

# **SMART MOBILITY PROGRAM**

27 November 2019



# FUNDING, NETWORKS AND EXPORT 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

A company can apply funding for its own development project or a joint-project with other companies and research institutes

# SMART MOBILITY PROGRAM FOCUS

Globally leading seamless logistics and people transportation solutions

Radical emission reduction and fossil free mobility to exceed climate agreement requirements

Disruptive mobility services and traffic systems through wide data usage and sharing

From door to door: Smooth urban mobility services (MaaS)

Without delays and congestions: Intelligent vehicles, infrastructure and traffic systems

From forest to sea: Autonomous and secure industrial logistics

From store to home: Autonomous and secure consumer logistics

**From Forest to Sea and City Logistics**

**Seamless People Transportation Chains**

**Enrich Ecosystems via FDI**

**Growth Through Export**

**Innovation Funding and Testbeds**

**Logistics**

**People**

Export & FDI: B2B and Consumer Logistics

Export & FDI: Intelligent Vehicles and MaaS

# ***From Door to Door - Land Mobility - people***

- Smart Mobility – MaaS, connected cars, trucks
  - Traffic infrastructure, traffic data
  - Smart City Mobility – Experiments, Test beds, Innovative Public Procurement
  - Drones
  - E- Scooters, e-bikes and new mobility innovations for citizens
  - Smart trams, e-buses
- 
- ECOSYSTEMS & GROWTH ENGINES: Kyyti, Vedia

# ***From Forest to Sea – Sea & Rail transport, logistics - goods***

- Digital & Autonomous Smart Ships, Passenger vessels
  - Smart Ports
  - Cargo handling
  - Marine Logistics, Icebreakers
  - Rail Logistics
  - Industrial Logistics
  - Smart working vehicles
- 
- ECOSYSTEMS & GROWTH ENGINE: Awake, OneSea, Icebreaker



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
- ☐ ...

