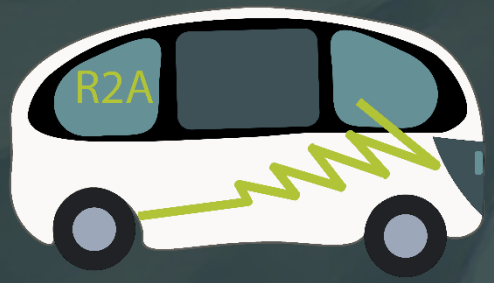
Ride-2-Autonomy – Automated Vehicle Pilot Tampere

10-10-2022



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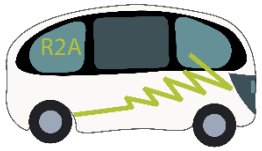
VTT

Ride2Autonomy - Project Overview



Period: April 2021 – Nov 2022

Objectives

1. Validate the functional and safe performance of **automated shuttle solutions** in operational environments (TRL 7-9);
2. Evaluate the **socio-economic and environmental impacts** and **user acceptance**;
3. Validate the potential reduction of transport **emissions and congestion**;
4. Develop a **scalable model for automated shuttle solutions**, enabling their full integration with PT and other modes
5. Develop **guidelines** for stakeholder and citizen engagement, policy making, mobility **planning for CCAM solutions** and business models

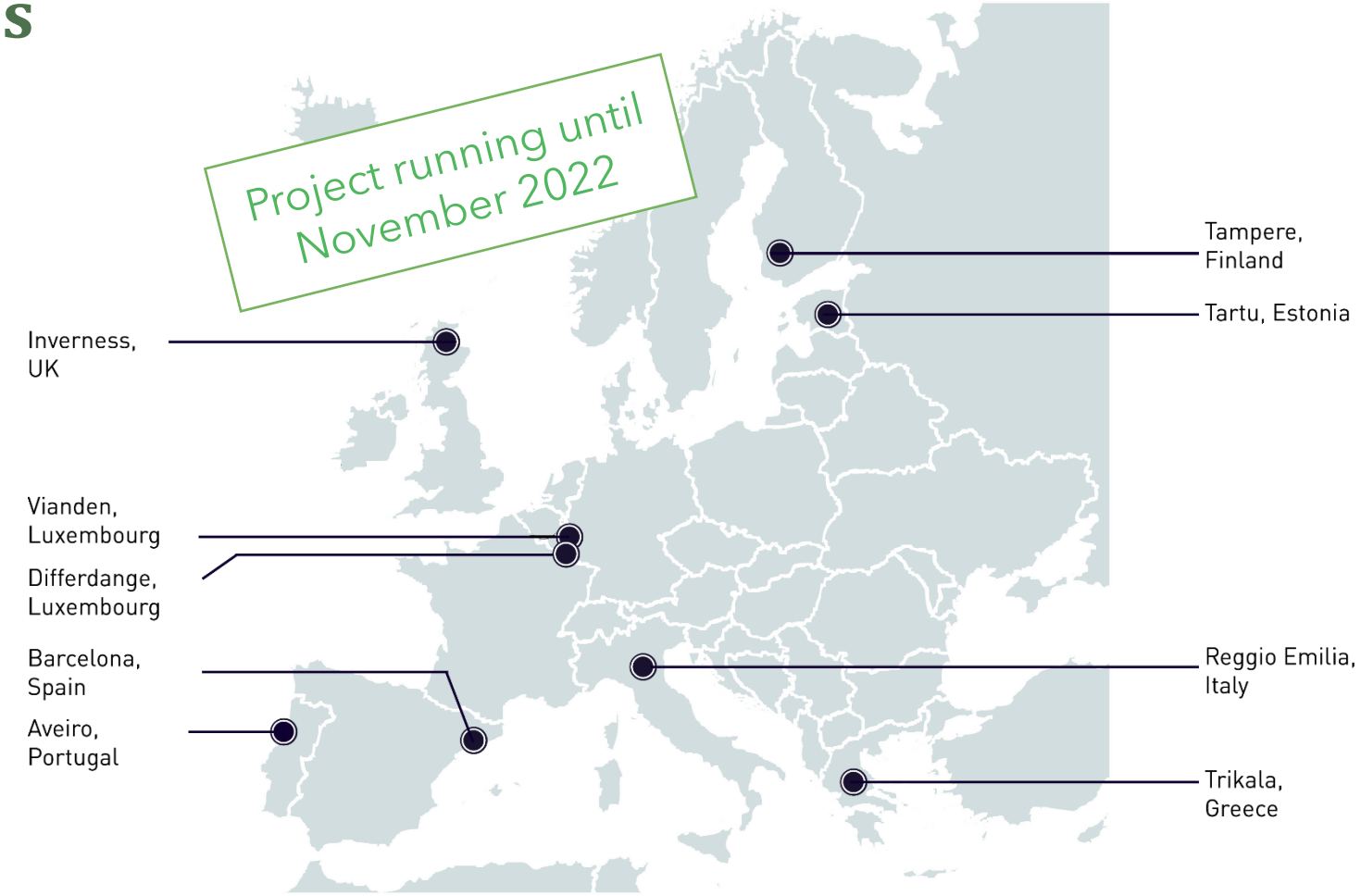
PARTNERS:

- Rupprecht Consult (DE)
- MAPtm (NL)
- POLIS (BE)
- LUXmobility (LU)
- ERTICO (BE)
- FMN (NL)
- UITP (BE)
- EPF (BE)
- UBIWHERE (PT)
- Município de Aveiro (PT)
- Instituto de Telecomunicações (PT)
- Sales-Lentz (LU)
- HITRANS (UK)
- University of Modena and Reggio Emilia (IT)
- Region Hannover (DE)
- Métropole Rouen Normandie (FR)
- Modern Mobility OÜ (EE)
- E-Trikala AE (GR)
- VTT (FI)
- ICCS (GR)

R2A Automated Vehicle Pilot Sites

9 pilot sites in 8 countries

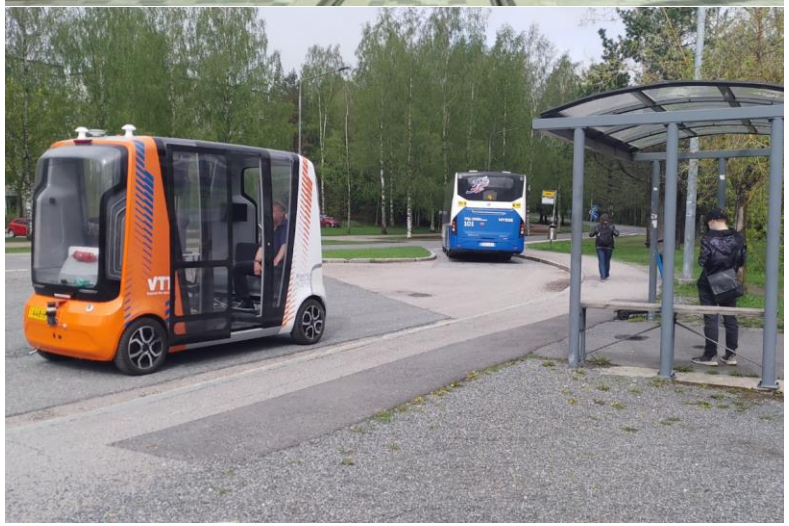
- Tampere
- Tartu, Estonia
- Inverness, UK
- Vianden, Luxembourg
- Differdange, Luxembourg
- Reggio Emilia, Italy
- Barcelona, Spain
- Aveiro, Portugal
- Trikala, Greece



Service pilot scenarious

- Automated shuttle bus services for
  - Tramline last-mile feeder services
  - Linking City Centre and National Museum
  - Linking University Campus and Retail & Business Park
  - Linking Medieval Castle and Bus station
  - Linking High-speed Train station and Fashion business area
  - Linking City and Port Business Area
  - Linking Railway station, City Centre and University Campus
  - Replacing uneconomic bus line

EC on **R2A**: *a strong integration with EU policy, solid communication, and an attractive scalability model*



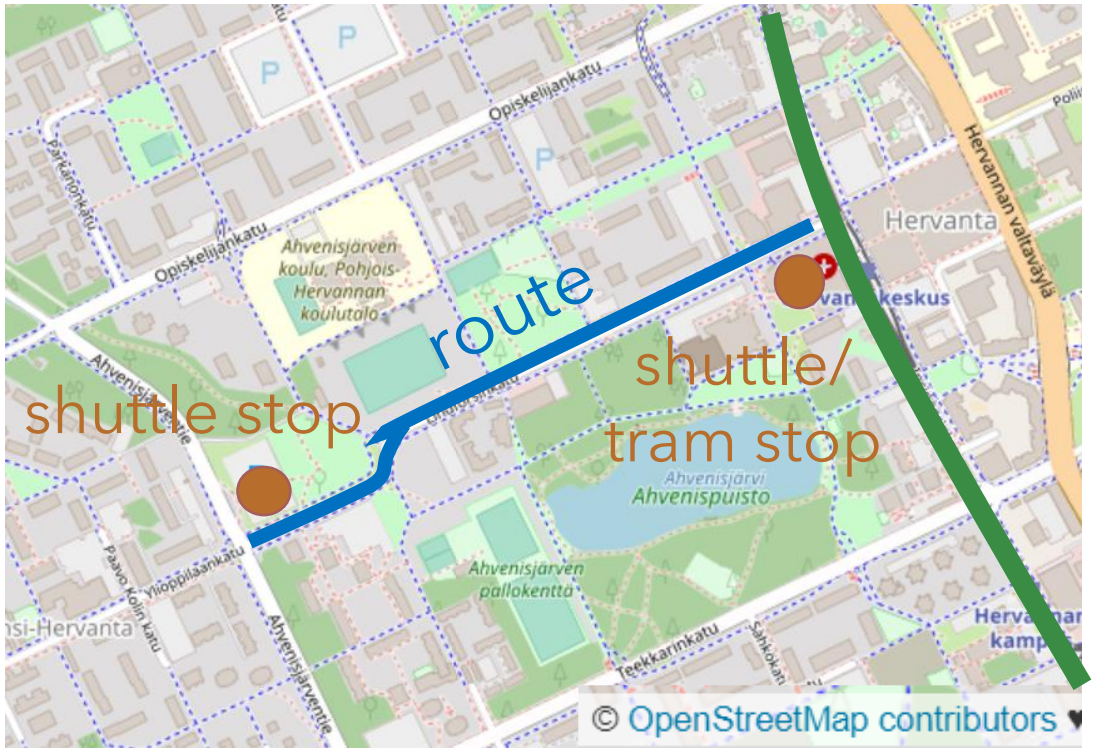
More details: ***https://summalab.nl/r2a-cities/***

