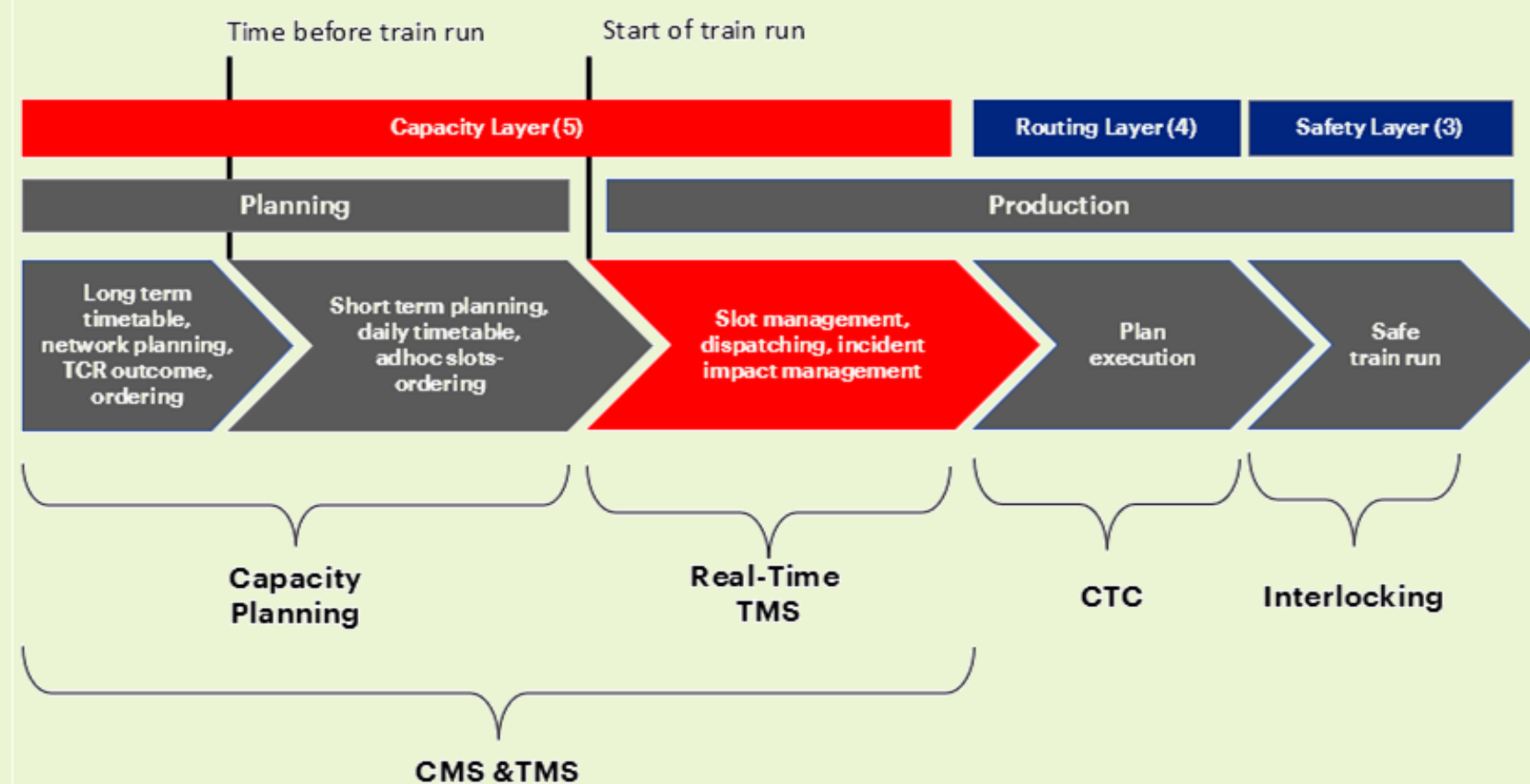# Task 3: TMS/CMS

The Task 3 Capacity and Traffic Management is the domains responsible for all planning activities including producing the operational plan and keeping it up to date, based upon the RT-operational state and RT-operational events of a railway infrastructure provider.