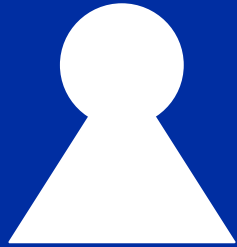


**BUSINESS  
FINLAND**

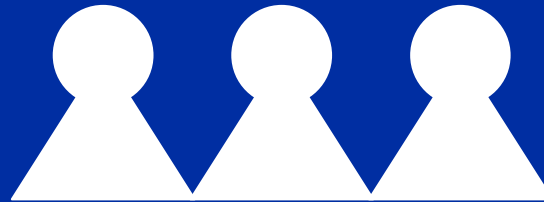
# **BUSINESS FINLAND'S SERVICES**

**BUSINESS  
FINLAND**

# SERVICES FOR COMPANIES AND GROUPS

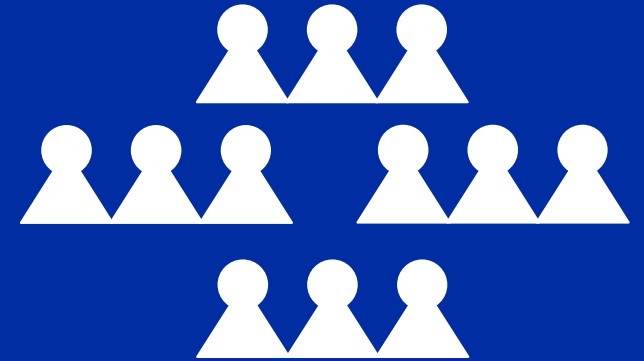


Internationalization  
and funding services  
for individual  
companies



Internationalization and  
funding services  
for a group of companies

R&D funding  
for joint projects



Services for  
ecosystems



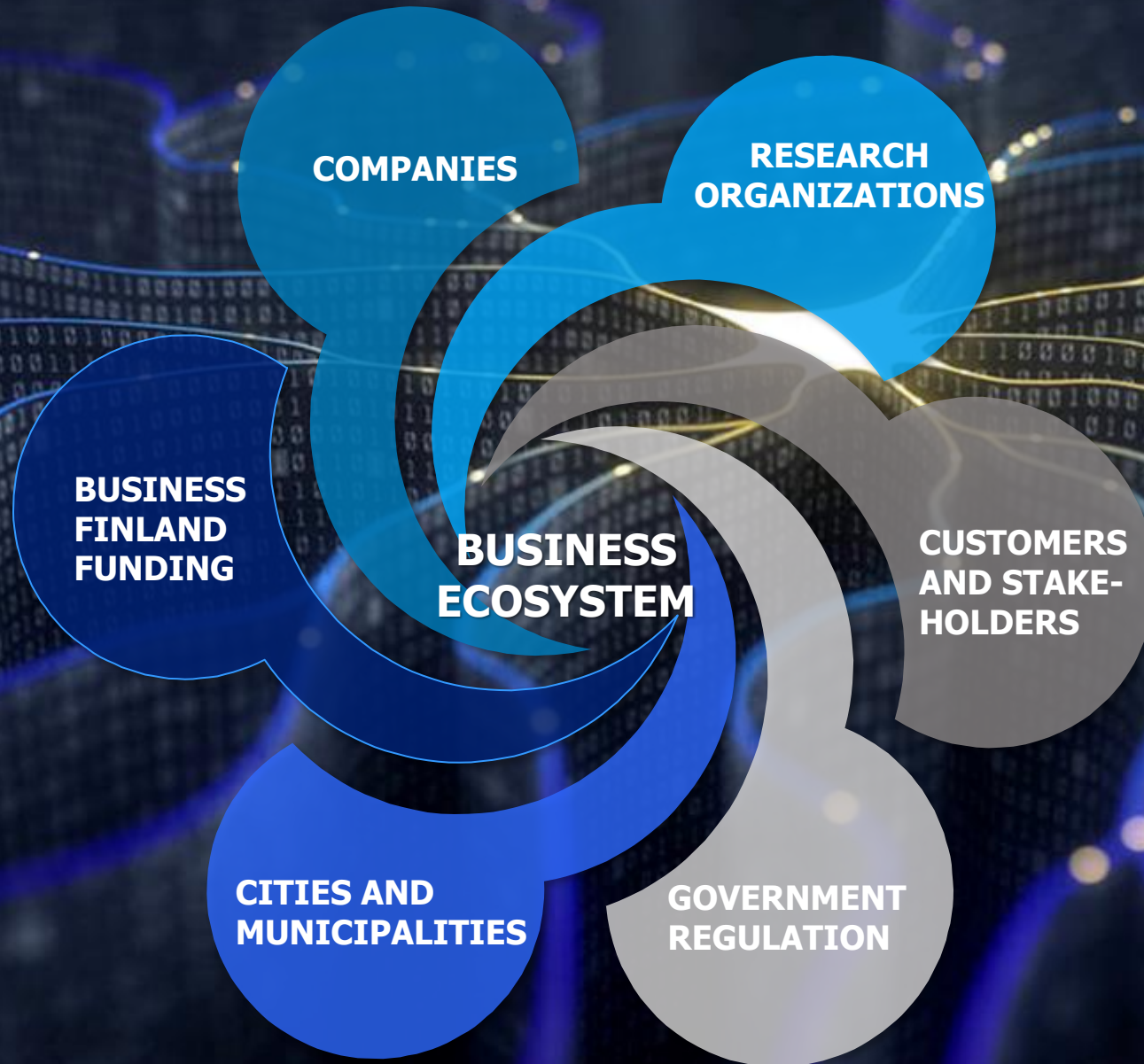
STARTUP - SME - MIDCAP - LARGE COMPANY – RESEARCH ORGANISATION

# LOOKING FOR FINNISH SUCCESS STORIES

- 1** Competitive advantage in international markets
- 2** Impact on Finland
- 3** Versatile competence and team:  
just technology is not enough
- 4** Sufficient resources to go international
- 5** Owner and board committed to  
international growth



# Business Ecosystems generate growth and innovation







# ECOSYSTEMS

We offer services for managing business ecosystems and for networking companies, research organizations, and other partners.

## FUNDING FOR GROWTH ENGINES

- Grants for orchestrators
- Capital loans for platform companies: Starting support and competitive bidding for the development of a platform company and for maximizing the impact of the ecosystem

## FUNDING FOR JOINT ACTIONS BETWEEN RESEARCH ORGANIZATIONS AND COMPANIES

- New business from research ideas
- Co-Creation and Co-innovation

## TESTBED FINLAND

- Networks, coaching, funding, visibility



**BUSINESS  
FINLAND**

# **INNOVATION FUNDING**



# 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



# BUSINESS FINLAND FUNDING FOR DIFFERENT STAGES OF DEVELOPMENT

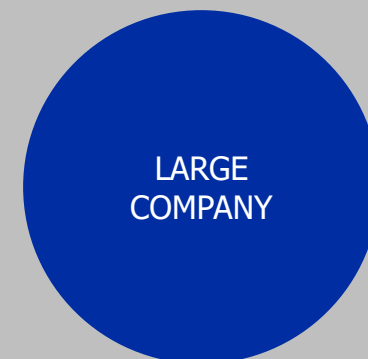
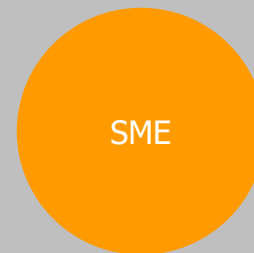
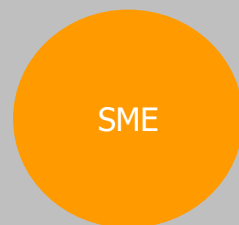
## Examples of funding

<b>INNOVATION VOUCHER</b>  Buy innovation expertise	<b>EXPLORER PRODUCTS</b>  Funding to support companies' internationalization	<b>TEMPO</b>  For companies aiming for international growth	<b>INTO</b>  Innovation expertise in support of international growth	<b>RESEARCH ORGANIZATIONS</b>  Commercialization of research findings and joint projects with companies	<b>NIY</b> (Under 5 y.o. fast growing start-ups)  Scale globally.  Develop the strategy, team, business model in a comprehensive manner.	<b>R&amp;D</b>  Develop a service, product, process, or a business model.  Prove that your product works.
Grant 100%	Grant 50 %	Grant 75 %	Grant 50 %	Grant	Grant and loan gradually	Loan 50% / 70% Grant max. 50%

