

**BUSINESS
FINLAND**

SMART MOBILITY WORKSHOP

28 May 2019

CHALLENGE COMPETITION WORKSHOP AGENDA

1. Introduction of Business Finland Challenge Competition. Overview of applications - Ulla Lainio, BF
2. Business Finland funding – Sakari Karppinen, BF
3. Presentations of Challenge Competition ideas
4. Group work
5. Concluding remarks and next steps



FUNDING, NETWORKS AND INTERNATIONALIZATION SERVICES

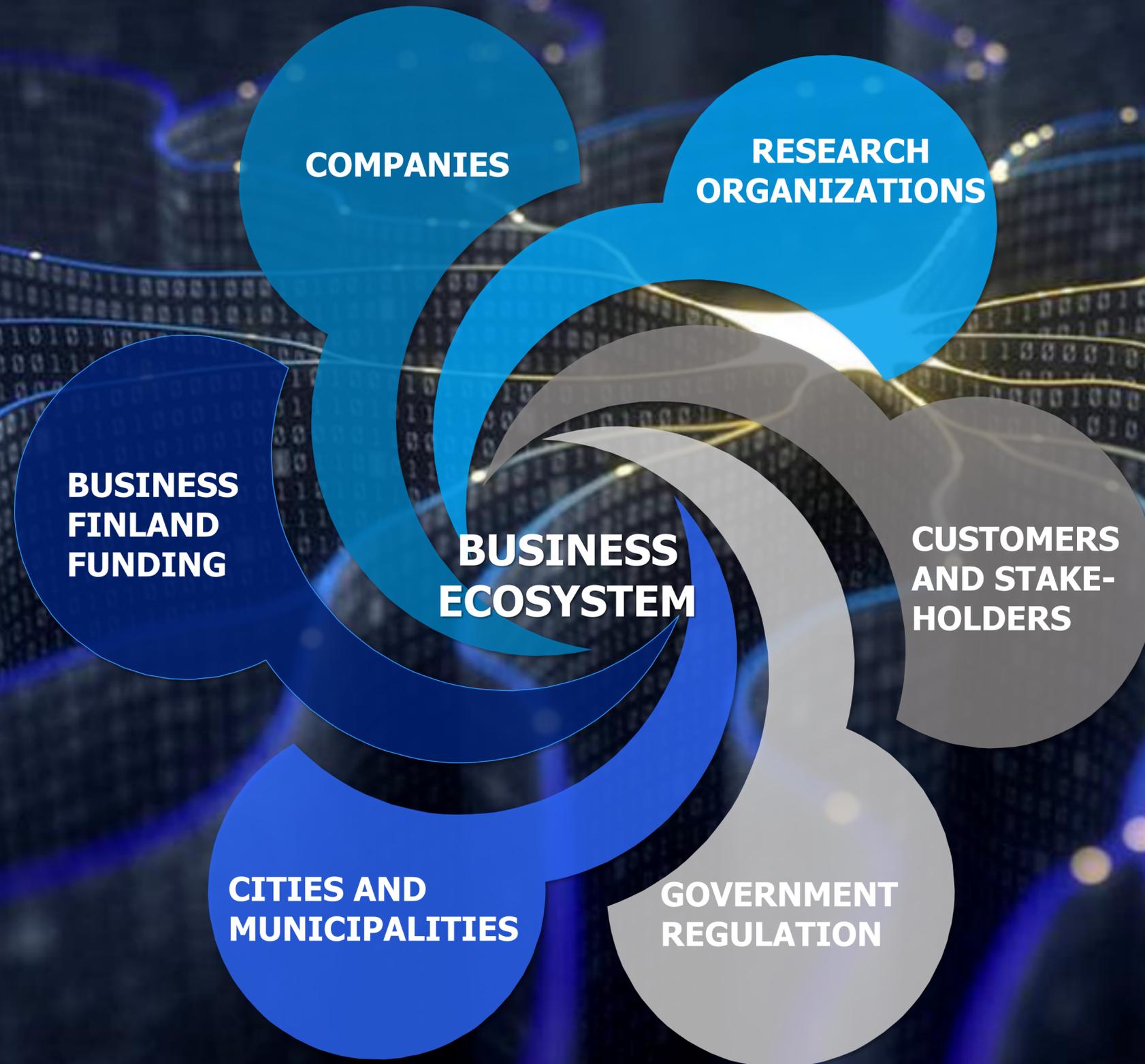
Smart Mobility program runs from 2018 to 2022 with a total budget of EUR 100 million

