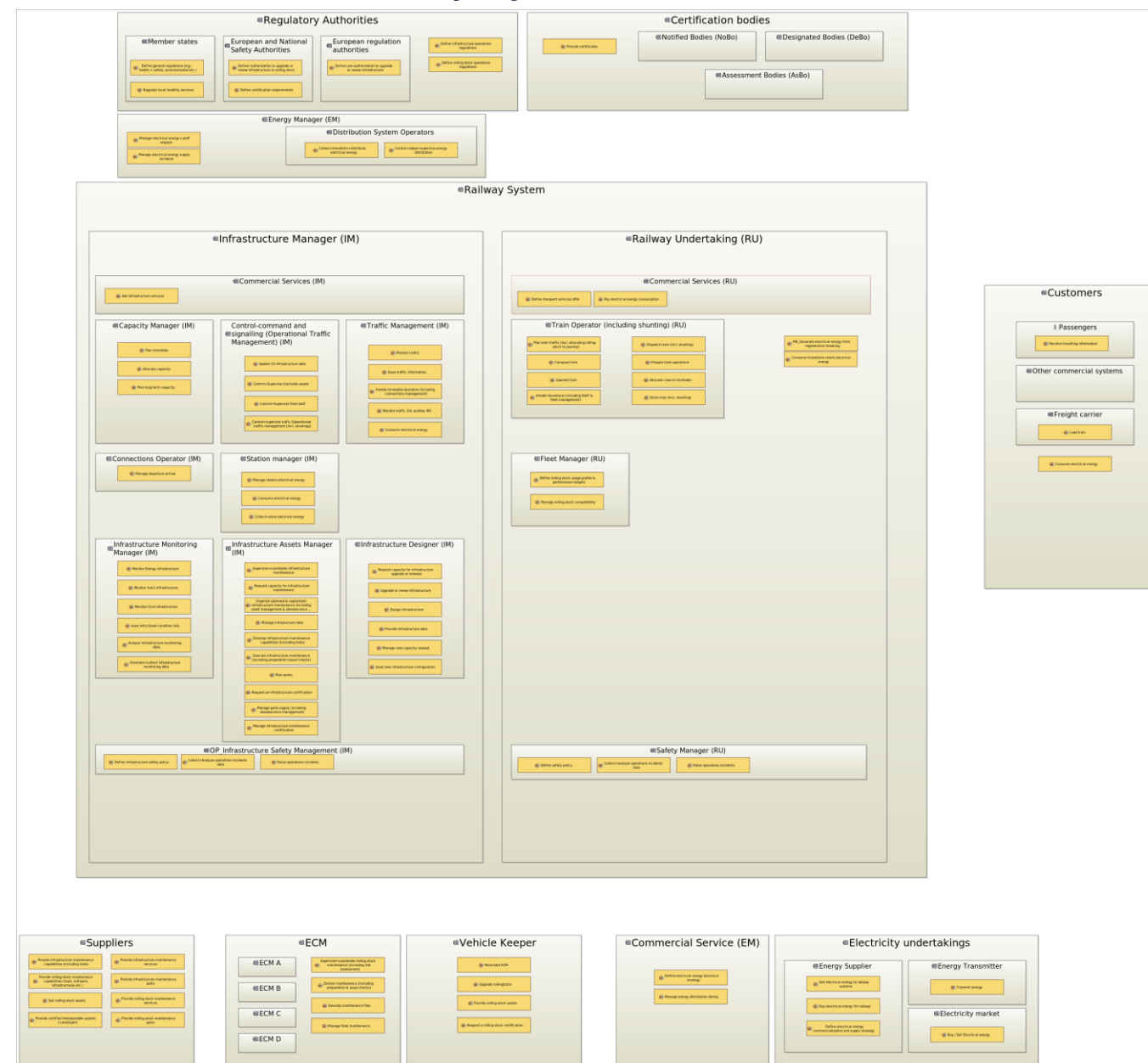# Task 1

The Railway system is expected to deliver operational capabilities using many resources and entities. These resources interact throughout the whole life cycle, from design to operation and maintenance. Integration of new technology and new concepts or innovation is usually a complicated effort.

