

EU-Rail X2Rail-5 and synergies with AB4Rail project

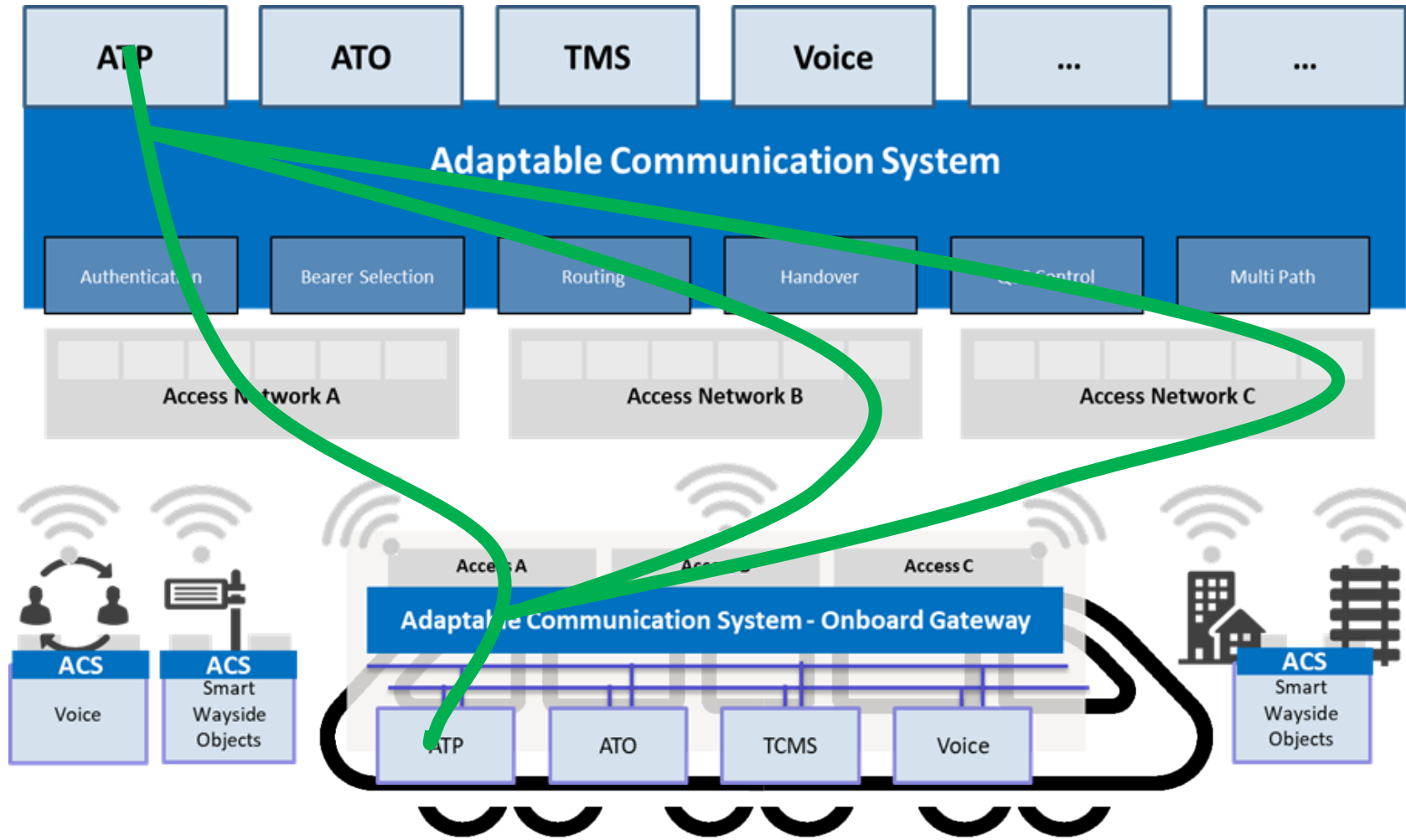
AB4Rail Online Workshop - Aerial technologies as Alternative Bearers for railway

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(21-03-2022, online)

