SITOWISE

Future Mobility Co-Creation Day 21.1.2021

ITS FACTORY – ÄLYLIIKENNEVERKOSTO JA YRITYSTEN LIIKENNERATKAISUT

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Esityksen sisältö

1. ITS Factory – verkosto
2. SHOW-hanke

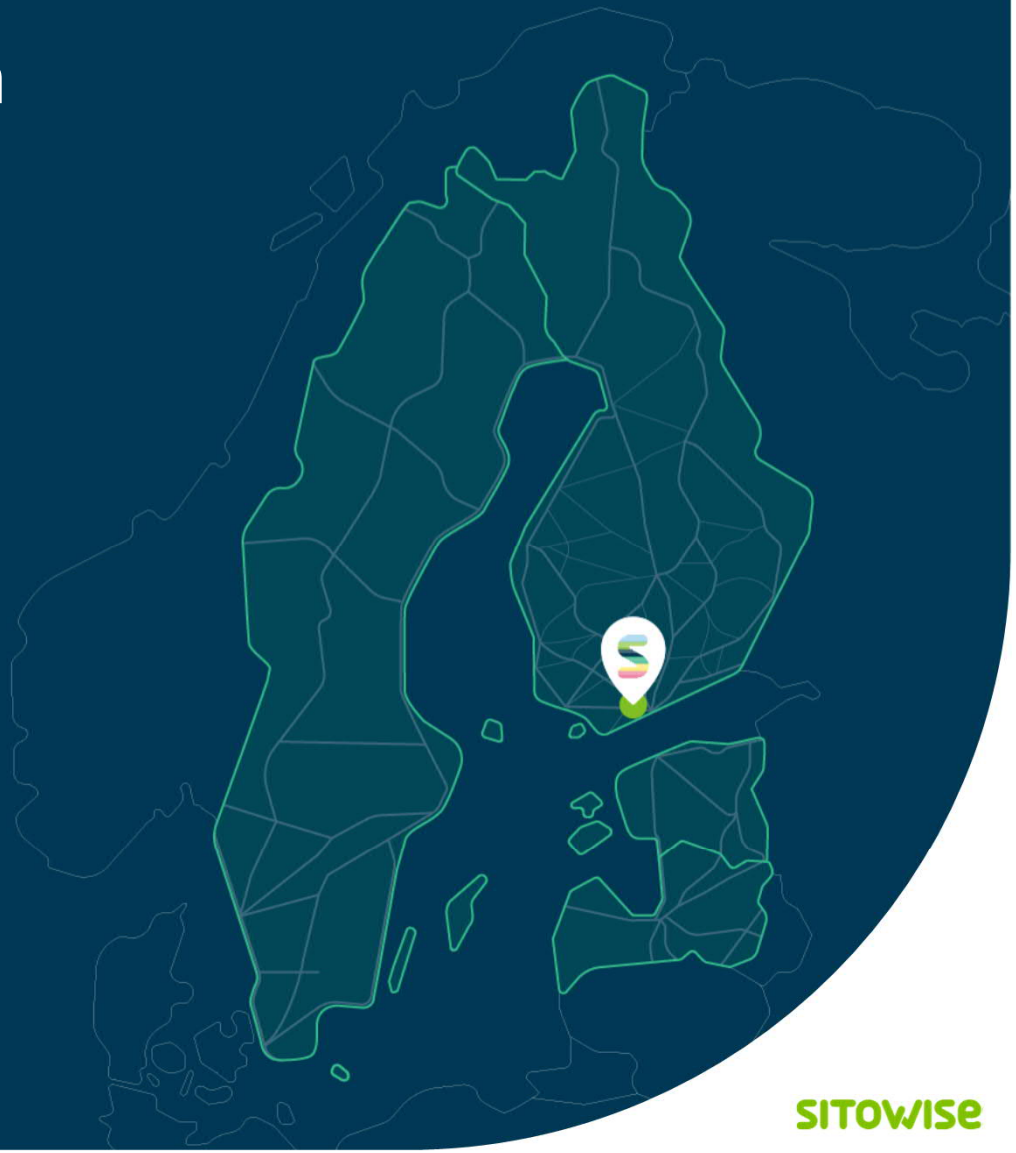
Sitowise on pohjoismainen rakennetun ympäristön asiantuntija- ja digitalo

Suunnittelemme älykkäitä kaupunkeja ja elämisen tiloja, joissa arki on tahditettu kestävälle pohjalle. Operoimme kolmella liiketoiminta-alueella: kiinteistöt ja rakennukset, infrastruktuuri sekä digitaaliset ratkaisut.

Joka päivä lähes 1900 eri alojen asiantuntijaamme yhdistävät voimansa, jotta liikenne, infra ja rakennukset tarjoavat parhaat puitteet turvalliselle ja huolettomalle arjelle.

Haluamme nostaa älykkyyden ja vastuullisuuden rimaa, ja siksi visiomme on olla vastuullisin kumppani hyvinvoivan ympäristön kehittämisessä.

Sitowise on kasvanut viime vuosina nopeasti ja kannattavasti, ja konsernin liikevaihto on noin 160 miljoonaa euroa. Konsernin pääkonttori sijaitsee Espoossa ja konsernin toimitusjohtajana toimii Pekka Eloholma.



SITOWISE

What is ITS Factory?

CITY OF TAMPERE
SMART TAMPERE

Innovation, experimentation and development environment, where companies and individual developers can research, develop, test and productize Intelligent Transport Systems and Solutions.

