



DG TAXUD  
ICS2 Project Team

## **Transition Strategy & Plan for Import Control System (ICS2)**

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**ICS2 background**

In the European Customs Union, both insufficient data quality of Entry Summary Declarations (ENS) via their Customs administrations as well as lacking availability of this data to other Member States (MS) involved in goods supply chain currently hinders a proper management of security and safety risks posed to the EU and its Member States. In response, the European Commission adopted in August 2014 the 'EU Strategy and Action Plan for Customs Risk Management'<sup>1</sup> with the following two main operational objectives:

- Improve the **quality of data** on supply chain movements (Strategic Objective 1); and
- Make **supply chain data properly available among the customs authorities** and share risk relevant information (including control results) among customs authorities (Strategic Objective 2).

These two objectives will ensure that customs offices of first entry (COFE) will receive in a timely manner relevant knowledge to identify security and safety related risks posed by goods entering the Union, to be able to take informed decisions whether and where to control goods. This will also provide a greater confidence in facilitating legitimate cross-border trade movements of low risk.

A feasibility study by the Commission<sup>2</sup> concluded that the creation of a common repository, enabling appropriate and timely sharing of information, would make an essential contribution to ensure effective customs risk management in the EU.

In response to this study and as the basis for a reformed EU advance cargo information system i.e. ICS2 programme, the Customs Policy Group (CPG) endorsed the recommended solution to set-up a Common Repository for mandatory use by all MS (to make ENS lifecycle data available to all relevant MS' customs authorities) together with two opt-in solutions available for MS willing to share IT developments instead of opting for a national implementation: a Shared Trader Interface (STI) as well as a shared risk management and e-screening support function. Due to the complexity of this initiative and budgetary considerations the CPG agreed in June 2016 that the ICS2 programme should be implemented in a progressive way in several phases and blocks, each of them providing distinctive added value to the customs strategic and operational needs.

The new ICS2 system will impact the customs business processes by:

- Providing for better coverage of supply chain data with better quality by the economic operators (notably freight forwarders, carriers and postal operators);
- Enabling of multiple filing and reconciliation of supply chain trade data from different economic operators and facilitation of its timely availability to more than one customs authority;
- Providing at least a part of the ENS dataset prior to loading in the sector of Air transport (post, express, general cargo);

**Context of ICS2 transition strategy**

The 'ICS2 project working group'<sup>3</sup> has developed a transition strategy based on the formulation of the ICS2 programme<sup>4</sup>, thus taking into account the budgetary constraints and agreed block based

<sup>1</sup> COM/2014/527, available at <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2014:0527:FIN>, endorsed by the Council Conclusions of 4 December 2014.

<sup>2</sup> TAXUD/B2/79/2014, 2. December 2014; ICS2 Feasibility Report assessed three implementation approaches, notably: Approach 1: A fully decentralised approach with all developments carried out at Member State level and peer-to-peer communication; Approach 2 (agreed): A shared services approach with the creation of a common repository to support data availability to Member States and a related platform to integrate and streamline the communication workflow between Member States; Approach 3: A shared services approach (as per Approach 2 above) with the addition of a "common gateway" for the submission of data by trade.

<sup>3</sup> ICS2 Project Group/CPG134 (BE, DE, FI, FR, IT, NL, PT, ES supported by the IT, business processes and risk management experts) and the relevant European trade associations (WSC, CLECAT, A4E, EEA, POSTEUROPE).

<sup>4</sup> Documented in the ICS2 Business Case v.3.1.

implementation approach. The transition strategy has the objective of defining how and when the current ICS1 system can be phased out and how ICS2 solution will be rolled out.

In order to achieve this objective, different business scenarios were assessed against transparent transition principles and constraints, taking into account relevant stakeholders and the potential impact of the transition on them. This allowed the identification of the most effective transition scenario between ICS1 and ICS2, setting a clear end date for ICS1.

For the selected scenario, the Transition Strategy & Plan document provides more detailed information on what activities need to be done, by when these need to be completed, and which actors need to be involved.

### **Scenario selection and assessment process**

The ICS2 project working group defined and documented the transition principles<sup>5</sup> which provide general guidance on the approach to the transition. Key principles of the transition were ensuring business continuity, maximizing business value to the customs and maintaining cost efficiency ('value for money'). The agreed principles were then mapped to specific evaluation criteria, weighted according to their importance and applied to eight possible transition scenarios.

These transition scenarios respected the identified constraints of the ICS2 programme that were used as evaluation criteria during the assessment of those scenarios. Some assumptions were for instance that there is no link between ICS1 and ICS2 and that data will not be migrated between the two systems. Similarly, the ICS2 programme will be delivered in a block based approach thus both the functions delivered and the available IT capacity will need to be taken into account to provide the best scenario for the roll out. See Appendix IV: Transition principles document for a full list of ICS2 programme assumptions and constraints.

A preliminary evaluation of the candidate scenarios was carried out to shortlist the following four scenarios for a more detailed assessment:

- **Scenario A:** Sequential transition starting with Postal by Air pre-loading and Air express consignments pre-loading followed by sequential transition of full Postal by Air, Air express, Air general Cargo, Maritime, Rail, Road modes.
- **Scenario C:** Transition by group starting with Postal Air pre-loading and Air express consignments pre-loading followed by second group of full Postal by Air, full Air express and Air general cargo, with the last group being Maritime, Rail and Road.
- **Scenario E:** Transition by group starting with Air general cargo and Air express consignments, followed by Postal mode, with last group Maritime, Rail and Road.
- **Scenario F:** Transition by group starting with Maritime, followed by group of Air general cargo and Air express consignments with last group Postal, Rail and Road.

A 'big bang' scenario was discarded not only after negative experience with such a complex approach in the past, but also due to the budgetary constraints. Equally, scenarios starting with Rail and Road were discarded due to the constraint that the required NCTS phase 6 will not be implemented before 2023.

The selected scenarios were evaluated qualitatively, using a SWOT analysis, and quantitatively, using a scoring tool with all weighted evaluation criteria (See Appendix III: Scenario evaluation tool). Through close consultations with ICS2 project working group, **Scenario C** was identified as the best transition scenario for the ICS2 transition programme.

### **ICS2 Transition and rollout plan by three releases**

Following the selection of Scenario C and based on its proposition of a *transition by three groups*, the ICS2 rollout shall happen through *three 'releases'*. A release covers both business processes transformation and IT implementation activities required by the rollout of business models and transport modes in ICS2. This includes inter-alia the creation of new functionalities and processes, building of IT systems to support the functional scope, testing as well as common implementation

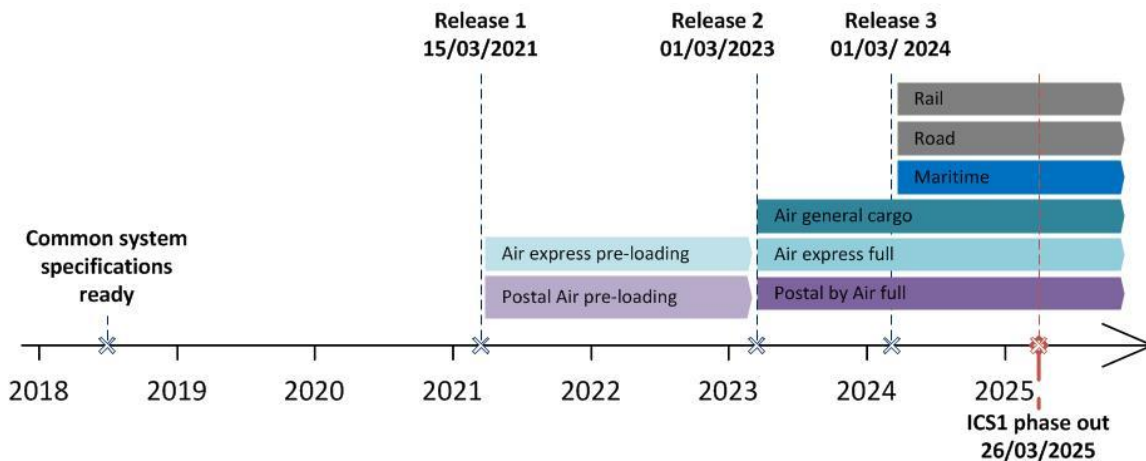
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<sup>5</sup> Transition Principles document v1.4 from 02/10/2017 – see Appendix IV.

guidelines for business communities and MS, communication and training campaigns to prepare stakeholders for upcoming changes.

The main outcome of this ICS2 Transition Strategy and Plan is an agreement to implement the blocks as defined in the ICS2 Business Case in an iterative way, organized by the phasing-in of the business models and transport modes. This implementation is defined by the releases.

Key project stakeholders European Commission, MS and Trade will have to work in close collaboration to achieve the proposed ICS2 programme milestones. The high level transition timeline is as follows:



**Figure 1 High level Transition timeline**

### ICS1 phase out and parallel run

In order to determine when the ICS1 system can be phased-out it was important to define when ICS2 will be fully operational to support the management of the ENS filings for all the different transport modes and business models. Basically, the completion of the ICS2 Block 1.b<sup>6</sup> and the roll out of Release 3 will determine the decommissioning of ICS1. As per the high level planning for the 3 releases in Figure 1 High level Transition timeline, the overall decommissioning of ICS1 is targeted to take place after the Release 3 is considered to be in full operations<sup>7</sup> in **March 2025**.

The implementation of the ICS2 Block 2 will not impact the phasing out of ICS1.

The **parallel run** between ICS1 and ICS2 systems have a different meaning from the MS and the Trade point of view.

#### *Parallel run for trade*

From the point of view of trade, the different transport modes and business models will be phased in in 3 releases. Release 1 will implement the Postal air pre-loading and the air-express pre-loading. The related filings are not yet covered in ICS1 so for the postal and air express operators there will be a limited parallel run as they have to maintain access and receive messages from both ICS1 and ICS2 along with the new process to be covered.

Release 2 will implement the full air transport processes (air express, general cargo and postal). The related trade stakeholders will need to be ready for the operational date and start filing to ICS2 after the successful testing phase. The parallel run is reduced to the minimum: on the defined date for the Release 2 operations all filings will need to be submitted to ICS2 for the filers of the air sector.

Release 3 will implement the Maritime, Rail and Road processes<sup>8</sup>. The same stands for that group: the stakeholders will need to be ready for the operational date and start filing to ICS2 after the successful testing phase. The parallel run is reduced to the minimum: on the defined date for the

<sup>6</sup> Refer to Business Case UCC new Import Control System (ICS2) v3.1 for details related to ICS2 block-based approach.

<sup>7</sup> Refer to section 3.2.8 - ICS1 phase-out for more details and to Figure 25 Timeline (Release 3).

<sup>8</sup> Postal consignments using the means of transport Maritime, Rail or Road, will be covered in Release 3.

Release 3 operations all filings will need to be submitted to ICS2 for the filers of the maritime, road and rail sectors.

### Parallel run for MS

From the MS viewpoint the definition of the parallel run is different: they will need to keep their ICS1 systems operational until the full operations of ICS2. The parallel run for MS starts at the moment when Release 1 is in operations and ends when Release 3 is fully operational. Following the proposed timelines ICS1 can be completely switched off in 2025.

However, the parallel run during Release 1 does not impose on MS to maintain 2 different systems in operations: Release 1 will start phasing in ICS2 by a new process not yet covered by ICS1. It will extend the "ICS" portfolio at MS side. The STI and CR For release 1 are provided by the Commission, but indeed MS will need to integrate the new process in their customs and IT environment and provide new resources to be able to cope with the additional load due to the postal items - risk analysis, presentation and controls.

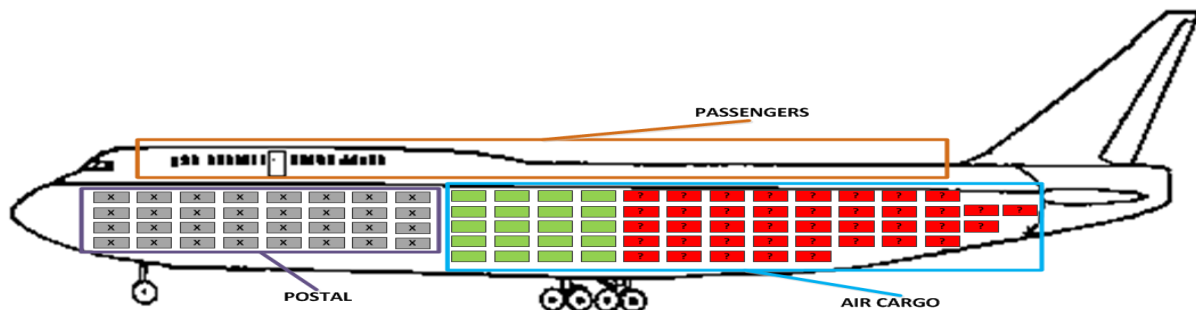
As from Release 2 the parallel run is a "real" parallel run: 2 ICS systems and 2 ENS datasets with parallel risk analysis processes will need to be managed by the MS (the maintenance of ICS1 and the operations of ICS2 components) until the phase out of ICS1, after the full operations of Release 3.

### ICS2 Phasing in

#### *Release 1 – Postal air pre-loading and air express consignments pre-loading: business coverage and benefits*

Release 1 will provide a significant business value to the customs management of security and safety risks in the air transport supply chain for the two business models covered under this release. It will plug the existing gaps posed by the current ENS waiver in the area of small consignments. As per the UCC based legal requirements, it will collect from postal operators and express integrators core minimum ENS data at pre-loading stage for postal and express consignments as required per UCC Delegated Regulation (i.e. all postal consignments except items of correspondence and all express consignments including those of a value less than €22<sup>9</sup>).

In terms of digital capturing of the physical movement of these goods this represents a big improvement, as the existing customs controls and processes are to the large extent based on the manual risk analysis of large volumes of consignments. Currently, there is a 100% gap in postal goods, 13% gap in express consignments (value less than €22) and 60-90% of entry summary declarations in the air general cargo with inadequate data quality not allowing for a proper security and safety risk analysis.



**Figure 2: Existing ICS1 gaps and weaknesses in Air**

From the operational customs risk management perspective Release 1 will provide to customs authorities tangible benefits by introducing a capacity to analyse and better target serious security and safety risks in this domain. Air transportation and goods moving by air mode is of a continuous

<sup>9</sup> The waiver for postal packages up to 250 g will become obsolete as of 2020. See Article 104 (2) DA UCC].

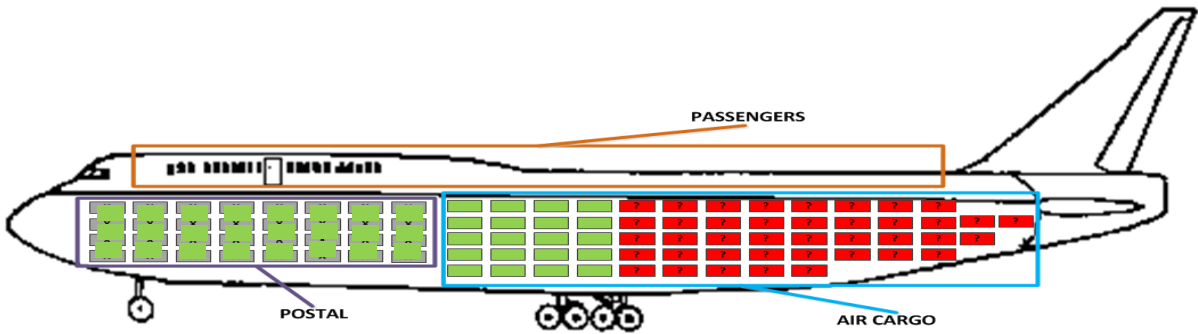
interest of the terrorist groups. This has been demonstrated by the Yemen cargo bomb incident and is a present threat based on ongoing air transport threat assessments. Customs will be equipped with the necessary pre-loading data on postal and express consignments to assess and mitigate air cargo specific security risks ('bomb-in-a-box') as a complement to the measures put in place by the EU civil aviation security regulations. This will position customs strategically and operationally as an important partner in inter-agency cooperation in the wider security domain.

Besides the most severe security threats, the most recent Serious Crime Threat Assessment issued by EUROPOL specifically shows an increasing trend of smuggling of dangerous goods such as narcotics and their precursors, firearms, wide range of goods infringing IPR with implications to public health and safety by using online trade and postal supply chain. Since postal pre-loading data will contain entire consignment level information the customs will be able to use it for the purpose of a wider security and safety risk analysis. With the Release 1 solutions it will be possible to control high risk goods in the postal sector in destination MS before they will be released to the customs procedure for free circulation.

As from release 1, the results of the risk analysis and the controls assigned at item level for Postal business model will be stored in the Common Repository thus enabling MS to evaluate controls and share results (please see Section 3.3.1). During the presentation process at the destination country, the risk analysis results (namely the assigned controls related to the items) can be retrieved from the Common Repository. This process will allow - as from the start of ICS2 – to reuse the risk analysis results (Security & Safety RA) at the presentation/control step of the customs entry process for Postal consignments. Adding presentation notifications (at Member State of destination) and controls results will significantly enhance risk management processes and controls from Release 1.

This release will provide a distinctive and self-sustained value for the customs, as it will address the area of operational risk management and controls where there is currently no ENS and electronic data provided by the trade.

As regards full ENS express consignment data and related security and safety risk analysis processes (at pre-arrival), this will continue to be performed in ICS1 until the ICS2 Release 2 is deployed.



**Figure 3: Release 1 - Addressing weaknesses in Air for Postal and air express consignments**

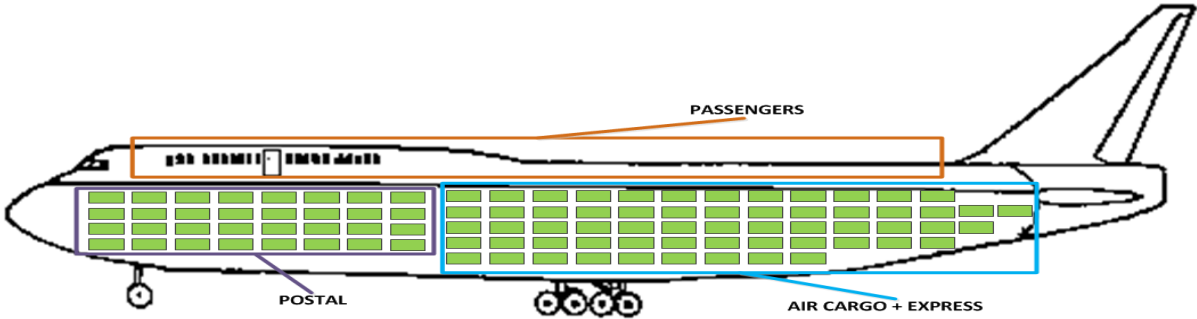
Provision of collection of the minimum core ENS data for postal and small consignments of value of less than €22 will plug the existing ICS1 gaps (exemptions). Current weaknesses in air general cargo ENS data quality will be addressed in Release 2.

*Release 2 – Completion of Air postal, express consignments and general cargo ENS filing: business coverage and benefits*

The second release is dedicated to complete all steps of the ENS filing in the air transport sector, notably Postal, express consignments and general cargo. In general terms, this release will fulfil new ENS data requirements, in particular to address the existing data quality weaknesses in air general cargo (i.e. between 60-90% of today’s ENS) via delivery of the multiple filing solutions. Further it will offer complementary support functions of the ICS2 to the MS national risk management systems and processes (data analytics support) both for the air pre-loading ('bomb-in-a-box') and pre-arrival phase (full security and safety).

The scope of Release 2 encompasses also the completion of the ENS lifecycle by covering arrival, presentation notifications as well as controls results for the entire air sector in order to ensure integration of the ENS processes with subsequent entry procedures. The «Declarations lodged instead of ENS» are also in the scope of ICS2 and will be implemented as from Release 2 and finalized in Release 3.

Trade in the air sector will phase-out ICS1 following the operational roll-out of this release and will continue to interact only with the ICS2 system.

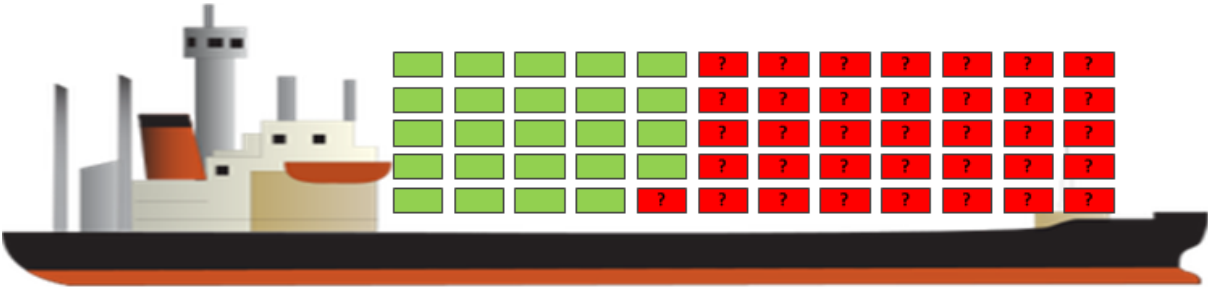


**Figure 4 Release 2 – Closure of existing gaps and weaknesses for air transport sector**

Release 2 will complete the UCC ENS legal requirements in the air transport sector and close the existing gaps and weaknesses of the ICS1.

