**System Pillar Steering Group**

**Meeting 29 September 2023**

**10h00 – 12h30**

Minutes of the Meeting

## 1. Welcome from the Chair and adoption of the Agenda

Keir FITCH welcomed the participants to the 5th meeting of the System Pillar Steering Group and updated the members on the last SP activities. He reminded the members that the agenda and documents had been circulated before the meeting.

He stated that he would like to take the opportunity within the November SP-STG for a review and discussion of the System Pillar after 1 year of operation.

Paolo UMILIACCHI proposed to add an AOB topic to discuss about the workshop ICT for Railways taking place in November 2023 in Munich. Nicolas FURIO also proposed two AOB topics, regarding the JU update on the use of software licenses for the tools in the JUs (both in the Innovation Pillar and System Pillar), and the update on the progression of the STIP.

## 2. Approval of meeting 5 Minute

The minutes of the fifth meeting were approved.

## 3. Update

Giorgio TRAVAINI discussed the activities of the JU since the last SP-STG meeting. He informed the members that the JU is building up a topic proposal for a Call in 2024 planned to be agreed in the GB of the 5th of December, where the amendment on the WP 2023-2024 and the new WP 2024 will be also discussed for endorsement of the GB. He commented that the possible testing for the latest specifications of FRMCS have been investigated regarding the Call 2024, to ensure the sector validation and its feasible insertion into the TSI specifications. He added that it will be part of the SP-STG to validate later on the successive test before it reaches the Agencies.

Giorgio TRAVAINI informed about two other topics that have been investigated. One of them related to DAC and the need to develop its functions and make them accessible to all suppliers. The idea of the Call 2024 is to anticipate those developments so that there is the possibility of pilot tests at the end of FP5 i.e., 2026-2027. He also stressed the re-publication, slightly changed, of the Call of Hyperloop types of solutions, since the 2nd call was not successful.

Giorgio TRAVAINI also stated that the end of September 2023 was the deadline for the submission by the Consortium of the report for the energy decreasing consumption measures based on the existing technologies and the R&I activities from S2R and EU-Rail (*to be discussed during the next meetings*). Regarding Polarion Licenses and IT software updates, he commented that the transition period is being concluded so that EU-Rail can provide these IT services to the SP and partially to the FPs.

Ian CONLON updated the members on the signature of the second year of the LOT 2 task and domain work. He stressed that there are still some points to manage with the Consortium, i.e., on the work of the back operational group, but that it is a priority to get it signed asap to avoid continuity issues with the current contract. He stressed the need for further discussion with the Board Consortium to have a successful outcome.

On behalf of the CER, Enno WIEBE asked about the hyperloop types of solutions and its link to the European Commission (EC). Keir FITCH stressed that they are running in parallel and that the technical details are not ready at that stage.

The Chairman of the SRG, Miroslav HALTUF, asked about the statement on the hyperloop and its importance for Members States (MS). He stressed that it is important to know which is the general view of the MS, which ones are supporting it, and in which work area they want to develop it.

## ITEMS FOR DECISION OF THE SYSTEM PILLAR STEERING GROUP

No items for decision.

## ITEMS FOR DISCUSSION OF THE SYSTEM PILLAR STEERING GROUP

### 4. System Pillar CCS/TMS Data model

- Presentation on CCS/TMS model

Ralph R MULLER updated the participants on the CCS/TMS status, providing context and actions taken. He commented on the SP need of new further data communication interfaces (thus requesting a specific data model) and stressed the importance of the syntax of this specific data model. Safety applications need validated data, and the processing of validated data prevents conversion/ transformation of data or requests very expensive tooling certification (*for details, please refer to the presentation*).

The Chairman of the SRG, Miroslav HALTUF, asked on the CCS/TMS Data Model and its relation to the traffic management and safety related issues. He commented on the managing of real movement of trains and the capacity management of human resources as topics to include in the model (multi-layer Model). He stressed the importance of considering this together in one complex model.

Ralph R MULLER commented on strict focus on machine-machine communication and the importance of human interfaces i.e., traffic controllers or maintenance staff served by user interfaces that are derived from the data model and do not deviate it. He agreed on reducing complexity as much as possible but not by reducing capabilities.

