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 | 9:00

- Presentation of Shift2Rail and its open call 2020
  Giorgio Travaini, Head of Research & Innovation, Shift2Rail | 9:20

- How UNIFE can support manufacturing companies for answering Shift2Rail open calls
  Nicolas Furio, Head of Technical Unit, UNIFE | 9:50

- Transforming Europe's Rail System, a potential partnership in Horizon Europe
  Tom Warras, BF, and Giorgio Travaini, Shift2Rail | 10:00

- The ERRAC platform and the ERRAC 2030 R&I priorities published in September 2019
  Nicolas Furio, Head of Technical Unit, UNIFE | 10:30

- Discussion on themes most interesting for the Finnish railway industry
  Panel | 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
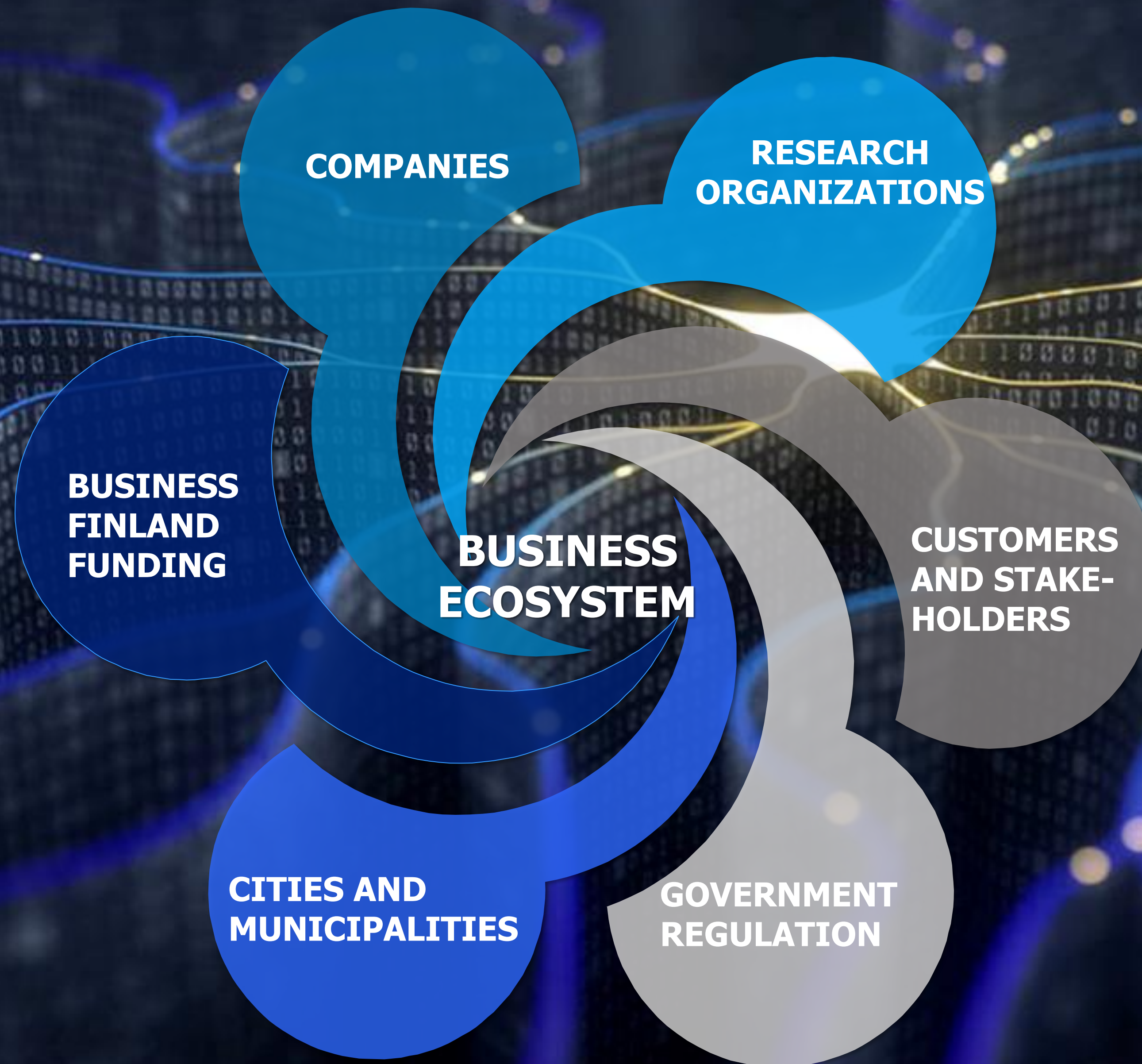
For companies registered in Finland the program offers innovation funding, market intelligence, networking and internationalization services e.g. trade missions