*Release 3 – Maritime, Rail and Road transport: business coverage and benefits*

Release 3 will focus on the ICS2 business roll-out for Maritime, Rail and Road transport modes including postal items and express consignments that are carried by those modes. It will fulfil new UCC ENS data requirements, in particular to address the existing critical lack of data in these transport domains, but also to improve security and safety risk analysis through more systematic and timely sharing of ENS among the customs authorities. Similar to Air general cargo, more than 60% of today’s ENS in Maritime traffic is not complemented by house bill of lading information needed for a meaningful electronic based security and safety risk analysis and controls. Approximately 90% of global trade in terms of goods volumes<sup>10</sup> is moved by the maritime transport. In terms of data quality similar issues have been identified in the road and the rail sector.



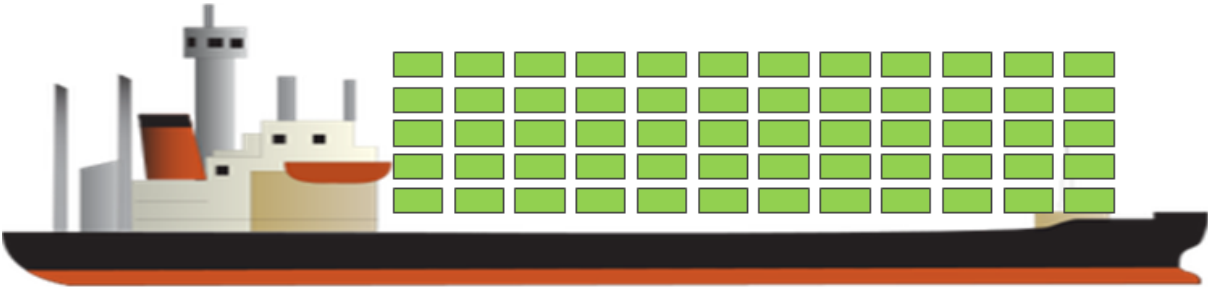
**Figure 5: Existing ICS1 gaps and weaknesses in the maritime transport**

Around 60% of entry summary declarations in the current ICS1 are not complemented by house bill of lading information for a proper security and safety risk analysis (e.g. on average in each 12.000-container vessel, the EU COFE cannot properly assess security and safety risks efficiently for 7.200 containers).

Release 3 will complete the ICS2 programme through provision of more complete ENS data, its timely availability among the customs and sharing of relevant knowledge to better detect security and safety risks. The scope of this release also encompasses the completion of the ENS lifecycle by covering arrival (maritime only), presentation notifications as well as controls results in order to ensure integration of the ENS processes with subsequent entry procedures. For Rail & Road, the release will incorporate the integration of ICS2 with NCTS phase 6. Release 3 will complete the UCC

<sup>10</sup> The International Chamber of Shipping <http://www.ics-shipping.org/>

ENS legal requirements in the maritime, road and rail transport sector and close the existing gaps and weaknesses of the ICS1.



**Figure 6: Release 3 – Closure of existing gaps and weaknesses of ICS1 in the maritime transport sector**

## 1 INTRODUCTION

### 1.1 Purpose and scope of this document

The purpose of this document is to present an ICS2 transition strategy. Therefore, it elaborates both a clear plan on how and when ICS1 can be phased out and defines a roadmap for the phasing in of ICS2.

Decisions and choices for the transition from ICS1 to ICS2 follow transparent transition principles. Thereby, different scenarios were assessed against requirements and available IT capacity, following defined criteria linked to the transition principles as well as qualitative analysis of strengths and weaknesses. This allowed to identify the best fitted scenario for the transition from ICS1 to ICS2 and to define the roll out plan for ICS2.

For the best scenario, this document provides more detailed information on what activities need to be done, by when these need to be completed and which actors need to be involved while taking into account budget considerations.

### 1.2 Intended readership

This document is intended for ICS2 programme stakeholders, including the European Commission, Member States (MS) and Trade, who will validate the proposed strategy and plan how the transition will be carried out. The Transition Strategy & Plan ICS2 shall be presented to the approval bodies Electronic Customs Coordination Group (ECCG), Customs Policy Group (CPG) and the Risk Management Strategy Implementation Coordination Group (RIMSCO) and shall be provided to the TCG for review.

### 1.3 Document structure

**Chapter 1** provides the executive summary of the document.

**Chapter 2** explains how the assessment of the business scenarios was carried out against the defined criteria. The section includes a SWOT analysis for each scenario and tracks the identification of the best fitted scenario.

**Chapter 3** focuses on the transition rollout plan and roadmap for the best fitted scenario, emphasizing the impact of the selected scenario on the Commission, MS and Trade. The section also defines the activities to be done during the stages of the ICS2 transition and transformation.

### 1.4 Related documents

In order to understand the context of the ICS2 transition programme, the following related documents should be consulted:

- **ICS2 Business case** – containing the definition of the overall ICS2 programme and elaborating on the underlying projects.
- **ICS2 Common Repository Vision document** – presenting the definition by the Commission of the Common Repository project of the ICS2 programme.
- **ICS2 STI Vision document** – presenting the definition by the Commission of the Shared Trader Interface (STI) project of the ICS2 programme.
- **ICS2 Transition principles** – presenting principles defined to guide transition strategy decisions, providing a rationale for setting priorities and selecting options, and helping in developing a basis for constructing the consolidated ICS1 to ICS2 Transition Strategy & Plan (see Appendix IV: Transition principles document).

## 2 TRANSITION SCENARIO ASSESSMENT

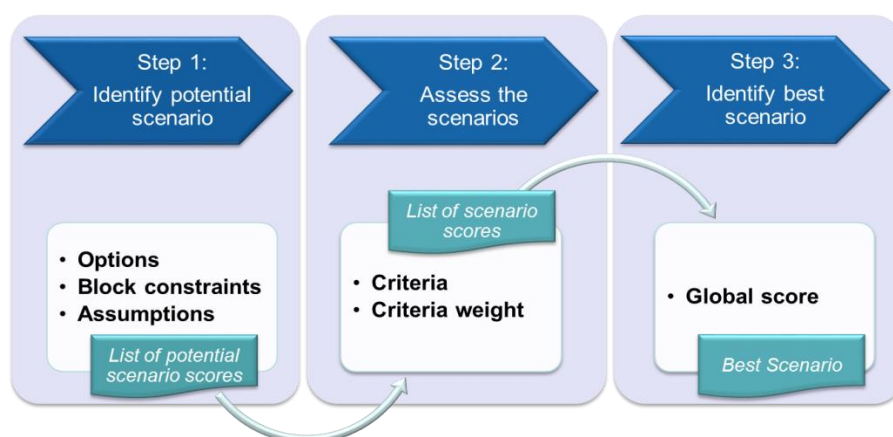
This section provides:

- A brief description of the methodology, principles and evaluation criteria used for assessment;
- Descriptions of the transition scenarios identified;
- SWOT analysis on impacted systems, data and actors;
- Evaluation of scenarios against defined criteria and timelines for transition;
- Rationale for scoring and conclusion of the assessment.

### 2.1 Methodology

The methodology used in the identification of the best transition scenario is the following process:

- Step 1: Identify potential scenarios;
- Step 2: Assess scenarios vs evaluation criteria;
- Step 3: Identify best scenario.



**Figure 7: Scenario identification process**

Detailed description of each step from the above methodology, including key assumptions and constraints, are available in the Transition principles document. The next subsection elaborates further on the principles and evaluation criteria as discussed and agreed during the ICS2 project group workshop held in 13<sup>th</sup>-14<sup>th</sup> September, 2017.

#### 2.1.1 Principles and evaluation criteria

The transition principles governing decisions made and actions taken by DG TAXUD with regards to the ICS2 programme have been defined and documented. *See Transition principles document for more details.* The assessment of scenarios described in this section is based on the principles and evaluation criteria defined.

From a strategic point of view, the aim is to arrive at a scenario for which the transition starts with less complex components followed by a gradual rollout and increase in complexity as ICS2 system is scaled up.

The table below summarises the list of principles mapped to the evaluation criteria which have been discussed and agreed by the ICS2 project working group. It also includes definitions of each to ensure common understanding of criteria meaning.

Core principle	Sub-principle	Evaluation criteria	Definition	Scoring scale
<b>P1: Business continuity is ensured</b>	Maximise business and IT continuity in operations	Disruption of risk management processes	Risk management processes will continue to operate at acceptable levels ensuring a seamless transition between ICS1 and ICS2	1 = highest risk of disruption 2 = high risk of disruption 3 = low risk of disruption 4 = lowest risk of disruption
		Risk of IT interruption	IT services continue to run at acceptable levels ensuring a seamless transition between ICS1 and ICS2	1 = highest risk of interruption 2 = high risk of interruption 3 = low risk of interruption 4 = lowest risk of interruption
		Impact on economic operators (Smooth operations)	Readiness of trade supply chain in terms of promoting smooth operation for traders and minimizing disruption of business activities; includes availability of money and resources for a timely implementation	1 = highest impact on EO 2 = high impact on EO 3 = low impact on EO 4 = lowest impact on EO
		Impact on economic operators (Competition)	Avoiding introduction of competitive dis-advantage between transport modes e.g. Maritime, Rail and Road	1 = highest impact on EO 2 = high impact on EO 3 = low impact on EO 4 = lowest impact on EO
		Impact on MS	National developments to be carried out (NICAs, Risk Mgmt. systems, Temporary Storage (Arrival & Presentation systems), other systems to integrate), availability of money and resources for a timely implementation	1 = highest impact on MS 2 = high impact on MS 3 = low impact on MS 4 = lowest impact on MS
		Number of MS directly impacted	Minimal number of MS directly impacted in mode of transport that is starting in the ICS2 transition	1 = highest number of MS 2 = high number of MS 3 = low number of MS 4 = lowest number of MS
		Number of EO involved	Minimal number of EO involved in mode of transport that is starting in the ICS2 transition. This includes both directly and indirectly involved actors	1 = highest number of EO 2 = high number of EO 3 = low number of EO 4 = lowest number of EO

Core principle	Sub-principle	Evaluation criteria	Definition	Scoring scale
<b>P2: Business value is maximized</b>	Improve quality and coverage of supply chain data and risk analysis as early as possible	Coverage of the security risk management as from Block 1.a	Introduction of the PLACI process as from Block 1.a thereby addressing existing ENS process gaps as early as possible	1 = lowest coverage in Block 1.a 2 = low coverage in Block 1.a 3 = high coverage in Block 1.a 4 = highest coverage in Block 1.a
		Demonstrate strategic and operational improvement earlier i.e. multiple filing achieved in Block 1.a	Transition scenario brings business value in terms of demonstrating full ICS2 functionality as early as possible	1 = address lowest number of challenges and objectives 2 = address low number of challenges and objectives 3 = address large number of challenges and objectives 4 = address largest number of challenges and objectives
		Maximum use of IT capacity (estimated number of ENS)	Involves maximum use of IT capacity in terms of estimated number of ENS filings from common domain perspective; as such overcapacity or under capacity implies inefficiency	1 = most inefficient use of IT capacity 2 = inefficient use of IT capacity 3 = efficient use of IT capacity 4 = most efficient use of IT capacity
<b>P3: Cost efficiency is maximized</b>	Keep transition duration as short as possible	Transition duration	Ensure that transition duration from MS point of view, stays as short as possible	1 = longest transition duration 2 = long transition duration 3 = short transition duration 4 = shortest transition duration

**Table 1: Principles and Evaluation criteria**

## Examples

**Disruption of risk management processes:** Risk management processes will continue to operate at acceptable levels ensuring a seamless transition between ICS1 and ICS2.

*Example:* Scenario starting with Postal mode has a limited impact on existing risk management processes since this involves operating a completely new process. Such a scenario implies a lower risk of disruption to Customs and thus would score higher than a scenario starting with transport modes and business models currently running in ICS1 like Maritime or Air.

**Risk of IT interruption:** IT services continue to run at acceptable levels ensuring a seamless transition between ICS1 and ICS2.

*Example:* Scenario starting with pre-loading for Postal and Air express mode implies less risk of IT interruption of ICS1, because this is a new process to be built in the ICS2 system and is equivalent with adding a new system in the IT portfolio without making drastic changes to existing systems and/or processes. Such a scenario would score higher in comparison to scenarios which affect various dependent IT systems at the beginning phase of the overall transition.

**Impact on economic operators (Smooth operations):** Readiness of trade supply chain in terms of promoting smooth operation for traders and minimizing disruption of business activities.

*Example:* Scenario starting with Maritime poses a higher risk for disruption of business activities due to the complex nature of the maritime business model, and therefore would require EO to have significantly more time to adapt to new processes. As such, this scenario would score lower than transport modes with less complex business models and lower number of system dependencies<sup>11</sup>.

**Impact on economic operators (Competition):** Avoiding introduction of competitive disadvantage between transport modes e.g. Maritime, Rail and Road.

*Example:* A scenario in which Air general cargo and Air express or Maritime, Rail and Road are transitioned at different times would introduce competitive disadvantages between the transport modes and business models. So it will score less compared to a scenario where transport modes or business models in competition with each other are transitioned at the same time.

**Impact on MS:** National developments to be carried out (National Import Control Applications (NICAs), Risk Management systems, Temporary Storage (Arrival & Presentation systems) and other systems to integrate).

*Example:* A scenario starting with pre-loading processes in Block 1.a and in which all subsequent steps come at later stage would have a lower impact on MS compared to scenario where all ENS lifecycle processes are migrated as from day 1.

**Number of MS involved:** Minimal number of MS involved in mode of transport that is starting in the ICS2 transition.

*Example:* Scenario with fewer MS involved in the beginning would be fairly easier to manage so that even when issues or problems arise, it would be more efficient resolving or fixing the issues before implementing ICS2 in all MS and thus would score higher than a scenario where more MS are involved from the beginning stages of the transition.

**Number of EO involved:** Minimal number of EO involved in mode of transport that is starting in the ICS2 transition. This includes both directly and indirectly involved actors.

*Example:* Same logic applies as above criteria.

**Coverage of the security risk management as from Block 1.a:** Introduction of the PLACI process as from Block 1.a thereby addressing existing ENS process gaps as early as possible.

*Example:* Scenario involving implementing the pre-loading process for business model such as Air express in Block 1.a provides a better coverage for the PLACI process and will already give a valuable

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<sup>11</sup> The complex nature is also related to the number of EOs involved and their IT preparedness. These criteria are addressed in subsequent section below.

contribution to the safety and security of goods traffic by Air thereby scoring higher than scenario starting with Maritime where the pre-loading process already exists in ICS1.

**Demonstrate strategic and operational improvement earlier i.e. multiple filing achieved in Block 1.a:** Transition scenario brings business value in terms of demonstrating full ICS2 functionality as early as possible.

*Example:* Starting with a scenario covering full scope of ICS2 with improvements on data quality as from Block 1.a such as Maritime or Air would score higher since this will achieve one of the programme’s strategic objectives regarding capability for multiple filing compared to a scenario in which only a partial scope of the process is covered in Block 1.a e.g. Postal pre-loading. This objective obviously needs to be evaluated against the above discussed objective of including goods traffic by air in the security risk assessment. It would of course also need to be assessed against other pertinent criteria such as impact on EO where Maritime has a particularly complex business model.

**Maximum use of IT capacity (estimated number of ENS):** Involves maximum use of IT capacity in terms of estimated number of ENS filings from common domain perspective; as such overcapacity or under capacity implies inefficiency.

*Example:* A scenario with estimated number of ENS filings that makes the most efficient use of available IT capacity at each building block of the transition will score higher than scenario with over or under capacity issues.

**Transition duration:** Ensure that transition duration stays as short as possible.

*Example:* A scenario which results in an overall shorter duration of transition will score higher than one which results in longer transition duration.

### 2.1.2 Criteria weights

Weighting factors have been applied to each criterion using a top-down approach. The factor amounts derive from the importance of the principle being addressed. Each individual group (i.e., sub principle, evaluation criteria) uses the same range to allow normalised scoring. The final criteria weight, highlighted in green in Table 2 below, is the product of core principle, sub-principle and criteria weights within each group.

A 4-point scale range has been developed in order to determine how points should be awarded to reflect the degree to which the scenario meets the criteria. The scale ranges from 1 at the lower end and 4 at the higher end of the scale. Quantified results are based upon qualitative assessments of the importance of principle addressed and the perceived ability of scenarios to meet each evaluation criterion. Refer to Appendix IV: Transition principles document for detailed description on how criteria weighting and the scoring approach was derived.

Following the workshop held with MS and Trade, the following weights were proposed.

Core principle		Sub-principle		Evaluation criteria		Weight
<b>P1: Business continuity is ensured</b>	50%	Maximise business and IT continuity in operations	100%	Disruption of risk management processes	30%	0.15
				Risk of IT interruption	10%	0.05
				Impact on economic operators (Smooth Operations)	20%	0.10
				Impact on economic operators (Competition)	10%	0.05
				Impact on MS	10%	0.05
				Number of MS involved	10%	0.05
				Number of EO involved	10%	0.05
<b>P2: Business</b>	35%	Improve quality and	100%	Coverage of the security risk	40%	0.14

value is maximized		coverage of supply chain data and risk analysis as early as possible		management as from Block 1.a		
				Demonstrate strategic and operational improvement earlier i.e. multiple filing achieved in Block 1.a	30%	0.11
				Maximum use of IT capacity (estimated number of ENS)	30%	0.11
P3: Cost efficiency is maximized	15%	Keep transition duration as short as possible	100%	Transition duration	100%	0.15
						1.00

**Table 2: Evaluation criteria weights**

## 2.2 Scenario identification and assessment

This methodology facilitated the reduction of the potential transition scenarios to eight propositions in accordance with the various options, fulfilling the identified constraints and aligned with the programme assumptions outlined in the ICS2 Transition Principles document. For instance, no scenarios were proposed that started with Rail and Road in block1.a during 2021 due to the constraint that the transport modes can only be implemented when NCTS phase 6 is ready in 2023.

Scenarios were grouped into three sets, one for each transport mode or business model that begins the transition, with the exception of Rail and Road as explained above.

The following table illustrates the proposed scenarios:

Grouping	Scenario	Description
<b>Set 1</b> Starting with Postal by Air pre-loading and Air express pre-loading	Scenario A	Sequential transition starting with Postal by Air pre-loading and Air express pre-loading followed by sequential transition of full Postal by Air, Air express, Air general cargo, Maritime, Rail and Road modes
	Scenario B	Sequential transition starting with Postal by Air pre-loading and Air express pre-loading in Block 1.a followed by a “big bang” of all other transport modes in Block 1.b
	Scenario C	Transition by group starting with Postal by Air pre-loading and Air express pre-loading followed by second group of full Postal by Air, full Air express and Air general cargo, with last group being Maritime, Rail and Road.
<b>Set 2</b> Starting with Air general cargo and Air express	Scenario D	Sequential transition starting with Air general cargo followed by sequential transition of Postal, Air express, Maritime, Rail and Road modes.
	Scenario E	Transition by group starting with Air general cargo and Air express, followed by Postal mode, with last group Maritime, Rail and Road
<b>Set 3</b> Starting with Maritime	Scenario F	Transition by group starting with Maritime, followed by group of Air general cargo and Air express with last group Postal, Rail and Road
	Scenario G	Transition by group starting with Maritime, following by group Postal and Air general cargo with last group Air express, Rail and Road
	Scenario H	Transition by group, starting with Maritime, Rail

		and Road, followed by group of Air general cargo and Air express with Postal being last mode.
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**Table 3: List of identified scenarios**

### 2.2.1 Preliminary evaluation of scenarios

In collaboration with the ICS2 project working group, a preliminary evaluation of the 8 listed scenarios was carried out. The evaluation, as described below, formed the basis for discarding a subset of scenarios proposed in Table 3.

#### 2.2.1.1 Set 1 – Starting with Postal by Air pre-loading and Air express pre-loading

In terms of business value, starting with the Postal by Air pre-loading and Air-express pre-loading has the highest value as these processes are currently not covered in ICS1. From a customs risk management point of view, introducing the risk analysis to the Postal and Air express pre-loading data (7+1) brings high value as from the start of ICS2.

It is worth noting that the so called "Postal" is not a specific transport mode as Postal consignments can also be shipped on the road by trucks or by Maritime transport. In Set 1, the Postal mode described applies to all items and consignments arriving to the EU by Air (except items of correspondence). The Postal consignments transported by Road, Rail or Maritime will be associated to those transport modes in Release 3.

Nevertheless, the "Postal mode" has its own specific process for the entry clearance managed by EU customs that is different from the Air express or Air general cargo.

