









**INTRODUCTION** 











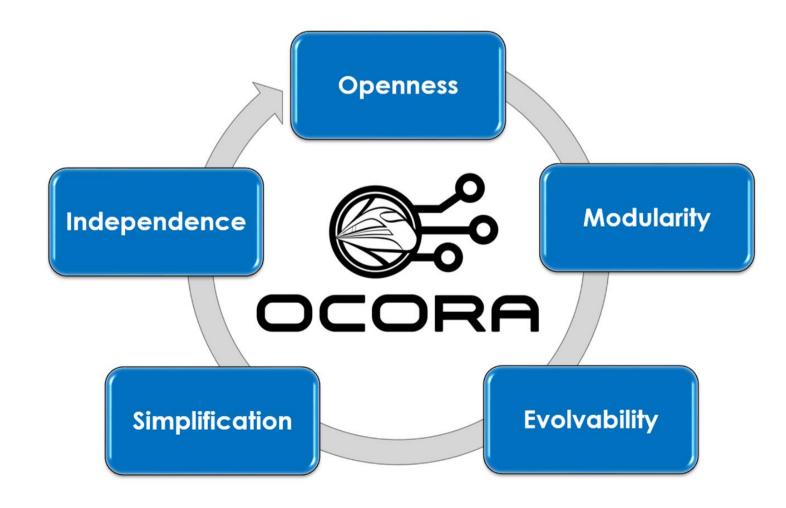


Open CCS On-Board Reference Architecture

**European Initiative** 

Open Standardized Architecture for CCS On-Board

#### **KEY PRINCIPLES**







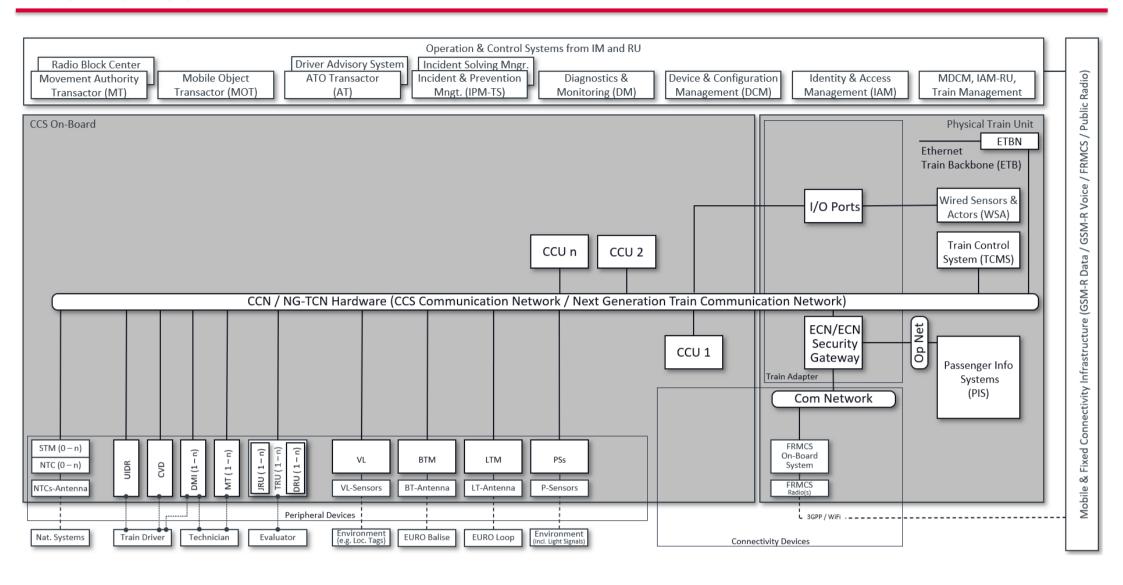






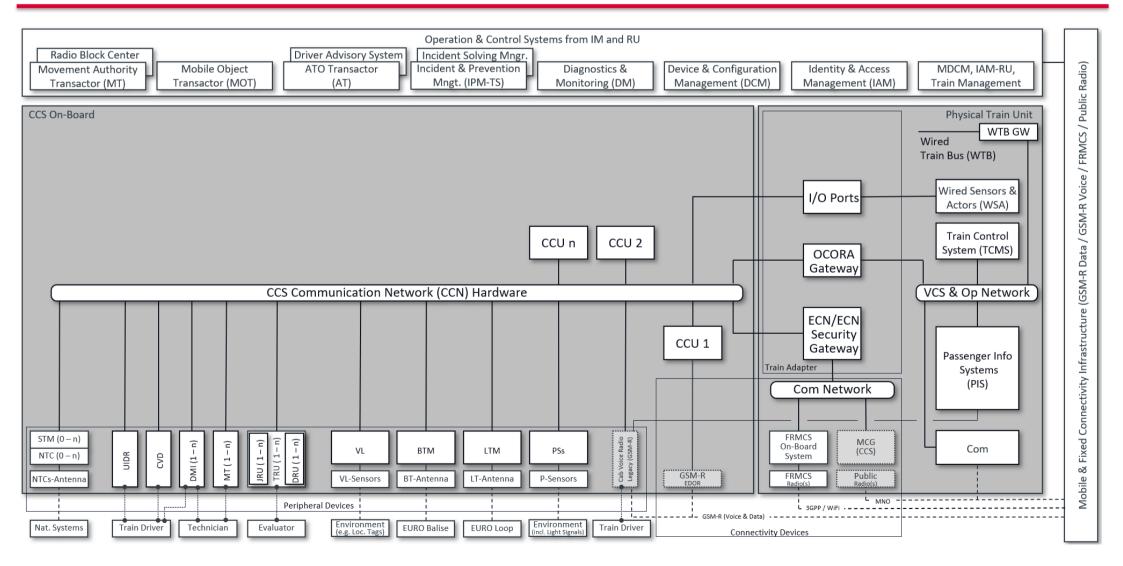


#### **PHYSICAL ARCHITECTURE - FINAL VIEW**



The OCORA architecture assumes for its final view that no legacy constituents (e.g. GSM-R) are present and a single train network is available. For the transition phase and especially for deploying updated CCS On-Board systems on legacy trains a transition view is developed.