Public-Private-Partnership

- Local, regional and national administration
- Research, development & education
- Private companies from the field of ITS
- Information sharing i.e. Development forums

Strong political support

- City of Tampere and other authorities from ITS field
- The City Mayor's programme
- Tampere City strategy & Smart Tampere development programme
- ITS Factory in National ITS Strategy
- Part of ITS Finland since 1/2020

ITS FACTORY INNOVATIVE TAMPERE SITE

The innovation, testing and development environment for intelligent transport

BUSINESS TAMPERE

Co-operation in Tampere

CITY OF TAMPERE
SMART TAMPERE

ITS Factory strategy 2022
City, Research, Universities, Companies

ITS Tampere strategy 2022

UUDISTUVA TEOLLISUUS	ÄLYKÄS LIIKKUMINEN	KOULUTUS & TUTKIMUS	RAKENTAMINEN, ENERGIA & INFRA	TERVEYS & HYVINVOINTI	ASIAKASPALVELU & OSALLISUUS
Harri Ojala	Jari Ikonen	Seppo Haataja	Laura Inha	Matti Eskola	Mia Vaelma

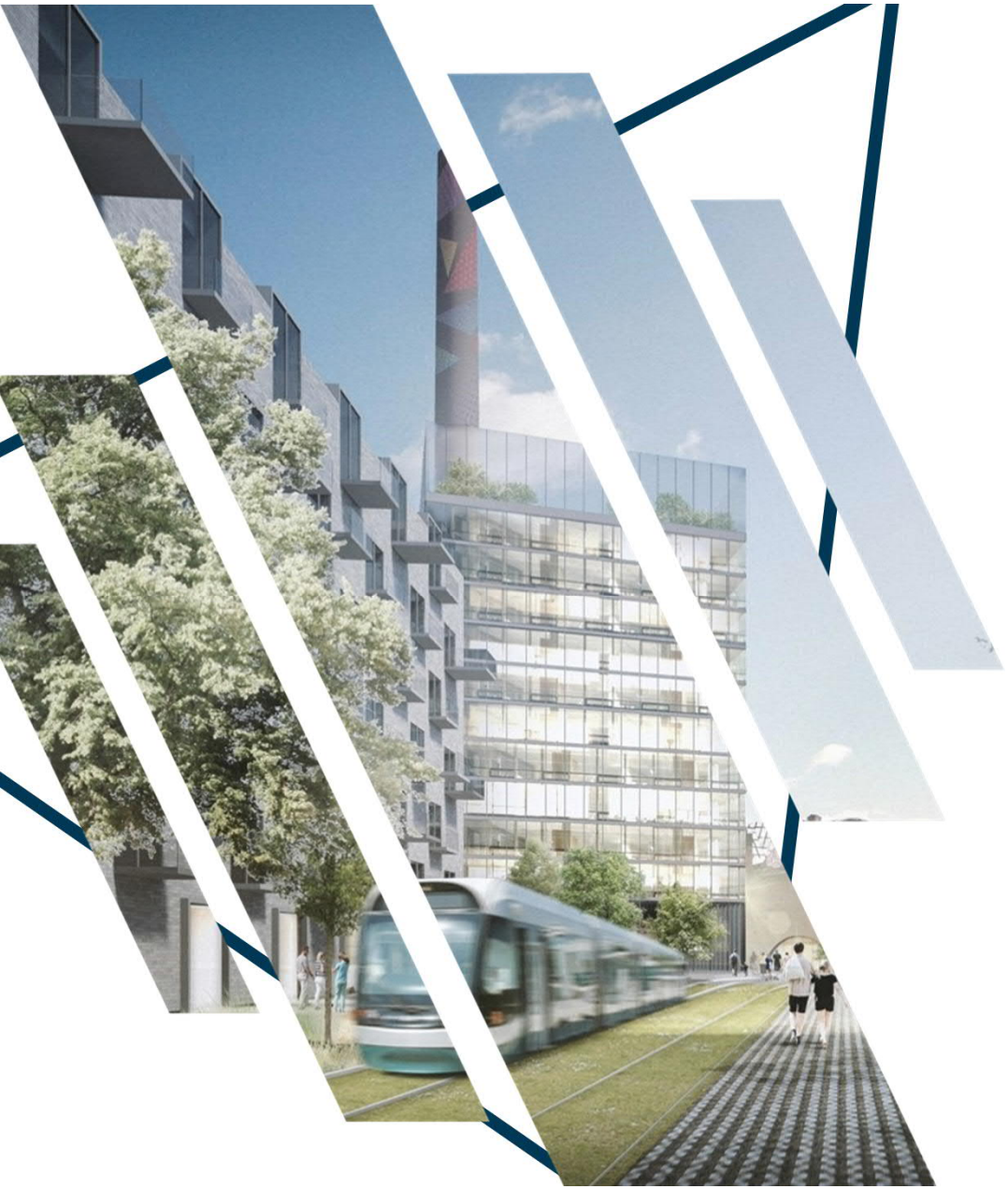
TEKOÄLY JA ANALYTIIKKA
Minna Kinnunen

YHTEYDET
Markku Niemi

TURVALLISUUS
Petri Nykänen

BUSINESS TAMPERE

ITS FACTORY
INNOVATIVE TAMPERE SITE



CITY OF TAMPERE
SMART TAMPERE

Smart Mobility Theme

The objective of the theme is to offer fluent, diverse and cost-efficient ways to travel, and develop the world's smartest integrated transportation services, where trunklines are connected to local feeder services in an efficient and environmentally friendly way.

The intelligent transport system has been developed and organised in cooperation with citizens, research institutions, and the private and public sectors.