In terms of ENS lifecycle processes, starting with Postal by Air pre-loading and Air express pre-loading seems to be a transition strategy with less impact as it involves new processes not yet covered in ICS1 for these business models, which in turn would reduce the risk of disruption.

On the other hand, volumetric concerns exist and need to be resolved for this set of scenarios since the estimated Postal by Air pre-loading and Air express pre-loading ENS messages could be greater than the IT capacity currently defined for Block 1.a. By the time of writing this document, the estimated volumetrics are 65 millions of ENS for Postal and 53.5 millions of ENS for air express pre-loading. See Appendix V for estimated ENS volumetrics for ICS2.

Scenarios discarded: Scenario B (transition starting with Postal by Air pre-loading and Air express pre-loading after Block 1.a followed by a big bang in Block 1.b)

*Justification:* Even though a big bang implies a shorter parallel run since phasing out of ICS1 becomes shorter, the risk of disruption to operations is much higher in that all the issues could arise at the same time. In addition, from an IT perspective, a parallel run starts as soon as you have two systems operating after Block 1.a even though they run different processes; therefore, the perceived advantage of big bang in this case, is nullified. Moreover, historically, big bang approach has a fairly low success rate and as a result, the scenario was agreed by the ICS2 project group to be disregarded for any further assessment. Scenarios A and C do not involve a big bang approach and hence were shortlisted for further assessment.

Scenarios shortlisted for further assessment: Scenario A and C

#### 2.2.1.2 Set 2 - Starting with Air express and Air general cargo

Volumetric concerns also exist for this set since the Air express and Air general cargo messages are estimated to be greater than the IT capacity available in Block 1.a. However, the set of scenarios is still feasible in that estimated ENS filing messages for the Air industry deviate slightly from the given IT capacity which would be manageable. The working assumptions made during ICS2 Project group

meetings estimates the Air modes to generate approx. 168 million ENS messages in ICS2. See Appendix V: ENS estimated volumetrics.

Scenarios discarded: Scenario D (Sequential transition starting with Air general cargo and Air express)

*Justification:* A sequential transition that separates the implementation of ICS2 for Air express and Air general cargo would introduce competitive disadvantage between the two business models. As a result, scenario D was agreed by the ICS2 project group to be disregarded for further assessment. Scenario E was shortlisted for further assessment since it involves transitioning by group where transport modes or business models in competition such as Air general cargo and Air express, Maritime, Rail and Road are implemented at the same time.

Scenarios shortlisted for further assessment: Scenario E

**2.2.1.3 Set 3 – Starting with Maritime**

Maritime deals with the most complex supply chain hence starting with this transport mode seems to be the transition strategy with the highest impact as it would pose much higher risk of disruption to existing operations. The Maritime estimated volumetrics are in line with available IT capacity in Block 1.a hence is – specifically in regard to this criterion – a feasible mode to start the ICS2 transition.

Scenarios discarded: Scenario G and H

*Justification:* Scenario G is not feasible because Air express and Air general cargo are not transitioned together hence introducing competitive disadvantage between the business models. As for scenario H, starting with Rail and Road after Block 1.a would not be feasible since the dependent system, NCTS phase 6, will not be ready until 2023.

Scenarios shortlisted for further assessment: Scenario F

**2.2.1.4 Outcome of the preliminary evaluation**

The output of the preliminary evaluation exercise consisted of four scenarios which were shortlisted and retained for further assessment and analysis. In the next section, the scenarios are assessed using the SWOT analysis method. This is followed by evaluation of scenarios against criteria defined in section 2.1.1 and finally, a conclusion of the best scenario is determined.

Scenario A
Scenario C
Scenario E
Scenario F

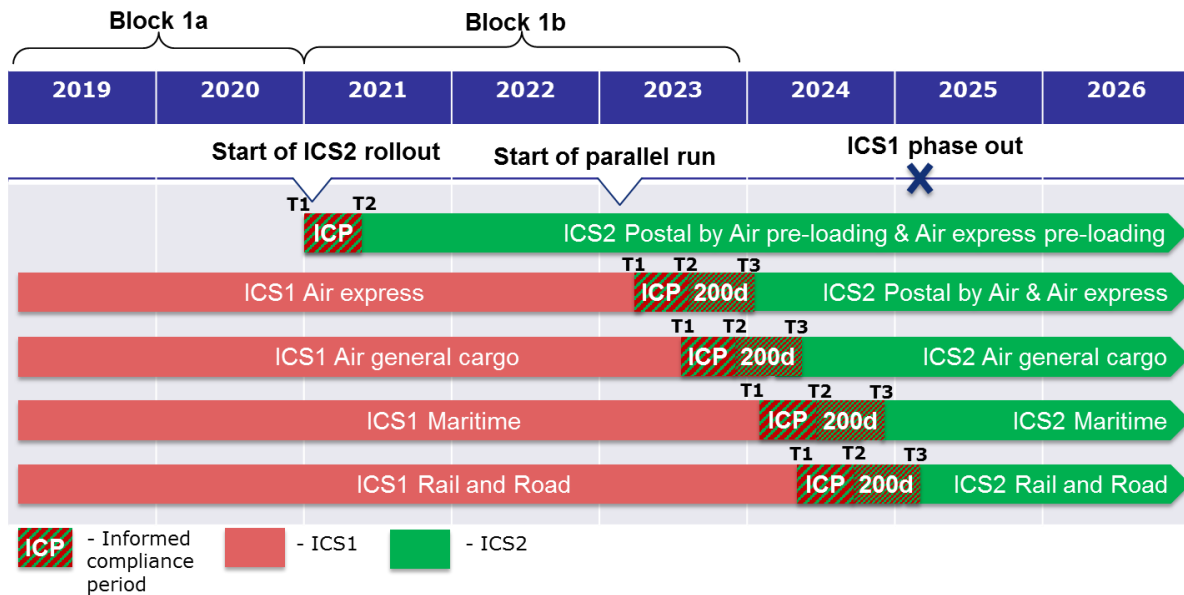
**Table 4: Shortlisted scenarios**

**2.2.2 Scenario A**

**2.2.2.1 Description and timeline**


This scenario involves a transition strategy starting with Postal by Air pre-loading and Air express pre-loading after Block 1.a, followed by sequential transition of full Postal by Air, Air express, Air general cargo, Maritime, Rail and Road modes

The proposed timeline is illustrated below:



**Figure 8: Scenario A Timeline**

2.2.2.2 SWOT analysis

 <b>Postal by Air pre-loading and Air express pre-loading</b>	
<p>Expected number of ENS-messages:          - Air express pre-loading approx. 53.5 million          - Postal by Air pre-loading approx. 65 million<sup>12</sup></p>	
<p><b>Strengths</b></p> <ol style="list-style-type: none"> <li>1) The scenario involves implementation of a new process since currently no pre-loading ENS is required for Postal by Air and Air express consignments.</li> <li>2) In general, other modes of transport are not affected directly, because it is a new process to be implemented.</li> <li>3) In case of insufficient funding for building the block 1.b and block 2, implementing the pre-loading process only in Block 1.a will already give a valuable contribution to the security and safety of goods traffic by Air. This implies an added value for business from a risk management perspective in that this will drive up quantity and quality of data captured for Postal mode and capability to better identify security and safety risks from goods moving through Postal supply chains.</li> <li>4) Starting with pre-loading process could allow Customs authorities to gain experience on merging of F43 data with the receptacle information and presentation process.</li> <li>5) Entry process will involve two separate declaration processes; pre-loading and pre-arrival</li> </ol>	<p><b>Weaknesses</b></p> <ol style="list-style-type: none"> <li>1) Current entry process for Postal by Air and Air express is not fully stable in all MS because of the huge (ongoing) growth.</li> <li>2) Legislation is not fully stable for Postal and express. <i>(Art. 104 (2) 2<sup>nd</sup> sub paragraph UCC DA and ongoing discussions in Council to abolish the € 22 VAT exemption)</i></li> <li>3) In case of pre-loading (7+1 dataset) there is limited multiple filing (MF), so the full functioning of the 'Unique Linking Key' cannot be fully tested. <i>(Remark: For Post there is a kind of MF in the pre-loading phase - combining F43 data with receptacle - Annex B UCC DA, Columns F4c and F4d)</i></li> <li>4) Due to sequential implementation, competitive disadvantage is introduced between Air general cargo and Air express modes since not all Air mode operators are transitioned at the same time.</li> <li>5) There is no connection between the ICS2-pre-loading phase and the ICS1-arrival phase in Block 1.a, which could result in a 'no-load' consignment still being on board of a plane without being detected. <i>(No possibility to have a completeness control due to</i></li> </ol>

<sup>12</sup> This figure is based on the assumption of 10 items per ENS filing.

<p>thus preventing logistical delays.</p> <p>6) F43 data allows customs authorities to perform a broader scope of risk analysis i.e. to cover security and safety risks, and not only risks of immediate threat to the Air cargo security and transport security (aka 'bomb-in-a-box').</p> <p>7) Postal pre-loading data covering the entire F43 set allows customs to carry out risk based controls at the destination i.e. where Postal goods are presented for customs clearance i.e. before their release for free circulation, provided the solution covers also necessary presentation notification data at the customs of destination.</p> <p>8) For Postal PLACI, all MS are affected by this scenario because all postal authorities will be filing at their respective MS thus helping the ICS2 transition awareness campaign.</p> <p>9) As this is a new process, MS do not have to integrate or build a link between their national ICS1 and national ICS2 which promotes smoother transition.</p> <p>10) Rail and Road and Maritime make a simultaneous transition, so no competitive disadvantages are introduced.</p>	<p><i>disconnection of ICS1/ICS2).</i></p> <p>6) MS that have chosen for central e-screening have to implement e-screening on the 7+1 data at a local level until e-screening is being implemented at EU level. (scope of the number of IMS that will have to perform e-screening on PLACI data might need to be limited).</p> <p>7) Absence of complete ENS dataset will not allow MS of actual COFE to carry out its full risk analysis in order to decide on potential controls at the COFE (exception is when COFE MS will also be MS of destination).</p>
<p><b>Opportunities</b></p>	<p><b>Threats</b></p>
<p>1) New process that can be build according to the requirements of the UCC legislation. <i>(use of new CDM data structure, pre-loading/pre-arrival)</i></p> <p>2) F43 data-set which is envisaged to be submitted at pre-loading is identical to the reduced dataset required for customs declaration for release for free circulation of Postal items under Article 144 UCC DA (Delegated Regulation (EU) 2446/2015). This offers an opportunity for the re-use of data for the purposes of customs declaration and consequently more efficient and effective customs clearance of Postal goods.</p> <p>3) Due to the huge growth in this sector the Postal authorities and customs will have an opportunity to adopt more efficient clearance processes based on the electronic F43 data provided already prior to loading of goods in a third country.</p>	<p>1) Postal by Air and Air express processes are very time-critical, which make the scenario vulnerable as response times are critical.</p> <p>2) Testing how the ICS2 <i>critical factors</i> will work such as multiple filing, appears in a later stage of the transition.</p> <p>3) There is a possibility that the total number of ENS messages is far higher than expected and cannot be handled by available IT capacity for block 1.a. (Air express estimated 107 million ENS by 2020)</p> <p>4) There is no experience with 'pre-loading processes' for business model operators that will start the ICS2 rollout. In the case of Postal model there is no experience with the entry process at all. This could lead to a possible disruption on Postal business domain because of the new process.</p> <p>5) Risk analysis on the 7+1 dataset has to be implemented by all 28 MS since as per Postal PLACI model each MS will be in the role of the COFE i.e. receiving PLACI data from their own national Postal operator.</p> <p>6) There is a risk that not all Postal operators of origin will be ready to send the necessary data to postal operators at destination.</p>

### 2.2.2.3 Evaluation

Based on the evaluation tool created to assess scenarios against the criteria, Scenario A scores as shown in diagram below:

Criteria	Weight	Scenario A	
		Assessment against criteria <sup>13</sup>	Weighted assessment
Disruption of risk management processes	0.15	4	0.60
Risk of IT interruption	0.05	4	0.20
Impact on economic operators (Smooth Operations)	0.10	4	0.40
Impact on economic operators (Competition)	0.05	3	0.15
Impact on MS	0.05	3	0.15
Number of MS involved	0.05	1	0.05
Number of EO involved	0.05	3	0.15
Coverage of the entry process as from Block 1.a	0.14	4	0.56
Strategic and operational improvement achieved in Block 1.a	0.11	1	0.11
Maximum use of IT capacity (estimated number of ENS)	0.11	3	0.32
Transition duration	0.15	1	0.15
			<b>2.83</b>

### 2.2.3 Scenario C

#### 2.2.3.1 Description and timeline

This scenario involves a transition strategy by group starting with Postal by Air pre-loading and Air express pre-loading, followed by full Postal by Air, Air express and Air cargo, with last group being Maritime, Rail and Road.

Proposed timeline is illustrated below:

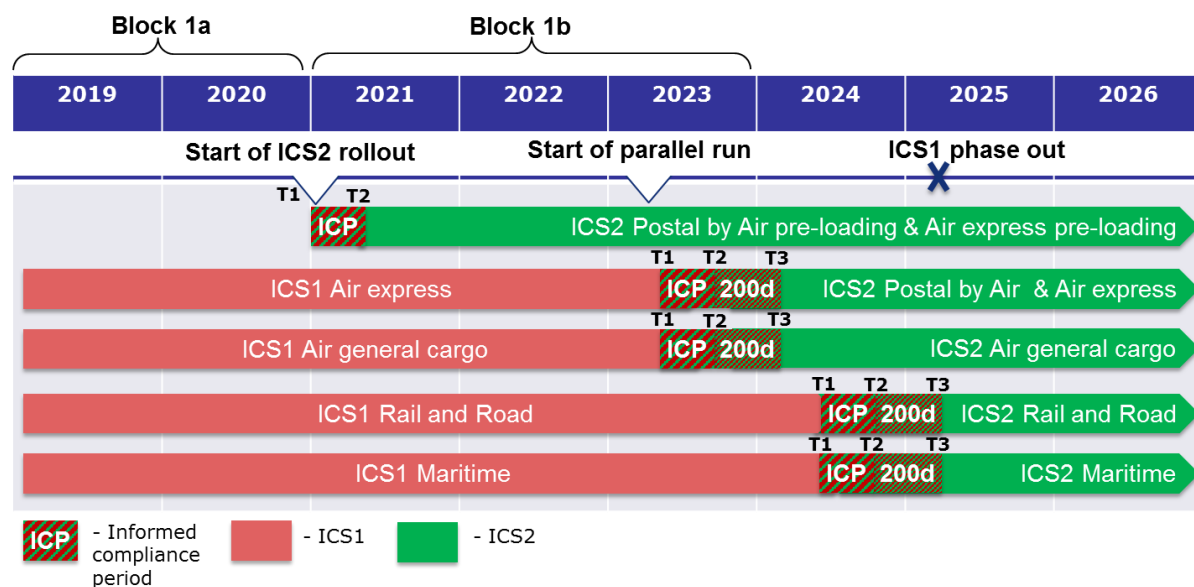


Figure 9: Scenario C Timeline

<sup>13</sup> Scoring justification provided in section 2.3.1.

## 2.2.3.2 SWOT analysis

 <b>Postal by Air pre-loading and Air express pre-loading</b>	
Expected number of ENS-messages: - Air express pre-loading approx. 53.5 million - Post by Air pre-loading approx. 65 million <sup>14</sup>	
<b>Strengths</b>	<b>Weaknesses</b>
<p>1) This scenario reduces competitive disadvantages since Maritime, Rail and Road, Air general cargo and Air express are implemented at the same time. In Block 1.b there is a simultaneous transition of Postal by Air, Air express and Air general cargo which implies less competitive disadvantages than in Scenario A.</p> <p>2) The scenario involves implementation of a new process since currently no pre-loading ENS is required for Postal by Air and Air express consignments.</p> <p>3) In general, other modes of transport are not affected directly, because it is a new process to be implemented.</p> <p>4) In case of insufficient funding for building the block 1.b and block 2, implementing the pre-loading process only in Block 1.a will already give a valuable contribution to the security and safety of goods traffic by Air. This implies an added value from a risk management perspective in that this will drive up quantity and quality of data captured for Postal mode and capability to better identify security and safety risks from goods moving through Postal by Air supply chains.</p> <p>5) Starting with pre-loading process could allow Customs authorities to gain experience on merging of F43 data with the receptacle information (F44 filing) and presentation process.</p> <p>6) Entry process will involve two separate declaration processes; pre-loading and pre-arrival thus preventing logistical delays.</p> <p>7) F43 data allows customs authorities to perform a broader scope of risk analysis i.e. to cover security and safety risks, and not only risks of immediate threat to the Air cargo security and transport security (aka 'bomb-in-a-box').</p> <p>8) Postal pre-loading data covering the entire F43 set allows customs to carry out risk based controls at the destination i.e. where Postal goods are presented for customs clearance i.e. before their release for free circulation, provided the solution</p>	<p>1) Current entry process for Postal by Air and Air express is not fully stable in all MS because of the huge (ongoing) growth.</p> <p>2) Legislation is not fully stable for Postal and express. <i>(Art. 104 (2) 2<sup>nd</sup> sub paragraph UCC DA and ongoing discussions in Council to abolish the € 22 VAT exemption)</i></p> <p>3) In case of pre-loading (7+1 dataset) there is limited multiple filing (MF), so the working of the 'Unique Linking Key' cannot be fully tested. <i>(Remark: For Post there is a kind of MF in the pre-loading phase - combining F43 data with receptacle - Annex B UCC DA, Columns F4c and F4d)</i></p> <p>4) There is a short time between implementation of ICS2 in transport modes with complex business models i.e. Air express and Air general cargo, and Maritime, Rail and Road.</p> <p>5) There is no connection between the ICS2-pre-loading phase and the ICS1-arrival phase in Block 1.a, which could lead that a 'no-load' consignment still could be on board of a plane without being detected as such. <i>(no possibility to have a completeness control due to disconnection of ICS1/ICS2)</i></p> <p>6) MS that have chosen for central e-screening have to implement e-screening on the 7+1 data at a local level until e-screening is being implemented at EU level. This means that MSs which are directly involved in goods movement are responsible to receive ENS and screen it against national risk knowledge (scope of the number of IMS that will have to perform e-screening on PLACI data might need to be limited). Communication of the e-screening information will be through the Common Repository as from block 1.a.</p> <p>7) Absence of complete ENS dataset will not allow MS of actual COFE to carry out its full risk analysis in order to decide on potential controls at the COFE (exception is when COFE MS will also be MS of destination).</p>

<sup>14</sup> This figure is based on the assumption of 10 items per ENS filing.

<p>covers also necessary presentation notification data at the customs of destination.</p> <p>9) For Postal PLACI, all MS are affected by this scenario because all postal authorities will be filing at their respective MS thus helping the ICS2 transition awareness campaign.</p> <p>10) As this is a new process, MS do not have to integrate or build a link between their national ICS1 and national ICS2 which promotes smoother transition.</p>	
<p><b>Opportunities</b></p>	<p><b>Threats</b></p>
<p>1) New process that can be built according to the requirements of the UCC legislation. <i>(use of new CDM data structure, pre-loading/pre-arrival)</i></p> <p>2) F43 data-set which is envisaged to be submitted at pre-loading is identical to the reduced dataset required for customs declaration for release for free circulation of Postal items under Article 144 UCC DA (Delegated Regulation (EU) 2446/2015). This offer an opportunity for the re-use of data for the purposes of customs declaration and consequently more efficient and effective customs clearance of Postal goods.</p> <p>3) Due to the huge growth in this sector the Postal authorities and customs will have an opportunity to implement more efficient clearance processes based on the electronic F43 data provided already prior to loading of goods in a third country.</p>	<p>1) Postal by Air and Air express processes are very time-critical, which makes the scenario a vulnerable option as response times are critical.</p> <p>2) Testing how ICS2' <i>critical factors</i> will work such as multiple filing, appears in a later stage of the transition.</p> <p>3) There is a possibility that the total number of ENS messages is far higher than expected and cannot be handled by available IT capacity for block 1.a.</p> <p>4) There is no experience with 'pre-loading processes' for business model operators that will start the ICS2 rollout. In the case of Postal model there is no experience with the entry process at all. This could lead to a possible disruption on Postal business domain.</p> <p>5) Risk analysis on the 7+1 dataset has to be implemented by all 28 MS since as per Postal PLACI model each MS will be in the role of the COFE i.e. receiving PLACI data from their own national Postal operator.</p> <p>6) There is a risk that not all Postal operators of origin will be ready to send the necessary data to postal operators at destination.</p> <p>7) In case of insufficient funding for building block 1.b and block 2 the overall planning for ICS2 being in full operation by 1Q 2025 might be at risk. The treat for MS would be to run two different systems (block 1.a and ICS1) in parallel for which the target date of ICS1 could not be determined.</p>

### 2.2.3.3 Evaluation

Based on the evaluation tool created to assess scenarios against the criteria, Scenario C scores as shown in diagram below:

Criteria	Weight	Scenario C	
		Assessment against criteria	Weighted assessment
Disruption of risk management processes	0.15	3	0.45
Risk of IT interruption	0.05	4	0.20
Impact on economic operators (Smooth Operations)	0.10	4	0.40
Impact on economic operators (Competition)	0.05	4	0.20
Impact on MS	0.05	4	0.20
Number of MS involved	0.05	1	0.05
Number of EO involved	0.05	3	0.15
Coverage of the entry process as from Block 1.a	0.14	4	0.56
Strategic and operational improvement achieved in Block 1.a	0.11	1	0.11
Maximum use of IT capacity (estimated number of ENS)	0.11	3	0.32
Transition duration	0.15	3	0.45
			<b>3.08</b>

### 2.2.4 Scenario E

#### 2.2.4.1 Description and timeline

This scenario involves a transition strategy by group starting with Air general cargo and Air express, followed by Postal mode with last group Maritime, Rail and Road.

