

SNS JU INFO DAY CALL 2024

DESTINATION 2

**HORIZON-ER-JU-2024-FA2-SNS: EU-RAIL – SNS SYNERGY: DIGITAL &
AUTOMATED TESTING AND OPERATIONAL VALIDATION OF THE NEXT EU
RAIL COMMUNICATION SYSTEM**

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Europe's Rail JU



DELIVER AN **INTEGRATED EUROPEAN RAILWAY NETWORK BY DESIGN**



DEVELOP A **UNIFIED OPERATIONAL CONCEPT AND A FUNCTIONAL SYSTEM ARCHITECTURE** FOR INTEGRATED EUROPEAN RAIL TRAFFIC AND CCS/AUTOMATION



DELIVER A **SUSTAINABLE AND RESILIENT RAIL SYSTEM**



DELIVER A **COMPETITIVE, GREEN RAIL FREIGHT FULLY INTEGRATED INTO THE LOGISTICS VALUE CHAIN**



DEVELOP A **STRONG AND GLOBALLY COMPETITIVE EUROPEAN RAIL INDUSTRY**

EUROPE'S RAIL: ONE INTEGRATED R&I PROGRAMME

SYSTEM PILLAR

OPERATIONAL CONCEPTS

FUNCTIONAL SYSTEM ARCHITECTURE

A SINGLE COORDINATING BODY FOR THE WHOLE SECTOR EVOLUTION

OPEN INTERFACES TO OTHER TRANSPORT MODES AND BUSINESSES

SYSTEM REQUIREMENT SPECIFICATIONS

INNOVATION PILLAR

TECHNOLOGICAL AND OPERATIONAL SOLUTIONS FOR SERVICES OF FUTURE

FLAGSHIP PROJECTS

LARGE-SCALE DEMONSTRATIONS

EXPLORATORY AND FUNDAMENTAL R&I

1

EUROPEAN RAIL TRAFFIC AND MOBILITY MANAGEMENT

Manage and improve rail traffic at EU level

Adjust rail traffic management in function of the mobility demand

2

DIGITALISATION & AUTOMATION IN TRAIN OPERATIONS

ATO implementation

Digital train operations

3

SUSTAINABLE AND DIGITAL ASSETS

Integrated assets testing & life-cycle framework

Zero-emission, silent rail system

4

COMPETITIVE, DIGITAL, GREEN RAIL FREIGHT

New digital customer interaction & innovative rail freight services

Multimodal and rail freight innovation integration

5

REGIONAL RAIL SERVICES IN LOW DENSITY AREAS

New system approach to regional rail services in low density areas

DEPLOYMENT GROUP

FUTURE SOLUTIONS DEPLOYED IN A COORDINATED AND CONSISTENT WAY AT EUROPEAN LEVEL, TAKING INTO ACCOUNT ALTERNATIVE ROLLOUT SCENARIOS, BEHAVIOURAL AND ORGANISATIONAL CHANGES, SYNERGIES WITH OTHER MODES OF TRANSPORT

Specific conditions (highlights)

Expected EU contribution

EUR 13.5 million

Indicative project duration

30 months

TRL

TRL6/7. The output should be included as part of the EU-Rail Standardisation and TSI Input plan, and follow the associated processes linked to the ERA Change Control Management process.

Type of action

Innovation Action – Lump Sum

Linked actions and expected interactions

The action that is expected to be funded under this topic will be complementary to the following actions:

- FP2-R2DATO (GA 101102001)
- FP6 – FutuRe (GA 101101962)

Please note that the list is non-exhaustive as additional Linked Projects may follow at a later stage of the programme implementation to complement the activity

Call details

Opening: 25 January 2024

Closing: 07 May 2024

Expected outcome & scope

- **Workstream 1:** Development of a future proof telecom architecture including all necessary network elements, based on 5G SA, IMS/SIP Core, MCX and more generally on 3GPP standards, and conform to all FRMCS Specifications from UIC, 3GPP and ETSI. **This must include pre-commercial versions of onboard equipment (TOBA, Telecom On-Board Architecture) and of the corresponding Trackside Gateway** ensuring the relevant management of telecom streams, independently of carried services, and then facilitating the bearer flexibility of the solution.
- **Workstream 2: Testing of key functions necessary for daily operations of trains,** including safety related functions, with the adequate quality of service and all necessary telecom interfaces and protocols: voice operational functions (necessary for the daily operations of trains, in the continuity of GSM-R operational functions, including safety related functions such as the voice emergency call), ETCS level 2 support, ATO over ETCS (GoA1/2), additional FRMCS features such as Messaging, Train Control & Management System (TCMS), CCTV and Passenger Information System (PIS) using video over Mission Critical (MC) Data if video is needed.

Expected outcome and scope

- **Workstream 3: Validation and return on experience:**
 - **Validate the capacity of the systems** to meet KPIs and Fault Configuration Accounting Performance Security (FCAPS) in order to estimate and predict service behaviour.
 - **Deliver technical inputs for Migration strategy** to move from GSM-R to FRMCS;
 - **Include the necessary return of experience** (from the results of the action to be funded under this topic, and also possible national FRMCS testing campaigns) to provide feedback to specifications (refinement of possible gaps and input to future specifications) and ultimately, start pilots (or initial deployments in safe operational and economic conditions).

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09 February 2024 (online)

<https://rail-research.europa.eu/calendar/europes-rail-info-day-2024/>