

PCS CB API – FIRST STEPS FOR CONNECTING

1 Contents

2	Version History.....	2
3	Introduction to PCS CB API	3
3.1	Introduction.....	3
3.2	TAF TAP TSI and Current Schema	3
3.3	PCS CB API communication flows	3
3.3.1	Connection via the Common Interface.....	3
3.3.2	Triggering messages from SoapUI instead of from a local or national system.....	3
4	PCS CB CI Environments and Local Instances	4
4.1	PCS Sites.....	4
4.2	PCS CB API high level architecture.....	5
5	Connecting to PCS CB via API – First Steps	5
5.1	Timeline for connecting to PCS CB.....	5
5.2	Common Interface Connection Setup.....	6
5.3	Configuration to allow SoapUI testing	7
5.4	PCS Documentation review	7
5.5	Reference Data Check	7
5.5.1	Network specific parameters (NSPs).....	8
5.5.2	Locomotive types.....	8
5.5.3	Mandatory parameters	9
5.5.4	Operation points	10
5.5.5	Activity types.....	11
5.5.6	Location types	11
5.6	Testing of PCS.....	12

2 Version History

Version	Date	Description	Author
1	27.10.2025	Document created	Thomas Raney (RNE JO)

3 Introduction to PCS CB API

3.1 Introduction

An important aspect of PCS is its connection via automatic programming interface (API) to national (IM and RU) systems. Via API communication, it is possible to trigger actions and be notified when an action is triggered in PCS without the use of PCS's graphical user interface. API communication occurs through a standardised set of TAF TAP TSI messages.

3.2 TAF TAP TSI and Current Schema

Relevant TAF TAP TSI information, including the current schema version, can be found in the PCS [Technical Specifications](#) chapter 3.

3.3 PCS CB API communication flows

The Common Interface (CI) facilitates the exchange of inbound (from interfacing companies to PCS) and outbound (from PCS to interfacing companies) TAF TAP TSI messages. The connection flows are detailed in the following visual:

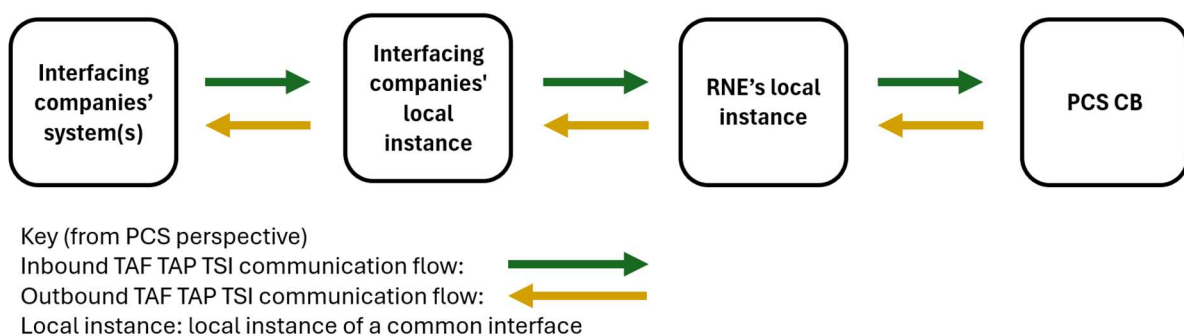


Figure 1: PCS API communication flow diagram

3.3.1 Connection via the Common Interface

With a CI connection, a company's system is connected to PCS following the architecture shown above. This means TAF TAP TSI messages are exchanged directly between the company's IT system and PCS whenever an action is taken in either system.

Companies must have their own local instance for this type of connection to work. Local instances can be provided either by RNE ([RNE Common Components System](#)), or by a third party.

In PCS Production, a CI connection is the only option available for connecting via API. This option is also available in non-production environments.

3.3.2 Triggering messages from SoapUI instead of from a local or national system

For testing purposes, the usage of SoapUI is also available. SoapUI is a free software (<https://www.soapui.org/>) which allows the user to simulate the sending of TAF TAP TSI messages from their company to PCS CB.

