



# Introduction on the Shift2Rail Joint Undertaking

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Shift2Rail Information Day for non-JU  
members (Open calls for proposals)

*The Austrian Research Promotion Agency*

**1 February 2016**

Giorgio TRAVAINI, S2R Programme Coordinator

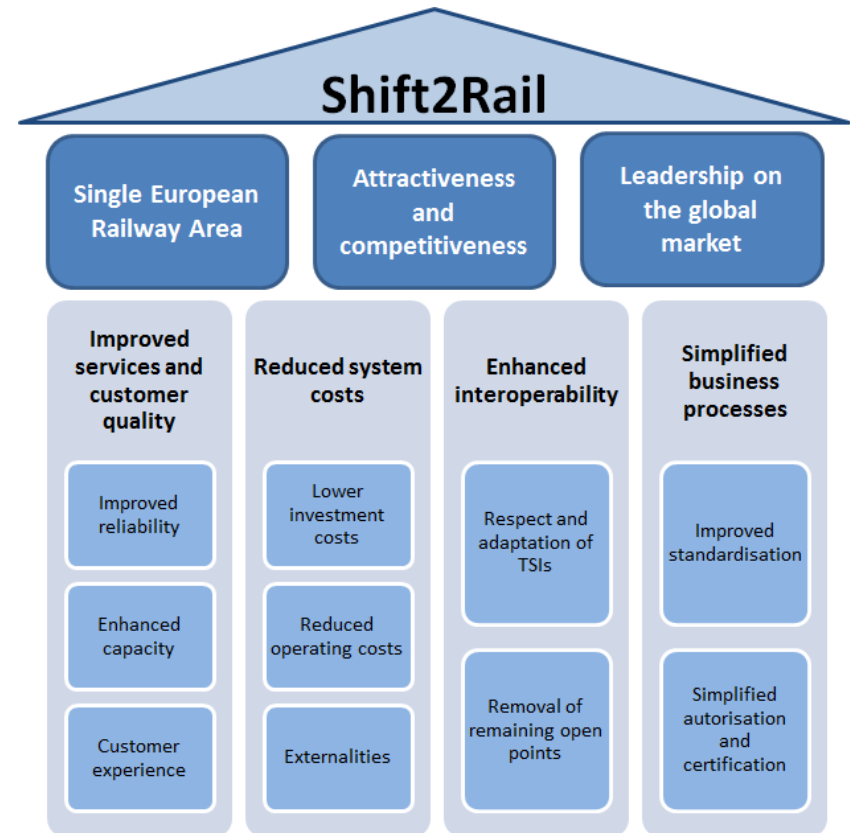
# Shift2Rail: key milestones

- **16 June 2014:** Adoption of Council Regulation No 642/2014
- **7-9 July 2014:** Formal establishment of S2R JU and nomination of **Interim Executive Director**
- **30 July 2014:** Formal establishment of the **Governing Board** of the S2R JU
- **21 October 2014:** Formal establishment of the **States Representatives Group**
- **10 February 2015:** Endorsement of the Shift2Rail **Master Plan** by the Council
- **1 May 2015:** Launch of S2R '**lighthouse**' projects
- **28 May 2015:** Formal establishment of the **Scientific Committee**
- **27 November 2015:** Adoption of the S2R **Multi-Annual Action Plan**
- **11 December 2015:** Selection of **19 associated members** and signature of membership agreements
- **17 December 2015:** Publication of the **first calls for activities** launched by the S2R JU on the H2020 participant portal and the Shift2Rail website.
- **25-28 January 2016:** Formal establishment of the **IP Steering Committees**

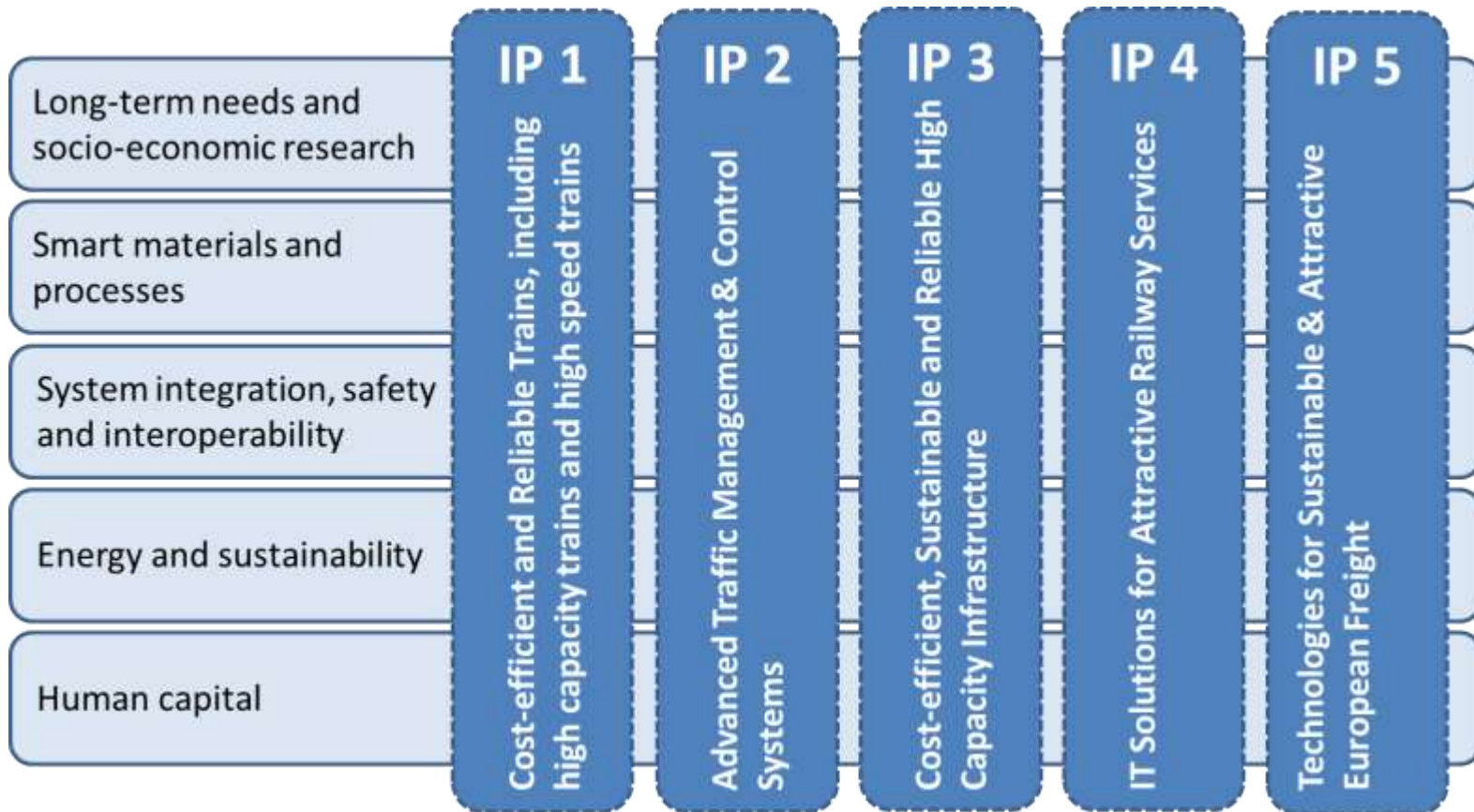
# Shift2Rail objectives

The Shift2Rail Regulation identifies the following key objectives:

- Achieve the **Single European Railway Area** through the removal of remaining technical obstacles holding back the rail sector in terms of interoperability;
- Radically enhance the **attractiveness and competitiveness of the European railway system** to ensure a modal shift towards rail;
- Help the European rail industry to retain and consolidate its **leadership on the global market** for rail products and services.



