

FINLAND

# FINLAND

DEFINING THE FUTURE OF DIGITALIZATION  
AND SMART MOBILITY SERVICES



**FINLAND IS GLOBALLY RECOGNIZED AS A DIGITAL FORERUNNER AND SMART MOBILITY PIONEER.**

**INTERNATIONAL COMPANIES COME TO FINLAND  
TO TEST NEW DIGITAL PRODUCTS AND SERVICE  
MODELS.**



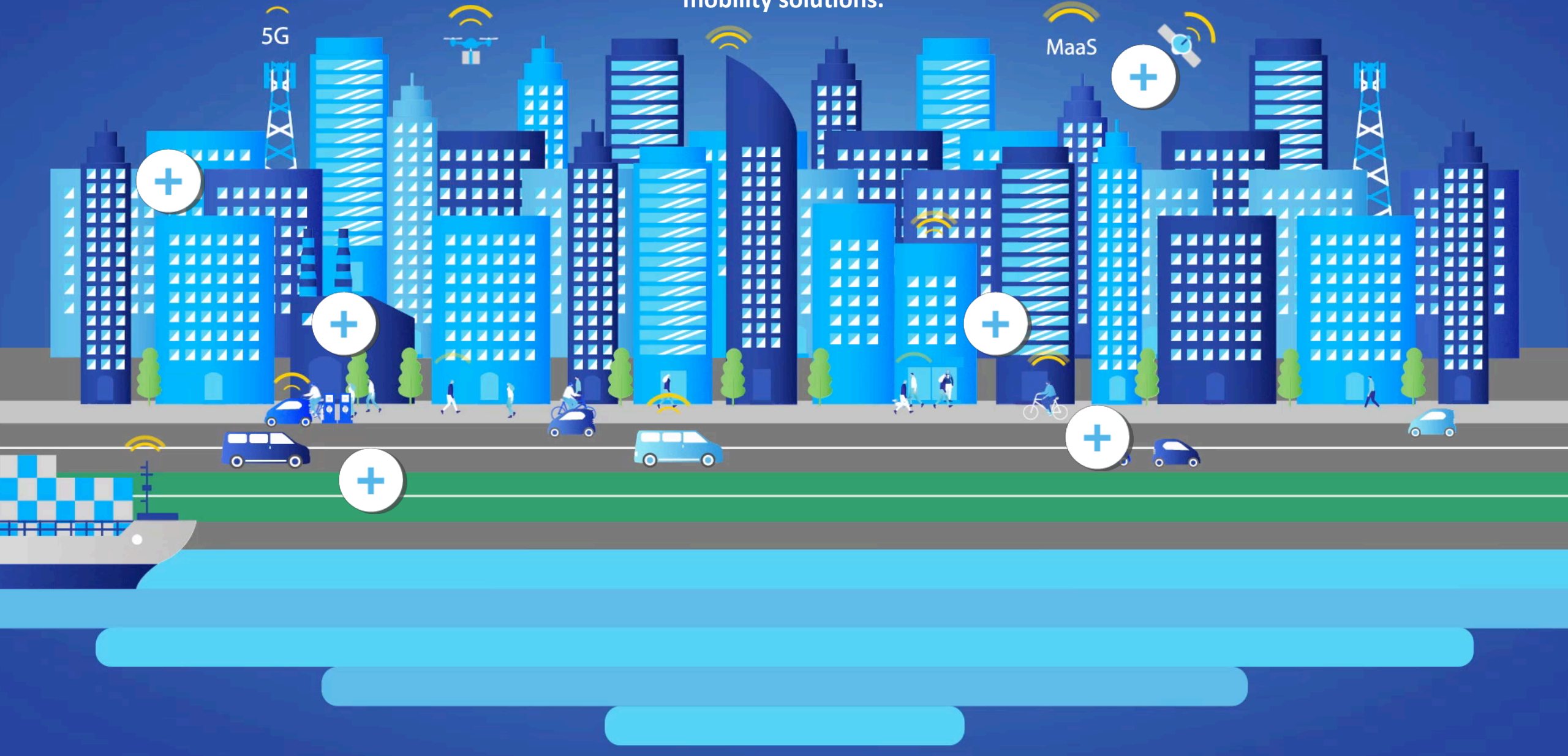
FINLAND

**SMART MOBILITY IS THE FUTURE, AND YOU CAN  
EXPERIENCE IT RIGHT NOW IN FINLAND.**

# EVERYTHING IS CONNECTED IN FINLAND

FINLAND

From traffic lights to drones, infrastructure and transportation form a seamless network of smart mobility solutions.



