# 2ND STATUS REPORT IN 1ST HALF 2015

## OF THE EUROPEAN RAILWAY AGENCY

*FOR*

## EUROPEAN COMMISSION

*REGARDING*

# THE IMPLEMENTATION OF TAF TSI

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# 0. Contents

## Abbreviations

***Table 1: Table of abbreviations***

| Abbreviation | Definition |
|---|---|
| CEF | Connecting Europe Facility |
| CER | Community of European Railway and Infrastructure Companies |
| CI | Common Interface |
| CRD | Central Reference Database |
| DI | Degree of Implementation |
| EC | European Commission |
| EIM | European Rail Infrastructure Managers |
| ERA | European Railway Agency (also referred to as Agency) |
| ETA | Estimated Time of Arrival |
| GCU | General Contract for Use of Wagons |
| IM | Infrastructure Manager |
| INEA | Innovation and Networks Executive Agency |
| JSG | Joint Sector Group |
| NCP | National Contact Point |
| $PM^2$ | Official Project Management Methodology of the European Commission |
| RISC | Rail Interoperability and Safety Committee |
| RNE | Rail Net Europe |
| RSRD | Rolling Stock Reference Database |
| $RSRD^2$ | Rolling Stock Reference Database implementation made by UIP members |
| RU | Railway Undertaking |
| TAF | Telematics Applications for Freight |
| TSI | Technical Specification for Interoperability |
| UIC | Union Internationale des Chemins de fer |
| UIP | International Union of Wagon Keepers |
| UNIFE | Association of the European Rail Industry |
| WIMO | Wagon and Intermodal Unit Operational Database |
| WK | Wagon Keepers |

## Reference documents

***Table 2: Table of reference documents.***

| Ref. N° | Title | Reference | Version |
|---|---|---|---|
| (1) | TAF-TSI Master Plan | TAF Master Plan – v4.0 | 17.01.2013 |
| (2) | NOTE TO ERA EXECUTIVE DIRECTOR: Assessment of TAF TSI implementation by the European Railway Agency | Ref. Ares(2014)1706338 | 26.05.2014 |
| (3) | 1st Status Report in 2014 of the European Railway Agency for European Commission regarding the Implementation of TAF TSI. | 1st Status Report ERA-REP-114 - IMPL-2015-01 | 21.04.2015 |
| (4) | 2nd ERA TAF TSI Implementation Cooperation Group held on 29th and 30th September 2015. | Minutes_TAF_Cooperation Group_20150929_30_Draft_v03 | 16.10.2015 |
| (5) | Guideline TAF TSI Regional Workshop | ERA-Guideline - TAF TSI Regional Workshop | 30.09.2015 |

## Reference legislation

***Table 3: Table of reference legislation***

| Ref. N° | Document Reference | Title | Last Issue |
|---|---|---|---|
| [1] | Directive 2008/57/EC | Interoperability of the rail system | 17.06.2008 |
| [2] | TAF TSI Regulation No 1305/2014 | Commission Regulation (EU) No 1305/2014 of 11 December 2014 on the technical specification for interoperability relating to the telematics applications for freight subsystem of the rail system in the European Union and repealing the Regulation (EC) No 62/2006 | 11.12.2014 |
| [3] | Corridor Regulation N° 913/2010 | Regulation (EU) No 913/2010 of the European Parliament and of the Council of 22 September 2010 concerning a European rail network for competitive freight | 22.09.2010 |
| [4] | CEF Regulation | Regulation (EU) No 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility, amending Regulation (EU) No 913/2010 and repealing Regulations (EC) No 680/2007 and (EC) No 67/2010 | 11.12.2013 |

## Table of Figures

# 1. Executive summary

This report contains the data provided to report the status of the implementation by **31.08.2015** of the following TAF TSI [2] functions:

- Reference Files Function:
  - Company Codes
  - Primary Location Codes
- Common Interface Function
- Rolling Stock Reference Database.
- Train Running Information Function
- Wagon and Intermodal Unit Operational Database

This second report, compared to the first one issued in April 2015, contains the reporting about the implementation of two new functions agreed by the ERA TAF TSI Cooperation Group in February 2015. Moreover, the participation of the companies has grown in all aspects. For 187 company contacts registered in the JSG Reporting Tool, the 81 responses has nearly doubled the number of responses got in the 1st report.

To better evaluate the current degree of implementation for every function, the data provided is compared to the baseline defined in the Master Plan (1) [1] to implement the TAF TSI [2] regulation delivered by the European Rail Sector in 2013. The TAF-TSI Master Plan (1) was submitted to the TAF-TSI Steering Committee, DG MOVE and ERA on 15th November, 2012. A total of 58 companies, representing over 85% of the total Tonne and Track Kilometres in Europe responded with their individual plans for implementation. The target dates are based on the corresponding TAF-TSI function to be implemented and they were set when 80% or more of the respondents indicated a final implementation.

The data provided is a self-declaration made by every company about the level of implementation of the above mentioned functions. Most of the data has been collected through an entity set-up by the European Rail Sector, Joint Sector Group (JSG), to technically support the implementation of the system. The members of the JSG are:

- CER[2]
- UIC
- EIM
- UNIFE
- UIRR
- ESC
- UIP
- RNE
- ERFA
- RAILDATA

[1] See «Chapter 0. Contents» for Reference Documents.
[2] See «Chapter 0. Contents» for acronyms.

Regarding the function Rolling Stock Reference Database, the implementation data has been collected by the JSG in close cooperation with the International Union of Wagon Keepers, UIP. They have submitted to ERA a file containing the status information of one hundred sixteen (116) companies across Europe.

The following key findings per TAF function can be highlighted:

- The majority of IMs has completed the population of the Common Reference Files for locations on their network. Thereby, it cannot be observed a big difference compared to the 1st report.
- Company codes are already widely used within the sector, both by IMs and RUs. Nevertheless, some difficulties to get the Company Codes may be drawn from the results of the survey performed for this particular function.
- The majority of RUs is still developing the common interface, while a number of IMs have already finished the implementation of the common interface.
- The deployment of the Rolling Stock Reference Database has been already launched, however mainly UIP members have delivered data concerning the implementation of this function. Regarding the data delivered, these Wagon Keepers companies have already completed the implementation of this function.
- The level of realisation of Train Running Information is progressing in accordance with the implementation schedule quoted in the TAF TSI Master plan by 2017.
- The level of fulfilment of the Wagon and Intermodal Unit Operational Database is still very low based on the realisation milestones reflected on the TAF TSI Master Plan (1), where half of Railway Undertakings respondents committed to deploy this function by 2016 and the whole implementation to be performed by 2018.

Furthermore, the report identifies the functions where the sector shall allocate more resources to meet the target implementation date quoted in the TAF TSI Master Plan (1).

In particular this report shows that the implementation of the Rolling Stock Reference Database (RSRD) by 1st half of 2015 is in average for the overall European rail sector delayed compared to the declared target implementation date in the Master Plan, 2015.

The drivers for the implementation of this function are the Private Wagon Owners, mostly UIP members, and the Railway Undertakings (RUs). However, compared to the 1st Implementation report, the RUs have already started delivering information about the implementation of the TAF TSI [2] compliant RSRD database.

# 2. Introduction

This 2nd Status Report is delivered according to the legal frame provided by the Commission Regulation (EU) No 1305/2014 of 11 December 2014 on the Technical Specification for Interoperability relating to the Telematics Applications for Freight subsystem of the rail system in the European Union and repealing the Regulation (EC) No 62/2006 in force, TAF TSI [2].

In particular, Article 5 of the Regulation [2] attributes to the European Railway Agency the task to assess and oversee the implementation of the Regulation to determine whether the agreed objectives and deadlines have been achieved and to provide an assessment report to the TAF steering committee referred to in Section 7.1.4 of the Annex. Furthermore, the European Commission (EC) issued a letter on 26.05.2014 (2) describing the tasks expected to be carried out by the Agency for the Assessment of TAF TSI [2] implementation.

Beyond this, this activity meets the 4th Strategic Priority of the ERA work programmes 2014 and 2015, "Simplified Access for Customers". On this basis, the Agency launched in October 2014 the Co-operation Group for the Implementation of Telematics Applications for Freight. The Co-operation Group performs the following tasks:

- To assess the reports from the sector (companies, NCPs and RBs) about the TAF TSI [2] implementation.
- To compare the data received with the content of the TAF TSI Master Plan (1) and assess the progress of implementation to determine whether the objectives pursued and deadlines have been achieved.
- To use Key Performance Indicators (KPIs)[3] previously agreed between the Agency and the Rail Sector to assess the evolution of the deployment of the system and report twice per year to the European Commission and to the TAF Steering Committee.
- To perform a dissemination campaign to NCPs and assist them to follow-up the TAF TSI [2] implementation at national level.

All these activities are performed in close cooperation with the different stakeholders, who will provide implementation reports. The diagram below shows the process allowing ERA to perform the above listed activities:

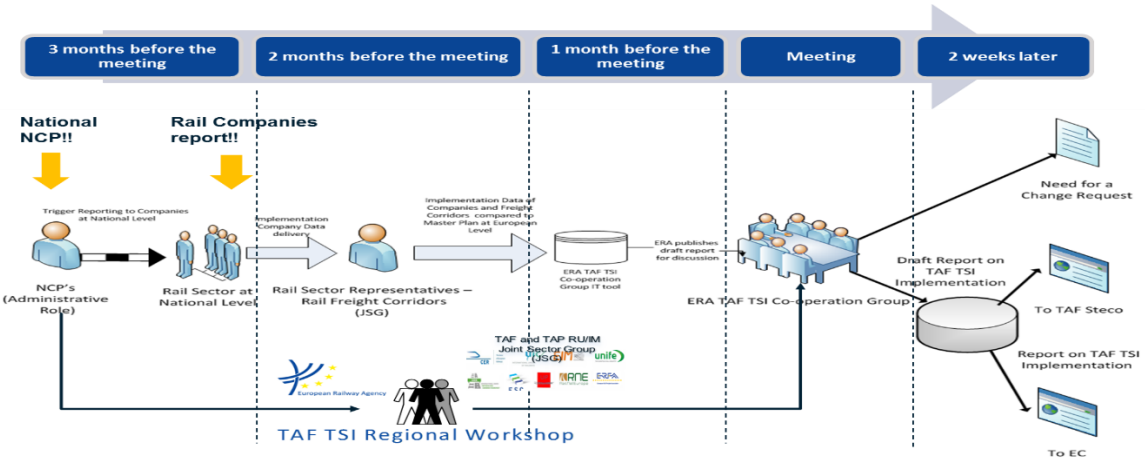



Figure 1: ERA TAF TSI Implementation Cooperation Group process.

[3] It will be used from next report.

ERA has to inform the EC about the results of this monitoring and has to advise the EC about the possible changes needed. In a multimodal context, ERA has to guarantee that any of the actions taken do not create additional obstacles for multimodal environment.

In addition, the effort made by the European rail sector to deploy the TAF TSI [2] system is also supported by the Connecting Europe Facility (CEF) [4] programme launched by the European Commission and managed by the INEA Executive Agency.

The CEF[4] [4] will better mobilise private financing and allow for innovative financial instruments such as guarantees and project bonds to gain maximum leverage from this EU funding injection at it's a financial tool at disposal of all the companies implementing TAF TSI [2] regulation.

## 3. Context

The final version of the TAF-TSI Master Plan (1), establishing the implementation timeline for the Regulation, was submitted to the TAF-TSI Steering Committee, DG MOVE and ERA on 15th November 2012.

A total of 58 companies, representing over 85% of the total Tonnes and Track Kilometres in Europe responded with their individual plans for implementation. Target dates were set when 80% or more of the respondents indicated a final implementation. The target dates are based on the corresponding TAF-TSI function to be implemented.

An analysis, based on Corridor Regulation N° 913/2010 [3], was also incorporated into this Master Plan (1). As the Corridor Regulation specifically addresses Short Term Path Requests and Train Running Information, these were the only functions included. It should be noted that the TAF-TSI is a supporting tool – and not a prerequisite – for the implementation of Regulation N° 913/2010. Therefore the later date of implementation of the TAF-TSI should have no impact on the implementation of 913/2010.

In order to collect the data and to boost the involvement of the higher possible number of companies, the European Railway Agency has closely worked with the European Rail Sector to set-up the appropriate mechanism to collect the data concerning the deployment of the above mentioned functions. Indeed, the European Rail Sector grouped through the entity Joint Sector Group (JSG) and the Agency has set-up two IT tools to collect and visualize the data submitted by the European rail companies, Infrastructure Managers, Railway Undertakings and Wagon Keepers. For this purpose the companies submit their information to the JSG IT tool through a Web service available for all the companies registered. For the time being the **number of registered companies is one hundred eighty seven (187)**. Once the data is collected, the raw data is delivered to the Agency, who incorporates this information in the ERA IT tool for TAF TSI [2] monitoring. This

[4] http://inea.ec.europa.eu/download/calls2014/cef_transport/calltexts/_map_funding-objective-1_annex-3_interoperability.pdf

IT tool comprises a database to store the data and a GIS tool to visualize on maps the progress of the implementation. There are three groups of maps:

- Maps to report about common functions. These maps show the degree of implementation of the Reference Files (Company Codes and Primary Location Codes) and the Common Interface functions at European level.
- Maps to report about RU-IM Communication functions. The presentation of the progress evolution per corridors underpins the implementation of Corridor Regulation N° 913/2010 [3]. Thereby, these maps represent the progress of the implementation at country level and at corridor level of the functions implementing the exchange of data for the following processes:
    - Short Term Path Request,
    - Train Running Information,
    - Train Preparation,
    - Service Disruption and
    - Unique Train Identifiers.
- Maps to report about Railway Undertaking's functions. These maps show the degree of implementation at country level of the functions to exchange data amongst Railway Undertakings and Wagon Keepers:
    - Consignment Data Function,
    - Wagon and Intermodal Unit Operational Database (WIMO) Function,
    - Wagon Movement Function,
    - Shipment ETA Function and
    - Rolling Stock Reference Database.

The scope of the present report is to inform about the deployment of the functions scheduled to be implemented by 1st half 2015 in the Master Plan (1) delivered by the sector for the implementation of the TAF TSI [2] system. As it was agreed by the members of the Co-operation Group for the Implementation of Telematics Applications for Freight in the 1st meeting held on 26th February 2015, this report provides information about the implementation of the following functions:

- Reference Files Function:
    - Company Codes
    - Primary Location Codes
- Common Interface Function
- Rolling Stock Reference Database.
- Train Running Information Function
- Wagon and Intermodal Unit Operational Database

To have a common approach for all companies' contributors submitting implementation information, **an optional common criterion has been agreed with the representatives of the rail sector to assess the degree of deployment of TAF TSI functions**. This criterion is based on the standard division in project phases of IT projects defined in the methodology for project management in use at the European Commission ($PM^2$). Assuming that project phases are divisions within a project where extra control is needed to effectively manage the completion of a major deliverable, then it may be ideally assimilated each of the 12 TAF TSI functions identified in the TAF TSI Master Plan (1) to an individual IT reference implementation project.

Within every individual IT reference implementation project, we use percentages of completion as early indicators to track the progress made each period of one year (n-3, n-2, and n-1, n) over a 4-year time span. This will allow raising warnings to prevent delays in the implementation of a particular function.

Therefore, taking into account the above mentioned assumptions, every function implementation may be considered as an individual project to be split in the following reference phases:

- **Initiating Phase**: This phase may comprise those processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase. This phase includes typically the following activities:
    - Feasibility Study
    - Business Case
    - Gathering of Technical and Functional Requirements

  These activities may correspond in an "optional" reference implementation to a Degree of Implementation (DI) between 0% and 25% for a particular function. If the DI is achieved at the beginning of the timeframe for the deployment of such a function, deadline minus ideally three years (deadline-3), the implementation of this function can be deemed on time.

- **Planning Phase**: this phase includes typically those activities required to establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve:
    - Resource Planning
    - Project Work Planning (Working Break Down Structure)
    - Migration Planning
    - Outsourcing Plan
    - Risk Management Planning

  These activities may correspond in an "optional" reference implementation to a Degree of Implementation (DI) between 25% and 50% for a particular function. If the DI is achieved within the deadline minus ideally two years (deadline-2) period, the implementation of this function could be deemed to be on time.

- **Executing Phase**: this phase may comprise those processes performed to complete the work defined in the project management plan to satisfy the project specifications. This phase includes activities such as:
    - Procurement
    - Executing
    - Testing (User Acceptance and system Integration)
    - Training and Education

  These activities may correspond in an "optional" reference implementation to a Degree of Implementation (DI) between 50% and 75% for a particular function. If the DI is achieved within the deadline minus ideally one year (deadline-1) period, the implementation of this function could be deemed to be on time.

- **In Production & Monitor & Control:** this phase may comprise those processes performed to finalise all activities across all phases to formally close the project. Therefore, it may include the delivery of the product/service, in the context of the TAF TSI [2] deployment, the delivery of the IT system implementing a particular TAF TSI [2] function moving to production environment. These activities correspond in an "optional" reference implementation to a Degree of Implementation (DI) between 75% to 100% for a particular function. If the DI is achieved within the deadline minus ideally one year (deadline-1) period, the implementation of this function could be deemed to be on time.

The above explained phases are summarised in the following diagram explaining the expected commitment of resources made for every phase of the project.