R2A AV-Pilot Tampere: operational targets

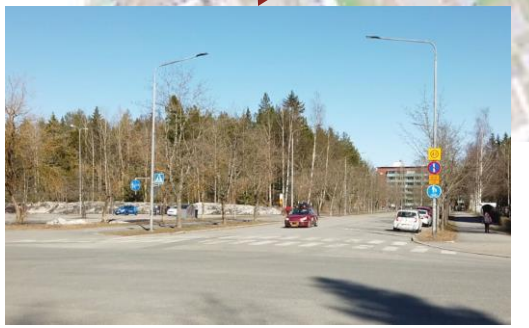
1. **Develop**
   - local mobility service design and multimodal integration
   - Scalable Model Tool-box, MaaS Stocktaking, Pilot Evaluation model and Educational Campaign model
2. **Support**
   - Business Tampere, City of Tampere and City Public Transport Office on automated vehicle integration
3. **Identify**
   - risks, obstacles and develop mitigation strategies
4. **Deploy and enhance**
   - positive user and public entities' experiences
5. **Cooperate**
   - with Tampere Testbed and SHOW Project on gathering feedback and lessons learned from Pilot process

Easy access to Tram and Nysse

- Non-stop service to access *Ratikka* and *Nysse* on the same route as in SHOW Pilot
- Operational pilot specs
  - Minimum of two months
  - Two days a week
  - Two hours at a time
  - One electric low floor automated shuttle bus
  - May to Midsummer



ROUTE BREAK DOWN IN TAMPERE, FINLAND

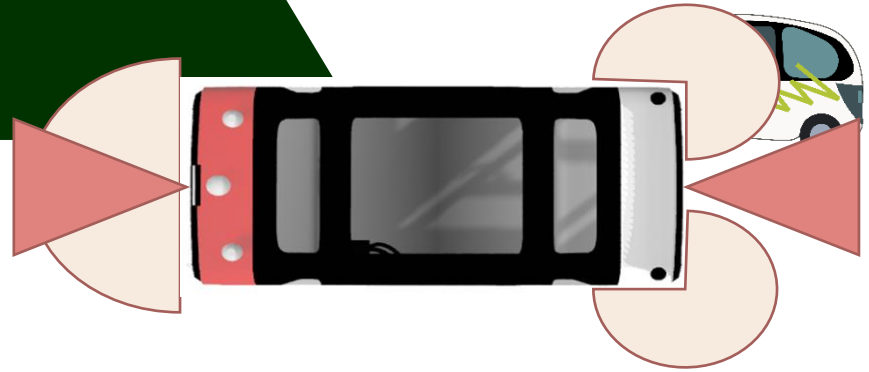


The route split into 7 sections from Tram stop to the bus stop

- Distance 1 km
- Pedestrian crossings
- Parked cars
- Driving in middle of lane
- Close to school (route of small kids)

VEHICLE COMPONENTS

- Auve Tech - electric shuttle bus
- front and rear radars, Continental, 77 GHz
- front, rear and side cameras – 360º view
- 2x front laserscanners, Ouster
- rear laserscanner, Ouster
- GNSS, Leica + RTK
- IMU, Xsens
- 4G and 5G, parallel cellular capabilities



AIM OF SHOW + R2A TRIALS

Optimise implementation scenarios

- Automated shuttle for tram's **last-mile accessibility**
- Low floor shuttle for **convenient boarding and persons with special needs**
- **Convoy driving** between two vehicles

