



## TRANSITION STRATEGY FROM ECS PHASE2 TO AES

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## 1. INTRODUCTION

The purpose of this document is to present all possible theoretical options and their feasibility for performing the Transition of the currently Operational ECS Phase2 towards the future UCC AES as defined in the package of L4 Functional Requirement BPM and Functional Specifications for AES. In addition, a detailed analysis of the changes in relation to the new process and data requirements is performed in the content of this document and its annexes

## 2. ABBREVIATIONS & TERMINOLOGY

AES	Automated Export System
BPM	Business Process Model
BPM level 4	Functional specifications
CD	Common Domain
CD convertors	The applications that converts Common Domain messages, under the responsibility of the NA.
CT	Conformance Testing
D.E.	Data Element in the message
Downgrade	Conversion of AES message to ECS Phase2 messages.
ED	External Domain
ED convertors	The applications that converts External Domain messages, under the responsibility of the NA.
ECS P2	Export Control System phase 2
EUCDM	European Union Customs Data Model
NA	National Administration
NECA	National Export Control Application
NECA-AES	NECA in AES
NECA-ECS	NECA in ECS Phase2
NCTS	New Computerised Transit System
UCC annex A	Common data requirements for applications and decisions
UCC annex B	Common data for declaration
UCC DA/IA	Union Customs Code Delegated Act / Implementing Act
Upgrade	Conversion of ECS Phase2 messages to AES messages.

## 3. PROBLEM STATEMENT

Currently, the Export and Exit formalities including the safety and security features are covered by the functionality of the Export Control System Phase 2 (ECS Phase2) as described in the Transitional Delegated Act (TDA).

The future Automated Export System (AES) will take into account the Union Customs Code (UCC) regulations with the IA (Implementing Acts) and DA (Delegated Acts) provisions. It will be aligned with the EU Customs Data Model (EUCDM) and will continue to operate as a distributed system that will be developed and deployed per National Customs Administration (NCA) separately.

The MASP (Multi Annual strategic Plan) is a management and planning tool drawn up by the European Commission in partnership with Members states in accordance with Article 8 (2) of the e-Customs decision. The MASP ensures effective and coherent management of the IT projects by setting a strategic framework and milestones

The UCC Work Programme has defined the Deployment Windows during which all NAs and Economic Operators (EO) must start deploying and operating the AES system.

The UCC DA/IA Annex B introduced updated requirements for declarations. New data elements were introduced, others are not used anymore, the format of certain data elements had changed, and a number of them are grouped differently in the new structure, while the cardinality of some of them was increased significantly. The introduction of the EU Customs Data Model changed not only the format of certain data elements, but the structure of the declaration messages.

Besides the information exchanges, the business processes had to be aligned to reflect the new legislation. Not only existing BPMs were amended, but new BPMs were introduced. These have certain functionalities that are not present in the current specifications.

These changes mean a major update of the existing ECS Phase2. Information exchanges are substantially different between the current system (ECS) and the future one (AES), they are not interchangeable. There are also incompatible processes and new ones that do not exist in the current system.

The smooth continuation of the export operations across all Europe depends on the transition plan, to migrate 28 National Export Applications from ECS to AES. This document highlights the possible and recommends scenarios to ensure the continuity, with the minimum level of risk, while offering the expected flexibility in terms of National planning and reducing the impact on traders.

#### **4. APPROACH FOLLOWED**

In order to identify the difference between ECS and AES systems, gap analysis was performed on the business processes and information exchanges. The process gap analysis identified which processes are compatible and which ones are not. The Figure 1 shows the ratio of the unchanged, amended and new business processes. This transition paper aims to find a transition solution for the application of the amended and new processes.

The information exchange gap analysis looked into the data elements and the structure of the messages. The most important change is that the EU Customs Data Model is introduced. On data element level the main differences between the phases are:

- new data elements are introduced in the UCC DA/IA,
- currently existing data elements are deleted,
- a number of data elements are renamed,
- there are differences in the format, optionality and cardinality,
- the rules and the conditions are modified, new ones are introduced,
- there are new code lists, and a number of them is modified,
- the simplified export declaration.

In relation to the structure of the messages the main difference is that the export declaration (including safety and security data) is a combination of shipment and consignment view.

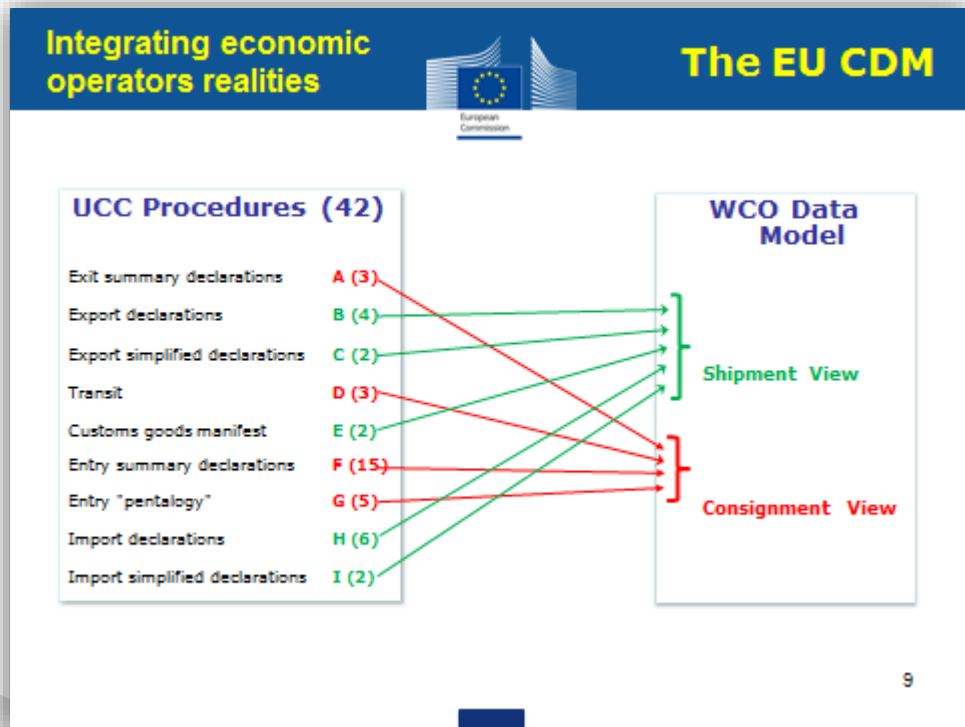


Figure 1 – Shipment view + Consignment view

These changes made the complete reconstruction of the declaration message necessary (and the reconstruction of those messages that repeat of the declaration dataset). The Figure 2 shows the ratio of the amended and new messages.