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



NEW LOGISTICS

5G





SMART MOBILITY CHALLENGE COMPETITION

SMART MOBILITY CHALLENGE COMPETITION 10 THEMES

FROM FOREST TO SEA FROM DOOR TO DOOR

1. Cyber security in traffic or in remote operations
 2. Autonomous or automated logistics and supply chains
 3. New system electrification solutions / electric vessels, vehicles or moving machines
 4. Artificial Intelligence and sensor data fusion and open data in smart vehicle or traffic solutions
 5. Disruption of traffic, mobility services and digitalization from user's perspective
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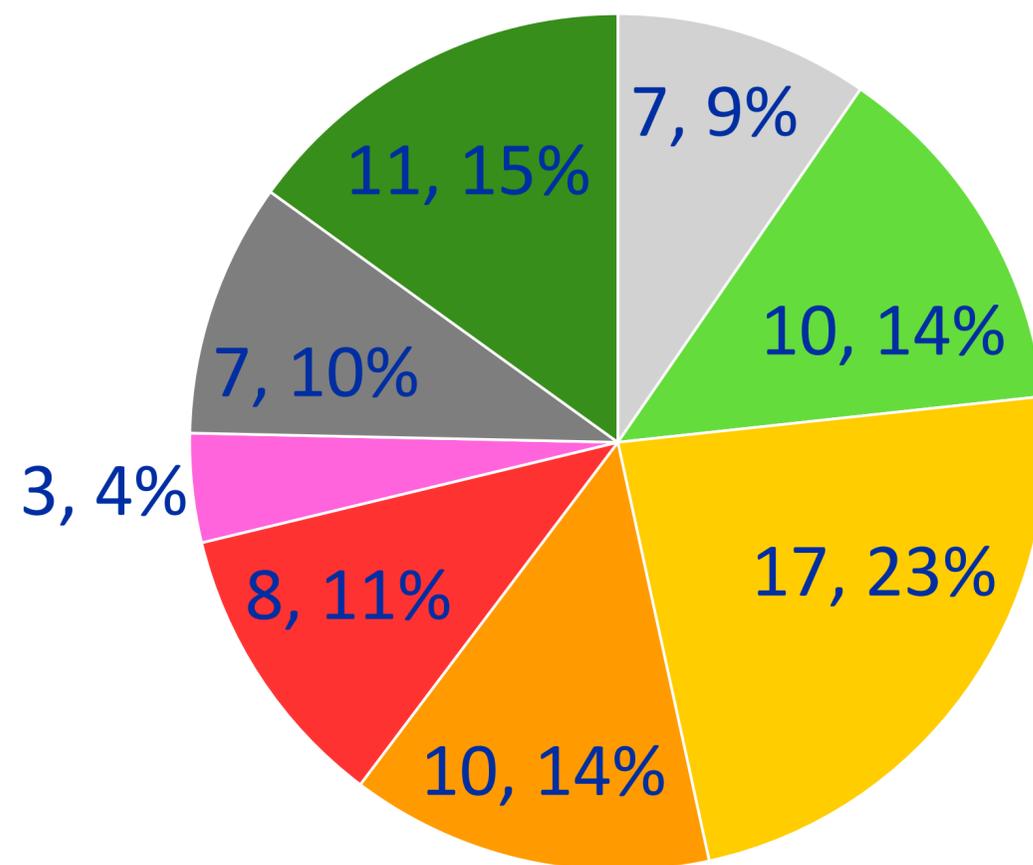
SMART MOBILITY CHALLENGE COMPETITION 10 THEMES

FROM FOREST TO SEA FROM DOOR TO DOOR

6. Analytics and use of open traffic data or integration of system data
 7. Arctic sea traffic and Arctic routes, logistics
 8. Solutions for reaching or under cutting the tightening emission limits
 9. MaaS (Mobility as a Service), transportation of goods and passengers
 10. Other solutions or technologies improving the Smart Mobility theme
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SMART MOBILITY CHALLENGE COMPETITION IDEAS = 73 pcs

