclusion in the eManifest as an additional formality since the advantage of the eManifest lies in reducing the burden for traders

Status: The eManifest Group concluded at its meeting of 9 February 2017 that the default option would be that DPG is treated distinctly from cargo data, and that there would be a provision to re-use cargo data.

From phase 3, reporting of DPG is done through a dedicated submission. It may be reported in combination with FAL form 2 which also applies to all cargo on board.

When reporting a notification via the user interface, DPG and FAL form 2 are reported in a distinct "DPG and Cargo" tab, while the customs formalities are reported in another tab "Customs".

When reporting a notification via the system interface (XML message), combining DPG, FAL form 2 and customs formalities are possible as long as they all apply to all cargo on board. In the case where other customs formalities would only refer to a part of the cargo, these formalities are reported in distinct submissions.

3.9   Port Clearance models (phase 3)

Issue: The EMSW prototype supports the port clearance process applied at the arrival of the ship in port and at the departure of the ship from the port. Two port clearance models would be envisaged:

- Silent clearance: The notification is considered by default as accepted once received by the EMSW prototype (with a positive receipt). Acknowledgement messages are only communicated when the notification is rejected by the port clearance authority(ies).
- Systematic clearance: Acknowledgment messages are always communicated to the data provider regardless of the decision taken by the authorities (acceptance or rejection).

Status: In phases 1 and 2, the EMSW prototype applied the systematic clearance model for all Notifications received.

The EMSW prototype was further improved in phase 3 to allow configuring the clearance model per country. The clearance model can be configured by the National EMSW Administrator and is the same for all ports in the country.

3.10   Character sets (phase 3)

Issue: Computers may use different character sets depending on the language configuration of the operating system. The content of the notification submitted by the ship data provider, including the eManifest, is described using structured data in alpha-numeric characters (Ref: Business Rule 43). This textual description may differ depending on the language configuration of the user's computer.

Status: The user interface of the EMSW prototype may be translated into any language and all character sets are supported.

In terms of the XML messages, the character set is not defined by the system and this may cause issues when data is exchanged between Member States and when the sender uses a different character set than the receiver.

The EMSW Prototype was improved in phase 3 to support the UTF-8 character encoding which is capable of encoding all possible characters.

Appendix

Types of data re-use

Type 1: Re-use of data by data providers

With a vessel approaching a port, formalities are to be fulfilled and respective data is provided to the MSW and consequently the authorities in the form of submissions. Partially, the data elements of these submissions overlap. Therefore, the submissions are stored in the MSW for later re-use of the data elements to have them already available to compile submissions, which are required at a later stage of the itinerary.

Type 2: Re-use of arrival data for departure during a call of a vessel

With all the information for the formalities provided to the MSW at ship's arrival, an overview has been established in the MSW about the vessel itself and the cargo. During the call, operations are performed, which alter the information, mainly due to e.g. cargo being unloaded and loaded, crew and passenger's movements, bunker operations. Partially, the formalities themselves trigger the alteration of the vessel status (e.g. Presentation of goods, Temporary Storage Declaration → Unloading; Exit Summary Declarations and Re-Export Notifications to release goods from Temporary Storage → Loading), but not exclusively: E.g. the Export procedure is not reflected in the eManifest, but goods to be exported will have to be registered for the departure.

Other information, such as the vessel particulars do not change, and could be directly re-used for departure formalities. The effects of the re-use would be pre-filling of data for departure formalities, similar to type 1 re-use in the course of the arrival.

Type 3: Re-use of data in subsequent ports/re-use between calls from departure to arrival

It has been concluded in previous exercises, that the departure manifest in one port will be the arrival manifest in the next port (subject to exceptional corrections required throughout the journey). Hence, as the itinerary/next ports of call are known, the information could be transmitted from the point of departure to the destination between the authorities instead of re-submitting the manifest by the economic operators involved. Beside the mere availability of the business content, exchange between the authorities would allow to establish a trust service for certain formalities, where an intervention (e.g. endorsement) of the authorities is required. This includes the Proof of Union status and transit/electronic transport document replacing NCTS.

For the customs formalities, meanwhile alternative measures have been planned (PoUs system, allowing to interface with other systems to receive and store information concerning the status of goods; for the transport documents/transit, the supervision will be conducted with the authorisation, and no supervision of the single transaction will be required (both according to current planning). As no additional simplifications are visible, for the mere transmission of the business content of the eManifest the establishment of an eManifest forwarding mechanism seems to provide no added value, in particular as the technical responsibility for the timely provision of the data and the assurance of their integrity is shifted to the authorities. This conclusion should be double-checked with customs authorities.

Information could also be forwarded and hence re-used between MSW. This would also ensure the early availability of the business information in the next MSW and allow the reporting party to trigger the submissions from there without being required to provide information to the MSW, except necessary updates.
It needs to be further investigated, under which conditions the information can be forwarded (responsibilities, timing).

As the maritime-related information (vessel, crew particulars) is less fluent the independent provision to subsequent ports may be considered as of avail, e.g. for preparation of the vessel call or pre-assessment of the information (immigration).

Type 4: Re-use of reference data/certificates

The Commission and Member States dispose of a number of electronically available reference data sources, which are used for verification of information provided to them or made available to economic operators as services. Such reference data could be tapped and re-used to verify information provided in the reporting, which then increases the quality of information in the subsequent operations of even further re-use of information. This comprises mainly maritime systems (databases related to ship particulars, ships certificates, ship operators) and potentially customs reference systems.

Type 5: Data provision for subsequent supply chain participants

The information provided with the eManifest concerning the vessel, passengers and goods transported could be exploited either directly (re-use of data elements) or indirectly (as reference) by other actors in the (subsequent) supply chain. This would be foremost the terminal operators and the shippers/freight forwarders, who will be responsible for the transport of the goods out of the port premises and the customs clearance. The detailed data elements and how to grant access to the information would have to be analysed in more detail.
Together with the beneficiaries, the potential which data elements/groups could be made available in the system or forwarded should be identified.

Type 6: Re-use of data for several reporting formalities, abolishment of submissions

Customs and maritime formalities are framed by legislative acts. Beside the RFD requiring the provision of the annexed reporting formalities to a national single window, the UCC lists separate formalities for the customs treatment of goods entering or leaving the Union. The eManifest data mapping and the prototype have assumed the EU Customs Data Model as far as the data elements are concerned. Concerning the grouping of data (constituting the formalities) and the timing (submission required at different points in time, depending on the phase of the entry and exit process and the status of the goods), the legal requirements need to be respected.

The eManifest concept has therefore established an approach where the formalities are submitted to the authorities, triggered by the reporting party, when legally required. Respecting the legal framework however excludes to large extent the re-use of information on the side of the authorities, as the choice which information are relevant (which goods are to be presented?), and when the formality is to be fulfilled, depend on the business activities of the carriers and cannot be anticipated or interpreted from information provided at an earlier stage.[1] Further potential to re-use information will be explored at a later stage. It needs to be noted though that this requires amendments of the legislation. For the time being, this scenario is scoped out.

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[1] Partially, the UCC allows for the re-use of information, e.g. if lodged using "commercial, port or transport information systems (e.g. Art. 145 (6) UCC), replacing or joint with other formalities (e.g. Art. 130, Art. 145 (8) UCC)