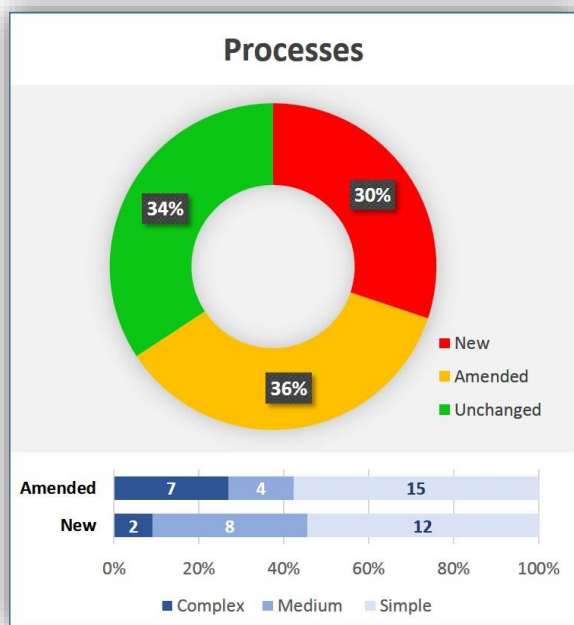


Figure 2 - Process evolution

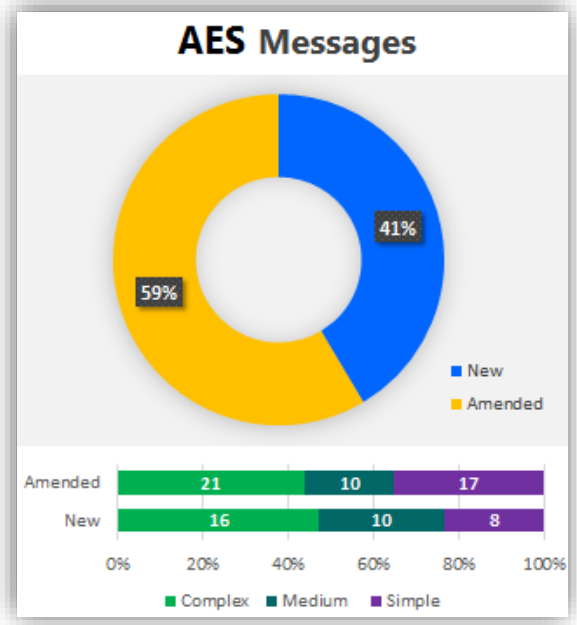


Figure 3 - Information Exchange evolution

1. Based on the gap analysis, multiple transition scenarios have been drafted to identify the various possible transition solutions
2. The most important constraints related to the transition have been identified and listed
3. Taking into account those constraints, some of the scenarios have been eliminated because they were not feasible or not matching the constraints.
4. The transition scenarios that were found feasible have been further analysed. A SWOT analysis has been created to compare the attributes of those scenarios.
5. The transition scenario which gives the most advantages while having the least constraints, is documented in the section Proposed Transition Solution of this document.

The scope of this study consists of identifying all the theoretical Transitional Options and performing a Compatibility Assessment between ECS Phase2 and AES, in terms of processes and data model modification and concluding with the AES Feasible Transition Scenarios.

## 5. GAP ANALYSIS

### 5.1. Business Processes

An extensive analysis of the complete set of Business Processes as it is currently in ECS and the envisioned AES has been performed to identify the functional delta between the two Phases, the details are included in [Annex II](#).

At this stage, it appears that the impact of the changes at Business Process level on the choice of the transition scenario is limited. The core ECS processes can be interfaced with AES processes.

The main recommendation is to ensure that all National Export Control Applications (NECA) are in AES before activating the new processes in all EU.

If the transition scenario adopted by NAs is the Progressive Start of Operations, then it is strongly recommended to scope AES with two steps (Phase1.0 and Phase1.1)

The AES Phase 1.1 would consist in the activation of some specified 'features' on a single day, after the end of the transition period. This Phase 1.1 would have a limited scope, including

- **Centralised Clearance for Export:** This new process should be activated at the end of the Common Transition Period, to avoid rejection by NECA-ECS of the new messages from NECA-AES. Starting this new process at an earlier stage, between AES countries only, may lead to operational problems if it cannot be guaranteed that there will be no diversion to an ECS country.
- **Split Exit:** Activating this new process for pure split exit when all MS are ready, and keeping the current procedure for the partial Exit, during the Common Transition Period would slightly impact a very limited number of traders and very few export movements (partial Exit) that would be managed by multiple declarations, in place of one.
- **Re-Export Notification:** The Trader notifies the Customs Office of Exit of the Re-Export of goods using a Re-Export Notification, prior to the Exit of the goods from

temporary storage or a free zone, where no customs declaration or EXS (Exit Summary Declaration) is required.

- The lodging of **Simplified Declarations**, completed by **Supplementary Customs Declarations and** the exchange of this information of between MS.

For some other new processes, it should not be required to wait until the readiness of all NECA-AES, and the early adopter of AES should be able to take advantage of these new processes as soon as they can. For example:

- **Export of Goods under Excise Duty Suspension Arrangements:** some MS are already interfacing EMCS with ECS (the IE518 is used to generate the IE818), and this functionality should remain active during the Common Transition Period. The matching of the CD518B (ECS), CD518C (AES) and CD818 (EMCS) is therefore crucial for the smooth and continuous interfacing of NECA with the National EMCS applications.

- **Export and Transit interface:** The communication between NTA and NECA is already managed by some MS, and it can be activated at National level without dependency on the other MS.

- **The multiple diversions** and the cross booking movements are already managed by some MS (following different National specifications). It should be possible to keep managing this procedure in some MS, while the new AES procedure is progressively applied.

## 5.2. Information Exchanges (IE)

A detailed analysis was performed to compare the ECS information exchanges to the AES ones aligned with the UCC, and to find the gaps between the two. The analysis took the data elements and examined the changes, taking into account the format, optionality and cardinality, and also the rules and conditions.

The details of the mapping of the Data Elements and data Groups between the two Phases are included in [Annex II](#).

The preliminary conclusions from this IE gap analysis at this stage are that

- the *current* Functional Specifications would require the switch from ECS to AES on a single day, for all 28 MS;
- the interfacing of NECA-ECS with NECA-AES (and with NCTS & EMCS) will require some modifications of the Functional Specifications of AES, to ensure the possible conversion of some IE from one Phase to another.

## 6. COMPATIBILITY ASSESSMENT & BUSINESS IMPACT OF THE CHANGES

*[This section will list the main changes that are required to enable the scenario 'Progressive Start of Operations', in terms of process scoping and message conversion. To be completed while progressing further with the analysis.]*

## 7. TRANSITION OPTIONS STUDIES

The transition options are based on the following **Constraints (facts known)**:

1. Some NA (like DE) have allocated resources according to previous MASP version already and will be ready with the development and testing at an early stage of the deployment window (2021Q1); while some NAs announced that they will be ready to start AES operations in 2023;
2. The transition period within each country will be as short as possible, to minimize the impact on the Customs Officers and on the Traders;
3. Some ('smaller') countries – i.e. countries with a *limited* number of traders active in ECS – are used to migrate their traders to the next Phase via a Big Bang. Some other ('bigger') countries – i.e. countries with the *highest* number of traders active in NCTS – are always offering a deployment window to their traders / software providers (e.g. about 12 to 18 months in DE and FR);
4. One trader can only have only one system at a given time (i.e. operating two applications in parallel is not feasible for traders);
5. The traders that remain in ECS during the National transition period will not be impacted at all by the decision of his NA or of another NA to switch to AES (no need to translate or to adapt its system, it will be managed by his NA).
6. Movements started on Common Domain in ECS by one MS (i.e. CD501B or CD503B sent) must be closed in ECS, i.e. CD518B sent by any other MS, following the current legal basis;
7. Movements started on Common Domain in AES by one country (i.e. CD501C or CD503C sent) will be closed in AES, i.e. CD518C sent by any other country that is already in AES, following the new legal basis;
8. In order to be able to close the 'old ECS open movements', NA have 2 options
  - a. To keep ECS running (in parallel with AES) up to a delay to be defined (at least 150 days after the last MS switched to AES),
  - b. To import the NECA-ECS data into the new NECA-AES, and shut down the NECA-ECS. This data migration from ECS P2 to AES requires the matching of the data models; and the possibility to manage those old movements in NECA-AES;
  - c. A manual process could be also performed for closing some pending movements;  
this is a national decision, which must be taken by each NA;
9. A matrix/routing table about the status/system of all traders in EU is (almost) impossible to keep up to date among all MS having altogether thousands of traders;
10. A matrix/routing table with the ECS/AES switch date (planned/actual) of all the NA can be maintained and published (to document which NA should receive with/without conversion);
11. The channel for the asynchronous communication on the Common Domain remains unchanged: CCN queues;
12. The format of the AES messages on the Common Domain will become XML & UTF-8 (i.e. EDIFACT will be used on the Common Domain only for the ECS messages);
13. Minimum three countries have to be ready before any progressive start of the AES operations;
14. The same transition strategy will be applied on ECS/AES and NCTS Phase4/Phase5, but the planning could be different;
15. Unless an unpredictable and urgent change of the legal basis, the functional specifications (FSS) and the technical specifications (DDNXA) of ECS will be no more changed. The system is frozen and no change at all can be applied to it on the Common Domain;



16. The transition strategy will have an impact on the systems which will be interfaced such as EMCS;

**and on Recommendations:**

1. The new NECA should include all functions (i.e. including those related to the new Business Process, even if activated at the end of the Common Transition Period) of AES.
2. If some functions or message structure (e.g. cardinality) are activated under AES Phase1.1 only (at the very end of the Deployment Window – when all NAs have switched to AES and operations are stabilised), both *configurations* (AES Phase1 and Phase1.1) will be tested under the *same* CT campaign;
3. In each NA, the trader should be able to switch to AES only when the NA is already exchanging AES messages on the Common Domain;
4. Comparing the migration to ECS-Phase2 (in 2009) and the migration to AES (in 2021-2023), the risks are significantly higher: more NECA (28) in operations, EDI replaced by XML, structure of most messages changed, new processes, more messages on the Common Domain (over 7 million per month). The International Testing (after the Mode2 testing against DG TAXUD) should be extensive enough, before any NECA-AES is authorised to start operations;
5. Considering the widespread impact of the new legal basis on the AES system, considering the new approach used for the production of the functional specifications, the NA should be ready to rapidly adapt their NECA, based on emergency correction of specifications;
6. The transition solution and planning should take into account the experience from the past, regarding the difficulty to get ready on the same day 28 MS and their traders.
7. A strict follow up of the planning until the end of the Deployment Window (over 5 years) must be set up.
8. Taking into account those elements and the results of the analysis of the business process and information exchange compatibility, three transition options were defined.

