

EUROPE'S RAIL INFO DAY

ONLINE 16 March 2022







AGENDA





09.00 - 09.20	Opening remarks						
	Kristian Schmidt Director for Land Transport, DG MOVE, European Commission Rosalinde van der Vlies Director for Clean Planet, DG RTD, European Commission Carlo M. Borghini Executive Director, Europe's Rail Joint Undertaking						
	Presentation of the Call for Proposals 2022 Carlo M. Borghini Executive Director, Europe´s Rail Joint Undertaking Giorgio Travaini Head of Programme, Europe´s Rail Joint Undertaking						
10.00 - 10.15	Coffee break						

AGENDA



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Europe´s Rail Programme Sessions							
Presentation of the activities of each Destination							
Europe's Rail JU Programme Managers:							
Gorazd Marinic (Destination 1), Léa Paties (Destination 2), Sébastien Denis (Destination 3), Javier Ibáñez de Yrigoyen (Destination 4), Manuel Alarcón Espinosa (Destination 5), Judit Sándor (Destination 6)							
Q&A	Q&A						
Lunch break	Lunch break						
Europe´s Rail Programme Sessions							
Legal and Financial Guidelines							
Vincent Declerfayt							
Head of Corporate Services, Europe's Rail Joint Undertaking							
Valérie Lorgé							
Grant and Legal Officer, Europe's Rail Joint Undertaking							
Q&A							
Closing remarks							
	Presentation of the activities of each Destination Europe's Rail JU Programme Managers: Gorazd Marinic (Destination 1), Léa Paties (Destination 2), Sébastien Denis (Destination 3), Javier Ibáñez de Yrigoyen (Destination 4), Manuel Alarcón Espinosa (Destination 5), Judit Sándor (Destination 6) Q&A Lunch break Europe's Rail Programme Sessions Legal and Financial Guidelines Vincent Declerfayt Head of Corporate Services, Europe's Rail Joint Undertaking Valérie Lorgé Grant and Legal Officer, Europe's Rail Joint Undertaking Q&A						



EUROPE'S RAIL INFO DAY CALL 2022-1

OPENING REMARKS

What is about EU-Rail



VISION

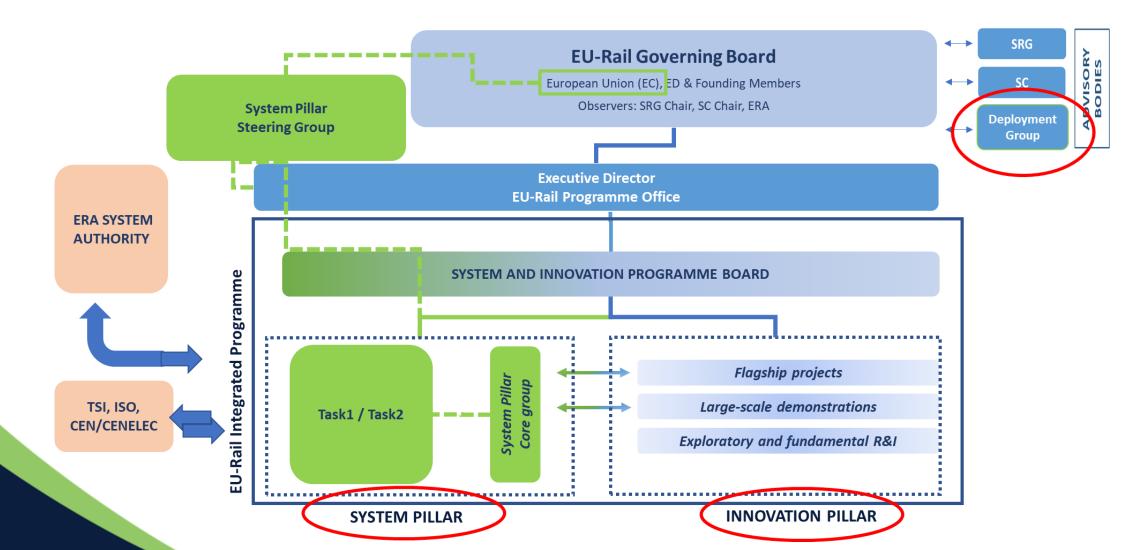
To deliver, via an integrated system approach, a high capacity, flexible, multi-modal, sustainable and reliable integrated European railway network by eliminating barriers to interoperability and providing solutions for full integration, for European citizens and cargo

MISSION

Rail Research and Innovation to make Rail the everyday mobility



EU-Rail organisation and its key Programme operational aspects





EUROPE'S RAIL INFO DAY 2022

CALL FOR PROPOSALS 2022-1

carlo m borghini

Executive Director



THE EU-RAIL CALL 2022-1 IS OPEN TO ALL ELIGIBILE ENTITIES IN ACCORDANCE WITH HORIZON EUROPE

NO ADDITIONAL CONDITIONS

EU-Rail Call 2022-1 – Conditions

(see Work Programme 2022 2024)



Admissibility conditions	The conditions are described in part A of the General Annexes to the Horizon Europe Work Programme 2021-2022					
Eligibility conditions	The conditions are described in part B of the General Annexes to the Horizon Europe Work Programme 2021-2022					
Financial and operational capacity and exclusion	The criteria are described in part C of the General Annexes to the Horizon Europe Work Programme 2021-2022.					
Award criteria	The criteria are described in part D of the General Annexes to the Horizon Europe Work Programme 2021-2022.					
Documents	The documents are described in part E of the General Annexes to the Horizon Europe Work Programme 2021-2022.					
Procedure	The procedure is described in part F of the General Annexes to the Horizon Europe Work Programme 2021-2022.					
Legal and financial set-up of the Grant Agreements	The rules are described in part G of the General Annexes to the Horizon Europe Work Programme 2021-2022.					

EU-Rail Call 2022-1 – Conditions

(see Work Programme 2022 2024)



Expected EU	EU-Rail estimates that an EU contribution of EUR [XX] million would allow these						
contribution per	outcomes to be addressed appropriately. Nonetheless, this does not preclude						
project	submission and selection of a proposal requesting different amounts.						
Indicative budget	The total indicative budget for the topic is EUR [XX] million.						
	Applicant Private Members of the EU-Rail JU part of consortia responding to this topic should provide in-kind contributions to additional activities to be declared via the template model available on the F&T portal. The amount of total in-kind contributions (i.e. in-kind contributions for operational activities and in-kind contributions for additional activities) should be no less than 1.263 times the funding request, in aggregate, of these applicant Private Members. Any discrepancy shall be well and duly justified. In this respect, the grant agreements will set, in principle, annual deliverable on in-kind contributions for the projects selected under this topic, as well as mandatory reporting requirements, for those applicants who are Private Members of the EU-Rail JU.						

Expected EU contribution per project	EU-Rail estimates that an EU contribution of EUR [XX] million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.							
Indicative budget	The total indicative budget for the topic is EUR [XX] million. Applicant Private Members of the EU-Rail JU part of consortia responding to this topic should provide in-kind contributions to additional activities to be declared via the template model available on the F&T portal. The amount of total in-kind contributions (i.e. in-kind contributions for operational activities and in-kind contributions for additional activities) should be no less than 1.263 times the funding request, in aggregate, of these applicant Private Members. Any discrepancy shall be well and duly justified. In this respect, the grant agreements will set, in principle, annual deliverable on in-kind contributions for the projects selected under this topic, as well as mandatory reporting requirements, for those applicants who are Private Members of the EU-Rail JU.							
Indicative project duration	48 months							
Type of Action	Innovation Action							



Technology Readiness Level	Activities are expected to achieve a minimum between TRL 5 and TRL 7, depending on the enabler addressed, or higher by the end of the project – see General Annex B for a guide to the TRL definitions and criteria to be used.			
Admissibility conditions	Regarding admissibility conditions and related requirements, part A of the Horizon Europe Work Programme 2021-2022 General Annexes applies with the following exception: the limit for a full Innovation Action application is set to 120 pages.			
•	Applicants shall ensure that their proposals and consortium reflect the aggregated expertise to perform the activities and achieve the objectives set by the Destination:			
	 Expertise from rail infrastructure managers and railway undertakings, which should allow Expertise from rail suppliers (system integrators, manufacturers and/or technology providers), which should allow, jointly, Expertise from research institutes and academia, which should allow Complementary expertise from other sectors and parties, with particular attention to SMEs and Start-ups, which may contribute to enhance the actions' outcome. 			

Linked Projects	As specified in section 2.3.3.2 of the AWP 2022, in order to facilitate the contribution to the achievement of the EU-Rail JU objectives, the options regarding 'linked actions' of the EU-Rail Model Grant Agreement and the provisions therein, is enabled in the corresponding EU-Rail 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:
	• [xxxxxx]
	Please note that the list non-exhaustive as additional Linked Projects may follow at a later stage of the programme implementation to complement the activity.
• •	EU-Rail JU may award up to one project with funding depending on the outcome of the evaluation and the complementarity of the proposed actions.
Retroactive starting date of the grant	The starting date of grants awarded under this topic may be as of the submission date of the application. Applicants must justify the need for a retroactive starting date in their application. Costs incurred from the starting date of the action may be considered eligible.