Templates for many TAF TAP TSI messages which might be sent towards PCS are available ([PCS SoapUI templates](#)) and can be imported directly into SoapUI.

SoapUI testing is useful for companies which do not yet have the technical ability to connect via the CI but still want to discover and test API functionalities.

This type of testing is available only for non-production environments (Pre Production LI & Test LI).

Users testing with SoapUI are also given access to the user interface of the relevant PCS local interface, this allows users to monitor the inbound and outbound flow resulting from their SoapUI usage.

The communication flows when using SoapUI are shown in the following visual:

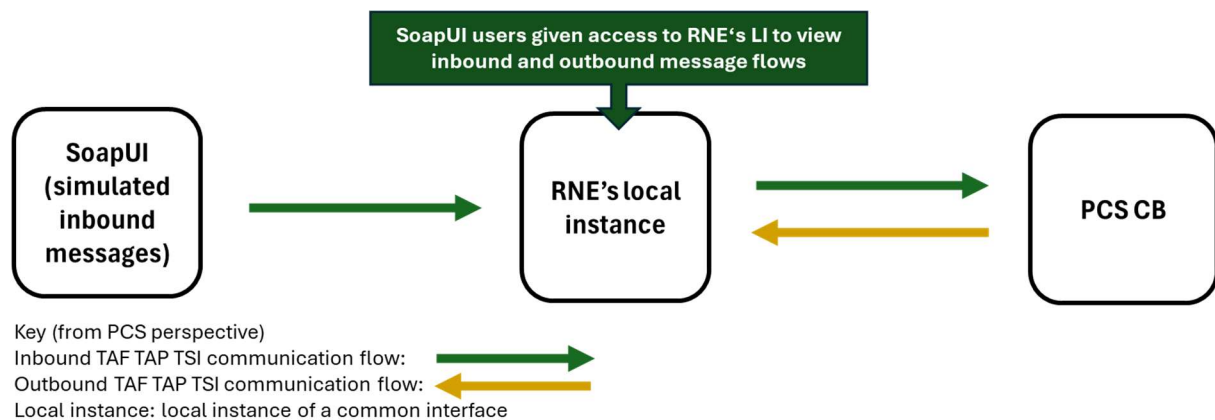


Figure 2: PCS API connection flow diagram (if using SoapUI)

4 PCS CB CI Environments and Local Instances

4.1 PCS Sites

There are three PCS environments available to users, comprising of five sites:

- **Production Environment**
 - o **PCS Production** [site not yet available]
- **Pre-Production Environment**
 - o **PCS Pre Production - production data** <https://cb-pre-prod.rne.eu/pcs-cb/>
 - o **PCS Pre Production – sandbox** <https://cb-pre-prod-sandbox.rne.eu/pcs-cb/>
- **Test Environment**
 - o **PCS Test - production data** <https://cb-test.rne.eu/pcs-cb/>
 - o **PCS Test - sandbox** <https://cb-test-sandbox.rne.eu/pcs-cb/>

The non-production environments (Pre-Production and Test) each comprise of two sites:

- Production data sites: reference trains from the production site are regularly imported, this allows for system testing with realistic business cases without the need to manually

create them. Each user must log in with their own account and can only be assigned to one company.

- Sandbox sites: users must create their own reference trains to test with. Users can log in as any company using generic testing accounts. Testing accounts can be found at this location: <https://docs.rne.eu/pcs/pcs-cb-test-accounts/>.