# The Innovation Programmes



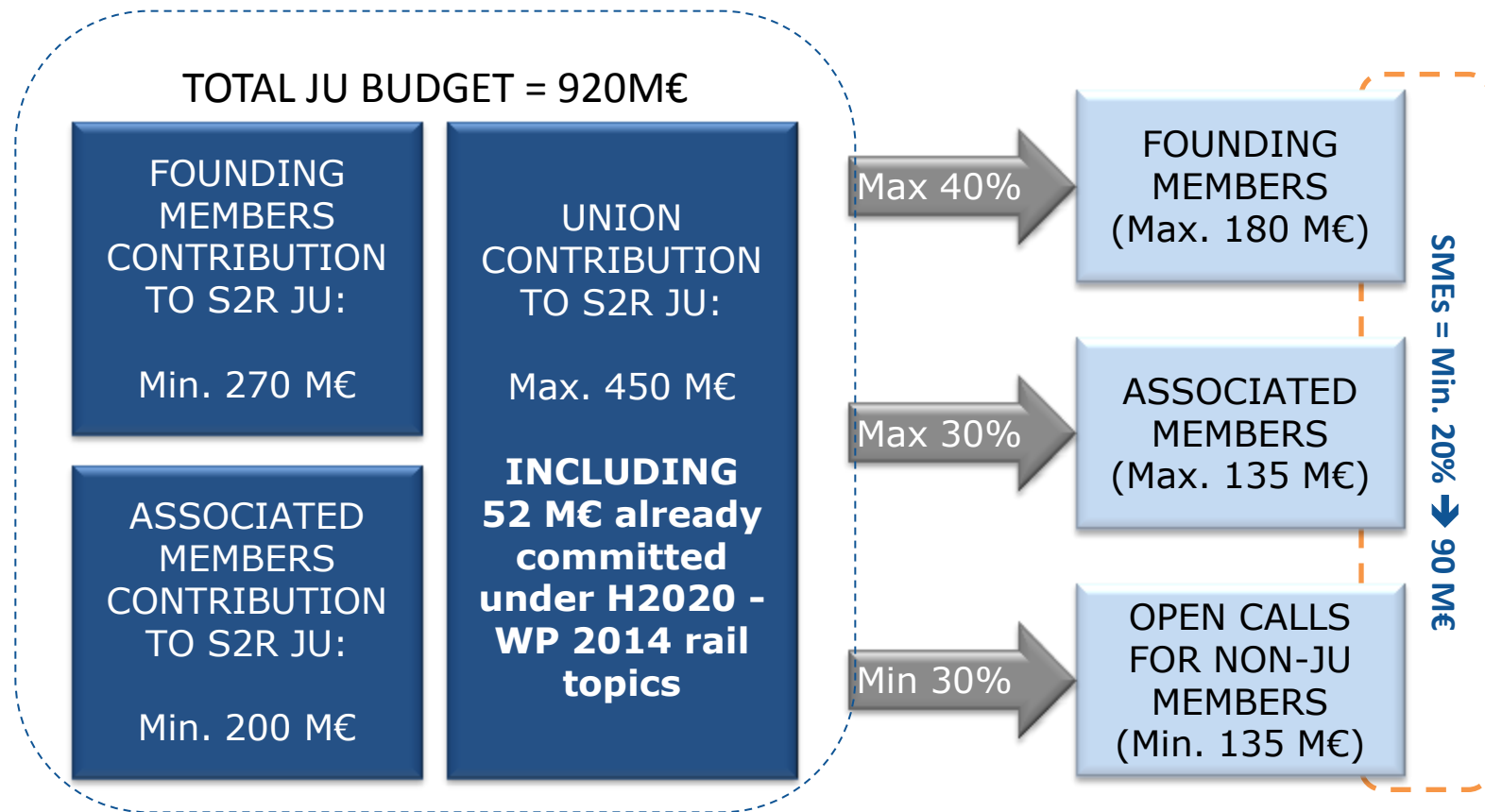
# Broad stakeholder involvement

- The broad involvement of all relevant stakeholders from the rail sector, and even outside the traditional rail sector is a key feature of the S2R JU
- Balanced participation of all relevant actors thanks to a three-tier system:
  - **8 Founding Members**, including the largest private and public players, having committed at least EUR 30 million for the duration of Shift2Rail, to secure substantial industry co-funding from the outset
  - **19 Associated Members** selected as a result of a call for members and representing a broad range of actors from the entire rail value chain and from other innovative sectors, including SMEs, research organisations, universities, etc.
  - Allocation of at least 30% of the Union contribution through **competitive calls for non-JU members**, for broader stakeholders' involvement in collaborative research