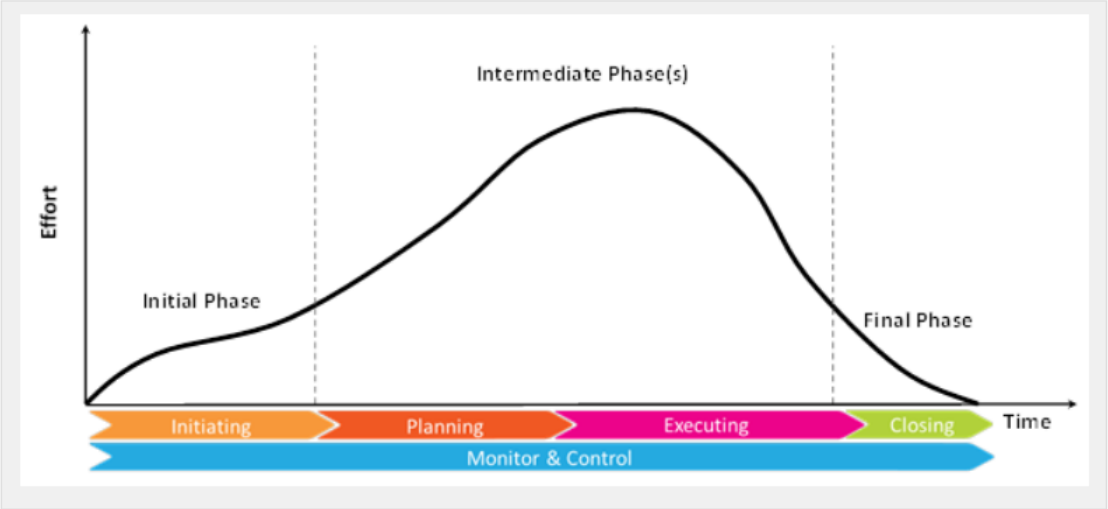



Figure 2: PM² project lifecycle.

Nevertheless, the different activities to be developed in the framework of a project to implement a particular TAF TSI [2] function should be adapted to the particular situation in every company. Therefore, every project may be assimilated, in a voluntary basis, to the addition of the four phases aforementioned (Initiating, Planning, Executing and Closing) establishing an optional comparable reference implementation to assess the progress of the implementation per company.

In conclusion, in the context of the Co-operation Group for TAF TSI Implementation there are two ways to report about the implementation of a particular TAF TSI function compared to the TAF TSI Master Plan (1):

- on one hand, companies may declare the final delivery of a particular TAF TSI function within the deadline set out in the TAF TSI Master Plan (1); in this case the implementation of this function will be deemed to be on time, and thus DI = 100% -> Green colour on the map;
- on the other hand, companies may declare the Degree of Implementation (DI) for every function taking into account the optional methodology aforementioned based on different phases for the project. In this case, the declared Degree of Implementation will be colour-coded and displayed as follows:

    - Project not launched: 0% or no data -> Blue colour on the map.
    - Initiating Phase accomplished: DI < 25% -> Red colour on the map.
    - Planning Phase accomplished: 25% =< DI < 50% -> Orange colour on the map.
    - Executing Phase accomplished: 50% =< DI < 75% -> Light Green colour on the map.
    - In Production & Monitor & Control accomplished: 75% =< DI =< 100% -> Green colour on the map.

# 4. Analysis

TAF TSI Master Plan (1) shows that most of functions of the TAF TSI can be achieved by the end of 2018, with most functions operational by 2016. The most difficult part of the realisation will be the implementation of the unique Train Identifiers (TID), upon which many other functions are dependent. Indeed, the first set of functions to be implemented in order to facilitate the further deployment of the system is:

- Reference Files Function:
  - Company Codes
  - Primary Location Codes
- Common Interface Function
- Rolling Stock Reference Database.

In addition to the above listed functions, the members of the TAF TSI Implementation Co-operation Group agreed in the 1st ERA TAF TSI Implementation Cooperation Group, meeting held on 26th February 2015, to add in the 2nd report concerning the implementation of TAF TSI [2] by 1st half 2015 the following functions:

- Train Running Information Function
- Wagon and Intermodal Unit Operational Database (WIMO) Function

## 4.1. Evolution of TAF functions at Country level

In line with the timeline defined in the TAF TSI Master Plan (1) and the request of the TAF TSI Implementation Co-operation Group members, the reporting of this second report is limited to the TAF TSI [2] functions which could be achieved by 1st half 2015:

- Reference Files Function:
  - Company Codes
  - Primary Location Codes
- Common Interface Function
- Rolling Stock Reference Database.
- Train Running Information Function
- Wagon and Intermodal Unit Operational Database (WIMO) Function

The data were collected by the JSG tool in July 2015 and transferred to the ERA TAF TSI Implementation Co-operation Group IT tool.

Concerning the criteria adopted to estimate the level of implementation per country, it has been agreed within the context of the TAF TSI Implementation Co-operation Group to apply a weighting factor per company to those functions where the market share of RUs , Wagon keepers and Infrastructure Managers is relevant to have a better view of the degree of implementation per country. Thereby, the weighting factor per company has been applied for the following functions:

- Rolling Stock Reference Database.
- Train Running Information Function
- Wagon and Intermodal Unit Operational Database (WIMO) Function

More details about the particular weighting factor applied is provided in every section for every function. Indeed, it depends on different parameters as track kilometres for Infrastructure Managers, tonne kilometres for Railway Undertakings and number of wagons for Wagon Keepers.

For the remaining functions an average calculation for the values supplied by all the companies reporting that they have started freight transport activities or intent to develop it in the near future is applied. Thereby, the average without any weighting factor is applied to the following functions:

- Reference Files Function:
  - Company Codes
  - Primary Location Codes
- Common Interface Function

### 4.1.1. Implementation status in the 1st half 2015 for Company Codes function

In every country, the **Average Degree of Implementation (DI)** for the **Company Codes function** is calculated from the data provided by the companies responding the JSG survey in every country without applying any weighting factor. It means that an arithmetic mean of a series of degree of implementation for this function supplied by the companies that they have started freight transport activities or intent to develop it in the near future is calculated. It results the value per country and therefore the colour attributed to a particular country.

**Average DI =** $( \sum_{i=1}^{n} \boldsymbol{DI(i)} ) / \boldsymbol{n}$ **;**

Where DI(i) = Degree of Implementation declared by the company (i) starting freight transport activities or intending to develop it in the near future,

and n = number of companies reporting in a country.

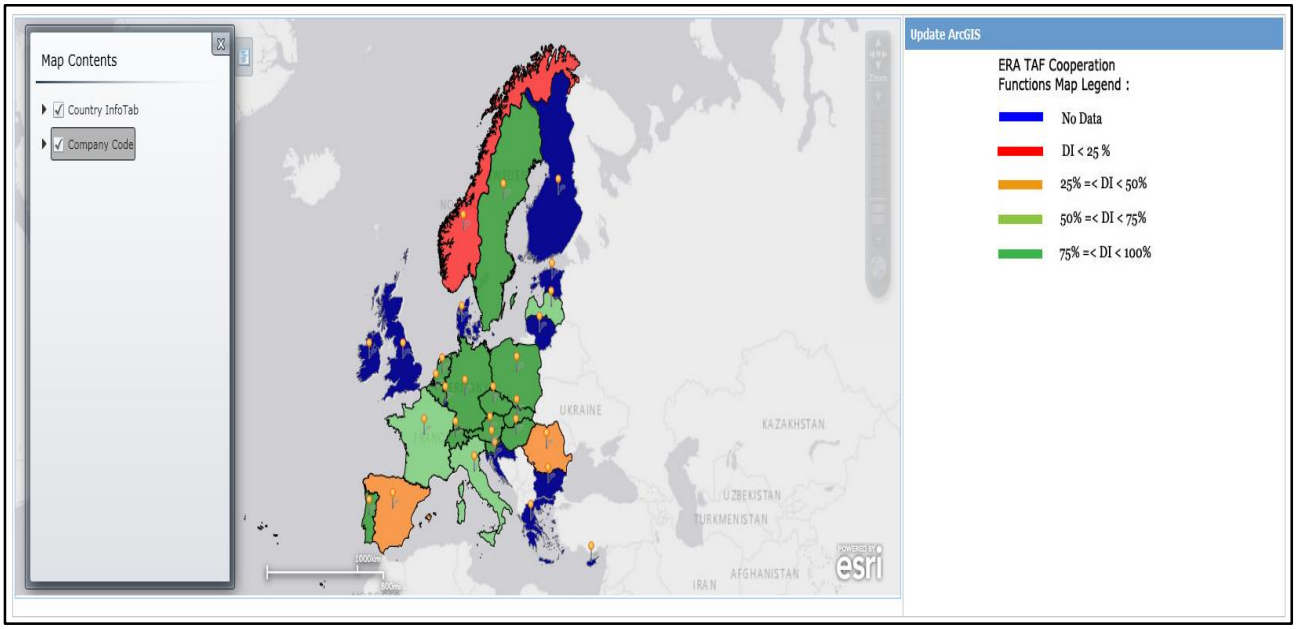



Figure 3: Company Codes function implementation in January 2015.

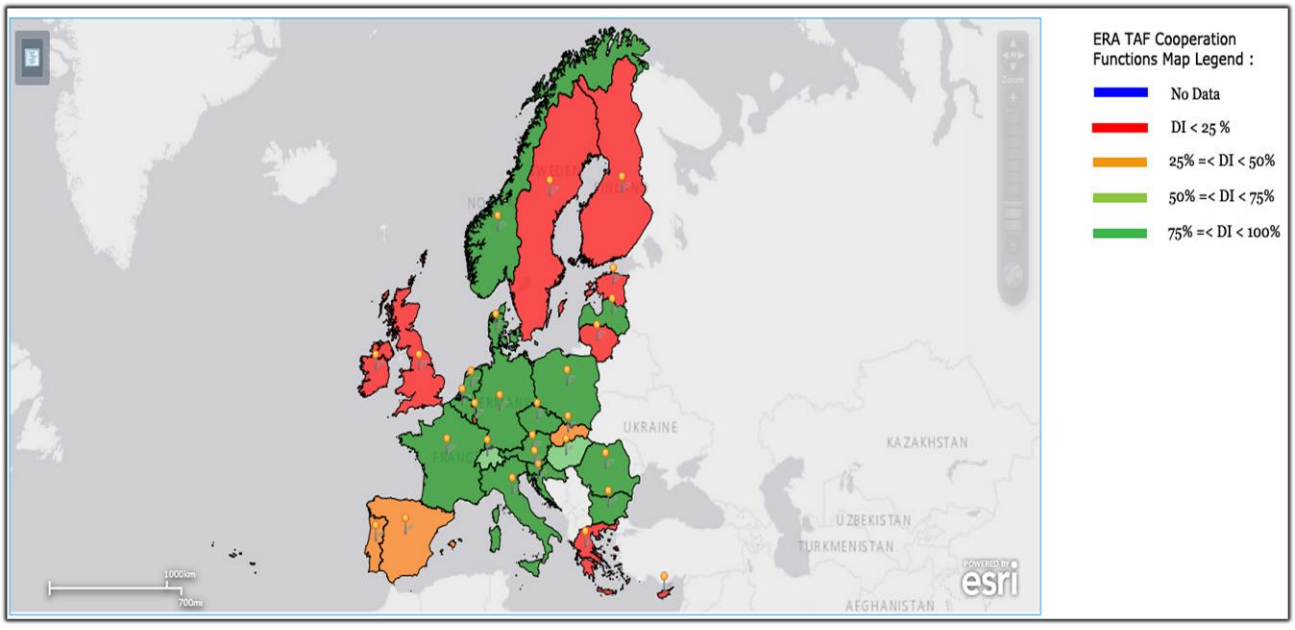



Figure 4: Company Codes function implementation in July 2015.

We can draw from the map the conclusion that in the 1st half of 2015 almost half Infrastructure Managers and Railway Undertakings have already performed the implementation of the **Company Codes function**. Indeed, the data stored in the **Annex 1** indicates an average level of **61% degree of implementation at European level for all companies having reported**.

**Whether these results are compared with the data of the 1st Status Report (3), are the new values of the implementation for this particular function lower?**

Indeed, it can be observed that the complete level of fulfilment for Company Codes function has only increased by 2 IMs and by 10 RUs compared to January this year. Thus, it means that with more than double participation in this query, the completion rate has **dropped to 61 % compared with the 88%** level of fulfilment obtained in the 1st release of the Status Report (3). In particular, it can be remarked that the level of Implementation among RUs is much lower than for IMs. This means that at European level the deployment of this function is still at the Planning Phase in an "optional" reference implementation; therefore, most of the countries are either in orange coloured or in light green coloured on the map.

In every country, the average level of deployment is calculated from the data provided by the companies responding the JSG survey in that country, thus this average defines the colour attributed to a particular country. We can observe some differences from country to country; indeed we can sort the countries in the following groups:

- Countries where the companies have declared that the project has not been launched: 0% or no data -> Blue colour on the map:
  - None.
- Countries where the companies have declared in average that the project is at the "Initiating Phase": 25% -> Red colour on the map:
  - Estonia
  - Finland
  - Greece
  - Ireland
  - Lithuania
  - Luxembourg
  - Sweden
  - United Kingdom
- Countries where the companies have declared in average that the project is at "Planning Phase": 50% -> Orange colour on the map:
  - Portugal
  - Slovakia
  - Spain
- Countries where the companies have declared in average that the project is at "Executing Phase": 75% -> Light Green colour on the map:
  - Hungary
  - Switzerland
- Countries where the companies have declared in average that the project is at "In Production & Monitor & Control Phase": 100% -> Green colour on the map:
  - Austria
  - Belgium
  - Croatia
  - Czech Republic
  - Denmark
  - Germany

- Italy
- Latvia
- Norway
- Poland
- Romania
- Slovenia
- The Netherlands

To get more information concerning the companies, this data can be retrieved from the **Annex 1 "Common Functions, RU's functions and RU-IM Communication Functions Maps + Raw data"**. Within this raw data provided by the companies, we have collected some observations from the companies. In most of the cases the company codes were already in use before the delivery of the TAF TSI Implementation Master Plan (1) (January 2013). Indeed, it means an advantage in terms of TAF TSI [2] implementation for those companies having the codes already included in UIC RICS code list and inherited by the TAF TSI CRD company codes repository. Other companies reported that they are not yet using the company codes to exchange TAF TSI [2] messages at national level, while most of the companies just use such codes for international traffic and IT tools implementing TAF TSI [2] functionality as Train Information System (TIS) tool hosted by Rail Net Europe (RNE).

In addition, compared to the previous report, some small companies joining at this stage the implementation of TAF TSI, have reported that they are in the process to get the company code applying the procedure described in the ERA-TD-103: TAF TSI - Annex D.2 : Appendix C - Reference Files. Therefore, a new code for these companies will be assigned into the UIC – RICS database and replicated into the CRD hosted by RNE.

### 4.1.2. Implementation status in 1st half of 2015 for Primary Location Codes function

In every country, the **Average Degree of Implementation (DI)** for the **Primary Location Codes function** is calculated from the data provided by the companies responding the JSG survey in every country without applying any weighting factor. It means that an arithmetic mean of a series of degree of implementation for this function supplied by the companies that they have started freight transport activities or intend to develop it in the near future is calculated. It results the value per country and therefore the colour attributed to a particular country.

**Average DI =** $( \sum_{i=1}^{n} DI(i) ) / n$ **;**

Where DI(i) = Degree of Implementation declared by the company (i) starting freight transport activities or intending to develop it in the near future,

and n = number of companies reporting in a country.

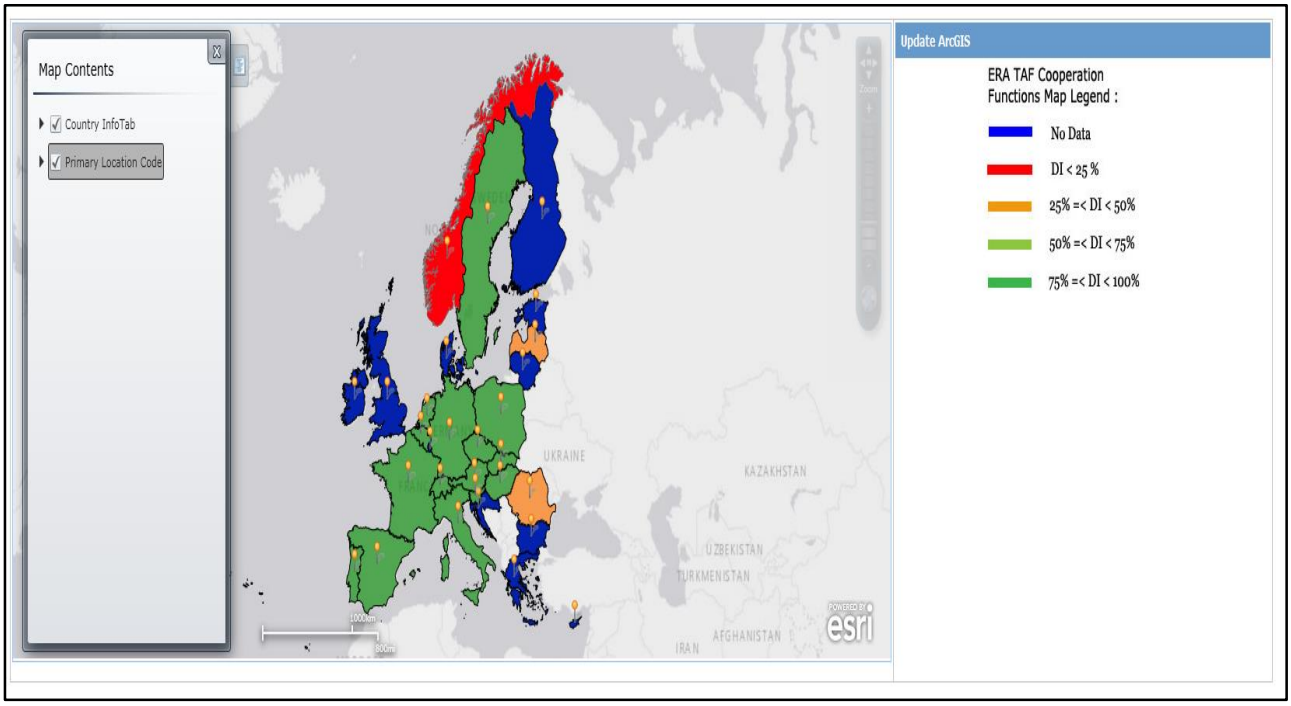



Figure 5: Primary Location Codes function implementation in January 2015.