# 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

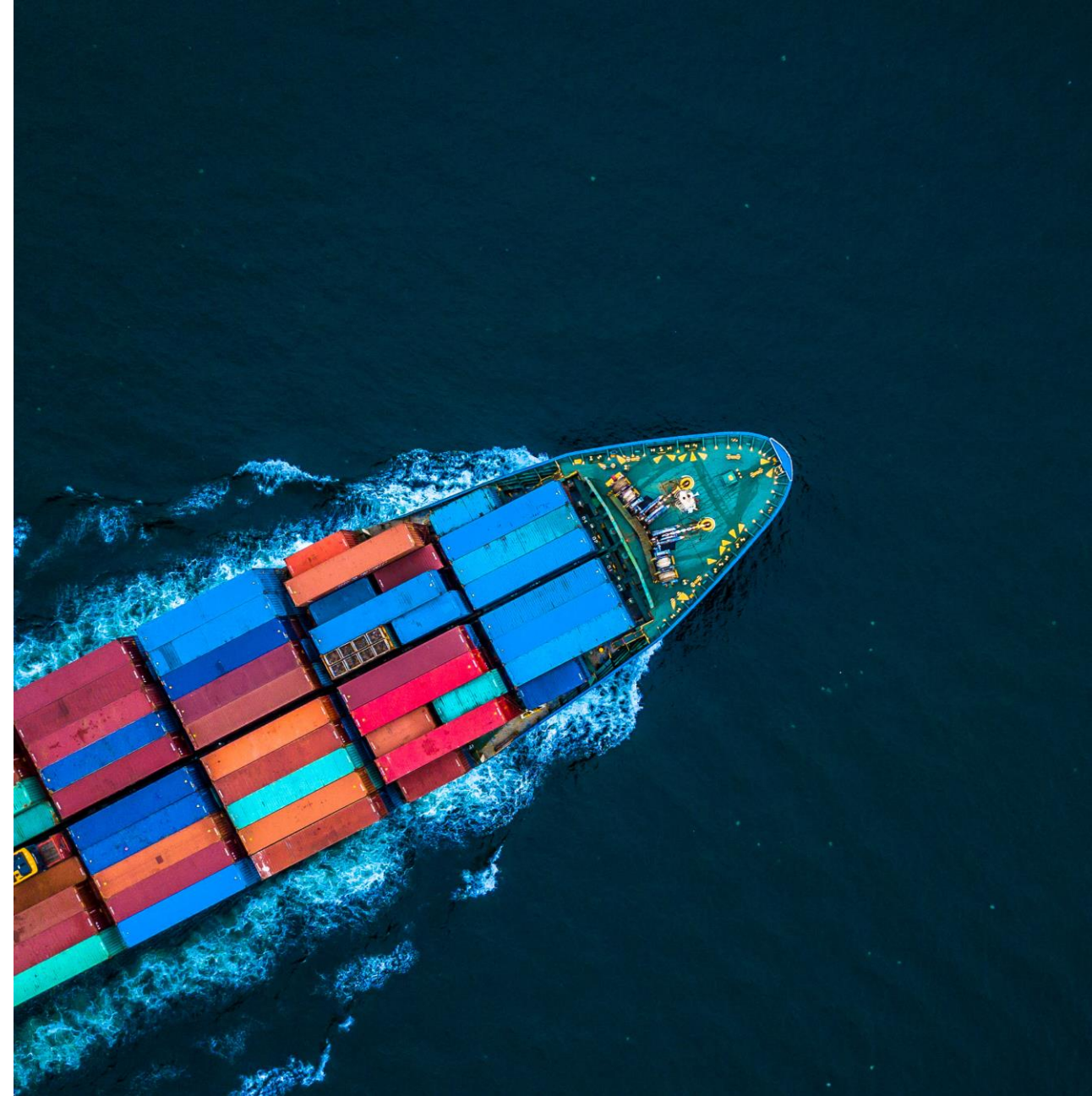
# **CASE EXAMPLES**

ECOSYSTEMS, GROWTH ENGINES

# CASE: ONE SEA

## Ecosystem for autonomous ships

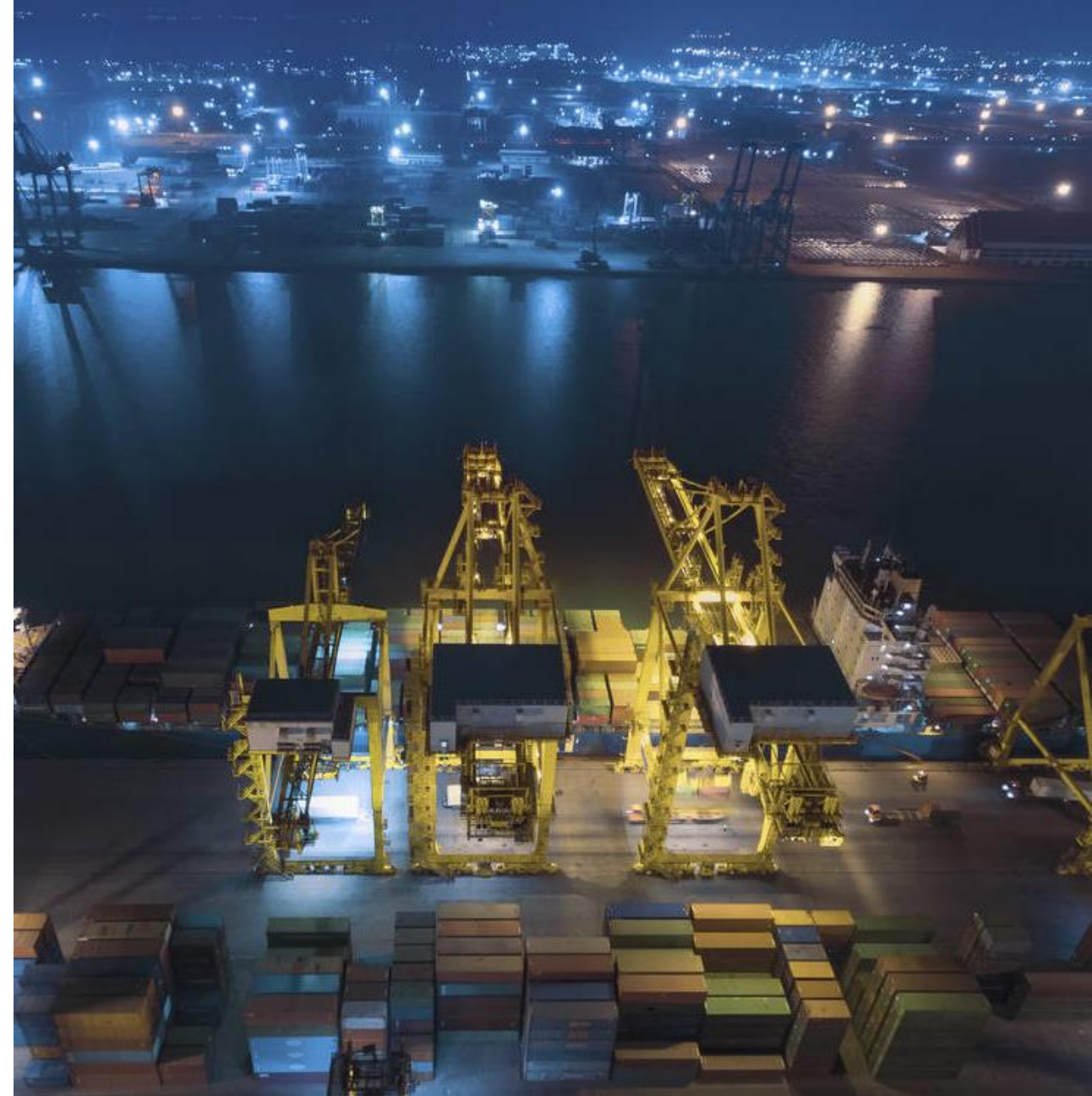
- Finland aims to operate the world's first autonomous maritime ecosystem by 2025.
- Includes: machine vision, situational awareness, auto crossing, auto docking and autonomous harbors.
- Legislation ensures dedicated sea areas for testing autonomous operations in real conditions.
- <https://www.oneseaecosystem.net/>



## CASE: AWAKE.AI

### Smart port & ship platform enabling autonomous shipping

- Autonomous shipping platform and ecosystem orchestrator
- Enabling digital handshakes between smart ships and smart ports
- Data standards, APIs, datasets and cloud services
- Predictive analytics and models
- <https://awake.ai/>