In addition, an innovation and testing platform for the intelligent transport system has been deployed in the area. The platform is internationally recognized.

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Mayor Programme

New Mayor Programme underlines that intelligent transport systems will increase safety, flexible and environmentally friendly mobility and offer citizens with mobility alternatives.

Demand responsive autonomous buses, pods and city bikes will act as feeder means to the new tramway by 2021.
The objective set in the Mayor Programme is to have autonomous feeder buses in use by 2021 as an integrated part of the transport system.

Autonomous traffic has been piloted in Tampere in a several experiments and international research and product development projects.

The aim of the City of Tampere is to promote low-carbon, energy-efficient transport through various mobility service systems and chains to be implemented during the coming years.

BUSINESS TAMPERE

ITS in Tampere

Tampere region has been active in ITS

- long history with ITS since 90's
- number of active and innovative companies, mainly SMEs
- active co-operation with companies, authorities, research and education
- TRITS-network established in 2006, local co-operation ITS-forum
- one of the main goals of TRITS was to establish ITS test field

- ➢ Setting up an innovation, experimentation and development environment one of the key projects in local transport management strategy in 2010.
- ➢ ITS Factory launch in May 2012
- ➢ Smart Tampere launched autumn 2017

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SMART TAMPERE

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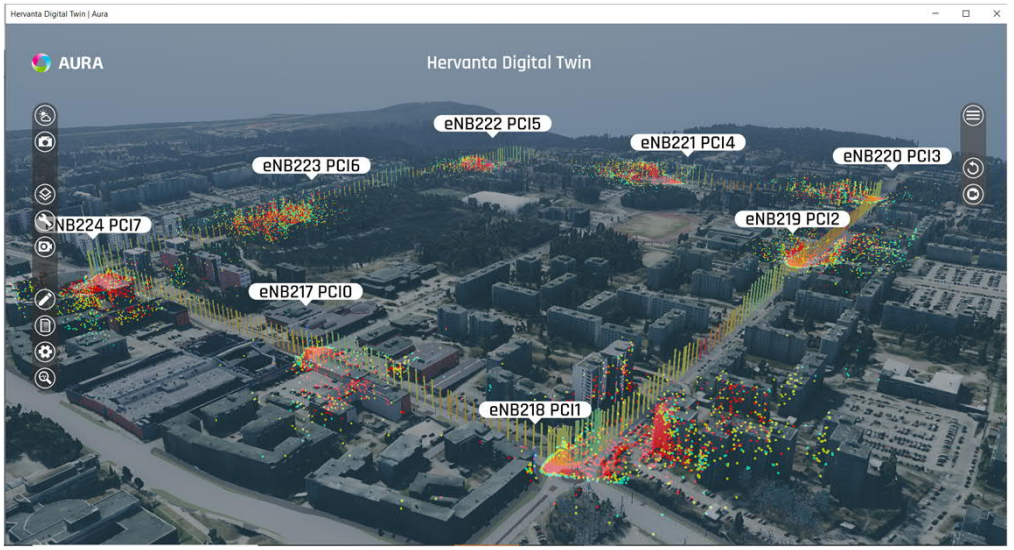
INNOVATIVE TAMPERE SITE

Connected and automated transport

- Finland has a supportive legislation for automated transport and Tampere City Area is a great environment for its development and testing.
- ITS Factory stakeholders actively develop different parts of automated/ autonomous driving, such as automated feeder transport services and their operation towards an integrated public transport system.
- The city area has a supporting digital and physical infra. We have test environment including 5G and open interfaces.

” The goal is to develop automated transport services in and vehicles for challenging
weather conditions to the next level.”

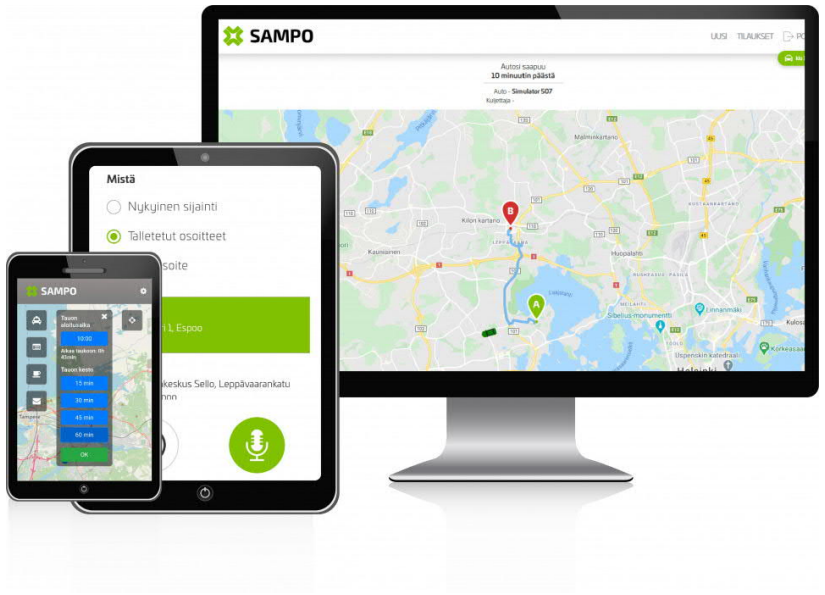


Integrated Mobility Services

Tampere City Area is a rapidly growing city between two big lakes, which means challenges for the transport network.

Tampere is active in developing and boosting sustainable services such as Mobility-as-a-Service, demand responsive transport, payment & ticketing, Parking-as-a-Service, eMobility, automated transport services, intelligent tram system and drones as part of integrated mobility.