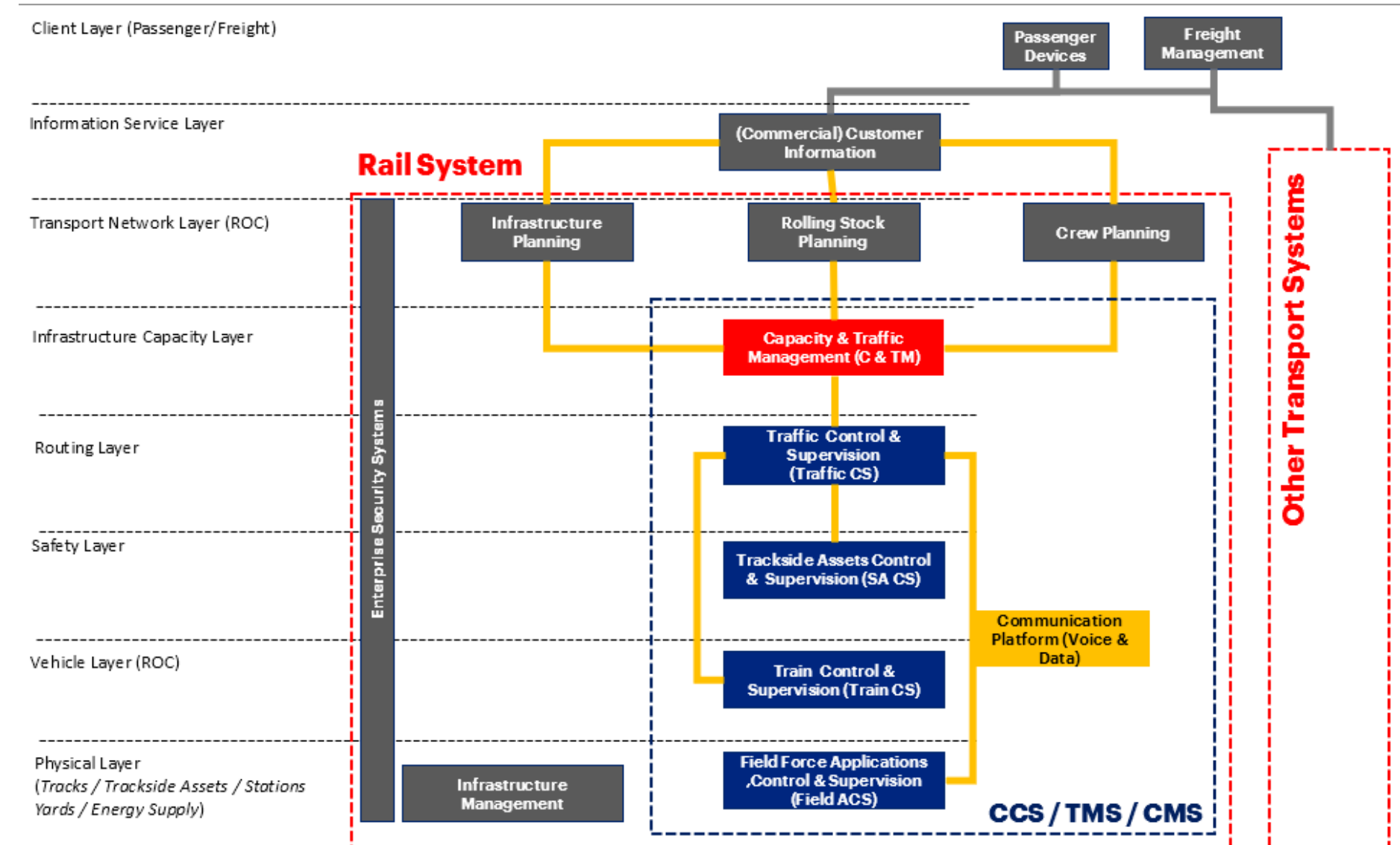**The two main areas of activities are:**

- **Capacity planning (CMS):** long and short-term Capacity planning (infrastructure planning, planning resulting from Temporary Capacity Restrictions (TCRs)) and,

- **Capacity production (TMS):** Capacity production based on capacity plan including its dispatching to Traffic CS and management of disruptions

The idea behind a European roof CMS & TMS is to strengthen the cooperation in the traffic planning and management in the form of a European network. The network is based on the full commitment of each RIM to implement guidelines which will allow a major improvement in the quality of international traffic management.