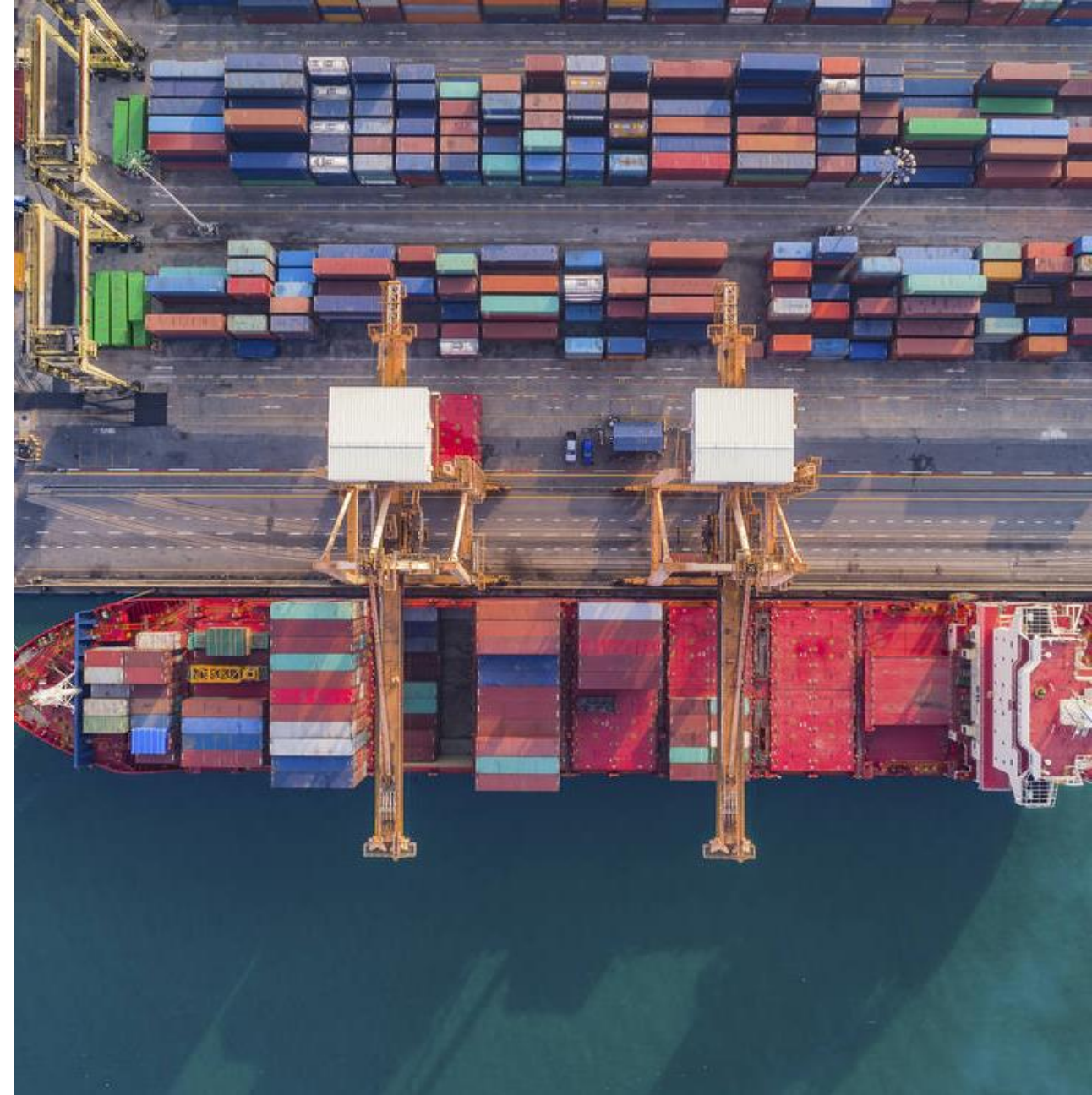




# CASE: AUTOPORT

## Ecosystem level approach for logistic robot systems in ports

- 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 (Corridor as a Service)

## New concept for smart logistics

- 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.
- <https://www.vedia.fi/corridor-as-a-service-streamlines-goods-logistics/>





# 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.
- <https://www.kinno.fi/en/smartlog>



# CASE: ONE RECORD (IATA)

## Moving to smart data sharing

- 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.)
- [https://www.iata.org/whatwedo/cargo/e/Documents/IATA\\_ONE\\_Record\\_EN.pdf](https://www.iata.org/whatwedo/cargo/e/Documents/IATA_ONE_Record_EN.pdf)