4.2 PCS CB API high level architecture

API connections occur at the environment level, meaning there is one Local Instance (LI) for each environment. API communication to the specific site within an environment is directed based on MessageRoutingID. The following visual depicts the high-level architecture:

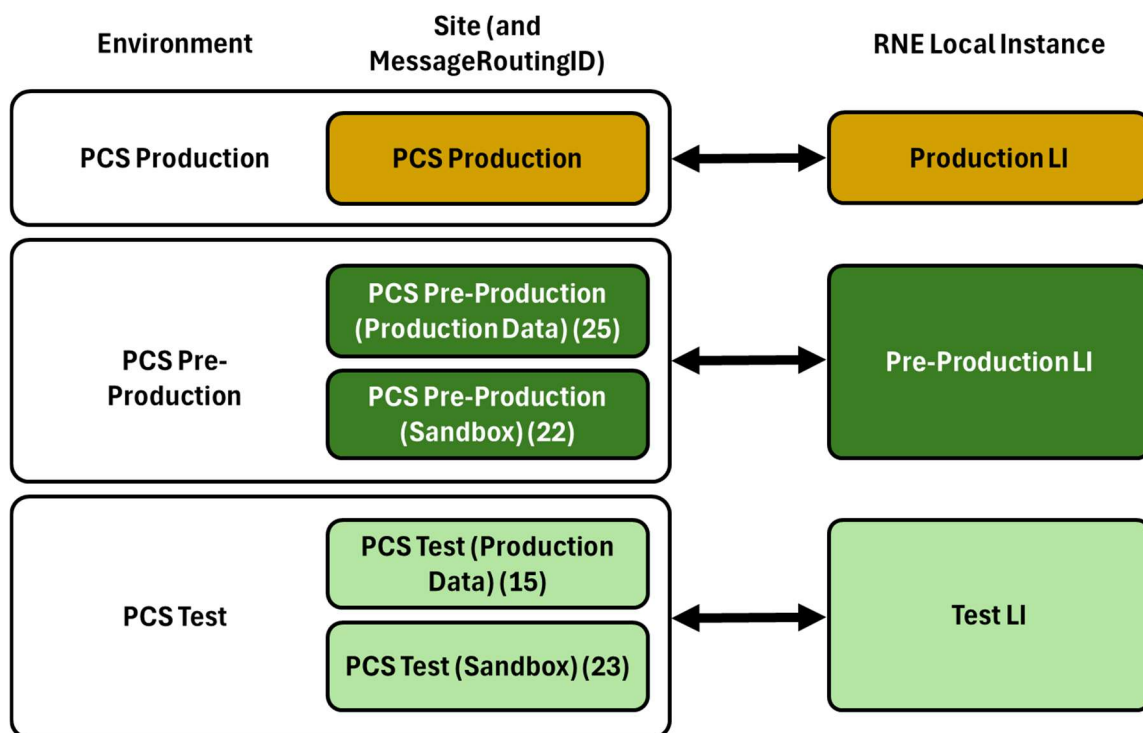


Figure 3: PCS CB high level architecture diagram

Connection information for each environment can be found in the [LI information document](#).

5 Connecting to PCS CB via API – First Steps

5.1 Timeline for connecting to PCS CB

The following visual indicates the recommended timeline of actions to be taken as first steps in connecting to and using PCS API. These actions do not need to be taken in the order shown, however they are recommended to ensure the set-up of robust foundations for the implementation of the connection between the interfacing company's system and PCS with TAF TSI messages via the Common Interface.

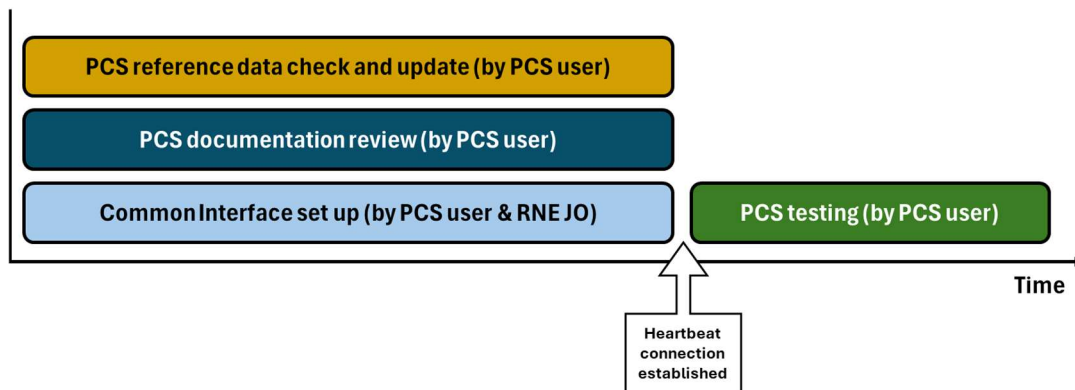


Figure 4: Suggested connection timeline

In case the company is only connecting via SoapUI, the recommended timeline is essentially the same.