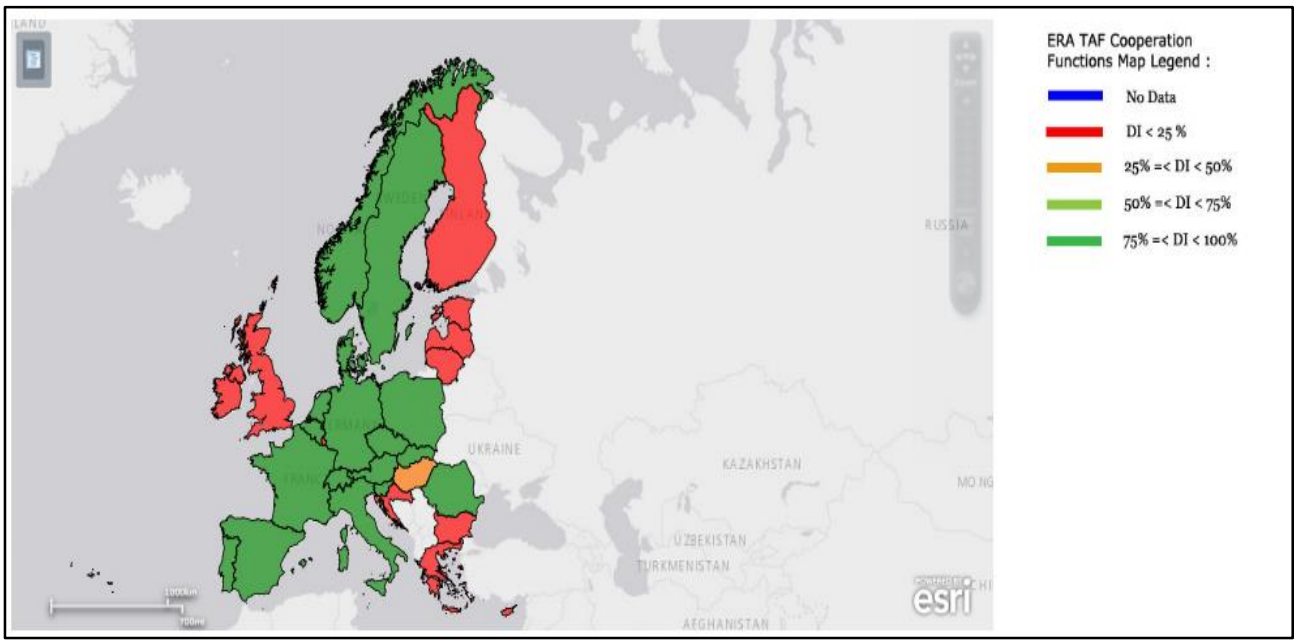



Figure 6: Primary Location Codes function implementation in July 2015.

The map shows that in the 1st half of 2015 most of the Infrastructure Managers have already performed the implementation of the **Primary Location Codes function**, as it can be drawn from the average level of **93% degree of implementation at European level of all Infrastructure Managers having reported**. This means that at European level this function is ready to be in production for the exchange of TAF TSI compliant messages. This data has been delivered in almost all the countries by the Infrastructure Managers as entities driving the implementation of the above mentioned function. Moreover, in most of the EU Members States

and Switzerland the incumbent Infrastructure Managers have completed the deployment of this function and the have reached the "In Production & Monitor & Control Phase". Nevertheless, it cannot be neglected the effort made by the Railway Undertakings the EU member states to cooperate with the Infrastructure Managers to improve the data quality.

Whether it is compared the **level of fulfilment reported in July 2015 with the data reported by the European rail sector in January 2015**, we can observe a **limited evolution of the implementation, from 86% to 93%**, due to the high degree of implementation already obtained at European level at the beginning of this year.

In every country, the average level of deployment is calculated from the data provided by the companies responding the JSG survey in that country, thus this average defines the colour attributed to a particular country. We can observe some differences from country to country; indeed we can sort the country in the following groups:

- Countries where the companies have declared in average that the project is at the "Initiating Phase": 25% -> Red colour on the map:
  - Croatia
  - Estonia
  - Finland
  - Greece
  - Ireland
  - Latvia
  - Lithuania
  - Luxembourg
  - Romania
  - United Kingdom

- Countries where the companies have declared in average that the project is at "Planning Phase": 50% -> Orange colour on the map:
  - Hungary

- Countries where the companies have declared in average that the project is at "In Production & Monitor & Control Phase", in particular those countries where the incumbent Infrastructure Managers have complete this task at 100% level: 100% -> Green colour on the map:
  - Austria
  - Belgium
  - Czech Republic
  - Denmark
  - France
  - Germany
  - Italy
  - Norway
  - Poland
  - Portugal
  - Slovakia
  - Slovenia
  - Spain
  - Sweden

- Switzerland
- The Netherlands s

To get more information concerning the companies, this data can be retrieved from the **Annex 1 "Common Functions, RU's functions and RU-IM Communication Functions Maps + Raw data"**. Within the raw data provided by the companies, we have collected some observations from the companies. Therefore, whether we consider the raw data and the observations submitted, we can draw the conclusions that in most of the cases the primary location codes are already in use for international trains and in some cases for domestic trains as well. Although the Railway Undertakings stated in their report that the publication of the **Primary Location Codes** is an obligation for the Infrastructure Managers, and thereby, it has to be reported only by the IMs (decision adopted in the Telematics Cluster TAF on the 20th of January 2015 in Vienna), the Railway Undertakings are as well working together with the Infrastructure Managers to improve the quality data. Furthermore, some Railway Undertakings pointed out that the treatment of border points is still subject to discussion. Finally, some companies pointed out that the development of the reference files for some Infrastructure Managers is strongly linked to the set-up of the Rail Freight Corridors across Europe.

### 4.1.3. Implementation status in 1st half of 2015 for Common Interface function

In every country, the **Average Degree of Implementation (DI)** for the **Common Interface function** is calculated from the data provided by the companies responding the JSG survey in every country without applying any weighting factor. It means that an arithmetic mean of a series of degree of implementation for this function supplied by the companies that they have started freight transport activities or intent to develop it in the near future is calculated. It results the value per country and therefore the colour attributed to a particular country.

**Average DI =** $( \sum_{i=1}^{n} \boldsymbol{DI(i)} ) / \boldsymbol{n}$ **;**

Where DI(i) = Degree of Implementation declared by the company (i) starting freight transport activities or intending to develop it in the near future,

and n = number of companies reporting in a country.

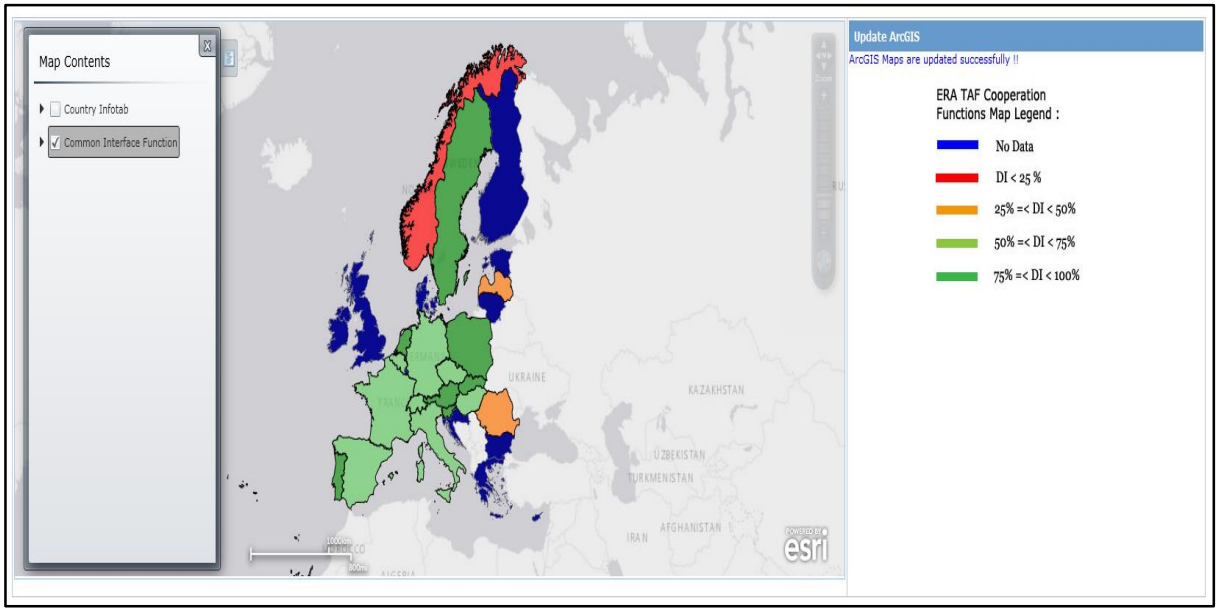



Figure 7: Common Interface function implementation in January 2015.

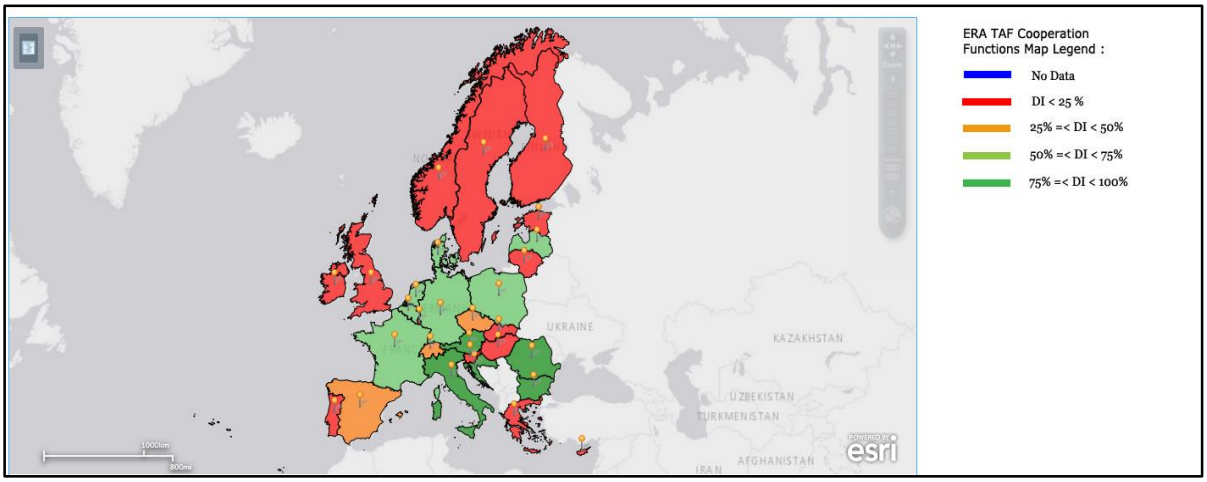



Figure 8: Common Interface function implementation for Railway Undertakings in July 2015.

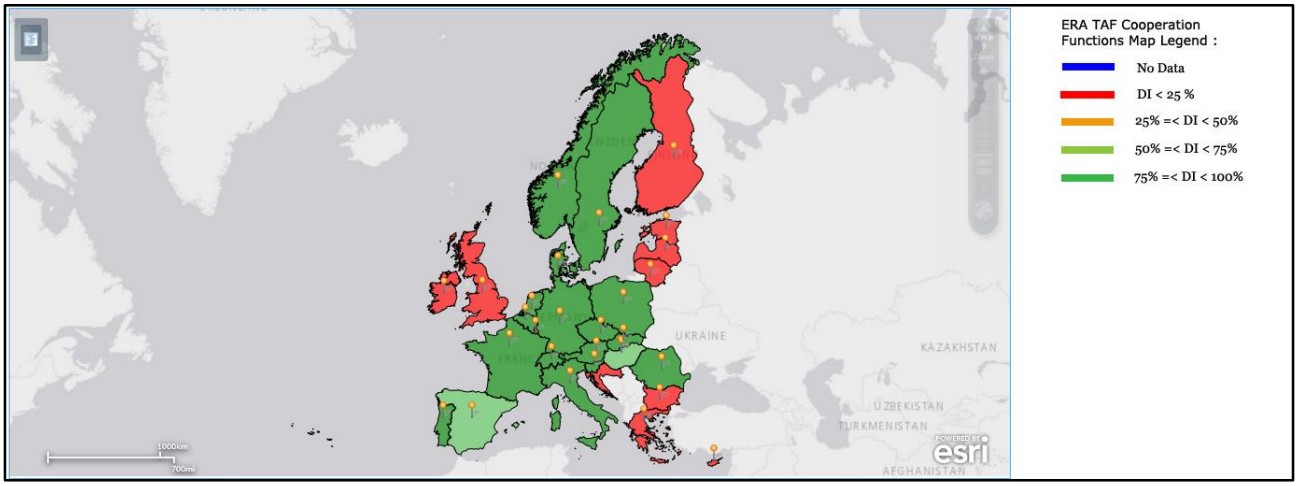



Figure 9: Common Interface function implementation for Infrastructure Managers in July 2015.

The raw data in the **Annex 1 "Common Functions, RU's functions and RU-IM Communication Functions Maps + Raw data"** combined with the map published above shows that in in the 1st half of 2015 the majority of RUs is still deploying this function, while about 50 % of IMs have already finished the implementation of the Common Interface. The level of fulfilment reaches the value of **83% for the Infrastructure Managers**, whereas for **the Railway Undertakings the level of accomplishment is 44 %**. The average level for the whole rail sector is **56% degree of implementation at European level for all companies having responded to the survey performed by JSG**. This means that at European level the deployment of this function is starting the "Executing Phase", therefore, behind scheduled compared with the committed schedule by the rail sector in the **TAF TSI Master Plan**, **95% degree of implementation for the Railway Undertakings and 98% for the Infrastructure Managers**.

Whether it is compared the level of fulfilment reported in July 2015 with the data reported by the European rail sector in January 2015, we can observe a slight decline of the level of implementation, **from 63% to 56%**. This decline in the degree of implementation is due on the fact that the number of responders has doubled and many of the new Railway Undertakings joining the TAF TSI implementation are not aware of the existence of Common Interface Function to exchange TAF TSI Compliant messages.

To get more information concerning the companies, this data can be retrieved from the **Annex 1 "Common Functions, RU's functions and RU-IM Communication Functions Maps + Raw data"**. Within this raw data provided by the companies, we have collected some observations from the companies. Some companies outlined that they don't envisage the use of **Common Interface Function** for domestic trains, because they will continue using proprietary interfaces for this traffic. Other Railway Undertakings stated that the implementation of the **Common Interface function** for International traffic depends on the deployment to be done by the Infrastructure Managers. Moreover, some companies have reported as well that they are testing the use of the Common Interface to exchange messages with TIS system hosted by RNE for international trains and the exchange train running messages for international traffic. It has been reported as well that those companies that they are members of the "Common Components Group –UIC", they have already available a reference implementation the Common Interface to be used, but not in operation.

### 4.1.4. Implementation status in 1st half of 2015 for Rolling Stock Reference Database function

In order to reflect the real progress of the implementation of the **Rolling Stock Reference Database function**, an overview at European Level showing the information concerning the deployment per country is considered as the most appropriate. Moreover, the value which reflects the real implementation of this function is the number of wagons stored in the Rolling stock Reference Databases set-up across Europe to fulfil the requirements quoted in the TAF TSI [2] Regulation.

Therefore, it was agreed in the 1st TAF TSI Implementation Cooperation Group meeting on 26 February 2015 to use as reference the number of wagons composing the complete fleet of wagons in Europe split down per country. In line with these assumptions, the data has been sorted in the following table estimating the percentage of wagons stored in a **Rolling Stock Reference Database**:

| Country | Valid registrations VVR / Eurostat | Wagons In RSRD (Data provided by RSRD2 - UIP) | Percentage |
|---|---|---|---|
| Austria | 19706 | 3104 | 16% |
| Belgium | 40375 | 411 | 1% |
| Bosnia-Herzegovina | - | | 0% |
| Bulgaria | - | | 0% |
| Croatia | | | 0% |
| Czech Republic | 53885 | 1267 | 2% |
| Denmark | 2305 | | 0% |
| Estonia | - | | 0% |
| Finland | - | | 0% |
| Montenegro | | | 0% |
| Norway | | | 0% |
| France | 113261 | 25162 | 22% |
| Germany | 102778 | 63214 | 62% |
| Greece | 4094 | 5 | 0% |
| Hungary | 12918 | 17 | 0% |
| Ireland | - | | 0% |
| Italy | 44482 | 9 | 0% |
| Latvia | 11210 | | 0% |
| Lithuania | - | | 0% |

| Country | Valid registrations VVR / Eurostat | Wagons In RSRD (Data provided by RSRD2 - UIP) | Percentage |
|---|---|---|---|
| Luxembourg | 4216 | 1 | 0% |
| Netherlands | 21957 | 9035 | 41% |
| Poland | 109165 | 3635 | 3% |
| Portugal | 5168 | 6 | 0% |
| Romania | 24076 | | 0% |
| Slovakia | 33359 | 237 | 1% |
| Slovenia | 3767 | | 0% |
| Spain | 12760 | 4887 | 38% |
| Switzerland | 27398 | 3036 | 11% |
| Sweden | 12760 | 2676 | 21% |
| United Kingdom | - | 28 | 0% |

Moreover, due to the need of having a visualization of this data and applying the same process that it has been applied for the above functions, this information has been uploaded in a Geographical Information System (GIS) obtaining the following map of Europe representing the implementation of this function at European level:

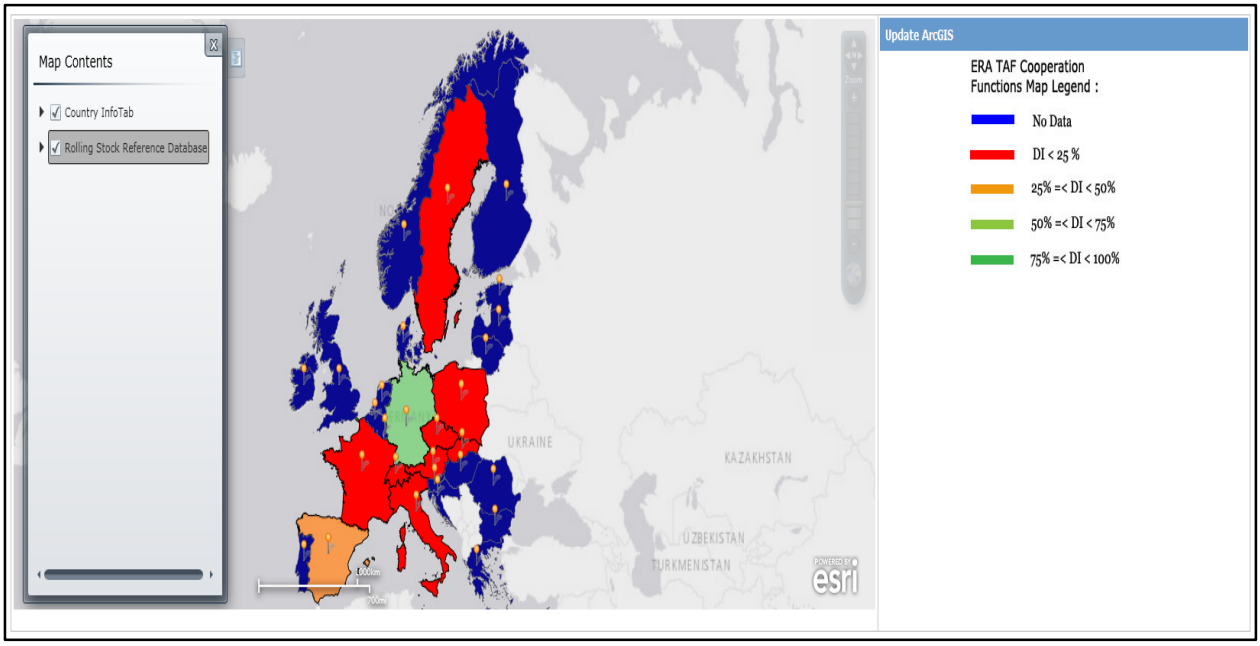



Figure 10: Rolling Stock Reference Database function implementation in January 2015.