# SMART MOBILITY CHALLENGE COMPETITION

## JAN-MARCH 2019



# 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
-

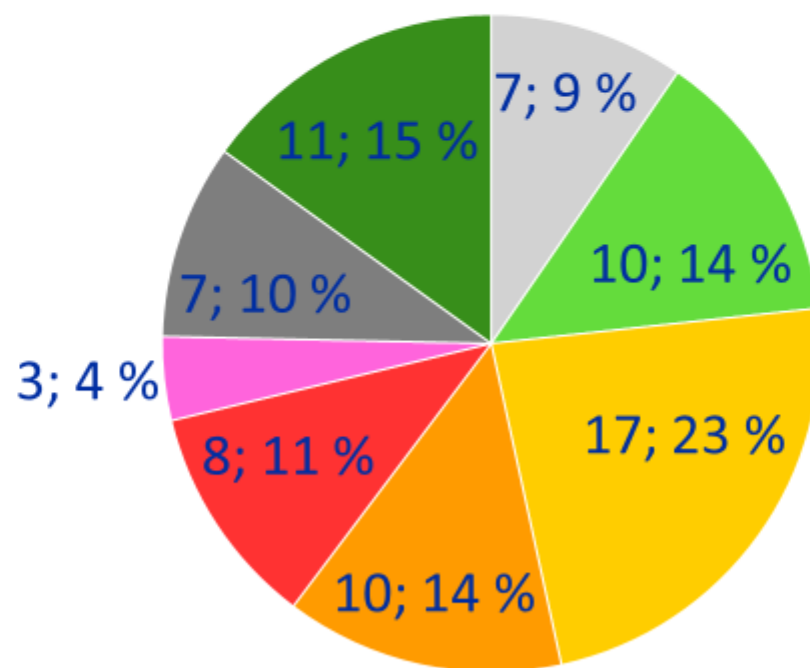
# SMART MOBILITY CHALLENGE COMPETITION 10 THEMES

## 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
-

# SMART MOBILITY CHALLENGE COMPETITION IDEAS = 73 pcs

Amount and % share of Ideas

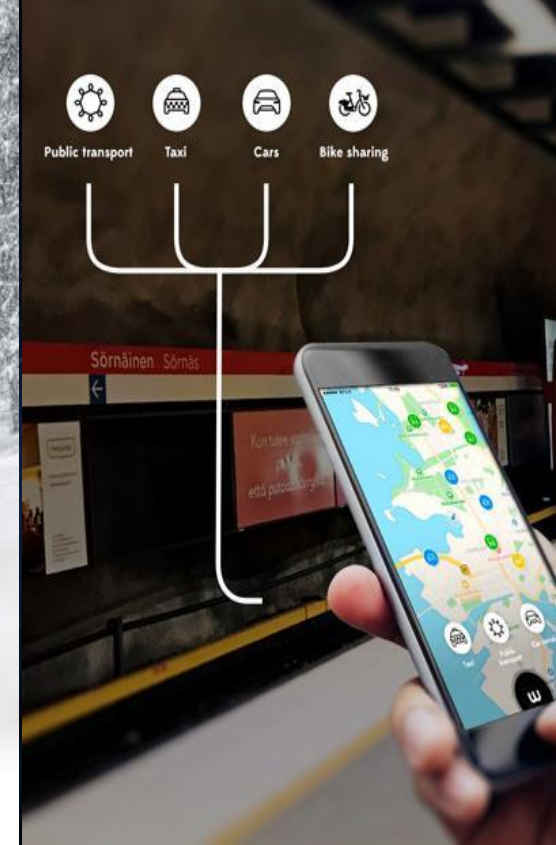
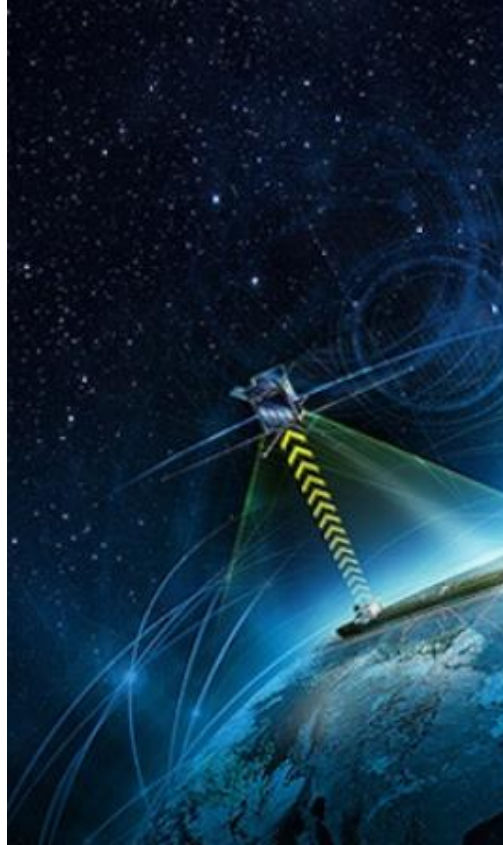


■ Drones ■ Marine Industry ■ MaaS ■ Traffic ■ Electro Mobility ■ Platforms ■ Forest Industry ■ Logistics

