



EDDP PROGRAMME BOARD

**Meeting 14 February 2022
14h00 – 16h30**

Minutes

PARTICIPANTS

Alarcon Manuel	Günter Armin	Olsson Bo
Åhman Johan	Hagenlocher Stefan	Peterhans Gilles
Bannholzer Constanze	Henon Frederic	Petraschek Thomas
Benthin Per-Anders	Jindra Petr	Piron Olivier
Bergstrand Jan	Kania Magdalena	Radewagen Christian
Bigdon Jasmin	Klose Christoph	Reinshagen Peter
Björkman Anna	Knuepling Matthias	Rothey Antoine
Borghini Carlo	Kurek Burkhard	Sünder Michael
Chaumette Luc	Lecombe Bruno	Topal Mark
Dongiovanni Leonardo	Lipka Andreas	Travaini Giorgio
Ertl Martin	Lochman Libor	Wartzek Fabian
Engelmann Jens	Martos Oscar	Wellbrock Sven
Feindert Johann	Nordström Frederik	

1. Introduction, Welcome, adoption of the Agenda

Carlo BORGHINI welcomed the participants and presented the Agenda.

Oscar MARTOS (ERA) asked for adding a point on ERA's presentation highlighting different options of inclusion of DAC in the TSI.

It has been agreed that due to the tight agenda and limited time of the meeting, the presentation of ERA would be delivered at the next meeting in April 2022.

On behalf of the European Commission, Leonardo DONGIOVANNI (DG MOVE) welcomed the participants. He stressed that the DAC programme has constituted a priority for the Commission. He underlined that at the next meetings of the

Programme Board the Commission would present its work on the cost benefit analysis. As stressed, it should be closely linked with other important aspects (e.g. migration, technical specification, investment plan).

Carlo BORGHINI informed the Programme Board that due to the change of the position by Bertrand Minary, the SNCF appointed a new representative to the EDDP meetings. Luc CHAUMETTE introduced himself as a new SCNF appointee.

2. **Review of actions since the last PB**

Jens ENGELMANN overviewed the actions undertaken by the Board since the last meeting in December 2021. The Board has been in contact with ERA, and the Agency has been asked for presenting different options of inclusion of DAC in the TSI (cf. point 1 of Agenda)

3. **EDDP overall participation & new members**

Manuel ALARCON (EU-Rail) informed the Programme Board about the rising interest in the DAC programme. He underlined that 70 different organizations from 19 countries expressed their interest to date. He briefly introduced the companies with new participants and the allocation to different WPs (*for details please refer to presentation*).

4. **Reminder: 2022 critical issues**

Jens ENGELMANN reminded about the critical issues to be addressed in 2022 as of the letter delivered to the Board in the end of December 2021. These critical issues of 2022 consist of

- RU/IM alignment on future harmonized operational procedures and use cases impacting the DAC specifications
- Supplier's alignment on DAC interoperability
- Fleet preparedness for retrofit, especially locomotives, including the relevant data provisions
- Authorization preconditions
- Migration and CBA including the relevant data provisions.

DECISION POINTS

5. **EDDP 2022 work programme**

Mark TOPAL presented the work programme for EDDP for 2022. He pointed to the necessity to align the work of the EDDP with the launch of the EU-Rail and flagship area 5 in order to avoid parallel work. He briefly discussed the relations between

the DAC delivery programme and the FA5, with focus on the role of DAC programme as a strategic layer for work under FA5. He also referred to the strategic documents of the EU-Rail, subject to adoption by the Governing Board, describing the scope of the FA5 (draft Work Programme [under the link](#)).

The EDDP 2022 work programme has been presented (*for details please refer to the presentation*).

Matthias KNUEPLING asked for clarification about the future cooperation between the EDDP and JU, specifically for those entities that are not the members of the Europe's Rail Joint Undertaking. Carlo BORGHINI reminded that under the open call scheme there would be no restrictions for non-JU entities to join the programme and run the projects, once awarded. The first call for proposals will be launched in March 2022, and the second is expected in 2025/2026. Carlo BORGHINI also commented on the resources in FA5 that would be sufficient to bring non-JU entities to the consortia. As stressed, the scope of the FA5 has been aligned with the DAC delivery programme, and if any specific requirements going beyond the FA5 would be needed for the JU programme, then additional top-up of the budget could be considered. The DAC delivery programme is expected to be maintained up to 2023 in order to start the FA5 activities in 2023.

Martin ERTL commented on plan to have the operational processes for the DAC applications by the end of June 2022. He suggested to launch a discussion and aligned process in advance of June to understand better the specification. Mark TOPAL pointed out that such discussions have been foreseen before June. He informed about the first informal meeting and discussion with suppliers foreseen for 18 February 2022.