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### **7.1. Scenario 1: Pure Parallel Run of the ECS Phase2 and AES systems**

For this scenario both systems will be running in parallel without interaction between them. The new AES system will take into account new declaration and the old ECS will be used for remaining opened movements (MRN).

The analysis of the Commission concludes that this scenario is not feasible due to the following facts:

- ⇒ The trader at Export can be in a AES (CD501C created) while the Country of Exit did not yet launched AES (conversion is required, if MS are not starting AES on the same day).
- ⇒ The restriction applied on the diversion on Common Domain is not acceptable (i.e. movement started in Country of Departure being in Phase 4 could only be diverted to countries being in Phase4; similar for Phase5).

For further details about this scenario, please read [Annex III](#).

## 7.2. Scenario 2: Secured and Controlled Big Bang

This scenario is based on the following approach

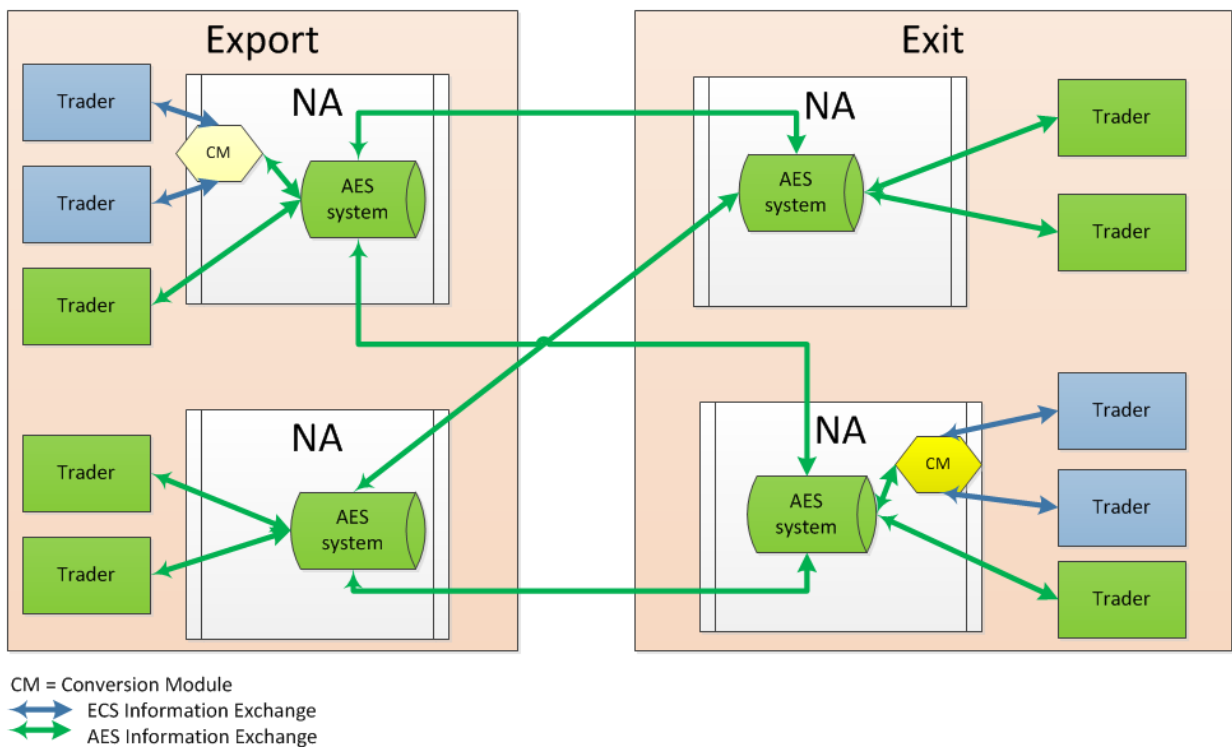
1. Some NAs (the Forerunners) can start the development of the NECA-AES as early as the Common Functional and Technical Specifications are stable enough to generate the National Specifications.
2. Some NAs (the LateDevelopers) can start the development with some delay.
3. To avoid the conversion of the Common Domain messages, the switch from ECS to AES takes place on one day, the exact Big Bang date will depend on the readiness of the latest NA. It requires strict commitment of all NAs to produce the NECA-AES that matches quality, while respecting the commonly planned and agreed date.
4. The conversion of the External Domain messages is required and managed by the NA, for a duration period depending on the number of traders to migrate, and the National policy applied for the transition. It can be a few days in case of National Big Bang transition, it can be one year in case of progressive External Domain transition.
5. The old ECS 'open movements' are managed (for processing the CD518B received, for generating and sending the CD518B, and some other messages):
  - either by NECA-ECS kept alive,
  - or by converting the messages received / to be sent, using the NECA-AES database. This choice being a National decision (cf. [Constraint #8](#)).
6. As soon as three NECAs have passed the Conformance Testing Mode2 (with DG TAXUD), the International Testing (Mode3) between NECAs can be started, to verify/correct the NECAs (and to further improve the DDNXA and CTP/AES, if needed). As soon as more NECAs are ready, more CT Mode3 can take place, to obtain the required stability of the trans-European system (i.e. to avoid rejections between NECAs). The start date of the AES operations will be defined by the planning agreed by all countries (i.e. after all countries are ready to process all the AES messages).
7. The Forerunners that decides to offer a long National Transition Period can publish early the National External Domain (ED) specifications, and can start early to perform ED software certification. If the External Domain transition starts *before* the Common Domain Big Bang, the NECA must 'downgrade' the messages received from the traders who already migrated to AES, into ECS messages.
8. The Forerunners that decides to offer a short National Transition Period can publish early the National ED specifications, and can start early to perform ED software certification. The External Domain Big Bang transition **must** be synchronised with the Common Domain Big Bang.
9. For the LateDevelopers, they can also decide to offer a short or a long National Transition Period. The only constraint is that the date for the switch from ECS to AES on the Common Domain will be the same as the Forerunners. If it is not possible to migrate all traders in Big Bang mode, then the LateDeveloper's application must convert (downgrade/upgrade) the External Domain messages for those few late traders.

10. The greenlight for an NA starting International Testing will be given only after a full CT Mode2 is considered as satisfactory by DG TAXUD.
11. The greenlight for an NA starting AES Operations will be given only after the International Testing is considered as satisfactory by DG TAXUD and by the partner NA including the Forerunners.
12. After Big Bang day, the message ECS (e.g. CD018B) can still be exchanged on the Common Domain, but only for the old ECS 'open movements'.

Analyses of the Commission conclude that this scenario is technically feasible under strict conditions that the National planning in all 28 NAs are aligned and will **strictly respect the same date for starting AES operations**.

After long International Testing, and progressive conversion of traders, once ALL MS are ready, the AES will be used for all new movements. As illustrated below, in case some traders at Departure or at Destination are late to migrate to AES (in blue), some very few NECA will have to manage the conversion of some few External Domain messages.

The 'old' ECS movements are not illustrated on this Figure.



**Figure 4 - AES Transition - Exchanges after Secured and Controlled Big Bang**

For more illustration of this scenario, please see [Annex III](#).