5.2 Common Interface Connection Setup

Companies wishing to connect via the Common Interface should take the following steps:

- Determine which PCS environment to connect to and consult the LI Details Document for the necessary connection information.
- Send an email to support.pcs@rne.eu with the following information:
 - To which PCS environment will the connection be done
 - Company name and UIC Code
 - Company shortname
 - Company abbreviation
 - Remote LI instance number
 - Remote LI hostname and/or IP address for Inbound connection (preferably both)
 - Remote LI port for Inbound connection
 - Additional sender company UIC ID (if needed)
 - Remote LI hostname and/or IP address for Outbound connection (preferably both)
 - Remote LI port for Outbound connection

The configuration will be completed within 3 working days.

Companies connecting to non-production environments have the option to additionally request access to the user interface of the relevant RNE Local Instance. In case this access is desired, the name and work email address of each user who should have access should be included in the message to support.pcs@rne.eu.

5.3 Configuration to allow SoapUI testing

Companies wishing test via SoapUI should take the following steps:

- Download SoapUI and (if needed) the TAF TAP TSI message templates
- Send an email to support.pcs@rne.eu with the following information:
 - o Company and UIC RICS code
 - o Name and work email of all colleagues who will use SoapUI
 - o The IP address of the location at which SoapUI messages will be sent

Once this information has been communicated, the PCS API team will configure the connection within one working week.

During this time, all users whose information was sent will receive login credentials and access information for the user interface of the relevant PCS local instance.

The same email address (support.pcs@rne.eu) can be contacted in case of any issues or if the IP address needs to be changed.

5.4 PCS Documentation review

All necessary information for testing and using PCS CB from the API perspective can be found in the Technical Specifications, which is comprised of the following parts:

- Technical Specifications core text
- Appendix A – TSI message matrix
- Appendix B – Error codes
- Appendix C – Mermaid source codes
- Appendix D – TAF TAP TSI message examples

The technical Specifications are available at this location: <https://docs.rne.eu/pcs/pcs-capacity-broker-cb-basics/>.

5.5 Reference Data Check

Up-to date and consistent reference data is essential for avoiding API-related implementation issues. Master data can be accessed via the 'administration' tab:

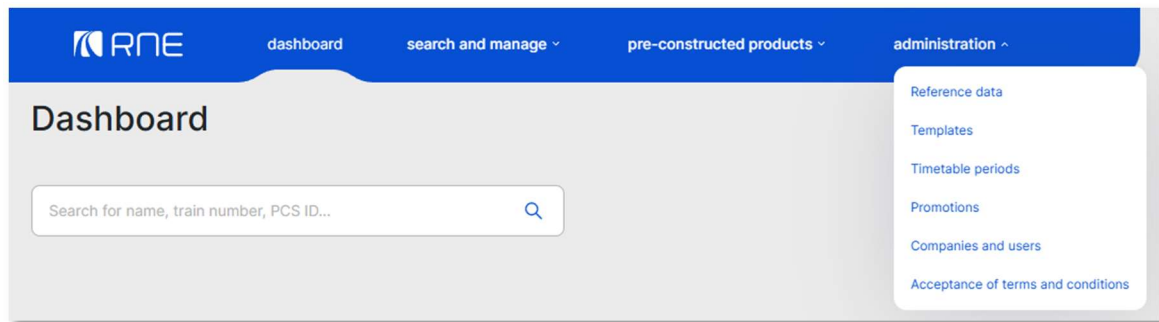


Figure 5: How to access Reference Data

The following sections indicate the steps to be taken by infrastructure managers to ensure proper reference data quality per reference data type. Applicant users should check and familiarise themselves with the reference data associated with the IMs of all networks in which they operate.