Proposed timeline is illustrated below:

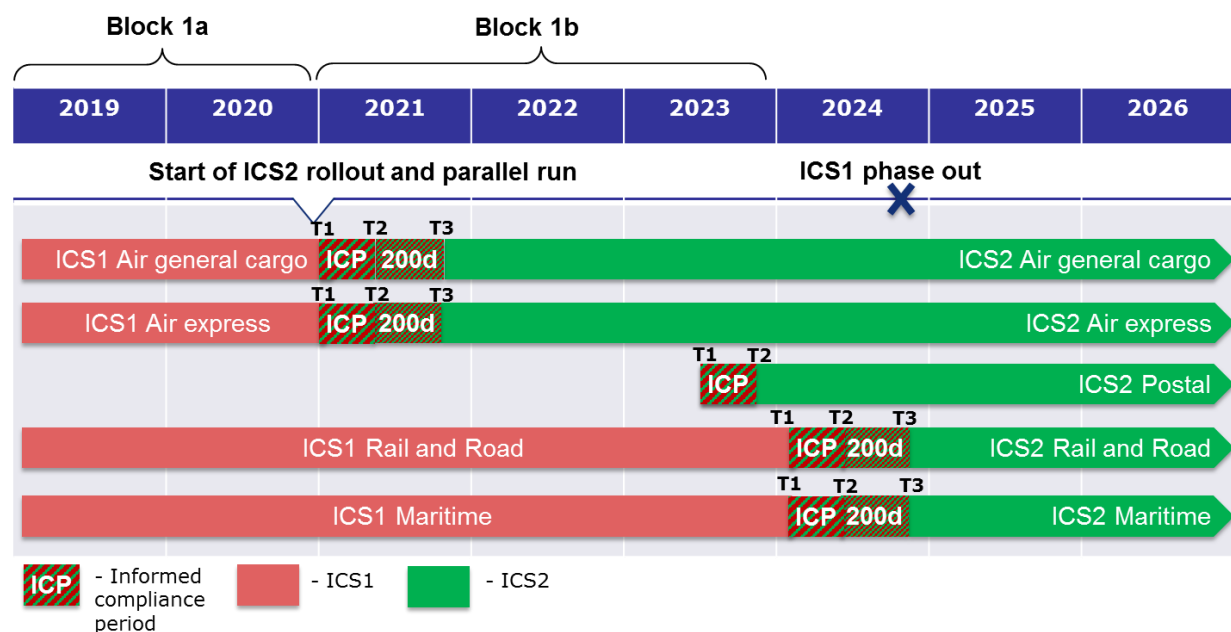



Figure 10: Scenario E Timeline

## 2.2.4.2 SWOT analysis

 <b>Air express and Air general cargo</b>	
Expected number of ENS-messages: - Air express approx. 107 million - Air general cargo approx. 60.5 million	
<b>Strengths</b>	<b>Weaknesses</b>
<p>1) The ICS2 process will be tested in its full scope and can therefore give lessons to the other modes of transport which are transitioning at a later stage.</p> <p>2) MF will be implemented in the pre-loading phase as such full functionalities of ICS2 process will be tested as from block 1.a.</p> <p>3) Data that could be used for Temporary Storage is available via the Common Repository.</p> <p>4) Electronic data-exchange in Air is further developed than in Maritime transport which ensures business continuity is similar to what is happening in ICS1.</p> <p>5) For Air general cargo, all MS are acting as COFE thus helping the ICS2 transition awareness campaign.</p> <p>6) This scenario significantly reduces competitive disadvantages since Air general cargo and Air express are implemented at the same time at start of transition and Maritime, Rail and Road are implemented at the same time as final group of the transition.</p> <p>7) ENS data quality and data availability among the customs authorities will be improved across the entire Air cargo sector, thus this scenario will address existing systemic gaps and weaknesses.</p>	<p>1) This has a big impact on MS since connectivity between ICS2 (Common domain) and subsequent IT systems AN/PN/TS (national domain) should be developed before ICS2 process can commence.</p> <p>2) Potential competitive disadvantages are introduced between Air and Postal modes since these scenarios are not transitioned simultaneously.</p> <p>3) Starting transition with completely new processes for time-critical business models or transport modes poses extra risk due to the time pressure.</p> <p>4) Starting transition with full Air express and Air general cargo implies a limited time to prepare other dependent or impacted systems e.g. Temporary Storage systems.</p> <p>5) Risk analysis has to be implemented by all 28 MS as from block 1.a. since each MS will be in the role of the COFE (all MS impacted by Air sector).</p>
<b>Opportunities</b>	<b>Threats</b>
<p>1) ENS-data is available for all MS via the Common Repository hence further contributes to improvement of risk analysis processes.</p>	<p>1) Not functioning of MF will lead to a severe distortion of logistics.</p> <p>2) There is no experience with 'pre-loading process' for transport modes starting the transition.</p> <p>3) If volumetrics are higher than anticipated and IT capacity is not sufficient, then impact on economic operation will be high since they will need to lodge ENS filings in both ICS1 and ICS2.</p> <p>4) Number of potential economic operators involved in the MF is higher than in the previous two scenarios, increasing risk that not all EOs would have their IT systems operational on time.</p>

### 2.2.4.3 Evaluation

Based on the evaluation tool created to assess scenarios against the criteria, Scenario E scores as shown in diagram below:

Criteria	Weight	Scenario E	
		Assessment against criteria	Weighted assessment
Disruption of risk management processes	0.15	1	0.15
Risk of IT interruption	0.05	2	0.10
Impact on economic operators (Smooth Operations)	0.10	1	0.10
Impact on economic operators (Competition)	0.05	2	0.10
Impact on MS	0.05	1	0.05
Number of MS involved	0.05	1	0.05
Number of EO involved	0.05	2	0.10
Coverage of the entry process as from Block 1.a	0.14	2	0.28
Strategic and operational improvement achieved in Block 1.a	0.11	4	0.42
Maximum use of IT capacity (estimated number of ENS)	0.11	1	0.11
Transition duration	0.15	3	0.45
			<b>1.91</b>

### 2.2.5 Scenario F

#### 2.2.5.1 Description and timeline

This scenario involves a transition strategy by group starting with Maritime, followed by group of Air general cargo and Air express with last group Postal, Rail and Road.

Proposed timeline is illustrated below:

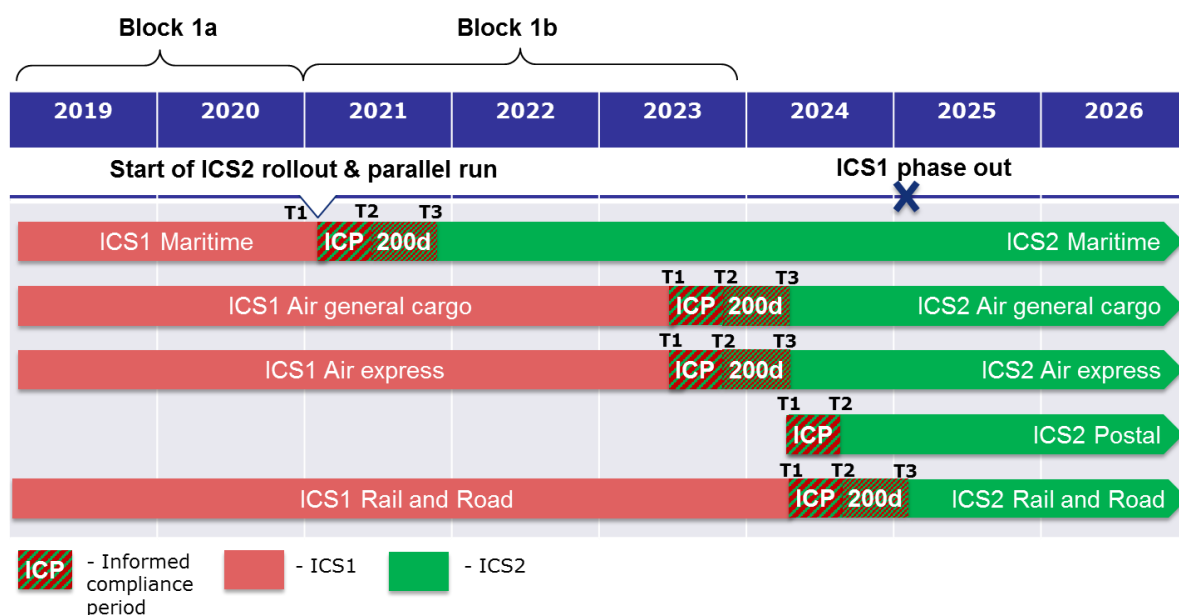



Figure 11: Scenario F Timeline

## 2.2.5.2 SWOT analysis

 <b>Maritime</b>	
Expected number of ENS-messages: approx. 87 million	
<b>Strengths</b>	<b>Weaknesses</b>
<p>1) The ICS2 process will be tested in its full scope and can therefore give lessons to the other modes of transport which are transitioning at a later stage although they have much less complex supply chains than Maritime.</p> <p>2) MF will be implemented in the pre-loading phase as such full functionalities of ICS2 process will be tested as from block 1.a.</p> <p>3) Data that could be used for Temporary Storage is available via the Common Repository.</p> <p>4) The 'pre-loading process' for single filing is already successfully implemented in Maritime for many years in the entry process, and certain portion of single ENS filing with additional and better data quality will continue under the new ICS2 system.</p> <p>5) Deep-sea Maritime logistics are less time-critical in relation to consignments entering the EU by Air. However, short sea shipping oftentimes has challenging logistics and time critical requirements.</p> <p>6) Not all MS are directly involved in Maritime transport (approx. 18 MS), which limit the number of dependencies.</p> <p>7) ENS data quality and data availability among the customs authorities will be improved across the entire Maritime sector, thus this scenario will address existing systemic gaps and weaknesses in this domain.</p>	<p>1) This has a big impact on MS since connectivity between ICS2 (Common domain) and subsequent IT systems AN/PN/TS (national domain) should be developed before ICS2 process can commence.</p> <p>2) ICS2 transition in this scenario would coincide with national Maritime Single Window and port community systems, which would make the process more vulnerable and more complex.</p> <p>3) Starting with Maritime in block 1.a. introduces competitive disadvantages against Rail and Road (implementation of Rail and Road has a dependency on NCTS phase 6 - to be ready in 2023).</p> <p>4) Maritime deals with the most complex supply chain hence starting with this transport mode would pose much higher risks of interruption since there is limited time to prepare subsequent system e.g. TS.</p> <p>5) Actors within the Maritime supply chain are less used to electronic filing which adds to the complexity. So does the sheer number of potential filers most of whom are domiciled outside the EU.</p> <p>6) Starting with Maritime implies that the eManifest-project will not be finished in the same time frame with ICS2 (dependency considered from MS point of view).</p> <p>7) Obligation to provide buyer and seller information adds a significant level of complexity, affecting exchange of data between commercial parties that will not be present in Air.</p>
<b>Opportunities</b>	<b>Threats</b>
<p>1) Full ENS-data is available for all MS via the Common Repository.</p> <p>2) Good opportunity to make Maritime more electronic by obtaining ENS data from FF for RA at Customs.</p>	<p>1) Not functioning of MF will lead to a severe distortion of logistics and the risk management process.</p> <p>2) Dependent on how economic operators are going to set up the process e.g. five house bills of lading on average for each master bill of lading implies many new filers would need to be compliant as from block 1.a.</p> <p>3) Obligation to provide buyer and seller information adds a significant level of complexity, putting additional stress and challenges on the exchange of data between commercial parties that will not be present in Air. There will need to be a careful outreach programme designed to ensure that the new filers are aware of this requirement established by EU. The awareness campaign needs to be carried</p>

	<p>out by the trade associations - with the support of EU (i.e. in provision of documents, train the trainer sessions etc.).</p> <p>4) Number of potential economic operators involved in the MF is the highest of all the transport sectors / business models, thus increasing risk that not all EOs would have their IT systems operational on time.</p>
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### 2.2.5.3 Evaluation

Based on the evaluation tool created to assess scenarios against the criteria, Scenario F scores as shown in diagram below:

Criteria	Weight	Scenario F	
		Assessment against criteria	Weighted assessment
Disruption of risk management processes	0.15	1	0.15
Risk of IT interruption	0.05	1	0.05
Impact on economic operators (Smooth Operations)	0.10	2	0.20
Impact on economic operators (Competition)	0.05	1	0.05
Impact on MS	0.05	1	0.05
Number of MS involved	0.05	4	0.20
Number of EO involved	0.05	1	0.05
Coverage of the entry process as from Block 1.a	0.14	2	0.28
Strategic and operational improvement achieved in Block 1.a	0.11	3	0.32
Maximum use of IT capacity (estimated number of ENS)	0.11	4	0.42
Transition duration	0.15	1	0.15
			<b>1.92</b>

## 2.3 Assessment conclusion

### 2.3.1 Scoring rationale

Table 5 below provides justification and rationale for scoring awarded to a scenario for each evaluation criteria defined.

<p><b>Scoring scale</b></p> <p>1 = Least satisfies criteria</p> <p>2 = Partially satisfies criteria</p> <p>3 = Largely satisfies criteria</p> <p>4 = Fully satisfies criteria</p>
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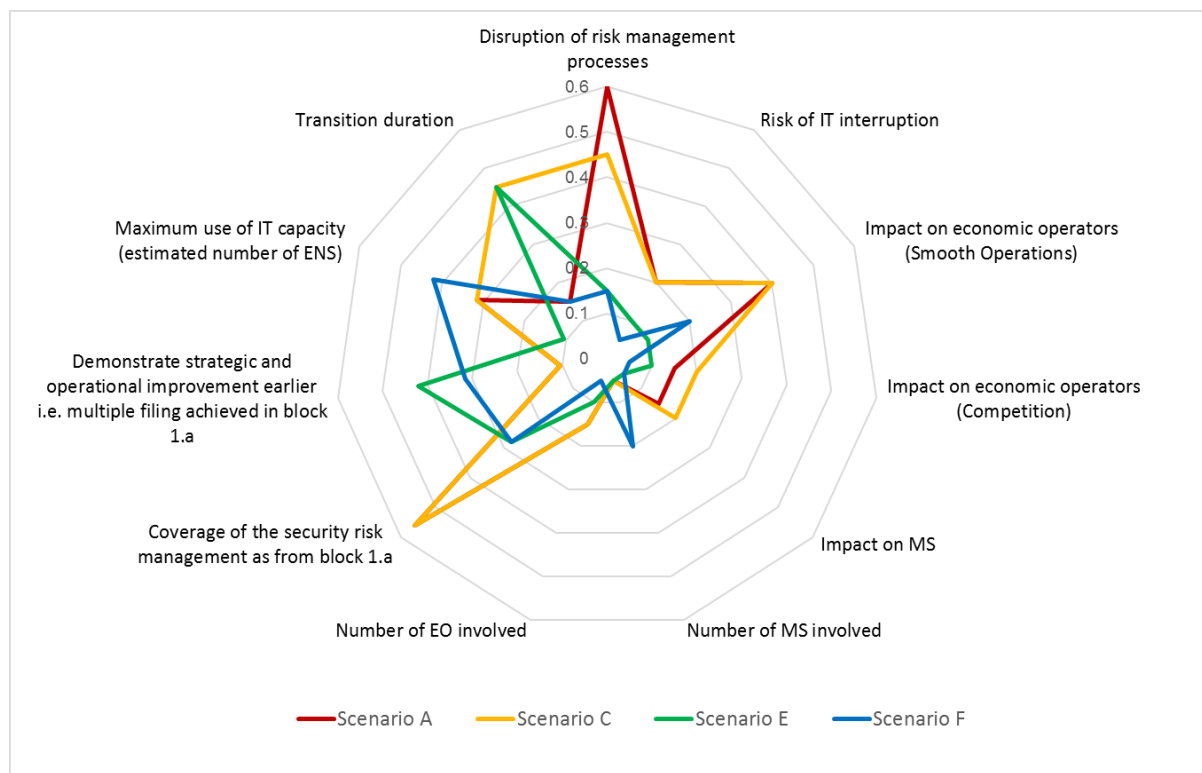
Criteria	Scenario				Rationale <Scenario initials are <b>Bolded</b> >
	A	C	E	F	
<b>Disruption of risk management processes</b>	4	3	1	1	<p><b>A</b>: Highest score since scenario involves starting transition with new process posing lowest risk of disruption to existing processes</p> <p><b>C</b>: Lower score than A since it involves transitioning in groups thus posing comparatively higher risk of disruption than sequential transition</p> <p><b>E</b>: Lowest score due to starting transition with most time-critical business models hence posing higher risk of disruption</p> <p><b>F</b>: Lowest score due to starting transition with most complex supply chain hence posing higher risk of disruption</p>
<b>Risk of IT interruption</b>	4	4	2	1	<p><b>A &amp; C</b>: Highest score since scenario involves starting transition with new process posing lowest risk disruption to existing paper-based processes</p> <p><b>E</b>: Low score due to starting transition with most time-critical business models hence posing high risk of IT interruption</p> <p><b>F</b>: Lowest score due to starting transition with most complex supply chain hence posing highest risk of IT interruption and Maritime has more IT dependencies than Air modes thus scoring lower than E</p>
<b>Impact on economic operators (Smooth Operations)</b>	4	4	1	2	<p><b>A &amp; C</b>: Highest score since scenario involves starting transition with new process thus having minimal disruption impact to EO business activities</p> <p><b>E</b>: Lowest score due to starting transition with most time-critical business models hence posing highest risk of disruption of business activities in case of delays</p> <p><b>F</b>: Low score due to complexity of supply chain however Maritime has more time, except for short-sea shipping, to resolve operational disruption that may arise compared to scenario E</p>
<b>Impact on economic operators (Competition)</b>	3	4	2	1	<p><b>C</b>: Highest score since scenario involves transitioning Air modes and Maritime, Rail and Road simultaneously thus minimizing competition</p> <p><b>A</b>: Lower score than scenario C since it involves sequential transitioning of transport modes with higher possibility for competitive disadvantage between transport modes</p> <p><b>E</b>: Lower score than A since Air modes and Postal are transitioned separately thus leading to competitive disadvantage</p> <p><b>F</b>: Lowest score since Maritime, Rail and Road are transitioned separately with the longest duration between these transport modes thus leading to highest competitive disadvantage</p>
<b>Impact on MS</b>	3	4	1	1	<p><b>C</b>: Highest score since scenario involves starting transition with pre-loading processes which require less effort of integration due to fewer system dependencies at MS level</p> <p><b>A</b>: Lower score than scenario C since scenario involves sequential transitioning which implies more difficulty in terms of resources and workload spread across the transition duration</p> <p><b>E</b>: Lowest score due to starting transition with most time critical business models which requires adapting all dependent systems as from block 1.a</p> <p><b>F</b>: Lowest score due to starting transition with most complex mode which requires implementing a significant level of automation</p>

Criteria	Scenario				Rationale <Scenario initials are <b>Bolded</b> >
	A	C	E	F	
					compared to the present as from block 1.a
<b>Number of MS involved</b>	1	1	1	4	<b>F</b> : Highest score since scenario involves the least number of MS directly impacted by transport mode or business model starting the transition. <b>A , C &amp; E</b> : Lowest score since in these scenarios all MS are directly impacted by transport mode or business model starting the transition
<b>Number of EO involved</b>	3	3	2	1	Scoring is based on number of operators involved in transport mode or business model starting the transition <b>A &amp; C</b> : Highest scores since these scenarios have lowest number of EO compared to the other scenarios
<b>Coverage of the security risk management as from Block 1.a</b>	4	4	2	2	<b>A &amp; C</b> : Highest scores since scenarios involve implementing the pre-loading process for Postal by Air at an early stage thus providing a better coverage for the PLACI process and giving a valuable contribution to the safety of goods traffic by Air as from Block 1.a <b>E &amp; F</b> : Lowest scores since coverage of PLACI for Postal mode is covered at a later stage (Block 1.b)
<b>Demonstrate strategic and operational improvement earlier i.e. multiple filing achieved in Block 1.a</b>	1	1	4	3	<b>E</b> : Highest score because scenario covers more ICS2 functionalities including pre-loading and multiple filing as from the start of transition <b>F</b> : Lower score compared to E since pre-loading was already covered in ICS1 <b>A &amp; C</b> : Lowest scores because in these scenarios, only a partial scope of the process is covered in Block 1.a, i.e. only the pre-loading process
<b>Maximum use of IT capacity (estimated number of ENS)</b>	3	3	1	4	<b>F</b> : Highest score since scenario involves starting transition with Maritime mode which fits best to available IT capacity in Block 1.a in terms of estimated volumetrics <b>E</b> : Lowest score since scenario involves starting transition with Air mode which has a risk of volumetrics being higher than available IT capacity leading to overcapacity issues <b>A &amp; C</b> : High score since set of scenarios involves starting transition with pre-loading processes which require 7+1 data and involve a subset of the ENS lifecycle process and thus could be handled by the given IT capacity
<b>Transition duration</b>	1	3	3	1	<b>C &amp; E</b> : Highest score since scenarios are transitioned in groups and hence ICS1 can be phased out sooner thus leading to a shorter transition duration <b>A &amp; F</b> : Lowest score since scenarios are transitioned sequentially and hence ICS1 is phased out later thus leading to a longer transition duration

**Table 5: Scoring rationale for scenarios**

## 2.3.2 Conclusion

The comparison of the 4 scenarios assessment is presented through a spider diagram below illustrating the weighted scores of each scenario.