Amount and % share of Ideas



■ Drones ■ Marine Industry ■ MaaS ■ Traffic ■ Electric Vehicles ■ Platforms ■ Forest Industry ■ Logistics

FUNDING FOR INTERNATIONAL GROWTH

Impacts for Finland

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

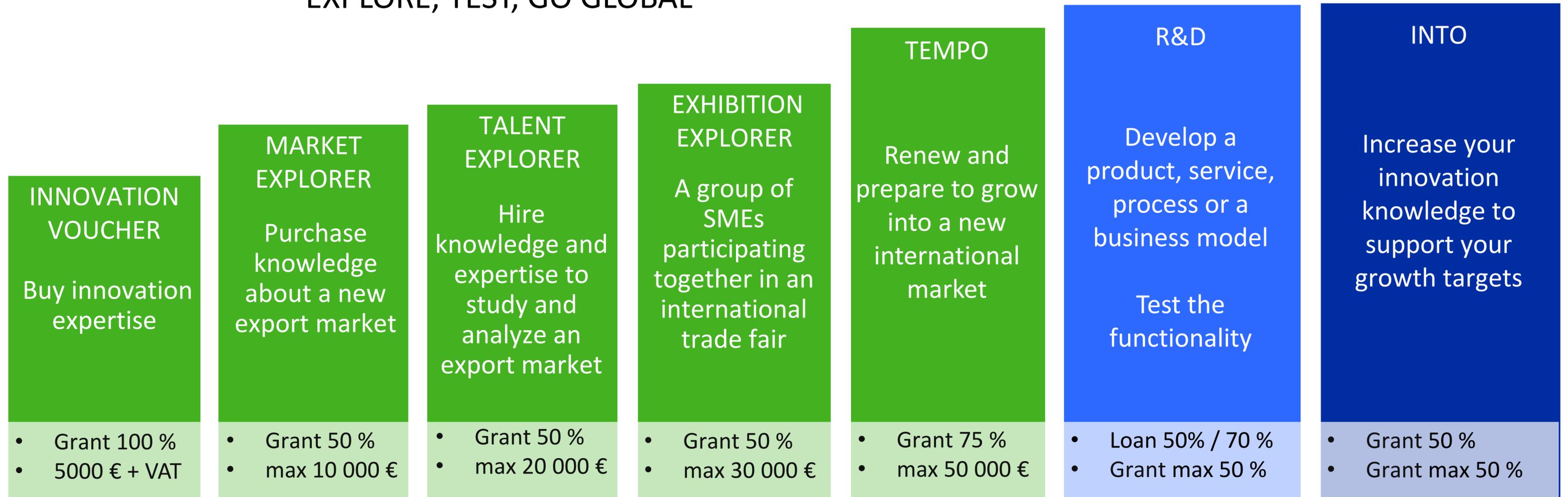
Time

FUNDING SERVICES

FOR COMPANIES

RESEARCH, DEVELOP, RENEW, GROW

EXPLORE, TEST, GO GLOBAL



The amount of funding depends on the company's needs and resources.