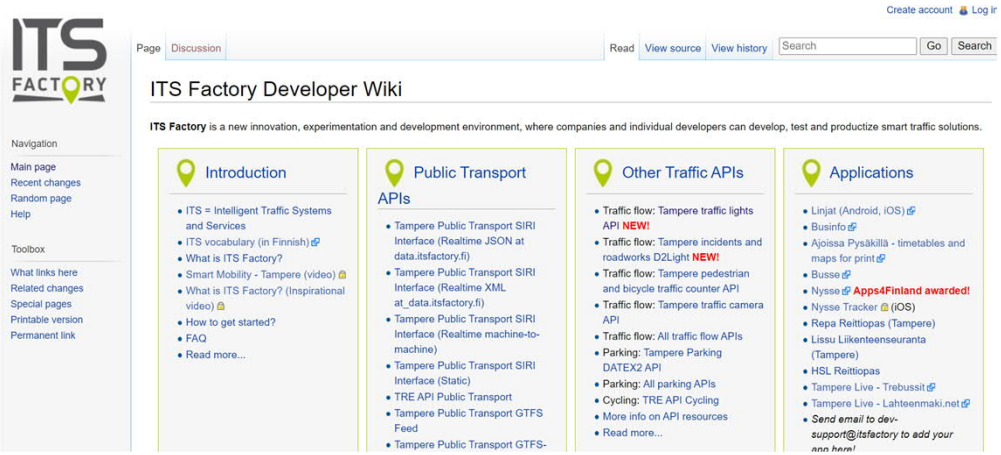
”Tampere wants to be one of the leaders in integrated mobility service development, testing and enabling.”

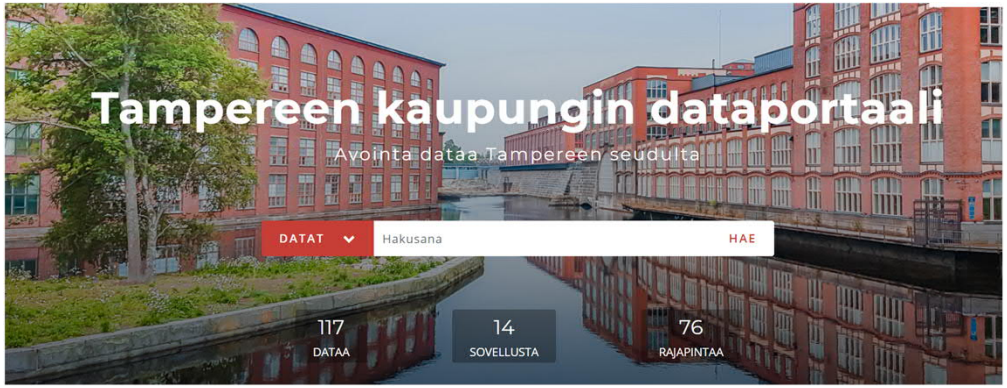


Traffic situation awarness

- Tampere City Area is a forerunner in opening traffic data, both static and real-time.
- Real-time data on buses, parking, traffic volumes, traffic lights and events including tunnel status are available in open interfaces and in standard formats.
- We provide information related to events, incidents, accidents, etc.

”Objective here is to create a visual, illustrative, comprehensive picture on the prevailing traffic network.”



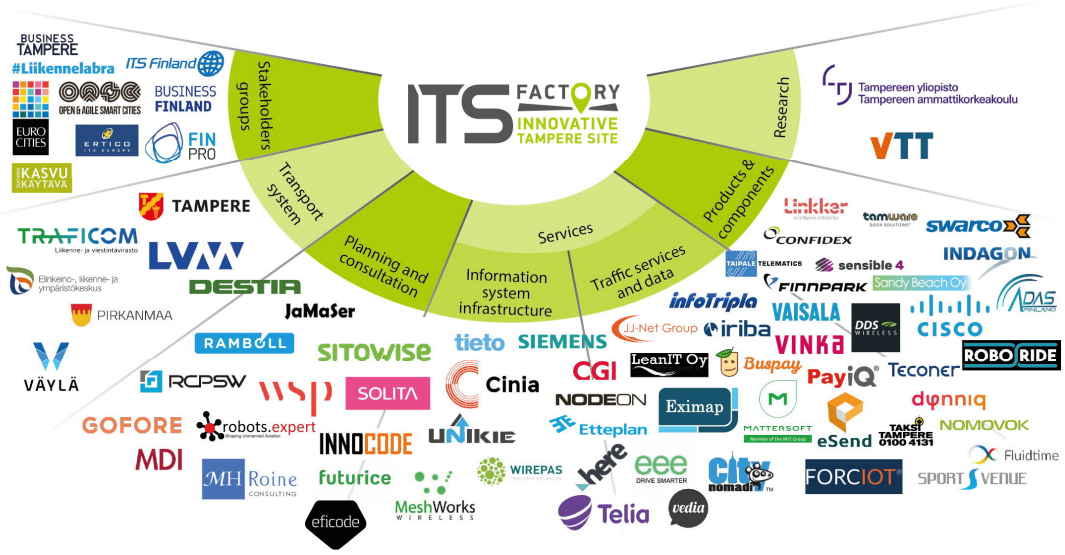


Partnering

ITS Factory has active Public-Private Partnership cooperation between members on all levels and dozens of R&D projects in national and international level.

Our goal is to produce business-oriented solutions for ITS and we also want to support standardization. We have innovative procurement as piloting and development tool.

