S2R-OC-IP4-02-2018: Supporting the implementation of the IP4 multi-modal transport ecosystem

Specific Challenge

IP4 is defining a consistent array of services covering all the steps of multi-modal journeys and providing a seamless passenger experience. The long-term CFM project COHESIVE (S2R-CFM-IP4-02-2017) started in 2017 is consolidating incrementally the various building blocks developed in the IP4 projects and then demonstrating the end-to-end set of services with relevant use-cases. To be effective and to pave the way of an easy deployment, the demonstration made by COHESIVE (end of 2020) must take into account the constraints of a real environment. One of the specific challenges of this Open Call is to develop an even deeper operational perspective and an active collaboration on the definition and description of this real environment, and to deliver the necessary support to the COHESIVE project to implement a successful demonstration.

Moreover, the new IP4 ecosystem is changing the business rules, with the creation of global services and data transport market place. A specific challenge for this project will be to assess the influence of IP4 on the transport ecosystem, with new roles, new business models, and new behaviour for the passengers (socio-economic impact).

Scope**:**

The action addresses the "non-technical" part of the ITD4.7 in the Shift2Rail Multi-Annual Action Plan (MAAP). The overall integration of various travel services and modes all over IP4 is the only way to demonstrate added value on the market. The technical part (complex sub-systems integration) of ITD4.7 is developed by the CFM project COHESIVE (S2R-CFM-IP4-02-2017), but performing a meaningful and relevant demonstration requests the involvement of additional stakeholders which will support the demonstration. Experiences, perspectives and functions will be wider with the participation, for instance but not restricting to: operators (urban rail, main line, others transport modes), transport authorities, passengers, cities, retailers, airlines, etc.

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

- Propose relevant scenarios, and support COHESIVE project to transform them in valid use-cases, compatible with the developments made in the others IP4 projects.
- Support the demonstration of these use-cases by the COHESIVE project, with non-technical contributions, for instance but not restricting to:
  - Access to data to execute the use-cases
  - Alert on implementation constraints and business logics
  - Give access to the interfaces of the legacy systems, with associated support, allowing their mapping in the IP4 ecosystem.
  - For real life pilot testing, provide a realistic and adequate environment to integrate and run the demonstration done by COHESIVE project.

The second set of actions is related to the careful analysis of the impact of the IP4 ecosystem on the passenger's behaviour and their response to the technological changes, and the transport business rules at large. The action should look at the impact on the technical and regulatory aspects of the IP4

multimodal transport services market place on the business logics, on the creation of new business models, on the behavioural response of passengers, etc.; utilising as far as they are available public results from previous projects as GOF4R project[44] (S2R-OC-IP4-01-2016).

This action could benefit from surveys conducted during the S2R-CFM-IP4-02-2017 - COHESIVE demonstration.

The project is expected to reach TRL up to 4 (even if the project members are supporting the COHESIVE demonstration, they will not perform any technical activities).

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

- S2R-CFM-IP4-02-2017: IP4 overall integration and demonstration (COHESIVE)

As specified in section 2.3.1 of S2R AWP for 2018, in order to facilitate the contribution to the achievement of S2R objectives, the options regarding 'complementary grants' of the S2R 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 Grant Agreements.

Expected Impact:

The action will bring the following:

- Ease and promote the market acceptance by bringing various and complementary stakeholders proposing realistic scenarios to build the demonstration use-cases.
- Enrich the content of the COHESIVE demonstration, by providing realistic business rules, real data and realistic environment.
- Demonstrate that the IP4 eco-system is versatile, able to cope with legacy systems.
- The assessment of the business and socio-economic impacts of the IP4 ecosystem will clarify the pros and cons, and accelerate the market uptake

Type of Action: Research and Innovation Action

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[44] http://www.gof4r.eu/home.aspx