FOR RESEARCH ORGANIZATIONS: CO-INNOVATION AND CO-CREATION FUNDING

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BUSINESS FINLAND FUNDING FOR JOINT ACTIONS

Smart Mobility workshop 28.5.2019

BUSINESS FINLAND

SMART LOGISTICS

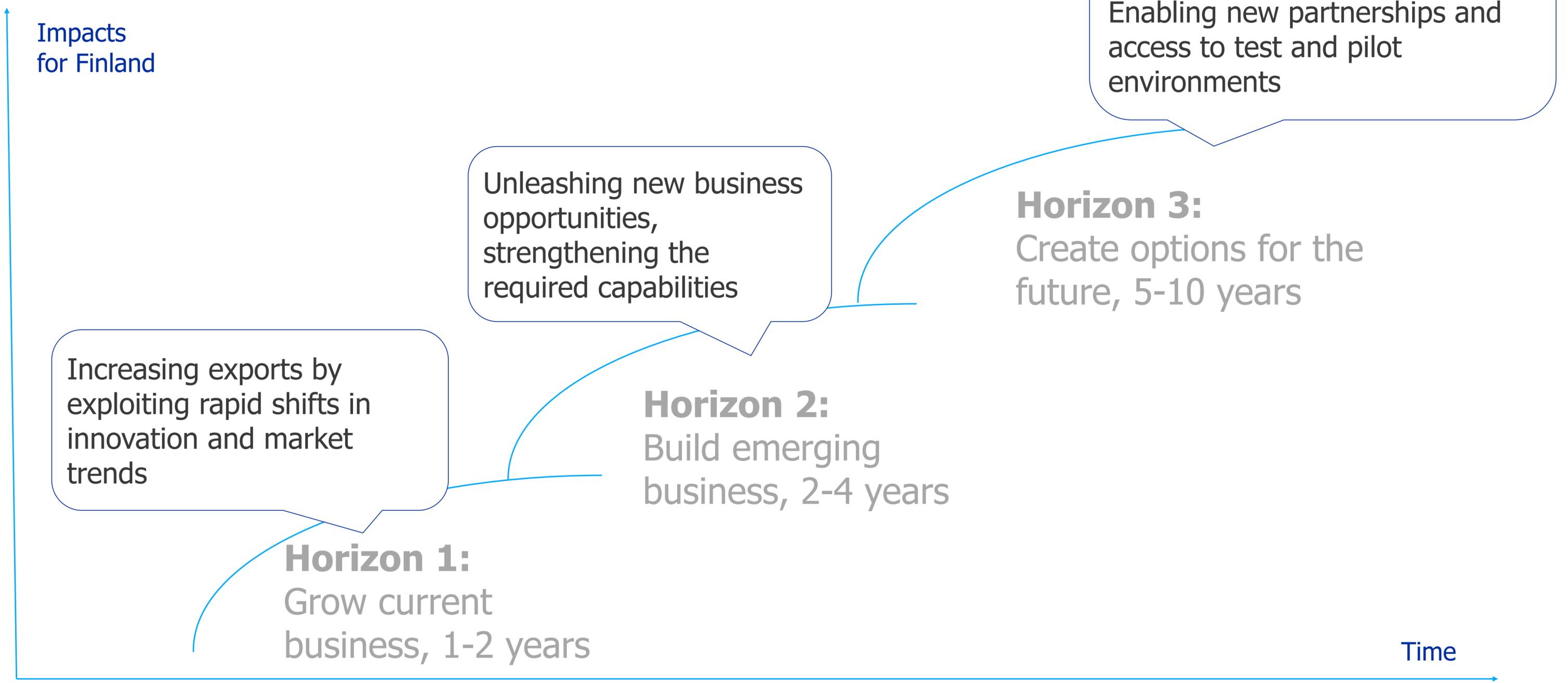
The supply chain is being transformed by smart mobility solutions.
With digital expertise and industrial know-how, Finland is well positioned to be a global leader in smart logistics.

DRIVERS/ENABLERS

- New business models
- Digitalization
- Ecosystems
- E2E supply chain solutions
- Autonomous technologies
- Sustainability
- Data sharing
- Platform economy
- Trust, safety & security
- PPP
- Standards
- Testbeds
- ...



BF PROGRAMS COMBINE ACTIVITIES IN DIFFERENT IMPACT HORIZONS



FUTURE OF LOGISTICS: THEMATIC VIEWPOINTS

Thematic Viewpoints	Artificial Intelligence	Autonomous Technologies	Digital Freight Brokerage	Blockchain	DRIVERS/ ENABLERS
Current Opportunity 2018	 Narrow Intelligence— Cognitive Agents	 Robots	 Rate Transparency	 Provenance Authentication	Business Complexity
Future Opportunity 2030	 Logistics Brains—Super-intelligent TMS	 Autonomous Fleet	 Disintermediation	 IoT Mega Chain	Talent & Labor
					Shared Economy
					Internet of Things
					Compute Power
					Data Monetization

Source: Supply Chain Thematic Viewpoints, Forecast to 2030, Frost & Sullivan, 2018

CASE: ONE SEA - ECOSYSTEM FOR AUTONOMOUS SHIPS

- Finland aims to operate the world's first autonomous maritime ecosystem by 2025.
- One Sea initiative is an open ecosystem.
- Includes: machine vision, situational awareness, auto crossing, auto docking and autonomous harbors.
- Legislation ensures dedicated sea areas for testing autonomous operations in real conditions.