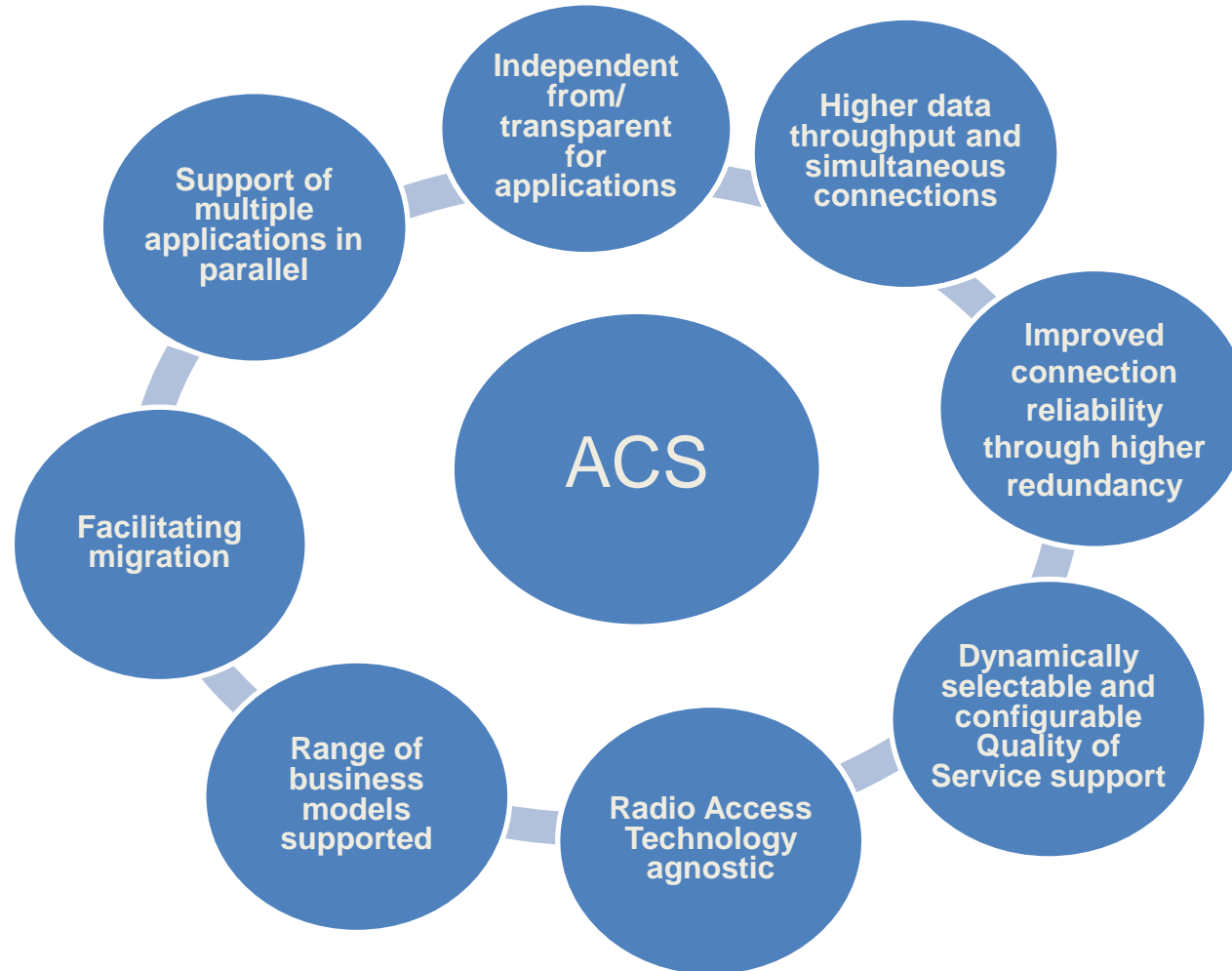


Adaptable Communication System (ACS)

System Architecture



Benefits / Advantages Compared to Legacy Networks



AB4Rail to improve Adaptable Communication System

Challenge

- AB4Rail to investigate **alternative communication means and solutions**, which can be used in addition or for complementing the current standards
 - for specific needs and/or for being implemented in well-defined and restricted areas.
 - to improve the system adaptability in view of the application of full bearer independency defined in the framework of TD2.1.