# WE'RE ALREADY DOING WHAT'S NEXT

FINLAND

Digitalization

Artificial  
Intelligence

5G

Cyber Security

Public Data

Sharing  
Economy

Automation

Electrification

Autonomy

Platform  
Economy

# AHEAD OF THE CURVE

Smart mobility solutions will be everywhere in the future. Finland has the forward-thinking businesses and technology infrastructure to bring connected transportation to life.





# READY FOR NEW THINGS

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 connected logistics.

5G



**BUSINESS  
FINLAND**

**FINLAND**

**FINLAND IS AN ATTRACTIVE PLACE FOR  
INTERNATIONAL COMPANIES TO TEST  
NEW PRODUCTS AND SERVICES**



# A SAFE AND SECURE COUNTRY FOR BUSINESSES

Finland offers a stable society, sustainable competitiveness and business-friendly legislation. There is also close co-operation between the public and private sectors.

---

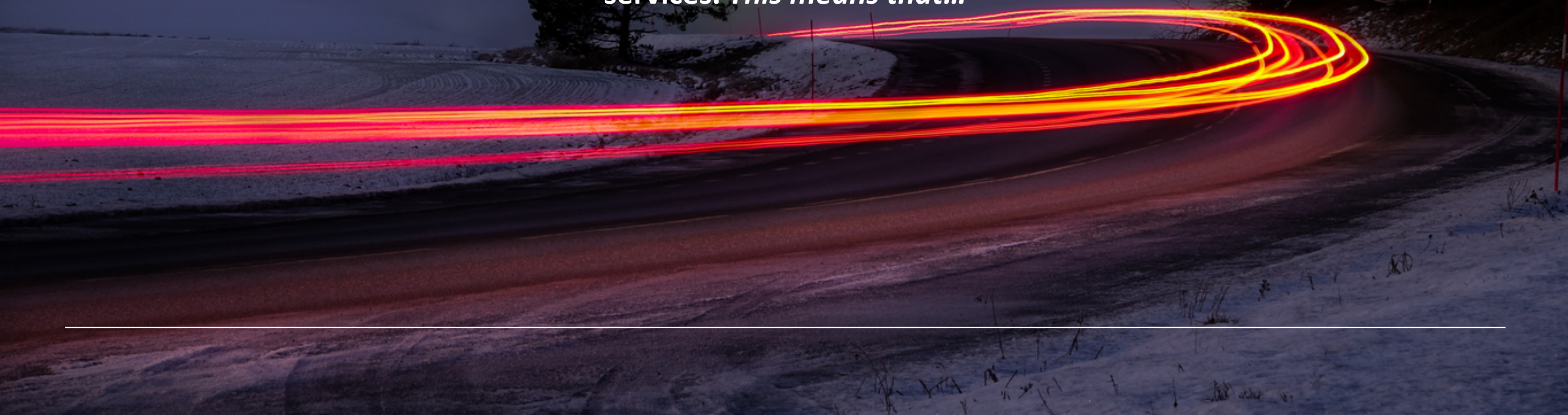
# SUSTAINABLE MARITIME LOGISTICS

- The greenest and quietest passenger ships in the world  
World's first LNG powered passenger ferries
- Renewable energies utilization (wave, tidal, solar)
- Electrification of ships, marine traffic and ports