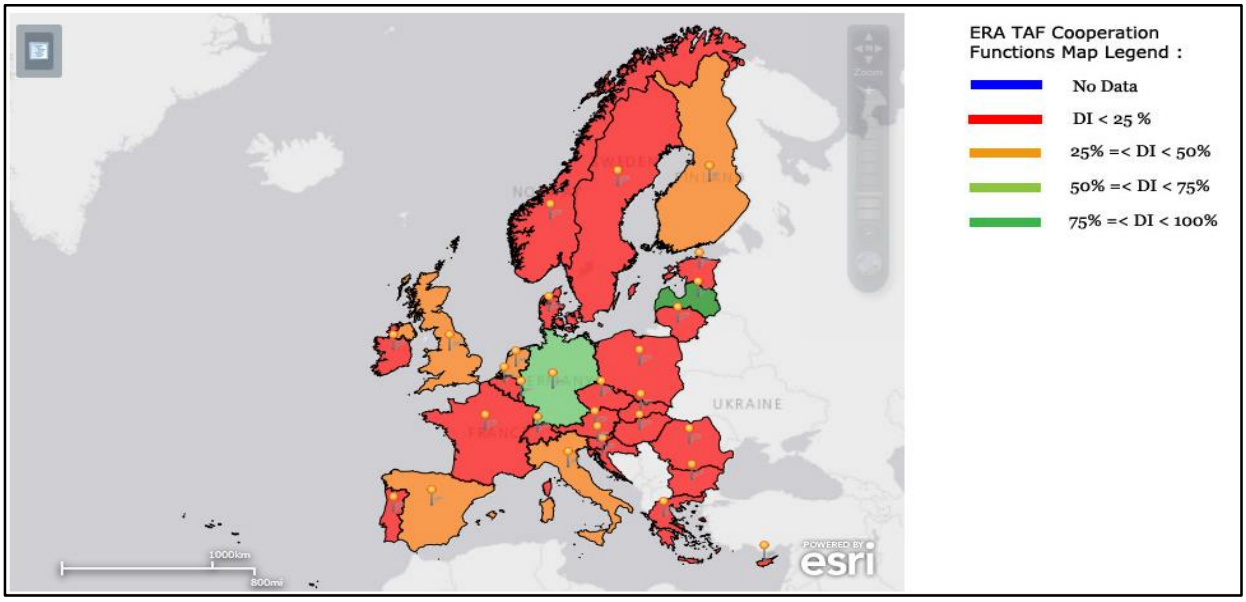



Figure 11: Rolling Stock Reference Database function implementation in July 2015.

The map shows that in the 1st half of 2015 some Wagon Keepers and Railway Undertakings have already completed the implementation of the **Rolling Stock Reference Database function**. Indeed, the average **degree of implementation at European level** is **17,28%**. This means that at European level the deployment of this function has reached, in average, the "**Initiating Phase**" (Feasibility Study, Business Case or Gathering of Technical and Functional Requirements). Thus, most of the countries are displayed in average on red or orange colour on the map with some exceptions where the level of implementation is more advanced. In particular, the green colour in Latvia, means that in this country most of the companies have already "**in production**" a database implementing this functionality. Moreover, in Germany most of the companies are already facing the "**Executing Phase**", displayed on light green colour on the map, while, Finland, Italy, Spain, The Netherlands and United Kingdom are shown on orange colour, meaning that the companies in these countries are mostly in the "**Planning Phase**".

In every country, the average level of deployment is calculated from the data provided by the companies responding the JSG-UIP survey for Rolling Stock Reference Database function. Thereby, this average defines the colour attributed to a particular country. We can observe some differences from country to country; indeed we can sort the countries in the following groups:

- Countries where the companies have declared in average that the project is at the "Initiating Phase": 25% -> Red colour on the map:
  - Austria
  - Czech Republic
  - France
  - Poland
  - Slovakia
  - Sweden
  - Switzerland
  - Belgium
  - Bulgaria
  - Croatia
  - Denmark

- Estonia
- Greece
- Hungary
- Ireland
- Lithuania
- Luxembourg
- Norway
- Portugal
- Romania
- Slovenia

- Countries where the companies have declared in average that the project is at "Planning Phase": 50% -> Orange colour on the map:
  - Finland
  - Italy
  - Spain
  - The Netherlands
  - United Kingdom

- Countries where the companies have declared in average that the project is at "Executing Phase": 75% -> Light Green colour on the map:
  - Germany

- Countries where the companies have declared in average that the project is at "In Production & Monitor & Control Phase": 100% -> Green colour on the map:
  - Latvia

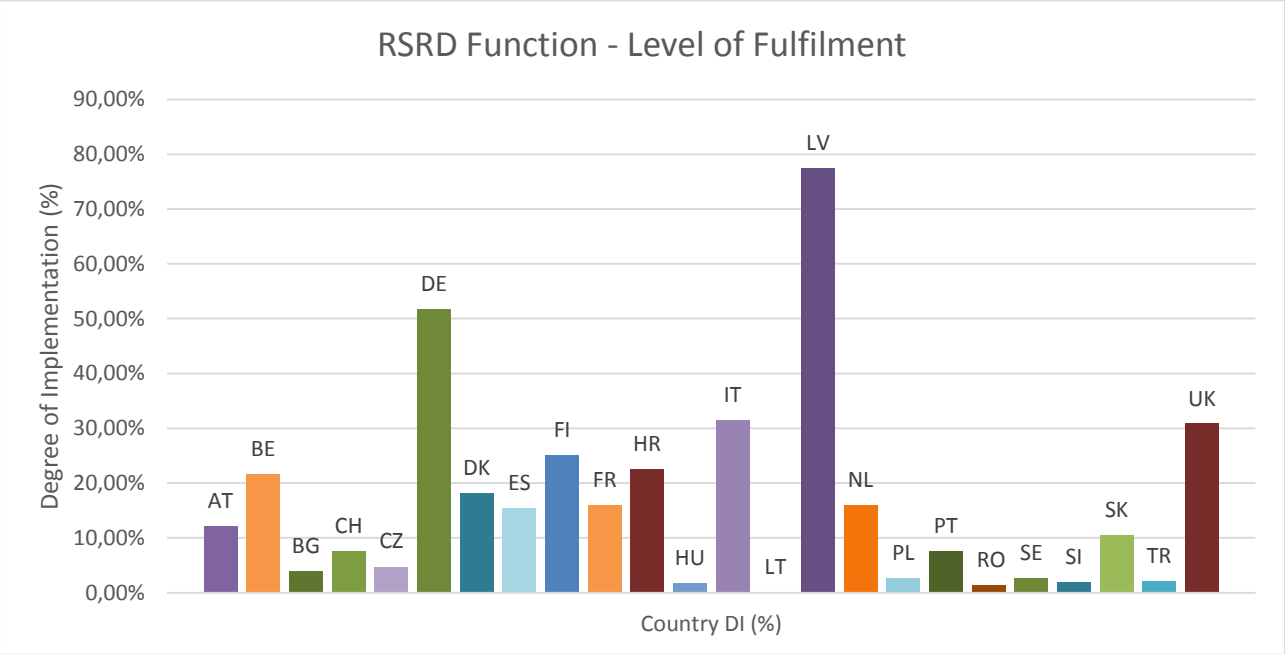



Figure 12: Chart bar to show Rolling Stock Reference Database function implementation in July 2015.

To get more information concerning the performance of a particular company, this data can be retrieved from the **Annex 1 "Common Functions, RU's functions and RU-IM Communication Functions Maps + Raw data"**. The data has been supplied by JSG and the European association of private wagon keepers, UIP. In particular the data concerning the deployment of the RSRD² database to fulfil the requirements of the **Rolling Stock Reference Database function** are provided by UIP. For these companies using this tool, the data stored in RSRD² is complete wagon data sets (mandatory data) therefore, data completeness is 100% ensured for recorded wagons. These figures do not cover keepers having indicated that they will use RSRD² but which are currently in a stage of collecting required wagon data or preparing the interface to RSRD².

The degree of implementation shows a slight growth compared to the 7% quoted in the previous report issued in April 2015 (1st Status Implementation report (3)) and a delay in comparison with the **target Implementation Milestone for realisation of the RSRD function** according to the TAF TSI Master Plan (1), **2015**. However, this does not mean that no company has implemented this function, since only the average data is displayed on the map. Indeed, more than 34 European companies have already in place this functionality through the RSRD² tool, as it can be realised looking to the data accompanying the report in **Annex 1 "RU's functions and Common functions Maps + raw data".**

### 4.1.5. Implementation status in 1st half of 2015 for Train Running Information Function

In order to have a better view of the real situation about the implementation of the **Train Running Information Function** the 1st half of 2015, the implementation data will be shown in different maps for Railway Undertakings and Infrastructure Managers:

- One map to show the evolution of the implementation of the **Train Running Information Function** at network level by the Infrastructure Managers (IMs). This information corresponds to the data provided by 23 Infrastructure Managers (almost 90% of the market in terms of track-kms) and the results can be represented at corridor level.
- A second map to show the deployment of the **Train Running Information Function** by the Railway Undertakings (RUs) at country level. The values provided by the Railway Undertakings have been weighted to reflect the market share of these companies in their national rail market. This data is based on the response provided, by 56 Railway Undertakings, representing approximately 80% of the market share for RUs in terms of tonne-kms.

To establish the status regarding the implementation the information provided by the rail companies is compared in both cases with the milestones prescribed in the TAF TSI Master Plan (1). The weighting factor used for the RUs is based on the figures stated in the report "**Fourth report on monitoring development in the rail market**" issued by the European Commission in June 2014, where **Annex 19** provides the figures concerning "Market shares of railway undertakings (2011-2012)".

In every country, the **Average Degree of Implementation (DI)** for the **Train Running Information Function** is calculated from the data provided by the companies responding the JSG survey in every country applying the above mentioned weighting factor (WF). It means that an arithmetic mean of a series of degree of implementation for this function supplied by the companies that they have started freight transport activities or intent to develop it in the near future is calculated. It results the value per country and therefore the colour attributed to a particular country.

**Average DI =** $\sum_{i=1}^{n} DI(i)x\,WF(i)$ **;**

Where DI(i) = Degree of Implementation declared by the company (i) starting freight transport activities or intending to develop it in the near future,

WF(i) = Weighting Factor for company (i) based on "**Fourth report on monitoring development in the rail market**" issued by the European Commission in June 2014

and n = number of companies reporting in a country.

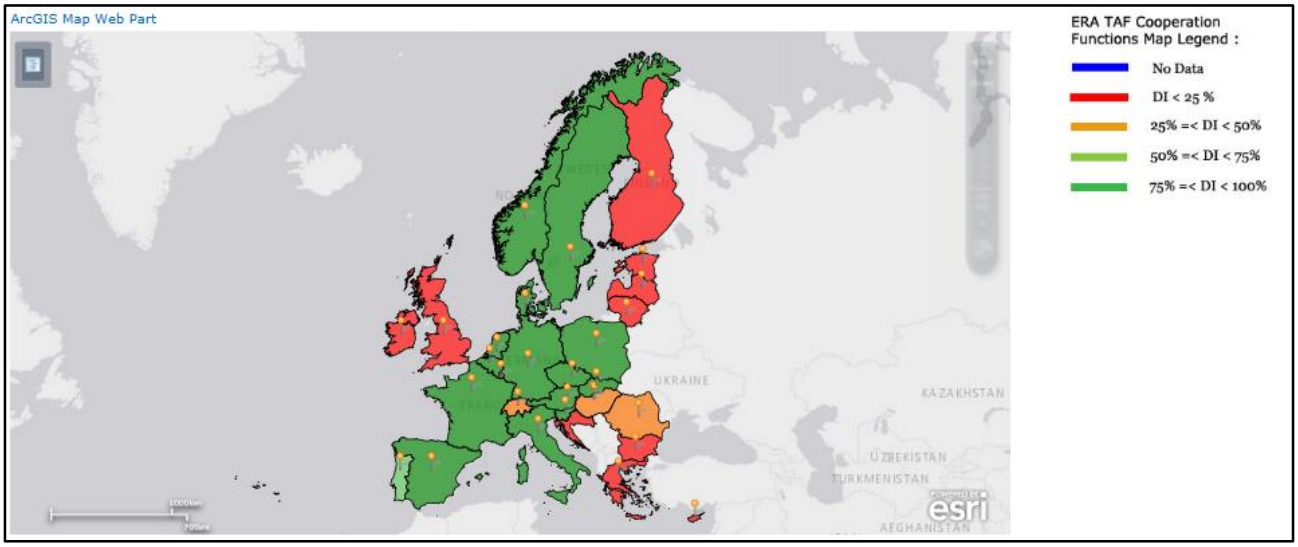



Figure 13: Train Running Information Function implementation for Infrastructure Managers in July 2015.

The data published on the Annex 1 "Common Functions, RU's functions and RU-IM Communication Functions Maps + Raw data" combined with the map published above shows that in in the 1st half of 2015 the majority of the **Infrastructure Managers** have already stared the deployment of this function having reached a degree of implementation of **59,07%.** Therefore, the IMs are quite advanced in the deployment of this key function to deploy TAF TSI because they are already in the Executing Phase.

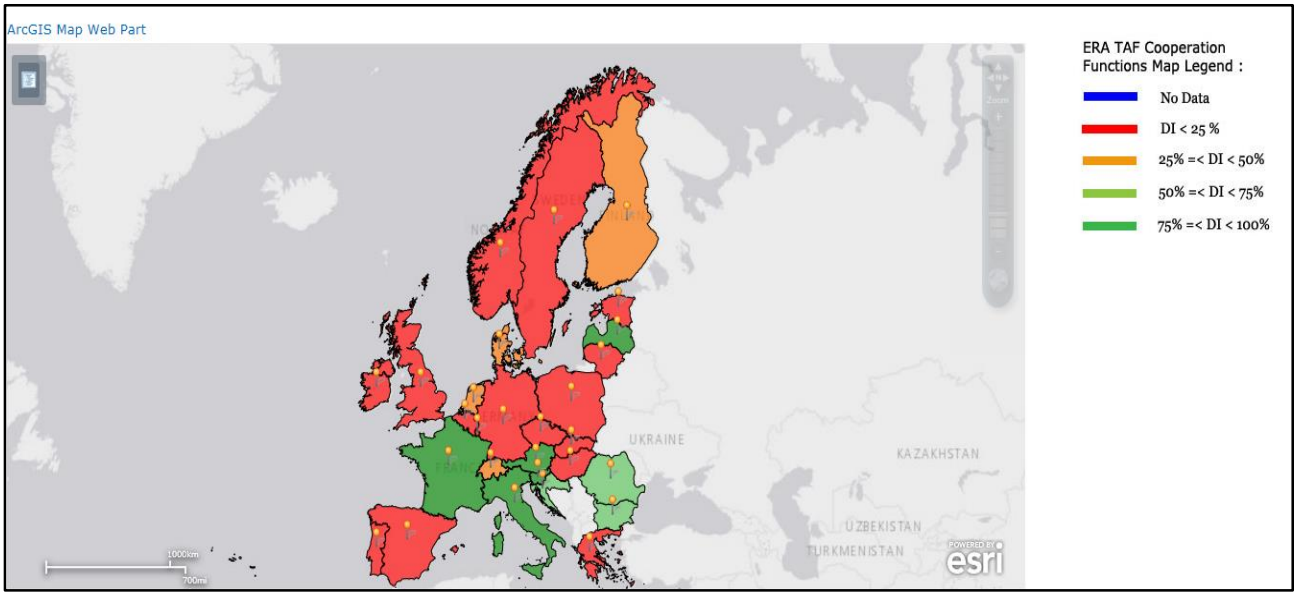



Figure 14: Train Running Information Function implementation for Railway Undertakings in July 2015.

For **Railway Undertakings**, the level of implementation is lower compared to the IMs, in particular the degree of implementation of the companies responding the online JSG questionnaire is **24,20%**.

The average weighted level for the whole rail sector is 36%  degree of implementation at European level for all companies having reported. This means that at European level the deployment of this function is reaching in still at the “Planning Phase”.