Martin ERTL asked about the shift from the authorization strategy to November 2022. He commented on the relationship between the authorization and the specifications and suggested that it would be difficult to discuss the specifications without the knowledge on the authorization strategy, especially for locomotives. He also asked about the ep brake system strategy and whether it would be discuss also with wagon keepers and operators. Mark TOPAL confirmed it would be one of the first decisions to be taken with regard to the use cases. There are expectations to take a decision on the ep brake system in April 2022. In terms of authorization, Jens ENGELMANN explained that it would require discussions on several steps, therefore there have been several Xs in the work programme. Mark TOPAL pointed to necessity to distinguish between the mechanical part and energy-related aspects.

Armin GÜNTER asked for delivery of documents to the EDDP members in advance of the meetings (appr. 2 weeks before the meeting) in order to secure time for internal discussions within companies. He underlined that the decisions would be

taken on important next steps in 2022, therefore, the companies would need time to re-check with the experts and technical departments. Mark TOPAL agreed that decision-taking needs to be a well-informed process. He explained that dispatching documents 2-3 weeks in advance of the meeting could not be feasible due to prolonged internal processes of preparation of documents. He also commented the companies' experts have been involved in the work, therefore, he suggested to maintain more regular contacts between the companies and the experts.

The EDDP work programme 2022 has been recommended to the Board. The Board has been asked to approve the work programme.

→ **The EDDP adopted the work programme**

6. **Critical issue 7: EDDP final Use Case list**

Jens ENGELMANN introduced the initial list of 14 use cases for full digital freight train operations.

On behalf of WP1, Christopher KLOSE commented on the additional use cases that had been proposed in autumn 2021. He informed that the WP1 conducted analysis of the submitted additional use cases against their compatibility with the energy and communication systems and presented the results of analysis. As informed, for use cases – basic function, it would be possible to support the additional use cases. For uses cases – comfort function, three use cases could be supported, three would require further analysis and one cannot be supported due to lack of compatibility with the energy system (*for details please refer to the presentation*).

Armin GÜNTER asked about the interior temperature regulation (to be excluded from the list of use cases). He commented that the use case should be taken into consideration in terms of the system architecture. He commented that solutions to the issues may emerge later (e.g. external power supply). Mark TOPAL commented that the objective of this decision point is to finalize the list of use cases for now. If in the future some additional use cases match with the architecture, then they would be included. However, the system will be based on the closed list of use cases, as decided at the meeting.

Antoine ROTHEY discussed the issue of train integrity and pointed to its relations with development of specifications. Mark TOPAL informed that these issues had been included in the EDDP planning. He pointed to the work of the FA2 and FA5 of EU-Rail in this respect.

Matthias KNUEPLING pointed out that the list of initial cases has been overlapping with some additional use cases. Mark TOPAL informed that the PM would prepare a final list combining the initial and additional use cases. He underlined that with

decision to be taken, the Programme Board would close the discussion on use cases, and the selected use cases would be the minimum for the European system.

- **The EDDP approved the list of additional use cases to be integrated with the initial use case list.**
- **The use case *interior temperature regulation* will not be added to the final use case list**
- **Some additional use cases require further analysis in terms of energy and data system**

ACTION POINTS

The PMs informed the Board that the discussing items would be considered as decision items in the following EDDP meetings.

7. Critical issue 1a: functional requirements for DAC SPEC (flaps)

On behalf of WP1, Stefan HAGENLOCHER discussed the functional requirements for DAC specifications. He informed that the DAC prototypes do not fulfil max. height requirements of AUCO.15. He presented five options for solutions and the initial stakeholder positions (DAC suppliers) (*for details please refer to the presentation*). He underlined that the position of wagon keepers is crucial to decide on one of the alternatives.

As stressed, the preferred option is to keep existing DAC design under the condition that the wagon keepers would analyse their fleet and estimate the effort for sparing out space of the bridge plated (Option A). The options B and C, less preferred than the option A, will require re-design of the DAC. Re-design will still be maintained on the Sharfenberg coupler and will not require a selection of a new coupler. For these alternative options, the wagon keepers' position is also needed.

Answering to the question about the number of wagons affected, Stefan HAGENLOCHER underlined that a specific number of wagons affected is unknown, however, it is approximately 10 000 wagons.

- **The wagon keepers were asked to analyse their fleet whether wagons with flaps might be affected from a 230mm DAC height and come back with a decision whether flaps re design is acceptable or not.**

Christian RADEWAGEN informed the Board on the ongoing discussions how to solve the problem with new approach (Option A+). Once agreed, it would be presented to the Board.

Armin GÜNTER suggested to follow a neutral approach with taking into consideration all options A-C and take a decision based on the proper assessment of the risks associated with the decisions. Jens ENGELMANN agreed that any decision should be preceded by the necessary information. He proposed that the WP1 would assess the number of wagons affected, the costs associated, and the timeline. The analysis should be compared with the options B and C. If the option A+ is presented meanwhile, then the discussion will follow. Carlo BORGHINI endorsed the proposal, underlining the necessity to be well-informed about the risks.