**Figure 12 Comparison of the scenarios assessment**

The summary of the assessment scores for each of the scenarios is presented below with their respective ranking. Following this assessment and ranking, **Scenario C** is the selected transition scenario for the ICS2 programme.

	Description	Score <sup>15</sup>	Ranking
<b>Scenario A</b>	Sequential transition starting with Postal by Air pre-loading and Air express pre-loading followed by sequential transition of full Postal by Air, Air express, Air general cargo, Maritime, Rail and Road modes.	2.83	2
<b>Scenario C</b>	Transition by group starting with Postal by Air pre-loading and Air express pre-loading followed by second group of full Postal by Air, full Air express and Air general cargo, with last group being Maritime, Rail and Road.	<b>3.08</b>	<b>1</b>
<b>Scenario E</b>	Transition by group starting with Air general cargo and Air express, followed by Postal mode, with last group Maritime, Rail and Road.	1.91	4
<b>Scenario F</b>	Transition by group starting with Maritime, followed by group of Air general cargo and Air express with last group Postal, Rail and Road.	1.92	3

<sup>15</sup> Contrary to scenarios A and C, the scores and rankings of scenarios E and F are so close that, because they are based on entirely qualitative (i.e. subjective) assessments, no operational conclusions could reasonably be made without further analysis in the event that scenarios A and C, for whatever reason, were no longer available.

### 3 TRANSITION AND ROLL OUT PLAN

The ICS2 transition and rollout plan is designed to define the phasing-in of the ICS2 solution and the related new business processes in line with the selected transition scenario. The plan also determines the phasing out of ICS1 taking into account the timing of the building blocks and the overall roadmap defined for the ICS2 programme. The rollout of ICS2 will follow three main tracks:

- Business track – entailing how ICS2 will be rolled out in the different modes of transport and business models;
- IT track – involving the IT capacity and underlying infrastructure needed to support the transport modes and business models being rolled out and their related business processes;
- Business transformation – introducing new business processes for risk management at EU level that will be launched. Specifically, block 2 of the ICS2 programme is designated for building these new processes (*See Figure 14*). The components of ICS2 that are to be implemented in Block 2 will provide enhanced support for the risk management but do not have impact on the ICS1 phase-out date.

Overall, the deployments and business transformation involved by the ICS2 system will happen in several phases:

- first the deployment of the new components of ICS2 to take over the ENS filings and provide a new support for multiple filing;
- second the switch off of ICS1: the completion of the ICS2 Block 1.b would determine when ICS1 can be phased out. ICS1 in the MS can be phased out when the deployed ICS2 components will:
  - Functionally cover the full implementation of all new ENS filings as described in the ICS2 Common System specifications, data requirements and necessary information exchanges for all modes of transport and business models;
  - ENS lifecycle is supported by the ICS2 systems (except the integration of the control results that will not affect the date of switch off of the ICS1 system).  
Technically that would mean that the full implementation of the HTI (STI/NTI) and the Common Repository is the pre-requisite for the definition of the ICS1 phase-out;
- and third, the deployment of enhanced support for risk management (components of Block 2) to bring about business transformation and contribute to ICS2 programme's strategic objectives.

The following sections will focus on the 2 first points only. The Block 2 components are subject to a study to be started in 2019 to elaborate on the detailed requirements and features.

#### 3.1 Release concept and definition

The ICS2 rollout plan will be executed in 'releases' which entail all activities related to IT implementations and business transformations that will deliver the agreed ICS2 functionalities and features. This includes all activities that will contribute to the operational readiness of the ICS2 system by the Commission, Member States and Trade.

Each ICS2 release includes the elaboration of new functionalities and processes, construction of the IT components implementing the functional scope, testing to validate if the implementation is performing as required and designed, as well as an effective communication and training campaign to prepare all stakeholders for the upcoming release.

The ICS2 rollout will be made up of 3 main releases based on the transition groups for the Economic Operators as identified in Scenario C: -

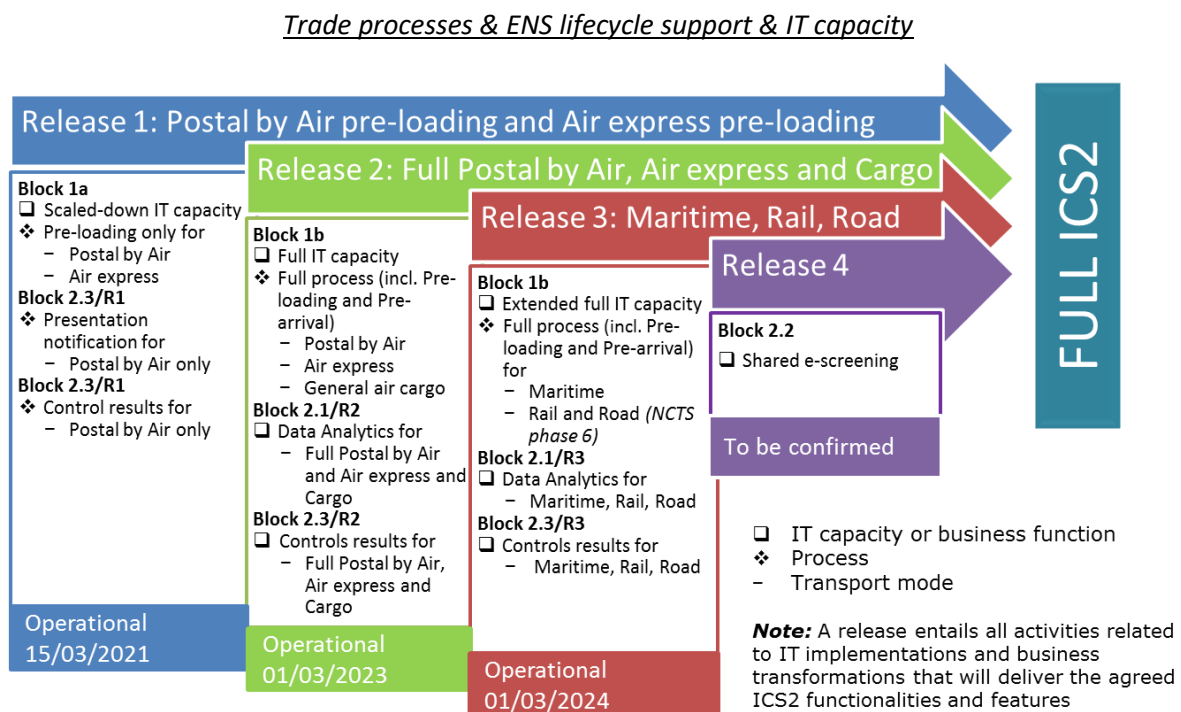
- Release 1: Postal by Air pre-loading and Air express pre-loading which entails implementing block 1.a and implementing to a certain extent block 2.3 specifically for Postal by Air mode;

- Release 2: In addition to Release 1, full Postal by Air, Air express and Air cargo (general) which entails implementing block 1.b, block 2.1, block 2.3;
- Release 3: In addition to Release 2, Maritime, Rail and Road.

With the rollout of Release 3, the ICS2 system can support the new ENS filings and exchange of messages with Trade. As a result, the ICS1 systems in the MS can be switched off - after a certain time period (to be agreed) - after Release 3.

Finally, an additional Release 4 will be introduced to cover the implementation of Block 2.2. This block will deliver the Shared e-Screening support functions of ICS2 for the EU level support of the Common Risk Criteria and standards of category 2 (i.e. CRC2). It is to be noted, that this Release 4 does not impact the roll out of ICS2 for Trade - it will provide additional ICS2 functionality relevant for the risk management process of the Member States only. It will complete the ICS2 business transformation. This additional release and the implementation of the shared e-screening function will require a more detailed study that is currently planned to be carried out in 2019. After that study, the implementation and planning of the Release 4 would be better understood and confirmed.

The ICS2 rollout releases are foreseen as illustrated in figures below:



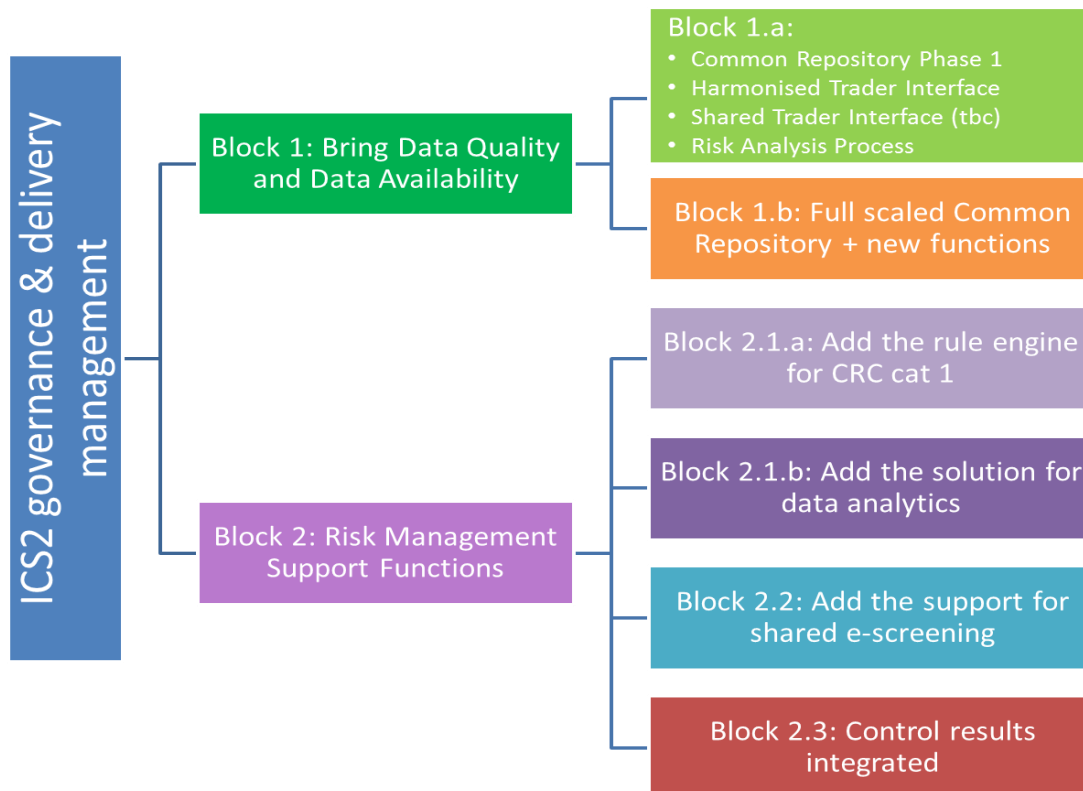
\*PN – Presentation Notification

**Figure 13 ICS2 Rollout releases**

\*The delivery of the Block 2 components in release 4 is proposed based on current estimations. The study that will be carried out in 2019 will need to confirm the feasibility. As mentioned above, the Block 2 components are not impacting the transition of trade from ICS1 to ICS2 and will be relevant for Member States only.

**Summary of the ICS2 Blocks (recall from the ICS2 Business Case V3.1.2)**

The summary of block deliverables, which is provided in the section below, is following the definition of ICS2 Business Case (version 3.1.2).



**Block 1** will mainly provide the improvement of the ENS data quality.

- **Block 1.a** will provide the necessary functional coverage for the gathering, linking and storing of the incoming ENS filing data and all related ENS lifecycle (i.e. risk analysis results, presentation notification and control results). It will cover the needs to make that data available to MS for risk analysis purposes. This means that as from Block 1.a, MSs which are directly involved in goods movement are responsible to receive ENS and screen it against national risk knowledge (e-screening of EU level data will be implemented when shared support service is ready in Block 2.2).

However, it will not provide the full IT capacity to be able to cope with the full estimated volumetric of ENS data and will operate under the current availability standards of DG TAXUD trans-European IT systems. It will be limited to the reception of around 100 million of ENS filings per year. The block will also deliver a Harmonized Trader Interface, implemented as shared (STI) or at national level (NTI) and the required interfaces to execute the risk analysis process

- **Block 1.b** will provide the necessary IT capacity to cover the needs for the full provided volumetric requirements (See Appendix V: ENS estimated volumetrics), the high availability and high performance in order to ensure the requirements of the trans-European exchange of data through the system. It will also include the required interfaces to provide the arrival notifications to the Common Repository. The arrival notifications can be provided by the Economic Operators through the Trader Interface or via a national implementation linking national arrival systems (such as port systems) with the Common Repository. This allows closing the first step of the ENS lifecycle.

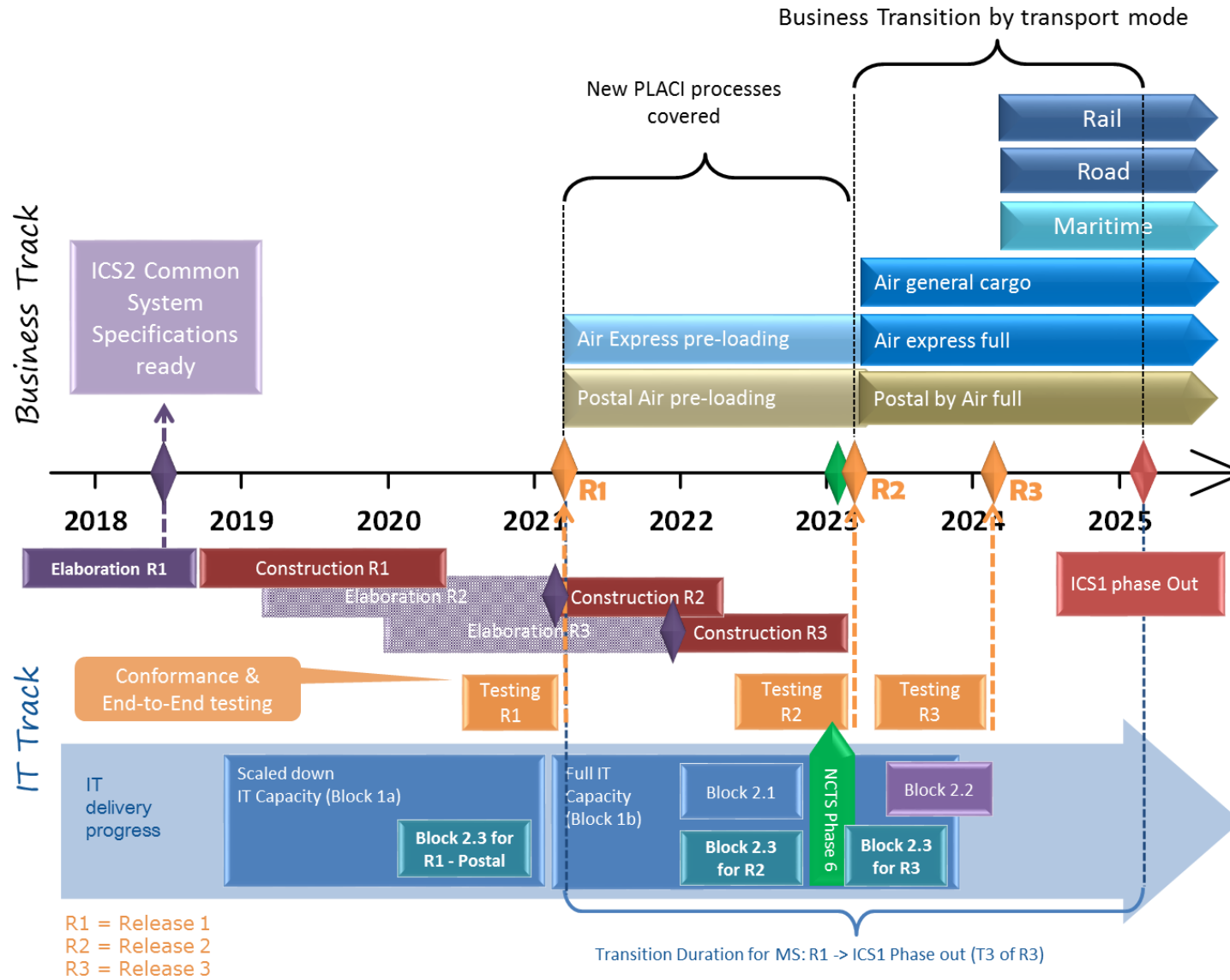
**Block 2** will mainly focus on the risk management support functions.

- **Block 2.1** will implement the common functions for the risk management support for the implementation of common risk criteria and standards of category 1 (i.e. CRC1). This implies mainly the enrichment of ENS data (data to be provided by the Common Repository to run the risk criteria requiring ENS information at EU level) and the provision of data analysis

capabilities. Furthermore, block 2.1 will implement the required interfaces between the Common Repository and the successor of the Customs Risk Management System: CRMS2.

- **Block 2.2** will deliver the shared e-Screening support functions of ICS2 for the implementation of the Common Risk Criteria and standards of category 2 (i.e. CRC2). The CRC2 rely largely on the specific national knowledge and information which is of a sensitive nature and cannot be shared between Member States. They aim to identify from the ENS transactions known security and safety related risks to customs and/or other law enforcement authorities and/or security agencies. This block will be implemented following a dedicated feasibility study to be conducted in 2019.
- **Block 2.3** will finalise the ENS lifecycle management by adding to the Common Repository the information about the control results and presentation notifications. In parallel, the MS will need to carry out the required national developments for each block in order that the exchange of data can work compliant to the common specifications between the national and common domains.

The main outcome of the ICS2 Transition Strategy and Plan is an agreement to implement blocks defined above in an iterative way, organized by the phasing-in of business models and transport modes. This implementation is defined by the releases.



**Figure 14 Illustrative for ICS2 Roll out Business vs IT tracks**

## **3.2 ICS2 rollout activities**

The Commission, Member States and Trade stakeholders will be responsible to carry out various activities to contribute to the successful rollout of ICS2 and will have to work together in order to meet in the projected milestones. The key activities to be performed during the rollout are provided below:

### **3.2.1 The ICS2 Common System Specifications**

The ICS2 Common System Specifications provide the functional and technical specifications required to start the ICS2 implementation by the different stakeholders:

- The Harmonised Trader Interface specifications part of the specifications will provide the required information and guidelines for the trade, the Shared Trader Interface (STI) and National Trader Interface (NTI) stakeholders.
- The other part of the specifications will provide the required information and the guidelines for the implementation of the required interfaces between the STI/NTI and the Common Repository and between the Common Repository and the National Entry System components (such as the national risk analysis systems). These guidelines will also include the Message Implementation Guidelines (MIGs).

The ICS2 Common System Specifications will be delivered by mid-2018 so that MS and Trade could start the construction phase for Release 1. The ICS2 Common System Specifications for the subsequent releases will be revised iteratively and in due time to enable their construction phase.

### **3.2.2 Elaboration phase**

This phase is part of the DG TAXUD Software Delivery Lifecycle and elaborates on all aspects needed to prepare for the construction phase. The deliverables produced as a result of these activities are mainly for internal use and consequently not subject to review cycles with Member States or trade. An exception of this will be the specifications of the required User Interface specifications for the Member State or trade users which will be elaborate in full collaboration with the MS and the trade.

### **3.2.3 Construction phase**

This covers the delivery of the system components through the development and building activities to roll out the ICS2 components as well as the activities related to delivering new features and functionalities of the ICS2 solution. The Commission, MS and Trade actors are responsible to handle construction and development activities in their respective domains to build the required ICS2 system components and interfaces.

In practice, as per MASP planning principles, the construction period has to foresee a duration of 2 years for MS and trade following the reception of the ICS2 Common System Specifications.

At the end of the construction phase, the Commission, MS and trade should be ready for the Conformance Testing. The key milestone implies a "meeting point" to start the Conformance testing activities.

This implies that unit and integration testing between EC components, Factory acceptance testing and Site acceptance testing etc. will need to be handled by each stakeholder during the planned period for the construction phase.

