Railways in Europe – Shift2Rail and its successor program

Seminar introducing European programs to the railway industry in Finland

Team Finland House, Helsinki, 25 Oct 2019
RAILWAYS IN EUROPE – SHIFT2RAIL AND ITS SUCCESSOR PROGRAM

- The Smart Mobility Finland Program and its ambition for European collaborations
  *Tom Warras, Business Finland, National Contact Point for H2020 Transport*

- Presentation of Shift2Rail and its open call 2020
  *Giorgio Travaini, Head of Research & Innovation, Shift2Rail*

- How UNIFE can support manufacturing companies for answering Shift2Rail open calls
  *Nicolas Furio, Head of Technical Unit, UNIFE*

- Transforming Europe's Rail System, a potential partnership in Horizon Europe
  *Tom Warras, BF, and Giorgio Travaini, Shift2Rail*

- The ERRAC platform and the ERRAC 2030 R&I priorities published in September 2019
  *Nicolas Furio, Head of Technical Unit, UNIFE*

- Discussion on themes most interesting for the Finnish railway industry
  *Panel*

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9:00
9:20
9:50
10:00
10:30
11:00
End 11:30
Smart Mobility Finland Program and its ambition for European collaborations

Tom Warras, executive coordinator

Helsinki, 25 Oct 2019
FUNDING, NETWORKS AND INTERNATIONALIZATION SERVICES

Smart Mobility program runs from 2018 to 2022 with a total budget of EUR 100 million.

For companies registered in Finland the program offers innovation funding, market intelligence, networking and internationalization services e.g. trade missions.

Targeted at companies, research organizations, municipalities and cities, and e.g. service, ICT and manufacturing industries.

Challenge Competition for an own development project or a joint-project with other companies and research institutes.
Business Ecosystems generate growth and innovation
SMART LOGISTICS

The supply chain is being transformed by smart mobility solutions.

With digital expertise and industrial know-how, Finland is well positioned to be a global leader in smart logistics.

- Business models
- Digitalization
- Ecosystems
- E2E supply chain solutions
- Autonomous technologies
- Sustainability
- Data sharing
- Platform economy
- Trust, safety & security
- PPP
- Standards
- Testbeds
- ...
FUNDING FOR INTERNATIONAL GROWTH

Horizon 1: Grow current business, 1-2 years

Horizon 2: Build emerging business, 2-4 years

Horizon 3: Create options for the future, 5-10 years

Impacts for Finland

Time
Why international R&D&I?

Never join only to get money......but instead seek for:
- Cooperation in European networks
- Implementation of risky innovations
- Best competence in Europe to help you
- Influence to the sector technologies, practices and standards

Please take into account:
- Immaterial property questions
- Timeline for application, negociation and contract
- "Bureaucracy" along the project
European models of R&D&I funding

- EU
  - Horizon 2020
  - other

- Joint programs (central evaluation)
  - Eurostars
  - Ecsel
  - ERA-NETs

- EUREKA programs (national evaluation)
  - ITEA3
  - Celtic+
  - etc
EU’s framework programmes

Horizon 2020
80 mrd.€

Horizon Europe
94 mrd.€

Pillar 1
Open Science

European Research Council
Marie Skłodowska-Curie Actions
Infrastructures

Pillar 2
Global Challenges and Industrial Competitiveness

Health
Inclusive and Secure Society
Digital and Industry
Climate, Energy and Mobility
Food and natural resources
Infrastructures
Joint Research Centre

Pillar 3
Open Innovation

European Innovation Council
European innovation ecosystems
European Institute of Innovation and Technology

Strengthening the European Research Area

Sharing excellence
Reforming and Enhancing the European R&I system

2019 2020 2021 2022 2023 2024 2025 2026 2027
# Structure of Horizon 2020 - 77 billion €

## I Excellent Science
1. European Research Council (ERC): frontier research
2. Future and Emerging Technologies (FET):  
   a) Open  
   b) Proactive  
   c) Flagships
3. Marie Skłodowska-Curie (MSCA) – actions: training, career development and mobility for researchers
4. Research Infrastructures

## II Industrial Leadership
1. Leadership in Enabling and Industrial Technologies  
   - 1.1. ICT  
   - 1.2. nanotechnology  
   - 1.3. materials  
   - 1.4. biotechnology  
   - 1.5. manufacturing and processing  
   - 1.6. space
2. Risk finance: loans & equity funding
3. Innovation in SMEs

- 20% of the budget or pillars II + III to SMEs  
  - SME Instrument (1/3)  
  - Collaborative projects (2/3)

## III Societal Challenges
1. Health, demographic change and wellbeing
2. Food security, sustainable agriculture and forestry, marine, maritime and inland water research and bioeconomy
3. Secure, clean and efficient energy
4. Smart, green and integrated transport
5. Climate action, resource efficiency and raw materials
6. Europe in a changing world: inclusive, innovative and reflective societies
7. Secure societies – protecting freedom and security of Europe and its citizens

Also: European institute of innovation and technology, Science with and for society, Spreading excellence and widening participation

## IV Joint Research Center JRC, excl. nuclear
Nuclear research: EURATOM
MG-2-13-2020: Coordination & support for an integrated freight transport and logistics system

- **Specific Challenge**: Ensuring the seamless integration and harmonisation of transport modes....freight transport decarbonisation and competitiveness. To this purpose, the assessment of progress, gaps and barriers is necessary. It is also key to involve end users and key actors in charge of developing the business cases.