Ralph R MULLER also asked on the collaboration with ERA to create a semantic data model representation for the EU railway data exchange, and the commitment to create a CCS/TMS “semantic model” representation for this purpose. The CCS/TMS Data Model will be the only language within the SP as

machine-machine communication shall be unambiguous. He also stated that ERA is testing semi and automatics linking methods, being now at the level of semantics.

On behalf of ERA, Marina AGUADO commented that work is under way to transform the CCS/TMS data model for interfaces, and to upgrade it to a semantic model. She stressed the importance of bidirectional linking.

The Chairman of the SRG, Miroslav HALTUF, asked about the meaning of "ERA Vocabulary". Marina AGUADO commented that the vocabulary is the digital representation of the term. Miroslav HALTUF stressed the need for a Glossary, in parallel with ERA Vocabulary, which would define the terms to enable understanding of TSIs at the same level.

Nicolas FURIO commented on the user activities under SP, and stressed the need for improvement of the first version, based on the input of the users both in the FPs and SP. He asked the JU for the date when this data model will be available and how it is expected to connect the feedback from the users to improve the data model. Ian CONLON stated that there is a usable model which can be used internally in the JU, but the date of public release is not decided yet.

Ralph R MULLER said that before any standardization takes place, user expectations must be certain.

Enno Wiebe (CER) stated that CER supports the current approach "CCS/TMS data model v1". The v1 of the CCS/TMS data model can be considered as a sufficient starting point supporting collaboration in ERJU both for SP and IP. Detailed comments will be provided by the CER for further evolution before validation.

➔ **The System Pillar CCS/TMS Data model will be for further discussion in future SP-STG meetings.**

## 5. Computing environment

- Presentation on the recommended interfaces to be standardized and next steps

On behalf of DG-MOVE, Patrick MARSH updated the participants on the status, actions taken and first problems to be solved, i.e., which degree of modularity of computing environments, and which extent of potentially harmonized interfaces would be best appropriate in the rail sector (*for details, please refer to the presentation*).

Patrick MARSH also commented on the five possible interfaces that could be standardized in the rail sector and its overall assessment. He stressed that I1 and I2 should be standardized. For the I3-I5, further study is required.

Keir FITCH asked about the benefits and commented on cases of higher costs but with sufficient benefits to justify them. Patrick MARSH commented that the benefits were assessed, but stressed the difficulty of reaching a common quantified assessment as it depends on the perspective of the players.

Giorgio TRAVAINI asked about the 13 users stories analyzed and the possibility of them being a "Wishlist" of a single player. He stressed the need to have a larger perspective to enhance the entire system. Patrick MARSH stated that, although it is not an exhaustive list, multiple meetings have taken place with suppliers and users.

Wawrzyniec PERSCHKE commented on the interdependencies between the different interfaces from the point of view of the overall IT architecture.

Klaus MINDEL commented on the technical requirements and economic impact. He discussed the need to demonstrate a positive outcome for each user case, but also for the concerned stakeholders so that it will be sustainable in the long term.

Jean-Francois CAUBET ask to obtain a Cost Business Analysis about the users stories that are introduced and also the description of these business stories. It is not possible to give our point of view without our analysis of these elements to be sure that we have the demonstration of their profitability. Keir FITCH stated the necessity to look at the costs and benefits for both the individual actors and the systems, maximizing the interests of all.

Wernhart WOLFGANG stressed the importance of having a discussion to understand the same regarding the impact of each interface.

Enno Wiebe (CER) remarked that it is important to move on with drafting the specifications and encouraged the actors to continue the promising work.

➔ **The members of the SP-STG agreed to further analyze the cost-benefit relations of the non-agreed interfaces and carry on with the agreed ones.**

## 6. Governance and working arrangements

- Presentation on proposed changes

Ian CONLON updated the members of the SP-STG on the SP activities and the latest changes (*for details, please refer to the presentation*). He stressed that the Lot 2 contract for year 2 of the SP will be updated to be consistent with these changes.

Jaime PEREIRA commented on the security issue and its increasing relevance and need for resource. Ian CONLON stated that there is a horizontal team on security, and that the need for more resource was a common request across most domains. In the response to the Request for Service, the SP Consortium had not requested more resource specifically for the security team.