Lump Sum grant	Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [[This <u>decision</u> is available on the Funding and Tenders Portal, in the							
	reference documents section for Horizon Europe, under 'Simplified costs decisions]							
Lower funding rate	The funding rate of the action is 60% of the eligible costs to achieve the leverage effect							
	established in the SBA. Each Consortia may decide internally different funding rates in							
	line with the provisions of Article 34 of Horizon Europe nevertheless complying with the							
	overall funding rate of 60%							
Award criteria	The award criteria included in the General Annexes of the Horizon Europe – Work							
additional details	Programme 2021 – 2022 are complemented with additional criteria as specified in							
	Annexe 8 this Work Programme							
Additional	In addition, as specified in section 2.3.3.2 of the AWP 2022, and to facilitate							
dissemination	contributions to considering the key contributing role of this topic, in designing the							
obligations	dissemination and communication activities, the proposal shall consider that the							
	"Flagship Project" will be part of the overall EU-Rail Programme and the planning of key							
	events – demonstrations, participations to fair, etc. – will be coordinated at Programme							
	level and by the "Stakeholder Relations and Dissemination" structure of the JU							
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EUROPE'S RAIL INFO DAY 2022

CALL FOR PROPOSALS 2022-1

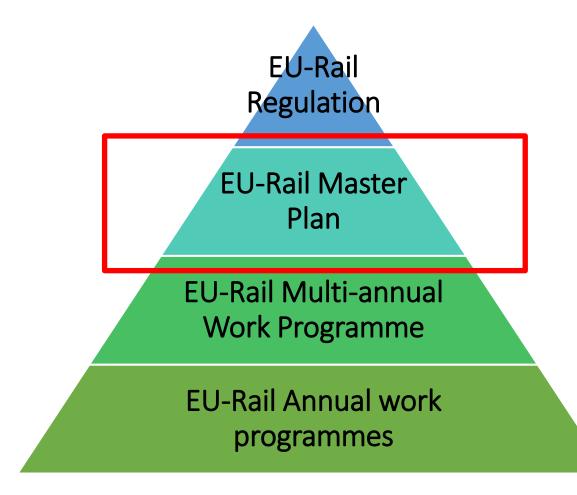
Giorgio TRAVAINI

Head of Programme

Europe's Rail JU



Navigating the EU-Rail key documents of a Programme approach



Focus on the

 MP: A common, forward-looking roadmap based on a system view, presenting the areas of intervention within the scope of the Joint undertaking; Give guidance on how to invest the €1,2 billion (EU funding 50%); Based on two integrated pillars, System and Innovation Pillars, complemented by the Deployment Group



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 **COMPETITIVE, GREEN** RAIL FREIGHT FULLY INTEGRATED INTO THE

AND GLOBALLY COMPETITIVE **EUROPEAN RAIL** INDUSTRY

SUSTAINABLE AND **RESILIENT RAIL SYSTEM**

LOGISTICS VALUE CHAIN DEVELOP A STRONG



ONE INTEGRATED R&I PROGRAMME



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



EU-Rail expected system impacts from the Programme

- Meeting evolving customer requirements
- Improved performance and capacity
 - Reduced costs

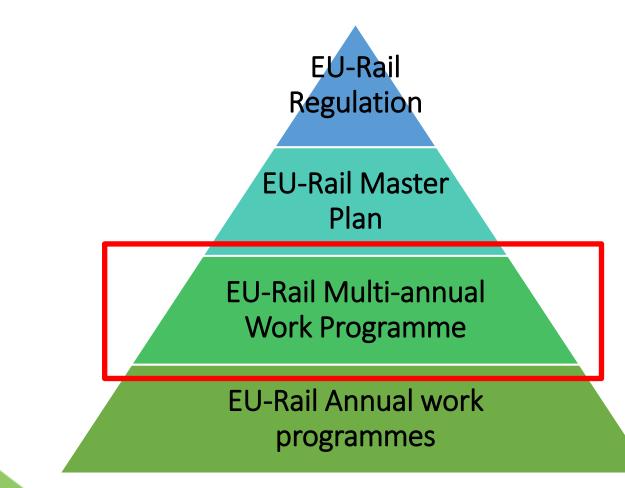
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- More sustainable and resilient transport
- Harmonised approach to evolution and greater adaptability
- Reinforced role for rail in European transport and mobility
- Improved EU rail supply industry competitiveness



Navigating the EU-Rail key documents of a Programme approach



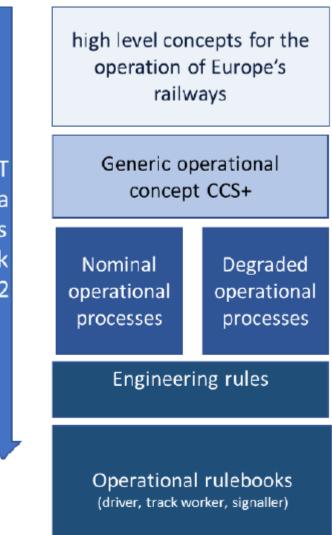
Focus on the

- MAWP: It defines how the EU-Rail JU has designed its R&I activities to achieve the general and specific objectives set out in the SBA through an Integrated Programme:
 - System Pillar (tasks)
 - Innovation Pillar
 - 7 Flagship Areas + TT
 - Exploratory and Other activities
 - Deployment group

EU-Rail Multi-Annual Work Programme

The System Pillar activities:

- Task 1: develop a EU-Rail system architecture for a rail system which is
 - Open access to SERA
 - Performant and competitive;
 - Synchronised deployment
 - Full alignment with the future system
- Task 2: develop a harmonised functional and technical CCS+ architecture managing the complexity of interaction between the different sub-systems and with appropriate separation of safety-related and nonsafety-related layers.



- Guide the migration strategy in Europe implanting newly defined operational concepts
- Inputs to Technical Specifications for Interoperability and harmonised standards



EU-Rail Multi-Annual Work Programme

FA2 - ATO+

FA3 - Assets Mnat

FA1 - TMS+



Network management planning and control & Mobility

Management in a multimodal environment

Network management planning and control (new processes and automation for decision support) & rail management in a multimodal environment (real-time demand-driven operations, including demand from other transport modes)

Digital & Automated up to Autonomous Train Operations

Digital "Automated & Autonomous" Train Operations building upon the next gen Automatic Train Control based on ERTMS + enhancements on TCMS for integration at the on-board level

Intelligent & Integrated asset management

Knowledge from the digital transformation will feed back into the design, construction, manufacturing as well as into operation and maintenance processes.



Innovative solutions and services based on leading edge technologies to minimize the consumption energy and overall environmental impact of the railway system

FA4 - Green Solutions

Europe`s Rail

+ Exploratory Research

and other activities



Diaital Enablers

Transversal

Topic

FA5 - Freight

Provide Digital Twins Design toolbox for design as well as for validation, verification and test + a Federated dataspace where all digital elements of the system can play together in a coherent and interoperable way



Innovation on new approaches for auided transport modes

Explore non-traditional and emerging flexible and/or high-speed guided transport systems, as well as to create opportunities for innovators to bring forward ideas for shaping those future systems

FA6 - Regional services

Regional rail services / Innovative rail services to revitalise capillary lines

Decreasing cost while offering a high quality of service and operational safety + increase customer satisfaction and attractiveness

Sustainable Competitive Digital Green Rail Freight Services

Digitalization and automation of operational functions (e.g. DAC) and processes as well as increasing the efficiency of the immaterial (information/data) layer of transport in logistic

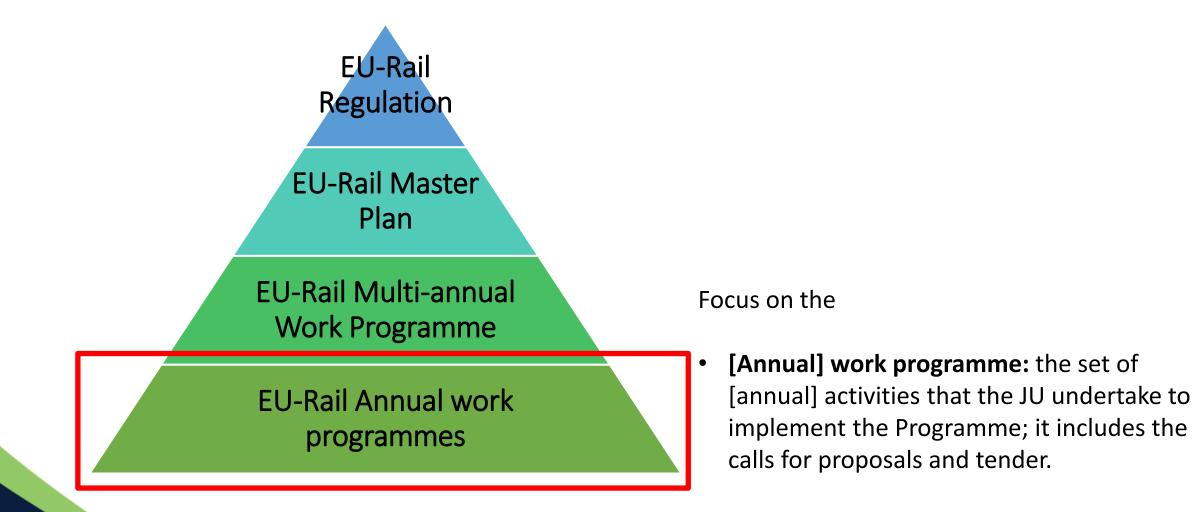
Multi-Annual Programme Implementation



- System Pillar activities: the implementation via framework contract (procurement). The first call for tenders is expected to be launched by the end of the first quarter 2022.
- Innovation Pillar activities: This constitutes the core of the Programme, where the private Members are expected to provide their contribution up to EUR 576 million.
 - 1. Published and open for submission: Call 2022-1, to cover up to 50% of the research and innovation activities value of 6 Flagship Areas
 - 2. Call 2025/2026, expected to cover around 30% of the research and innovation activities of 6 Flagship Areas+TT
 - 3. Call 2027 expected to cover the remaining part of 6 Flagship Areas activities to be performed until 2031
 - In addition, EU-Rail will launch on a regular basis calls for proposals to explore new areas of rail research and innovation or perform studies and any other relevant activities that would contribute to the achievement of its Programme → next call 2022-2 to be published Q3 this year
- **Deployment Group activities**: to bridge research and innovation to the future coordinated deployment and they will be defined in line with the evolution of the Programme.