- **Scope**: Proposals shall address all of the following areas:
  - Perform analysis of the products, services, solutions and other value added results generated by EU-funded projects.
  - Identify and prioritise gaps in the research landscape and market needs to be tackled by future R&I actions
  - Support the wider engagement of the freight transport and logistics stakeholders
  - Engage with relevant sectors beyond freight transport and logistics to support crossfertilisation

**Budget**

- **1 M€**
- **Opening 3.12.19**
- **Closing 21.4.20**
- **Deadline ~1 M€**

**Typical size**

**CSA**

**BUSINESS FINLAND**
MG-4-7-2020: Digitalisation of the transport system: data sharing

**Specific Challenge:** 
...the challenge lies in ensuring that e.g. manufacturers, operators, or authorities can properly take advantage of the data produced for the improvement of their operations and services. Access to, reuse and storage of data is not only important for private companies active in the transport industry (business-to-business or B2B), but also for the public sector (business-to-government or B2G) .... On a more advanced level, in order to provide connectivity across the various components of the multimodal transport system, ...we need solutions....Cloud based solutions could provide a high level of integration and accessibility of transportation data...Challenges will have to be tackled ..., such as data privacy and security, standardisation and competitiveness issues, data interoperability and accessibility, governance, etc.

**Scope:** 
The proposals should cover all following aspects:
- A comparative analysis of the transportation data regulation across all transport modes in the EU;
- Identify transport flows for which digitalised processes and transport data exchange will make most impact;
- Identify functional requirements ...for data sharing across the transport system and with the public sector ...taking into account the FAIR data principles as well as the private data sharing principles...
- Building on existing standards adopted (e.g. DCAT-AP) propose standards for transport data sharing (incl formatting, metadata descriptions, etc.) that would strike an appropriate balance betw sharing data and proprietary rights. ...
- Analyse the relationships between private and public ... to data sharing principles;
- Examine the role of data sharing culture ..., analyse methods that foster trust in transport data networks;
- Consider commercial and competitive risks of data sharing on an international scale; the potential for EU to set global standards for data sharing;
- Identify main privacy and security issues associated to data sharing, including preventing data misuse;
- Identify appropriate governance structures and/or processes for the establishment of a possible Transport Cloud

Proposals should identify and build on the most relevant previously funded EU and national projects and reports such as Transforming Transport, BigDataEurope, NOESIS, LeMO, OPTIMUM, SELIS, AEOLIX, oneTRANSPORT, EfficienSea2.

**Budget**

- Opening: 3.12.19
- Closing: 21.4.20
- 3 M€
- 2-3 M€

**Typical size**
Transforming Europe's Rail System, a potential partnership in Horizon Europe

State of play, seen from Finland

Tom Warras, executive coordinator

Helsinki, 25 Oct 2019
Structure of Horizon Europe 2021-2027

Pilari 1
Huipputason tiede
EU Euroopan tutkimusneuvosto
Marie Skłodowska-Curie -toimet
Tutkimusinfrastruktuurit

Pilari 2
Maailmanlaajuiset haasteet ja Euroopan teollisuuden kilpailukyky
- Terveys
- Kulttuuri, luovuus ja osallisuutta edistävä yhteiskunta
- Kansalaisturvallisuus yhteiskunnassa
- Digitaalitalous ja -teknologia, teollisuus ja avaruus
- Ilmasto, energia ja liikkuvuus
- Elintarvikkeet, biotalous, luonnonvarat, maatalous ja ympäristö
Yhteinen tutkimuskeskus

Pilari 3
Innovatiivinen Eurooppa
EU Euroopan innovaationeuvosto
Euroopan innovaatio-ekosysteemit
Euroopan innovaatio- ja teknologiainstituutit

Osallistumispohjan laajentaminen ja eurooppalaisen tutkimusalueen vahvistaminen
Osallistumispohjan laajentaminen ja huippuosaamisen levittäminen
Euroopan tutkimus- ja innovaatiojärjestelmän uudistaminen ja tehostaminen
Building the new framework program *Horizon Europe*

- Horizon Europe Strategic Planning has started
- A strategic Shadow Committee has been formed with the member states (Finland: Hanna Vuorinen (TEM) and Saara Vihko (Academy of F))
- Deals with the partnerships, especially autumn-19
- Consultation (for this partnership until 6 Nov 2019):
- Strategic planning ready due end 2019
- BF encourages all sectors to give their views in the consultation
- Our Ministry prepares Finland’s viewpoint