## **ARCTIC KNOW-HOW**

**Thanks to its northern location, Finland has four distinct seasons with a wide range of weather conditions.**

**This creates a unique and often desirable test environment for products and services. *This means that...***



**BUSINESS  
FINLAND**

FINLAND

**IF IT WORKS IN FINLAND,  
IT WORKS EVERYWHERE.**

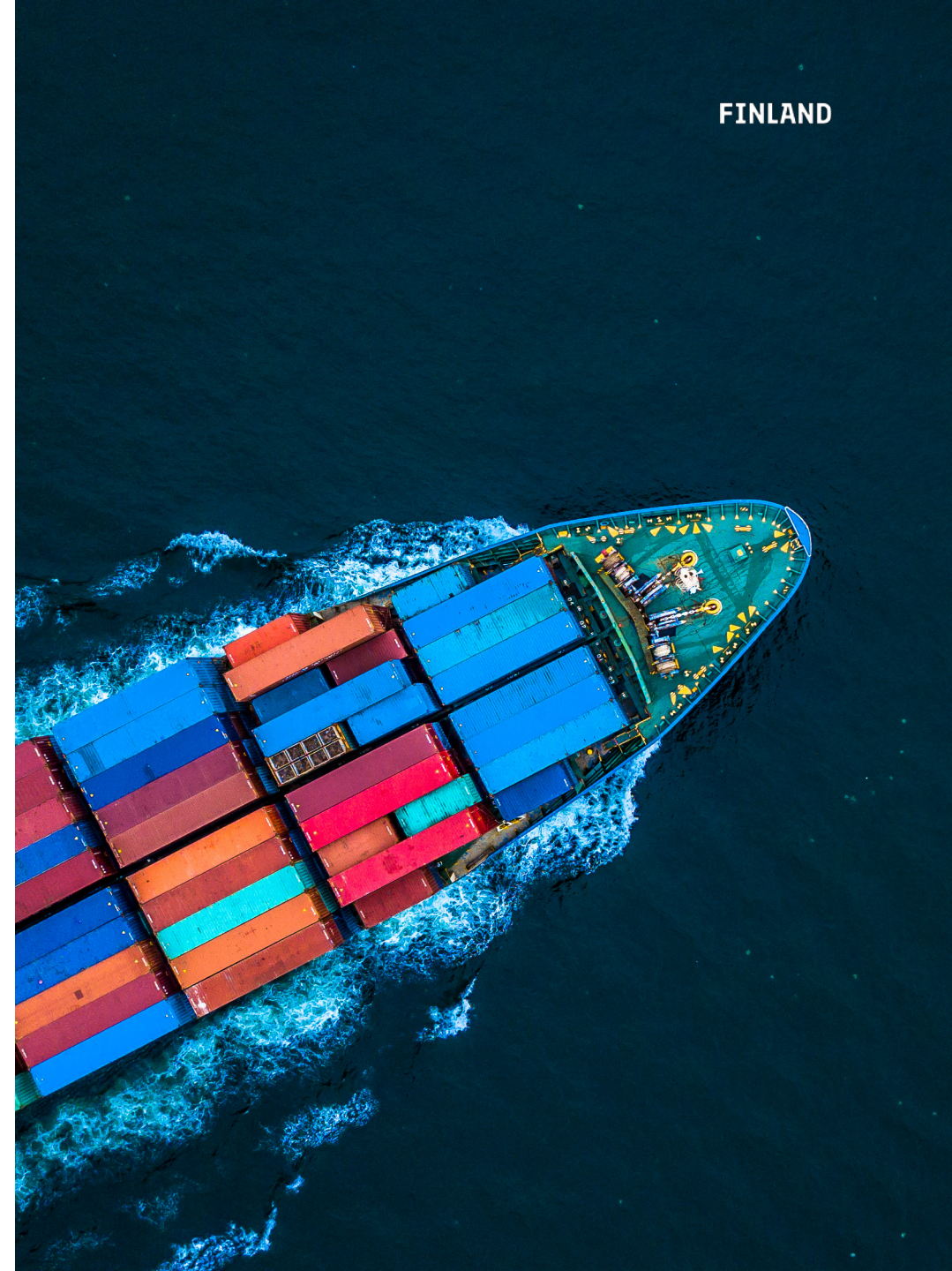


# FINNISH SUCCESS STORIES



# WORLD'S FIRST AUTONOMOUS MARITIME ECOSYSTEM

- 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.