For the Commission, the construction phase also implies preparing the test environments for central testing activities at EU level.

### **3.2.4 Testing phase**

This consists primarily of Conformance and End-to-End testing and involves the 3 main stakeholders of the programme i.e. the Commission, MS and Trade. The milestone indicates that each of them

should be ready to start the Conformance testing for their components that already went through the site acceptance testing. Here the dependence between the components will be tested.

#### *3.2.4.1 Conformance Testing (CT)*

This involves testing activities to obtain technical assurance that the Commission, Member State and Trade are ready to enter the trans-European ICS2 system without risk of disturbing the parties already in operation on the system. The main objective is to validate the connections between systems and identify system dependencies. Similarly, the Conformance testing phase is needed to test the conformance between systems of messages related to transport modes and business models being rolled out. This phase is split in 3 activities:

- Testing of the conformance between MS and Commission;
- Testing of conformance between Trader and MS (NTI);
- Testing of conformance between Traders and Commission (STI).

For Release 1, the duration of CT testing is planned for 6 months; For Release 2 and Release 3, a longer period of 9 months is planned: these durations are recommended and should not be compressible. The ICS2 system IT environment is complex and to allow a thorough technical validation of the connexions between components this time period is seen as a necessary minimum.

#### *3.2.4.2 End-to-End Testing*

Once the Conformance Testing phase is completed, End-to-End testing must be performed in order to verify the complete functional chain including Commission, MS and trade systems is performing as designed from the submission of ENS messages by the trade and running the ENS lifecycle until the submission of control results to the Common Repository by MS. This testing will be scenario-based and time-framed and will require the participation of end users. The main objective is to ensure that the right information is passed between various system components as functionally expected by the users.

This testing phase is targeted towards including the complete IT implementation as well as processes implementation limited to the scope of each release i.e.

- Release 1 End-to-End testing will focus on scenarios covering Postal by Air and Air express pre-loading processes. The provisional time-frame reserved for this activity is planned for 3 months.
- Release 2 End-to-End testing will focus on scenarios covering full Postal by Air and Air express and Air general cargo business models.
- Release 3 End-to-End testing focus on scenarios covering Maritime, Rail and Road transport modes.

For Release 2 and 3, the provisional time-frame reserved for the execution of End-to-End testing is planned for 6 months.

#### *3.2.4.3 Testing and certification platform for Trade*

Access to the testing environment will not only be limited to the Conformance and End-to-End testing phase. The testing platform should also be available for certification of the correct integration of any new trader during the transition period. This testing and certification platform will be updated along with the transition releases.

For Release 1 the Conformance Testing period followed by the end-to-end testing should ensure, that on the date of operations, the traders, MS and Commission are ready to start managing the new processes on a stabilised environment that complies with the functional and technical specifications and IT requirements.

When Release 1 is in operations, a separate technical platform will be prepared by the Commission to allow newcomers from trade to the ICS2 system to test the validation of the ENS submission and get "certified" that the data and the structure of the message they provide comply with the specifications. This environment will be provided to trade in a permanent basis during the ICS2 roll out, but it does not replace the conformance testing requirement for the upcoming releases. It will be provided as a separated technical platform for trade to certify new filers' systems.

The purpose of the certification platform is to allow new filers to prepare their systems for the ENS submission in operations: it is the conformance testing of the EO systems with the STI (or NTI) against the HTI specifications. There are 2 possible modes:

- Certification of commercial supply chain IT providers: the IT provider asks a Member State using the Shared Trader Interface to certify its solution. The IT provider performs a series of tests. The National Administration (i.e. the certifying authority) reviews the test execution logs and certify or reject the implementation.
- Self-qualification of Traders systems: the trader integrates its system with the conformance test environment of the Shared Trader Interface and can verify that its system can be used to perform its declaration duties.

The MS is responsible for the certification of their registered traders but the Commission will need to provide support, mainly if the 1st mode is used.

### **3.2.5 Trans-European helpdesk**

An integrated trans-European helpdesk will be implemented along with the rollout of the ICS2 solution. As soon as Economic Operators will use the ICS2 system for ENS messages exchange, the helpdesk facility must be specified, implemented and deployed to ensure efficient support is in place. The helpdesk implementation is foreseen to be ready by ICS2 Release 1 operational date in 15/03/2021. The expected support levels of the helpdesk include:

- The 1st line helpdesk will be at the MS level in the native language (and English) to respond to the requests from trade or from MS national administration users;
- The 2nd line helpdesk will be provided by the Commission to respond in English to MS administration users regarding common components of ICS2.

The required activities to implement the Trans-European helpdesk will be managed as a separate ICS2 sub-project with first phase expected to be operational by go live date of ICS2 Release 1.

### **3.2.6 Communication campaign**

A robust communication campaign will need to accompany the ICS2 implementation to generate the required awareness for ICS2 system of the different stakeholders that will be impacted by the new system. This is to be launched in parallel with the construction phase of each release. The preparation of the campaign is foreseen to commence once specifications are completed in mid-2018 and the green light for the implementation phase has been given. Communication campaigns will be a joint effort between Commission at EU level, MS at National level and the Trade associations.

This activity is fundamental in preparing MS and Trade for the use of the new system and the upcoming changes that it brings to the supply chain and customs processes. The communication at IT level will facilitate collaboration during the Conformance Testing campaigns.

The types of communication campaigns foreseen are:

- General ICS2 awareness campaign which has already started e.g. through ICS2 Business case and Vision documents published to relevant stakeholders;
- Targeted campaigns to be launched based on specific communication materials once the specifications are ready.

For Release 1, concerning the express integrators, postal operators (PostEurope, UPU, etc.) and customs authorities the communication activity is foreseen to start as soon as possible (already in 2017) to bring them the necessary information about the ICS2 system. This will involve also necessary outreach activities towards third countries' postal operators in order to ensure their IT readiness to provide electronic information to the EU postal operators at destination.

For Releases 2 and 3 where various new actors will be involved, the scope of the communication campaign will extend to traders outside the EU in domain of Air general cargo, Maritime, Road and Rail traffic (e.g. carriers, freight forwarders, their representatives)<sup>16</sup>.

### **3.2.7 Training**

This activity will provide training to the end-users and system administrators for the use and administration of the ICS2 solution. This will involve training on business use of the application as well as training on the use and administration of the ICS2 solution.

This activity will be coordinated and organized with Member states. It is the Commission's responsibility as a service provider to provide a training environment for the common components and make it available to MS and Trade communities.

The preparation of training materials and activity is foreseen to commence once specifications are completed. The execution of training sessions will be initiated prior to Conformance and End-to-End testing with MS and Trade. Similarly, Commission technical teams will be trained before conformance testing so that they can operate CR/STI during the Conformance testing phase.

Delivery of trainings is foreseen as follows:

- The Commission will train Member States through "Train the trainer" sessions;
- The Commission will also develop and provide eLearning materials;
- MS will be responsible to provide training to relevant MS and Trade stakeholders, including foreign based filers.

### **3.2.8 ICS1 phase-out**

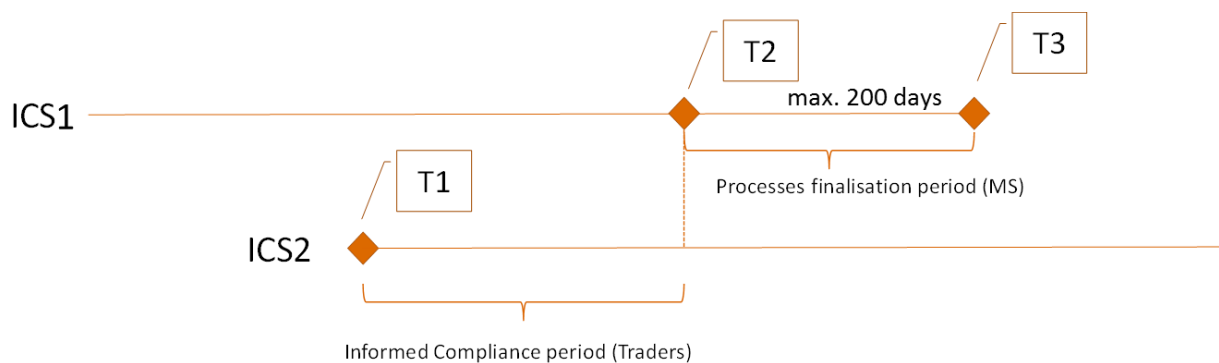
ICS1, at the National level, can be phased-out when the deployed ICS2 components will functionally cover full implementation of all new ENS filings, data requirements and necessary information exchanges for the modes of transports and business models related to each release. Essentially, the completion of the ICS2 Block 1.b and the roll out of Release 3 will determine the overall decommissioning of ICS1.

Switching off ICS1 will follow the milestones illustrated and described below: -

- **T1:** traders have the legal obligation to file ENS to ICS2 only;
- **T2:** switch off ICS1 for traders filing;
- **T3:** switch off ICS1 for process handling by MS.

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<sup>16</sup> For postal authorities under Release 1, the communication campaign will need to be extended, to a certain extent, to postal operators in third countries in order to ensure there will be readiness on their side to send ITMATT data to postal operators in the EU who will finally file PLACI to EU customs.



**Figure 15 ICS1 phase-out milestones**

### 3.2.8.1 Informed Compliance Period (ICP)

The legal obligation for trade to file to ICS2 only is in force and ICS2 is in operations (for a given Release). This period - between T1 and T2 - has been allocated in the ICS1 phasing out planning to allow MS to leverage business exceptions and to gradually organise the transition from ICS1 to ICS2 with traders. In case of clearly identified business exceptions, if MS would allow for it, trade could still send ENS filings in ICS1 format to ICS1 systems.

The duration of this period will be defined during legal assessment of the ICS2 programme. The ICP is to be harmonized across EU.

### 3.2.8.2 Soft law – implementation guidelines

To support harmonised and proper implementation of the new legal obligations covering the entry of goods into the Union and related ENS requirements, business and risk management processes and use of the future system components a detailed common operational guidelines will need to be drafted and agreed with the stakeholders for each Release separately.

For Release 1, concerning the express integrators, postal operators (PostEurope, UPU, etc) and customs authorities the process of drafting of the common guidelines will need to start soon after the completion of the common system specifications i.e. as from 2<sup>nd</sup> half of 2018 onwards.

For Releases 2 and 3 the process of drafting of the common operational guidelines will commence as soon as the updated functional and technical specifications to cover these new business models and functions for the given transport modes will be ready in line with the iterative approach described in the Section 3.2.2.

### 3.2.8.3 Legal obligation

This is the period between T2 and T3 which has been allocated to allow MS to handle the ENS filing provided during the informed compliance period. As per legislation, Member States have a legal obligation period of 200 days in order to handle or finalize ENS filings provided in ICS1 during the ICP period. In practice, this period will be designated for transport modes which currently lodge ENS filings in ICS1. As such, this period is not applicable for Release 1 since the designated ENS steps are currently not covered in ICS1.

The overall decommissioning of ICS1 is targeted to take place in T3 of Release 3 in Q1 2025. Following the high level planning for the 3 releases, the final ICS1 phase-out is planned after the legal obligation period allocated to handle ENS filings provided by Maritime, Rail and Road transport modes transitioned in Release 3. Accordingly, Member States only concerned with Air can phase out ICS1 as from the end of Release 2 (See Release 2 timeline in Figure 23).

Legal assessment will need to be carried out in line with this transition strategy approach during Q1-2018 to formulate necessary legal changes to the UCC implementation acts. Following the CPG Go

decision (mid-2018) for construction of the IT systems, appropriate legal amendments will need to be proposed clarifying the:

- Responsibilities of the economic operators and the customs authorities for each Release, such as timing of the phasing out of ICS1 and phasing in of ICS2 with new ENS requirements and duration of the ICP;
- Necessary legal basis for the ICS2 system components (CR, HTI – STI/NTI) and,
- Required changes to the roles and responsibilities of the customs authorities in the transformed risk management procedures.

### 3.3 Release 1: Postal by Air pre-loading and Air express pre-loading

The first ICS2 system release consists of the pre-loading step of the ENS filing for Postal by Air and Air express business models. All ICS2 system components have to ensure the effective implementation of the required functionality implied by the submission of the concerned ENS messages.

The list of relevant messages for Release 1 is specified in **Appendix VI: List of ENS messages**.

#### 3.3.1 Scope

The scope of ICS2 Release 1 will implement the new Postal business model when it comes to the entry of goods into the EU Customs Union. This is the consequence of the new UCC legislation as postal consignments will no longer be exempted from the obligation to lodge an ENS. This release covers implementation of a new pre-loading process for Postal by Air and Air express consignments. This release will bring a valuable contribution to the security and safety of goods traffic by Air by driving up quantity and quality of data captured for Postal mode and providing capability to better identify security and safety risks from goods moving through Postal and Air express supply chains.

F43 message contains data elements from postal ITMATT messages about postal items. The F43 is the minimum dataset lodged for postal pre-loading in accordance with Article 106(1) second subparagraph of Delegated Regulation (EU) 2015/2446. As a consequence, this will include all Postal by Air products with the exception of items of correspondence. The same applies to small consignments since the existing waiver for consignments below a value threshold of 22 Euros is repealed under the new legislation.

##### *Air express consignments*

The ICS2 Release 1 will implement the Air express pre-loading process and will carry out the Air cargo security specific risk analysis on the pre-loading dataset (7+1) (PLACI requirements) which corresponds to data elements contained in F32 messages. This includes small consignments since the existing waiver for consignments below a value threshold of 22 Euros is repealed under the new legislation. The process for the pre-arrival filing ENS data and the related Security & Safety risk analysis will continue to be performed in ICS1 until the ICS2 Release 2 is deployed.

##### *Postal consignments*

The scope proposed for ICS2 Release 1 from a risk analysis perspective for Postal by Air mode is larger than just the PLACI pre-loading phase as the data elements contained in the F43 received at the pre-loading phase, allow carrying out both the Air cargo security specific risk analysis ('bomb-in-a-box') and the security and safety risk analysis. The results of the risk analysis and the controls assigned at item level will be stored in the Common Repository. During the presentation process at the destination country, the risk analysis results (namely the assigned controls related to the items) can be retrieved from the Common Repository. This process will allow - as from the start of ICS2 - to reuse the risk analysis results (Security & Safety RA) at the presentation/control step of the customs entry process for Postal consignments (i.e. at the phase of clearance of postal goods prior of placing them into the customs procedure to release for free circulation). In Release 1 only postal operators at destination will provide ENS filings to customs. Concerning the presentation/control step of the Release 1 process, it involves the presentation notification that the postal operator at destination will provide to the office of exchange (customs office of clearance) in the MS of destination.

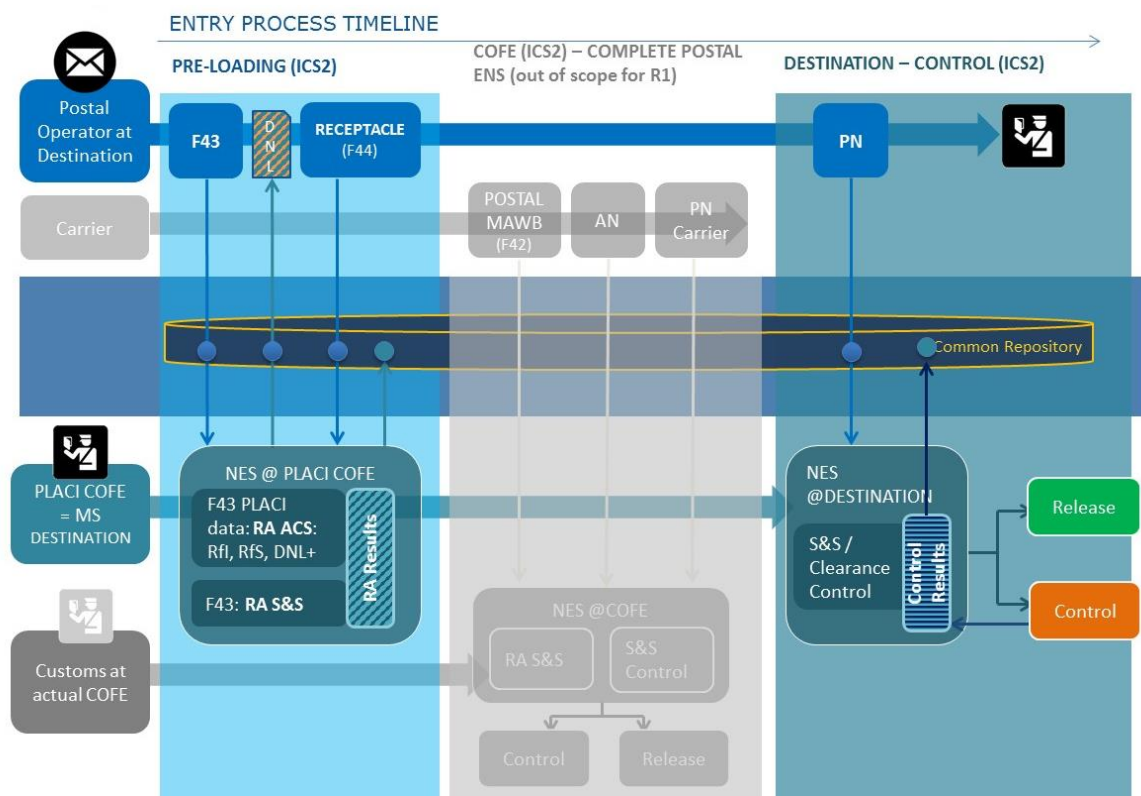
As a final step, the control results will be stored in the Common Repository. For Release 1 the MS at destination (where goods are presented) is also the RMS (responsible for the pre-loading e-screening).

Release 1 for air postal consignments will not implement the required master level ENS filing by the air carrier, neither arrival notification nor presentation of the postal consignments at the COFE. This will be implemented in Release 2.

From a system perspective, Release 1 will implement the following required ICS2 components and interfaces:

- A Common Repository but scaled-down in terms of data capacity and availability;
- An implementation of the Harmonised Trader Interface. This will imply a national or shared implementation;
- The required interface between the Common Repository and National Entry Systems to cover business processes by the RMS and IMS;
- The required interfaces to fulfil pre-loading processes for Postal and Air express modes;
- The required interfaces to execute the risk analysis process and store the risk results;
- The required interfaces to retrieve the risk analysis results based on the presentation notification information from the Common Repository for Postal by Air mode;
- The required interfaces to provide the control results to the Common Repository for Postal by Air mode.

Figure 16, Figure 17 and Figure 18 highlight the functional scope impacted by the ICS2 Release 1.



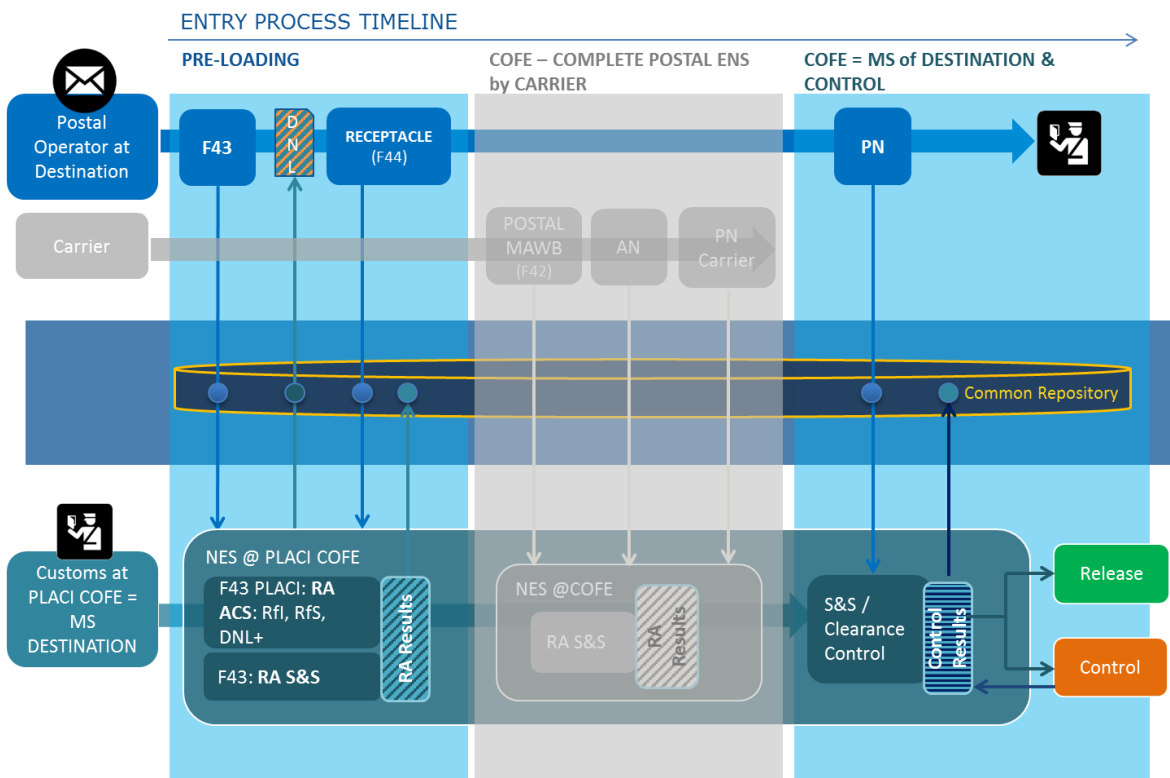
**Figure 16: Postal by Air PLACI scope (Release 1) – Use Case 1: PLACI COFE is the same as MS of destination**

This schema illustrates the use case where the PLACI COFE is different from the MS of the actual office of first entry (COFE). PLACI COFE is identical with the Member State of destination based on the standard Postal model<sup>17</sup>. See Appendix I: Glossary and abbreviations for PLACI COFE definition for each business model.