Mark TOPAL added that the critical issue has not been associated only with the Sharfenberg coupler type. As stressed, the same issues would have emerged from other DAC couplers.

→ The WP1 will provide an analysis of the option A in terms of the number of wagons affected, costs and timeline, and compare it with the options B and C. The analysis will be presented at the next PB meeting.

8. Critical issue 2: alignment on interoperability requirements by DAC suppliers

The Board has been asked to encourage the manufacturers to find a solution between themselves in terms of the interoperability requirements by DAC suppliers.

As stressed, the issues would be discussed at the Friday meeting with suppliers. Martin ERTL confirmed the ongoing discussions to find a solution. He expressed his positive attitude towards the discussion and its results.

→ At the next meeting, the manufacturers will present a solution

9. Critical issue 4: requirements from crash worthiness/passive safety available

The Board has been presented with the issue of locomotive fleet installation space and worthiness/passive safety requirements and its relations with the hybrid couplers. As stressed, the installation of the hybrid coupler would require prior knowledge on the locomotive types in Europe, installation spaces, etc.

→ The Programme Board will analyse the installation space requirements for their locomotive fleets.

Mark TOPAL informed that due to the work of the DACcelerate, more data on the locomotive fleet in Europe is available. The work of the DACcelerate project has also revealed a necessity to start technical analysis of retrofit possibilities for the most important locomotive types for standard and hybrid DAC. Mark TOPAL presented the data for electric locomotives, diesel mainline locomotives, and shunting locomotives.

Martin ERTL commented that on top there would be a need to have a priority list of what locomotives need to be retrofitted first. He suggested a 20/80 approach should be a target. Once obtained, it is necessary to check which ones would be the most complex/difficult to equip and do requirements. Andreas LIPKE commented on wagonload system – a combination of single wagon system and connected wagon group systems – that would remain a priority to run migration successfully. He also commented that there would be no block train-by-block train migration, nor unit-by-unit migration. He also commented on challenges linked to the shunting locomotives. He underlined that for this, a detailed database is needed, and the EDDP should work on the communication in order to reach out to other sector players and market participants in Europe.

Oscar MARTOS (ERA) asked about passive safety requirements in terms of scenarios presented. As stressed, it has been already included in TSI, therefore, has been mandatory for freight locomotives and other rolling stock, except for urban stock. Stefan HAGENLOCHER explained that the scenarios have been developed but not for hybrid coupler and side buffers. More detailed discussions will follow in the next days.

Christian RADEWAGEN remarked that hybrid coupler for locomotives had been already supplied according to the scenario and there has been an approval, at least in Spain.

In terms of TSI, Mark TOPAL commented that the work is ongoing, and the current efforts have been directed towards development of technology, assessment and gathering information. For this reason, it is too early to conclude on which TSI specification such work should have an impact. Oscar MARTOS (ERA) reminded about the mandatory requirements for freight locomotives in this respect.

Due to the lack of data on locomotive fleet and missing retrofit analysis, the Board has been asked to coordinate the actions and start the technical retrofitting analysis as soon as possible. Carlo BORGHINI asked what type of information would be needed. He proposed to prepare a form to be filled in by the Board in order to receive more structured inputs. Andreas LIPKA confirmed the intention to prepare a survey. He suggested to use many channels of distribution for such a survey. Mark TOPAL underlined that the PMs would propose a solution on how to reach sector widely.

The Board discussed the prioritization in terms of retrofitting. Christian RADEWAGEN commented that an approach to define minimum level of safe operation for shunting locomotives is needed, as well as a definition of down sized

specifications for the hybrids. Antoine ROTHEY underlined that the shunting locomotives are also priority for clients. Andreas LIPKA agreed that more in-depth analysis would be needed and all proposals on how to approach would be welcomed.

10. Critical issue 6: migration: data for fleet retrofit & traffic flows + status and main findings as of 01/02/2022

The PMs discussed the status of feedback on EDDP data request of February 2022. Mark TOPAL stressed the importance of such database for further steps. Andreas LIPKA added that not only the database and information would be needed but also the assessment whether there would be willingness to retrofit the relevant parts of the fleet.

Antoine ROTHEY pointed out that Fret SNCF is not a wagon keeper, while the SNCF Reseau is. He requested to correct the slide.

Petr JINDRA commented that the CD Cargo has provided main yard capacity utilization, or it at least did not get any information it was not sufficient information. Carlo BORGHINI suggested to liaise with the PMs bilaterally. Also, for PKP Cargo he offered to liaise with the company via EU-Rail.