The time sequence of the Secured and Controlled Big Bang scenario in one image:

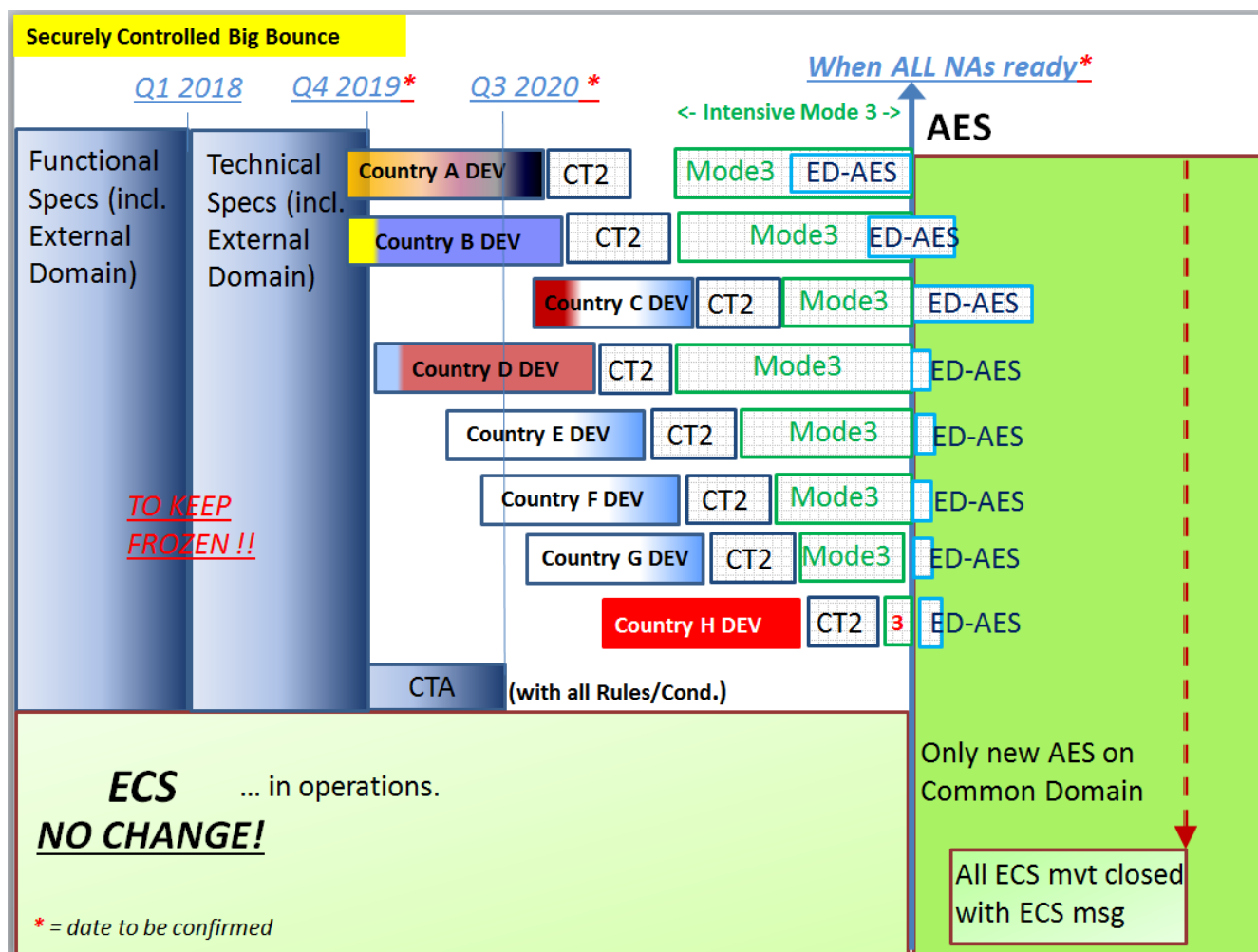


Figure 5: AES Transition - Secured and Controlled Big Bang – Time sequence

Key elements:

- The NAs develop as soon as possible.
- The Conformance Testing activities are as extensive as possible, with a major focus on the International Testing (CT Mode3).
- The *Forerunners* NAs with many traders (e.g. Country A in chart above) can start the National Transition Period as early as possible (i.e. before the Big Bang date). The messages from traders are **downgraded** to keep exchanges on the Common Domain in **ECS**, until the Big Bang date.
- The *LateDevelopers* NAs with many traders (e.g. Country C in chart above) can complete the National Transition Period after the Big Bang date. The messages from late traders are **upgraded** to keep exchanges on the Common Domain in **AES** (except for old open ECS movements).
- The NAs with few traders will offer a very short National Transition Period (few days), starting on the Big Bang date. The messages from their traders are not converted. See the figure above: Country D = EarlyDeveloper with National Big Bang, Country G = LateDeveloper with National Big Bang).
- All the functionalities defined in AES can be activated on the Big Bang day. There is no need to define the AES1.1.
- The effective start of AES operations depends on the readiness of the 'latest' NA.

### 7.3. Scenario 3: Progressive Start of Operations

This scenario takes into account the various constraints and most recommendations, to offer flexibility to traders (in countries with many traders) and to NAs (having different National constraints) while tackling the major evolution of the message structure between the ECS and AES systems.

For the External Domain, NAs may decide for a rapid transition (few traders to migrate) or a long transition (many traders to migrate), considering that the each individual trader will always benefit of a quick migration (to avoid running two software in parallel at trader side).

Either the NA keeps NECA-ECS alive while starting NECA-AES, with a national routing module, to re-direct the messages received from other NAs;

Or the NECA switches to the new NECA-AES that includes a module to keep managing the late traders and the 'old ECS open movements' (i.e. the ECS data and the ECS business logic).

This option does not impact the MS.

- In case one country decides to run NECA-ECS and NECA-AES in parallel, there is no need for a conversion module of the External Domain messages, but a Conversion Module of the Common Domain messages is required. Once an NA started AES, it will exchange AES with the other AES countries.

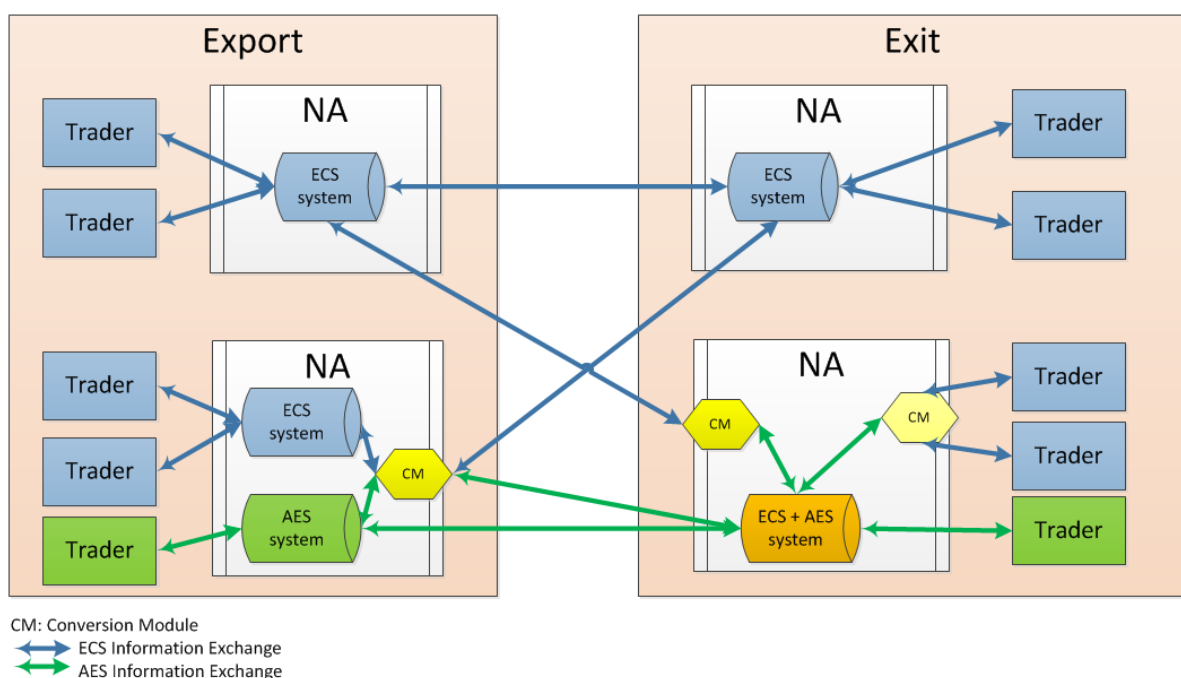
To facilitate it, a correlation table is needed to keep track which MS is in which phase.