Capacity Planning & Production

System Architecture - Railway System - CMS & TMS Scope

The Task 3: TMS/CMS Team will focus on developing the following new functions and technical enablers for the **"Harmonized European Rail Operation"** migration plateau and the **"Automated European Railway"**:

- Long-term and Short-term Capacity planning and support to defined Operational Processes

- Instantiation of an operational plan based on the capacity plan and real-time adaptation to the evolution due to the real-time field events

- Traffic management for any topology geometry according the published data model

- Conflict Detection and Solution and Operational Plan optimization

- Management of the impact due to incidents and collaboration with neighboring systems

- Integration into the Digital European Railway

- TMS / CMS: Full SP Task 3 architecture

Task 3: TMS/CMS

Patrick Konix *(EUG/RNE)* – **Railway Lead**
Marco Nanni *(Alstom)* – **Supplier Lead**

Lead STIP Deliverables

- **STIP_16: Integration of TTR messages (D03) -** tbd
- **STIP_17: Function distribution and Interface between TMS/TCS (D03) -** 2026
- **STIP_18: Function distribution and Interface between TMS/CMS (D02) -** 2026

Deliverables Request for Service (SC2.4) – Year 3 [Oct-24 – Oct-25]

- **D01 Interface TMS/Traffic CS: Update Func. distribution and Interface between TMS/TCS -** Q3 2025
- **D02 Recommendation of harmonization scope TMS/CMS – Q1 2025**
- **D03 Integration of TTR Messages– Q3 2025**
- **D04 Cross border variants analysis CMS & TMS – Q3 2025**

Ad-Hoc:

- Review consistency and link of Task 3 TMS architecture to Task 1 overall design
- Review of deliverables from FPx related to CMS/TMS
- Review and align CMS/TMS Federated model with Task 1

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

- **Latest Achievements:** The following achievements have been accomplished by the CMS/TMS domain:
  - **TMS-CCS Concept Interface:** Specification interface aligned with last improvements of the TCCS Data model and ERA Ontology namings. Closed other open points. 2nd T3 internal review Cycle in progress
  - **TMS-CMS Harmonization Scope:** Document completed with the application of ARC granularity principles. Options and recommendation proposed. T3 internal review Cycle in progress
  - **CMS TMS Variants and Federated model**: Updated variant analysis –including the "Federated Model" delivered, as well as the detailed "Federated model" for CMS and TMS. Alignments with Task 1, and the Innovation Pillar in progress. A sector wide validation via the "Task 3 Mirror Group" is foreseen for the summer.
  - **DCM Messages**: Identified potential messages in line with a proposed digitalised bidding process for framework agreement to socioeconomic criteria.
  - **STIP Plan**: Updated with Task 3 contribution
  - Created a project in Capella (with EET support) for TMS and defined SAB and SDFB diagrams. Scenarios to be developed
- **Domain Current challenges:** The domain is managing the following challenges:
  - **Operational Architecture:** Missing a Capella expert. However, with the support of EET, System analysis is in progress according to Capella rules and SEMP
- **Design Decisions:** The domain has made the following design decisions that impact the Overall Model: None

Expected outcomes for sector review in the next 3 months

- **Intermediate SC2.4 milestones**
  - CMSTMS Variants analysis V2
  - Delivery of the Federated model in Polarion
  - Alignment with Task 1 for the assessment of the federated Model
  - Finalize specification of DCM messages in Polarion
  - CloseT3 comments review for TMS-TCS interface specification and TMS-CMS harmonization scope
- **Complete Validation of consistency of TMS architecture and overall system architecture**
  - Perform System Analysis at Task 3 level according to Operational Analysis performed at Task 1 level – Identify System Capabilities related to OperateTrain Capability, SDFB and SAB schemas in Capella, and some relevant scenarios