Navigating the EU-Rail key documents of a Programme approach





EU-Rail Work Programme 2022 2024 Budget

Year 2022	Type of call	Value of the actions	Maximum EU- Rail co-funding	Non-funded activities	Target contributions from Members in case of award	Indicative publication date
Multi-annual Call for Proposals	Open	390.0	234.0	156.0	302.0	Q1
Call for Proposals– Exploratory Research	Open	14.5	12.5	2.0	4.3	Q3
Call for Tenders	Open	15.5	13.7	1.8	0.0	Q1–Q4 & implementation of new and ongoing contracts/framework contracts



DESTINATION Topics	Type of Action	Expected TRL	Expected EU contribution per project (EUR million)	Number of projects expected to be funded
	Opening: 10 March 2022; Deadline: 23 June 2022			
HORIZON-ER-JU-2022-FA1-TT-01	IA	5 to 7	38.0	1
HORIZON-ER-JU-2022-FA2-01	IA	5 to 7	54.3	1
HORIZON-ER-JU-2022-FA3-01	IA	5 to 8	46.3	1
HORIZON-ER-JU-2022-FA4-01	IA	5 to 7	38.3	1
HORIZON-ER-JU-2022-FA5-01	IA	5 to 8/9	40.6	1
HORIZON-ER-JU-2022-FA6-01	IA	5 to 7	16.5	1

Call structure (see also annex VII of the EU-Rail Work Programme 2022 2024):

- Destination: indicates the objectives as well as clear and quantified targets in term of KPIs to be reach with the R&I activities.
- Expected outcome: describes the expected demonstrations, the expected preparatory works to be launched for the future set of demonstration foreseen in the MAWP and the input/output expected with the linked actions from other Destinations.
- Scope: identifies the expected capabilities/enablers that should be developed through R&I activities for achieving the expected demonstrators. It also highlight other requirements, as the need to measure and monitor KPI, contribute to standards and interact with the System Pillar activities.



EUROPE'S RAIL INFO DAY 2022

DESTINATION 1

Network management planning and control & Mobility Management in a multimodal environment and Digital Enablers

Gorazd MARINIC

Programme Manager

Europe's Rail JU



DESTINATION 1 – Network management planning and control & Mobility Management in a multimodal environment and Digital Enablers

WS1: Network management planning and control & Mobility Management in a multimodal environment

Deliver by 2025 innovative solutions to be demonstrated with:

- Tactical and short-term timetable planning including cross-borders with improved models and functions; use
 of decision support to support integrated capacity planning of the rail network and operations for yards,
 stations, terminals [TRL6/7];
- HMI for TMS with decision support modules, based on User Experience (UX) Design and human-in-theloop awareness **[TRL6-8]**
- Demand-driven predictions to improve operations and service offers, considering information about events across modes. Effect of cross-regional, multimodal travels in combination with demand forecast and disruption handling on improvement of daily operations, benefit on customers (accessibility and attractiveness). [TRL 7-8]



DESTINATION 1 – Network management planning and control & Mobility Management in a multimodal environment and Digital Enablers

WS1: Network management planning and control & Mobility Management in a multimodal environment

Preparatory works needed to be launched for the future set of demonstration foreseen in the MAWP :

- Functional system for strategic, tactical and short-term planning
- Planning using integrated feedback loops from operations
- Using ATO journey profiles for timetabling
- TMS at regional area with decision support and interaction between actors
- TMS at global area with decision support and automation and overall real-time traffic plan, with feedback loops from operation to planning
- Improved long-term demand driven predictions
- Use of Digital Twins for the visualisations and modelling of movements at train stations
- Cross-border travel within Europe and the connection of rural areas



DESTINATION 1 – Network management planning and control & Mobility Management in a multimodal environment and Digital Enablers

WS2: Digital Enablers

Deliver by 2025 the following outcome:

- Develop data federation, access and processing services through standardized interfaces
- Develop a common machine-readable domain ontology
- Ensure a powerful, secure and reliable data and communication infrastructure.



DESTINATION 1 – Network management planning and control & Mobility Management in a multimodal environment and Digital Enablers

WS2: Digital Enablers

Preparatory works needed to be launched for the future set of demonstration foreseen in the MAWP :

- For modular built-up of Digital Twin within the development environment
- Use of Artificial Intelligence to collect and analyse data patterns and support decision making process
- Real time algorithms using Digital Twins



EUROPE'S RAIL INFO DAY 2022

DESTINATION 2

Digital & Automated up to Autonomous Train Operations

Léa PATIES

Programme Manager

Europe's Rail JU



DESTINATION 2 – Digital & Automated up to Autonomous Train Operations Deliver **by 2025** at least the following:

- Demonstrate technical and functional enablers such as ATO GoA3/4 over mixed radio based ETCS levels (TRL7 or higher), Hybrid Level 3, moving block and TIMS (TRL6), connectivity (TRL7), perception (TRL6), train positioning (TRL6), automated functions and digital register (TRL6).
- Demonstration of the remote driving and command in depots and yards, including perception systems (TRL6).
- A first demonstrator on next generation ATC, with modular onboard and trackside ATC architectures, at proof-of-concept stage, in close collaboration with the EU Rail System Pillar.
- A proof-of-concepts and/or validation in laboratory and field (i.e., up to **TRL5 in Lab and TRL6 on site**) for the following new functions and technical enablers:
 - Virtual Coupling Train Set
 - Self-driving wagon
 - autonomous path allocation (linked to input from Destination1)
 - validation and certification
 - Demonstrate a Functional Open Coupling System prototype covering all required subsystems in an operational environment (TRL7)
 - Demonstrate a modular hardware platform using architectural software design patterns and methods (TRL7) allowing SIL2 respective SIL4 (depending on the application)



DESTINATION 2 – Digital & Automated up to Autonomous Train Operations

In addition:

The proposal shall cover important preparatory works to be launched for the future set of demonstration foreseen in the Multi-Annual Work programme in view of the evolutions of the solutions :

- Integration of technical enablers and functions to enhance the performance and capabilities of next generation ATC supporting migration and enlarging the deployment scope of automation.
- ATO GoA3/4 in depots, yards and specific lines without train protection, shunting and stabling operations, and starting from ETCS L1 and non-supervised modes.
- Preparation of next generation ATC with generic solutions and applications tailored to regional low-density traffic lines and first steps in highly automated urban light-rail operations.



EUROPE'S RAIL INFO DAY 2022

DESTINATION 3

Intelligent & Integrated Asset Management

Sébastien DENIS

Programme Manager Europe's Rail JU



DESTINATION 3 – Intelligent & Integrated asset management

Deliver **by 2025** solutions that can be demonstrated by system approaches of the various developments targeting up to TRL 6 as European common integrated solutions on:

- Asset Management & TMS. Demonstrator showing the integration between the Intelligent Asset Management System (IAMS) and the Traffic Management System (TMS) enabling the share of data and optimising decisions using common metrics – TRL6
- 2. Asset Management & Rolling Stock. Demonstrator presenting the monitoring of rolling stock (including on board and wayside technologies) leading to decisions and planning of interventions, and redirecting rolling stock to workshops to execute the (re)scheduled work both manually as well as by new technologies and solutions to conduct inspection tasks automatically TRL6
- **3. Long Term Asset Management.** Development of Life Cycle Cost (LCC) models for infrastructure and rolling stock. This demonstrator shall include cross-border infrastructure remaining useful-life analysis and space-time cross-analysis and visualisation **TRL6**
- 4. Asset Management & Infrastructure. The objective shall be to integrate on field and on board systems with central platforms capable of managing Big Data to enable prescriptive interventions, minimising dangerous situations and service disruptions during operation TRL6.



DESTINATION 3 – Intelligent & Integrated asset management

- 5. Asset Management & Digital Twins. The focus shall be on design, maintenance, upgrade and renewal interventions driven by Digital Twins for the optimisation of processes, maintenance planning and involved logistics. This shall enforce the use of BIM to standardise system configuration and AI tools to execute simulations and predictions. The Digital Twin demonstrator shall include visualisation, prediction and simulation TRL7.
- 6. Design & Manufacturing. This demonstrator shall be the showcase of eco-friendly production of resilient assets supported by new fabrication techniques such as additive manufacturing (focussed on infrastructure assets) TRL5
- 7. Robotics & Interventions. The focus of this demonstrator shall be the showcase of high-tech automated execution solutions for construction and interventions supported by robotics and wearables, among other devices, building a safer and more automated railway environment TRL5/6

In addition of the above, the proposal shall cover important preparatory works needs to be launched for the future set of demonstration foreseen in the Multi- annual Work programme in view of the evolutions of the solutions – higher TRLs



EUROPE'S RAIL INFO DAY 2022

DESTINATION 4

A sustainable and green rail system

Javier IBÁÑEZ DE YRIGOYEN

Programme Manager Europe's Rail JU



DESTINATION 4 – A sustainable and green rail system

Deliver by 2025 innovative solutions to be demonstrated by:

- 1. Alternative energy solutions for the rolling stock at TRL6, covering:
 - High performances Batteries Electric Multi-Unit (BEMU) train (reaching TRL6/7);
 - Hydrogen hybrid trains with test of heavy-duty inspection vehicle and loco for freight-passengers ;
 - Sub-urban catenary trains with on board Energy Storage Systems (ESS);
 - Auto adaptive train energy consumption to various services situations;
- 2. A holistic approach to energy in rail infrastructure (design, production, use and intelligent management) at TRL6, covering:
 - Rail Power Smart Grid in different systems as well as the integration of energy storage solutions;
 - Application of solutions for the production, storage and refuelling of hydrogen for railway vehicles on the example of a prototype refuelling station;
- **3. Sustainability and resilience of the rail system** in a holistic approach to asset management, delivering more value:
 - Development of solutions and models for the reduction of noise and vibrations from railway infrastructure and rolling stock and to predict the effect of degradation, of maintenance and of noise perception (TRL6);



DESTINATION 4 – A sustainable and green rail system

- **4. Improvement of electro-mechanical components and sub-systems for the rolling stock, at TRL6**, covering:
 - Technological solutions for the migration to the airless train: Electro-mechanical braking system and novel electro-mechanical pantograph and suspensions;
 - Optimised motors and gearboxes, high performance bogies, suspensions and new materials;
 - Eco-friendly HVAC system technologies;
 - Aerodynamic certification with experimental and numerical methods;
- 5. Healthier and safer rail system, covering:
 - Simulation tools for improving the air quality in trains, stations and tunnels (reaching TRL7);
- 6. Attractiveness, at TRL6, covering:
 - Modular rolling stock interiors providing easy access (incl. PRM) and new architectures for drivers' cabin.