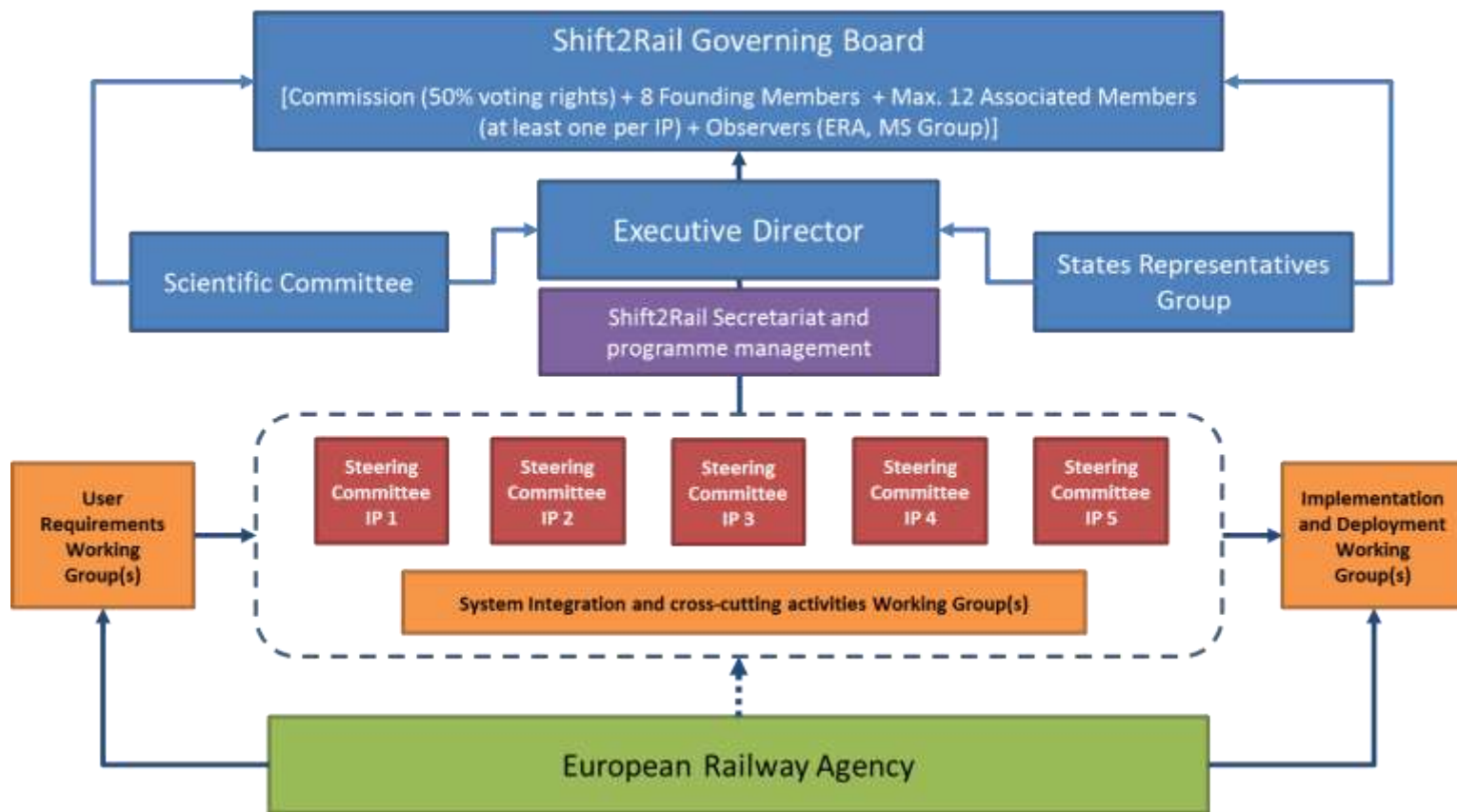
## Who are the members of the S2R JU other than the Union?

8 founding members other than the Union	Alstom, Ansaldo STS, Bombardier, Construcciones y Auxiliar de Ferrocarriles (CAF), Siemens, Thales and infrastructure managers Trafikverket and Network Rail
12 associated members that are single legal entities	Amadeus IT Group, AZD Praha, Deutsche Bahn, DIGINEXT, Faiveley Transport, HaCon Ingenieuresellschaft, INDRA Sistemas, Kapsch CarrierCom, Knorr-Bremse, MER MEC, SNCF Mobilités, Patentes Talgo
7 associated members that are consortia	<ul style="list-style-type: none"> <li>• <b>AERFITEC</b> (AERNNOVA Aerospace, FIDAMC, Fundacion TECNALIA)</li> <li>• <b>Competitive Freight Wagon</b> (Contraffric, DLR, Waggonbau Niesky, Centro de Estudios e Investigaciones Técnicas (CEIT), Verband der Bahnindustrie in Deutschland)</li> <li>• <b>EUropean Rail Operating community</b> (Infraestruturas de Portugal, Association of Train Operating Companies, BLS, CP, Finnish Transport Agency, ÖBB-Infrastruktur, Polskie Koleje Państwowe, PRORAIL , Rede Ferroviária Nacional, Schweizerische Bundesbahnen, Slovenske železnice, Türkiye Cumhuriyeti Devlet Demiryollari)</li> <li>• <b>Smart DeMain</b> (Strukton Rail, ACCIONA Infraestructuras, DLR, Fraunhofer, CEMOSA)</li> <li>• <b>SmartRaCon</b> (DLR, CEIT, Fondation Railenium, Nottingham Scientific Ltd)</li> <li>• <b>Swi'Tracken</b> (Fondation Railenium, Universidade Do Porto, Universidad Del Pais Vasco, Universidade Do Minho, TATASTEEL, VOSSLOH-COGIFER, Institut für Zukunftsstudien und Technologiebewertung, EGIS RAIL, Groupe EUROTUNNEL, TRONICO ALCEN)</li> <li>• <b>Virtual Vehicle Austria consortium+</b> (Kompetenzzentrum, FCP Firtsch, Getzner Werkstoffe, Kirchdorfer Fertigteilholding, Plasser&amp;Theurer, Vvoestalpine Schienen, Voestalpine VAE, Wiener Linien, AVL List, PJM Messtechnik, TATRAVAGONKA, AC2T research, Materials Center Leoben Forschung)</li> </ul>