In every country, the average level of deployment is calculated from the data provided by the companies responding the JSG survey in that country, thus this average defines the colour attributed to a particular country. We can observe some differences from country to country; indeed we can sort the country in the following groups:

- Countries where the companies have declared in average that the project is at the “Initiating Phase”: 25% -> Red colour on the map:

| Level of Implementation for IMs per country | Level of Implementation for RUs per country |
|---|---|
| Estonia | Czech Republic |
| Finland | Belgium |
| Ireland | Estonia |
| Latvia | Germany |
| Lithuania | Greece |
| Croatia | Slovakia |
| Luxembourg | Spain |
| United Kingdom | Sweden |
| Greece | Portugal |
| Romania | Luxembourg |
| | Poland |
| | Lithuania |
| | Norway |
| | Ireland |
| | United Kingdom |

- Countries where the companies have declared in average that the project is at "Planning Phase": 50% -> Orange colour on the map:

| Level of Implementation for IMs per country | Level of Implementation for RUs per country |
|---|---|
| Switzerland | Denmark |
| Hungary | The Netherlands |
| Bulgaria | Finland |
| | Switzerland |

- Countries where the companies have declared in average that the project is at "Executing Phase": 75% -> Light Green colour on the map:

| Level of Implementation for IMs per country | Level of Implementation for RUs per country |
|---|---|
| Portugal | Croatia |
| | Bulgaria |
| | Romania |

- Countries where the companies have declared in average that the project is at "In Production & Monitor & Control Phase": 100% -> Green colour on the map:

| Level of Implementation for IMs per country | Level of Implementation for RUs per country |
|---|---|
| Austria | Austria |
| Belgium | Italy |
| Czech Republic | Latvia |
| Belgium | Slovenia |
| The Netherlands | France |

| | |
|---|---|
| Poland | |
| Germany | |
| France | |
| Slovakia | |
| Spain | |
| Sweden | |
| Norway | |
| Slovenia | |
| Denmark | |
| Italy | |

To get more information concerning the companies, this data can be retrieved from the **Annex 1 "Common Functions, RU's functions and RU-IM Communication Functions Maps + Raw data"**. Within this raw data provided by the companies, we have collected some observations from the companies. In most of the cases the companies are testing **Train Running function** with pilot projects. Moreover, the companies agreed in the context of the Telematics Cluster TAF on the 1st of July 2015 in Vienna that the stakeholder IM & RU only reported the Train Running Information Message.

Nevertheless, the results are quite positive due to the fact the target Implementation milestone according to the TAF TSI Master Plan is 2017.

### 4.1.6. Implementation status in 1st half of 2015 for Wagon and Intermodal Unit Operational Database (WIMO) Function

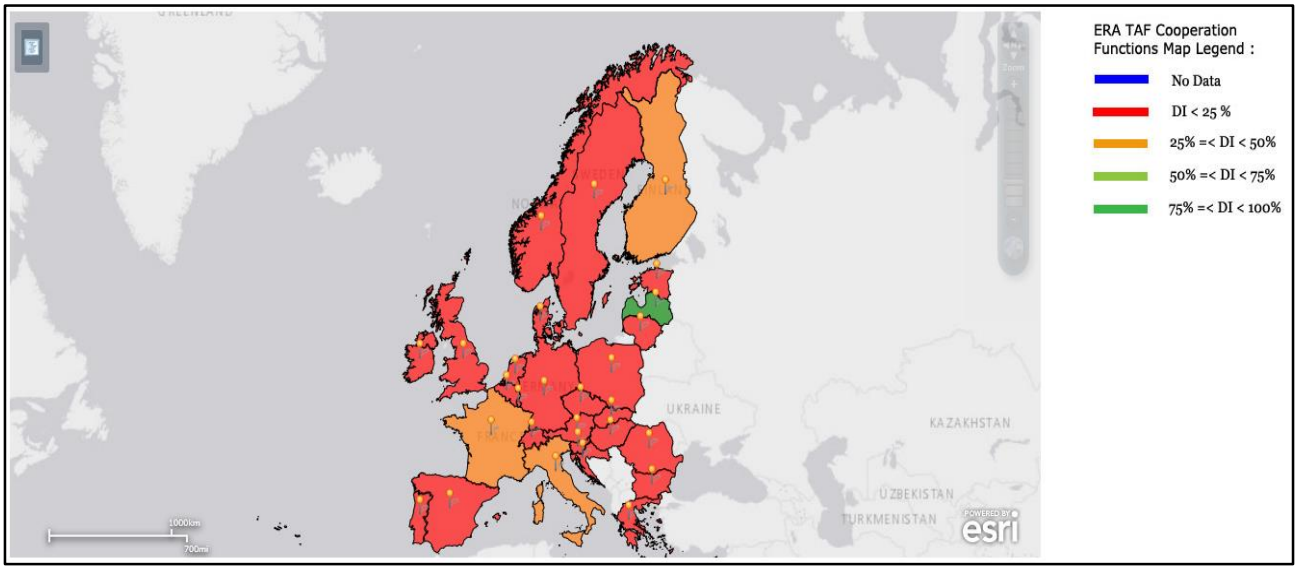



Figure 15: Wagon and Intermodal Unit Operational Database (WIMO) Function implementation for Railway Undertakings in July 2015.

The **Wagon and Intermodal Unit Operational Database (WIMO) Function** is a function to be implemented **only by Railway Undertakings**. Therefore, the map shows that in in the 1st half of 2015 the Railway Undertakings have already started the implementation of the **Wagon and Intermodal Unit Operational Database (WIMO) Function**, reaching a **degree of implementation of 11,28%** for the companies having answered to the survey performed by the JSG. This means that at European level the deployment of function is in the "Initiating Phase" and in line with the target implementation milestone for realisation of the WIMO function according to the TAF TSI Master Plan (1) is 2016.

To establish the status regarding the implementation the information provided by the rail companies is compared in both cases with the milestones prescribed in the TAF TSI Master Plan (1). The weighting factor used for the RUs is based on the figures stated in the report "**Fourth report on monitoring development in the rail market**" issued by the European Commission in June 2014, where **Annex 19** provides the figures concerning "Market shares of railway undertakings (2011-2012)".

In every country, the **Average Degree of Implementation (DI)** for the **Wagon and Intermodal Unit Operational Database (WIMO) Function** is calculated from the data provided by the companies responding the JSG survey in every country applying the above mentioned weighting factor (WF). It means that an arithmetic mean of a series of degree of implementation for this function supplied by the companies that they have started freight transport activities or intent to develop it in the near future is calculated. It results the value per country and therefore the colour attributed to a particular country.

**Average DI =** $\sum_{i=1}^{n} DI(i) x\, WF(i)$ **;**

Where DI(i) = Degree of Implementation declared by the company (i) starting freight transport activities or intending to develop it in the near future,

WF(i) = Weighting Factor for company (i) based on "**Fourth report on monitoring development in the rail market**" issued by the European Commission in June 2014

and n = number of companies reporting in a country.

Therefore, we can observe some differences from country to country; indeed we can sort the countries in the following groups:

- Countries where the companies have declared in average that the project is at the "Initiating Phase": 25% -> Red colour on the map:
  - Austria
  - Belgium
  - Bulgaria
  - Croatia
  - Czech Republic
  - Germany
  - Hungary

- Romania
- Greece
- Estonia
- Lithuania
- Luxembourg
- Ireland
- Portugal
- Poland
- Norway
- Slovakia
- Spain
- Slovenia
- Sweden
- Switzerland
- The Netherlands
- United Kingdom

- Countries where the companies have declared in average that the project is at “Planning Phase”: 50% -> Orange colour on the map:
  - Finland
  - France
  - Italy

- Countries where the companies have declared in average that the project is at “In Production & Monitor & Control Phase”: 100% -> Green colour on the map:
  - Latvia

## 4.2. Evolution of RU-IM functions per corridor

In line with the agreements reached in the Kick-Off meeting of the TAF TSI Implementation Co-operation Group, this report comprises information concerning the implementation of RU-IM Communication functions per corridor. In particular, this report contains the degree of implementation per corridor for the Train Running Information Function. The data displayed on the map for the corridors is obtained from the treatment of data regarding the implementation of Train Running Information Function submitted by the Infrastructure Managers.

The level of implementation for every corridor is the same as the level of deployment in the country where the corridor is located. That means that the degree of implementation corresponds to the same level shown in the map summarising the outcomes of the implementation for this particular function, Train Running Information Function, by 1st half 2015.

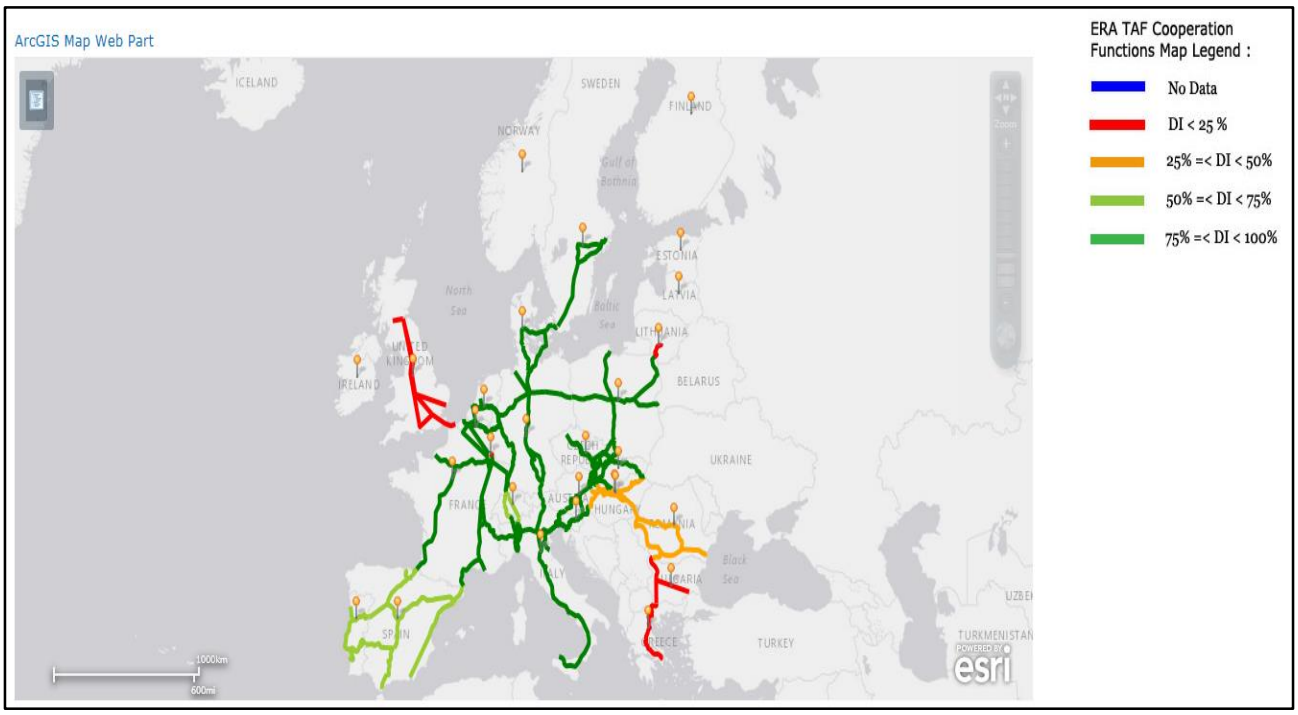



Figure 16: Corridor implementation of Train Running Information Function for Infrastructure Managers in July 2015.

## 5. Progress of the Implementation of TAF TSI functions from this report compared with previous reports

Therefore, at a first glance the target milestones quoted in the Master Plan (1) are met in most of the cases for the first functions by 1st half 2015. However, the comparison with the 1st Status report (3) shows that the level of accomplishment has declined for some functions in contradiction with the expectations:

| | Primary Location Codes Function | Company Codes Function | Common Interface Function | Rolling Stock Reference Database Function | Train Running Information Function (IM) | Train Running Information Function (RU) | Wagon and Intermodal Unit Operational Database Function (RU) |
|---|---|---|---|---|---|---|---|
| 1st Status Report | 86% | 88% | 63% | 7% | 0 | 0 | 0 |
| 2nd Status Report | 93% | 61% | 56% | 17,28% | 59,07% | 24,2% | 11,28%[5] |

Thus, it can be observed three different behaviour:

- Bearing in mind that the implementation of the Rolling Stock Reference Database Function is scheduled by end 2015, it is clear that it can be only observed an insufficient progress for the implementation of such a function. Thereby, the colour assigned is yellow, because the deployment of this function is clearly stagnant and an alarm warning should be raised in the context of the ERA TAF TSI Implementation Cooperation Group.
- On the other hand, the evolution of the Company Codes Function and the Common Interface Function can be partially explained by the increase of the number of reporting companies. Indeed, the decline of the degree of implementation has dropped for Company codes, in particular for the RUs, while the absolute number of RUs with complete implementation has grown. That is the argument to attribute to these two functions a yellow colour, which means in the frame of the ERA TAF TSI Implementation Cooperation Group, that the evolution of these two functions should be followed up.
- Finally, the comparison between the 1st Status report (3) and the 2nd one clearly indicates that the evolution of the Primary Location Codes, Train Running Information and Wagon and Intermodal Unit Operational Database functions shows a positive trend between these two temporary snap shots.

[5] Light red colour indicates a negative trend, while light green one indicates a positive one.

# 6. Conclusions

The second report of to the degree of implementation of Commission Regulation (EU) No 1305/2014, TAF TSI [2], shows a positive evolution compared to the reference baseline, the Master Plan (1) to implement TAF TSI [2] delivered by the sector in January 2013.

The TAF TSI Master Plan (1) issued by the rail sector in January 2013 foresees the following level of realisation by **mid-2015** for the reported functions:

- Reference files population (Primary Location Codes Function and Company Codes Function):
  - 98% degree of implementation at European level for Infrastructure Managers and
  - 95% degree of implementation at European level for Infrastructure Managers.
- Common Interface Function:
  - 98% degree of implementation at European level for Infrastructure Managers and
  - 95% degree of implementation at European level for Railway Undertakings.
- Rolling Stock Reference Database Function: 80% or more of the respondents (Wagon keepers and Railway Undertakings) indicated a final implementation in 2015.
- Train Running Information Function:
  - 55% degree of implementation in 2014 and 62% degree of implementation in 2015 at European level for Infrastructure Managers and
  - 30% degree of implementation in 2014 and 33% degree of implementation in 2015 at European level for Railway Undertakings.
- Wagon and Intermodal Unit Operational Database Function: 28% by 2014 for the Railway Undertakings and 39% by 2015.

The data reported in **July 2015** shows the different degree of implementation in average per function taking into account the data provided by the companies through the JSG or JSG-UIP (Rolling Stock Reference Database Function):

- **Company Codes function: 61% degree of implementation at European level.**
- **Primary Location Codes function: 93% degree of implementation at European level.**
- **Common Interface function: 56% degree of implementation at European level.**
- **Rolling Stock Reference Database function: 17,28% degree of implementation at European level.**
- **Train Running Information Function:**
  - **For Infrastructure Managers: 59,07% degree of implementation at European level.**
  - **For Railway Undertakings: 24,02% degree of implementation at European level.**
- **Wagon and Intermodal Unit Operational Database function: 11,28% degree of implementation at European level.**

The report allows us to conclude that the evolution of the **implementation of "Primary location Codes" and "Train Running Information" functions is in line with level required in the TAF TSI Master Plan** (1). In particular, it is quite relevant the data supplied by the Infrastructure Managers, because it clearly illustrates us about their commitment to populate the primary location central repository and to test the exchange of data for tracking the movement of the trains, "Train Running Information". The Infrastructure Managers are in fact the drivers for the deployment of the "Primary Location Codes" and "Train Running Information" functions. This positive evolution will bring benefits in the further development of other TAF TSI [2] functions as the "Service Disruption Information" and "Shipment ETI/ETA" functions. Thus, we can state that the basic elements to deploy the system are already in place.

Regarding the **"Company Codes" function**, we can observe a **slight decline in the level of fulfilment** at the same time more companies are joining the implementation process for TAF TSI. This is an issue to be treated together with the Company code allocation body, UIC, because it can be concluded that the newcomers are not sufficiently aware of the process in place to allocate company codes.

The level of **implementation of the "Common Interface" function is also slightly declining** because of the enlargement of the survey population. In fact, some companies declared that they will be able to generate TAF TSI [2] compliant messages from their legacy systems without further conversion. For this reason, even if the level of deployment for this function is lower than that one for the "Reference Files" functions (Primary Location and Company codes), this is not perceived as problem for the overall deployment of the TAF TSI system. This outcome can be as well justified either on the lack of knowledge about the technical requirements to deploy the TAF TSI [2] messages set, or because most of the companies are starting now to install a local instance of this tool.

The **results for the "Rolling Stock Reference Database" function shows that the sector has still to dedicate more resources to develop this functionality**, in particular the Railway Undertakings, who in most of cases may act as Wagon Keepers as well. Indeed, although similar functionality may be in place for most of the Railway Undertakings operating in Europe, only few Railway Undertakings have delivered data for this particular function to the JSG-UIP to show the level of deployment. Moreover, whether we may confront these results with the number of wagons stored in the GCU wagon database (with more than 600,000 wagons currently declared across 20 countries in Europe), we can conclude that for the time being almost 20% of the European wagon fleet is fulfilling the legal requirements requested for "Rolling Stock Reference Database" function trough the implementation of RSRD[2] database.

Due to the delay observed for the deployment of the "Rolling Stock Reference Database" function, the ERA TAF TSI Implementation Cooperation Group has reflected on a set of measures to treat this issue in the context of the 2nd ERA TAF TSI Implementation Cooperation Group meeting held on 29th and 30th September 2015 (4). In particular, a **set of criteria for the wagons not to be stored in the "Rolling Stock Reference Database"** has been defined:

- those wagons owned by IMs,
- wagons owned by small companies subcontracted to perform works on the tracks,
- wagons owned by RUs use this rolling stock only for their own purpose and not providing them to third parties,
- and wagons owned by wagon keepers using this rolling stock only for their own purpose and not providing them to third parties.

All these wagons can be considered as a small part of the total fleet at European level. Indeed, whether the technical and administrative information of the rest of the European wagon's fleet is stored in the "Rolling Stock Reference Database" in accordance with the master plan requirements, it could be stated that the functionality is implemented (in the master plan is quoted that 76% of all of the private wagons registered in the GCU database would implement the "Rolling Stock Reference Database" by end 2013). This approach was endorsed by the NCPs as a pragmatic approach to be adopted in the context of the reporting process to clarify who are intended to implement the "Rolling Stock Reference Database".

Regarding the **level of accomplishment declared for Wagon and Intermodal Unit Operational Database function**, we can draw the conclusion that **a delay can be expected** compared to the commitment quoted in the TAF TSI Master Plan (1). Therefore, the companies should put in place some measures to mitigate this risk in order to avoid it becomes an issue that it may make difficult the deployment of further functions as "Wagon Movement".