DESTINATION 4 – A sustainable and green rail system

In addition:

The proposal shall cover important preparatory works needs to be launched for the future set of demonstration foreseen in the Multi-Annual Work Programme in view of the evolutions of the solutions:

- Integration of technical enablers for high performances BEMU trains to enhance standardised and interoperable batteries charging interfaces and data protocol to ensure cost efficiency.
- Scalability of H2 refueling station solutions and energy storage applications.
- Airless train components' evolution and technologies used for the reduction of noise, weight and energy consumption.
- Preparation and/or simulation of the integrated demonstration in real environment of modular rolling stock.



EUROPE'S RAIL INFO DAY 2022

DESTINATION 5

Sustainable Competitive Digital Green Rail Freight Services

Manuel ALARCÓN ESPINOSA

Programme Manager

Europe's Rail JU



DESTINATION 5 – Sustainable Competitive Digital Green Rail Freight Services

WS1 Full digital Freight Train Operations with DAC as enabler for full digital freight train operation Deliver by 2025 the following demonstrators:

- European full digital freight train operations: (TRL 8-9) Large-scale demonstrator showing full digital freight train operations based on DAC Type 4 (incl. energy supply & data/communication solution and Type 5 upgradability, DAC wagon retrofitting and DAC Hybrid for locomotives) in different regions with several train sets under real operational conditions including technical enablers described in scope section.
- European full digital freight train operations: (TRL 7) Proposals are expected to deliver a second demonstrator with a lower TRL level for technical solutions for parking brake system, digital wagon inspection (including rolling stock and infrastructure assets), DAC based telematic applications for customer requirements (goods monitoring) / for asset performance management /CBM / for safety related applications, distributed power system and electro-pneumatic brake.
- European full digital freight train operations: (TRL 8 some functionalities at lower TRL, see enabler section) Demonstration of Yard automation equipment, wagon identity system allowing automated shunting, video gates and way side check points with visual recognition and AI tools for yard automation.



DESTINATION 5 – Sustainable Competitive Digital Green Rail Freight Services

WS2 Seamless Freight: with easy access and reliable (intermodal) transport service offering digital solutions.

Deliver **by 2025** at least the following:

- Seamless freight corridor (TRL 5-8) The comprehensive innovations for planning and operation of crossborder freight trains should be demonstrated on (parts of) two European corridors. Freight specific pilot implementations of key enablers for improved cross-border timetable planning, management and path ordering systems taking into account also last mile service, as well as for real-time interaction between various TMS (including yards/terminals). Digital technologies for standardized European Railway checkpoints at borders or other operational stop points. Integrating and connecting the last mile (accession lines/shunting/yards/ terminals) slot planning directly or via interfaces.
- Seamless customer freight (TRL5-8) seamless planning, management and booking of multimodal railbased transport integrating multi-actors, should be demonstrated integrating rail in modern supply chains. Improved routing engines more responsive to changing demand, disruptions and customer requirements. This demonstrator will ease end customers to interface with rail. Dynamic dispatching tools for the optimal automation of yards and last mile operations



DESTINATION 5 – Sustainable Competitive Digital Green Rail Freight Services

In addition:

The proposal shall cover important preparatory works needs to be launched for the future set of demonstration foreseen in the Multi-Annual Work Programme in view of the evolutions of the solutions:

- Train integrity + train length determination.
- Rail freight operation with ATO Low-weight, low-energy, low-noise, high performing wagon concepts.
- Self-propelled wagon concepts.
- Automated/autonomous loading/unloading technologies for last mile distribution.
- Fully automated shunting loco movements (GoA4)
- Seamless freight corridor and Seamless customer freight



EUROPE'S RAIL INFO DAY 2022

DESTINATION 6

Regional rail services / Innovative rail services to revitalise capillary lines

Judit SÁNDOR

Programme Manager

Europe's Rail JU



DESTINATION 6 – Regional rail services / Innovative rail services to revitalise capillary lines Deliver **by 2025** demonstrations under the following scenarios:

1. Regional Railway System (CCS & Operations) Demonstration

- Demonstrate a single integrated Operations Control Center covering interlocking, radio blocking and traffic management for regional lines that are not functionally/operationally connected with mainline (TRL 4/5)
- Demonstrate simple on-track radio network based on the findings in Destination 2 related with cost effective communications, supporting all FRMCS applications, minimizing civil works and energy consumption, to the achievement of cost effective Gigabit Train, the use of public network coverage and compatibility with main lines (TRL4/5)
- Demonstrate a specific application for Traffic Management Systems for regional lines improving resilience of a connected rail network, optimizing train operations including disturbing events taking into account high/low-demand situations (disturbance and distraction) (TRL 5)
- Demonstrate a specific application for safe environment perception solutions (TRL5), of FRMCS specifications V2X, 5G (TRL5), for train positioning (TRL5), for train integrity (TRL5), for train length detection (TRL4) and of a digital platform for CCS validation & TSI verification and authorisation for regional (TRL5),



DESTINATION 6 – Regional rail services / Innovative rail services to revitalise capillary lines Deliver **by 2025** demonstrations under the following scenarios:

2. Assets Demonstration

• Demonstrate a systemic approach with the implementation of different railway assets in particular for cost-efficient wireless, energy self-sufficient wayside components in particular CCS track-side components (e.g. switches, level crossings) and if applicable for track vacancy detections and signalling shall be evaluated and demonstrated **(TRL4/5)**

3. Suitable customer services

- Demonstrate cost-efficient integration of on-board information of multimodal services integrating regional multimodal services such as carsharing (TRL4/5)
- Demonstrate passenger congestion rate monitoring, flow optimization application as well as a low-cost passenger information system for regional services developed within this action (TRL4/5)
- An important outcome of this destination is the preparatory work for integrated demonstrators within the duration of the programme to showcase a high number of solutions developed and adapted for regional services can be deployed under operational conditions. In particular taking into account the European dimensions.



EUROPE'S RAIL INFO DAY 2022

Europe's Rail Programme Sessions

Presentation of the activities for proposals 2022





EUROPE'S RAIL INFO DAY 2022

LEGAL AND FINANCIAL GUIDELINES

Starting at 12:45



EUROPE'S RAIL INFO DAY CALL 2022-1

LEGAL GUIDELINES

Valérie LORGÉ

Grant and Legal Officer Europe's Rail JU



New features in the Horizon Europe proposal







NEW FIELDS IN PART A

- Researchers table needed to follow up researchers careers (HE indicator)
- Role of participating organisation
- Self-declaration on gender equality plan

FIELDS MOVED FROM PART B TO PART A

- Ethics self-assessment
- Security questionnaire (NEW! in all HE proposals)

NEW IN PART B

- Glossary of terms.
- Consistency on the use of terminology is ensured in all project phases
- Explanations on what exactly should be included in each section.

Exclusion



- EDES-DB check: before evaluation, before award and before GA signature
- Applicants subject to administrative sanctions or in the following exclusion situations cannot participate:
- ✓ bankruptcy,
- \checkmark in breach of social security or tax obligations
- \checkmark grave professional misconduct
- ✓ fraud, corruption,
- \checkmark significant deficiencies in complying with main obligations under another EU GA/contract
- ✓ shell company
- Applicants will also be refused if :
- \checkmark during award, they misrepresented information required for participating or failed to supply that info
- ✓ previously involved in the preparation of the call, entailing a distortion of competition (conflict of interest).



Big Admissibility

Same general admissibility conditions

- submitted before the call deadline
- electronically via the Funding & Tenders Portal
- complete, readable, accessible and printable
- plan for the exploitation and dissemination of results.

Proposal page limit:

• Exceptions specified in the call text:

limit for a IA application is set at 120 pages in the Application from template for Part B.



at least one independent legal entity established in a Member State

AND

• at least two other independent legal entities each established either in a different Member State or an Associated Country.



Eligibility – Gender Equality Plan

- Having a gender equality plan is an eligibility criterion for Public bodies, Higher education establishments and Research organisations from Member States and Associated Countries.
- It must cover:
- ✓ publication: formal document published on the institution's website and signed by the top management
- ✓ dedicated resources: commitment of resources and expertise in gender equality to implement the plan
- \checkmark data collection and monitoring
- ✓ sex/gender disaggregated data on personnel and annual reporting based on indicators
- ✓ training: awareness raising/training on gender equality and unconscious gender biases for staff
- This eligibility criterion does not apply to other categories of legal entities, such as private for- profit organisations, including SMEs, non-governmental or civil society organisations



Eligibility – Gender Equality Plan

- A self-declaration will be requested at proposal stage (for all types of participants).
- If the proposal is selected, having a GEP will be necessary before Grant Agreement signature
- An organisation may not yet have a GEP at proposal submission stage, but it must have a GEP in place at the time of the Grant Agreement signature.
- Support to draft the gender equality plan can be requested at the <u>European Institute for Gender</u> <u>Equality</u>.

Who is eligible for funding?





EU COUNTRIES

- Member States (MS)
- Overseas Countries and Territories (OCTs) linked to MS.



NON-EU COUNTRIES

- Countries associated to Horizon Europe (AC)
- Low and middle income countries: See <u>HE</u> <u>Programme Guide</u>.
- Other countries when announced in the call or exceptionally if their participation is essential



SPECIFIC CASES

- Affiliated entities established in countries eligible for funding.
- EU bodies
- International organisations (IO):
 - International European research organisations are eligible for funding.
 - Other IO are not eligible (only exceptionally if participation is essential)



Associated Countries



- For the purposes of the eligibility conditions, a legal entity based in a third country officially candidate for association to Horizon Europe is eligible.
 - However, the signature of the grant agreement will be subject to the positive conclusion of the association negotiation.
- They will be treated as entities established in an Associated Country, if the Horizon Europe Association Agreement with the third country concerned applies at the time of signature of the Grant Agreement.
- A legal entity based in a third country which is not candidate for association to Horizon Europe can apply as part of a consortia in which the minimum number of EU or Associated Country partners are present



Associated Countries



- The association agreements with the following countries have now started to produce legal effects (either through provisional application or their entry into force):
 - 1. Bosnia and Herzegovina 2. Georgia 3. Iceland 4. Israel 5. Moldova 6. Montenegro 7. North Macedonia 8. Norway 9. Serbia 10. Turkey
- Until association agreements start producing legal effects either through provisional application or their entry into force, the transitional arrangement set out in the General Annexes to the Horizon Europe Work Programme 2021-2022 is applicable with regard to the following countries, with which association negotiations are being processed or where association is imminent:
 - 1. Albania 2. Armenia 3. Faroe Islands 4. Kosovo 5. Morocco 6. Tunisia 7. Ukraine 8. United Kingdom
- The UK is expected to become an associated country to HE. UK entities can take part in the first calls for proposals of Horizon Europe



Specific Situation - CH

- Legal entities established in Switzerland are currently not covered by the transitional arrangement.
- Switzerland is <u>currently considered a non-associated third country</u> for Horizon Europe and related programmes with call identifier 2021 and 2022.
- Can Swiss entities (including companies and SME) participate in Horizon Europe? Yes, entities based in Switzerland can participate in Horizon Europe. Any legal entity, regardless of its place of establishment, including legal entities from non-associated third countries or international organisations, is eligible to participate (whether it is eligible for funding or not), provided that the conditions laid down in the HE Regulation are met, along with any other conditions laid down in the specific call topic. However, as Switzerland is considered a non-associated third country, Swiss applicants must submit their proposals as participants from a non-associated third country ('Associated Partner').





