- S2R-CFM IP3-01-2019: Intelligent asset management finalisation

EXPECTED IMPACT

Actions will contribute to achieve an increase of the attractiveness and competitiveness of the railway transport in Europe through an efficient, safe, intelligent infrastructure maintenance approach. Expected specific impacts for work stream 1 are:

- improvement workers safety and working conditions;
- Cost reduction of the working methods by improving time needed (up to 20% reduction compared to state-of-the art methods);
- Improved quality, higher accuracy, of the results produced by the improved working method.

For work stream 2:

- improvement workers working conditions and safety;
- reduction of physical, static load;
- Sustainable employability of employees.

Type of Action: Research and Innovation Action (RIA)

4.2.9 S2R-OC-IP4-01-2020: Supporting the implementation of the IP4 ecosystem

SPECIFIC CHALLENGE

IP4 is defining a consistent bench of services covering all the steps of multi-modal journeys and providing a seamless passenger's experience. A long term CFM project (COHESIVE) started in 2017 is consolidating incrementally the various building blocks developed in the IP4 projects and then demonstrating the added value of the IP4 developments[61]. To be effective and to pave the way of an easy deployment, these demonstrations must take into account the constraints of a real environment. The specific challenge of this Open Call aims to provide this environment, and requires the following steps:

- Define relevant use-cases together with the CFM project members
- Provide real data supporting the implementation of the use-cases
- Clarify the adequate business rules needed to implement these use-cases
- Support when requested -in the field- demonstrations
- Collect the needs and expectations of future users of the solutions in order for Travel Service Providers to manage the offer of the travelers.

SCOPE

The action addresses the "non-technical" part of the ITD4.7 in the S2R MAAP. The overall integration of a great number of travel services and modes all over IP4 is the only way to demonstrate added value on the market. The technical part (complex software integration) of ITD4.7 is developed by the CFM project COHESIVE, but performing relevant demonstrations require the involvement of additional

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[61] https://shift2rail.org/research-development/ip4/

stakeholders, for instance operators (urban rail, main line, other modes), transport authorities, cities, retailers, airlines.

In order to address the challenges described above, proposals should address all the following work streams, in line with the S2R MAAP:

- Provide real data in an operational environment.

- The consortium should include operators covering a large set of transport modes both public and private ones (e.g. railway, car, bike, electric scooter share).). It should also include public transport operators willing to test the functionalities provided by IP4.

- Complement by other actors providing services related to transport that could be offered integrated to improve travellers' experience (e.g. hotels, tourist info).

- Integrate small operators (e.g. small taxi companies, buses like school-bus companies, hotel shuttle services) by using SaaS technology developed in S2R-CFM-IP4-01-2020.

- Define a clear interface and demos implementation plan in coordination with the CFM project COHESIVE which will allow the alingement of the IP4 dissemination activities.

The demonstrations will run the IP4 developments in real corridor, and will prepare the IP4 eco-system deployment and market uptake.

The action will support IP4 to identify in concrete terms the requirements of the context in which the solutions are used.

At least three demonstration sites need to be provided:
1. Urban demo site, including
    a. Public transport (e.g. underground, tram, bus)
    b. Sharing modes (e.g. car, bike and scooter sharing)
2. Rural demo site, including
    a. Public transport (e.g. suburban trains and buses)
    b. Private modes (e.g. own car and ride sharing)
    c. Demand responsive transport

In addition a connection between the demo sites by long distance transport (e.g. rail, air[62], coach) should be showcased. The demonstration should cover at least 3 different countries, a retailer (e.g. MaaS operator), 5 different operators (including long distance operators both rail and coach and personel transport) and at least 2 small Public Transport Operators (PTOs).

Moreover, and based on sociological studies, the project will collect the needs and expectations of future users of the solutions in order for Travel Service Providers to tailor their offers to the travelers. Special attention should be given to special user groups (such as school children) exclusion aspects such as the effect digital divide, ageing, or physical or cognitive impairments that as a whole cover a significant part of the population that still need to access public transportation as smoothly and hassle free as possible.

The project is expected to reach TRL 6/7 by the end of the project.

The S2R Joint Undertaking considers that proposals with a duration of 30 months would allow this topic to be addressed appropriately. Nevertheless this does not preclude submission and selection of proposals with another duration.

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[62] Services will be provided by S2R through the CFM project partners.

COMPLEMENTARITY

As specified in section 2.3.1 of AWP 2020, in order to facilitate the contribution to the achievement of the S2R JU objectives, the options regarding 'complementary grants' of the S2R JU Model Grant Agreement and the provisions therein, including with regard to additional access rights to background and results for the purposes of the complementary grant(s), will be enabled in the corresponding S2R JU Grant Agreements.

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

- S2R-CFM-IP4-01-2020: Enhanced end-user centric travel ecosystem.

The action stemming from this topic will also be complementary to actions carried out within the following projects:

- CONNECTIVE (GA 777522)
- COHESIVE (GA 777599)

EXPECTED IMPACT

The action, supporting the COHESIVE demonstration project, will bring the following impacts:

- Enrich the content of the demonstrations, by using real data, real processes, and potentially real environment for the demonstration
- Demonstrate that the IP4 eco-system is versatile, able to face diverse environment, business rules, transport modes, and data standards
- By bringing various stakeholders defining adequately the use-cases, the action will ease the market acceptance
- The action will create the conditions of a successful deployment of the IP4 solutions.

Type of Action: Innovation Action (IA)