# **JOINT OFFERINGS**

# JOINT OFFERING

## Smart Ships – Smart Ports – Autonomous Ships – Intelligent Vehicle and Mobility Services

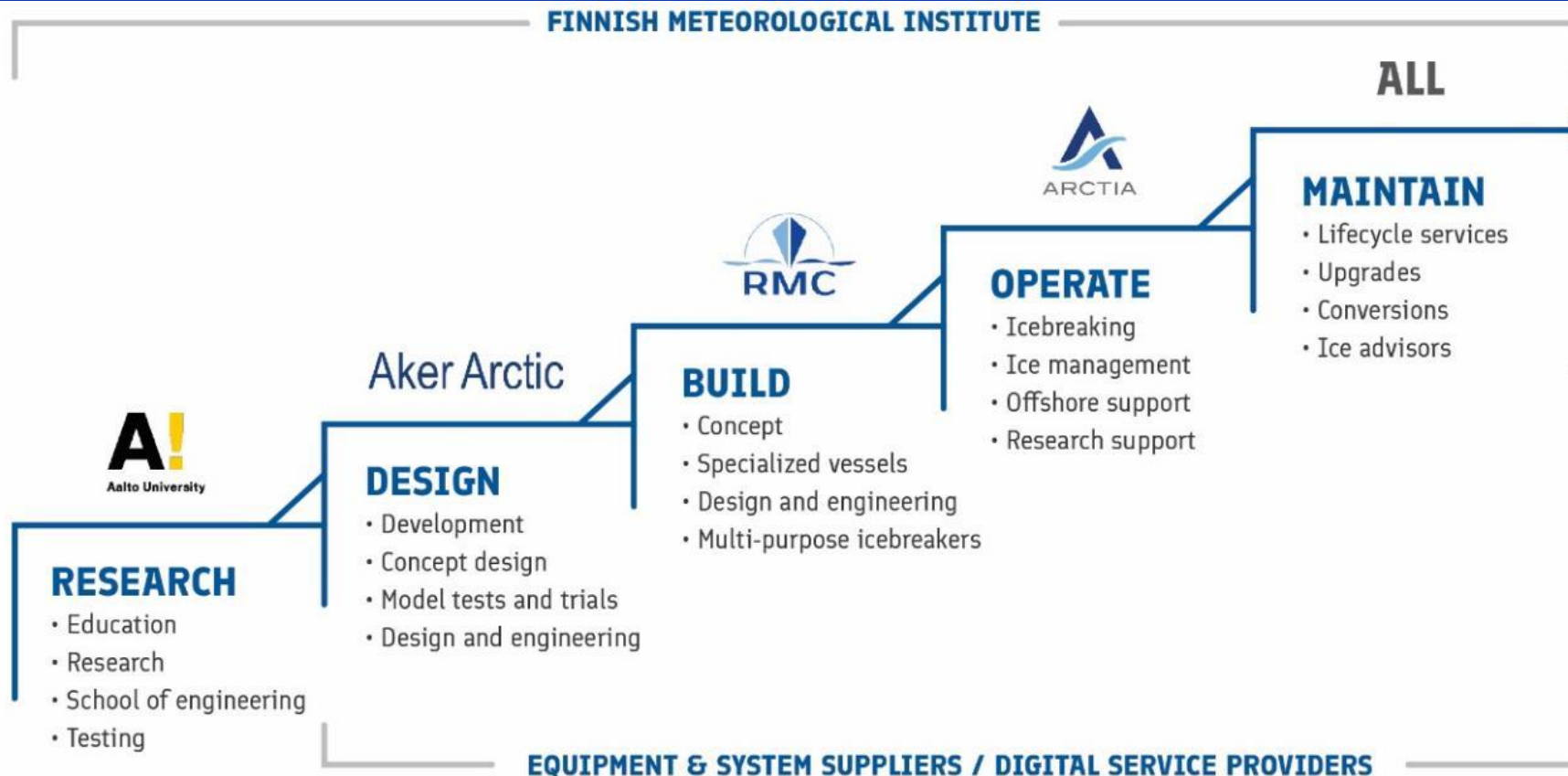


- ### TRENDS
- Sustainability
  - Digitalization
  - Automation & Autonomy
  - Electric & Hybrid
  - Energy Solutions
  - Platforms
  - Connectivity





# Finland is the only country in the world with solutions for the entire ice breaking value chain



WHAT

Embedded solutions

UX platforms and tools

Mobile payment

New Mobility Solutions

SW development services

AI and robotics

Mobility as a Service

Connected Car

In-vehicle computer

User interface and experience

ADAS

Infotainment

Sensors and mobile applications

V2X/V2V

Service design

Traffic Management Systems

Performance analyzer

Winter testing

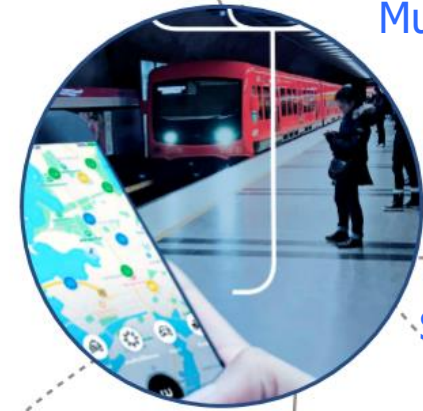
Infrastructure

Weather Service / road conditions

Smart City Solutions



# INTELLIGENT VEHICLE AND MOBILITY SOLUTIONS FROM FINLAND



Multimodality

Open data

Smart Parking

Mobile applications

Security

Wireless communication

Automated Driving

System design, architecture and integration



# **EVENTS**

SMART MOBILITY EVENT PLAN 12/2019 - 2020

# **SMART MOBILITY THEME RELATED EVENTS IN FINLAND 11/2019 – 2020 - PLAN**

**1. China-Finland Governmental Marine logistics innovation committee meeting Helsinki. 12.-13.12.2019**

**2. Smart Ports Frost & Sullivan Presentation December 2019**

**2020**

**1. TRA 2020 Helsinki, 27.-30.4.2020**

**2. Challenge Competition "From Forest to Sea" & "From Door to Door" Workshops - monthly**

**3. Smart Mobility Test Beds in Finland Workshops - quarterly**

**4. Smart Mobility Future Watch Frost & Sullivan MaaS & Connected Vehicles Presentation**

**5. Smart Mobility Annual Seminar, autumn 2020**

**6. EU – BF Funding Info Day, autumn 2020**

**7. SLUSH 2020 – side events**

**8. Foreign Business Delegations to Finland 10-20 pcs**

---