PLACI COFE carries out the Air Cargo Security (ACS) specific risk analysis on postal items at pre-loading phase. The same Member State carries also the Security and Safety (RA S&S) risk analysis based on the received filings (F43). This will also include risk analysis based national prohibitions and

<sup>17</sup> Standard Postal model refers to the goods which final destination is in one of the EU Member State. Postal goods which only transit or are transhipped through the EU with their final destination outside the EU are not falling under the standard postal model in terms of the ENS filing.

restrictions. In this case, the presentation of goods is managed by the postal operator at Member State of destination. Presentation notification at arrival in actual COFE by carrier are excluded in scope of R1. The assigned controls defined during the pre-loading phase by the PLACI COFE (which is equal to the destination MS) can be retrieved from the systems of that given MS and the control can be carried out on the flagged items by the customs authorities of the same MS, on the basis of the presentation notification provided by the postal operator of destination to the exchange office that contains the receptacle ID. Receptacle IDs at presentation are matched against the receptacle IDs and all postal items contained in a given receptacle (the latter information is contained in the F44 filing). The greyed out zone will be implemented in ICS2 Release 2. Consequently, that part of the process is out of scope of ICS2 Release 1.



**Figure 17: Postal by Air PLACI scope - Use Case 2: COFE = MS of Destination (Release 1)**

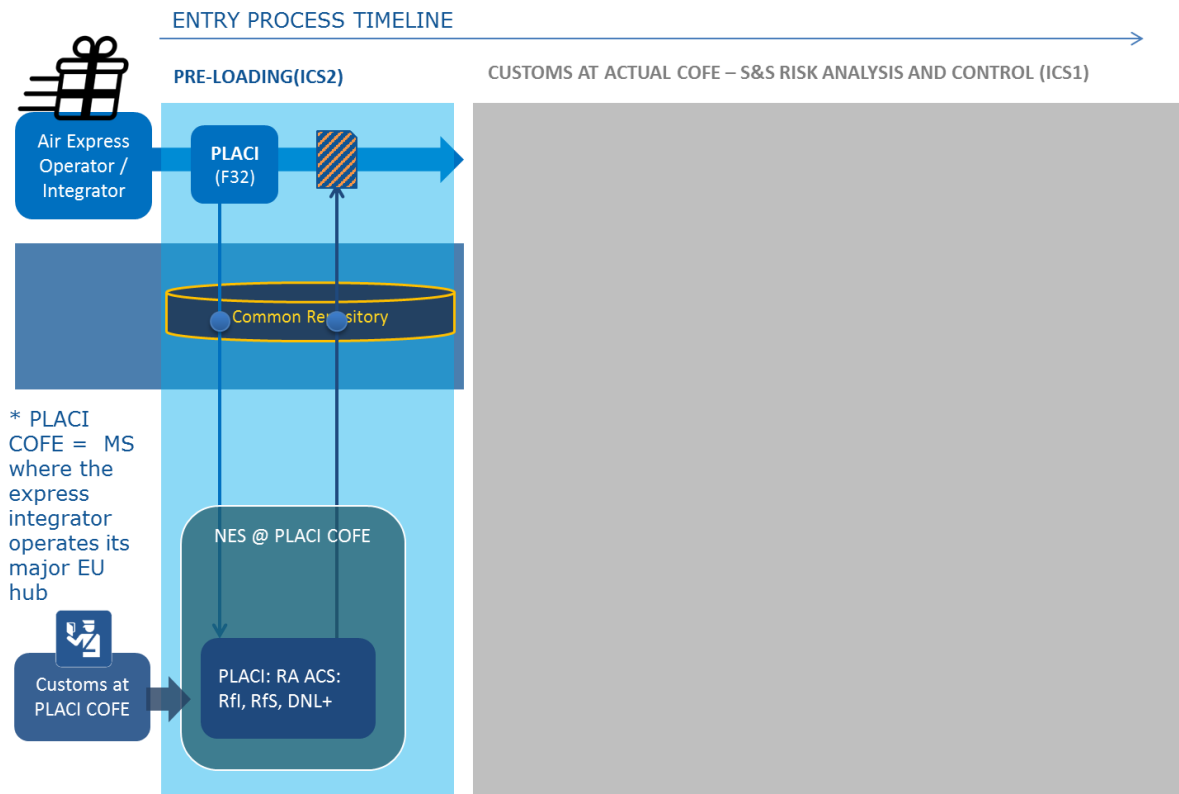
This schema illustrates the use case where the PLACI COFE, MS of destination where the receptacle actually will be presented to customs are identical as per standard Postal model.

PLACI COFE carries out the Air Cargo Security (ACS) specific risk analysis on postal items at pre-loading phase. The same Member State carries also the Security and Safety (RA S&S) risk analysis based on the received filings (F43). This will also include risk analysis based national prohibitions and restrictions. In this case, the presentation of goods is managed by the postal operator at the same Member State (also MS of destination). Presentation notifications at arrival in COFE (same MS) by carrier are excluded in scope of Release 1.

The assigned controls defined during the pre-loading phase by the PLACI COFE can be retrieved from the systems of that given MS and the control can be carried out on the flagged items by the customs authorities of the same MS on the basis of the presentation notification provided by the postal operator of destination that contains the receptacle ID. Receptacle IDs at presentation are matched against the receptacle IDs and all postal items contained in a given receptacle (the latter information is contained in the F44 filing).

The greyed out zone will be implemented in Release 2 of ICS2. Consequently, that part of the process is out of scope of ICS2 Release 1.

## Air express PLACI – Release 1



**Figure 18: Air Express PLACI scope (Release 1)**

In ICS2 Release 1 the PLACI ENS dataset (7+1) will be submitted at pre-loading by the Air express operators and be subject to Air cargo specific risk analysis ('bomb-in-a-box') (RA ACS). This can result in issuing a DNL<sup>18</sup> or triggering a risk mitigation / referral procedure. The pre-arrival filing part of the process and the Security and Safety risk analysis will still be managed in the ICS1 systems of the MS until the ICS2 Release 2 is rolled out.

### 3.3.2 Timeline

The operational date for the ICS2 Release 1 is planned for 15/03/2021, based on the current assumptions. The following are the key milestones:

- **T1:** This is the release date at which Traders involved in Postal by Air and Air express business models will have the obligation to file pre-loading ENS in ICS2. For Air express, the pre-arrival filing ENS lifecycle will be covered in ICS1 with no link to ICS2 system. From a MS perspective, the ICS1-ICS2 parallel run starts at this point since from an IT and customs business perspective, both ICS1 and ICS2 will be operational during the transition period when the full roll out of ICS2 will occur and until ICS1 can be switched off.

Since the scope of Release 1 covers processes that do not exist in ICS1, ICS2 rollout will officially begin at T1 but ICS1 phase-out will not start until Release 2.

- **T2** entails the end of the informed compliance period for impacted Traders.
- **T3** does not apply for ICS2 Release 1 as there is no switch off of ICS1 pre-loading process components for Postal and Air express modes.

<sup>18</sup> DNL – Do not Load.



**Key milestones:**

Q2 2018: ICS2 Common System Specifications ready

Q2 2020: end of construction and readiness for Conformance and End-to-End testing

15/03/2021: Operational date for Release 1

Q = Quarter

ICS2 Common System Specifications ready in Q2 2018

Ready for CT in Q2 2020

Operational date 15/03/2021

Figure 19 Timeline (Release 1)

### 3.4 Release 2: Full Postal by Air, Air express and Air general cargo

The second release is dedicated to all steps of the ENS filing for Postal by Air, Air express and Air general cargo business models. All systems have to ensure the effective implementation required for the submission of the remaining ENS messages not covered by Release 1.

The release will deliver multiple filing and shared risk management support functions of ICS2 which provides a valuable contribution to the improvement of risk analysis processes. This release will also add to the Common Repository the information about the control results for Air express and Air general cargo business models.

#### 3.4.1 Scope

Release 2 is mainly targeted towards completing the coverage of Postal by Air and Air express modes and introducing Air general cargo filings in ICS2 taking benefit of the ramp up of the Common Repository and the implementation of the multiple filings capability.

The scope of the Release 2 encompasses the completion of the ENS lifecycle by covering arrival, presentation notifications as well as controls results which further contribute to the improvement of risk analysis for the Air express and Air general cargo. (For Postal by Air mode, presentation notifications and control results are partially covered in Release 1). Indeed, the release coverage will allow the completion of the Security and Safety Risk analysis and control (S&S RA and Control) resulting in the release of the good and/or the control identification.

##### *Air Express consignments*

Release 2 of ICS2 will complete the ENS lifecycle by covering the pre-arrival filing full ENS (F31), the arrival notification, presentation notification and controls results.

##### *Postal by Air mode*

Release 2 will complete the postal process and make it full with the inclusion of the process that applies to the carrier and to the COFE i.e.

- submission of the F42 filing by the carrier,
- submission of the arrival notification by the carrier to the COFE, and
- submission of the presentation notification by the carrier to the COFE.

##### *Air general cargo*

As Air general cargo is not covered in Release 1, Release 2 must handle:

- Pre-loading filing: minimum datasets covered in messages F23, F24, F25 and F26 and complete dataset (F20), complete dataset – Direct air waybill (F28);
- Pre-arrival: partial dataset for master air waybill (F21), partial dataset for house air waybill (F22), complete dataset (F27) and complete dataset – Direct air waybill (F29);
- Arrival notification;
- Presentation notification,
- Control results.

The list of relevant messages for Release 2 is specified in **Appendix VI: List of ENS messages**.

From a system perspective, this release will mainly implement the following:

- A Common Repository at a full scaled capacity;
- The complete ENS lifecycle will be covered including multiple filing and adding to the Common Repository the information about the control results for Air express and Air general cargo modes;

- The required interfaces to provide the pre-arrival filing, arrival, presentation notifications and controls results to the Common Repository (For Postal by Air mode, the presentation and controls results are covered as from Release 1);
- Execution of common risk criteria of category 1. This can be provided via a national or shared implementation (Block 2.1);
- Data analytics support to be made available and used in the common domain (Block 2.1).

The Figure 20, Figure 21 and Figure 22 highlight the functional scope impacted by the ICS2 Release 2.

### Postal by Air – Release 2

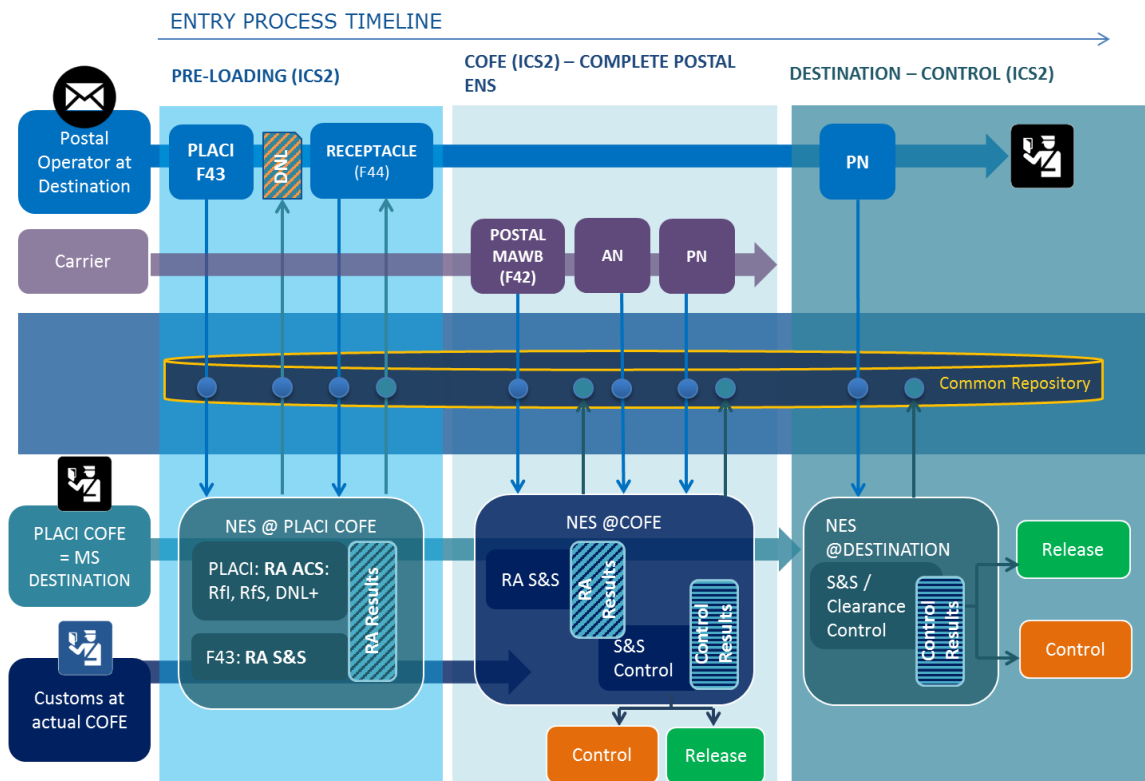


Figure 20 Postal by Air – Release 2

## Air Express – Release 2

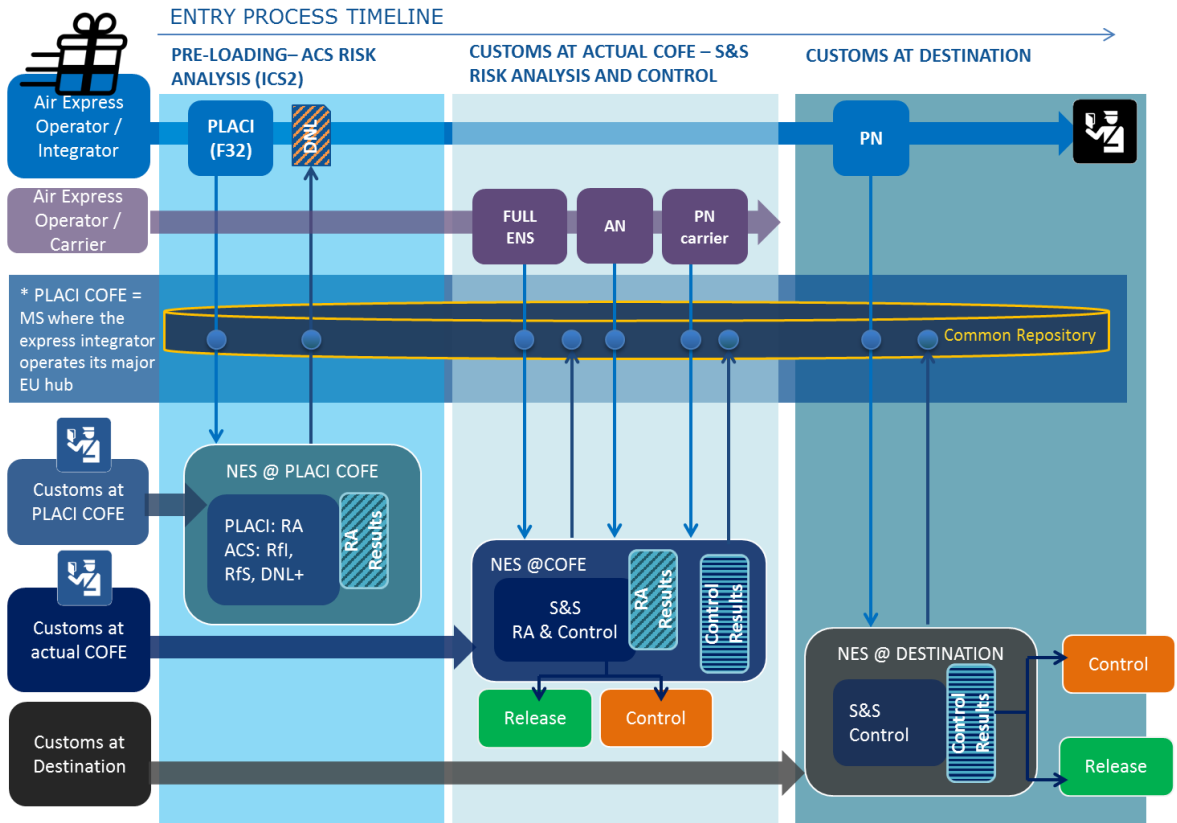


Figure 21 Air Express – Release 2

## Air general cargo – Release 2

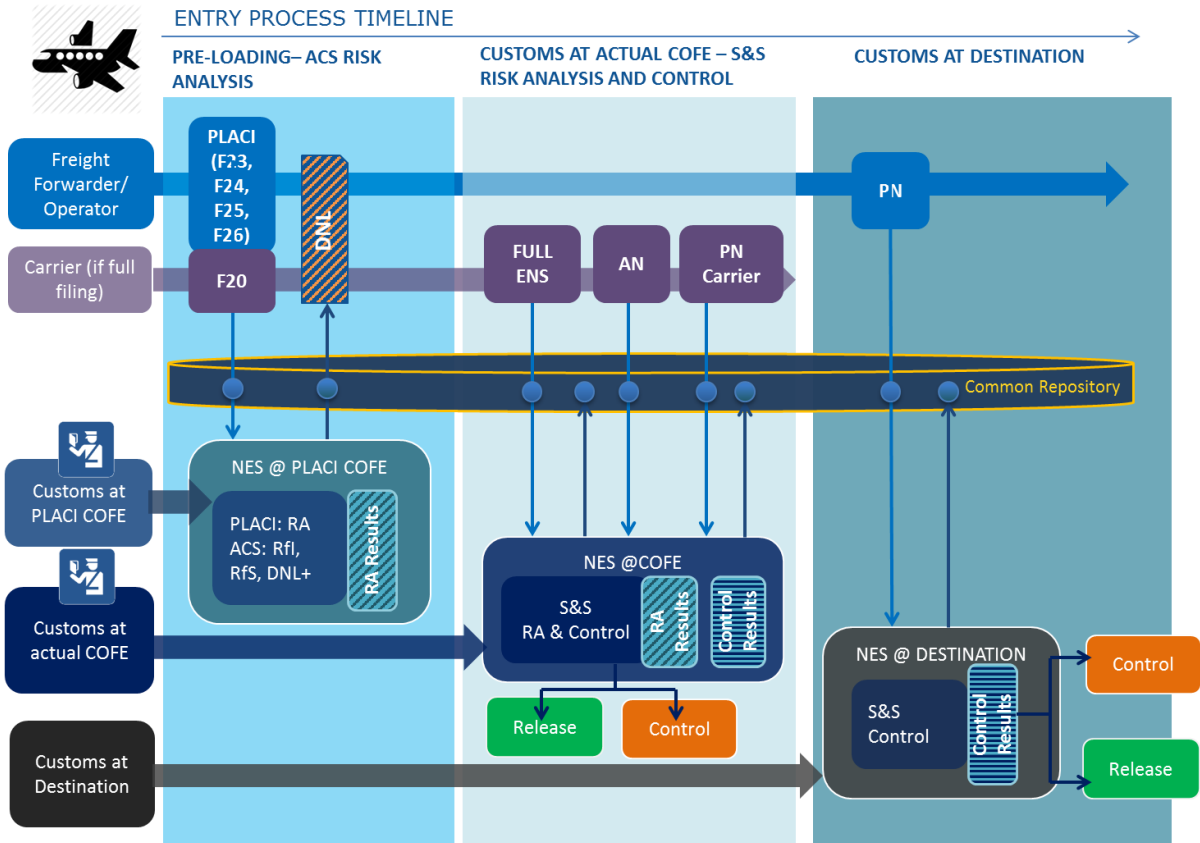


Figure 22 Air general cargo– Release 2

For a detailed description of the business processes illustrated in figures above, refer to the ICS2 Functional Specifications which cover the complete ENS lifecycle supported by the ICS2 system.

### 3.4.2 Timeline

The operational date for Release 2 is planned for 01/03/2023. The following are the key milestones:

- **T1:** This is the release date in Q1 2023 in which Traders involved in Postal and Air business models will be obligated to file ENS in ICS2 only. At this stage, the phase out of ICS1 will officially begin for Air business models.
- **T2** entails the end of the informed compliance period for Traders involved in Air modes to file in ICS1.
- **T3** will be the switch off point for MS taking into account the legal obligation period of 200 days in order to handle or finalize Air consignment ENS filings provided in ICS1 during the ICP period.