- In case ECS and AES database are combined under the same application (for example at Exit), the traders communicate with the same system, which handles the messages according to their phase, and converts them when necessary.

The analysis of the Commission concludes that this scenario is feasible but it will require particular attention and technical efforts to apply (and maintain strictly) the same algorithm for the conversion of the Common Domain messages.

The Figure below shows the various possible interactions for this scenario with various MS in different phases and also when they apply different approach to handle ECS and AES data: having them in two separate applications or combine the two databases under the same application.

Various simplified examples of this scenario are provided in [Annex III](#), to illustrate various instantiations of this scenario.



**Figure 6: AES Transition - Exchanges during the Progressive Start of Operations**

The time sequence of the Progressive Start of Operations scenario in one image:

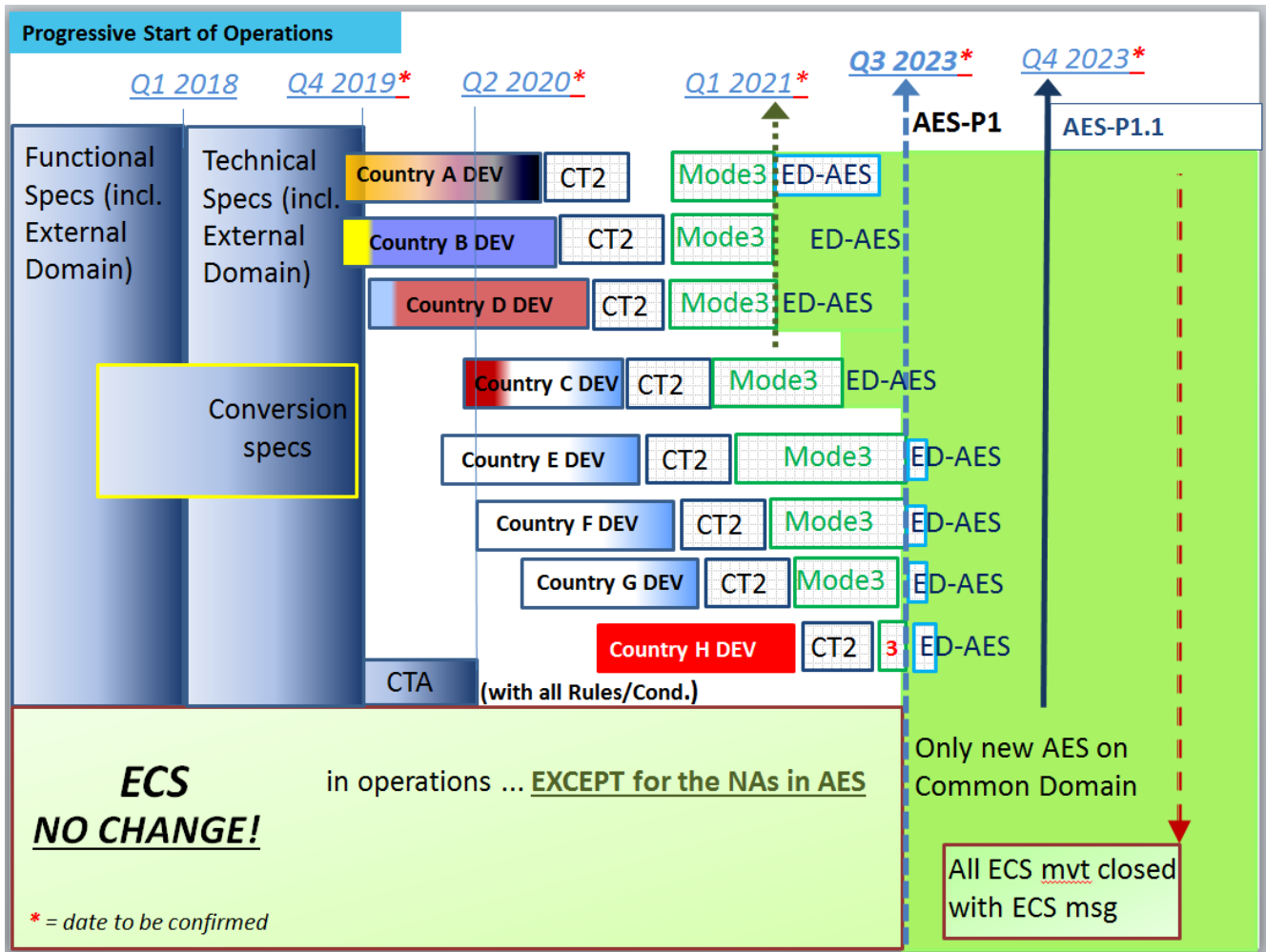


Figure 7: AES Transition – Progressive Start of Operations – Time sequence

Key elements:

- The NAs develop as soon as possible and will start AES operations as soon as three NAs are ready.
- The Conformance Testing activities are 'as usual', International Testing (CT Mode3) is important but less extensive than for the Secured and Controlled Big Bang scenario.
- The *Forerunners* NAs with many traders (e.g. Country A in chart above) can start the National Transition Period as early as possible. The messages between AES NAs are exchanged on the Common Domain without conversion. The messages exchanged with NAs in ECS are converted (downgraded if sent, upgraded if received, until the last NA is active in AES).
- The *LateDevelopers* NAs with many traders should also be able to complete the National Transition Period before the end of the Common Transition Period. The External Domain messages from traders will be converted.
- The NAs with few traders (e.g. Country E in the chart above) may offer a very short National Transition Period (few days) to their traders, either as early as possible (with conversion of Common Domain messages required) or on the last day of the end of the Common Transition period (without any conversion required any more).

- Once all NAs are in AES and operations are stabilized, the functionalities defined in AES Phase1.1 are activated. It could be a few weeks after AES is operational in all NAs, or after (almost) all ECS movements have been closed.
- The effective start of AES operations does not depend on the readiness of all other NAs.

## 8. PROPOSED TRANSITION SOLUTION

DG TAXUD proposes to select the scenario 'Progressive Start of Operation' as the transition solution. This solution will allow MS to adapt their developments according to their resources, technical constraints and traders' constraints. The *Forerunners* will exchange messages in AES as soon as three of them are in operations. The *LateDevelopers* will adapt their developments regarding their national constraints.

In order to be able to convert all messages and most particularly IE518, it may be possible that the specifications of some messages will have to be changed (following the change request procedure).

## 9. REQUIREMENTS

[*To be inserted*]

## 10. SUMMARY

[*To be inserted*]

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## 11. ANNEX I: SWOT ANALYSIS OF TRANSITION SCENARIOS

The SWOT analysis is only performed for the feasible scenarios: Scenario 2 (Secured and Controlled Big Bang) and Scenario 3 (Progressive Start of Operations).

### 11.1. Scenario 2: Secured and Controlled Big Bang

One of the possible scenarios of the ECS-AES transition envisaged is the Big Bang.

#### 11.1.1. Strengths

- The long Conformance Testing period will stabilize the trans-European system, before any AES operations.
- No conversion of the Common Domain messages.
- Conversion of the ED is limited to MS with many traders.
- Development by MS can start as soon as they want.
- Traders active in multiple MS can start AES at the same time in all countries.
- The instability of operations might be higher, but for a more limited period of time.
- All stakeholders can use the same new functionalities in all EU.

#### 11.1.2. Weaknesses

- The exact date for the start of operations of AES will depend on the readiness of the last MS.
- High risk on the quality of Common Domain operations, without any fall back procedure in case of failure.
- In case of problem in the specifications not detected during the CT Mode3, the operations in 28 MS would be impacted.
- The unexpected delay in one MS will delay all other MS (NA + traders), with a high risk of global chaos in case of de-synchronised start of AES operations.

#### 11.1.3. Opportunities

- The cost of the ED conversion is the same as for the Progressive Start of Operations, but there are some savings on the conversion of the Common Domain messages.
- There will be no competition between MS to *promote* ECS against AES.
- The period for having to operate/maintain two National applications at the same time will be limited (and similar for all MS).