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

COMPANIES

RESEARCH ORGANIZATIONS

BUSINESS FINLAND FUNDING

BUSINESS ECOSYSTEM

CUSTOMERS AND STAKE-HOLDERS

CITIES AND MUNICIPALITIES

GOVERNMENT REGULATION

BUSINESS FINLAND

BUSINESS FINLAND

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
- ❑ …
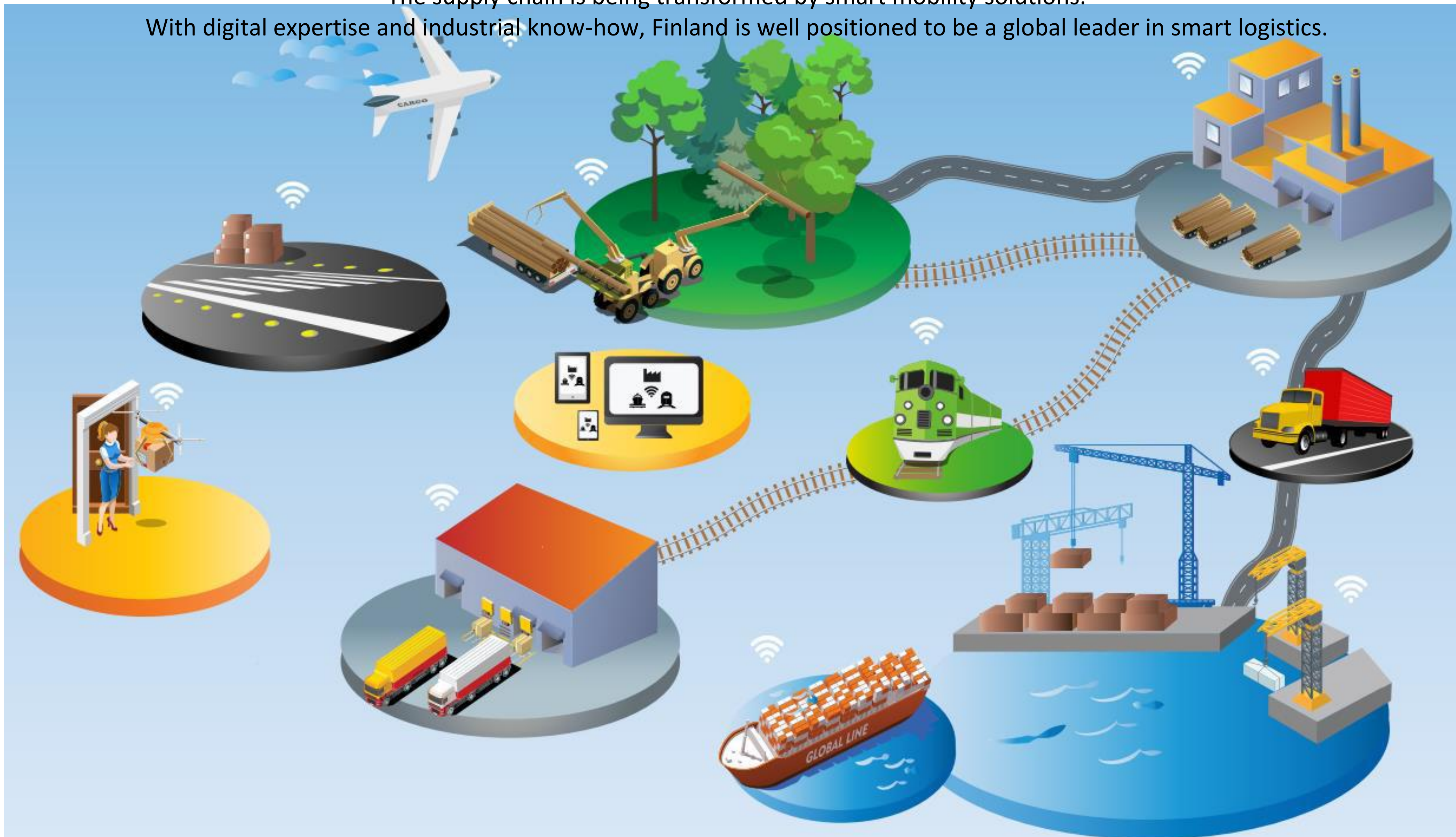
FUNDING FOR INTERNATIONAL GROWTH