Same criteria as in H2020

Same three award criteria: 'Excellence', 'Impact' and 'Quality and efficiency of implementation'.

But specific EU-Rail sub-criteria - Annex VII of the EU-RAIL AWP

Part D of the Horizon Europe Work Programme 2021-2022 General Annexes applies regarding the award criteria, scores and weighting, with the following additions:

- Excellence: *quality of the proposed joint activities to achieve the deliverables*
- Impact: quality and credibility of the action to contribute achieving the EU-Rail Master Plan objectives and the expected impact of the EU-Rail Multi-Annual Work Programme
- Quality and efficiency of the implementation: Appropriateness of the project management structure and quality of the proposed coordination



Evaluation – Award criteria - IAs

EXCELLENCE

- Clarity and pertinence of the project's objectives, and the extent to which the proposed work is ambitious, and goes beyond the state-of-the-art.
- Soundness of the proposed methodology, including the underlying concepts, models, assumptions, inter-disciplinary approaches, appropriate consideration of the gender dimension in research and innovation content, and the quality of open science practices including sharing and management of research outputs and engagement of citizens, civil society and end users where appropriate.
 - Quality of the proposed joint activities to achieve the deliverables.

IMPACT

- Credibility of the pathways to achieve the expected outcomes and impacts specified in the work programme, and the likely scale and significance of the contributions due to the project.
- Suitability and quality of the measures to maximize expected outcomes and impacts, as set out in the dissemination and exploitation plan, including communication activities.
- Quality and credibility of the action to contribute achieving the EU-Rail Master Plan objectives and the expected impact of the EU-Rail Multi-Annual Work Programme

QUALITY AND EFFICIENCY OF THE IMPLEMENTATION

- Quality and effectiveness of the work plan, assessment of risks, and appropriateness of the effort assigned to work packages, and the resources overall.
- Capacity and role of each participant, and extent to which the consortium as a whole brings together the necessary expertise.
- Appropriateness of the project management structure and quality of the proposed coordination.

Proposals aspects are assessed to the extent that the proposed work is within the scope of the work programme topic

Scores and Weighting



- Evaluation scores will be awarded for the criteria
- For full applications, each criterion will be scored out of 5.
- The threshold for individual criteria will be 3.
- The overall threshold, applying to the sum of the three individual scores, will be 10.
- To determine the **ranking** for IAs, the score for 'Impact' will be given a **weight of 1.5**. Weighting is only used for the ranking (not to determine if the proposal passed the thresholds)
- Proposals that pass the individual threshold AND the overall threshold will be considered for funding, within the limits of the available call budget.



Ethics review

Same criteria as in H2020

For all activities funded, ethics is an integral part of research, and ethical compliance is essential to achieve research excellence.

An ethics review process is carried out systematically in all HE proposals, based on a self-assessment included in the proposal.

Ethical research conduct implies the application of fundamental ethical principles and legislation, including adherence to the highest standards of **research integrity** as described in the **European Code of Conduct for Research Integrity**.

Adapted following lessons learnt

- Focus mainly on complex/serious cases
 - Reduce number of ethics requirements in funded projects.



Ethics review

- Projects must comply with ethical principles and applicable EU, international and national law.
- Applicants must have completed the ethics self-assessment as part of their application.
- For more information, see <u>How to complete your ethics self-assessment.</u>
- Projects involving ethics issues will have to undergo an ethics review to authorise funding and may be made subject to specific ethics requirements.
- These requirements become part of the grant agreement as ethics deliverables, e.g. ethics committee opinions/authorisations required under national or EU law





New in Horizon Europe

Security issues will be checked **systematically** in all Horizon Europe proposals (in H2020 only proposals submitted to topics flagged as 'security-sensitive' were checked). The checks are based on a **self-assessment** included in the proposal. The focus is on:

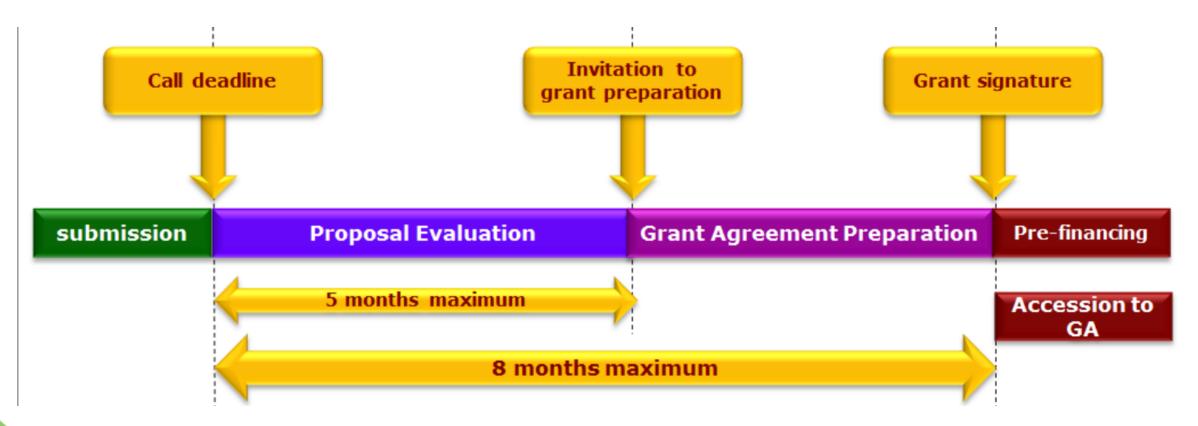
- Whether the proposal uses or generates **EU classified information**
- Potential of misuse of results (that could be channeled into crime or terrorism)
- Whether activities involve information or materials subject to national security restrictions

The checks based on the self-assessment may trigger an in-depth security scrutiny.

Time to Grant



- information on the outcome of the evaluation: around 5 months from the deadline for submission
- indicative date for the signing of grant agreements: around 8 months from the deadline for submission



what does the HE grant agreement look like?





e-GRANT

• The HE grant agreement and its management are **fully electronic**: from the signature of the grant until its end, all actions and communications will flow via the F&T Portal



CORPORATE STRUCTURE

• The HE grant agreement is based on a **Commission-wide model** (so-called '**Corporate** Model Grant Agreement')

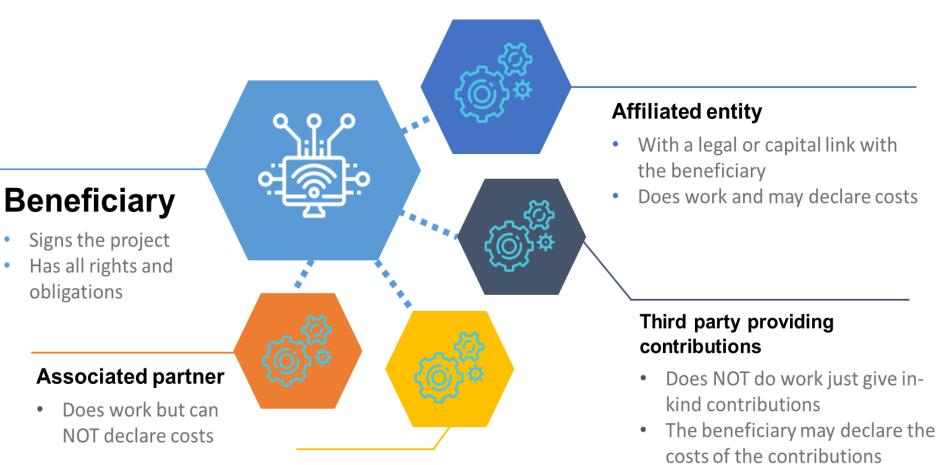


SPECIFIC ANNEX 5

Some important rights and obligations are part of annex 5:

- Security
- Ethics
- Values (i.e. gender mainstreaming)
- IPR
- Communication, Dissemination, Open Science and Visibility
- Specific rules for carrying out the action

How can I participate in the grant agreement?



Subcontractor

obligations

٠

- Does work and invoices the beneficiary
- The beneficiary may declare the invoice

Affiliated entities







Article 187 (1)(b) of the EU Financial Regulation:

Entities 'that have a link with the beneficiary, in particular a legal or capital link, which is neither limited to the action nor established for the sole purpose of its implementation'.

<u>Affiliated entities in Horizon Europe = Linked third parties in Horizon 2020</u>

(alignement of labelling/definition in the corporate context)

Associated Partner (AP)



- Inherited and derived from the 'International partner' status in H2020 MGA
- **Corporate terminology** and status with the following features:
 - AP mentioned in Art. 9 and implements action tasks listed in Annex I
 - But without receiving EU funding (costs are not eligible)
 - The beneficiaries must ensure that some of MGA obligations also applied to AP (*i.e.* Articles 11 (proper implementation), 12 (conflict of interests), 13 (confidentiality and security), 14 (ethics), 17.2 (visibility), 18 (specific rules for carrying out action), 19 (information) and 20 (record-keeping)

CONSORTIUM



EUROPE'S RAIL INFO DAY 2022

Legal Guidelines





EUROPE'S RAIL INFO DAY CALL 2022-1

FINANCIAL GUIDELINES

Vincent DECLERFAYT

Head of Corporate Services Europe's Rail JU



Horizon Europe - The next EU Research and Innovation investment Programme (2021-2027) and EU-Rail JU

- 1. Model Grant Agreement (MGA) and eligibility criteria
- 2. Lump sum detailed Financial Excel table
- 3. Estimated Members' contributions



1. Model Grant Agreement (MGA) and eligibility criteria

What is the grant agreement and why do I need it?