# **SMART MOBILITY THEME RELATED EVENTS ABROAD 2020: Q1- Q2 - PLAN**

- 1. CTS and CES, Finland booth, presentations, networking. Las Vegas, USA CTS 6.1., CES 7.-10.1.2020**
  - 2. U.S. OCCF 2 (Navy) Digital Transformation, maritime autonomy, logistics value chain. Helsinki 13.-14.1.2020**
  - 3. TF Smart Ship Seminar / activities @ Seatrade Cruise Global 21.-23.4. / @ Shippax 1.-3.4.2020**
  - 4. TF Business delegation on Connected Vessel & Sea Air Space expo, Washington DC 6.-8.4.2020**
  - 5. VECS Vehicle Electronics & Connected Services Göteborg, Finland booth, presentations, networking 5.-6.5.2020**
  - 6. TF Business delegation on Arctic and Smart Ships & Sovcomflot seminar Moscow April 2020**
  - 7. TU Automotive, Technology, telematics, connected car, mobility, autonomous cars, Detroit 3.-4.6.2020**
  - 8. Intelligent Mobility by Frost&Sullivan, London, June 2020**
-



# **SMART MOBILITY THEME RELATED EVENTS ABROAD 2020: Q3 - Q4 - PLAN**

- 1. TF Business delegation, ONS Offshore Northern Seas, 31.8. – 3.9.2020**
  - 2. SMM expo Hamburg, 8.-11.9.2020**
  - 3. TF Business delegation Smart Ships to Chantiers d' Atlantique shipyard, France, autumn 2020**
  - 4. Innotrans exhibition, railroad focus, Berlin, 22.-25.9.2020**
  - 5. TF Business delegation ITS World Congress, Los Angeles, 4.-8.10.2020**
  - 6. B2b meetings with Danish shipowners, autonomous, digi & environmental solutions. Copenhagen, October 2020**
  - 7. Port Day Lubeck, Germany. Digitalization of ports. Finnish-German Business seminar TBC**
  - 8. China-Finland Governmental Marine logistics innovation committee meeting Shanghai, November 2020**
-