In the System Pillar Task 1 the Business Process Architecture and Operational Design (Organizational needs, Generic automation needs, …) for the Railway System will be specified, based on, and reflecting the Common Business Objectives and the expected future performances, up to System Level 2 Railway System Architecture. This architecture needs to be robust overtime to protect investment and enable innovation acceleration.
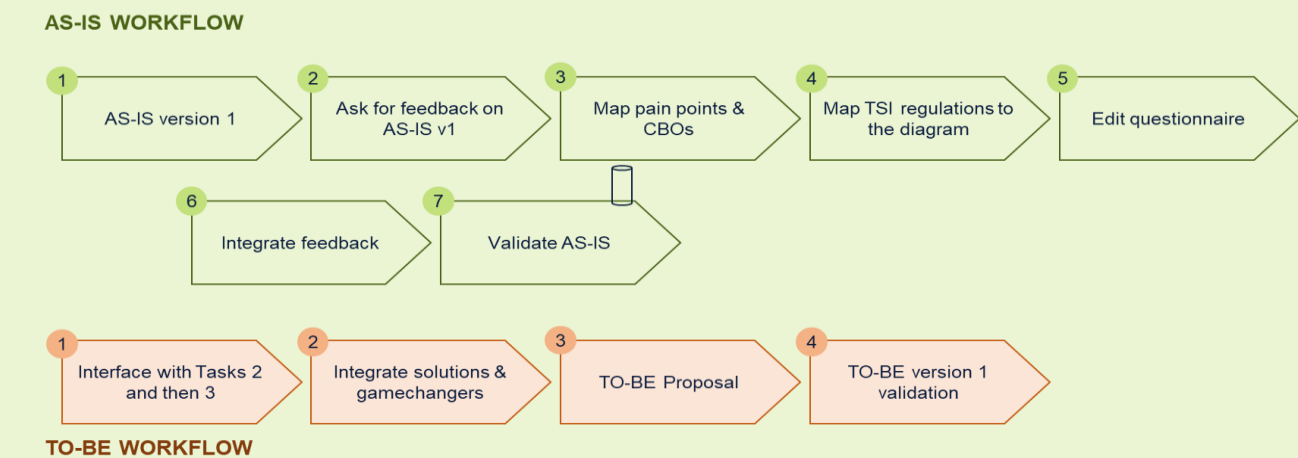
Railway System Architecture Construction of Capabilities – Roadmap

Operational Activities of the Railway System

The Task 1 Team current work is dedicated to the analysis of the 5 main **Capabilities** of the **Railway System :**

- Manage Energy
- Maintain and monitor infrastructure
- Upgrade or renew infrastructure network capabilities
- Operate Train
- Maintain and Monitor rolling stock

Operate Train Capability AS-IS (as an example)

The Task 1 Team will focus on developing the following new functions and technical enablers for the **"Harmonized European Rail Operation" migration plateau**:

- All other interfaces of the System Pillar Target Architecture, which are published at this time, can be used for optional implementations
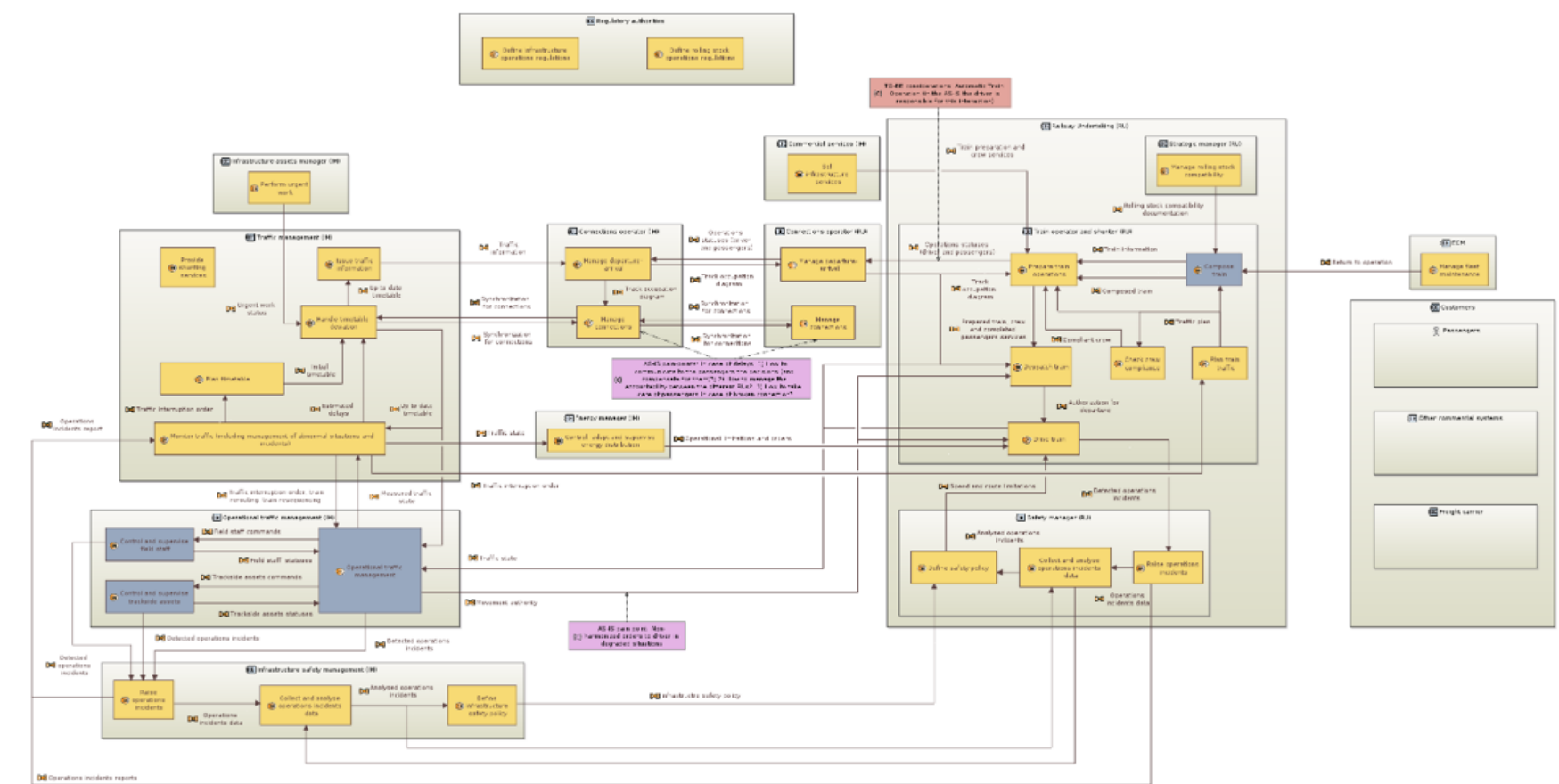
Task 1: Railway System

Frédéric Hénon (UIC)– Railway Lead
Emre Teke *(Hitachi)* – Supplier Lead

Lead STIP Deliverables

- *Not STIP Deliverables defined in STIP v1.*

Deliverables Request for Service (SC2.4)

D01   TO-BE architecture of one new capability (maintain & monitor Infrastructure)

D02   Analysis of pain points and outputs from other SP Tasks – Q3 2025

D03   Maturing TO-BE Architecture of Operate Train and Manage Energy capabilities following the interaction with other SP Tasks, FPs and internal alignment within SP Task1 – Q3 2025

Latest Achievements, Challenges and Design Decisions *(to be filled periodically by the domain)*

- **Latest Achievements:** The following achievements have been accomplished by the Railway architecture domain
  - **Achievement #1:** Conclusion of To-Be architecture of «Manage Energy» and «Operate Train» capabilities. The deliverables are approved within the SP Task1 Members and Core Group.
  - **Achievement #2:** The Interfaces and communications with other SP tasks and IP FPs already started (Operate Train and Manage Energy Capabilities)
- **Domain Current challenges:** The domain is facing the following challenges:
  - **Challenge #1:** Common View of All European Stakeholders on the described capabilities
  - **Challenge #2:** Interfaces with other tasks.
- **Design Decisions:** The domain has made the following design decisions that impact the Overall Model:
  - **Decision:** Model adaptations will be carried out, in the frame of interactions with other tasks and FP's

Expected outcomes for sector review in the next 3 months

Closeout Phase 2.3
- Mirror Group is set-up for the feedback of S.C 2.3 deliverables;
  - Operate Train To-Be Architecture
  - Manage Energy To-Be Architecture
  - Infrastructure AS-IS Architecture
  - Maintain & Monitor Rolling Stock AS-IS Architecture