#### PHYSICAL ARCHITECTURE – TRANSITION VIEW







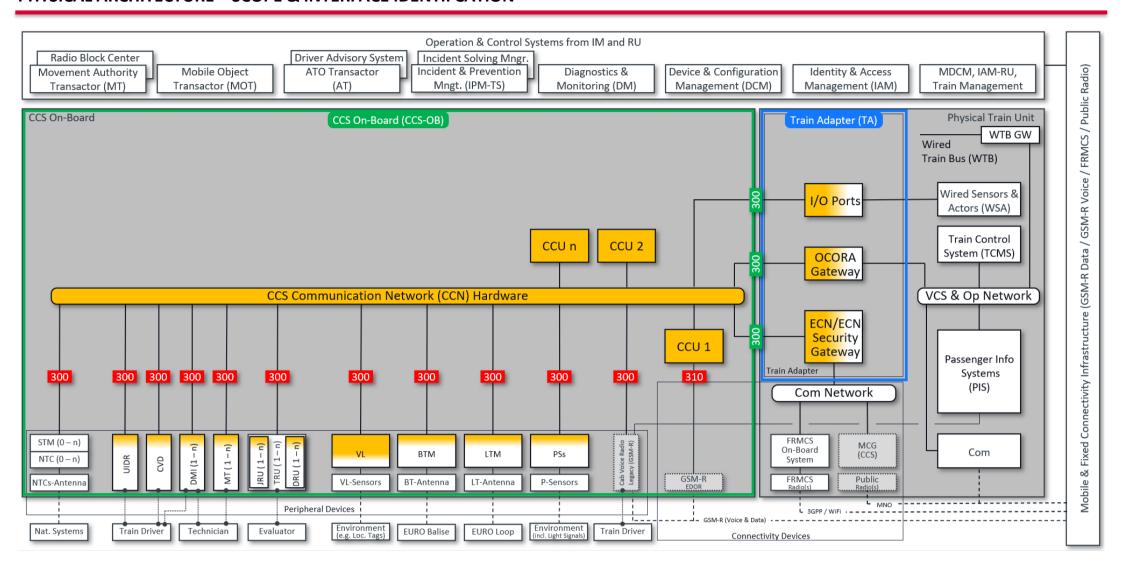








#### PHYSICAL ARCHITECTURE – SCOPE & INTERFACE IDENTIFICATION



Defining the "Red Interfaces" is the focus of OCORA.

This is to allow each Building Block to be "Plug & Play"-Like exchangeable.