The ABB logo consists of the letters 'ABB' in a bold, red, sans-serif font.The Ericsson logo features three blue horizontal bars of varying lengths, with the word 'ERICSSON' in a blue, sans-serif font below them.The Meyer Turku logo includes a stylized blue and orange wave icon above the text 'MEYER TURKU' in a bold, black, sans-serif font, with 'SHIPYARD 1737' in a smaller font below.The Rolls Royce logo is a blue square containing the letters 'RR' in a white, stylized font, with 'ROLLS' above and 'ROYCE' below.The Wärtsilä logo features a blue and orange wave icon above the word 'WÄRTSILÄ' in a blue, sans-serif font.The DIMECC logo consists of the word 'DIMECC' in a blue, sans-serif font.The tieto logo consists of the word 'tieto' in a blue, lowercase, sans-serif font.



# AUTONOMOUS FERRY

- Finland pioneered the world's first fully autonomous ferry to carry passengers.
- Can navigate between two ports using sensor data fusion and artificial intelligence to detect objects.
- Docking is fully automated.
- No intervention from the crew is required.
- SVAN – Safer Vessel with Autonomous Navigation.



# LNG POWERED ICE BREAKER

- Polaris - World's first ice breaker powered by Liquefied Natural Gas (LNG) and low sulphur marine diesel oil (LSMDO).
- LNG use significantly reduces carbon emissions.
- World's most environmentally-friendly diesel-electric icebreaker.
- Built in Finland.
- Breaks ice up to 1.8 meters thick.



FINLAND



# MOBILITY AS A SERVICE

- Finnish company MaaS Global is the world's first true MaaS operator.
- Mobility as a service app, Whim, shows the best way to get from A to B by combining public and private transport:
  - Taxis, public transportation, bikes and cars.
- Plan and pay personal transportation.
- Currently available in Helsinki, Finland.

**Maas** GLOBAL



# SENSIBLE4 SELF-DRIVING SYSTEMS

- GACHA Sensible4 and MUJI developed an **autonomous shuttle bus** for all weather conditions.
- Sensible 4's self-driving software performs even in the hardest conditions.
- Snow, slush or rain – Sensible 4's lidar-based solution keeps driverless vehicles of all types on track.
- Technology has been proven by repeated tests in the harsh winter conditions of the Finnish Lapland.
- Can be integrated into all existing autonomous driving systems.



# DIGITAL USER INTERFACES

- Rightware creates and powers digital gauge clusters and displays in modern automobiles.
- Currently used by over 40 automotive OEMs (including Audi).
- OEMs can modify the design for their brand.



# VIRTA CHARGING NETWORK

- Co-founded by 17 Finnish energy companies.
- Smart electric vehicle charging points.
- Enables seamless joint usage of all the charging stations that belong to the Virta network.
- Anyone can use the charging network.
- Works with the latest Open Charge Point Protocol standards.

