

# CSS & TAF/TAP regulations

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The requirements for the Common Components System (CCS) have been set by European Union legislation, namely:

- » Commission Regulation (EC) No 62/2006 of 23 December 2005 concerning the technical specification for interoperability relating to the telematic applications for freight subsystem of the trans-European conventional rail system (repealed by Regulation 1305/2015) – TAF TSI
- » Commission Regulation (EU) No 454/2011 of 5 May 2011 on the technical specification for interoperability relating to the subsystem 'telematics applications for passenger services' of the trans-European rail system – TAP TSI.

Both regulations are now in the implementation phase. They require the railway industry to exchange certain types of messages in a standardised way – both in a functional and technical sense. To safeguard the interoperability of rail traffic, reference databases for Location Codes and Company Codes have to be established. A common interface enabling message exchange is mandatory for each actor wishing to join the interoperable railway community.

## **The regulations require unique coding for companies and locations:**

- » for the operation of freight trains in Europe, reference files must be available and accessible to all service providers (infrastructure managers, railway undertakings, logistics providers and fleet managers)
- » for the operation of passenger trains in Europe, reference files must be available and accessible to all service providers (infrastructure managers, railway undertakings, authorised third parties and station managers). The data must present the actual status at all times.

## **The regulations also require the CI (Common Interface) to be able to handle the following:**

- » message formatting of outgoing messages according to the metadata
- » signing and encryption of outgoing messages
- » addressing of outgoing messages
- » authenticity verification of incoming messages
- » decryption of incoming messages
- » conformity checks of incoming messages according to metadata
- » providing a single access channel to various databases.

Finally, the regulations specify that in order to achieve optimum synergies, wherever the CI is in common use with reference to the TAP TSIs, any CI development or changes shall follow as closely as possible the already-implemented TAF TSIs.

# Support & services

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**CI support will be delivered by the CI service provider and the Common Components General Manager.**

Service Desk for users (functional and technical administrators)

- » Helpdesk
- » Remote support for installation
- » Operational support

Incident Desk

- » Single point of contact for incident and production defects/bugs
- » Incident tool(s) to report incidents or production defects/bugs accessible via the Internet
- » Remote support, including access to the system that has to be supported

**RNE service support for Central Reference File Database (CRD):**

RNE operates and maintains the database system, including user management. It provides user support for the import of CSV files and for maintenance by the 'LocationFileDatasetMessage'.

Please follow the link <https://crd.tsi-cc.eu/CRD/onlineUser/signUp.action> to sign up for a user account with the CRD.