Scope

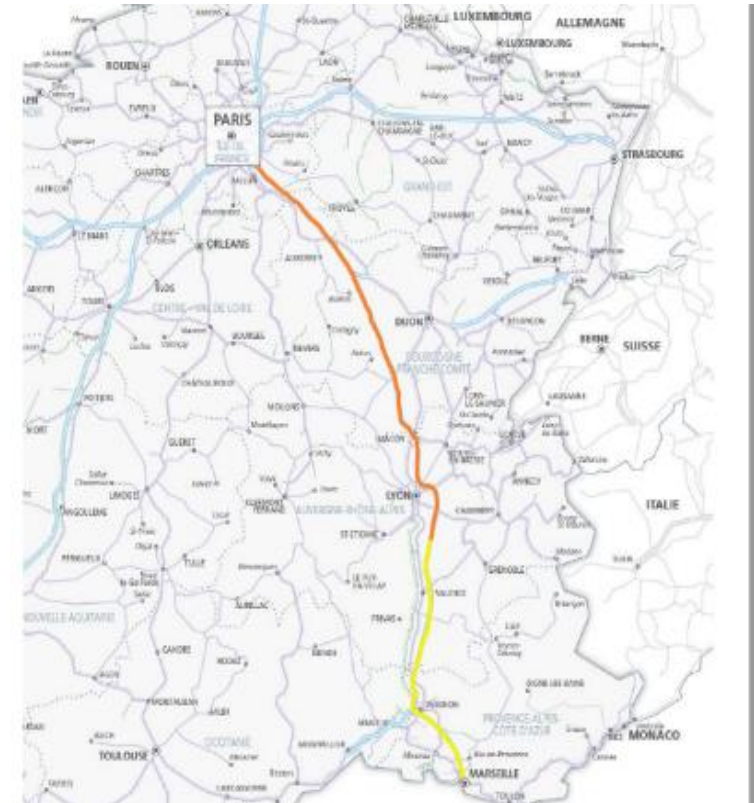
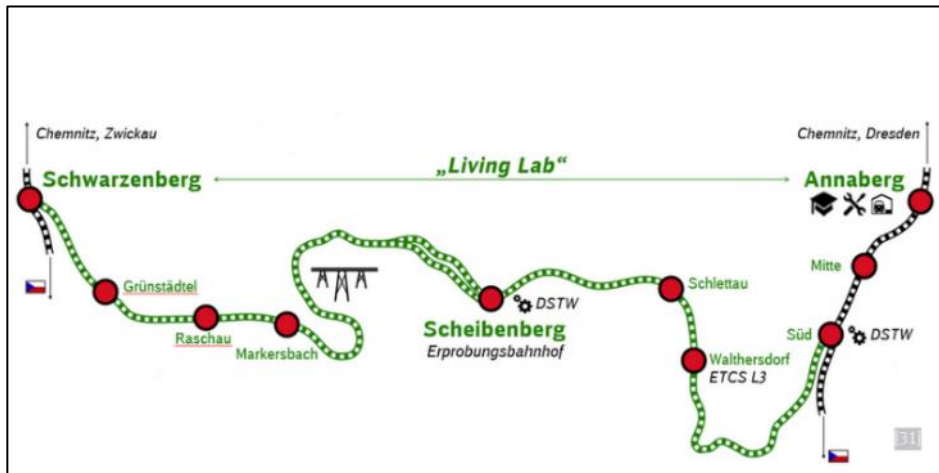
- to identify, assess and analyse **alternative bearers in addition and beyond established radio technologies** (UMTS/HSPA, LTE, LTE-A, Wi-Fi/802.11, SatCom, etc.).
- to identify the **appropriate transport protocol** for ensuring communication characteristics and capabilities during application development;