”ITS Factory is an open research, development, testing and data sharing network for the members.”



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SMART TAMPERE

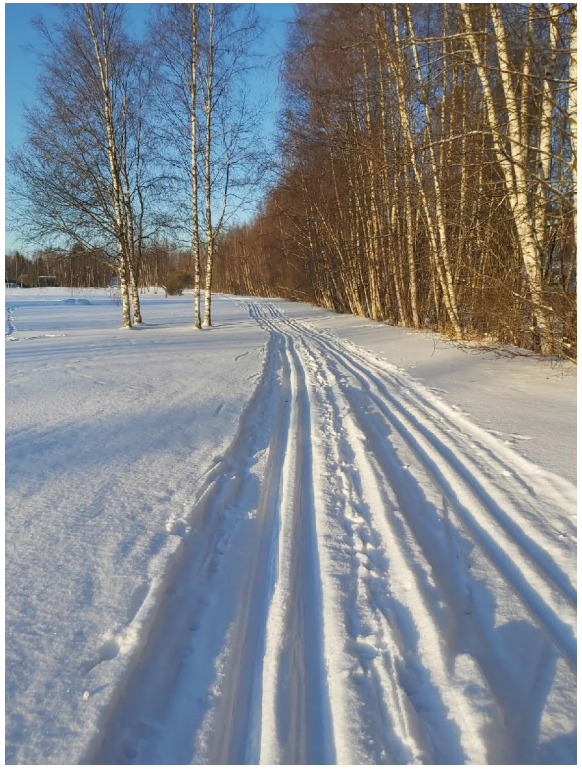
ITS Factory actions and objectives

Actions:

- Business driven ecosystems where business, R&D and municipality work together (PPP)
- Regional, National and International Co-operation; linking similar ecosystems nationally and globally
- R&D in National and International level
- Advanced demonstration site & partners, test and trials

Objectives:

- Business from ITS supported by R&D activities
- Better and fore-runner transport system in Tampere
- Dynamic List of Actions
- Active information provision and marketing



BUSINESS TAMPERE

ITS FACTORY INNOVATIVE TAMPERE SITE

ITS Factory activities

- Management Team
- Communication Plan
- Web page, www.itsfactory.fi
- Advisory Board process
- “From pilots to services” – guide being developed
- Promoting innovative procurement
- Development Forums
- Promoting open data activities
- National and international networking
- Contributions to standardization
- Merge with ITS Finland – Tampere branch

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Follow ITS Factory!

@ITSFactory

https://www.linkedin.com/groups/4940852/

www.itsfactory.fi

Tampere Smart City Week 22.1.-29.1.2021

https://tscw.fi/

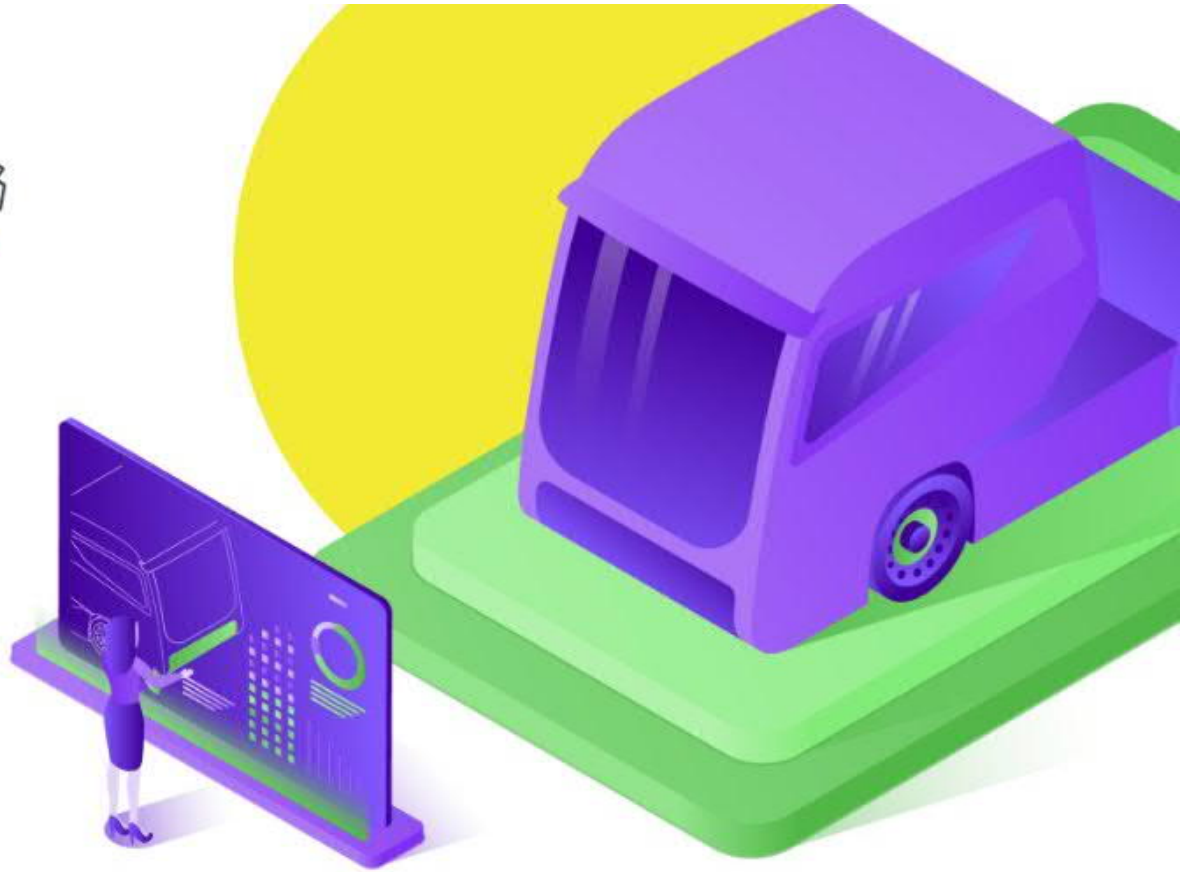
SHared automation Operating models for Worldwide adoption

linkedin.com/company/showh2020/

https://twitter.com/SHOW_H2020

SHared automation Operating models for Worldwide adoption

Are you ready to discover the next level of urban mobility?