Jens ENGELMANN informed that a final report on migration, based on data provided, would be expected in April 2022. Mark TOPAL requested the companies to deliver the data needed.

Christopher KLOSE commented on the migration of locomotives. He suggested to consider a proper approach to such migration due to diversity of locomotives. He also added that Siemens would offer its support in this respect.

Martin ERTL pointed out that a list wagon types to be retrofitted (e.g. to be grouped or clustered) would be beneficial to accelerate the work.

INFORMATION POINTS

11. Critical issue 8: DAC SPEC energy system

Christopher KLOSE commented on the assessment of the voltage systems for the electrical energy system. As informed, contrary to the presentation delivered in 2021, the 110V is no longer a favoured option. Such conclusion has been reached after the consultation with experts and companies. The analysis of alternative systems led to the initial conclusion that two options should be considered – AC 1x230V @50 Hz or 3AC 400V @50/60 Hz (Delta). The next step will a further analysis of both options in terms of the costs for components and redundancy

requirements. More information will be presented at the next Programme Board meeting.

12. Test programme: status DAC4EU/EDDP test train

Fabien Wartzeck overviewed the DAC4EU and discussed planning phases for operational testing with fully equipped demonstrator. As stressed, the project has aroused interest in European countries.

Luc CHAUMETTE commented on the confusion around the scope of the project. He underlined that an official recommendation or support by the EDDP of the DAC4EU activities would facilitate the deployment of technological and operational solutions related to the DAC under the EU-Rail.

Mark TOPAL endorsed the proposal on the future cooperation between the EDDP and the DAC4EU project. He proposed to find a solution to better communicate the relation between the two programmes.

Carlo BORGHINI reminded that the members of the JU, once awarded with grants would be obliged to deliver also the IKAA. He suggested to consider such cooperation as potential contribution to the IKAA.

13. Critical issue 1b: alignment on operational requirements/operators (shunting)

The Board has been informed about the necessity to align operational requirements in terms of operational processes. As underlined, there would be no need to take a decision by the Programme Board urgently, as the workshops with the operators and DAC suppliers have been ongoing. More concrete solution will be presented in April 2022.

14. Critical issue 3: EU loco fleet installation space etc.

The discussion has been conducted under point 9.

15. Critical issue 9: authorization strategy: update

Gilles PETERHANS updated the Board on the authorization strategy (*for details please refer to the presentation*). He informed the Board about the launch of the WP8 on authorization and invited the EDDP members to include their experts to the group. The interested experts were asked to contact Gilles PETERHANS (lead) and Michael SÜNDER (co-lead) directly.

Oscar MARTOS (ERA) confirmed the cooperation with the WP8. He also reminded that the deadline to propose any changes related to DAC in terms of TSI would be April 2022.

Mark TOPAL underlined that a discussion with ERA on TSI is needed. A meeting will be organized accordingly.

16. Critical issue 10: alignment on operational processes

Jens ENGELMANN informed the Board about the proposal to draft a work plan for alignment of operational processes. As informed, the discussion has been held with the UIC and the UIC proposal would be delivered to the EDDP in coming days. Once proposal received, further discussion will follow at the EDDP level.

17. DAC LCC

The Board has been informed that the process to finalize the DAC LCC study has been ongoing. The intention will be to publish a report. In terms of the information, the report will contain the type of information that will not be against the NDA and will be anonymized. The Board has been informed that the contract entity would reach out to them in order to provide more detailed information. The report is expected to be ready in April and presented at the next PB meeting.

18. Status Update DAC@ER JU IP+SP

Carlo BORGHINI informed the participants that the Europe's Rail Joint Undertaking Work Programme 2022-2024 has been published on the EU-Rail website, subject to adoption by the Governing Board. The Annex 7 to the work programme contains the text of the call for proposals to be launched on 10 March 2022. The document has been already dispatched to sector consultation (e.g. GB members, Commission, States' Representative Group, Scientific Committee). As stressed, the open calls scheme would allow to participate in the calls with no restrictions, apart from the general conditions foreseen in the Horizon Europe regulations. He commented on the budget available and the funding rate (60% for non-JU members and 45% net funding rate for JU members due to mandatory in-kind contributions).

Mark TOPAL stressed that the ÖBB has been working on consolidation of the consortium to participate in the call. He invited interested parties to contact the ÖBB directly.

19. Status European Investment Plan

Carlo BORGHINI informed the Board that the first meeting on the topic has been convened last week, and more meetings would still be expected. Once initial

results are gathered, both the Programme and Supervisory Boards will be informed accordingly.

20. **AOB and closing**

Carlo BORGHINI asked if the Programme Board intended to organize any events dedicated to DAC programme. He informed about the possibility to dedicate a special place for DAC at the InnoTrans. If any parties are interested, they are invited to contact the JU directly (via email to Giorgio and Manuel).