

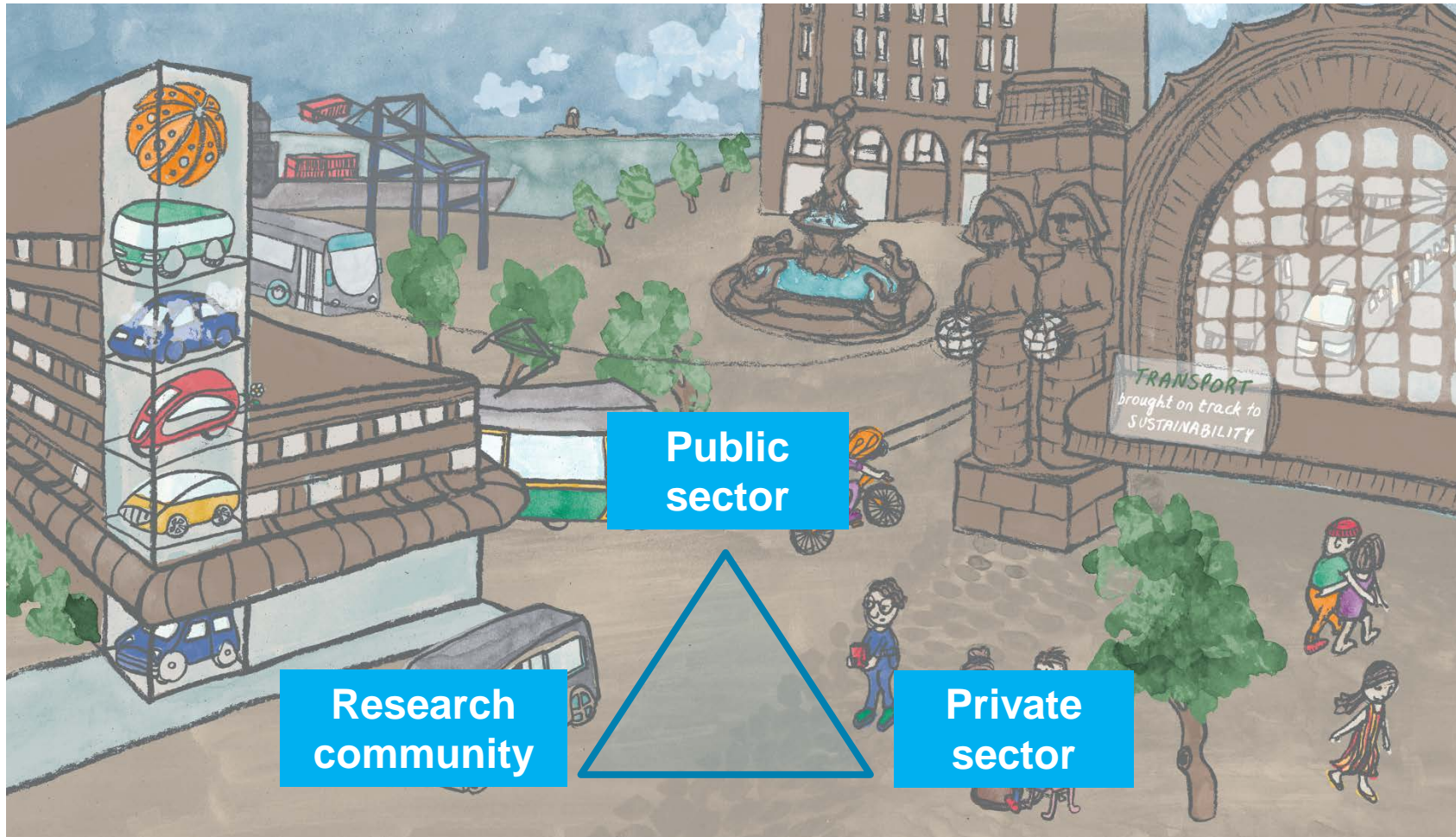


# VTT builds for the future and creates networks for cooperation

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VTT



## FINNISH SPECIALITY: SHORT CHAIN OF COMMAND AND GOOD COOPERATION AMONGST THE PLAYERS



# TransSmart modus operandi and achievements

- **Networking**
  - Companies, public sector, research community
  - Two external steering groups
- **Generating multiclient projects in e.g.:**
  - Electric vehicles
  - Smart transport services
  - Advanced public transport
  - Biofuels
- **Product development** for companies
- Generating a **common knowledgebase**
- Supporting **decision making** in industry as well as in the public sector
- **Communication**
- **Help desk service** for ministries and government agencies
- **Competence** build-up