5.5.1 Network specific parameters (NSPs)

- Check the existing NSPs in PCS (there may be none)
- List the NSPs that should be changed to mandatory or optional, or that should be created (as optional or mandatory) if they do not yet exist in PCS
- Provide the list of required changes to RNE (support.pcs@rne.eu)
- Take the required actions to ensure the acceptance of this master data by the IM national system

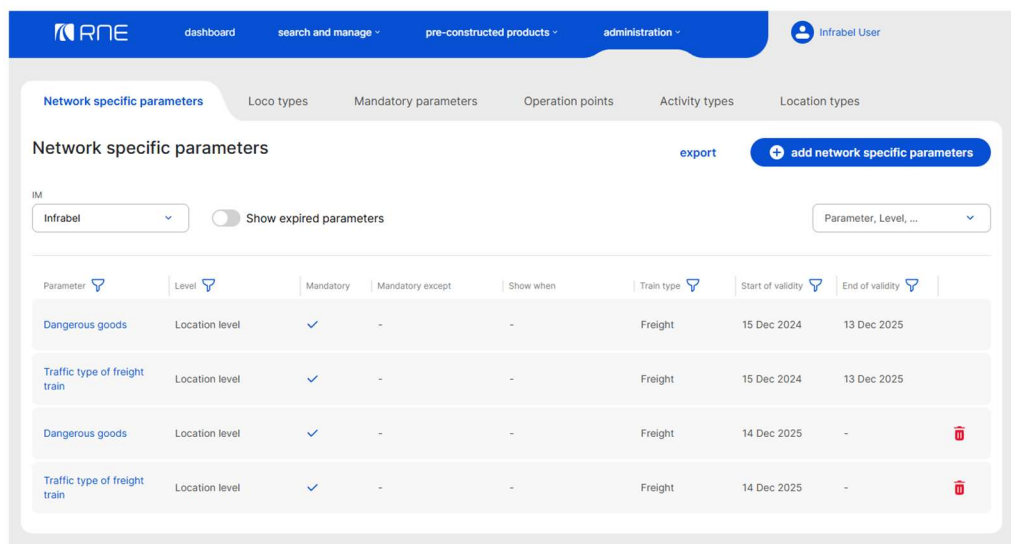
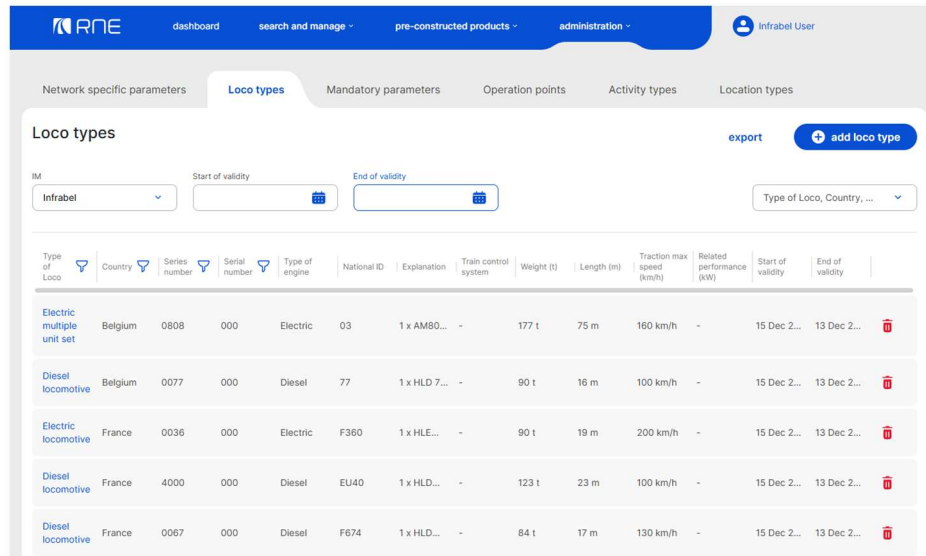