Budget available



**Key milestones:**

- Q2 2018: ICS2 Common System Specifications ready
- Q1 2022: end of construction and readiness for conformance and End-to-End testing
- 01/03/2023: Operational date for Release 2
- Q1 2024: ICS1 phase-out for Release 2

Q = Quarter

ICS2 Common System Specifications ready

Ready for CT in Q1 2022

Operational date 01/03/2023

ICS1 phase out Q1 2024

Figure 23 Timeline (Release 2)

### 3.5 Release 3: Maritime, Rail and Road

At this stage, traders active in Postal by Air, Air express and Air general cargo modes will only be using ICS2 without any interaction with ICS1. The third release will be dedicated to the rollout of ICS2 for Maritime, Rail and Road transport modes.

#### 3.5.1 Scope

The scope of the Release 3 will focus on completing the ICS2 business roll-out for Maritime, Rail and Road transport modes including postal items and express consignments.

##### *Maritime*

The complete ENS lifecycle will be covered:

- Pre-loading and pre-arrival filing for deep sea container traffic only:
  - partial datasets for master bill of lading only (F12), straight bill of lading only (F13), house bill of lading only (F14), House bill of lading with the necessary information from consignee (F15), necessary information required to be provided by consignee at the lowest level of transport contract (F16);
  - Complete datasets for Straight bill of lading containing the necessary information from consignee (F10) and for Master bill of lading with underlying house bill(s) of lading containing the necessary information from consignee at the level of the lowest house bill of lading (F11).
- Arrival notification alongside national arrival notification system;
- Presentation notification;
- Control results.

##### *Rail and Road*

For Rail and Road, the Release 3 will cover the full filing handling the Entry Summary Declaration, respectively:

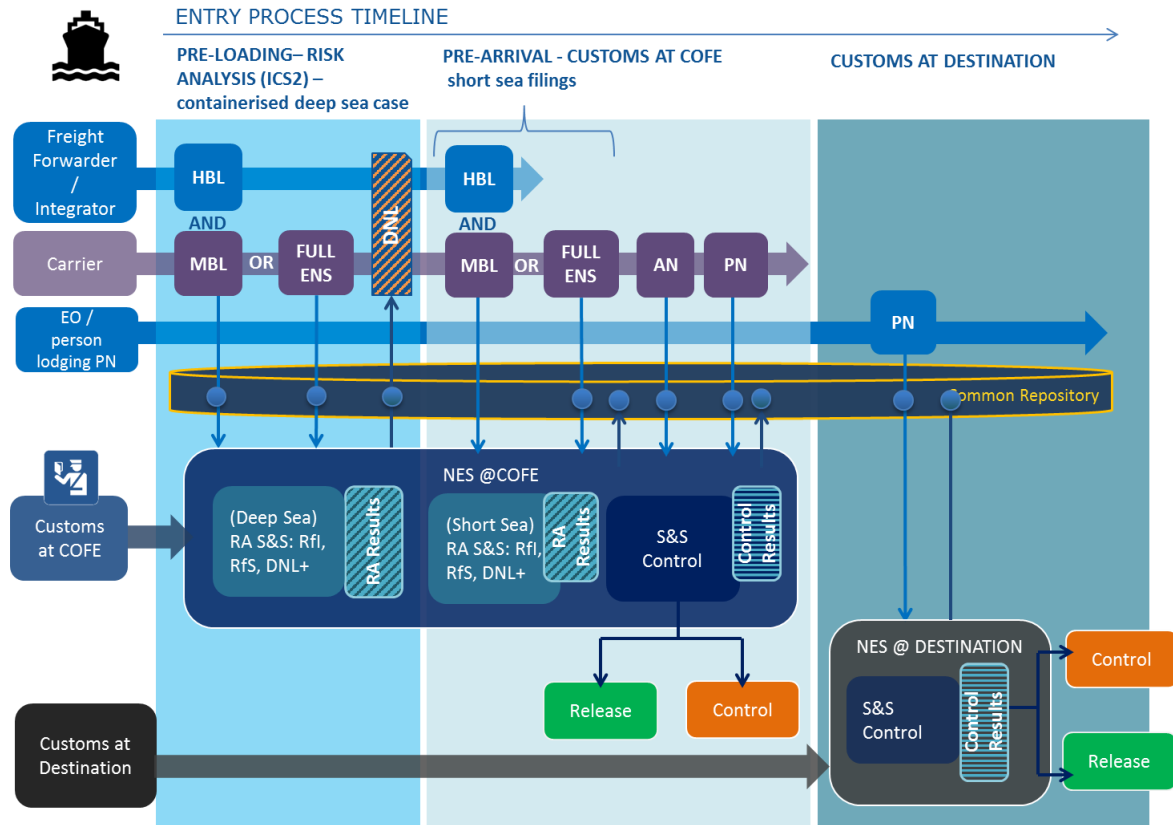
- F50 for Road mode;
- F51 for Rail mode.

In addition, as for all other transport modes, the Release 3 will handle the arrival, presentation and controls results. This will include integration of ICS2 with NCTS phase 6.

The relevant list of messages for Release 3 is specified in **Appendix VI: List of ENS messages**.

Figure 24 highlights the functional scope impacted by the ICS2 Release 3.

## Maritime – Release 3



**Figure 24 Maritime – Release 3**

For a detailed description of the business processes illustrated in figures above, refer to the ICS2 Functional Specifications which cover the complete ENS lifecycle supported by the ICS2 system.

### 3.5.2 Timeline

The operational date for Release 3 is planned in 01/03/2024. The following are the key milestones:

- **T1:** This is the release date in Q1 2024 in which Traders involved in Maritime, Rail and Road transport modes will be obligated to file ENS in ICS2 only.
- **T2** entails the end of the informed compliance period for Traders involved in Maritime, Rail and Road modes to file in ICS1.
- **T3** will be the switch off point for MS taking into account the legal obligation period of 200 days in order to handle or finalize ENS filings provided in ICS1 during the ICP period. Overall, this will be the final switch off point of ICS1 for all transport modes and from a MS perspective, this will be the end of parallel run.



### **3.6 Release 4: Block 2.2 implementation (shared e-Screening capacity)**

As per Common Repository implementation planning, a final phase i.e. share e-Screening implementation will be handled at a later stage.

These functionalities, imply implementation at both Member States and Commission side without impacting traders:

- Member States: the integration of the shared e-screening component in order to communicate risk analysis result by involved MS;
- Commission: the provision of the required Common Risk Criteria – category 2 against which the ENS data can be matched by both MS of entry (RMS) and the relevant involved Member States (IMS).

This phase is out of the scope of the Transition Strategy & Plan document.

### **3.7 Next steps**

After the validation and the endorsement of the ICS2 implementation proposal described by this document, the next step to be carried out is the legal assessment of the impact of the iterative nature of this implementation. Proper legal provisions and amendments will be necessary to define in order to ensure a clear and predictable legal framework: it will need to adapt to the different releases.

## APPENDIX I: GLOSSARY AND ABBREVIATIONS

Abbreviation / Term	Description
<b>ACS</b>	Air Cargo Security
<b>AN</b>	Arrival Notification
<b>CCN2</b>	Common Communication Network 2
<b>CDM</b>	Customs Data model
<b>COFE</b>	Customs Office of First Entry responsible for obtaining and disseminating all data to the other Offices and MS
<b>COM</b>	European Commission
<b>CPG</b>	Customs Policy Group
<b>CR</b>	Common Repository: This is the central component of ICS2, that mainly supports the ENS lifecycle functionalities
<b>CRC</b>	Common Risk Criteria
<b>CRMS</b>	Customs Risk Management System
<b>CT</b>	Conformance Testing: involves testing activities to obtain technical assurance that the MS National Administration and Trade are ready to enter the trans-European System without risk of disturbing the parties already in operation on the system.
<b>DNL</b>	Do not Load
<b>ECCG</b>	Electronic Customs Coordination Group
<b>ENS</b>	<p>Entry Summary Declaration: This is lodged by an economic operator to a customs office, in the context of the entry process of a consignment. This declaration contains information regarding the consignment, such as:</p> <ul style="list-style-type: none"> <li>• Information of the consignor</li> <li>• Route of the consignment</li> <li>• Information of the consignee</li> <li>• Contents of the consignment</li> </ul>
<b>ENS Lifecycle</b>	<p>This replaces the “ENS + Lifecycle”, which is a term used in this document as an easy reference to the complex entry process, the lifecycle of an ENS.</p> <p>This process can be presented through 3 main steps, starting:</p> <ol style="list-style-type: none"> <li>i. with an EO submitting a complete ENS filing or a set of particulars of such an ENS (“partial ENS filing”) to customs as required by the Union Customs Code. Then,</li> <li>ii. customs receiving, validating, processing (including matching and merging), making the submitted data (ENS or “partial ENS filing”) available to other relevant Member States, performing collaboratively security and safety risk management, making available all the data that is being added to the (partial/complete) ENS such as risk results, control decisions, control results, etc. Closing the process with,</li> <li>iii. customs indicating a final state variable to the actual case of the transaction and potential controls performed (at COFE, SCOE, or at a more appropriate place for identified risk at other identifiable Member State in the supply chain transaction e.g. during customs procedures following the entry of goods).</li> </ol>
<b>EO</b>	Economic Operator(s) include the carrier, freight forwarder and the haulier.
<b>e-Screening</b>	<p>electronic Screening of ENS data means electronic verification/matching of ENS data made available to IMS against risk information and knowledge of that MS and the relevant applicable common risk criteria, in order to contribute to the risk analysis carried out by RMS:</p> <p>a) In the context of air cargo security (pre-loading) the scope of e-screening is limited to the minimum dataset and contribution to the applicable common risk criteria for aviation</p>

	<p>security specific threat ('bomb in a box')</p> <p>b) For the rest of the cases, the scope of e-screening is applicable to the available data and contribution to the applicable common risk criteria, primarily for security and safety purposes.</p>
<b>Express consignment</b>	Express consignment means an individual item carried via an integrated service of expedited/time-definite collection, transport, customs clearance and delivery of parcels whilst tracking the location of, and maintaining control over such items throughout the supply of the service
<b>HTI</b>	Harmonized Trader Interface
<b>ICP</b>	Informed Compliance Period
<b>ICS</b>	Import Control System
<b>IMS</b>	<p>Involved Member State is an MS which is obliged to contribute to the risk analysis process of the RMS, notably to check ENS data made available against its national knowledge (i.e. contribution to the risk analysis of the RMS via application of national risk relevant knowledge and CRC Category 2 in the area of security and safety).</p> <p>An IMS is considered to be an MS that is referenced inside the ENS data. In case of Air general cargo pre-loading consignments, IMS is considered to be any of the 27 remaining MSs (after excluding the RMS), regardless of whether they are directly referenced inside the ENS data.</p>
<b>m</b>	Million
<b>MASP</b>	Electronic Customs Multi Annual Strategic Plan
<b>MAWB</b>	Master Airway Bill
<b>MS</b>	EU Member State
<b>Multiple-filing</b>	This functionality provides the possibility to receive the particulars of an ENS from supply chain actors if those actors have not made their required partial ENS information available to the carriers for inclusion in its filing. Consequently, the data submitted separately and belonging to the same transaction/ENS should be linked. This requires new common processes pertaining to the linking of partial ENS-declaration data, the consolidation of risk analysis results and the management of information flows between involved Member States' customs administrations.
<b>NCTS</b>	New computerised transit system
<b>NES</b>	National Entry System
<b>NTI</b>	National Trader Interface: National implementation of facility used by traders to lodge ENSs and receive corresponding responses.
<b>PLACI</b>	Pre-Loading Air cargo Information
<b>PLACI COFE</b>	<p>Postal: PLACI COFE is addressed MS of destination.</p> <p>Express consignment: PLACI COFE is addressed MS where the express integrator operates its major EU hub.</p> <p>Air general cargo: PLACI COFE is addressed MS according to the best knowledge of the EO on the goods routing</p>
<b>PN</b>	Presentation Notification
<b>RA</b>	Risk Analysis
<b>RIMSCO</b>	Risk Management Strategy Implementation Coordination Group
<b>RM</b>	Risk Management / Risk Management requirement
<b>RMS</b>	The Responsible Member State has the legal responsibility to ensure that risk analysis is carried out and finalized primarily for security and safety purposes i.e. responsible to make a decision in terms of necessary measures to be taken to mitigate identified risk (e.g. action by the EO, or customs control action at different points of the supply chain).

	The RMS is the MS of the known first customs office of entry (COFE).
<b>S&amp;S</b>	Security and Safety
<b>STI</b>	Shared Trader Interface: Shared implementation of facility used by traders to lodge ENSs and receive corresponding responses.
<b>SWOT analysis</b>	An analysis whereby the (internal) Strengths, (internal) Weaknesses, (external) Opportunities and (external) Threats involved in a scenario are evaluated.
<b>TCG</b>	Trade Contact Group
<b>TS</b>	Temporary Storage
<b>Trader</b>	Includes: seller; consignor; buying agent; haulier; freight forwarder; carrier; customs representative/broker; consignee; selling agent; buyer; and owner (in the case of goods movement of non-commercial nature and goods are not being sold, the owner of the goods is to be stipulated in buyer/seller data field – <i>See Annex B DAs explanatory notes to these two data elements</i> ).
<b>UCC</b>	Union Customs Code
<b>UCC DA and IA</b>	Union Customs Code Delegated Acts and Implementing Acts
<b>Unique Linking Key</b>	<p>The Unique Linking Key (ULK) is an automatically generated identifier which is used to associate / link two or more related ENS filings with an objective to compose the complete ENS. The ULK identifier is composed of the relevant data contained in the prescribed ENS data elements, such as carrier’s transport document number, carrier’s EORI number, number of receptacle etc. The necessary data elements to be used to create the ULK identifier are prescribed for each mode of transport and / or business model separately, and only apply in the case where the ENS is made up of two or more partial filings.</p> <p>Previously also known as “merger key”.</p>

## APPENDIX II: KEY TERMINOLOGY

The following list clarifies key terms used throughout this document:

- **‘Principles’** are long-range guides for the programme and will change very little over time. These are not mandatory rules but rather provide general guidance on how the programme will be carried out. By documenting the transition principles, this document is a key input to the subsequent Transition Strategy & Plan.
- **‘Transition’** refers to the activities that need to take place to efficiently replace ICS1 features and functionality with the ICS2 solution in the customs business and IT domains.
- **‘Transition principle document’** presents principles defined to guide transition strategy decisions, to provide a rationale for setting priorities and selecting options, and to help in developing a basis for constructing the consolidated ICS1 to ICS2 Transition Strategy & Plan.
- **‘Business transformation’** refers to the activities related to delivering new features and functionalities from the ICS2 solution, which will not only have an impact on IT but will also result in change to the current business processes: it is about the implementation of the "to-be" business processes of the Customs Risk Management at Entry.
- **‘ICS2 rollout’** is the plan that elaborates the phasing in of the ICS2 solution and the related new processes including the phasing out of existing processes taking into account the timing of the building blocks and phases and roadmap defined for the ICS2 programme.
- **‘Evaluation criteria’** are the qualitative and quantitative measurement of principles by which identified scenarios will be examined and scored.
- **‘Scenarios’** are narratives derived from a systematic approach of considering and evaluating a series of transition outcomes that will be ranked against transition principles and pre-defined evaluation criteria to determine best fitted options for moving into production/operations.
- **‘Assumption’** is a condition or state that is presumed to be valid at a point in time. For instance, the programme assumes that all ICS2 blocks and dependent systems will be delivered in time.
- **‘Constraint’** is a restriction or limitation which cannot be overlooked in the context of ICS2 roll out and business transformation. For example, scaled down IT capacity is a constraint of Block 1.
- **‘Parallel run’** is the duration when the same transport modes or business models are operating in both existing ICS1 and ICS2. Nevertheless, parallel run does not have the same meaning depending on the economic operator or Member State point of view.
  - Economic operator point of view: parallel run implies the introduction of ENS in 2 different systems through 2 different interfaces;
  - Member State: parallel run implies the coverage and management of 2 different systems for the same business process (regardless of the transport mode). By definition, Member States using the STI will only need to additionally operate the necessary interfaces of ICS2 with their risk analysis systems.
- **‘ICS2 Release’** entails all activities related to IT implementations and business transformations that will deliver the agreed ICS2 functionalities and features. Each ICS2 release includes the elaboration of new functionalities and processes, construction of the IT components implementing the functional scope, testing to validate if the implementation is performing as required and designed, as well as an effective communication and training campaign to prepare all stakeholders for the upcoming release.

**APPENDIX III: SCENARIO EVALUATION TOOL**



ICS2 Scenario  
Tool\_v1.5.xlsx

## APPENDIX IV: TRANSITION PRINCIPLES DOCUMENT



ICS2 Transition  
Principles\_v1.4.docx

**APPENDIX V: ENS ESTIMATED VOLUMETRICS**

		<b>Number of ENS submissions per year in millions</b>
Postal		<b>65</b>
Air	cargo	<b>60.5</b>
	express	<b>107</b>
Maritime		<b>87</b>
Road		<b>1</b>
Rail		<b>0,5</b>
Total number of ENS expected		<b>321</b>
Growth of ENS messages volume to be considered		<b>20%</b>
Expected total number of ENS submissions per year		<b>385.2</b>

*Table 6: Expected ENS volumetric in ICS2<sup>19</sup>*

<sup>19</sup> These figures are the working assumptions made during ICS2 Project group meeting held in 11 Oct 2017. Figures for postal are based on the assumption of 10 items per ENS filing. The volumetrics are updated from figures estimated in Customs 2020 Project group supporting analysis of the implementation feasibility for Objectives 1-2 of the EU Risk Management Strategy, TAXUD/B2/79/2014 of 2/12/2014.

**APPENDIX VI: LIST OF ENS MESSAGES**

F10	Sea and inland waterways – Complete dataset – Straight bill of lading containing the necessary information from consignee	F1a = F1b+F1d
F11	Sea and inland waterways – Complete dataset – Master bill of lading with underlying house bill(s) of lading containing the necessary information from consignee at the level of the lowest house bill of lading	F1a = F1b + F1c + F1d
F12	Sea and inland waterways – Partial dataset – Master bill of lading only	F1b
F13	Sea and inland waterways – Partial dataset – Straight bill of lading only	F1b
F14	Sea and inland waterways – Partial dataset – House bill of lading only	F1c
F15	Sea and inland waterways – Partial dataset – House bill of lading with the necessary information from consignee	F1c + F1d
F16	Sea and inland waterways – Partial dataset – Necessary information required to be provided by consignee at the lowest level of transport contract (straight bill or the lowest house bill of lading)	F1d
F20	Air cargo (general) – Complete dataset lodged pre-loading	F2a
F21	Air cargo (general) – Partial dataset – Master air waybill lodged pre-arrival	F2b
F22	Air cargo (general) – Partial dataset – House air waybill lodged pre-arrival	F2c
F23	Air cargo (general) – Partial dataset – Minimum dataset lodged pre-loading in accordance with Article 106(1) second subparagraph of Delegated Regulation (EU) 2015/2446 without master air waybill reference number	Part of F2d
F24	Air cargo (general) – Partial dataset – Minimum dataset lodged pre-loading in accordance with Article 106(1) second subparagraph of Delegated Regulation (EU) 2015/2446 with master air waybill reference number	F2d
F25	Air cargo (general) – Partial dataset – Master air waybill reference number lodged pre-loading in accordance with Article 106(1) second subparagraph of Delegated Regulation (EU) 2015/2446	Part of F2d complementing the message with specific circumstance indicator F23
F26	Air cargo (general) – Partial dataset – Minimum dataset lodged pre-loading in accordance with Article 106(1) second subparagraph of Delegated Regulation (EU) 2015/2446 and containing additional house air waybill information	F2c + F2d
F27	Air cargo (general) – Complete dataset lodged pre-arrival	F2a
F28	Air cargo (general) – Complete dataset lodged pre-loading – Direct air waybill	F2a
F29	Air cargo (general) – Complete dataset lodged pre-arrival – Direct air waybill	F2a
F30	Express consignments – Complete dataset lodged pre-arrival	F3a by air mode
F31	Express consignments – Complete dataset in accordance with the time-limits applicable for the mode of transport concerned	F3a by other than air mode
F32	Express consignments – Partial dataset – Minimum dataset lodged pre-loading in accordance with Article 106(1) second subparagraph of Delegated Regulation (EU) 2015/2446	F3b
F42	Postal consignments – Partial dataset - Master air waybill containing necessary postal air waybill information lodged in accordance with the time-limits applicable for the mode of transport concerned	F4b
F43	Postal consignments – Partial dataset – Minimum dataset lodged pre-loading in accordance with Article 106(1) second subparagraph of Delegated Regulation (EU) 2015/2446	F4c

F44	Postal consignment — Partial dataset — Receptacle identification number lodged pre-loading in accordance with Article 106(1) second subparagraph of Delegated Regulation (EU) 2015/2446	F4d
F50	Road mode of transport	F5
F51	Rail mode of transport	F5