# The implementation of the Union funding

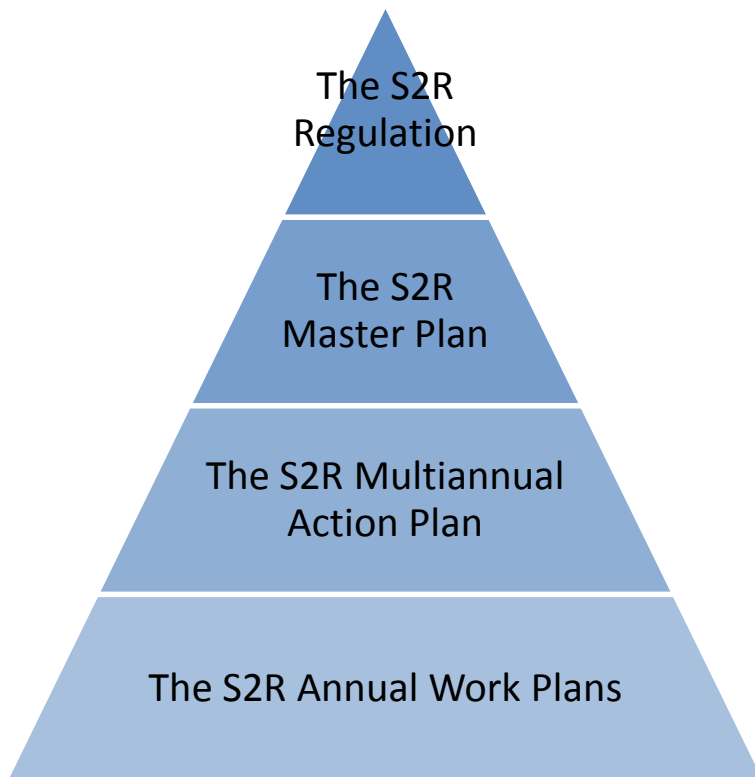


# A tailor-made governance structure





# The Shift2Rail Framework



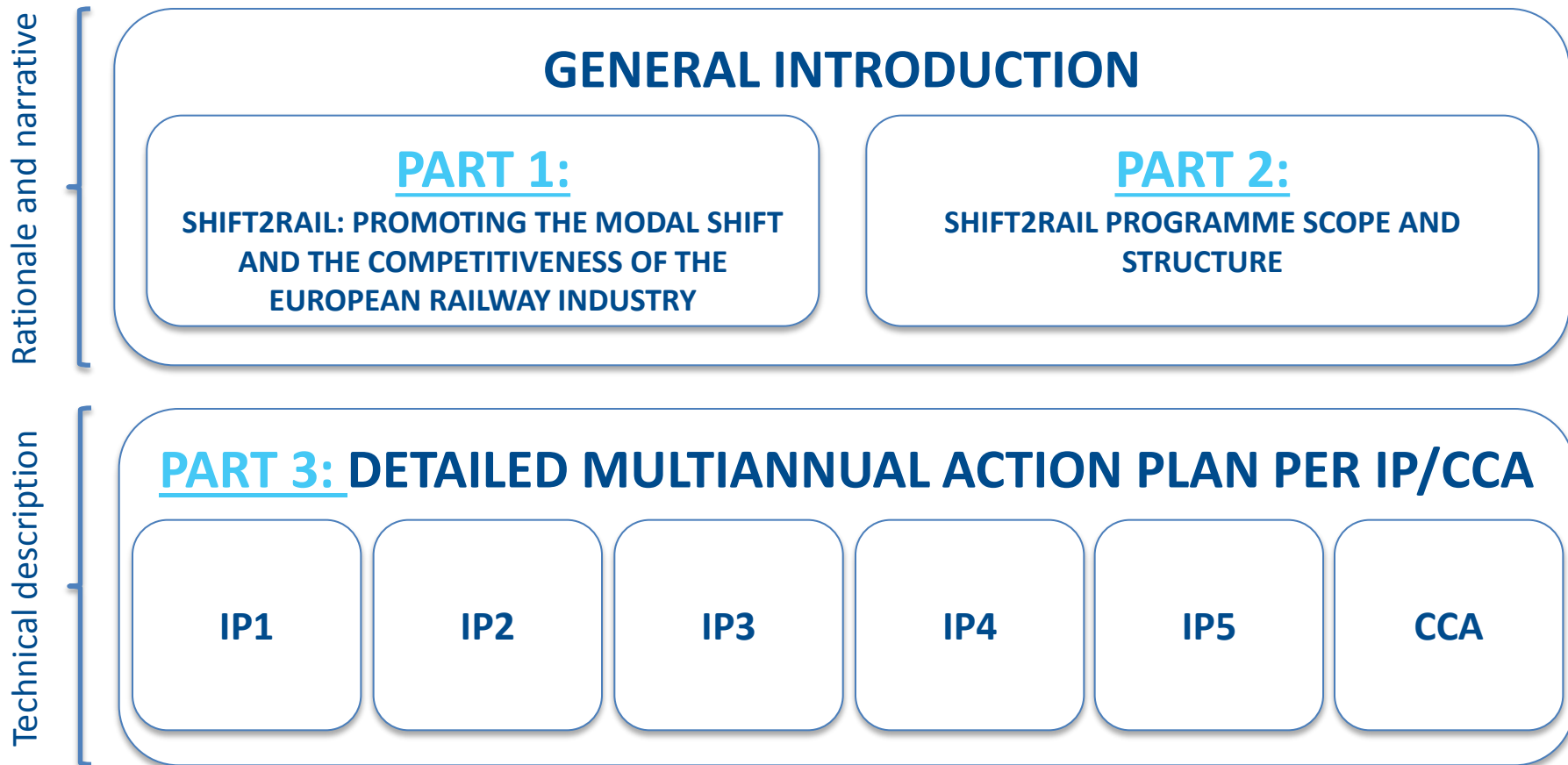
## How are policy objectives translated into concrete activities?

- The general objectives of the Shift2Rail Joint Undertaking are described in the Shift2Rail Regulation, adopted on 16 June 2014
- The S2R Master Plan, adopted on 30 March 2015, following the Council's endorsement, translates the general objectives into specific objectives, providing a high-level strategic vision to achieve them and identifying key priority research areas
- The S2R Multiannual Action Plan (MAAP), adopted by the S2R JU on 27 November 2015, provides a detailed, long-term investment plan that concretely identifies the projects, milestones and deliverables to achieve the Master Plan objectives
- The annual work plans translate the S2R MAAP into detailed, result-oriented activity plans and serve as the basis for identifying the JU calls

# What is the S2R MAAP?

- The MAAP is a long-term investment planning document, which translates the strategic research and innovation priorities for the rail sector - as described in the S2R Master Plan - into **concrete actions, milestones and deliverables** to be undertaken collaboratively by the S2R JU in the period 2015-2024.
- The MAAP has been **developed collaboratively** between the members of the S2R JU with the consultation of the **advisory bodies of the S2R JU** (Scientific Committee, States Representatives Group) **and the European Railway Agency**.
- The MAAP includes all the activities that are foreseen to be co-funded by the S2R JU. It currently contains the description of activities worth an estimated **value of about EUR 765 million**.
- It is a **living document** that will be updated on a regular basis.

# Structure of the MAAP



# The MAAP importance

- It constitutes a reference document along life of the JU, therefore all grants awarded for the action/projects should aim to implement part of the Multi Annual Action Plan ('MAAP').
- It constitutes the base for qualitative content of the JU Membership Agreements
- It enables the preparation of result-oriented Annual Work Plans:
  - **launch of calls for proposals** to JU members and through open call (non-JU Members):
    - The projects contribute to the realisation of the objectives of the S2R Master Plan and are an integral part of the S2R MAAP
    - Open-calls are launched to cover gaps in the expertise of JU members and to fund fundamental research in relation to the Shift2Rail activities

# Overview of the 2015-2016 calls

- Cumulated budget of EUR **89,8 million in EU contribution** (2015 and 2016 budgets) for call for proposals and **0,7 million in EU contribution** for call for tenders (not launched yet)
- Deadline for submission for call for proposals: **17 March 2016** (5PM, Brussels time)
- Call for **members**: EUR **63,7 million** (in EU contribution) for **13 topics for proposals**
- Call for **non-members (open call)**: EUR **26,1 million** (in EU contribution) for **15 topics for proposals** and additional EUR **0,7 million** (in EU contribution) for **2 topics for tender** (only pre-published)
- **Standard H2020 rules** to apply
- Call for Proposals covering all **5 Innovation Programmes** of Shift2Rail + **cross-cutting**