ABB


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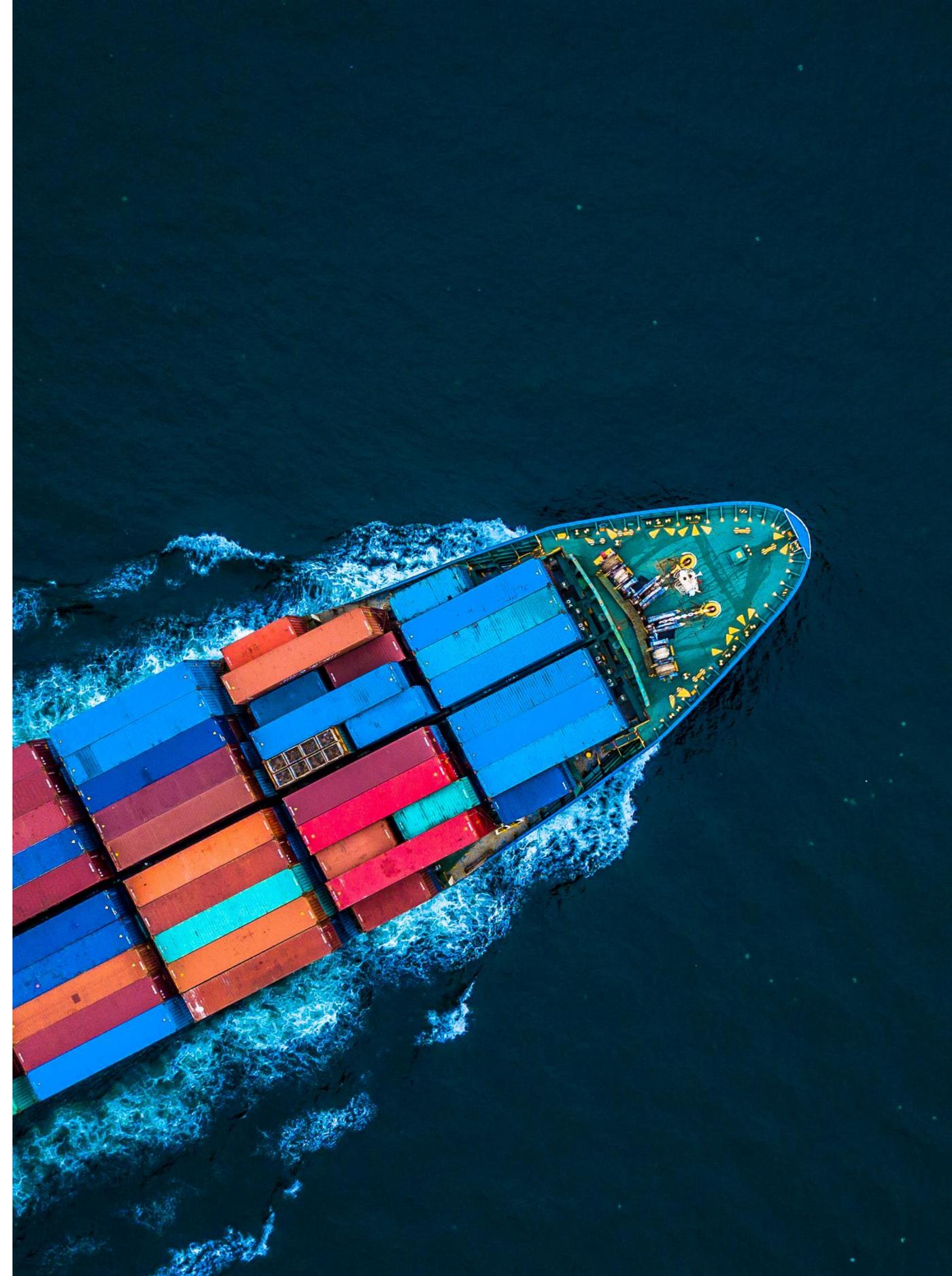