Furthermore, the results obtained allow concluding that more support from the EU institutions can be provided to help the companies to implement these functions through different actions as better dissemination and increase of funding.

To provide an appropriate response to the first action requested to EU institutions, the ERA TAF TSI Implementation Cooperation Group decided in the 2nd meeting held on 29th and 30th September 2015 (4) to set up a campaign of Regional Workshops across European Member States. This campaign of Regional Workshops aims to better disseminate the content of TAF TSI based on daily implementation made by implementers and rail companies at EU level. It becomes a dedicated activity embedded in the framework of the ERA TAF TSI Implementation Cooperation Group. These workshops are led by the National Contact Points (NCPs) in close cooperation with ERA. To undertake this activity with the expected results a detailed guideline (Guideline TAF TSI Regional Workshop (5)) has been approved in the 2nd meeting (4) aforementioned. Furthermore, **one Regional Workshop has been already hosted by the Portuguese and Spanish NCPs in Madrid in June 2015**. This initiative was been highly appreciated by the companies attending the event and the NCPs who collaborated with ERA for its organisation. Indeed, both NCPs remarked in the Rail Interoperability and Safety Committee (RISC) the success of this action, where more than 40 railway companies, including IM and RU, from Spain and around 10 from Portugal have participated in an active way. Furthermore, they considered this cooperation between ERA and National Authorities as the way to enhance interoperability across the European Railway system, promoting the information and the exchange of views among the different actors of the railway sector. Thereby, **it was announced that the next Regional Workshop to be held in Paris in February 2016 and organized by Luxembourg NCP, Belgium NCP and France NCP** for the companies performing freight transport activities or intent to develop it in the near future in these countries.

Concerning the financial support needed to deploy TAF TSI [2], during the 2nd ERA TAF TSI Implementation Cooperation Group meeting held on 29th and 30th September 2015 (4), the European Commission learnt the Cooperation Group members about the existing funding tools at European level to endorse the effort made by the companies to implement TAF TSI.

## 7. Proposals to support the Reporting Process

This report contains the following proposals endorsed by the ERA TAF TSI Implementation Cooperation Group in the 2nd meeting held on 29th and 30th September 2015 (4):

- To have a campaign of Regional Workshops under the aegis of the ERA TAF TSI Implementation Cooperation Group. The campaign will comprise at least 2 workshops per year to be performed in line with the requirements quoted in the "Guideline TAF TSI Regional Workshop" (5).
- JSG to send earlier an e-mail leaving the rail companies more time to prepare the reporting better and make sure that they had the right staff in place (1 month before the reporting session is launched).
- NCPs to be contacted by ERA at an earlier stage, so that the communication with the rail companies may be better prepared (1 month before the reporting session is launched).
- Companies will be informed earlier on when the reporting time will be launched to ensure that they have access and understand the JSG IT tool.

## 8. Functions to be reported in the next report

It has been agreed in the 2nd TAF TSI Implementation Cooperation Group meeting on 29th and 30th September 2015 that for the next meeting, to be held by end February 2016, the data concerning the implementation of the following TAF TSI [2] functions has to be delivered:

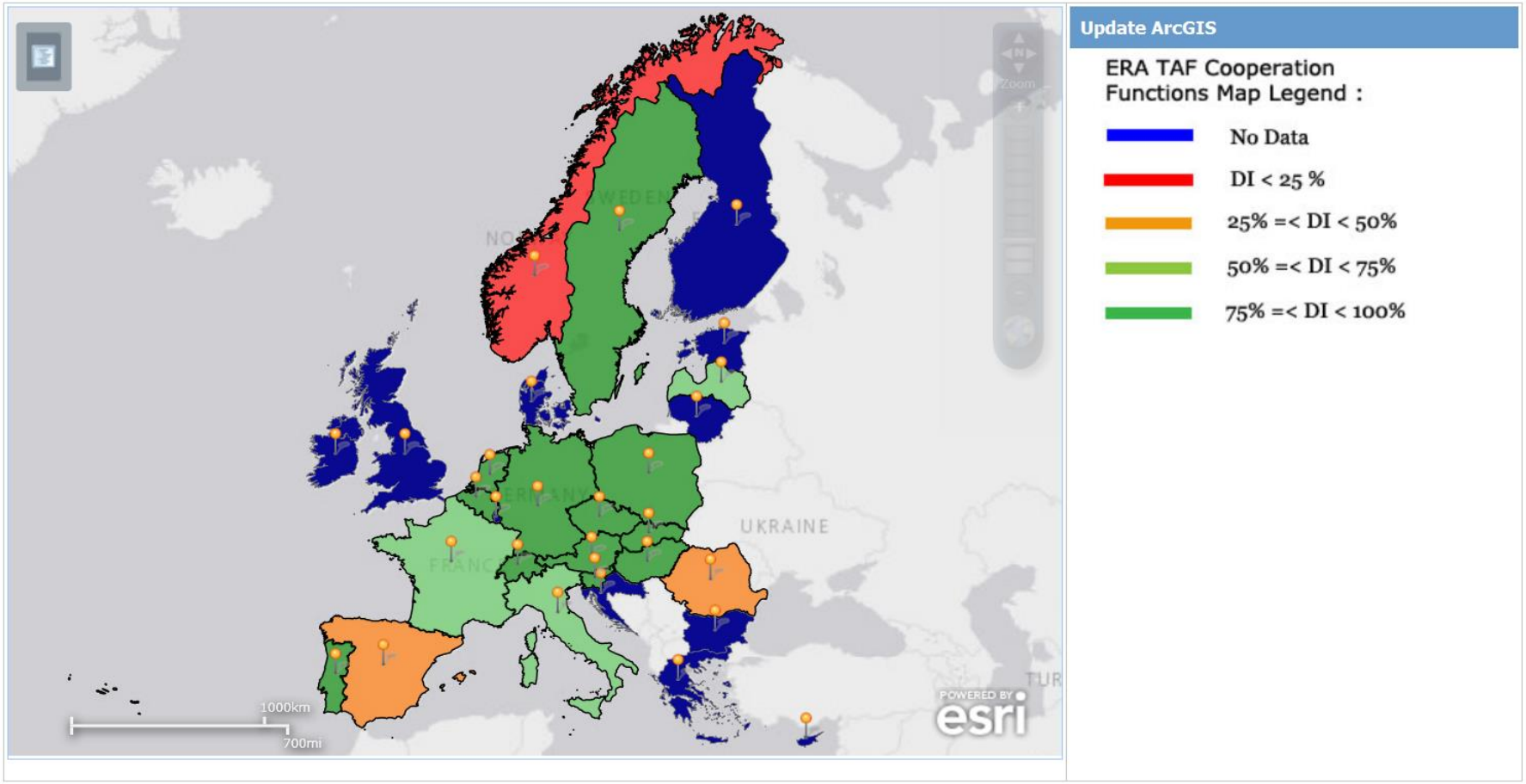
- Cont.: Evolution of Common Interface Function.
- Cont.: Evolution of Company Codes Function.
- Cont.: Evolution of Location Codes Function.
- Cont.: Evolution of RSRD Codes Function.
- Cont.: Train Running Information function, Implementation target 25% (Initiating Phase).
- Cont.: WIMO function, Implementation target 50% (Executing Phase).

The request to report on the evolution of the implementation for the aforementioned functions is based on the target implementation dates quoted in the TAF TSI Mater Plan (1).

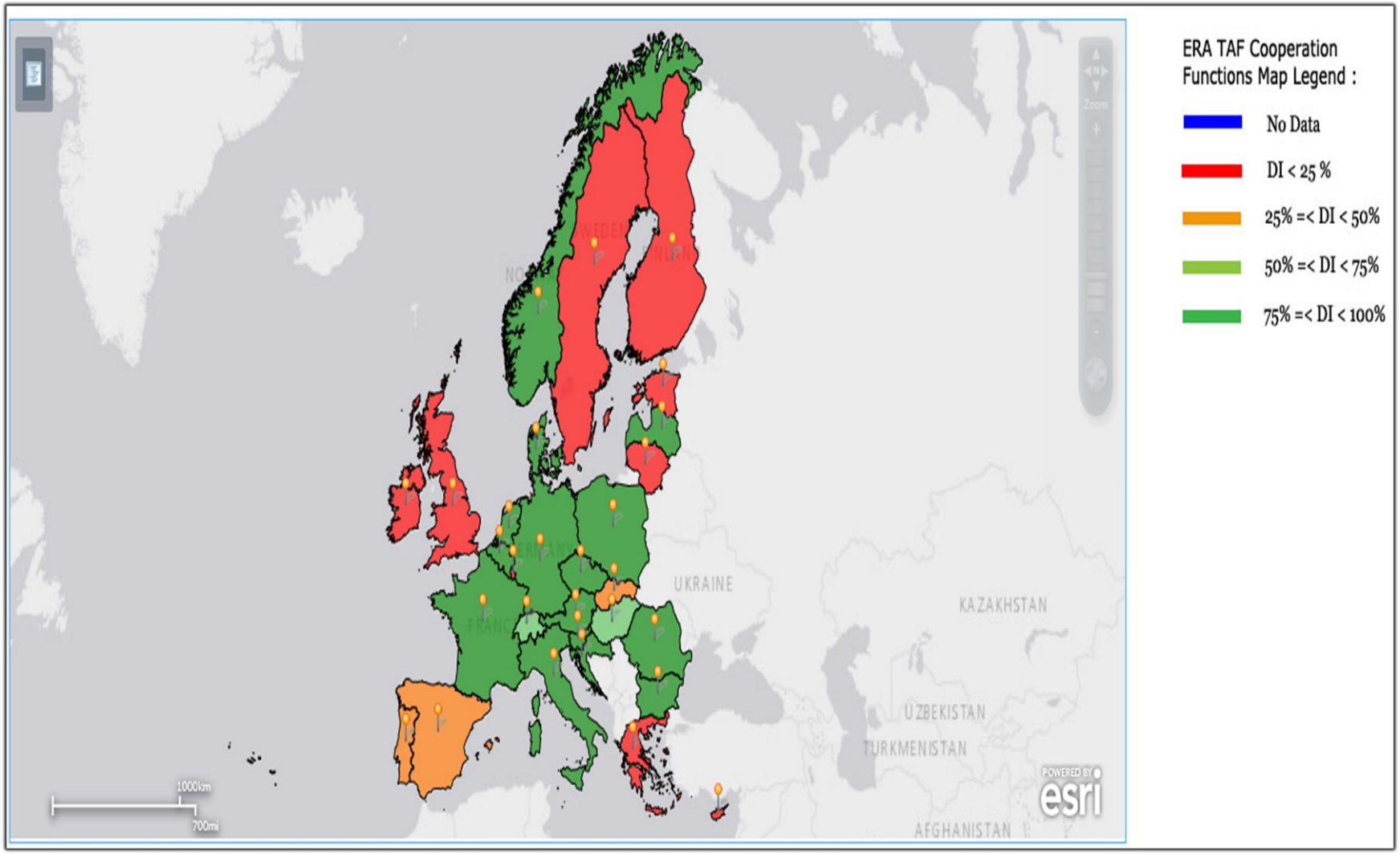
# Annex 1: Common Functions, RU's functions and RU-IM Communication Functions Maps + Raw data

## Common functions, RU's Functions and RU-IM Communication's Functions Maps

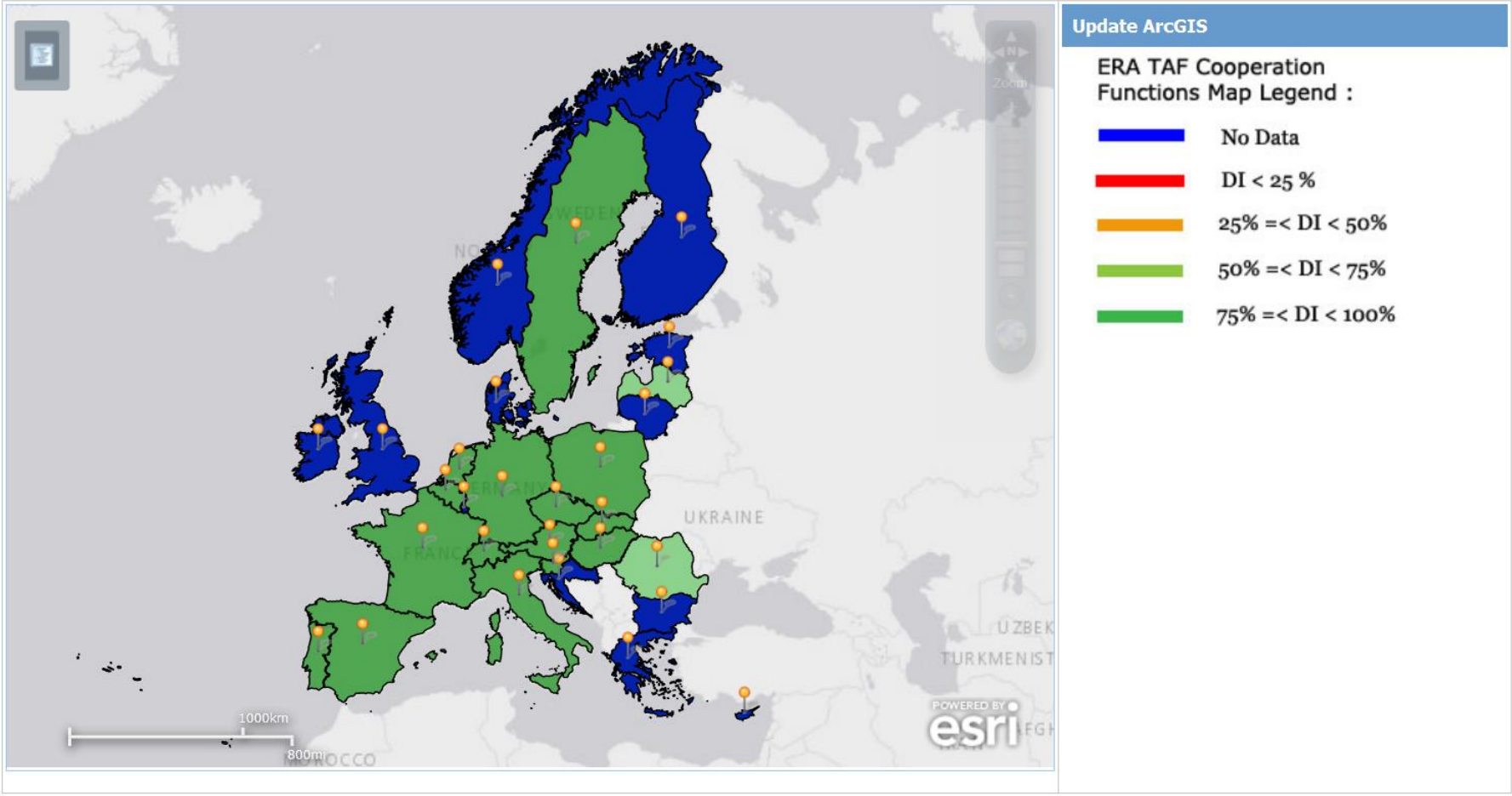
### *Company Codes function map in January 2015*



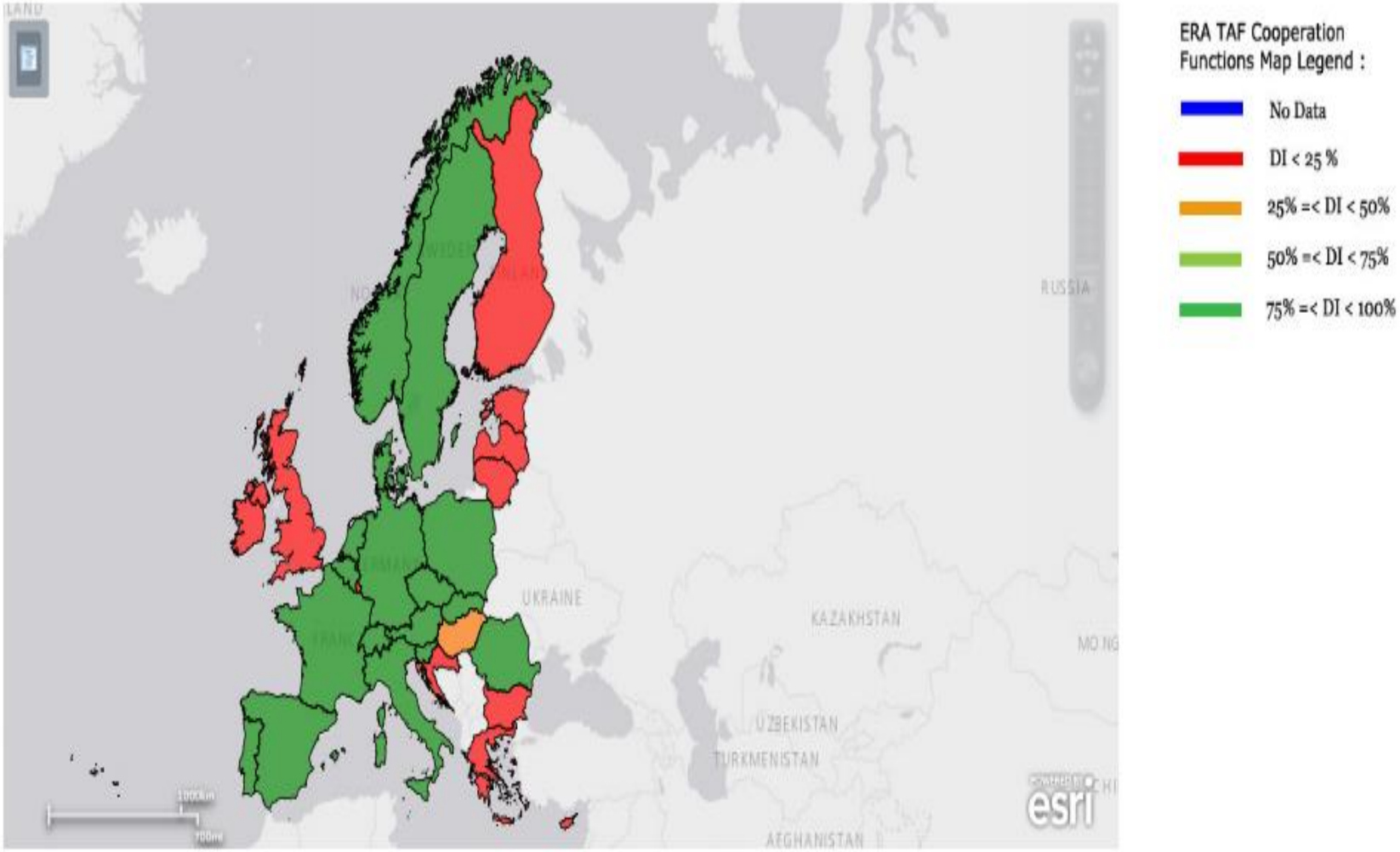
### *Company Codes function map in July 2015*