Impacts for Finland

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

Horizon 2:
Build emerging business, 2-4 years

Horizon 1:
Grow current business, 1-2 years

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

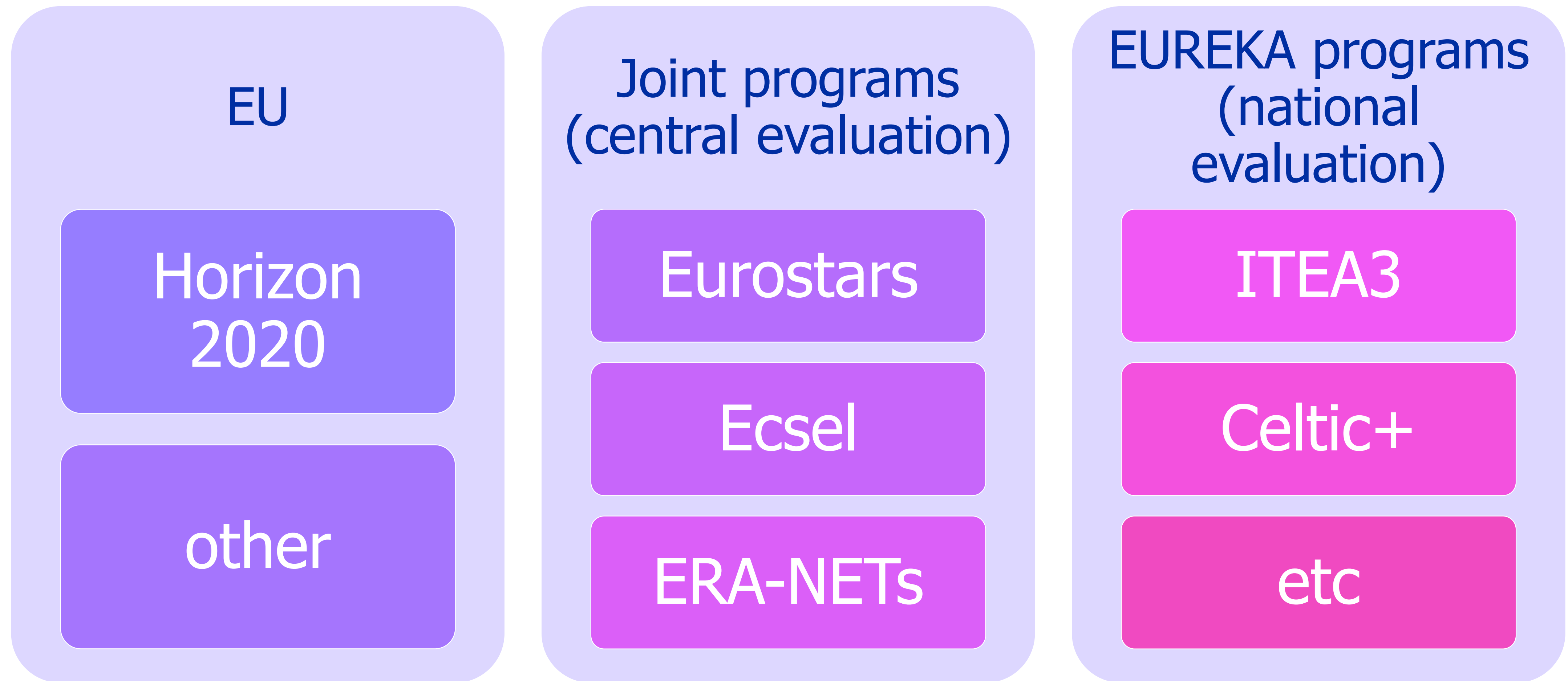▪ Influence to the sector technologies, practices and standards