29-31.01.2020 This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875530

SHared automation Operating models for Worldwide adoption

SHOW H2020 Project

69
PARTNERS
+
10
THIRD PARTIES

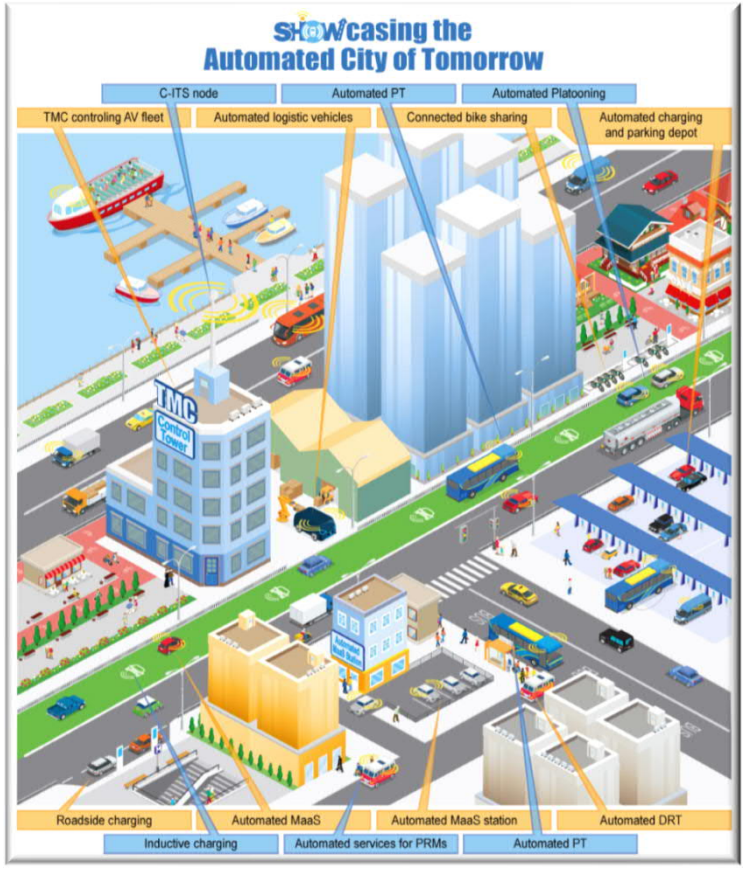
12
OPERATORS & OEMs
+
12
TIER1 & TELCOS & OTHER INDUSTRY
+
8
SMEs
+
37
AUTHORITIES, USERS, ASSOCIATIONS
+
24
RESEARCH

13
DIFFERENT
EU COUNTRIES
+
7
INTERNATIONAL
COOPERATION

70+
LETTERS OF SUPPORT
OF STAKEHOLDERS

36M€
BUDGET

30M€
EU FUNDING



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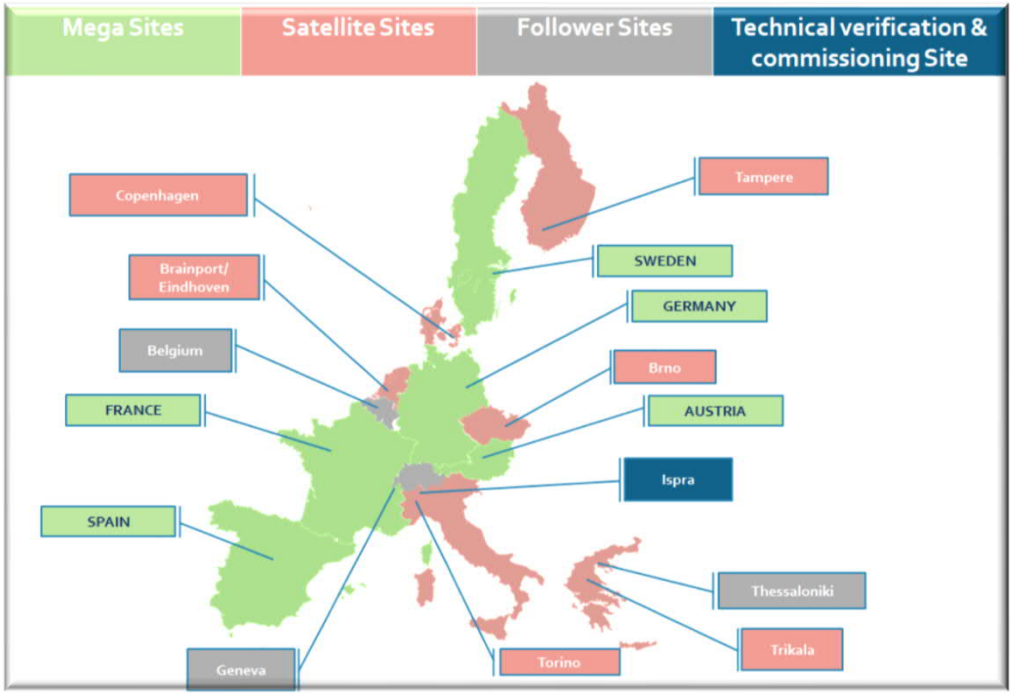
Sites