The grant agreement is the contractual document signed with a 'granting authority' (e.g. the Commission or one of its executive agencies) defining



YOUR RIGHTS

e.g.:

- To receive EU funding, under the terms and conditions defined in the grant agreement, to help you to accomplish your project
- **To own the results** of the project that you have generated
- To ask for amendments of the grant agreement (if something needs to be changed)



YOUR OBLIGATIONS

e.g.:

- **To Implement the project** as planned in the description of the action (Annex 1 to the grant agreement)
- **Submit reports** at the time and for the periods defined in the grant agreement
- Display the EU-Rail JU logo and reference to EU Rail Programme / Horizon Europe funding

(e.g.information material, equipment funded by the grant, major results);





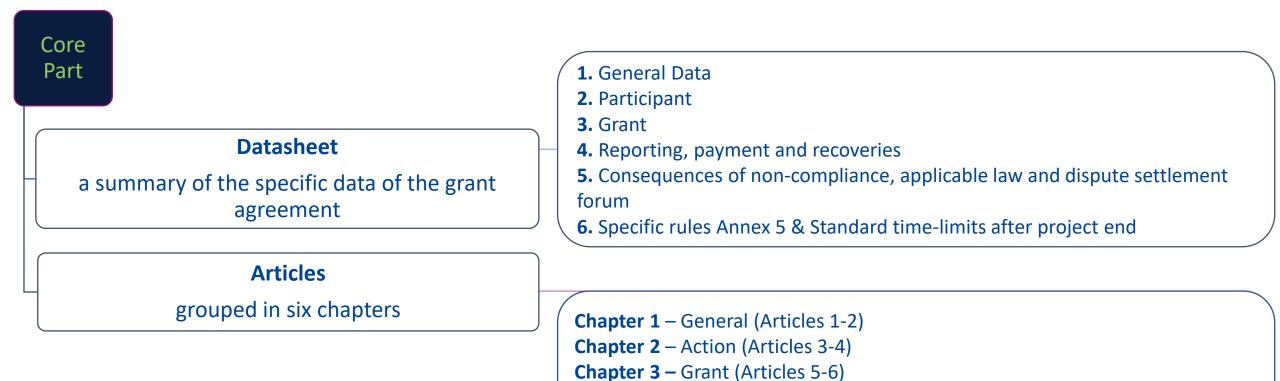
HOW MUCH MONEY YOU CAN GET

Overall, the granting authority can never pay

- more than the maximum grant amount fixed in the grant agreement.
- But it may pay less; e.g. if the project costs at the end are less than budgeted

Corporate structure of the Horizon Europe MGA





Chapter 4 – Grant Implementation (Articles 7-26)

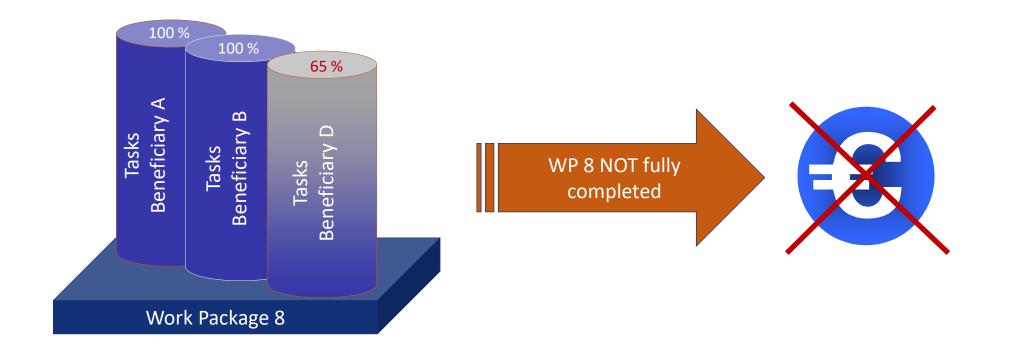
Chapter 6 – Final provisions (Articles 36-44)

Chapter 5 – Consequences of non-compliance (Articles 27-35)

Lump sum – main differences with standard MGA



Work Package and its work (deliverable, milestones, etc.) importance



Lump sum – main differences with standard MGA



The grant agreement will set out the lump sum (Max contribution: co-funding) corresponding to the **full accomplishment of the work committed in Annex 1.**

The lump sum for the grant is set out at its signature.



Submission – Lump Sum Grants



- For lump sum grants, when the amount of the lump sum is not fixed in advance, the estimated budget must be described in a detailed budget table.
- This will be used as a basis for fixing the lump sum amount.
- Decision authorizing the use of lump sum contributions under the HE/EU-Rail Programme:

"The detailed cost estimation per work package and per beneficiary and affiliated entity (if any) shall include only costs that would be considered eligible in an actual costs grant. [...] Where relevant, applicants shall declare that they have followed their own accounting practices for the preparation of the estimated budget"

Submission – Lump Sum Grants



- As the lump sum is an approximation of the costs actually incurred, the costs included in this detailed budget table must comply with the basic eligibility conditions for EU actual cost grants (see AGA — Annotated Grant Agreement, article 6).
- This is particularly important for purchases and subcontracting, which must ensure best value for money (or, if appropriate, the lowest price) and be free from any conflicts of interest.
- If the budget table contains ineligible costs, the grants may be reduced (even later on during implementation of the project or after they end)

Lump Sum - Subcontracting



- The principles of subcontracting (ensuring best value for money, no Col, subcontracting of only a limited part of the action, etc.) are still compulsory
- BUT are not considered to be additional cost eligibility conditions
- Consequence: in case of breach, JU may reduce the grant in proportion to the seriousness of the breach instead of rejecting costs.
- The estimated costs for each subcontract DO NOT have to be included in Annex 1 and the total estimated costs of subcontracting per beneficiary are not displayed in Annex 2.
- Nevertheless, costs of subcontracting MUST BE indicated in the "Financial Excel table" and are part of the lump sum.

Lump Sum Grants: why?



- Lump sum project funding removes all obligations on actual cost reporting and financial audits (Certificate of Financial Statement and ex-post audits) at project implementation phase – i.e. a major reduction of administrative burden
- Focus on performance: shift from focus on financial management and checking costs to focus on scientific-technical content of the projects
- One lump sum share is fixed in the grant agreement for each work package: this amount is paid when the activities in the work package are completed (the payment does not depend on a successful outcome, but on the completion of activities, as confirmed by the JU)

Lump Sum Grants: keeping records



We **need** We don't need Art 20 lump sum MGA Technical documents Time-sheets Publications, Pay-slips or contracts prototypes, deliverables Depreciation policy Who did what? Travel invoices ...any document proving that the work was doneactual costs as detailed in Annex 1



HE specific provisions to be considered in submitting the Lump Sum Proposals

Personnel costs

The situation tomorrow... Personnel costs new calculation



Corporate approach with Personnel costs =





NEW

Daily rate = annual personnel costs for the person

215

with no more obligation to use the 'last closed financial year'!

Daily rate calculation



When?

- per calendar year (from January to December)
- except for the months running from the end of the last calendar year until the end of the reporting period. For those months, you must calculate a separate partial daily rate as follows:

{actual personnel costs of the person incurred over those months

divided by

{215 / 12 (months) x number of months from the January until the end of the reporting period}}

Personnel costs: main differences with H2020



- Discontinuation of the different formulas (annual and monthly) and options for productive hours (entailing difficult and error-prone calculations)
- No more 'last closed financial year' rule
- Instead, use of a single corporate daily rate and calendar year approach



HE specific provisions to be considered in submitting the Lump Sum Proposals

Equipment costs

Equipment costs



Continuity

Depreciation costs are by default eligible.

By exception, full costs may be eligible.

Further clarity

Optional provisions addressing the specific case of assets under construction (e.g. prototype) and their related capitalised costs:

- The **full construction costs** (typically the costs of the personnel involved in the construction of the prototype)
- The **full purchase costs** (typically any component, pieces of equipment bought for the prototype)



HE specific provisions

Indirect costs





What? Costs that are only indirectly linked to the action implementation (Art. 6(1) General eligibility conditions of the Horizon Europe MGA)



Flat-rate of 25% of the eligible direct costs, except subcontracting costs, financial support to third parties and exempted specific cost categories, if any. (Art. 6(2)(E) Indirect costs of the Horizon Europe MGA)



<u>Possibility to accept actual indirect costs</u> allocated via beneficiary's usual key drivers in the unit cost calculation for <u>internally invoiced goods and services</u>



Lump Sum Grant Agreements

Evaluation

Lump Sum - evaluation



- In complement to the explanation provided in the legal part about the evaluation criteria (previous chapter "excellence / impact / quality and efficiency of the implementation", for each WP, experts shall in addition :
- ✓ Check the budget estimate on the basis of relevant statistical data or historical data on previously funded and comparable actions (or based on relevant benchmarks on costs and resources such as market prices)
- ✓ Assess whether the resources proposed and the split of lump sum shares allows achieving the activities and expected outputs
- ✓ Verify that proposals include the declaration by beneficiaries of having used their own accounting practices.



Lump Sum Grant Agreements

Ex-post controls

Lump Sum – ex-post controls



Checks, reviews and audits for:

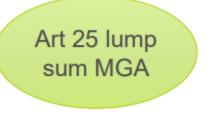
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- Proper implementation of the action (e.g. technical review)
- Compliance with the other obligations of the grant:

IPR obligations

Obligations related to third parties (e.g. financial support) Other obligations (e.g. ethics, visibility of EU funding, etc.)