Figure 6: NetworkSpecificParameters page in the GUI

5.5.2 Locomotive types

- Check the existing locomotive types in PCS to ensure compliance with the required PCS structure

- Determine any necessary changes provide a list of required changes to RNE for locomotives used in existing reference trains. Other locos can be updated directly in the GUI
- Take the required actions to ensure the acceptance of this master data by the IM national system



Type of Loco	Country	Series number	Serial number	Type of engine	National ID	Explanation	Train control system	Weight (t)	Length (m)	Traction max speed (km/h)	Related performance (kW)	Start of validity	End of validity
Electric multiple unit set	Belgium	0808	000	Electric	03	1 x AM80...	-	177 t	75 m	160 km/h	-	15 Dec 2...	13 Dec 2...
Diesel locomotive	Belgium	0077	000	Diesel	77	1 x HLD 7...	-	90 t	16 m	100 km/h	-	15 Dec 2...	13 Dec 2...
Electric locomotive	France	0036	000	Electric	F360	1 x HLE...	-	90 t	19 m	200 km/h	-	15 Dec 2...	13 Dec 2...
Diesel locomotive	France	4000	000	Diesel	EU40	1 x HLD...	-	123 t	23 m	100 km/h	-	15 Dec 2...	13 Dec 2...
Diesel locomotive	France	0067	000	Diesel	F674	1 x HLD...	-	84 t	17 m	130 km/h	-	15 Dec 2...	13 Dec 2...

Figure 7: Locomotive Types in the GUI

5.5.3 Mandatory parameters

- Check the existing by default mandatory parameters in PCS and list the parameters that should be made mandatory, if currently optional
- Provide the list of required changes to RNE (support.pcs@rne.eu)
- Take the required actions to ensure the acceptance of this master data by the IM national system