MEYER TURKU
SHIPYARD 1737


ROLLS
ROYCE


WÄRTSILÄ

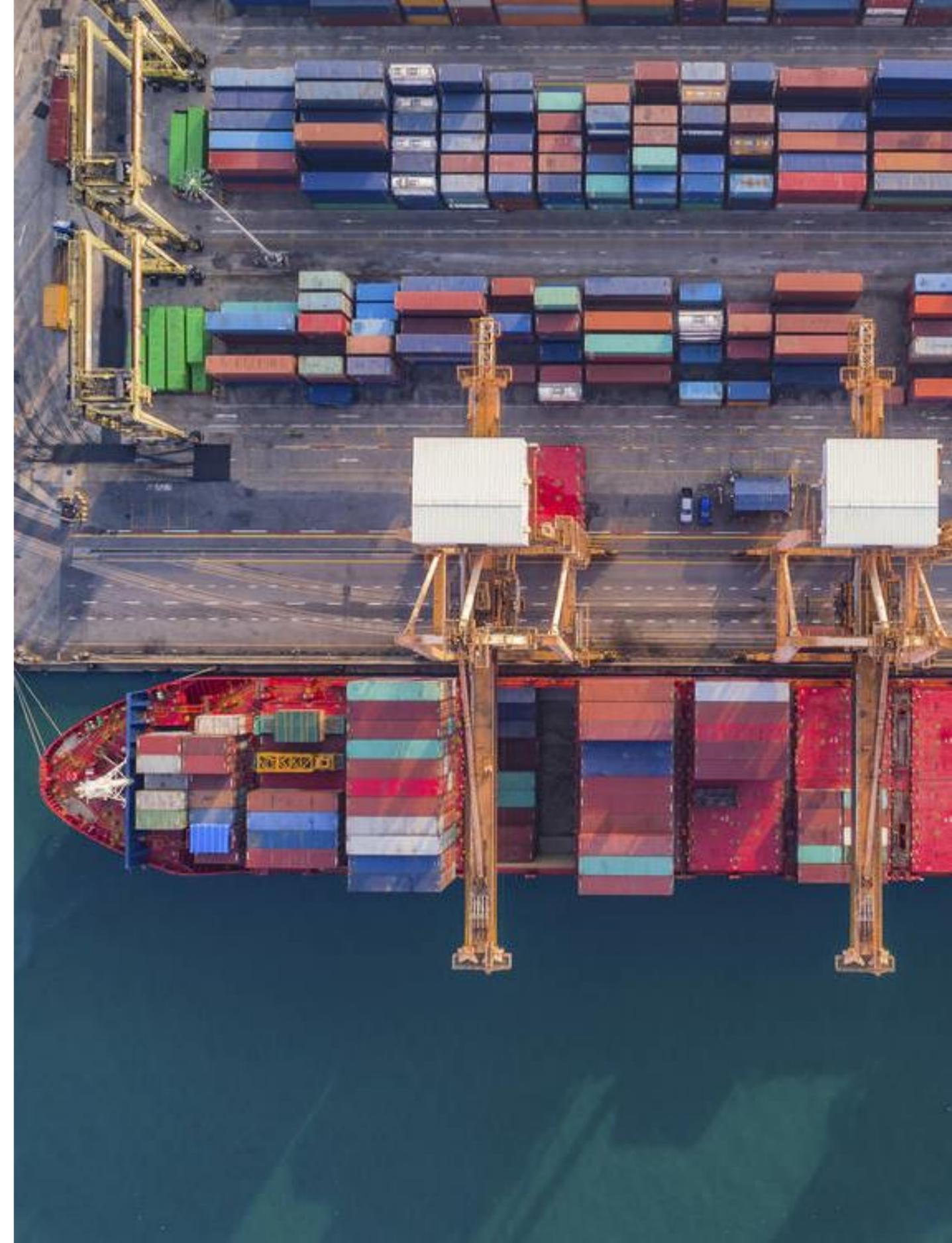
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CASE: AUTOPORT

