



Horizon 2020 Topics of Interest to Rail Sector

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| FUTURE
RAILWAY

Horizon 2020 Topics of Interest to Rail Sector

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- Mobility for Growth
- Small Business Instrument
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**All Information about
Shift2Rail Open Calls**

In this presentation is

DRAFT and subject to change

Shift2Rail Research Priorities



IP1: Cost-efficient and Reliable Trains, including High Capacity Trains and High Speed Trains



IP2: Advanced Traffic Management & Control Systems



IP5: Technologies for Sustainable & Attractive European Freight



IP4: IT Solutions for Attractive Railway Services



IP3: Cost-efficient and Reliable High Capacity Infrastructure

Shift2Rail

- Open Call for Proposals due to be published on 16th Dec but by 23rd Dec at latest
- Expect a three month window for proposal preparation so submission towards the end of March
- Not yet known whether proposals must be from consortia or whether single entities can apply (as in Clean Sky 2)
- Standard Horizon 2020 rules for Evaluation will apply

DRAFT Shift2Rail Topics for Open Call 2015 (1)

Topic number - IP	Topic name	Indicative scope description	Expected TRL	Type of action	Indicative Budget (EU contribution)
IP2	2. Threat detection and profile protection definition for cyber-security assessment	<ul style="list-style-type: none"> - Threat analysis and assessment; - Attacks identification and mitigation strategies; - Profile protection coherent with railways standards. 	3	RIA	€ 1 500 000
	3. IT virtualization of testing environment	Carrying out the IT virtualization of the selected parts of the testing environment.	3	RIA	€1 000 000
	4. Technical specifications for a new Adaptable Communication system for all Railways.	Definition of specifications including overall architecture and interfaces with user applications, addressing quality of services requirements, security, end-to-end protocols and considering the use of public networks.	2-3	RIA	€ 500 000

DRAFT Shift2Rail Topics for Open Call 2015 (2)

IP5	4. Novel single wagon load (SWL), intermodal and system trains with support of innovative access and operation tools	Develop new generation estimated time of arrival (ETA) calculation methods including terminal dwell times and inland navigation, vessel and road transport, to ensure a coherent approach, which supports the rail position in a multimodal chain.	3-5	RIA	€ 1 500 000
	5. Improved vehicle dynamics	Improve train dynamic performances, and longitudinal forces. Provide support in the overall system FMECA degraded modes, communication, electronics and pneumatic architectures and their interaction.	2-4	RIA	€ 1 250 000
	6. Intelligent freight wagon	Development of specifications for a multi-purpose high performance freight wagon design.	3-5	RIA	€ 750 000

DRAFT Shift2Rail Topics for Open Call 2015 (3)

CCA	3. Long-term needs of different actors in the railway sector	<ul style="list-style-type: none"> - Analysis of long-term needs of different actors in the railway sector (including users, of both passenger and freight transport services) and how the technological developments achieved within different Innovation Programmes, in line with S2R Multi-Annual Action Plan, can address these needs; On this basis, define different types of targets. 	1-2	CSA	€ 200 000
	3. Energy usage, generation and saving approaches	<ul style="list-style-type: none"> - Develop operating scenarios and use cases as the base for calculating energy usage and long term vision on technology trends. - Assess and prioritise suitable energy saving approaches and develop the methods for energy efficiency calculation. - Investigate possible technologies enabling energy generation from infrastructure and trains, and their constraints and economic viability; - Investigate potential transfer of energy generation technologies from other sectors. 	3-5	RIA	€ 1 000 000

DRAFT Shift2Rail Topics for Open Call 2015 (4)

<p>5. Safer infrastructure – improved object detection and prevention of safety critical events</p>	<ul style="list-style-type: none">– Improve vehicle, human and animal detection on tracks, and specifically on safety-critical elements of infrastructure, such as level crossings, bridges and tunnels.– Develop a common approach to condition monitoring of vehicles and infrastructure including the prediction and prevention of safety critical events (e.g. derailments) and the optimization of asset maintenance.	3-5	RIA	€ 1 200 000
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Shift2Rail Status

- Still a lot of uncertainty, Topic descriptions/budgets may change radically
- Shift2Rail team working hard to get Open Call published before the end of 2015 as budget allocation drives this
- DRAFT 2016 Open Call descriptions also being worked and will be published soon to enable more time for proposal preparation.