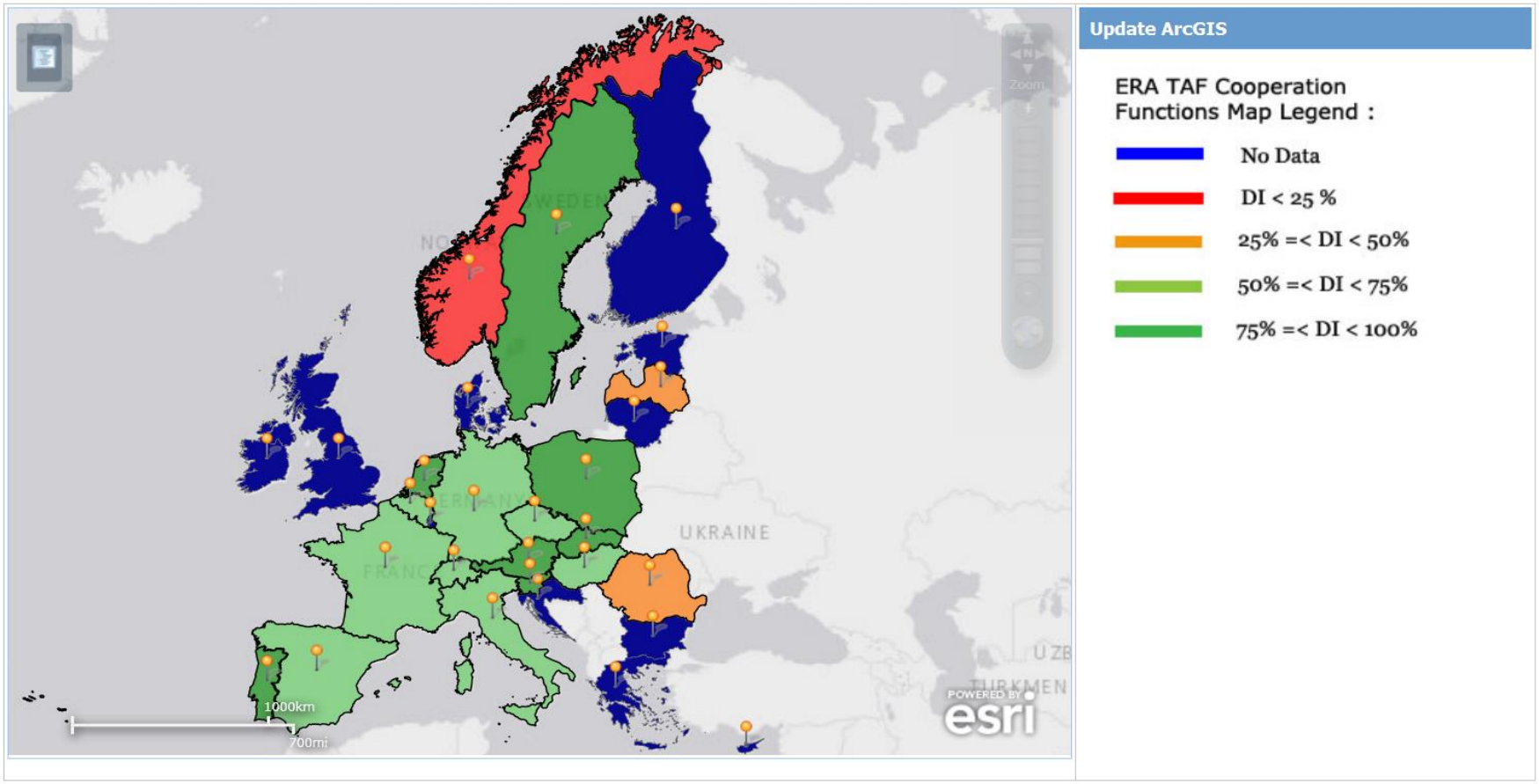
### *Primary Location Codes function map in January 2015*



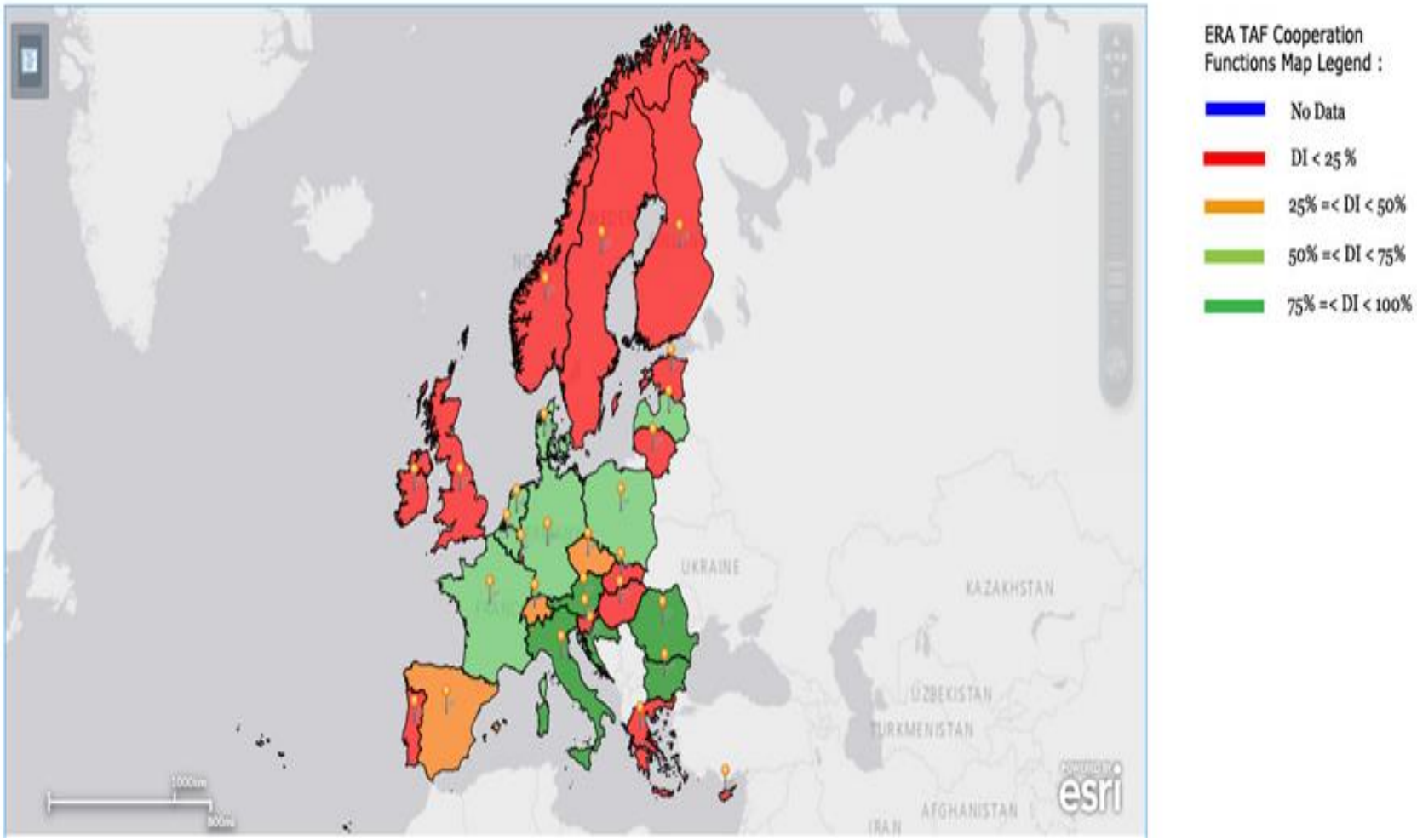
### *Primary Location Codes function map in July 2015*



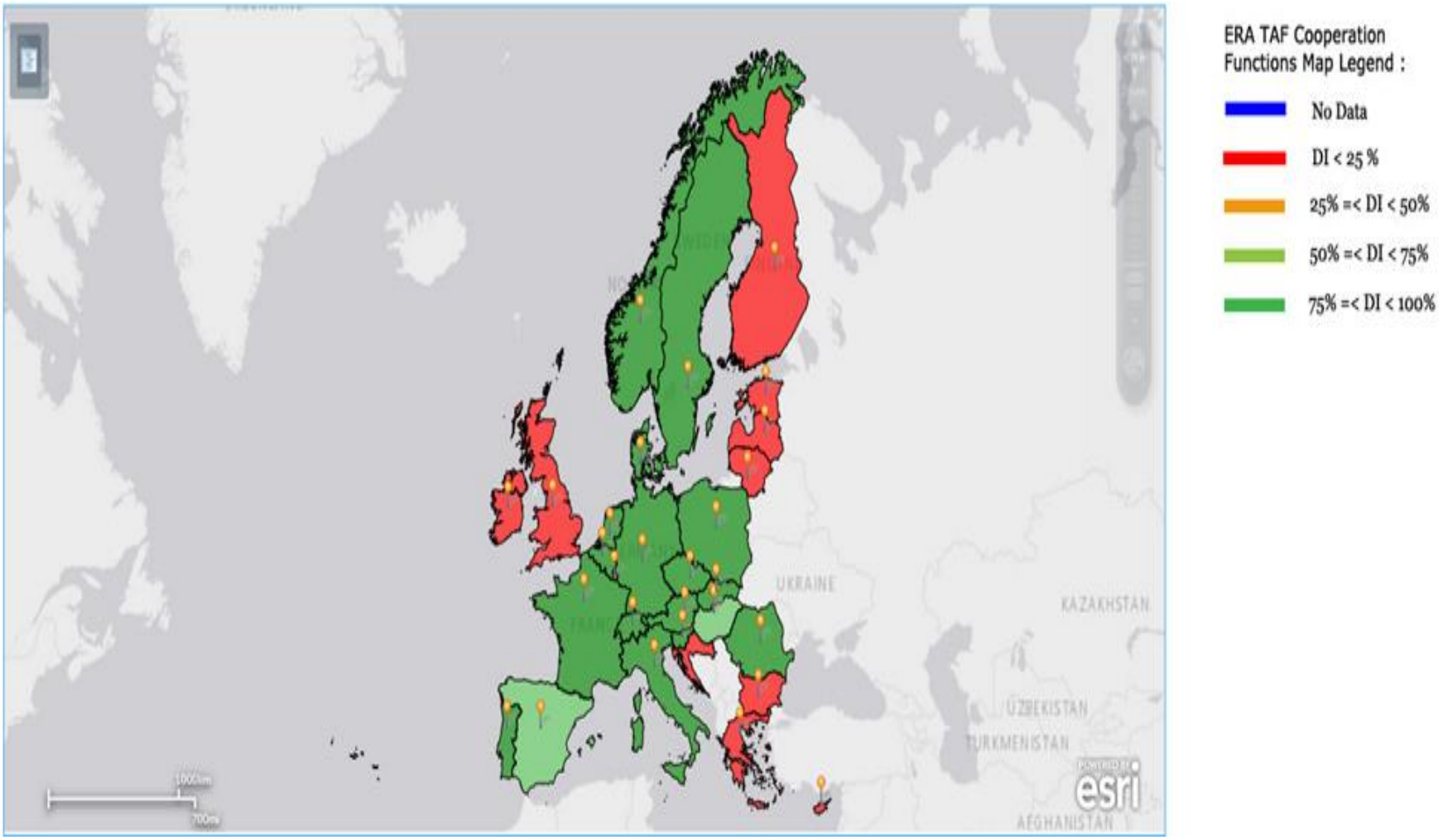
### *Common Interface function map in January 2015*



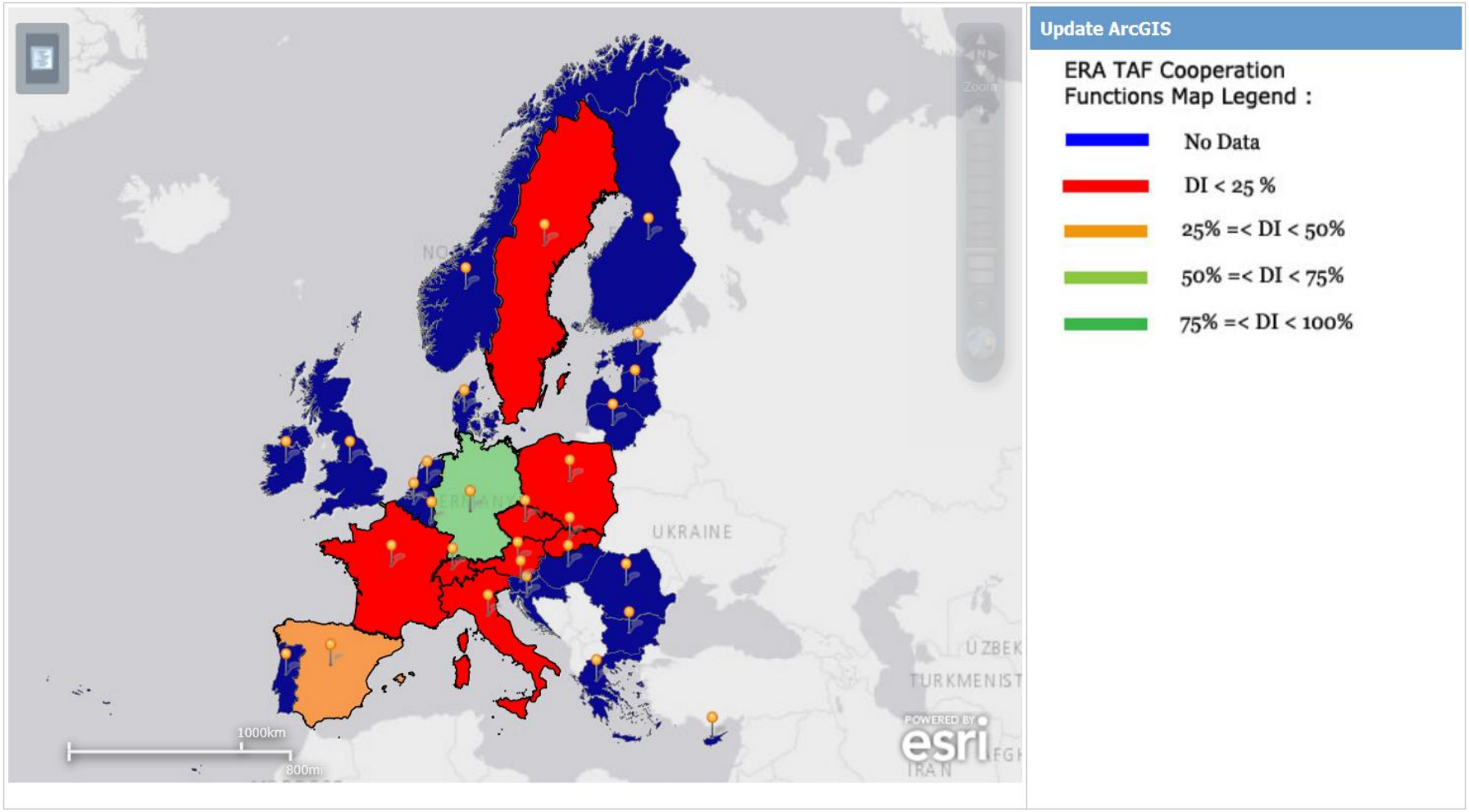
*Common Interface function map for Railway Undertakings in July 2015*



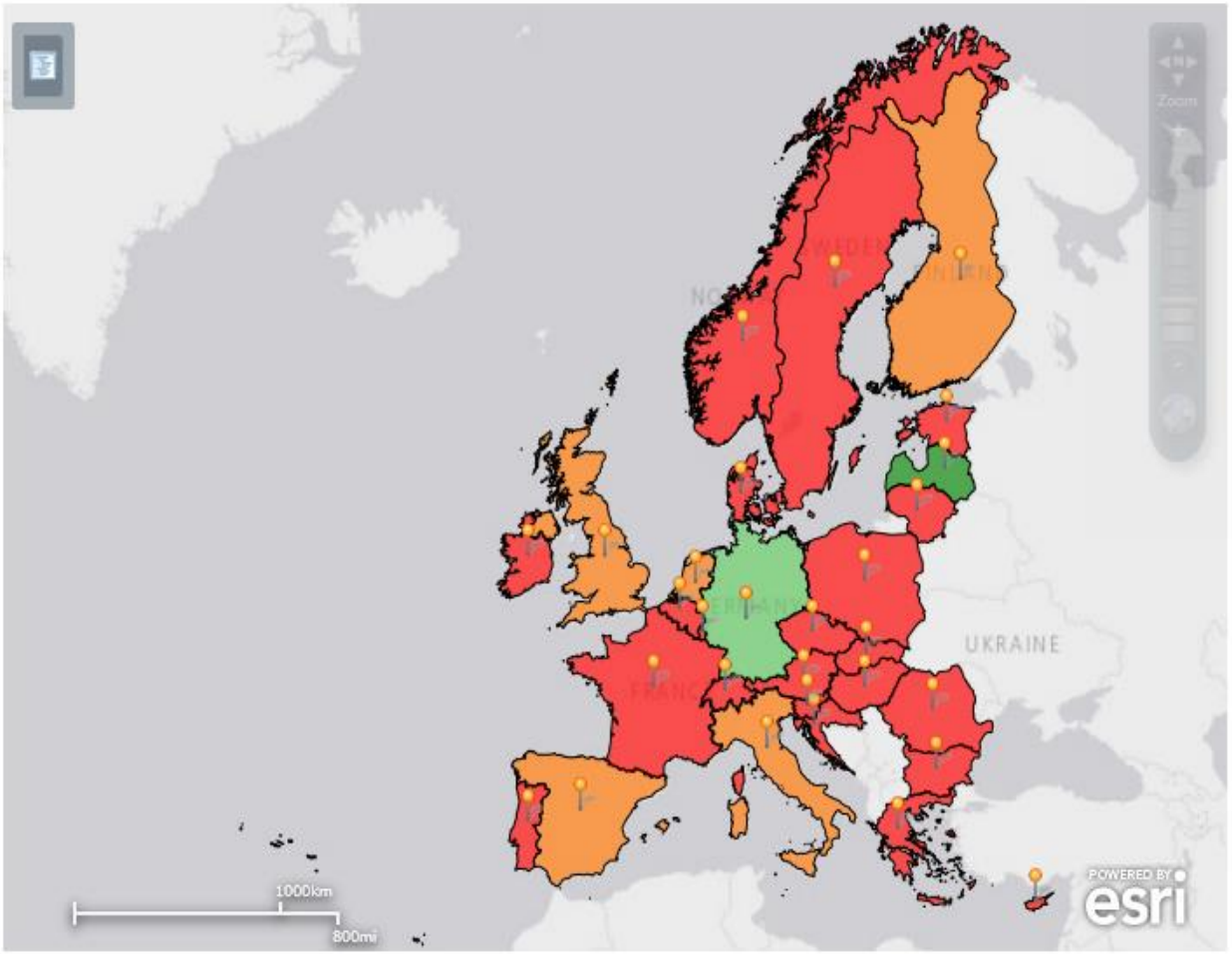
*Common Interface function map for Infrastructure Managers in July 2015*