#### 11.1.4. Threats

- There is no incentive to start early development, and most MS could opt for late development, and late Conformance Testing. The workload on TAXUD for CT could generate the risk of not detecting errors in NECAs. With possible (maximum) impact at the start of the operations.
- The late MS and DG TAXUD would be under pressure to validate the Conformance Testing despite errors remain in the software.
- The National Project Teams (and traders) will have to develop and start operations for one new system (AES) but it will be synchronised with other important developments (transit, import, guarantee). The allocation of National and IT resources would be an important risk



with impacts on delay and or quality, being difficult to mitigate when 28 MS have the same deadline.

## **11.2. Scenario 3: Progressive start of operations**

One of the possible scenarios of the ECS-AES transition envisages the conversion of information exchanges on the Common Domain.

### ***11.2.1. Strengths***

- MS can start development, testing and operation as soon as possible (and as defined in MASP).
- The start date of AES (Phase1.0) in each MS is not depending on the readiness of other MS. Only the activation of AES Phase1.1 depends on the readiness of all MS.
- The issues detected when starting AES will be limited to some few countries, offering the possibility to limit the impacts of any problem.
- Major savings for the MS having migrated rapidly to the NECA-AES managing ECS (without keeping two NECA in parallel).
- The *direct* export movements can already take full advantage of the UCC (if no diversion to AES countries).
- The AES Phase1.1 will offer the possibility to activate smoothly all the remaining 'new' features.

### ***11.2.2. Weaknesses***

- The conversion of the common domain messages must be specified and applied strictly. The conversion module has some costs for the development and the maintenance.
- To avoid rejections or loss of messages, the functional specifications must be adapted (at least for the Common Transition Period).
- Some new functionalities cannot be used during the deployment window because of the incompatible processes.
- The new functionalities cannot be applied and new messages cannot be exchanged until AES Phase1.1 starts.

### ***11.2.3. Opportunities***

- The definition of Common specifications for the conversion of the Common Domain messages and the External Domain messages will facilitate the work of MS (NA and the traders' software providers).
- The progressive start of operations could also offer the possibility for some MS with few ECS traders and limited volume of operations to perform a rapid transition in a few days.

### ***11.2.4. Threats***

- The change management of the CD Convertors must be done with strict respect of the common specifications, and strict implementation of the changes (synchronised corrections).

## 12. ANNEX II - GAP ANALYSIS

### 12.1. BUSINESS PROCESS GAP ANALYSIS

*[To be updated]*.

**Centralised Clearance for Export:** It enables the Trader to lodge the Export customs declarations at the Supervising Customs Office for goods that can be presented and controlled at a different Presentation Customs Office, which can be located in a different Member State. Centralised Clearance is possible in case of Standard Customs Declaration and Simplified Customs Declaration. The declaration shall contain the details of the Supervising Customs Office and the Presentation Customs Office. The process also includes the Exchange of certification of Exit data, between customs offices in different MSs which facilitates the collection and exchange of statistical data to the relevant statistical authorities and the Holder of the goods.

**Split Exit:** The Split Exit process allows for goods covered by a single Export Declaration to be split into several consignments and to Exit partially (partial Exit) or from different Customs Offices of Exit, which can be located in different MSs. (Split exit)

**Re-Export Notification:** The Trader notifies the Customs Office of Exit of the Re-Export of goods using a Re-Export Notification, prior to the Exit of the goods from temporary storage or a free zone, where no customs declaration or EXS (Exit Summary Declaration) is required.

**Supplementary Customs Declarations** to complete the lodging of Simplified Declaration and to exchange the information of these supplementary declarations between MS

**Export of Goods under Excise Duty Suspension Arrangements:** the communication between the MSA of Dispatch for excises goods (where the goods are declared in EMCS) and the Customs Office of Export (where goods are declared in AES) is further facilitated by introducing exchange of messages between AES and EMCS to provide better coordination and information and to restrict fraud

**Export and Transit interface:** In order to avoid open export movements, the Art. 329(5) and (6) of the UCC IA entails the requirement that the Customs Office of Exit shall be the Customs Office of Departure of the Transit Operation. Therefore, the NCTS needs to be interfaced with AES when export is followed by transit. NCTS will inform AES by introducing new messages:

- In case the goods are released for transit;
- In case of no release for transit. That is the case when the control revealed major discrepancies or reasonable grounds for the Customs Office of Departure to consider that the Transit Operation cannot be started.

**Multiple Diversion / Cross booking :** Multiple diversions are allowed by the office of export. Even if the goods have been diverted several times and finally they are again presented to the initially declared office of exit, this office would send the declaration request (IE502) message to the office of export which will then respond with a positive IE503 message. Exit results message (IE518) will be accepted from the office of exit with which the last exchange of messages IE502 / IE503\_positive occurred.

There is no impact on the state transition diagram for the office of export.

Office of exit should be able to accept an arrival at exit notification (IE507) for the movements that are in the 'Arrived elsewhere' state until the exit results (IE518) message is sent by the office

of exit. This office should also be able to accept the IE524 message for the movements in the state 'Goods presented at exit'.

The state transition diagram for the office of exit is different in ECS and AES

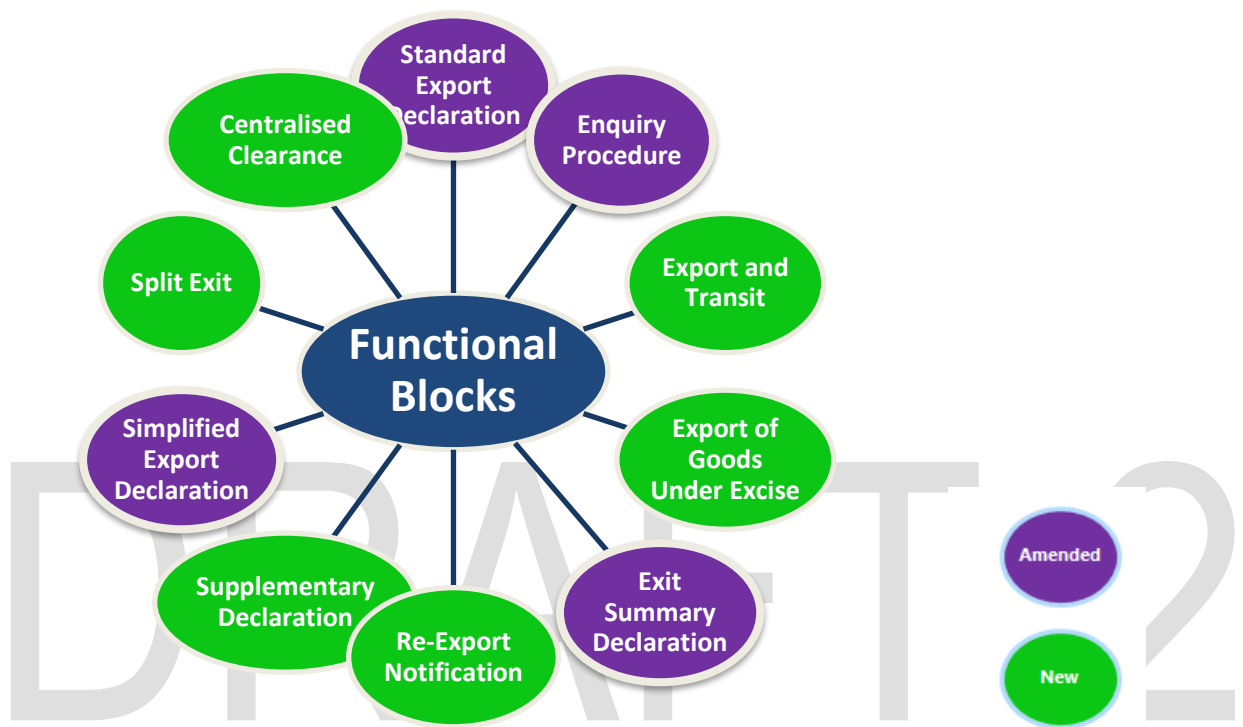


Figure 8: AES – The AES functional blocks

## 12.2. INFORMATION EXCHANGE GAP ANALYSIS

[To be inserted].