Mega Sites:

- Germany – Mannheim, Karlsruhe, Aachen
- Austria - Graz, Salzburg, Vienna
- Sweden - Kista, Lindköping
- Spain - Madrid
- France – Rennes, Rouen

Satellite Sites:

- Netherlands – Brainport
- Czech – Brno
- Denmark – Copenhagen
- Greece – Trikala
- Italy - Turin
- Finland – Tampere



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Road to SHOW – towards integrated services

Privately owned cars

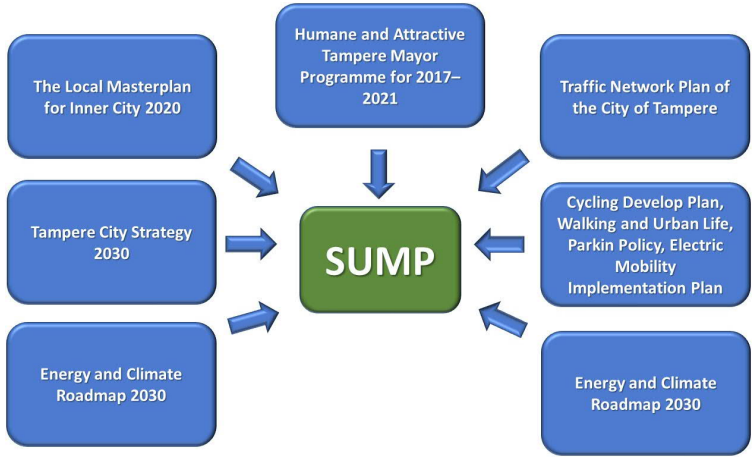
AV fleets competing with traditional public transport services

AV fleets integrated with traditional public transport services

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875530

SHOW in the City of Tampere - Targets

- City of Tampere and Business Tampere executed in 2019 an initiative to prepare development of autonomous feeder transport services for the new tram (Tampereen Ratikka).
- This supported and was based on the strategy and objectives of the City of Tampere.
- Tampere Mayor Programme 2018-2021 states: "*The objective is to create a public transport system, where train, tram, bus and city bike services support each other. Demand responsive autonomous buses and city bikes can be used as feeder solutions to the tram line. The aim is to have autonomous buses gradually operating in Tampere by 2021*."



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Tampere Partners

- City of Tampere is the “owner”, facilitator and enabler of the Tampere site.
- Sitowise is responsible for management and co-ordination of the Finnish/Tampere team.
- VTT focuses mainly on evaluation and impact assessment but also offer their expertise on automated driving technologies.
- Sensible 4 provides autonomous buses for all-year round use, even for harsh Nordic winter conditions and extreme environments.

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Tampere Smart Public Transport

- Tampere wants to promote low-carbon, energy-efficient transport.
- The backbone of public transportation system is 20 km long tramway
- Autonomous feeder transport service piloting will be carried during the SHOW-project and several national activities (preparing physical and digital infrastructure, vehicle procurement, remote monitoring and controlling etc.) that will be carried out in parallel.

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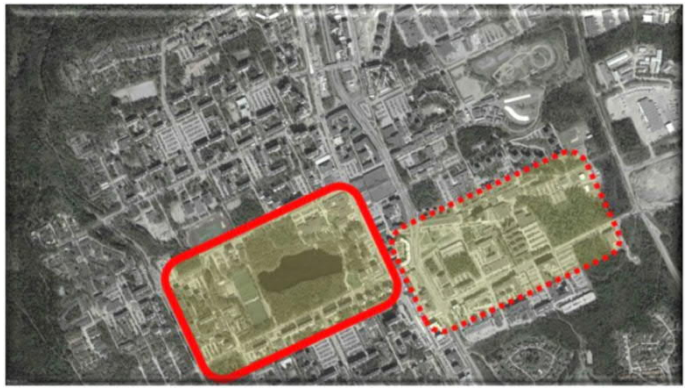
Piloting in Hervanta 1/2

- High level strategic decision to develop autonomous feeder service (Mayor Programme).
- Strategies are related to Sustainable Urban Mobility Planning.
- Decision of the City of Tampere to use Hervanta in the future as “suburb-level” test environment for autonomous transport and vehicles.
- Physical and digital infra preparations are going on.
- The routes have been decided and are being fine-tuned.
- Pre-pilots have been carried out in Hervanta with EasyMile EZ10 and in Hiedanranta area with by Roboride with AuveTech Iseauto buses.
- LTE/5G and ITS G5 and LoRaWAN available in Hervanta.