No financial audits anymore





Lump Sum Grant Agreements

Amendment

Lump Sum - Amendments



- During the life of the project, consortia can change the number, descriptions and values of LS shares (e.g. budget transfers)
- CONDITIONS:
- \checkmark Via a request for amendment
- \checkmark On the condition it does not breach the award decision
- Changes will enter in force after the approval of the amendment.

HOWEVER:

- Transfers from COMPLETED & PAID WPs are not possible
- Transfers between WPs can only be accepted in exceptional circumstances, if duly justified and after a project review.
- Lump sum shares of a terminated beneficiary cannot be changed (termination amendment must include all necessary updates for that beneficiary in the budget table)
 - Partial lump sum shares in the last reporting period are an exception i.e. for technical reasons



2. Lump Sum detailed Financial Excel table

Instructions:

In this tab, all the necessary instructions on how to fill in the table are shown



Europe's Rail Joint Undertaking



Europe's Ra Instructions Go to Beneficiaries and Affiliated Entities list Go to Work packages list This workbook enables you to present the detailed estimation of costs of your lump sum project and to calculate the lump sum breakdown per work package and per categoy. It must be uploaded as an additional document at "Fill in proposal" step of proposal submission. This is mandatory. Please note that if you do not upload the Excel workbook, the proposal submission will be blocked. According to the lump sum scheme, the lump sum share for a Work Package (WP) will be paid only when the entire Work Package has been completed. Please take it into consideration while structuring your proposal. Work Packages should be designed in a way that enables to clearly identify whether the action has been completed. We recommend using Excel 2010 or more recent The only currency used in this workbook is EURO. Enter only **round numbers** in this workbook. You have to fill in **only** the following sheets: 'BE list' - 'WP list' - 'BEx' (one sheet for each Beneficiary) - 'Depreciation costs' (if any) and the column D 'requested grant amount' of the 'Budget for proposal sheet'. The appropriate number of individual Beneficiary sheets ('BEx') will be automatically generated with data from the 'BE list' and 'WP list' sheets. You will have to fill in the 'Budget for the proposal' table in the Part A form of the proposal submission tool, entering the requested EU contribution for each participant. We advise you to fill this Part A budget table column using the totals in the beneficiaries columns of the "Lump sum breakdown" table in this Excel workbook. The format of this Excel workbook is .**xIsm** because it uses macros to generate automatically some data. **Always save it as .xIsm.** However, this format cannot be uploaded to the submission system for security reasons. So please also save a copy as an .xisx or .xis document (and not as .xism) and upload it to the proposal submission tool, at Step 5 of the submission process. Always keep a copy of the original .xism file. To save the workbook as .xlsx document, in Excel click on "File" and then "Save as"; in the "Save as" dialog box, choose ".xlsx" or ".xls" from the "Save as type" dropdown list. In the 'BE list', you can add as many Beneficiaries and as many Affiliated Entities as you need. To add Beneficiaries, click on the "Add BE" button; to add an Affiliated Entities, click on the "Add AE" button next to the Beneficiary the Affiliated Entity is linked with. For each Beneficiary and each Affiliated Entity, you **must** choose the appropriate **country** in the drop-down menu and enter the correct fundin rate. The funding rate of the action is 60% of the eligible costs to achieve the leverage effect established in the SBA. Each consortium may decide internally different funding rates in line with the provisions of Article 34 of Horizon Europe, nevertheless complying with the overall funding rate of 60%. LIST Once you have completed the 'BE list' sheet, you must click the "Apply changes" button to generate the related sheets in the Excel workbook. You can delete a Beneficiary or Affiliated Entity by simply removing the content of the line and leaving it blank. Once your changes are done, you have to click the "Apply changes" button. Be aware that you cannot delete the first Beneficiary of the list. If you delete a Beneficiary from the "BE list", the BE sheet of this Beneficiary will be saved as a backup only. This sheet will be excluded from the calculation. Please do not forget to also delete the Affiliated Entities linked to this Beneficiary. If you delete an Affiliated Entity, the data of this Affiliated Entity will not be saved as a backup.

BE List:



In this tab, you should add all the beneficiaries and affiliated entities and **chose the respective funding rate (open field).** Once completed click on the button "apply changes" and the table will now include a tab for each beneficiary



	List of beneficiaries and a ng rate of the action is 60% of the eligible costs to ac consortium may decide internally different funding ra Horizon Europe nevertheless complying with th	Add BE	Apply changes			
BE/AE nr	BE/AE name					
BE1	Beneficiary 1	BE1	BE	60%	Add AE	
BE1-AE1	AE 1 (ben1)	AE1	BE	100%		
BE2	Beneficiary 2	BE2	DE	100%	Add AE	
BE2-AE1	AE 1 (ben2)	AE1 (B2)	AT	70%		
BE3	Beneficiary 2	BE3	PT	40%	Add AE	

WP List:



In this tab, you should add all the work packages defined for the project and their description. Once completed click on the button "apply changes" and the table will now be ready to complete with the financial information from the beneficiaries and their affiliated entities

_	List of W	Add \	NP	Apply	change	s	
WP-number	WP-name	WP-description			, (pp)	change	<u> </u>
WP1	Work Package 1	Description of Work Package 1					
WP2	Work Package 2	Description of Work Package 2					
WP3	Work Package 3	Description of Work Package 3					
WP4	Work Package 4	Description of Work Package 4					

BE1, 2, 3 and so on – with or without AE:



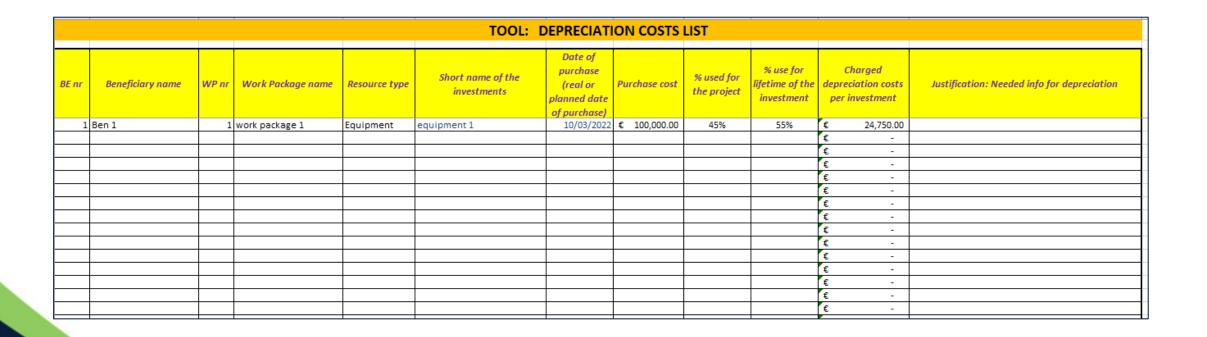
- The financial information for each beneficiary and their AE (when applicable) should be added in each respective tab and for each respective work package.
- Only the yellow cells can be filled and all the calculations are based on pre-defined formulas
- At the end of the sheet, you can find a summary with the information concerning all work packages and the total costs foreseen for each beneficiary or affiliated entity

					1			i
	BENEFICIARY CALCULATION SHEET							
	summary	BENEFICIARY 1: Beneficiary 1			Affiliated Entity: AE 1 (ben1)			
	COST CATEGORY	UNITS	COST PER UNIT	BE TOTAL COSTS	UNITS	COST PER UNIT	AE TOTAL COSTS	BE+AE TOTAL COST
	COSTS WORK PACKAGE 1: WP1							
I	A. DIRECT PERSONNEL COSTS							
	A.1 Employees (or equivalent)							
	SENIOR SCIENTISTS (or equivalent in the private sector)	10.00	8000.00	80,000.00			0.00	80,000.0
	JUNIOR SCIENTISTS (or equivalent in the private sector)			0.00			0.00	0.0
	TECHNICAL PERSONNEL (or equivalent in the private sector)			0.00			0.00	0.0
	ADMINISTRATIVE PERSONNEL (or equivalent in the private sector)			0.00			0.00	0.0
	OTHERS			0.00			0.00	0.00
	A.2 Natural Persons under direct contract			0.00			0.00	0.0
	A.3 Seconded Persons			0.00			0.00	0.0
	A.4 SME owners and natural person beneficiaries		5,080.00	0.00		5,080.00	0.00	0.0
	B. DIRECT SUBCONTRACTING COSTS							
ĺ				0.00			0.00	0.0
I	C. DIRECT PURCHASE COSTS							
Î	C.1 Travel and subsistence			0.00			0.00	0.0
	C.2 Equipment (complete 'Depreciation costs' sheet)							
	Equipment			0.00			0.00	0.00
	Infrastructure			0.00			0.00	0.00
	Other assets			0.00			0.00	0.0
ľ	C.3 Other goods, works and services							
ľ	Consumables			0.00			0.00	0.0
1	Services for meetings, seminars			0.00			0.00	0.0
1	Services for dissemination activities (including website)			0.00			0.00	0.0
	Publication fees			0.00			0.00	0.0
	Other (shipment, insurance, translation, etc.)			0.00			0.00	0.0
I	D. OTHER COST CATEGORIES							
14	D.1 Financial support to third parties (if applicable in the topic specific conditions)			0.00			0.00	0.0
	D.2 Internally invoiced goods and services			0.00			0.00	0.0
	D.3 Transnational access to research infrastructure unit costs (if mentioned as eligible in the topic specific conditions)			0.00			0.00	0.0
	D.4 Virtual access to research infrastructure unit costs (if mentioned as eligible in the topic specific conditions)			0.00			0.00	0.0
	D.5 PCP/PPI procurement costs (if mentioned as eligible in the topic specific conditions)			0.00			0.00	0.0
I	TOTAL DIRECT PERSONNEL COSTS AND PURCHASE COSTS (A+C)			80,000.00			0.00	80,000.0
٠	TOTAL DIRECT COSTS (A+B+C+D)			80,000.00			0.00	80,000.0
]	E. INDIRECT COSTS (25% * (A+C))			20,000.00			0.00	20,000.0
1				100,000.00			0.00	100.000.0
- 1	F. TOTAL COSTS (A+B+C+D+E)			100,000.00			0.00	100,000.0