smart  
trans

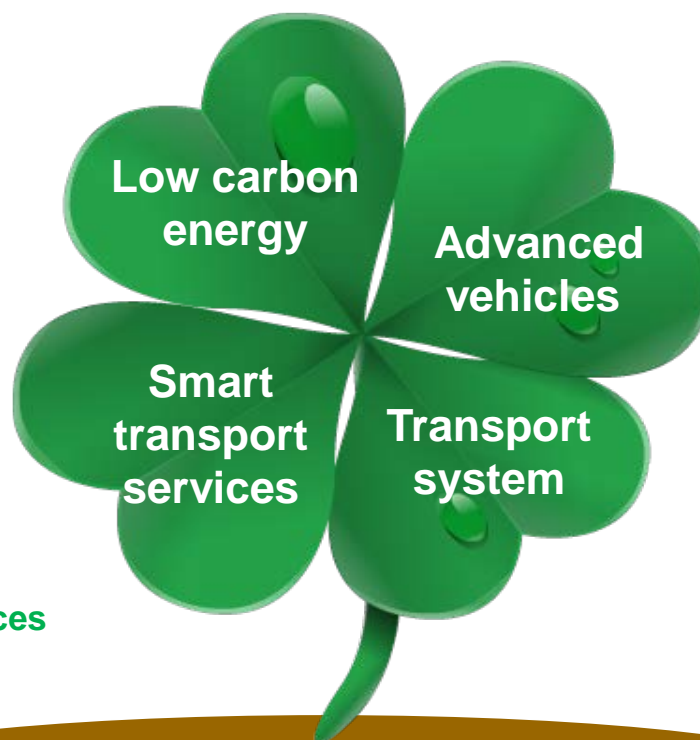
[www.transsmart.fi](http://www.transsmart.fi)  
<http://www.vtt.fi/inf/pdf/visions/2014/V5.pdf>



# TransSmart themes and contents

- Biofuels for transport
- Low-carbon fuels
- Infrastructure for EVs & FCVs
- EV fast charging & grid effects
- Energy storage for vehicles

- Smart cooperative systems and services
- Business ecosystems, business models and foresight
- Advanced multimodal transport management systems and services
- Service concepts, testing and technology platform demonstrations



Megatrends, user demands, business opportunities, policy support, foresight

- Efficient use of vehicles
- Vehicle technology
- Hybrids, EVs & FCVs
- Focus on commercial vehicles and mobile machinery
- Ship propulsion

- Transport system foresight
- Systemic policies and impact assessment
- User values, demands, intentions and acceptance
- Stakeholder networks, communities and their management

# What next?

## – Guiding framework

### World level

- UN targets for sustainable development and the Paris climate agreement

### EU level

- White Paper on transport 2011
- A European Strategy for low-emission mobility 2016
- The Commission's proposal on binding greenhouse gas emission reductions in the non-ETS sector for Member States

### Finland

- Strategic Programme of Prime Minister Juha Sipilä's Government 2015
- Strategies of the Ministry of Transport and Communications
- National energy and climate strategy for 2030



# Framework for Transport & Logistics Ecosystem

## NEEDS / DRIVERS

**50% emission reduction**  
in transport by 2030

**5 bn€** maintenance backlog  
of transport networks

- LIVI 2,5 bn€
- Cities etc. 2,5 bn€

### Transport revolution

- Automation,
- Electrification,
- Servitization

### Transport system attributes

- Sustainable
- Safe
- Resource efficient
- Resilient

### Y-Generation mindset

- Own vs. shared car
- Carpooling
- Active lifestyle

## ENABLERS

### Technology strengths

- Communication (5G etc.)
- Ambient perception & remote sensing
- Low-carbon fuels
- Energy storages
- Block chain

### Flexible legislation

- Automated driving
- Data collection
- Innovative procurement

**Demanding conditions and diverse test sites.**

**EU-projects + large scale piloting**

**Finnish PPPs and co-creation**

**Smart allocation of extra funding to transport network**

- 1 billion €/year
- (Liikenneinfra 2040 report: scenario Huima 2018-40)

## GROWTH & EXPORT OPPORTUNITIES

### Digital transport network & infrastructure

- ICT and smart energy grids
- Asset management and maintenance
- Arctic road and weather excellence

### Clean and attractive public transport

- Low-carbon and electric vehicles
- Smart fleet management and maintenance
- Smart charging systems
- IoT & smart services

### Digital travel agency - MaaS++

- Seamless travel chains, Mobility-on-Demand, first/last mile connections
- Value added mobility services

### Automated vehicles

- Connected Automated Driving
- Arctic conditions as a speciality
- Automated vessels and mobile machinery

### Smart intermodal logistics

- Modular intermodal combined transport
- Smart first/last mile delivery
- Automated loading and ports
- Digital supply chains

# What next?

## – Framework of possibilities



- **Digitalisation** in transport
- New **service** models
- Advanced **sensor** technologies
- **Automation** of transport
- **Sustainable** biofuels
- **Electrification** of commercial vehicles and mobile machinery
- **Smart** charging systems for EVs
- Advanced **ship** technology
- Challenging and versatile **testing** environments
- **Legislation** enabling testing and piloting



# TransSmart 2013 - 2016

## TransDigi 2017 - 2019 ?

trans<sup>digi</sup>

**Collaboration and innovation platform  
for sustainable, seamless and  
safe mobility**





# We make it happen!

#VTTpeople