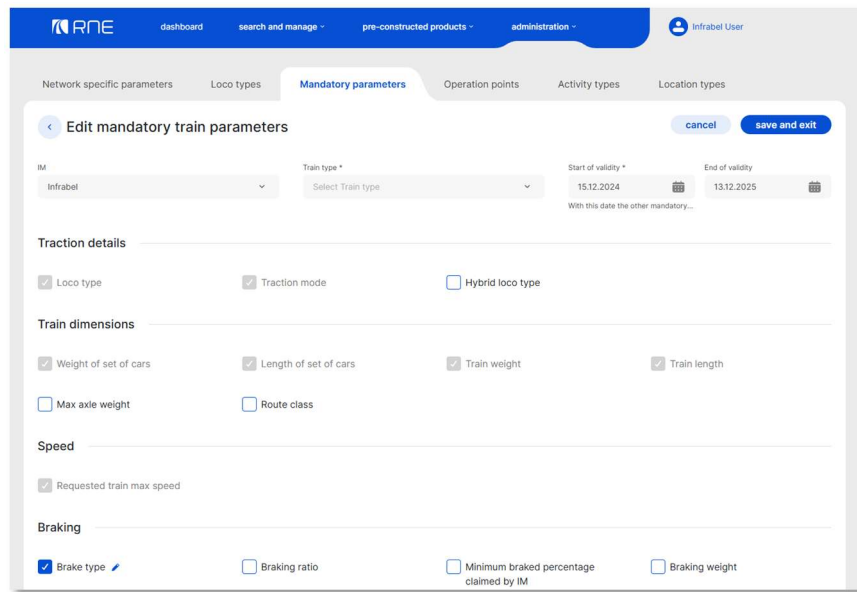


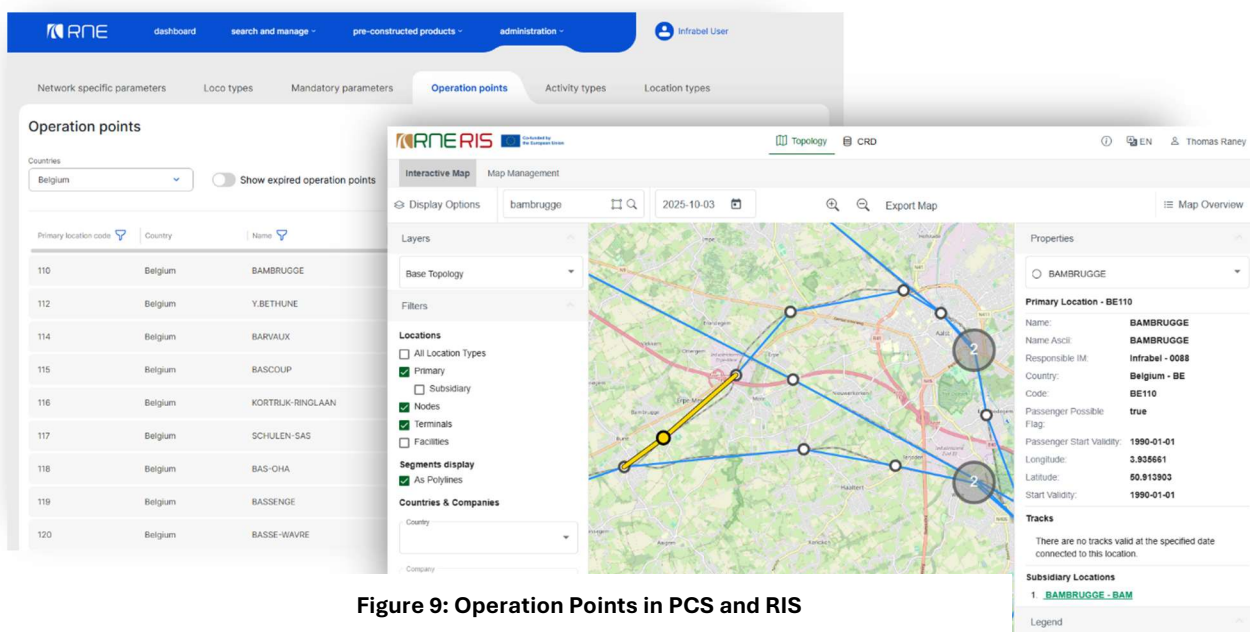
Figure 8: Mandatory Parameters in the GUI

5.5.4 Operation points

- Check the correctness of the operation points registered on the IM network
- If required, request the required updates in the CRD/RIS

Operation points cannot be edited directly in PCS since this data is retrieved from the primary location registered in the Central Reference File Database (CRD), which is hosted by RNE. Please contact your CRD/RIS contact person if you require any updates.

More information regarding the CRD and RIS can be found here <https://rne.eu/it/products/ccs/crd/>



Primary location code	Country	Name
110	Belgium	BAMBRUGGE
112	Belgium	Y.BETHUNE
114	Belgium	BARVAUX
115	Belgium	BASCOUP
116	Belgium	KORTLUK-RINGLAAN
117	Belgium	SCHULEN-SAS
118	Belgium	BAS-OHA
119	Belgium	BASSENGE
120	Belgium	BASSE-WAVRE

Properties Panel (BAMBRUGGE - BE110):

- Name: BAMBRUGGE
- Name Ascii: BAMBRUGGE
- Responsible IM: Infrabel - 0088
- Country: Belgium - BE
- Code: BE110
- Passenger Possible: true
- Passenger Start Validity: 1990-01-01
- Longitude: 3.935661
- Latitude: 50.913503
- Start Validity: 1990-01-01

Tracks: There are no tracks valid at the specified date connected to this location.