IP	IP1	IP2	IP3	IP4	IP5	CCA
Budget in EU contribution (million EUR)	27,1	23	15,1	9	10,1	5,5

Topic number - IP	Topic name	Expected TRL	Type of action	Indicative Budget (EU contribution)
<b>S2R-OC-IP1-01-2016</b>	Tools and methodologies supporting the development of next generation traction systems, and brakes	2-3	RIA	€ 1 100 000
<b>S2R-OC-IP1-02-2016</b>	Technology feasibility studies supporting the development of next generation TCMS, and safe control for brakes	2-3	RIA	€ 7 000 000
<b>TOTAL</b>				<b>€ 8 100 000</b>

Topic number - IP	Topic name	Expected TRL	Type of action	Indicative Budget (EU contribution)
S2R-OC-IP2-01-2015	Threat detection and profile protection definition for cyber-security assessment	3	RIA	€ 1 500 000
S2R-OC-IP2-02-2015	IT virtualisation of testing environment	3	RIA	€ 1 000 000
S2R-OC-IP2-03-2015	Technical specifications for a new Adaptable Communication system for all Railways.	2-3	RIA	€ 500 000
TOTAL				€ 3 000 000

Topic number - IP	Topic name	Expected TRL	Type of action	Indicative Budget (EU contribution)
S2R-OC-IP3-01-2016	Research into new radical ways of changing trains between tracks	3-4	RIA	€ 5 000 000
TOTAL				€ 5 000 000



## **Shift2Rail** Open call topics included in 2016 S2R JU Annual Work Plan (currently open)

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Topic number - IP	Topic name	Expected TRL	Type of action	Indicative Budget (EU contribution)
S2R-OC-IP4-01-2016	Interoperability Framework governance, ensuring its market uptake and sustainability	N/A	CSA	€ 2 000 000
S2R-OC-IP4-02-2016	Interoperability Framework Converters	2-4	RIA	€ 1 000 000
TOTAL				€ 3 000 000

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## **Shift2Rail** Open call topics included in 2015 Annual Work Plan (currently open)

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Topic number - IP	Topic name	Expected TRL	Type of action	Indicative Budget (EU contribution)
S2R-OC-IP5-01-2015	Freight Automation on lines and in yards	3-5	RIA	€ 1 000 000
S2R-OC-IP5-02-2015	Improved vehicle/train dynamics	2-4	RIA	€ 1 000 000
S2R-OC-IP5-03-2015	Intelligent freight wagon with predictive maintenance	3-5	RIA	€ 1 500 000
TOTAL				€ 3 500 000

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Topic number - IP	Topic name	Expected TRL	Type of action	Indicative Budget (EU contribution)
S2R-OC-CCA-01-2015	Long-term needs of different actors in the railway sector	1-3	RIA	€ 400 000
S2R-OC-CCA-02-2015	Energy usage, generation and saving approaches	3-5	RIA	€ 800 000
S2R-OC-CCA-03-2015	Noise reduction methodologies	3-5	RIA	€ 1 000 000
S2R-OC-CCA-04-2015	Safer infrastructure – improved object detection and prevention of safety critical events and integrated mobility	3-5	RIA	€ 1 300 000
<b>TOTAL</b>				<b>€ 3 500 000</b>



# From proposal submission to the award of grants

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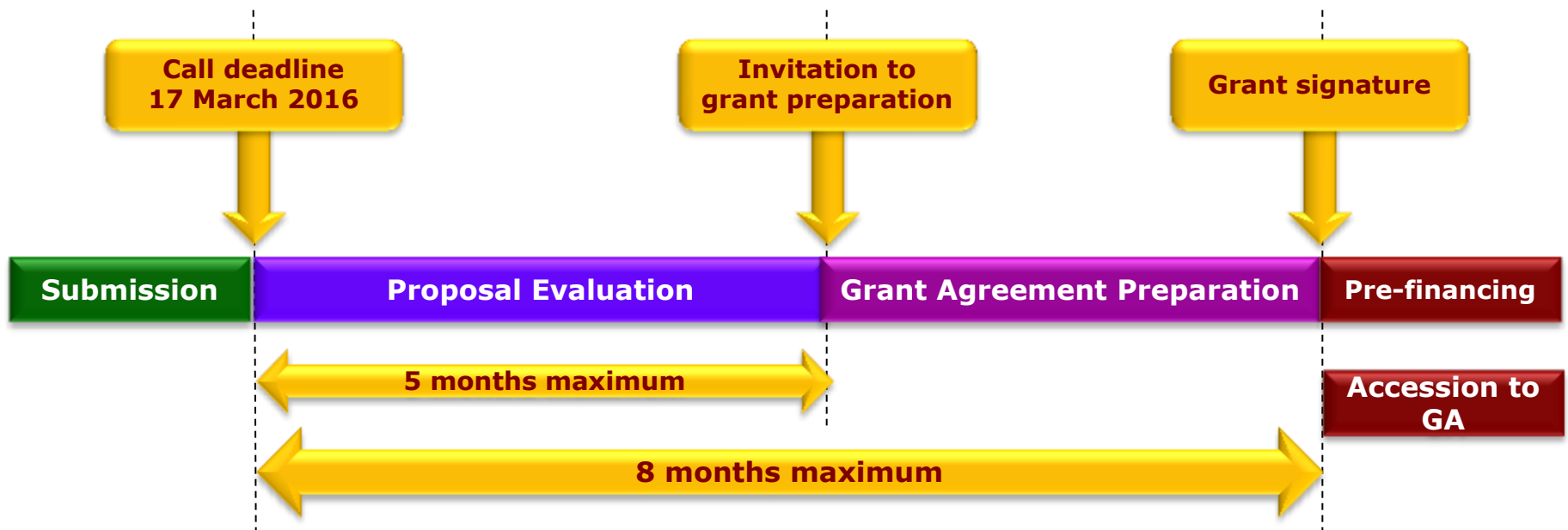
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members (Open calls for proposals)

*The Austrian Research Promotion Agency*

**1 February 2016**

Dorota SZELIGOWSKA, S2R Programme Manager

## Overview of the process



- Maximum **five months** from call closure date - until the date of informing applicants about the outcome of proposal evaluation
- Maximum **eight months** from call closure - until the signature of the grant agreement

## Getting started: the applicable rules

- **Shift2Rail model Grant Agreement:**
  - Very largely based on the Horizon 2020 General Model Grant Agreement
  - A single document with all provisions
- For detailed explanations and practical examples, please refer to the **Annotated Model Grant Agreement**, a user guide that aims to explain to applicants and beneficiaries the General Model Grant Agreement (not covering any S2R specificities):