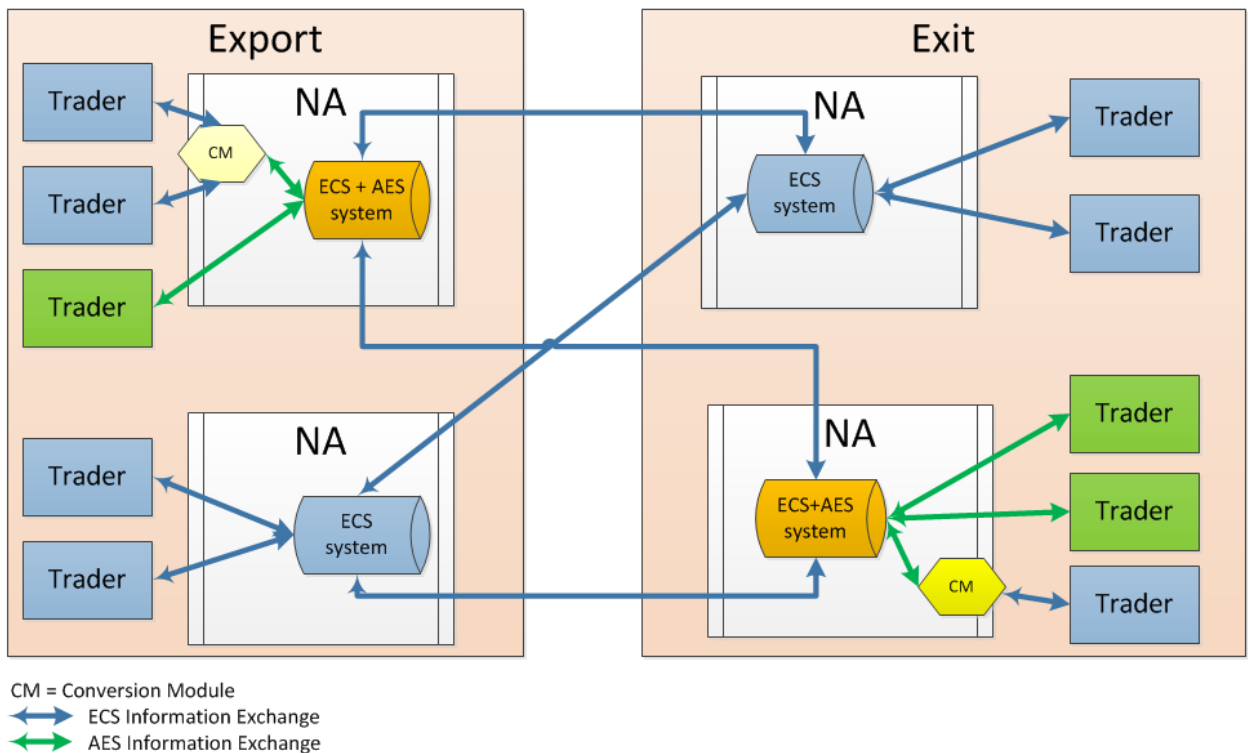
### 13. ANNEX III - MORE ILLUSTRATIONS OF THE SCENARIOS

This section includes various examples that illustrate the configuration that could be observed in different countries, during or after the transition period.

#### 13.1. SECURED AND CONTROLLED BIG BANG

**Example 1:** Long National Transition at Departure, before Big Bang date.

All NAs are exchanging only ECS messages on the Common Domain, but there are traders at Export or Exit ('big' countries) who are already using the new NECA that can manage both ECS and AES movements.



The Conversion module is managing only the External Domain messages.

**Example 2:** Late Traders at Export

All NA deployed the AES system, but there are few traders at Export who are still using the ECS system.

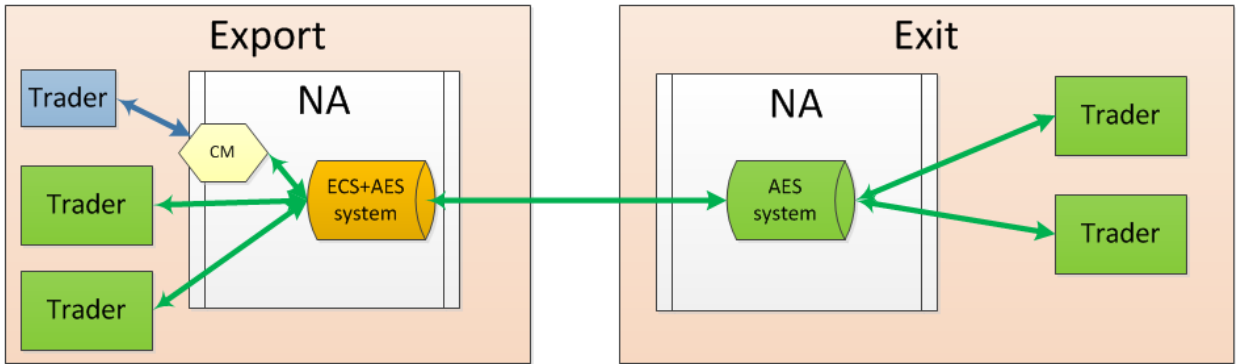


Figure 9 – All MS in AES, some few Traders not migrated yet

13.2. PROGRESSIVE START OF OPERATIONS

Example 1: ECS = Business As Usual

NAs who are still in ECS can keep sending ECS messages to all other NAs, until the end of the Common Transition Period.

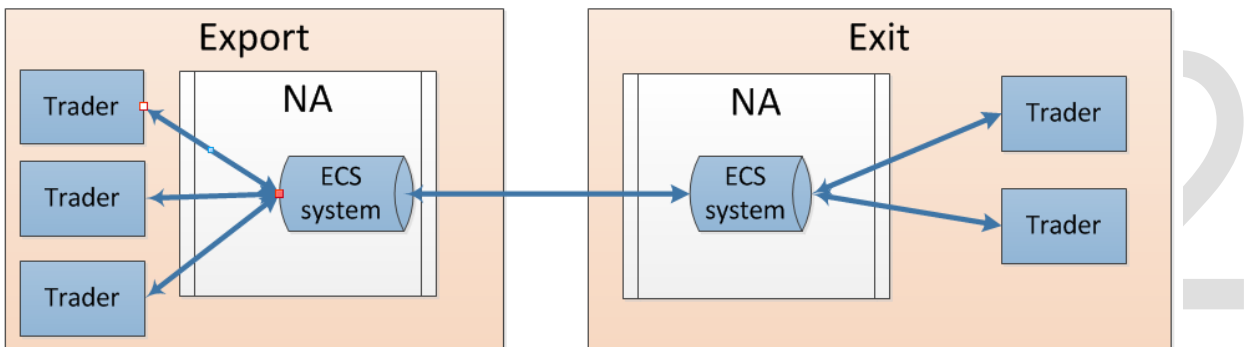


Figure 10 – Two MS still in ECS

Example 2: Parallel run in one NA (Export) with Exit in ECS: Conversion of Common Domain messages.

One NA with many traders deployed NECA-AES and keeps also the NECA-ECS during the National migration. The NA offers two interfaces for the External Domain. For export movements initiated by traders having migrated, the messages from NECA-AES must be converted before it is sent to another NECA-ECS.

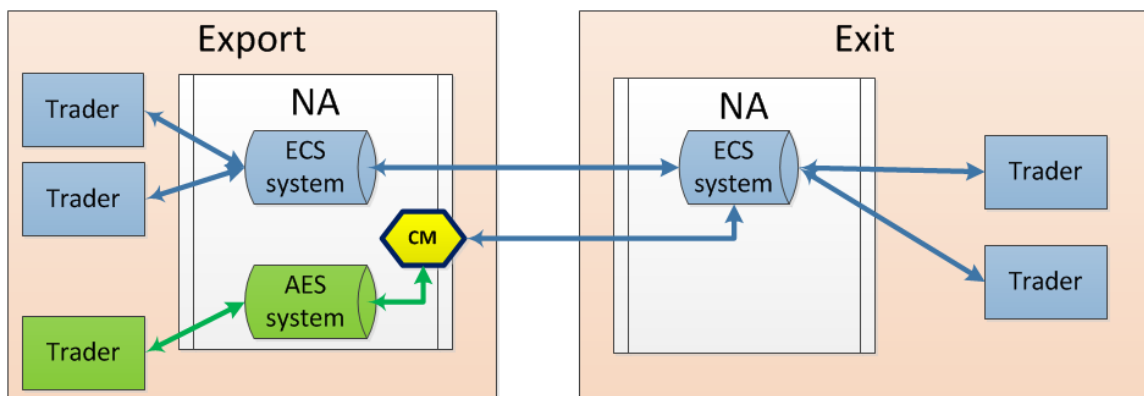


Figure 11 – One MS forerunner in AES and one MS in ECS

**Example 3: Parallel run at Export and Conversion of External Domain at Exit**  
 In this example, three types of NAs are combined: NECA-ECS, NECA-(ECS+AES) [one application managing both], NECA-ECS+NECA-AES [two applications in parallel].  
 In case of NECA at Export with parallel run, one movement started by traders in ECS could have one office of Exit declared in NA-ECS, and the actual office of Exit in NA-AES. In such case, the country of Export will convert the message before sending to the Office of Exit AES. The country of Exit converts the External Domain messages from/to Traders in ECS. Messages coming from AES systems can be received without conversion.