Depreciation cost:



In this tab, you have a tool where you can calculate the depreciation costs of any equipment to be used in the action. This will help you define the amounts to be added in the individual beneficiary sheets concerning depreciation



Summary per WP:



In this tab, after completing the individual beneficiary sheets, you will find a summary of the participation of all beneficiaries (including affiliated entities) for all the work packages

		ENEFICIARIES	ALL AFFI	LIATED ENTITIES	ALL BENEFICIARIES		
	(without	affiliated entities)			(with affiliated entities)		
COST CATEGORY	UNITS	BE TOTAL COSTS	UNITS	AE TOTAL COSTS	UNITS (TOTAL)	AVERAGE COST PER UNIT	BE+AE TOTAL COST
COSTS WOF	K PACKAG	GE: 1 WP1					-
A. DIRECT PERSONNEL COSTS							
A.1 Employees (or equivalent)							
SENIOR SCIENTISTS (or equivalent in the private sector)	30.00	240,000.00	0.00	0.00	30.00	8,000.00	240,000
JUNIOR SCIENTISTS (or equivalent in the private sector)	0.00	0.00	0.00	0.00	0.00		0
TECHNICAL PERSONNEL (or equivalent in the private sector)	0.00	0.00	0.00	0.00	0.00		0.
ADMINISTRATIVE PERSONNEL (or equivalent in the private sector)	0.00	0.00	0.00	0.00	0.00		0
OTHERS	0.00	0.00	0.00	0.00	0.00		0.
A.2 Natural Persons under direct contract	0.00	0.00	0.00	0.00	0.00		0
A.3 Seconded Persons	0.00	0.00	0.00	0.00	0.00		0
A.4 SME owners and natural person beneficiaries	0.00		0.00	0.00	0.00		0
B. DIRECT SUBCONTRACTING COSTS							
	0.00	0.00	0.00	0.00	0.00		0.
C. DIRECT PURCHASE COSTS							
C.1 Travel and subsistence	0.00	0.00	0.00	0.00	0.00		0
C.2 Equipment (complete 'Depreciation cost' sheet)	0.00		0.00	0.00			
Equipment	0.00	0.00	0.00	0.00	0.00		0.
Infrastructure	0.00		0.00	0.00	0.00		0
Other assets	0.00		0.00	0.00	0.00		0
C.3 Other goods, works and services	0.00	0.00	0.00	0.00	0.00		
Consumables	0.00	0.00	0.00	0.00	0.00		0.
Services for meetings, seminars	0.00		0.00	0.00	0.00		0.
Services for dissemination activities (including website)	0.00		0.00	0.00	0.00		0.
Publication fees	0.00		0.00	0.00	0.00		0
Other (shipment, insurance, translation, etc.)	0.00		0.00	0.00	0.00		0.
D. OTHER COST CATEGORIES	0.00	0.00	0.00	0.00	0.00		0
D.1 Financial support to third parties (if applicable in the topic specific conditions)	0.00	0.00	0.00	0.00	0.00		0
D.2 Internally invoiced goods and services	0.00		0.00	0.00	0.00		0
D.2 Internally involced goods and services D.3 Transnational access to research infrastructure unit costs (if required in the topic specific conditions)	0.00		0.00	0.00	0.00		0
D.4 Virtual access to research infrastructure unit costs (in required in the topic specific conditions)	0.00		0.00	0.00	0.00		0
D.5 PCP/PPI procurement costs (if mentioned as eligible in the topic specific conditions)	0.00		0.00	0.00	0.00		0
אין איז	0.00	0.00	0.00	0.00	0.00		0
TOTAL DIRECT PERSONNEL COSTS AND PURCHASE COSTS (A+C)		240,000.00		0.00	0.00		240,000
TOTAL DIRECT PERSONNEL COSTS AND PORCHASE COSTS (A+C)		240,000.00		0.00	0.00		240,000
		240,000.00		0.00	0.00		240,000
E. INDIRECT COSTS (25% * (A+C))		60,000.00		0.00	0.00		60,000
F. TOTAL COSTS (A+B+C+D+E)		300,000.00		0.00	0.00		300.000

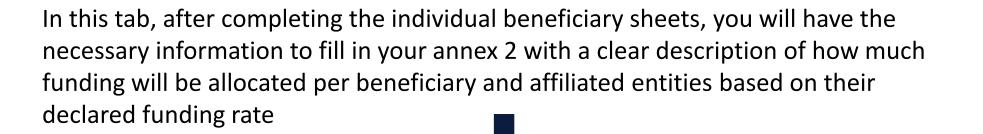
BE-WP person months:

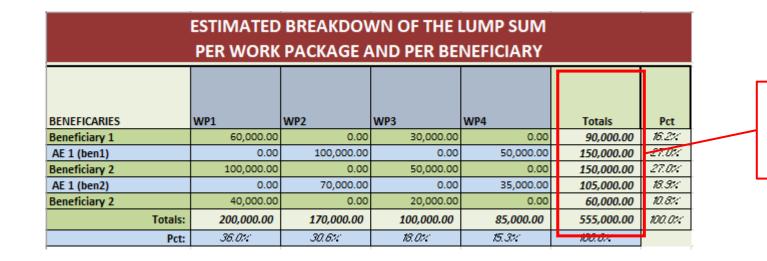


In this tab, after completing the individual beneficiary sheets, you will find a summary of the effort allocated for all beneficiaries (including affiliated entities) for all the work packages

TOTAL PERSON/MONTHS FOR ALL BENEFICIARIES (INCLUDING AFFILIATED ENTITIES) PER WP									
					Percenta				
WORK PACKAGES	Beneficiary 1	Beneficiary 2	Beneficiary 2	Total	ge				
WP1	10.0	10.0	10.0	30.0	40.0%				
WP2	10.0	10.0	0.0	20.0	26.7%				
WP3	5.0	5.0	5.0	15.0	20.0%				
WP4	5.0	5.0	0.0	10.0	13.3%				
Total	30.0	30.0	15.0	75.0	100.0%				
Percentage	40.0%	40.0%	20.0%	100.0%					

Lump Sum Breakdown:





Lump sum share per beneficiary for the GA



Lump Sum Breakdown into the Budget proposal table:

The lump sum breakdown is used in the budget proposal table for the calculation of the Requested grant amount

	strative forms SEP-210847092 FA6-Test Nr2 dget					per be	o sum sha eneficiary the GA		
No	Name of Beneficiary	Country	Role	Requested grant amount	Financial contributions	Other sources of funding - IKOP	Own resources	Total estimated income	IKAA
1	Baird Consulting Scs	BE	Coordinator	60.00		40		100.00	5
2	Test Camelia-valeria	BE	Partner	120.00		80		200.00	8
3	Sme Test	BE	Affiliated	30.00		0		30.00	0
4	Charalampos Xenogiannis	BE	Associated		0	0	0	0.00	0
		Total		210.00		120	0	330.00	13

- The IKOP shall be introduced in the budget proposal table.
- Indicative IKAA could be introduced as well.
- A dedicated table for the contribution of the Members is also needed (see next slides)



3. EU-Rail Programme: Specific provisions to be considered by the EU-Rail Private Members' intending to join a consortia for the submission of a proposal

Single Basic Act (SBA) & In-kind contribution



- Contributions from members other than the Union and contributing partners as per Art 11 of SBA - the contributions of private members shall consist of IKOP, IKAA and financial contributions.
- Programme approach:

"Total Project Costs"						
HE Eligible costs	IKAA					
HE Max Contribution (co-funding) – funding rate 60% and = [44.5% Total Project Costs]	IKOP – 40%	"If Applicable – linked to the				
HE eligible costs	project or activities" -					
Funded by the JU		Own accounting practice				

 Letter of Commitments and Final contributions per Members agreed with expected leverage effects calculated at Programme level

GA – table for Annex I Part B "Estimated <u>Members</u>' Contributions"



• In accordance with the call conditions:

"The amount of total in-kind contributions (i.e. in-kind contributions for operational activities and in-kind contributions for additional activities) should be no less than 1.263 times the funding request, in aggregate, of these applicant Private Members."

- Any discrepancy shall be well and duly justified.
- For 1€ of JU contribution, the Private Member shall contribute in addition of 1.263€. Consequently, with a Total Project Costs for the action and additional activities of 2.263€

GA – table for Annex I Part B "Estimated <u>Members</u>' Contributions"



1. Fill in the project

ESTIMATED N	– /IEMBERS'CONTF		DICATIVE VALUE PER MEMI	BER - PROJEC	T ACRONYM		acronym
Members The amount of total in-kind contributions (i.e. in-kind contributions for operational activities and in-kind							
contributions for additional activities) should be no less than 1.263 times the funding request, in aggregate, of these applicant Private Members. Any discrepancy shall be well and duly justified.	JU contri	bution of the lump	Total Contributions of private members - Indicative value	Pct (D)	Justification if a	applicable	
(A)	(B)		(C)	= (B+C)/B	(E)	, , , , , , , , , , , , , , , , , , ,	
Member 1 (aggregated, of the applicant Private Member)		100,00	126,30	2,2630			4. Any discrepancy
Member 2 (aggregated, of the applicant Private Member)		1.000,00	1.263,00	2,2630			
Member 3 (aggregated, of the applicant Private Member)		10.000,00	12.630,00	2,2630			shall be well and
Member 4 (aggregated, of the applicant Private Member)		125.000,00	157.875,00	2,2630			duly justified (in
Member 5 (aggregated, of the applicant Private Member)			-	-			case % below
Member 6 (aggregated, of the applicant Private Member)			-	-			
Member 7 (aggregated, of the applicant Private Member)			-	-			2.263)
Member 8 (aggregated, of the applicant Private Member)				-		L	
Member 9 (aggregated, of the applicant Private Member)			-	-			
			-	-			
				-			
2. Fill in the	3. Enter	r the JU					
Members name contribution (LS			The ind	The indicative value of			
share)					nd % are		
			automat	automatically calculated			



EUROPE'S RAIL INFO DAY 2022

Financial Guidelines





EUROPE'S RAIL INFO DAY 2022

CLOSING REMARKS