[http://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/amga/h2020-amga\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf)

## Getting started: who can participate?

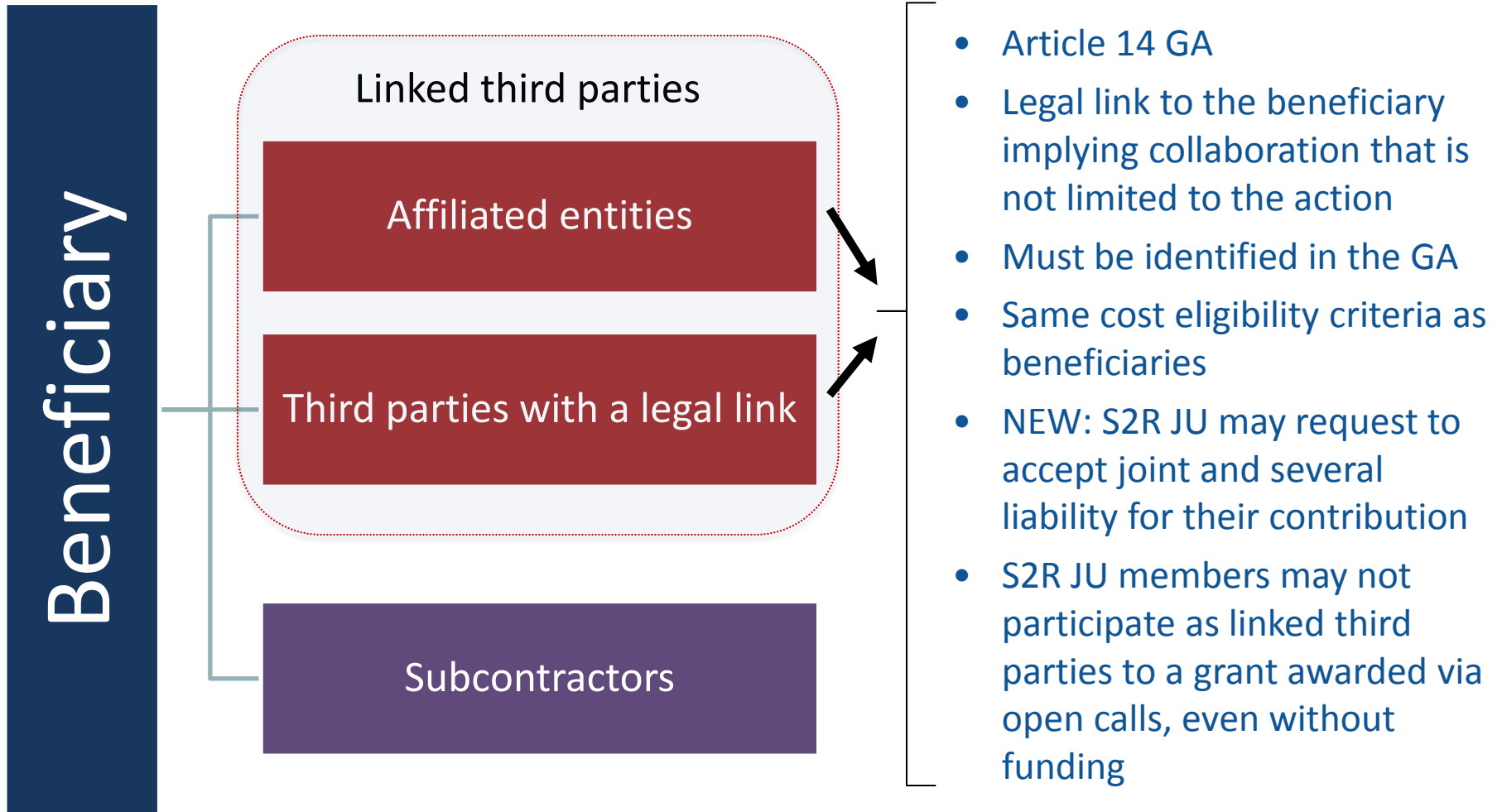
- **Standard H2020 eligibility conditions:**
  - 'Research and Innovation Actions' (**RIA**) and 'Innovation Actions' (**IA**): **Minimum three** legal entities established in **minimum three different Member States or an Associated Countries**
  - 'Coordination and Support Actions' (**CSA**): **one** or more legal entity(ies) established in a Member State or in an Associated Country
  - ➔ Other entities from countries outside a Member State or Associated Country may participate to the open calls, but are, in principle, not eligible for funding unless there is a reciprocal agreement in place with that country or the applicant can demonstrate that the entity has unique resources that render its participation essential for the project to go ahead successfully
- **Additional conditions of S2R (Art 9(5) of H2020 RfP & Art. 17 S2R Regulation):**
  - Calls for members: Open only to members of the S2R JU and their affiliated entities
  - Open calls: Open only to entities that are not members or affiliated entities of members of the S2R JU