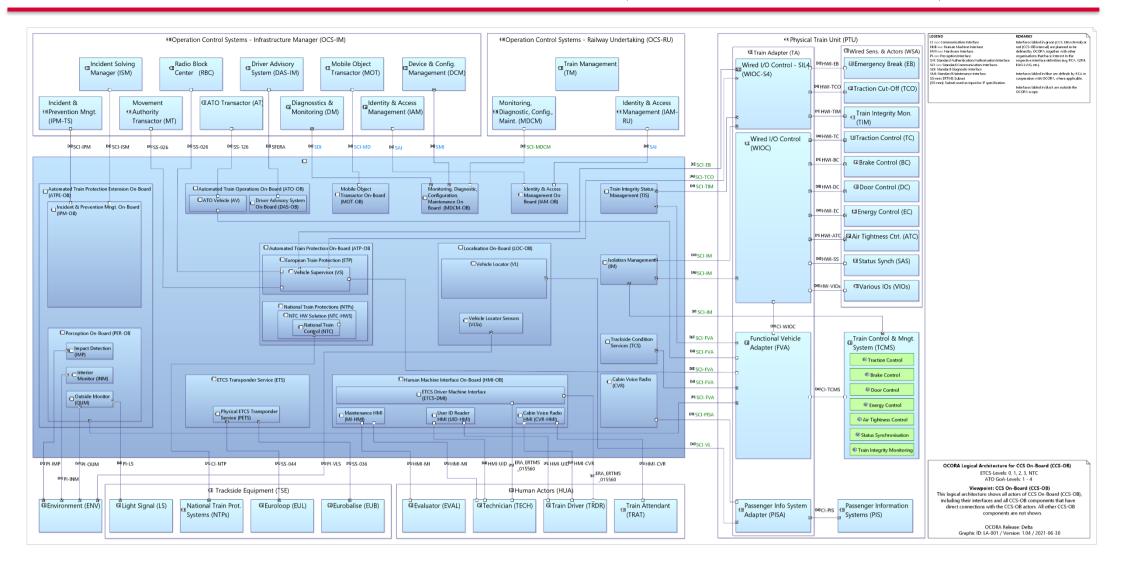








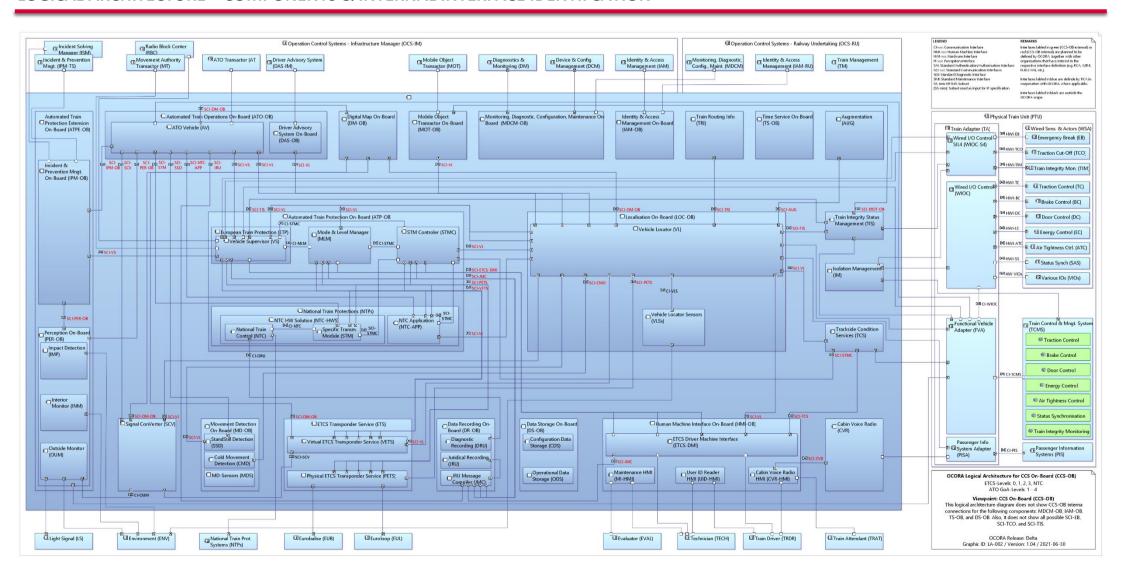
#### LOGICAL ARCHITECTURE - ACTORS AND EXTERNAL INTERFACE IDENTIFICATION (ONLY CCS-OB COMPONENTS WITH EXTERNAL INTERFACES ARE SHOWN)



Defining the "Red Interfaces" is the focus of OCORA.

This is to allow each Building Block to be "Plug & Play"-Like exchangeable.

#### LOGICAL ARCHITECTURE - COMPONENTS & INTERNAL INTERFACE IDENTIFICATION









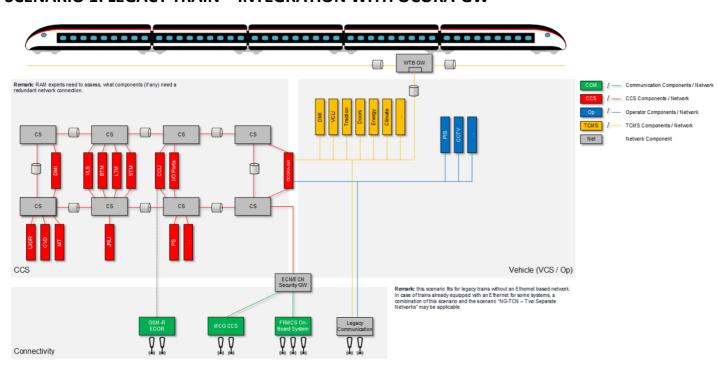




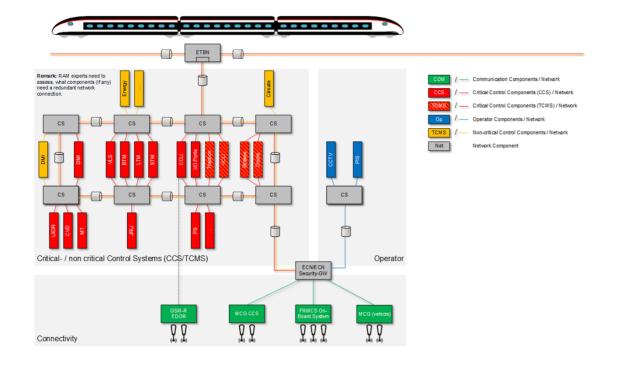


#### **NETWORK INTEGRATION SCENARIOS**

#### SCENARIO 1: LEGACY TRAIN - INTEGRATION WITH OCORA-GW



## SCENARIO 3: NG-TCN TRAIN – COMMON NETWORK



# Remark: RAM experts need to assess, what components (if any) need a redundant network connection. — CCS Components / Network cs Vehicle (VCS / Op)

#### **MULTIPLE CONSISTS**