- Operational excellence and novel business concepts for autonomous logistic systems in ports
- Business renewal and operational excellence by developing ecosystem level approaches for logistic robot systems.
 - Stepwise automation towards lifetime business
 - Extending the service business to overall machine fleets
 - Adaptable software platforms and modular control system structures
 - Systematic procedures and tools for design and validation



CASE: CAAS – NORDIC HUB FOR SMART LOGISTICS

- Corridor as a Service (CaaS) streamlines transport logistics.
- It positions Finland as a key logistics hub for Asia.
- Intelligent digital logistics technology saves time and fuel while improving capacity utilization.
- Cross border priority/platooning drive service.
- Delivery transparency to traders with real-time tracking.
- Accurate delivery time with steady driving speed.



CASE: SMARTLOG - BLOCKCHAINS IN LOGISTICS

- EU funded proof-of-concept project (Finland, Sweden, Estonia and Latvia)
- Problem: Containers move, but the information does not → ecosystem level inefficiency is enormous
- Solution: blockchain which connects the supply chain owners and operative transport companies.
- Results published in open source code : <https://github.com/project-smartlog>

Finland use cases:

- Metsä Group cargo transport Simpele-Kouvola-St.Petersburg (train, road)
- Hamina-Kotka port area private rail operations efficiency by sharing empty wagon status information.

Sweden use cases:

- Forest industry – Infrastructure to share rail RFID data in Sweden.
- Transit of air freight and last mile deliveries of goods



CASE: ONE RECORD (IATA)

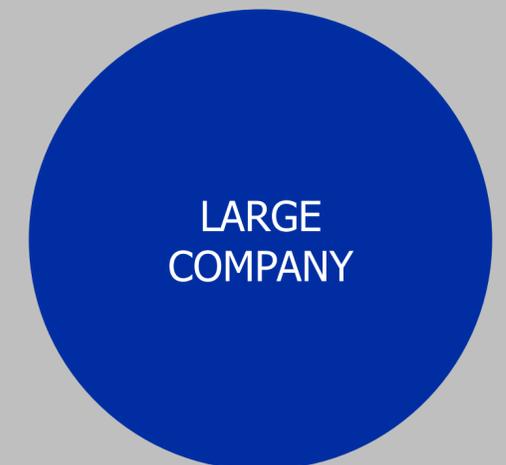
- Objective: to provide the air cargo industry with a standard for data sharing based on web APIs along with the ONE Record data model.
- +60 participants from air cargo industry (shipper, freight forwarder, airline, ground handler, customs, IT provider, etc.)
- ONE Record concept is based on 3 pillars enabling to define WHAT, HOW, with WHOM data can be shared
- Data-centric vs. document-centric model.



FUNDING FOR JOINT ACTIONS

Companies can participate in research targeting and, **together with research organizations**, develop new knowledge and innovations for their business needs.

- Common goal + plan
- Need to collaborate on projects
- The projects are implemented in parallel