## Getting started: who can participate?

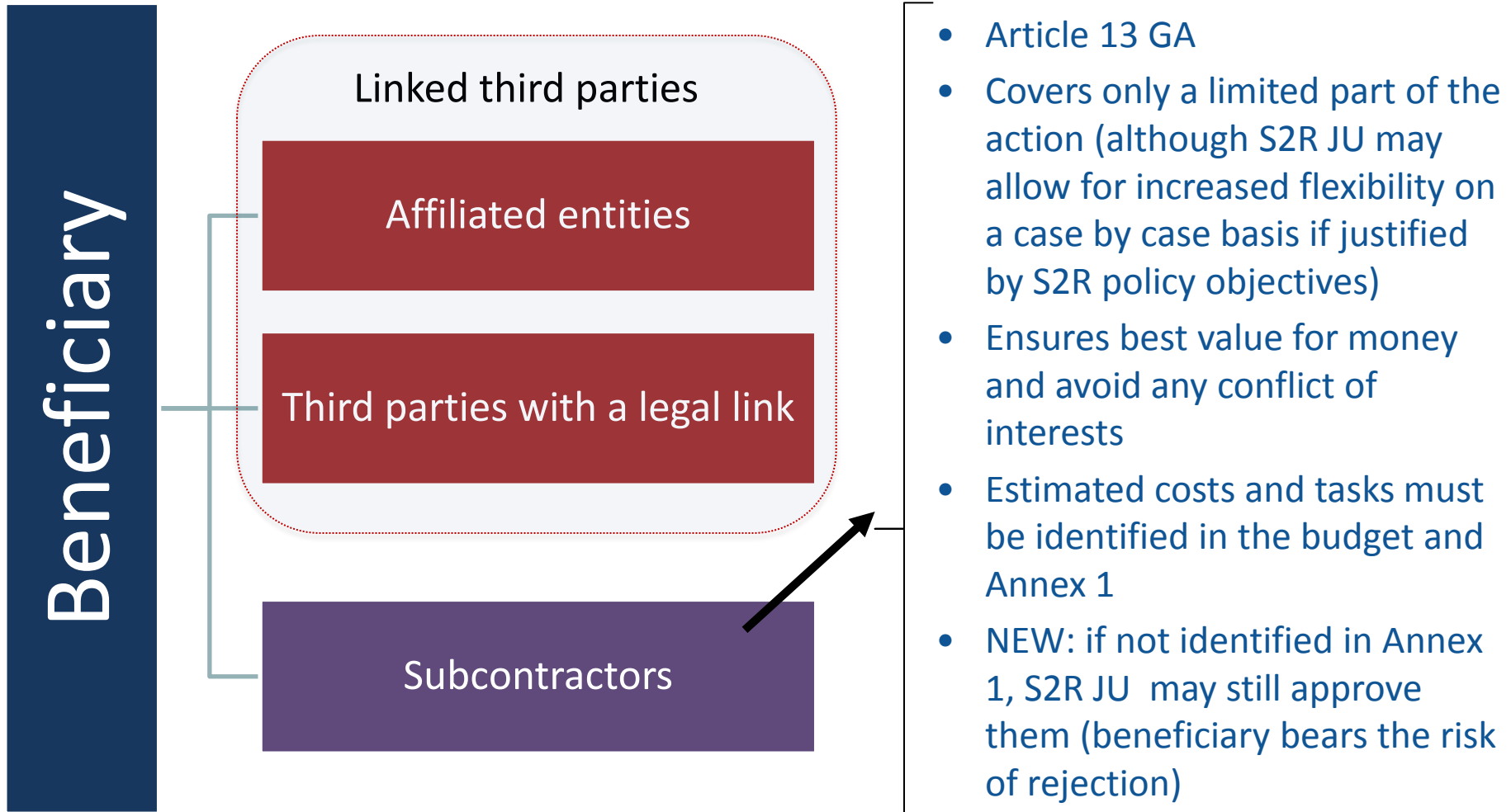
- **Who are the affiliated entities of the S2R JU members?**
  - Any legal entity that is **under the direct or indirect control** of a member (or, in the case of consortia, a constituent entity of the consortium), or **under the same direct or indirect control** as the member (or constituent entity of the consortium), or that is **directly or indirectly controlling a member** (or constituent entity of the consortium)
  - The control may take in particular either of the following forms:
    - direct or indirect holding of more than 50% of the nominal value of the issued **share capital** in the legal entity concerned, or of a majority of the **voting rights** of the shareholders or associates of that entity or
    - the direct or indirect holding, in fact or in law, of **decision-making powers** in the legal entity concerned.
  - The following relationships between legal entities do not constitute control relationships:
    - the same **public** investment corporation, institutional investor or venture-capital company has a direct or indirect holding of more than 50% of the nominal value of the issued share capital or a majority of voting rights of the shareholders or associates;
    - the legal entities concerned are owned or supervised by the same **public body**.



## Third parties: who can carry out work in the action?



## Third parties: who can carry out work in the action?



## Intellectual Property Rights: basic concepts

- **Results:** any tangible or intangible output of the project, including any attached rights
  - **Background:** any data, know-how or information, whatever its form, including any rights:
    - held by beneficiaries prior to their accession to the grant agreement,
    - needed to implement the project or to exploit its results,
    - identified by beneficiaries
  - **Exploitation:** use of results (i) in further research (outside the project), (ii) in developing, creating or marketing products, services or processes, or (iii) in standardisation activities.
  - **Dissemination:** public disclosure of results by any appropriate means (other than resulting from protection or exploiting the results), including by scientific publications in any medium.
  - **Access rights:** rights to use results or background.
  - **Ownership**
  - **Protection**
-

## Intellectual Property Rights: basic concepts

- Access rights:

<b>Within a project</b>	<i>a participant must grant access to its background</i>	<i>a participant must grant access to its results</i>
<i>if needed by another participant to implement project</i>	<i>Royalty-free unless otherwise agreed before accession to the grant agreement</i>	<i>Royalty-free</i>
<i>if needed by another participant to exploit own results [*]</i>	<i>Fair and reasonable conditions (to be agreed and may be royalty-free)</i>	

- **Access rights of affiliated entities:**
  - For background (Article 25.4) and for results (Article 31.4)
  - Under ‘fair and reasonable conditions’
- **Access rights of the EU institutions:**
  - For results (Article 31.5)
  - For developing or implementing EU policies/programmes

## Intellectual Property Rights: Complementary Grants

- **Definition:** Other grants funded under the specified topics or calls supporting actions which are identified as complementary actions in the work plan.
- **General rule:** Beneficiaries will be required to give access to their **background and results** to beneficiaries of grants identified as complementary (Articles 25.5 and 31.6);
- Complementarity between certain grants is foreseen in S2R JU Annual Work Plans:
  - Complementarity between an open call grant and a grant for members, e.g. S2R-OC-IP2-03-2015 – Technical specifications for a new Adaptable and S2R-CFM-IP2-01-2015: Start-up activities for advanced signaling and automation system
  - The S2R JU work plans for 2015 and 2016 foresee that it will be possible to establish complementarity between grants signed following the current calls with grants awarded under future S2R JU Work Plans (for years 2017 and beyond), insofar as they relate to similar topics and/or rely on some of the results of those grants.

## Intellectual Property Rights: Complementary Grants

- The concerned grant agreements will explicitly provide for this complementarity (Article 2);
- Beneficiaries and complementary beneficiaries will need to conclude a written collaboration agreement to coordinate the work under the GA (Article 41.4) covering among others:
  - efficient decision making processes
  - settlement of disputes

e.g. creating common boards and advisory structures to decide on collaboration and synchronisation of activities, including on management of outcomes, common approaches towards standardisation, SME involvement, links with regulatory and policy activities, and commonly shared dissemination and awareness raising activities

## Other Legal Aspects: Ethics

### Background

*“A proposal which contravenes ethical principles or any applicable legislation [...] may be excluded from the evaluation, selection and award procedures at any time.”* Art. 13 – H2020 RfP

### Ethics Self-Assessment

- All proposals must describe ethical issues raised & how they will be addressed
- Ethics part: part A in SEP + part B section 6
- Each applicant is responsible for:
  - identifying any potential ethical issues
  - handling ethical aspects of their proposal
  - detailing how they plan to address them in detail