# **SMART MOBILITY PROGRAM TEAM (FINLAND)**



**Ulla Lainio**

Head of Smart Mobility,  
Smart Maritime, Forest Industry



**Karin Wikman**

Smart City Ecosystems



**Tom Warras**

Transport and Infrastructure



**Jukka Mäki**

Digitalization in Mobility



**Marko J. Heikkinen**

Connectivity in Mobility

**Laura Kinnunen**

Marketing and Communication



**Sakari Karppinen**

Industrial Logistics, Autonomous  
Systems, Platform Economy



**Olavi Keränen**

Testbeds



**Arto Pussinen**

Invest in Finland Services, ICT



**Mikko Koskue**

Automotive, Electromobility



**Jouni Salonen**

Mobility as a Service,  
Mobile Machinery, Drones



**Sini Kahilaniemi**

Transport systems, Automation  
and Innovative public procurement

**WE ARE CLOSE TO YOU  
AND  
YOUR CUSTOMERS**

YOU  
ES IN

INTO  
N  
S.

*As of May 2019*

The image features a world map with a color-coded legend. A dark blue box labeled 'YOU ES IN' points to a callout of Sweden, which is filled with dark blue and contains several light blue dots. A medium blue box labeled 'INTO N S.' points to the rest of the world map, which is colored medium blue. The map shows various countries in different shades of blue and grey, indicating different levels of presence or service. The text 'WE ARE CLOSE TO YOU AND YOUR CUSTOMERS' is prominently displayed in the upper right. The date 'As of May 2019' is in the bottom right corner.

**WE ARE CLOSE TO YOU  
AND  
YOUR CUSTOMERS**

YOU  
ES IN

INTO  
N  
S.

*As of May 2019*

The image features a world map with a color-coded legend. A dark blue box labeled 'YOU ES IN' points to a callout of Sweden, which is filled with dark blue and contains several light blue dots. A medium blue box labeled 'INTO N S.' points to the rest of the world. The main map shows Sweden and several other countries (including parts of North America, South America, Europe, Africa, Asia, and Australia) in dark blue, while all other landmasses are in light gray. The text 'WE ARE CLOSE TO YOU AND YOUR CUSTOMERS' is prominently displayed in the upper right. The date 'As of May 2019' is in the bottom right corner.

**WE ARE CLOSE TO YOU  
AND  
YOUR CUSTOMERS**

YOU  
ES IN

INTO  
N  
S.

*As of May 2019*

The image features a world map with a color-coded legend. A dark blue box labeled 'YOU ES IN' points to a callout of Sweden, which is filled with dark blue and contains several light blue dots. A medium blue box labeled 'INTO N S.' points to the rest of the world map, which is colored medium blue. The map shows that Sweden is the primary focus, with a global presence indicated by the medium blue color. The text 'WE ARE CLOSE TO YOU AND YOUR CUSTOMERS' is prominently displayed in the upper right. The date 'As of May 2019' is in the bottom right corner.

**WE ARE CLOSE TO YOU  
AND  
YOUR CUSTOMERS**

YOU  
ES IN

INTO  
N  
S.

*As of May 2019*

The image features a world map with a color-coded legend. A dark blue box labeled 'YOU ES IN' points to a callout of Sweden, which is filled with dark blue and contains several light blue dots. A medium blue box labeled 'INTO N S.' points to the rest of the world map, which is colored medium blue. The map shows that Sweden is the primary focus, with a global presence indicated by the medium blue color. The text 'WE ARE CLOSE TO YOU AND YOUR CUSTOMERS' is prominently displayed in the upper right. The date 'As of May 2019' is in the bottom right corner.



- 08.00** Ilmoittaminen & aamukahvi
- 09.00** **Smart Mobility tilannekatsaus**  
*Ulla Lainio, Business Finland, Head of Smart Mobility*
- From Door to Door -konsortiot esittäytyvät**  
•Sami Sahala, Forumvirium  
•Osma Ahvenlampi, Kyyti Group  
•Janne Lautanala, TMFG – Kommenttipuheenvuoro  
•Jari Paasikivi, TVV - Kommenttipuheenvuoro
- Janne Pulkkinen, Kela  
•Nemanja Vukota, Transtech  
•Ismo Vessonen, VTT  
•Timo Lind, VTT
- 10.30** Tauko
- 10.45** **From Forest to Sea -konsortiot esittäytyvät**  
•Hannu Mikkonen, VTT  
•Ilkka Anttila, VR Transpoint  
•Timo Savolainen, Proxion  
•Pekka Yli-Paunu, Cargotec/Kalmar  
•Karno Tenovuo, Awake  
•Jukka Merenluoto, DIMECC  
•Tuomas Sipilä, VTT
- 11.50** **Päätössanat**  
*Ulla Lainio, Business Finland, Head of Smart Mobility*
- 12.00** **Lounas & verkostoitumista konsortioiden kanssa**

KIITOS  
**THANK YOU**