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	Joint programs (central evaluation)	EUREKA programs (national evaluation)
Horizon 2020	Eurostars	ITEA3
other	Ecsel	Celtic+
	ERA-NETs	etc

BUSINESS FINLAND

EU's framework programmes

Horizon 2020
80 mrd.€

Horizon Europe
94 mrd.€

I Excellent Science	II Industrial Leadership	III Societal Challenges
1. European Research Council (ERC)	1. Leadership in Enabling and Industrial Technologies	1. Health, demographic change a wellbeing
2. Future and Emerging Technologies (FET).	1.1. ICT	2. Food security, sustainable agri- and forestry, marine, mari-time inland water research and bioe
a) Open	1.2. nanotechnology	
b) Proactive	1.3. materials	
c) Flagships	1.4. biotec	**Energy** → 3. Secure, clean and efficient ene
3. Marie Skłodowska-Curie (MSCA) – actions: training, career development and mobility for researchers	1.5. manufacturing and processing	4. Smart, green and integrated tra
	1.6. space	5. Climate action, resource effici raw materials
4. Research Infrastructures	2. Risk finance:	6. Europe in a changing world: inc innovative and reflective societ
get or pillars II + III to SMEs ent(1/3) e projects (2/3)	loans & equity funding	7. Secure societies – protecting fr and security of Europe and its c
	3. **Innovation in SMEs**	

Science with and for society; Spreading excellence and widening participation	
Joint Research center JRC	European Institution of Innovation and Technology EIT
Nuclear research EURATOM	

Pillar 1
Open Science

European Research Council

Marie Skłodowska-Curie Actions

Infrastructures

Pillar 2
Global Challenges and Industrial Competitiveness

Clusters
- Health
- Inclusive and Secure Society
- Digital and Industry
- Climate, Energy and Mobility
- Food and natural resources

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 integrtaed 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