**VIRTA**

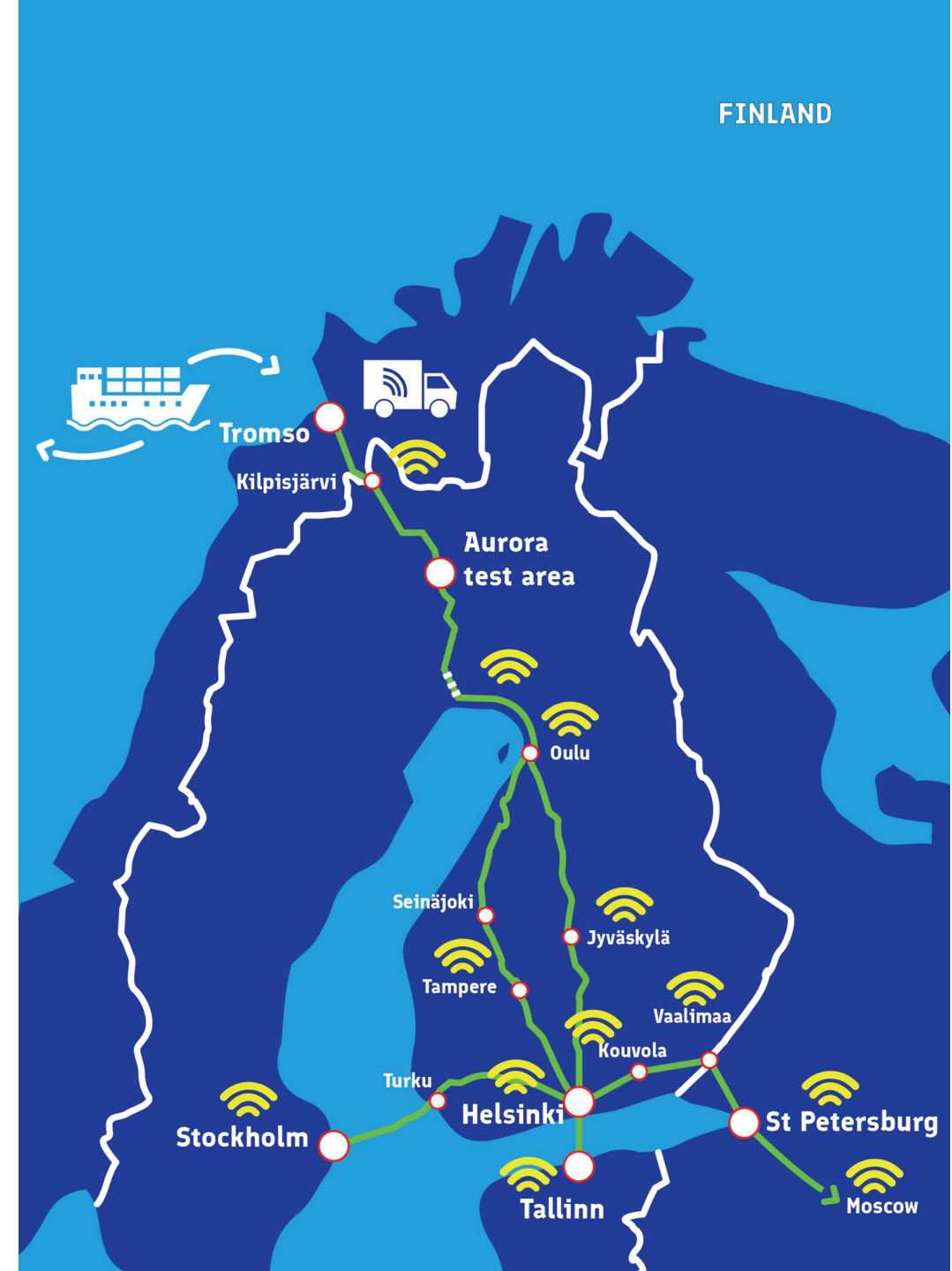
---

FINLAND



# DIGITAL 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.



# SPACE IMAGING TECHNOLOGY

- ICEYE global satellite monitoring provides real-time satellite imagery in darkness and through clouds.
- Gives maritime traffic up-to-date information on the ice situation.
- Tracks natural disasters, illegal fishing, oil pipeline spills.
- World's first Synthetic Aperture Radar (SAR) satellite under 100 kgs.
- First commercial Finnish satellite.