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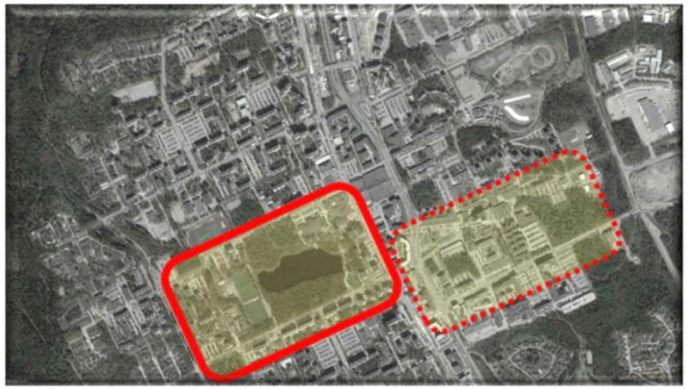
Piloting in Hervanta 2/2

- Seamless automated transport pilot in Hervanta suburban area will be carried out in connection with the new automated light rail/tram corridor.
- First there will be fix-route services and later also DRT services.
- 2-3 shuttles from Sensible 4 in the Hervanta residential area starting at the end of 2021 with Toyota Proace vehicles.
- Additional SHOW piloting/demo may take place in 2021 with autonomous electric shuttles.
- In addition, there are also plans to have 1-2 vehicles at the Tampere University of Technology & Hermia Science Park area (supporting, but not included in SHOW).
- Cyber secure Remote control and tele-operated manoeuvres.
- Traffic lights and roundabouts will be on the route.
- Testing in challenging winter conditions.



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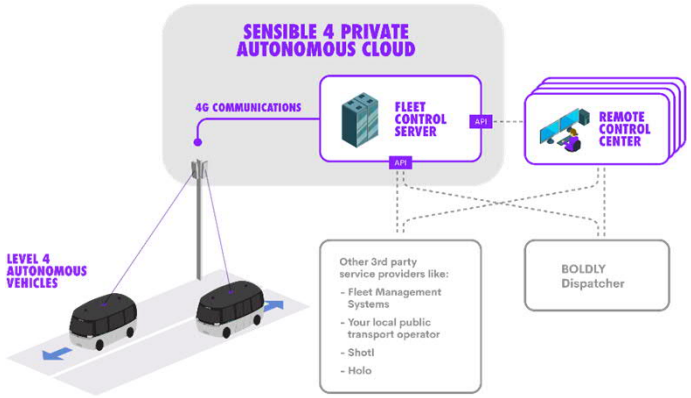
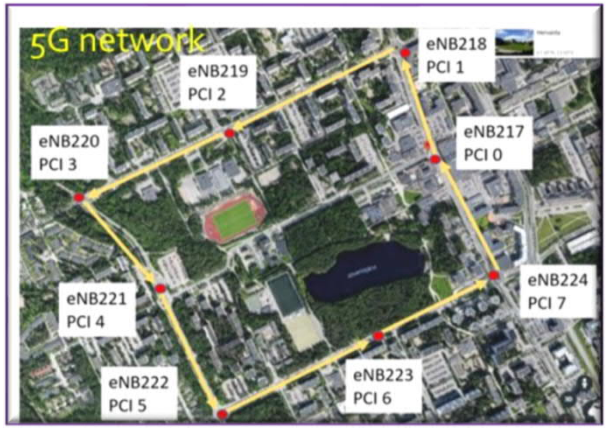
Challenges and lessons learned

- Obligatory procurement process for vehicles takes time.
- Funding for buses (Covid-19 period has delayed and decreased funding all over Europe).
- TAYS University Hospital construction activities did not allow proper autonomous transport piloting.
- Hermia Science Park and University of Technology will most likely not be used will not be included in the SHOW project, however there are plans to start complementary activities benefitting also SHOW.
- Some physical & digital infra preparations need to be planned and carried out.
- Route with traffic lights & roundabouts and partly using the tram line route/corridor.





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Next steps

- Service description including safety analysis and deployment plan spring 2021.
- Negotiations of the additional demo in Hervanta residential area spring 2021.
- Licences, insurances etc. during spring/summer 2021
- Finalisation of the digital & physical infra preparations by autumn 2021.
- Education of the safety drivers mid-2021.
- Agreements of depos/garages by autumn 2021.
- Deployment of the pilot late 2021.
- Operating the pilot 2021 – 2022 (duration to be agreed between the City of Tampere and Sensible 4).
- Negotiations of the possible complementary pilot in Hervanta (Science Par & University) late 2020 – early 2021.

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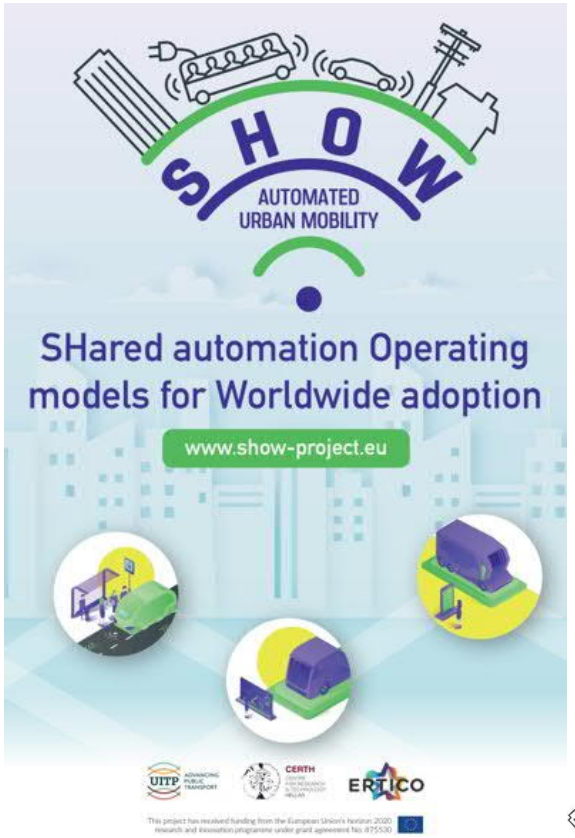
Thank you!

@SHOW_H2020

https://www.linkedin.com/company/showh2020/

https://show-project.eu/



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