Mobility for Growth

- Safety - Behavioural aspects for safer transport
 - RIA, 2016, Proposals of €4m- €9m expected
- Logistics - Networked and efficient logistics clusters
 - RIA, 2016, Proposals of €4m- €6m expected
- Infrastructure - Optimisation of transport infrastructure multi-modal corridors and terminals
 - RIA, 2017, Proposals of €2m- €6m expected

What is the SME Instrument?

- Targeted at all types of innovative SMEs showing a strong ambition to grow
- Only 'for profit' SMEs allowed to apply for funding
- Very competitive - only the best ideas pass
- Must have a clear [European dimension](#)
- Close-to-market activities ([Technology Readiness Level 6](#) or above)
- Embedded in societal challenges (e.g. Transport) and key enabling technologies
- Evaluators take a business and market perspective

What is an SME?

- To count as an SME, your organisation must be engaged in an economic activity and must have:
 - fewer than 250 employees; and
 - an annual turnover of no more than €50 million and/or
 - an annual balance sheet of no more than €43 million.
- [Whether you count as an SME](#) may depend on how you count your workforce, turnover or balance sheet.

Phased Approach

- Phase 1 - Feasibility Study
 - Up to €50k (at 70% intervention)
 - Up to six month project
 - 10 Page proposal
- Phase 2 - Innovation Project
 - Up to €2.5m (at 70% intervention)
 - One to two year project
- Phase 3 – Commercialisation
 - Access to finance support

Evaluation

- Three Criteria each scored out of 5
 - Excellence
 - Impact (1.5. times weighted for SME Instrument for those above threshold)
 - Quality and Efficiency of the Implementation
- Phase 1
 - At least 4 out of 5 for each criteria
 - Threshold is at least a total of 13 points
- Phase 2
 - Impact must be at least 4 out of 5 (and is assessed first)
 - Threshold is at least a total of 12 points

Evaluator's Perspective

- Tell a gripping story
 - First two pages are critical, difficult to recover from a bad first impression
- Demonstrate that you know your user
 - Why are they going to buy (i.e. pay real cash) your product?
 - What is going to make them change the way they do things now?
- Show you have the business expertise not just technical
 - It's not a mechanism to fund a hobby
 - Include the CVs of sales manager types
- How is this going to make money?
 - This is a business plan not a research proposal, think of it as Dragon's Den

Lessons Learned so far

Most of the non-selected proposals were:

- Too focused on the technology and not enough on the business opportunity Not convincing when describing the company
- Not providing enough information on competing solutions
- Having a too low level of innovation, i.e. planning to develop a product that already exists on the market
- Proposing just an idea without any concept for its commercialisation
- No European dimension

[Precious tips from 4 SME Instrument evaluators](#)

Practical Help

- [SME Instrument website](#)
- [Frequently Asked Questions](#)
- Submission is via [Participant Portal](#)
 - Your organisation must [register](#) as an SME
- There is [guidance](#) to the Self-Assessment wizard
- Templates for submission
 - [Phase 1](#)
 - [Phase 2](#)
 - [Self evaluation form](#)

Any Questions?

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The image features a central blue horizontal bar with the text "Thank you" in white. Above and below this bar are several colored rectangular blocks in shades of blue, teal, and green. The top row consists of three blocks: a dark blue block on the left, a teal block in the middle, and a bright green block on the right. The bottom row consists of three blocks: a medium blue block on the left, a dark blue block in the middle, and a dark teal block on the right. The text "Thank you" is centered within the blue bar.

Thank you