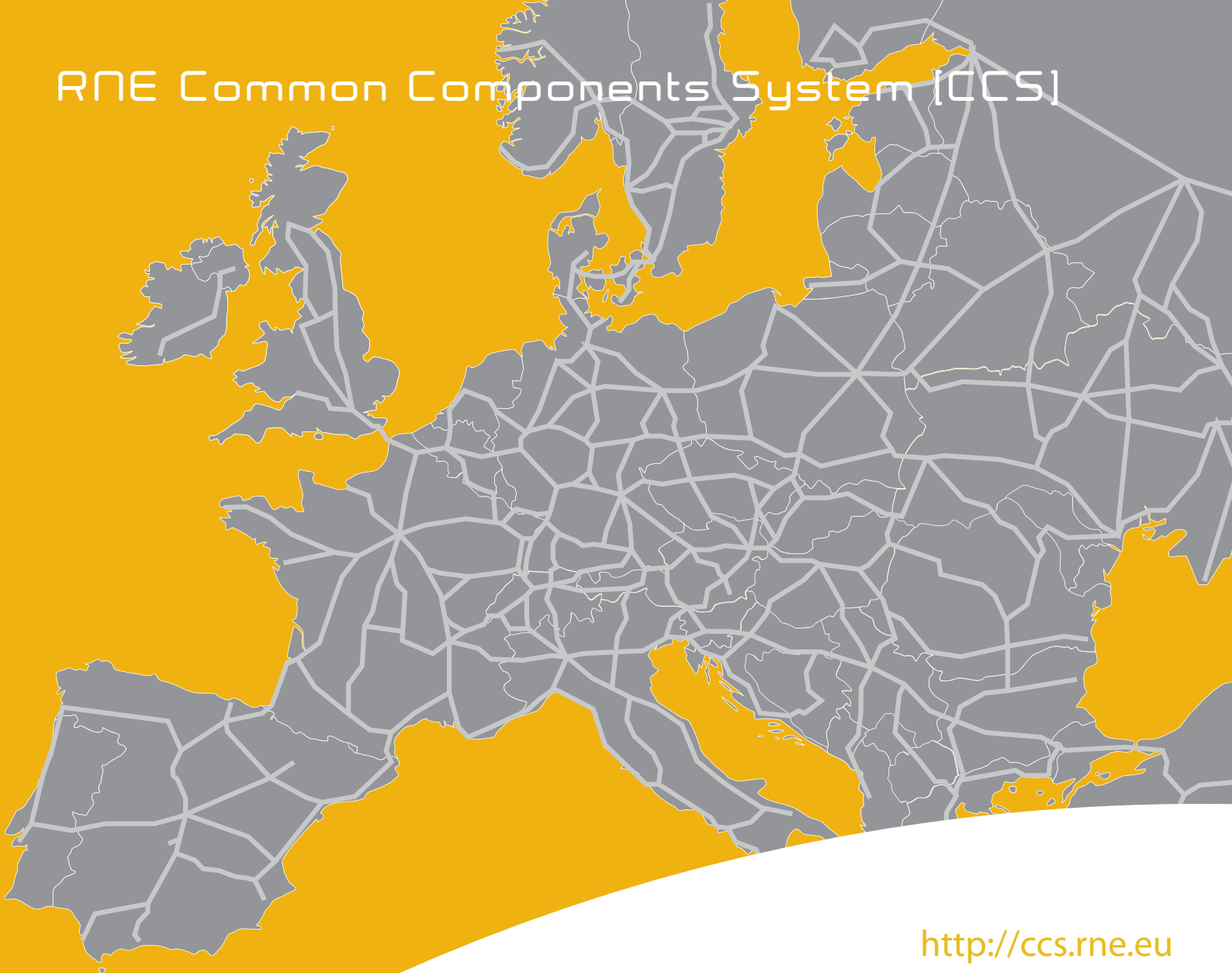
RNE Members and Working Groups are involved in further development in order to enhance both the quality and quantity of the reference files. RNE provides support to RUs who wish to import their Subsidiary Location codes, if no national entity is in place in the relevant country.

## CCS Service Desk

- » E-mail: **support.ccs@rne.eu**  
for 24/7 support
- » Phone: **+43 1 907 62 72 25**  
Mon-Thu 09:00 – 16:00  
Fri 09:00 – 15:00
- » Web: **http://ccs.rne.eu**