Subsidiary Locations: 1. BAMBRUGGE - BAM

Figure 9: Operation Points in PCS and RIS

5.5.5 Activity types

- Check the existing by default activity types
- If required, create new activity types
- Take the required actions to ensure the acceptance of this master data by the IM national system
- Note that new activity types are IM-specific and only valid on the IM's network. Please avoid creating duplicates

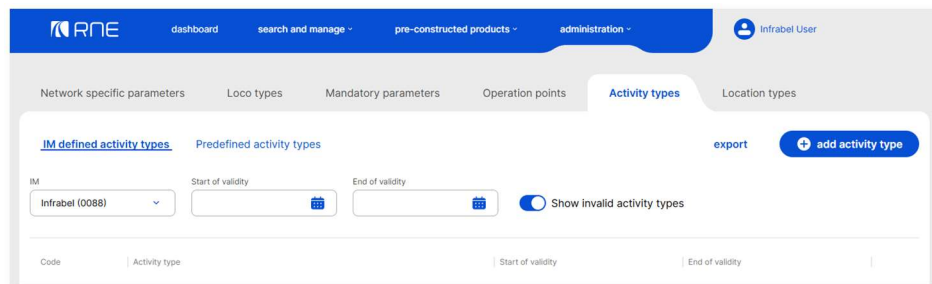
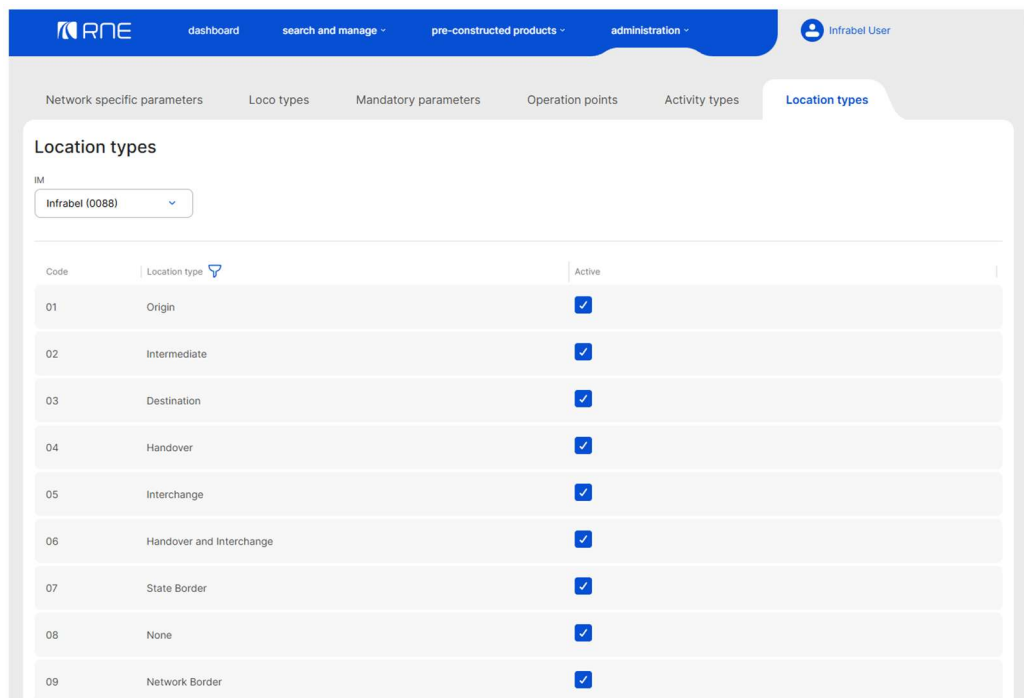


Figure 10: Activity Types in the GUI

5.5.6 Location types

- Ensure that all desired location types are active



Code	Location type	Active
01	Origin	☒
02	Intermediate	☒
03	Destination	☒
04	Handover	☒
05	Interchange	☒
06	Handover and Interchange	☒
07	State Border	☒
08	None	☒
09	Network Border	☒

Figure 11: Location Types in the GUI



5.6 Testing of PCS

Following the successful establishment of a CI or SoapUI connection, users can begin testing. Testing instructions can be found at [this location](#).