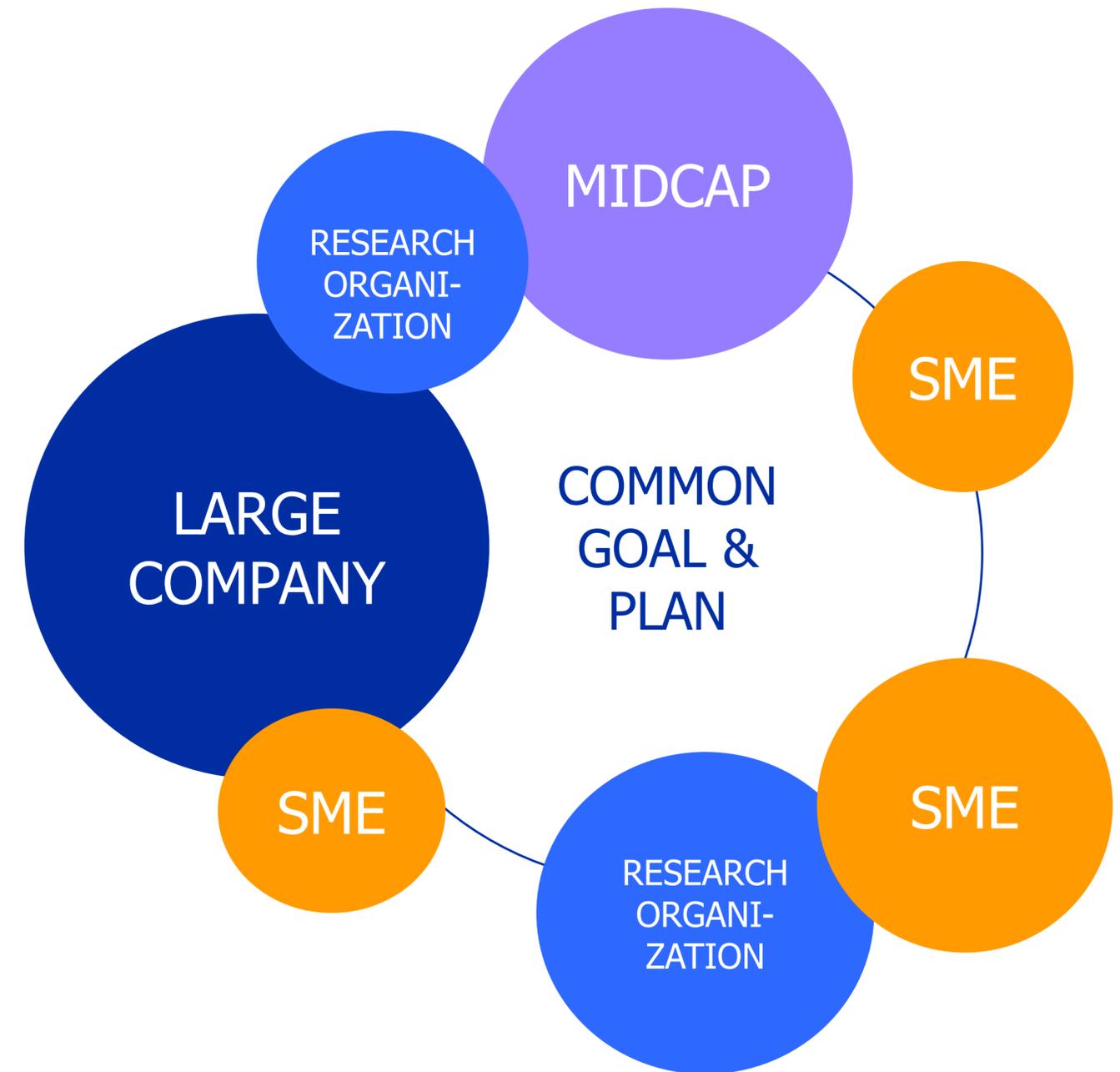
Companies can have different roles:

- own R&D project
- participation in a project of another company as a subcontractor, funding or other investment

CO-INNOVATION FUNDING

What are the criteria for the funding?

- Proved relevance and demand (problem-solution fit)
 - The credibility of the joint action
 - Are the parties to a joint action right to achieve results
 - Is the work distributed in such a way that it makes sense in terms of the results
 - Is the company's investment reasonable in relation to the results to be achieved and the exploitation paths
 - How does the joint action affect the development of SMEs and midcap businesses?
 - The novelty value and competitive advantage of the solution model, market potential, societal influence as well as the joint action's international collaboration
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R&D FUNDING LEVELS

	SMEs	MIDCAP COMPANIES Turnover max. 300 M€	LARGE COMPANIES
COMPANY RESEARCH PROJECT GRANT Create new knowledge and competence	Grant max 50%	Grant max 40%	Grant max 40% Large companies must buy services from SME's and / or research organizations or implement the project as a joint project with them. The share of the bought services has to be 40 % of the project's overall costs.
DEVELOPMENT AND PILOTING LOAN Develop or renew products, services and business model. Demonstrate the functionality of your solution	Loan 50% / 70%	Loan 50% / 70%	Loan 50% Large companies must buy services from SME's and / or research organizations or implement the project as a joint project with them. The share of the bought services has to be 15 % of the project's overall costs.

**KIITOS
THANK YOU**

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