# RNE Common Components System (CCS)



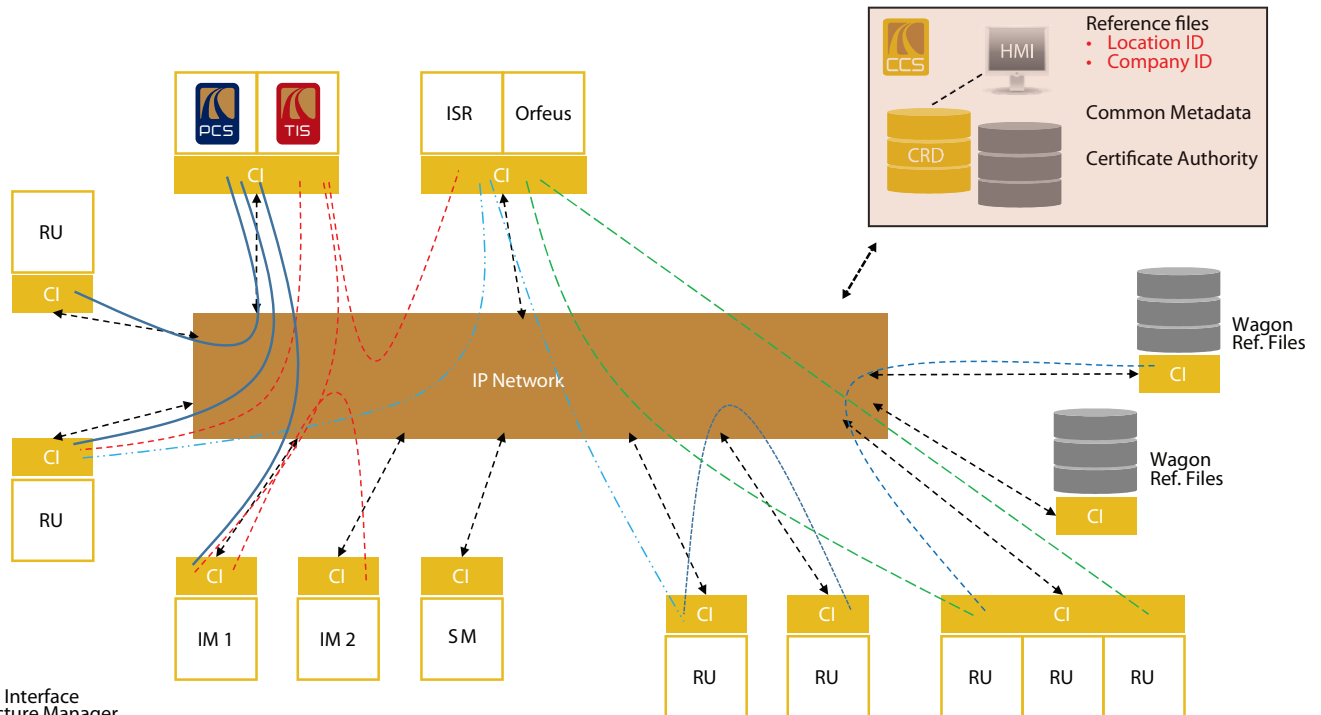
<http://ccs.rne.eu>

 **RNE CCS**  
Common Components System



Co-financed by the European Union  
Connecting Europe Facility

# Architecture supporting p2p communications

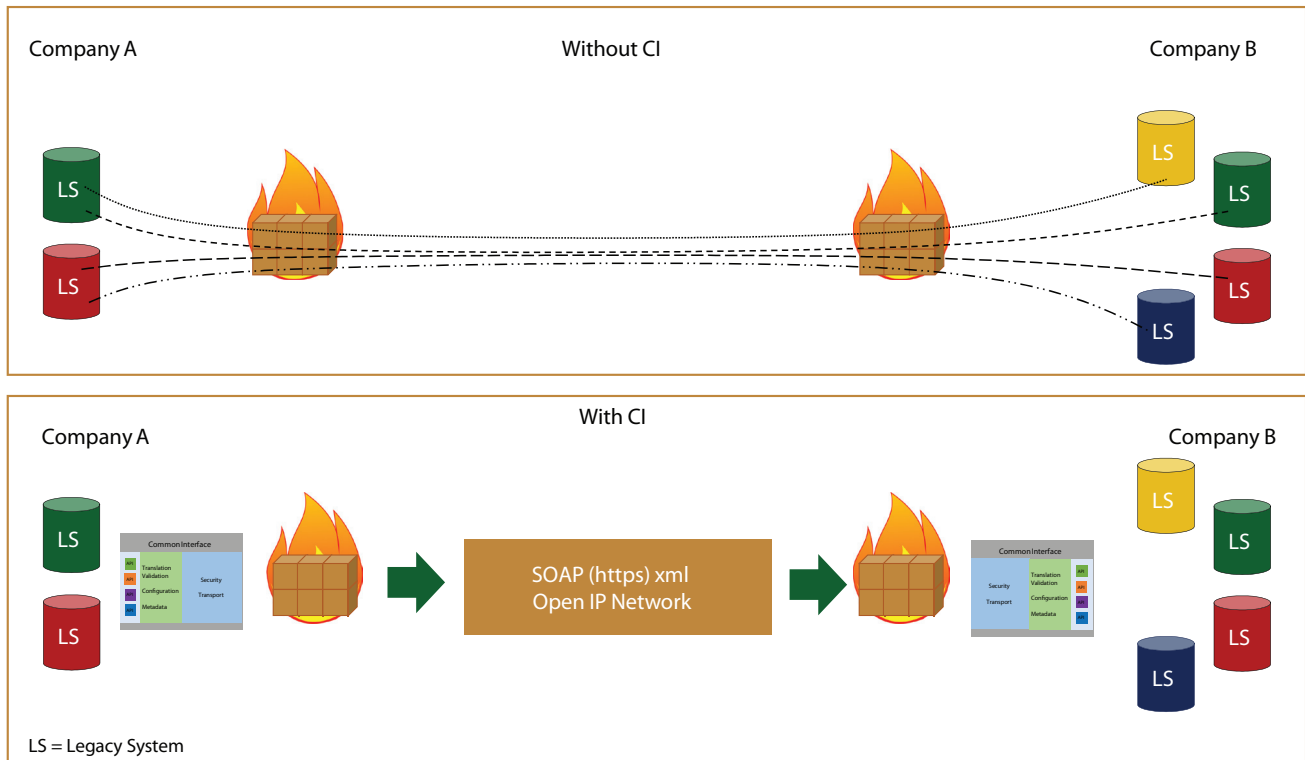


CI - Common Interface  
IM - Infrastructure Manager  
RU - Railway Undertaking  
HMI - Human Machine Interface  
SM - Station Master  
CRD - Central Reference File Database

# Standardised communication

The Common Interface (CI) enables secure peer-to-peer communication between partners, along with message-based encryption and signature if required.

RNE acts as a Certificate Authority (CA) and provides X-509 certificates to support secure communication between partners, along with message-based encryption and signature.



CI functionalities enable the exchange of messages between existing or future legacy (company) applications residing within rail companies.

These legacy applications can connect with the CI through one of the standard protocols (such as FTP, WMQ/JMS, JMS, File, Web service, Email and IP Socket) and use different message formats (such as Text, CSV, XML or UIC 407-1). If necessary, messages can be translated from one format into another in the CI.

The CI provides a graphical mapping layer that can be used easily both by IT and non-IT staff. Message exchange between railway companies has been standardised: it is based on common message formats or shared message formats agreed by two or more railway companies.