*Rolling Stock Reference Database function map in January 2015*



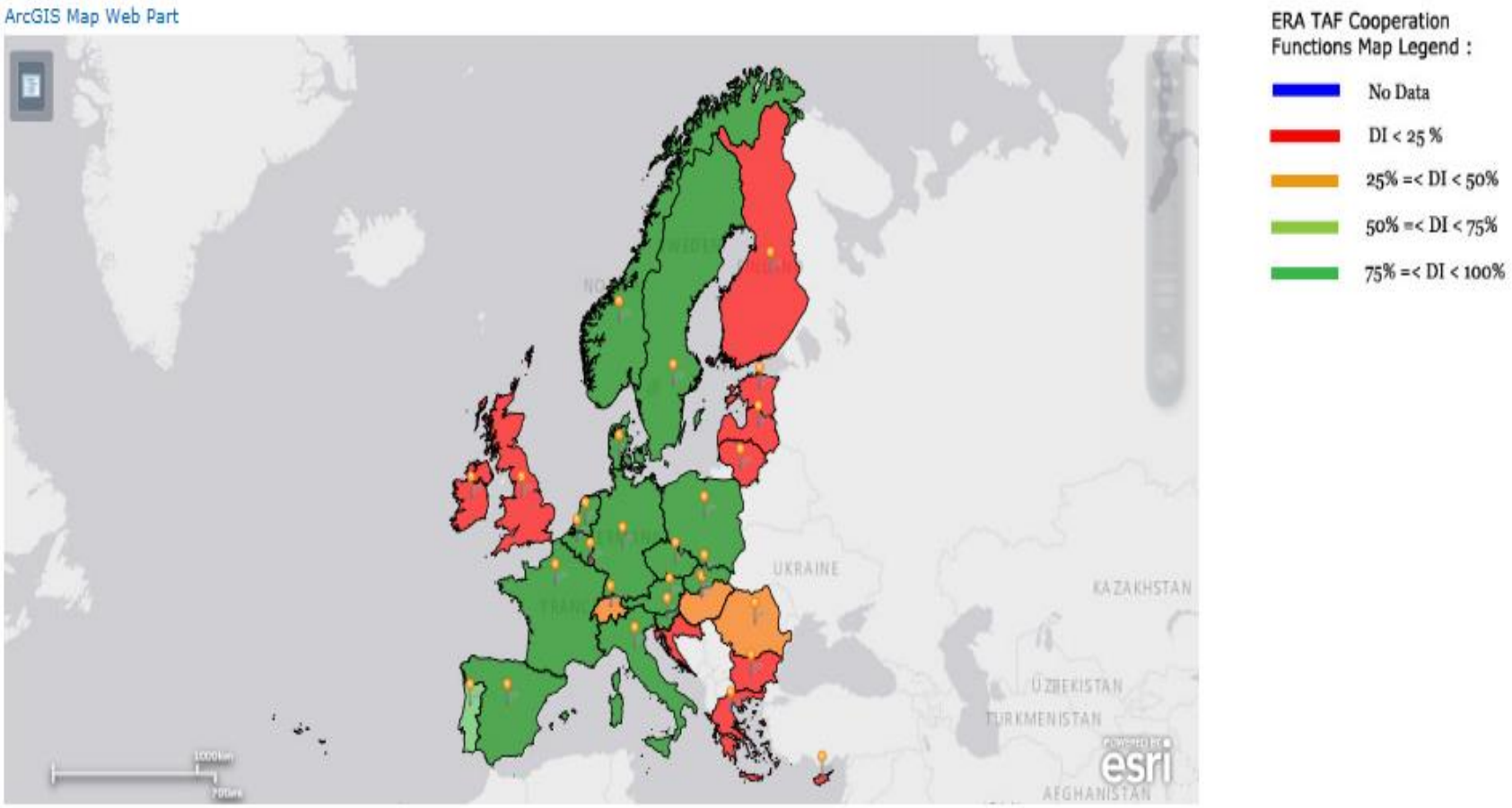
### *Rolling Stock Reference Database function map in July 2015*




ERA TAF Cooperation Functions Map Legend :

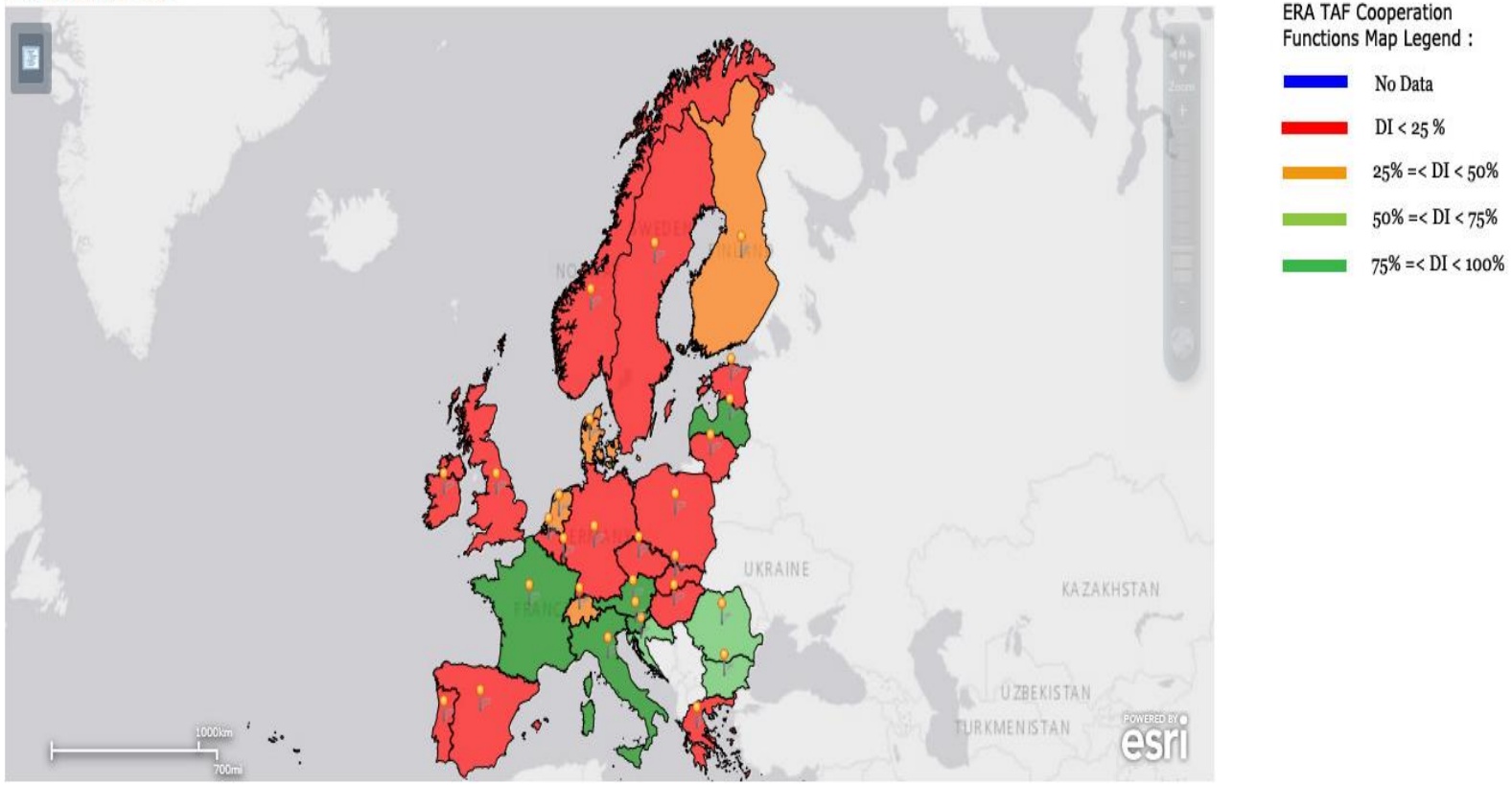
- No Data
- DI < 25 %
- 25% =< DI < 50%
- 50% =< DI < 75%
- 75% =< DI < 100%

### *Train Running Information (IMs) function map in July 2015*

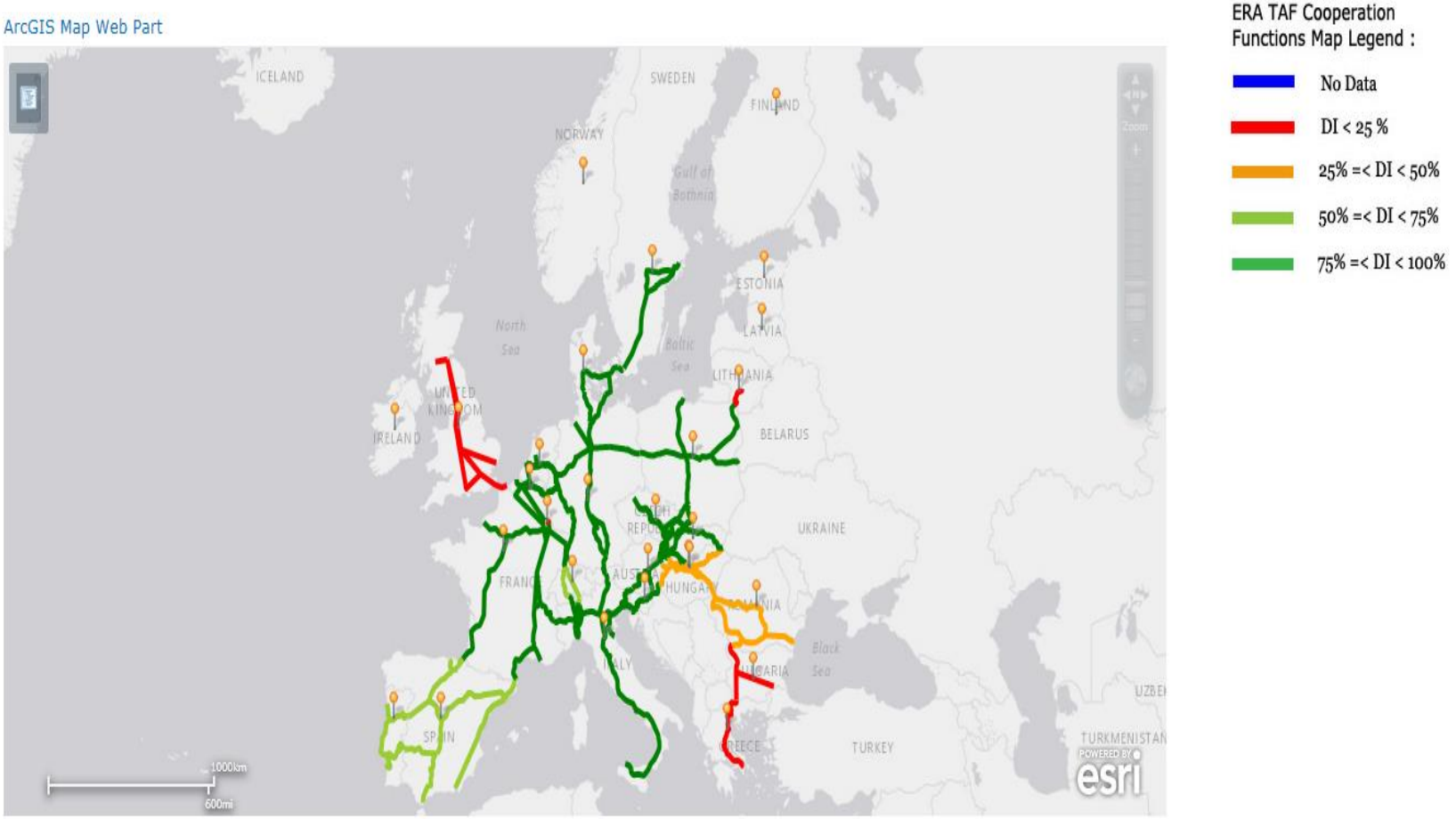


## *Train Running Information (RUs) function map in July 2015*

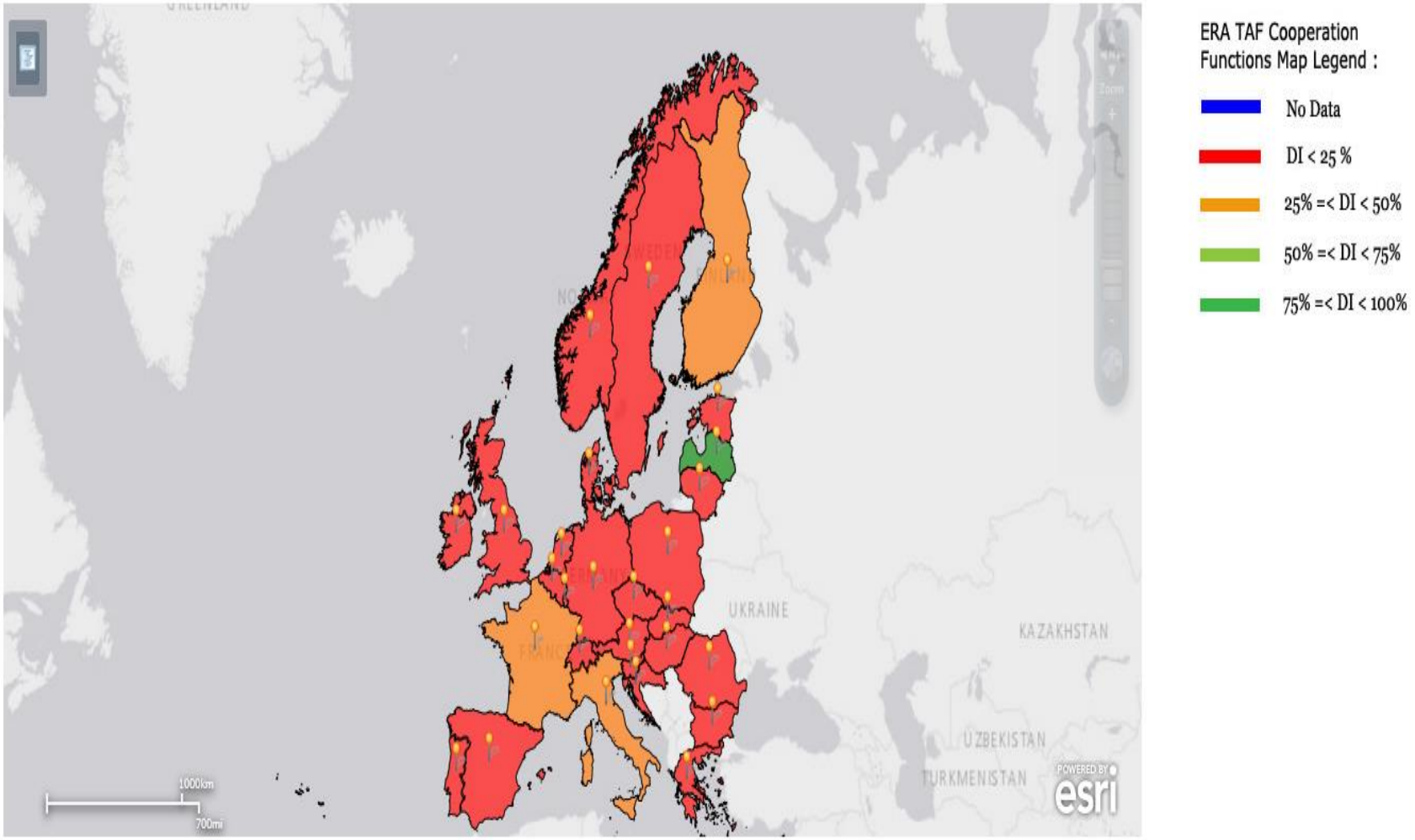
ArcGIS Map Web Part



## *Train Running Information (IMs) function map per EU Rail Freight Corridors in July 2015*



*Wagon and Intermodal Unit Operational Database function (RUs) function map in July 2015*



## Raw Data

*Company Codes function data (to get data form tables published on: **https://extranet.era.europa.eu/sites/Data/TAF-TSI/SitePages/Home.aspx** ).*

*Primary Location Codes function data (to get data form tables published on: **https://extranet.era.europa.eu/sites/Data/TAF-TSI/SitePages/Home.aspx** ).*

*Common Interface function data (to get data form tables published on: **https://extranet.era.europa.eu/sites/Data/TAF-TSI/SitePages/Home.aspx** ).*

*Rolling Stock Reference Database function data (to get data form tables published on: **https://extranet.era.europa.eu/sites/Data/TAF-TSI/SitePages/Home.aspx** ).*

*Train Running Information function data (to get data form tables published on: **https://extranet.era.europa.eu/sites/Data/TAF-TSI/SitePages/Home.aspx** ).*

*Wagon and Intermodal Unit Operational Database function data (to get data form tables published on: **https://extranet.era.europa.eu/sites/Data/TAF-TSI/SitePages/Home.aspx** ).*