**ICEYE**

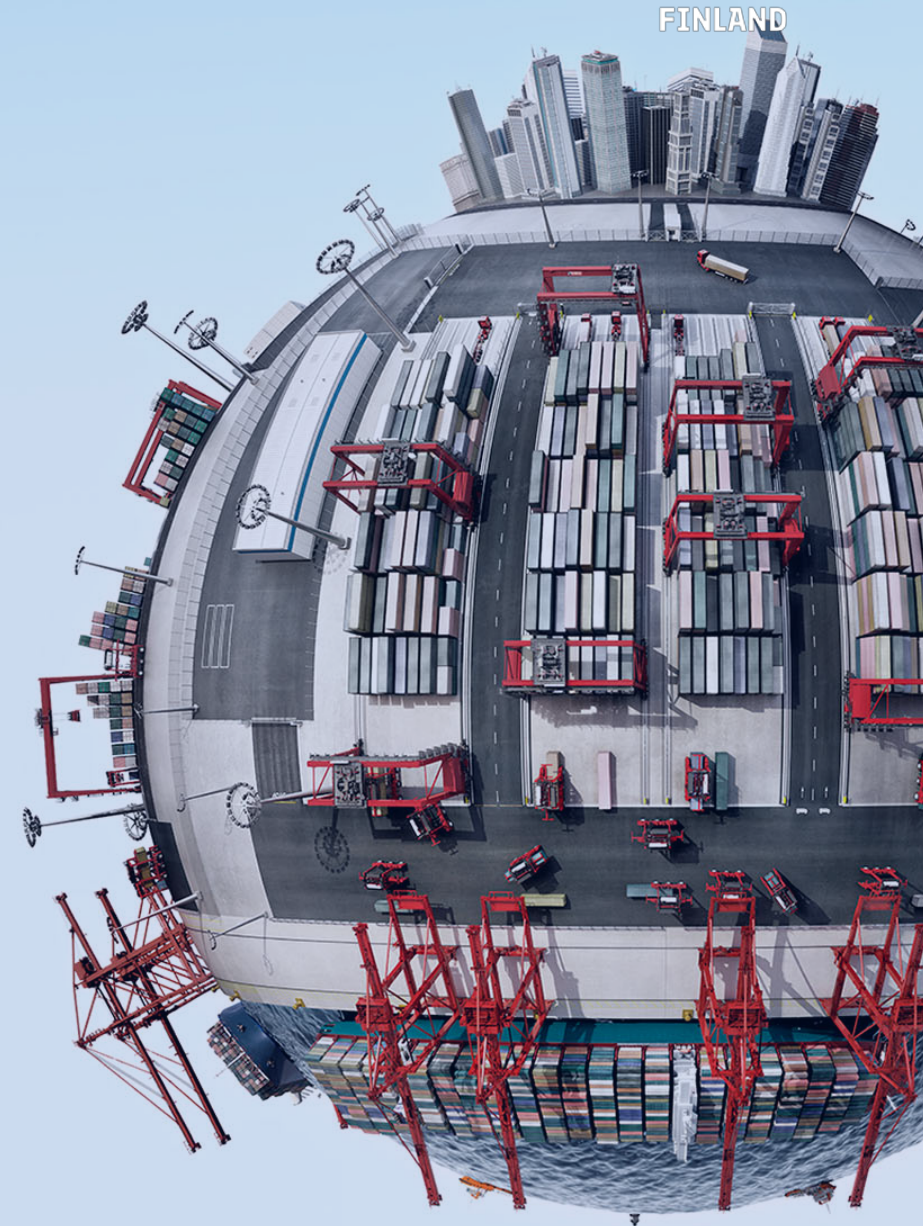
---





# INTELLIGENT CARGO HANDLING

- Finnish company Cargotec aims is to become the leader in intelligent cargo handling.
- Company is the market leader in stowage planning systems and Enterprise Resource Planning (ERP) systems for ports.
- Cargotec has begun co-operation with Rainmaking Ltd. within the Trade & Transport Impact accelerator program.
- The program brings together globally leading companies and innovative startup companies to answer the biggest challenges in seafaring, cargo traffic and logistics.



# ENVIRONMENTAL MEASUREMENT & SAFETY

- Vaisala is the world leading accurate, real-time and reliable weather information provider.
- Clients include national meteorology stations, road and railroad authorities, airport organizations, energy providers and maritime shipping companies.
- Digital services for decision-makers related to weather and air quality in cities helping cities become smarter and cleaner.
- CASE: Vaisala improves aviation safety at Palermo Airport susceptible to wind shear by measuring the phenomenon and providing wind shear warnings for pilots.

## VAISALA

---



# NOKIA ACCESS NETWORKS

- The Access Networks division at Nokia develops the future possibilities of 5G technology.
- Recently signed a 3.5 billion dollar contract with T-Mobile to develop a nationwide 5G network in the US.
- It is the biggest 5G contract announced in the world to date.
- Nokia Access networks and 5G technology form a critical part of the smart mobility infrastructure.

**NOKIA**

---



# INTELLIGENT PUBLIC TRANSPORT

- Transtech is a leading rail vehicle manufacturer in Europe.
- Delivers intelligent tram systems for challenging conditions.
- **Developing a fully autonomous city tram.**
- CASE: Transtech is partnering with Germany, the country will invest € 8 billion in tramways over the next 10 years.



**FINLAND WAS MADE  
TO BE THE PLATFORM AND  
SPRINGBOARD FOR  
ALL THINGS NEW.**



FINLAND

**BRING YOUR BOLD  
EXPERIMENTS HERE.  
FINLAND WELCOMES THEM.**