CSA

1 M€   Bud-get

Opening 3.12.19

Closing 21.4.20   Deadline

Typical size   ~1 M€
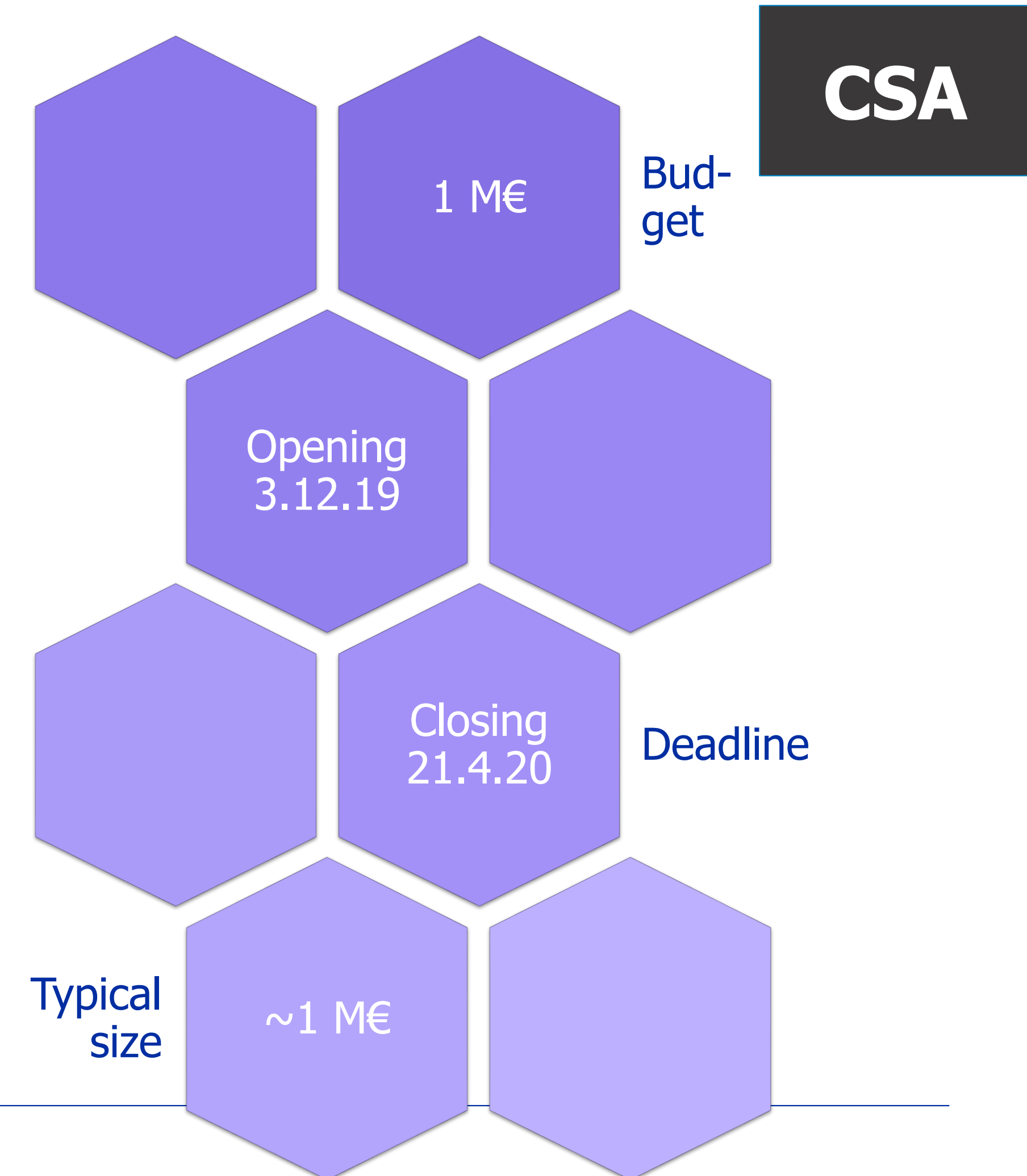
MG-4-7-2020: Digitalisation of the transport system: data sharing

RIA

- <u>Specific Challenge</u>: ….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.

- <u>Scope</u>: 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.