## 7. Absolute Train Positioning/EGNOS

- Update on the EU-RAIL approach to defining the GNSS augmentation service based on EGNOS

- Presentation on the SP work on on-board architecture to accommodate Absolute Safe Train Positioning.

On behalf of EU-Rail, Ian CONLON provided a presentation on absolute train positioning and EGNOS, providing a proposal for the next steps (*for details, please refer to the presentation*). He commented that a report would circulate following the SP-STG meeting outlining next steps.

Jean-Francois CAUBET commented on the access to documents to analyze the CBA. Jean-Francois CAUBET commented that AERRL does not have enough information to understand the added value of using satellites in the railway system. We would like to obtain the requirements that are defined to this integration. We also require a cost business analysis. Without these elements and their analysis by our experts AERRL cannot support this technical change.

Giorgio TRAVAINI stated that R&I demonstrations have been carried out also to answer these questions but stressed that a concrete demonstration is needed.

Enno WIEBE asked on the migration of EGNOS into ETCS and the analysis of the impact. Ian CONLON stated that there is no agreed position on this yet, so it will be a topic for the next meetings.

Davinder BHATIA presented the request from the SP-STG to assess the previous initiatives and next steps (*for details, please refer to the presentation*). He talked about the improvement of train safe positioning as a key element for improving performance of ETCS and ATO and stressed some current restraints.

Klaus MINDEL asked about "iterability" as one of the four criteria presented. The members discussed on the PTC in Australia and its further investigation.

Jaime PEREIRA stated that the challenge is getting (at least) the same rail performance requirements as currently offered by standardized solutions reducing the cost on the whole life cycle.

## 8. DAC

- General update, with emphasis on SP activities

Martin EBNER presented an overview of the Task 4 DAC / FDFTO status to the SP-STG members. He also commented on the draft cloud platform architecture for SW and dynamic data gathering and dispatching.

## 9. CCS Migration

- Awareness raising on released questionnaire

Ian CONLON reminded the members that a letter was sent to the representative associations with a link to the 2nd migration questionnaire requesting response from operators from the whole CCS.

## 10. AOB

Ian CONLON informed that the meetings programmed until the end of next year would be sent after the meeting.

Paolo UMILIACCHI invited the SP-STG members to participate in the workshop ICT for Railways taking place the 15-16 of November 2023 in Munich. He stated that it focuses on the digitalization and sustainability of the railway system. More information can be found on their website (www.ict-for-railways.eu) and in the attachment below.

ICT for Railways
2023 Presentation v(

**Addendum following meeting:**

Following the request for comment on the section 6: Next steps in the Absolute Train Positioning Baseline exercise the following comments were received.

From EIM

Regarding the note on the Absolute Safe Train Positioning Baseline exercise, following your request for feedback I inform you that EIM

- welcomes that the SP will align the different initiatives with the aim to have a common solution, and
- overall agrees with this document, including the next steps.

Some additional comments:

EIM:

- sees room for improvement regarding the attention to the business case of the envisaged solution. The risk to be avoided is that the solution will become unaffordable in the market. EIM recommends addressing this aspect at the "next steps";
- underlines that ASTP must contribute to reach the same performance requirements as current ERTMS on-board solutions (notably SUBSET 041 requirements, among others accuracy better or equal to ± 5m + 5%) but allowing a lower cost of the overall system (on-board and trackside). On top of that, the output of ERJU developments (innovation and system pillar) should include a unique and standardized architecture that fulfills all the relevant requirements to make possible a smooth introduction into the CCS TSI specs and thus allowing a harmonized implementation by the industry. Stream 2 proposal (FSTP) seemed to be the one that was in a condition to achieve those requirements.

From UNIFE

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The comments include the following on next steps:

UNIFE agrees with the next steps but suggests to introduce two intermediate milestones, one after step 3 and a second one after step 6.

When reaching those milestones, it is agreed that the intermediate results will be distributed to a Mirror Group to be defined for review. This will provide the opportunity to check at intermediate stages the progress and to adjust the objectives of subsequent steps if necessary.

Conclusion

The approach on the next steps is therefore agreed, and the UNIFE suggestion of consultation with the mirror groups after step 3 and step 6 will be considered.