# Technology behind RNE CCS Common Interface

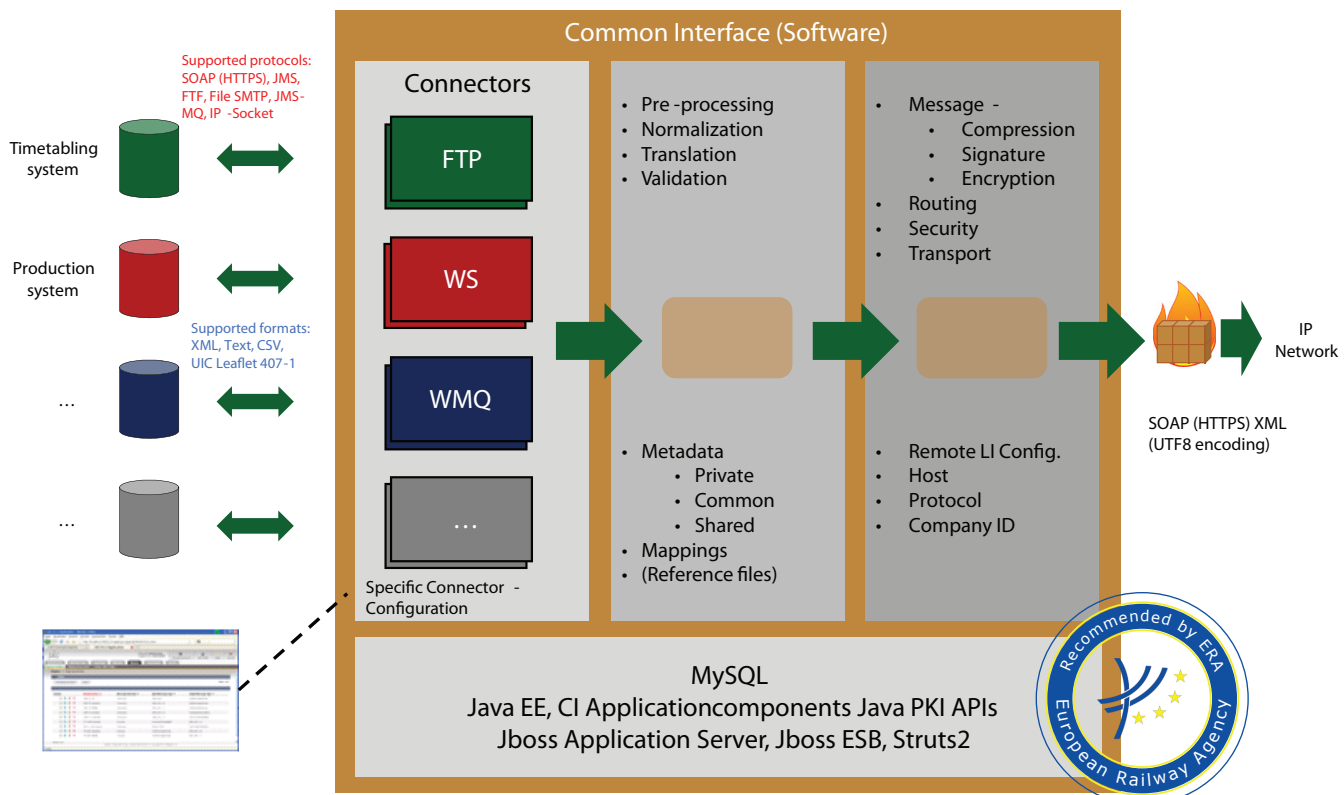
All the required software for the Common Interface application can be installed by using the installation package/executable file. Afterwards, more customised parameters can be set manually.

The hardware for the CI needs to be provided and operated locally by the user company. Win OS and Linux RedHat Enterprise are supported.

The following software/dependencies will be installed:

- » MySQL 5.5.27 including Database Scripts
- » Java 1.8.40
- » JBoss 6.1 with ESB 4.10
- » Common Components Application.

RNE will provide installation support if required. After the installation all user functions can be accessed via a web browser, as shown by the diagram below:



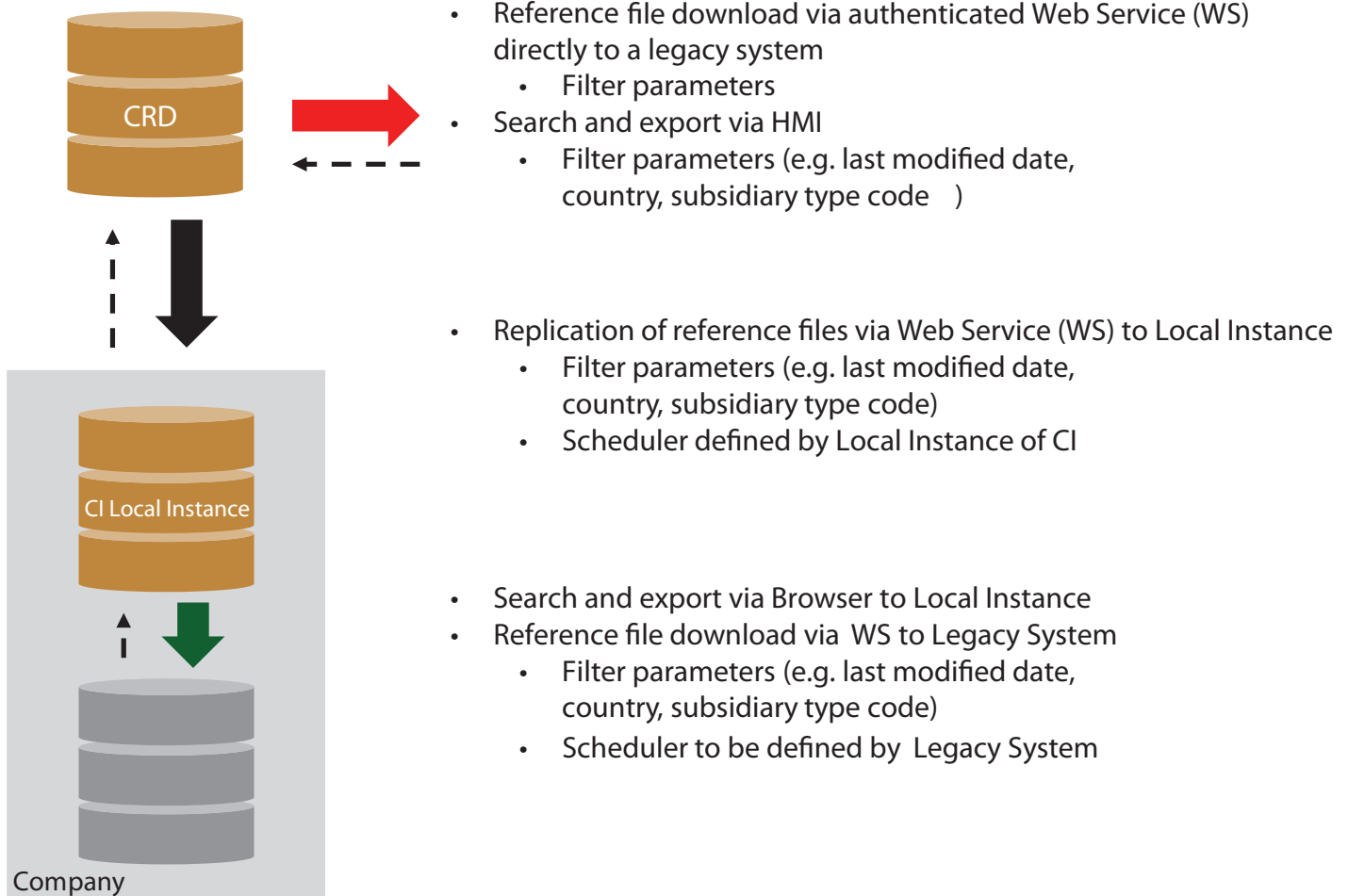
The European Railway Agency (ERA) successfully carried out tests on the Common Interface during a three-month period.

# Central Reference File Database [CRD]

The Central Reference File Database consists of the primary location code, the subsidiary location code and company code. The national location entities (mostly Infrastructure Managers) are responsible for the allocation of the Primary Location Code to railway locations. This is a prerequisite for the allocation of the Subsidiary Location Code by Railway Undertakings.

Company codes can be obtained from: [www.uic.org/rics](http://www.uic.org/rics)

The CRD is a centralised database hosted in Europe with defined access rules and user profiles.



# RNE's task and added value for CCS

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## RNE's task

On 1 January 2015, responsibility for the development, maintenance and ongoing operation of the TAF-TSI Common Components was transferred from the Common Components Group (CCG) to RNE. This included the following elements:

- » Common Interface (CI) for standardised message exchange
- » Central Reference File Database (CRD) for Location and Company codes
- » Certification Authority for secure message exchange with X509 certificates.

## RNE's added value

Management of the Central Reference Files by RNE provides added value:

- » Providing support for data collection, ensuring data quality and data security by involving RNE Working Groups
- » providing access to Reference Data, which are compatible with data used in RNE systems
- » Conducting further maintenance of the database system.

RNE also provides added value as regards Common Interface management because it already provides support to the entire railway sector:

- » development of the product based on open source software
- » maximum compatibility both with existing and future legacy systems
- » investments into old legacy systems are safeguarded
- » high performance: the application is capable of exchanging 100 messages per second and is scalable through different deployment strategies
- » compatible with different platforms for deployment under Windows or Linux RedHat.

The Common Interface also supports message exchange outside the scope of the TAF/TAP Regulations, if a number of conditions concerning the message structure (Message Header) are met. This will provide great added value, enabling the CI to be used for new business opportunities.