No problem in case of diversion.

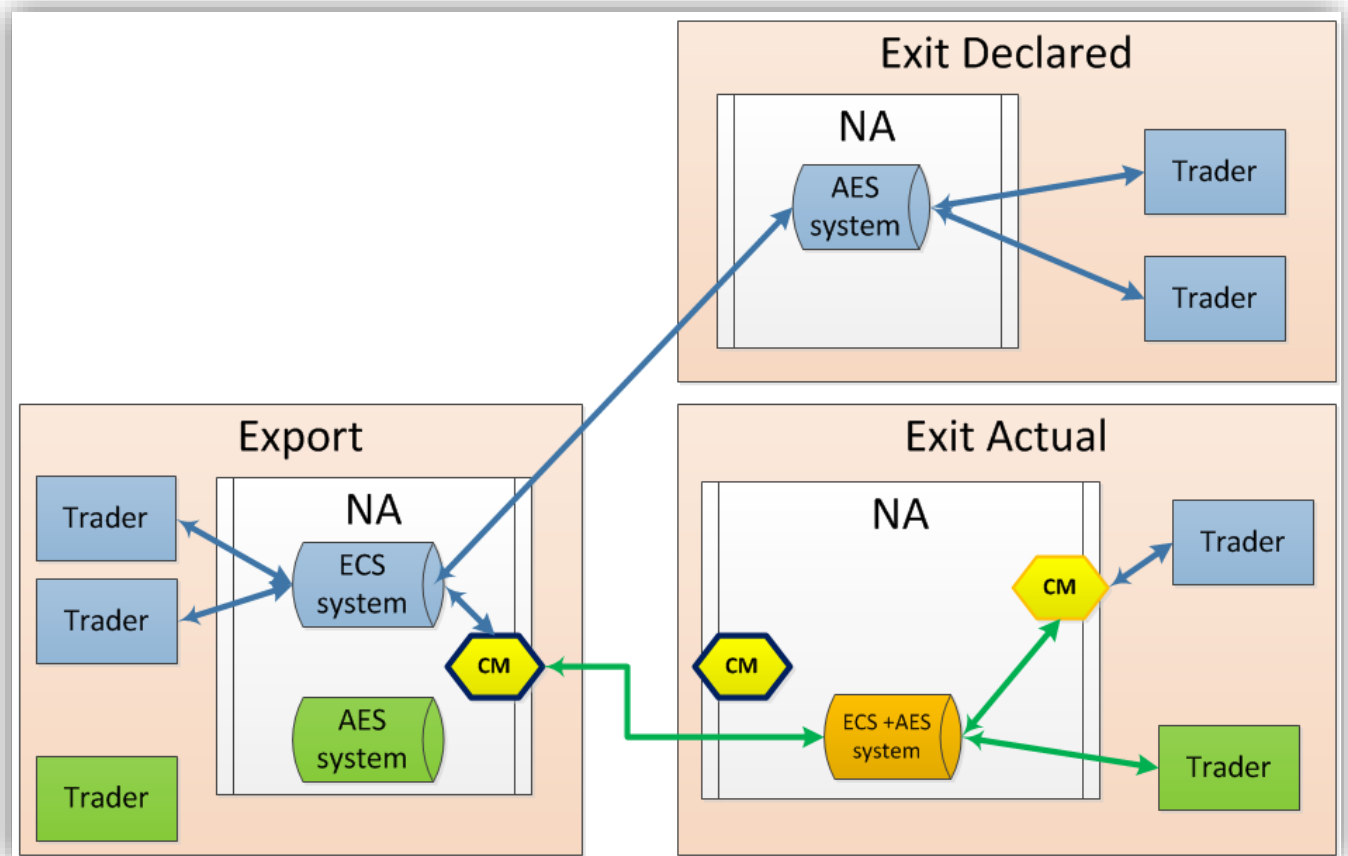
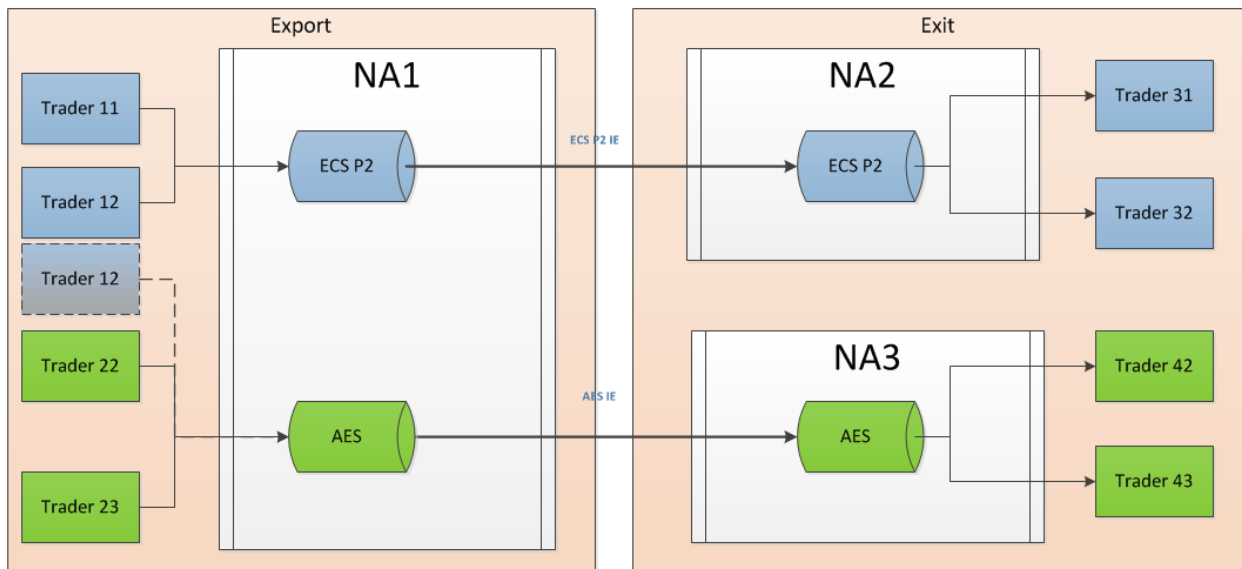


Figure 12 – Conversion of CD & ED, with diversion managed

### 13.3. PURE PARALLEL RUN OF PHASE4 AND PHASE5 SYSTEMS

This scenario is excluded as from this stage of the transition study, because the analysis concluded that they are not feasible. Please find further details below.



**Figure 13 - Pure Parallel Run of ECS and AES**

Notes:

1. In NA1, two NECA applications are running in parallel.
2. Each application will communicate with the application being in the same phase.
3. NECA-ECS in NA1 sends ECS P2 messages to NA2 in ECS P2, and sends AES messages to NA3 AES.
4. No conversion (neither External Domain, nor Common Domain).
5. Trader 12 is preparing its new application and will begin to test it.
6. This parallel run is progressive. As soon as traders are ready they switch to the new application.

Description:

In this scenario NAs which deploy the AES system also keep the current one. No conversion happens; it is not possible to send an ECS declaration / message to an AES system.

NAs in ECS can receive only ECS declarations from Traders and can communicate with other NAs only if those are also in the same phase.

NAs which deployed the new system can receive both ECS and AES declarations from Traders, but these are sent to the system in the appropriate phase. The ECS messages related to the same export movement stay in the same system during the whole movement. The same principle is applied for movements started in AES.

Feasibility:

NAs have to maintain two systems in the whole duration of the deployment window, and even after, until all the movements are closed (including the enquiry and recovery periods). Conversion remains required either at Common Domain level, or at External Domain level.