Implementation requirements

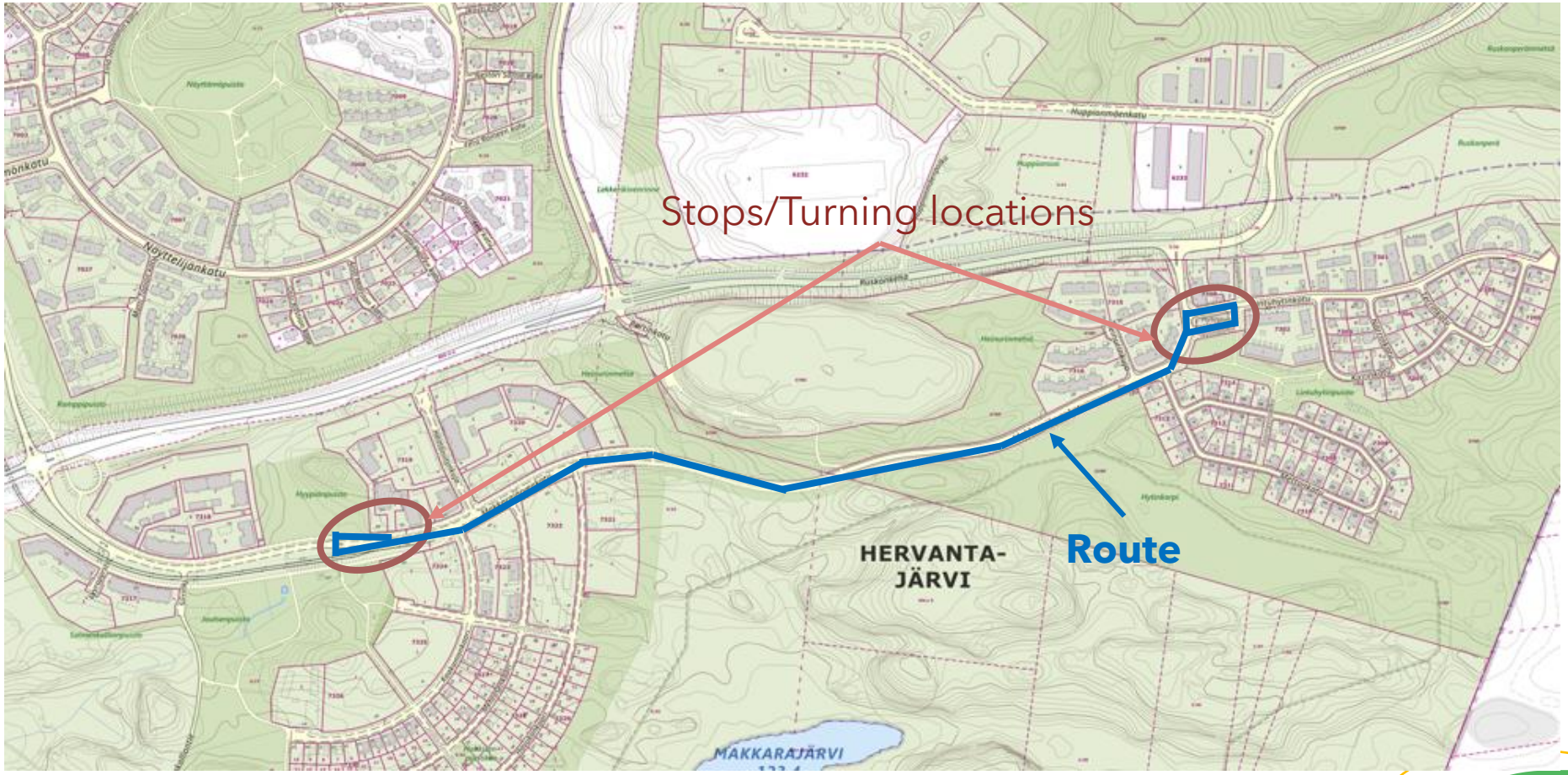
1. **Vehicle**: safe, accessibility and reliable
2. **Connectivity**: fast and reliable 5G communication
3. **Infrastructure**: route maintenance e.g. snow removal (winter), pavement damages (spring)
4. **Service**: scalability

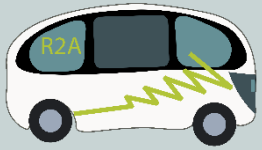
Tampere Site – Second Pilot

- **New Demonstration Service Area for autumn: Hervantajärvi**

Tampere Site – Hervantajärvi – Lintuhytti Pilot

- **Hervantajärvi – Lintuhytti suggested pilot route**
- Service coverage: Makkarajärvenkatu, Hervantajärvi-Lintuhytti





Thank you – *Kiitoksia*

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R2A Project website
https://summalab.nl/r2a/