### Guidelines

[How to complete your ethics self-assessment](#) guide

## What are the funding rates?

- **Applicable funding rates for the open calls:**
    - Funding rate depending on the type of action:
      - Up to 100% of eligible costs for 'Research and Innovation Actions' (RIA) and for 'Coordination and Support Actions' (CSA)
      - Up to 70% for 'Innovation Actions' (IA), except non-profit organisations (up to 100%)
    - One project = One funding rate for all beneficiaries / activities in the grant\*
- \*However, if non-profit organisations are in an IA together with for-profit organisations, their eligible costs will be reimbursed according to the different reimbursement rates specified above

The reimbursement rates apply to all forms of costs, including indirect costs (overheads):  
25% flat rate (calculated on the basis of eligible direct costs, excluding direct sub-contracting costs)

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# Find a call

- Calls and all necessary documentation are published on the Participant Portal: <http://ec.europa.eu/research/participants/portal/page/home>

The screenshot shows the 'Participant Portal' for 'RESEARCH & INNOVATION'. The main heading is 'Calls for Proposals'. On the left, there are sections for 'EU Programmes 2014-2020' and 'FP7 & CIP Programmes 2007-2013'. The main content area lists various call categories under 'Horizon 2020', including 'Excellent Science' and 'Industrial Leadership'. A search filter 'shift2rail' is applied to the results, showing three 'Societal Challenges' calls.

Calls and submission service (available without login)

Register or login


# Find a call

## Beware!

- 2 Shift2Rail calls for proposals are currently open:
  - Call for 2015: Call identifier: H2020-S2RJU-2015-01
  - Call for 2016: Call identifier: H2020-S2RJU-2016-01
- Each call is split between calls for members (CFM) and calls for non-members (OC)

**TOPIC : Freight Automation on lines and in yards**

<b>Topic identifier:</b>	S2R-OC-IP5-01-2015		
<b>Publication date:</b>	17 December 2015		
<b>Types of action:</b>	Shift2Rail-RIA Research and Innovation action		
<b>DeadlineModel:</b>	single-stage	<b>Deadline:</b>	17 March 2016 17:00:00
<b>Opening date:</b>	17 December 2015		Time Zone : (Brussels time)



Horizon 2020  
 > Societal Challenges  
 Call : H2020-S2RJU-2015-01

[H2020 website](#)

**Topic Description** + More

**Specific Challenge:**

For the full topic description, please refer to Annex II (2015 Call for proposals for non-JU members) of the 2015 Annual Work Plan.

**Topic conditions and documents** - Less

[Shift2Rail JU 2015 call for proposals]

**Topic for non-JU members**  
 Please read carefully all provisions below before the preparation of your application.

**Full description of the topics:** [Shift2Rail JU 2015 Annual Work Plan](#) (Annex I call for S2R members, Annex II call for non-members)

## Register an organisation

- If you want to submit a proposal, this must be done through the **Electronic Submission System** accessed from the call page:
  - You will need an **ECAS password**
  - Your organisation must be registered in the Participant Portal **Beneficiary Register**. If not, you can start the registration process on the same page. You will need to provide information on the legal status and the finances of your organisation.
- Once the registration is completed, you will get a **PIC number** (Participation Identification Code) to be quoted in your proposal and in any correspondence with the Commission
- Parallel to the validation of your organisation in the beneficiary register, you must appoint a Legal Entity Appointed Representative (**LEAR**). The LEAR must be appointed by the legal representative of your organisation and will be authorised:
  - to manage the legal and financial information about his/her organisation on the Participant Portal
  - to manage access rights of persons in his/her organisation
  - to appoint representatives of his/her organisation to electronically sign grant agreements or financial statements via the Participant Portal.

## Submit your proposal

- Prepare proposal:
  - On-line for structured part - Part A
  - Upload non-structured part – Part B - pdf file(s)
- Complete submission, before the 17h00 deadline (Brussels time)
- Submission failure rate = + 1% → Only reason for failure; waiting till the last minute:
  - Technical problems
  - Panic-induced errors (uploading the wrong proposal)
  - Too late starting upload, run out of time
- After submission (if before deadline): you can still re-edit the proposal, or withdraw it!

## Evaluation process

- Evaluation in **three phases**:
  - **Individual** evaluation by external experts
  - **Consensus** meeting between experts
  - Consistency check and **equal treatment** of proposals
- **Award criteria**:
  - Excellence
  - Impact
  - Quality and efficiency of the implementation
- **Proposals evaluated as submitted**: 'as it is', not 'what could be'
- **Scores** (from 0 to 5) for each criterion: Lower score if shortcomings are identified
- **Ranked lists** of proposals: based on scores of experts
- And if you aren't submitting proposals, we always need new external evaluators – enrol via the Participant Portal

## Tips for a successful application

- Start **preparing** your proposal as early as possible
- Check **FAQs** on the Participant portal
- Don't wait until the deadline to submit your proposals (you can create a draft proposal to check how everything works)
- A successful proposal is expected to address all three **H2020 award criteria: Excellence, Impact, Implementation**
- A successful proposal is expected to contribute to the overall **objectives of the S2R JU** as described in the S2R Regulation and Master Plan, and to the realisation of the **MAAP**

## Tips for a successful application

- Ensure that outputs really answer the **needs**
  - Check with final users if the expected results really answer to their needs
  - Present clearly the expected impacts on each stakeholder
- Demonstrate why your project has **added value**
  - How is your idea different? Why you and why now?
  - Does your project have EU added value?
- Be **clear** and realistic with the objectives and results of the project
  - Executive summary important!
  - Ask for an external “clarity check”
  - What is the likelihood of the realisation of the objectives and impacts you claim?

## Tips for a successful application

- Involve all the relevant **stakeholders** for a systems approach
  - Ensure that your consortium is complete → networking event
  - Justify the participation and expertise of participants in the consortium
- Show capacity to deal with unexpected issues and manage **risks**
  - Identify potential risks and show possible mitigation means
  - Process for monitor and control risks during the project
- Do & **Communicate**
  - Include clear dissemination and publication plans
  - Include plans on how IPR will be exploited



## Grant preparation process

- **Speeding up time to grant (TTG):**
  - No more negotiations
  - No more paper: e-communication & e-signature of grants
  - Legal entities are validated in parallel
- ➔ The S2R JU will do everything to make sure the process is as short as possible but YOU have to make this happen too!
- Coordinator = principal point of contact with JU (may be subject to financial viability check)
- Consortium agreement = Compulsory (Rights and obligations; Internal organisation; Distribution of EU funding; IPR provisions; Internal disputes; Liability, confidentiality, indemnification)
- Timely submission of Declarations of Honour, of financial and legal information for validation of legal entities; of revised grant information and any other requests
- ➔ The JU will only be authorised to sign once all the conditions are met



# Thank you for your support to S2R!

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Contact:

Shift2Rail call helpdesk: [info-call@shift2rail.europa.eu](mailto:info-call@shift2rail.europa.eu)