3 M€ Budget

Opening 3.12.19

Closing 21.4.20

Typical size   2-3 M€
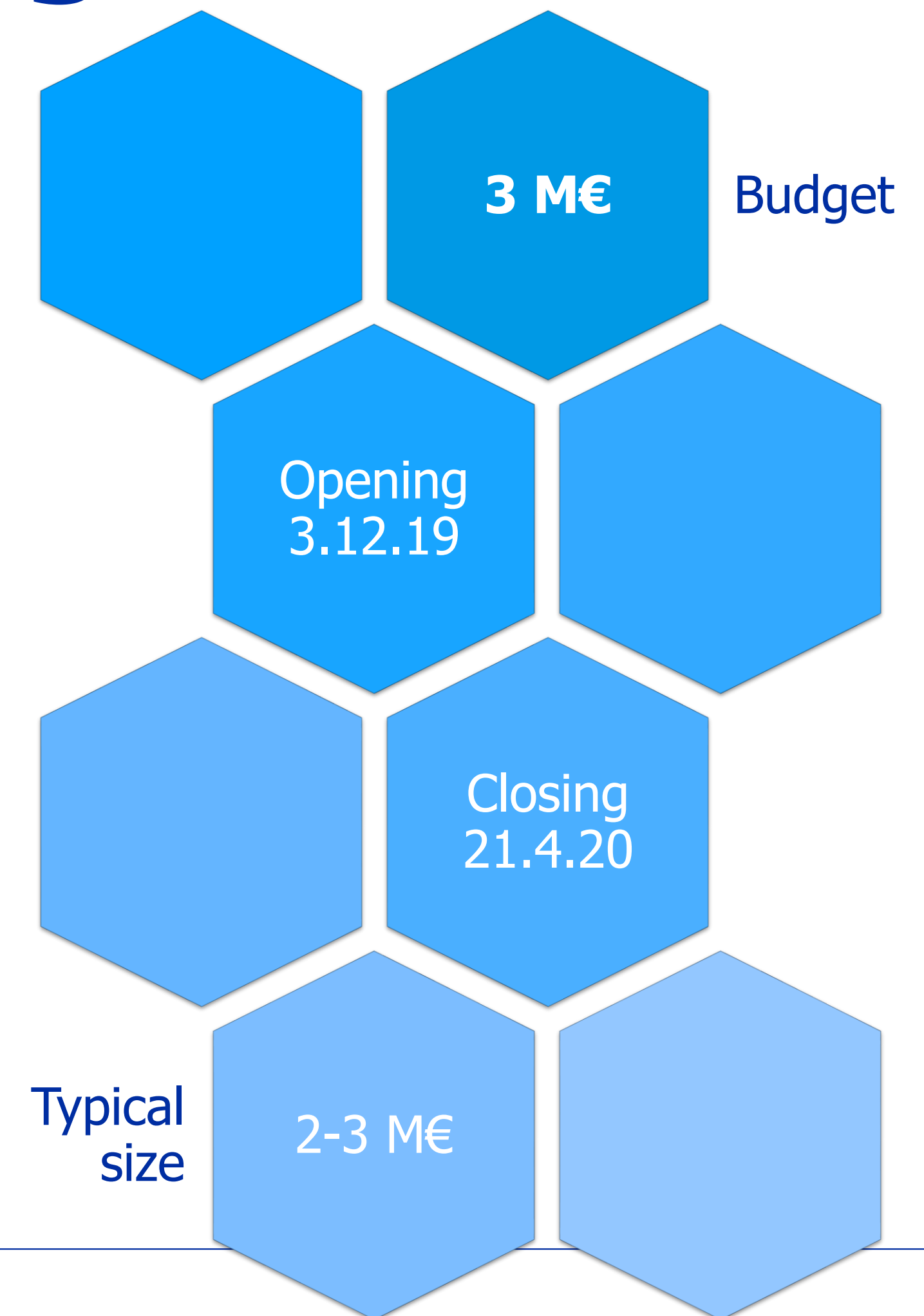
BUSINESS FINLAND

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

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):
    - https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2019-4980251_en

- Strategic planning ready due end 2019

- BF encourages all sectors to give their views in the consultation

- Our Ministry prepares Finland's viewpoint

EUROPEAN COMMISSION

European Partnerships under Horizon Europe: results of the structured consultation of Member States

Draft Report for the meeting of the Shadow Configuration of the Strategic Programme Committee on 27 June 2019