Field Tests of the ACS Demonstrators

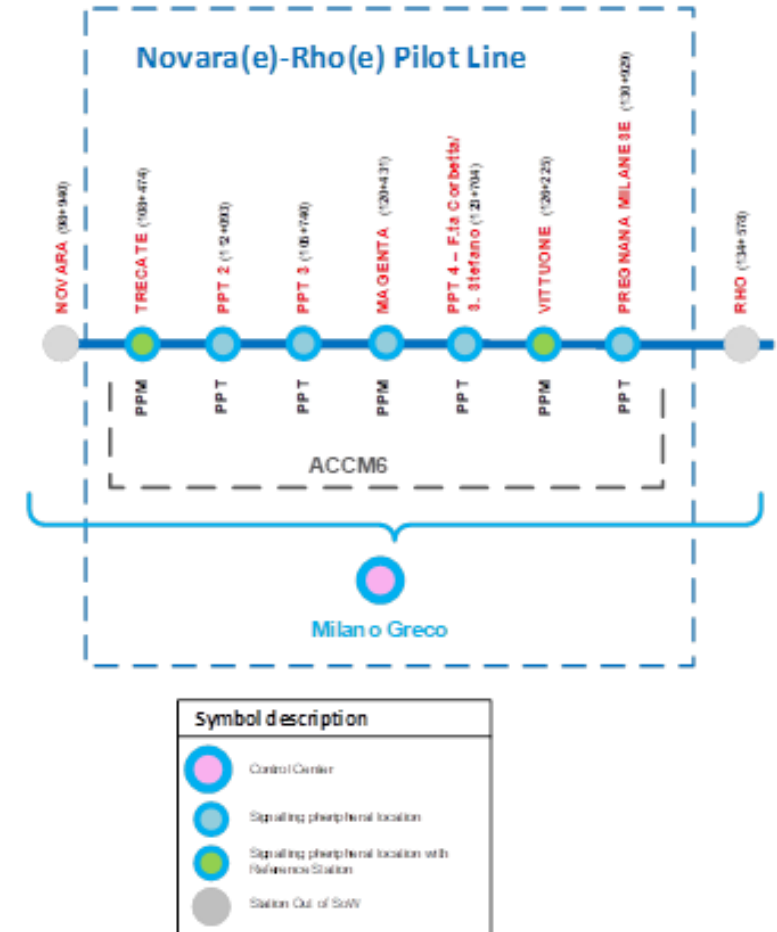
Highspeed line/Mainline - Thales:

- Paris –Marseille @SNCF (High Speed), France (already ongoing)
- **Bearer: MNO 4G/LTE, SNCF GSM-R GPRS**

- Living Lab in Erzgebirge @DB, Germany (planned for 09/2022)
- **Bearer: 5G, LTE**



- Regional/Freight - Hitachi:
 - Test track Novara- Rho @RFI, Italy
 - Current planning of execution of test plan in Q2/2022
 - **Bearer: LTE, SatCom**



- Urban/Suburban - Siemens:
 - Test track ENIF @Network Rail, UK
 - ACS field tests in 03-04/2022
 - Current planning of execution of test plan in Q2/2022
 - **Bearer: GSM-R, LTE, WiFi, 5G**

- Integrated Technical Demonstrator (ITD)
 - ACS combined with Moving block and Train Integrity
 - ITD field tests in 05-06/2022

- Test track ENIF @Network Rail, UK



Figure 1 View of part of test track and map of ENIF location []

Objectives - Synergies

X2R5 WP3 Main Objectives

- Focus within X2Rail-5 is on the field tests of the technical demonstrators of the ACS
- Based on the results of the field tests the major specification documents will be updated
 - System Specification of the ACS
 - Guideline of Technology
 - User and System Requirement Specification of the ACS

Synergies/Improvement through AB4RAIL

- Results from AB4RAIL will feed the Update of the System Specification of the ACS
- Results from AB4RAIL will feed the Update of the Guideline of Technology of the ACS

=> ACS together with AB4RAIL will give input to UIC Project FRMCS and related standardisation

Monthly collaboration calls running between AB4RAIL and X2R5-WP3 experts to share the current status

Thank you

Any questions?