



XR Simulation and Presence at the Cloud Edge

Nokia Veturi LEAD event
30.10.2025. Espoo

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Main idea

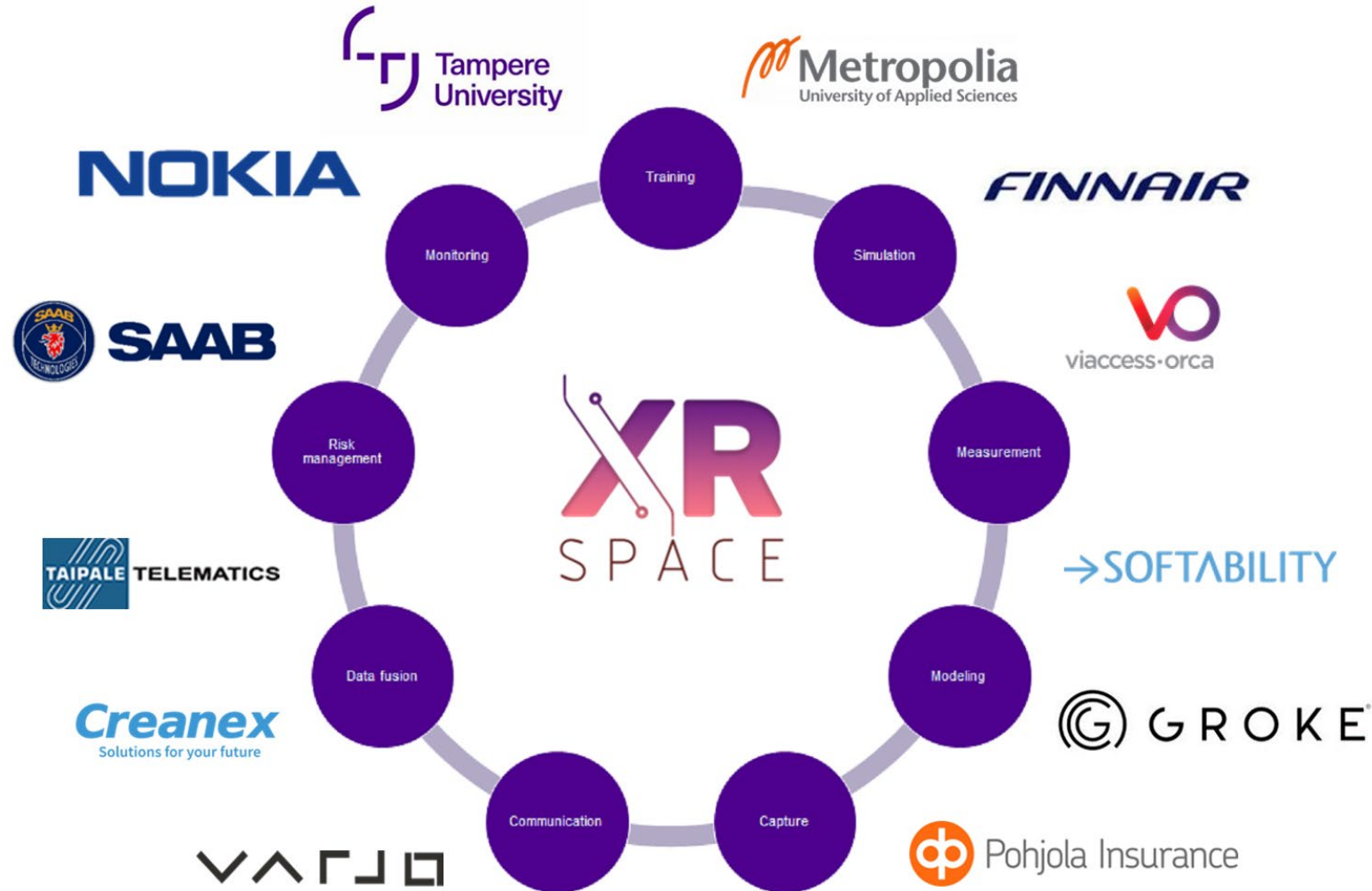
To develop and utilize multi-dimensional analytics and risk management of vehicles operating in professional environments - such as heavy, air, and maritime transport - including both simulated and real operating environments.



Project information

- A co-innovation project funded by Business Finland under the Nokia Veturi 2.0 program
- 2022-2025
- Budget ~10 M€
- Coordinator: Tampere University
- Main idea:
Developing and utilizing multi-dimensional analytics and risk management of vehicles operating in professional environments - such as heavy, air, and maritime transport - including both simulated and real operating environments.
- Two focus areas:
 - FA1: Intelligent Simulation and Performance monitoring for Innovative Risk management in operator Ecosystems and Driving, INSPIRED
 - FA2: Volumetric Media Communication

XR-SPACE Consortium



Research Institutes: Tampere University and Metropolia University of Applied Sciences

Companies: Nokia, Creanex, Finnair, Groke Technologies, Pohjola Vakuutus, SAAB Finland, Softability, Taipale Telematics, Varjo (In-Kind), Viaccess-Orca Finland

Focus Area 1: INSPIRE

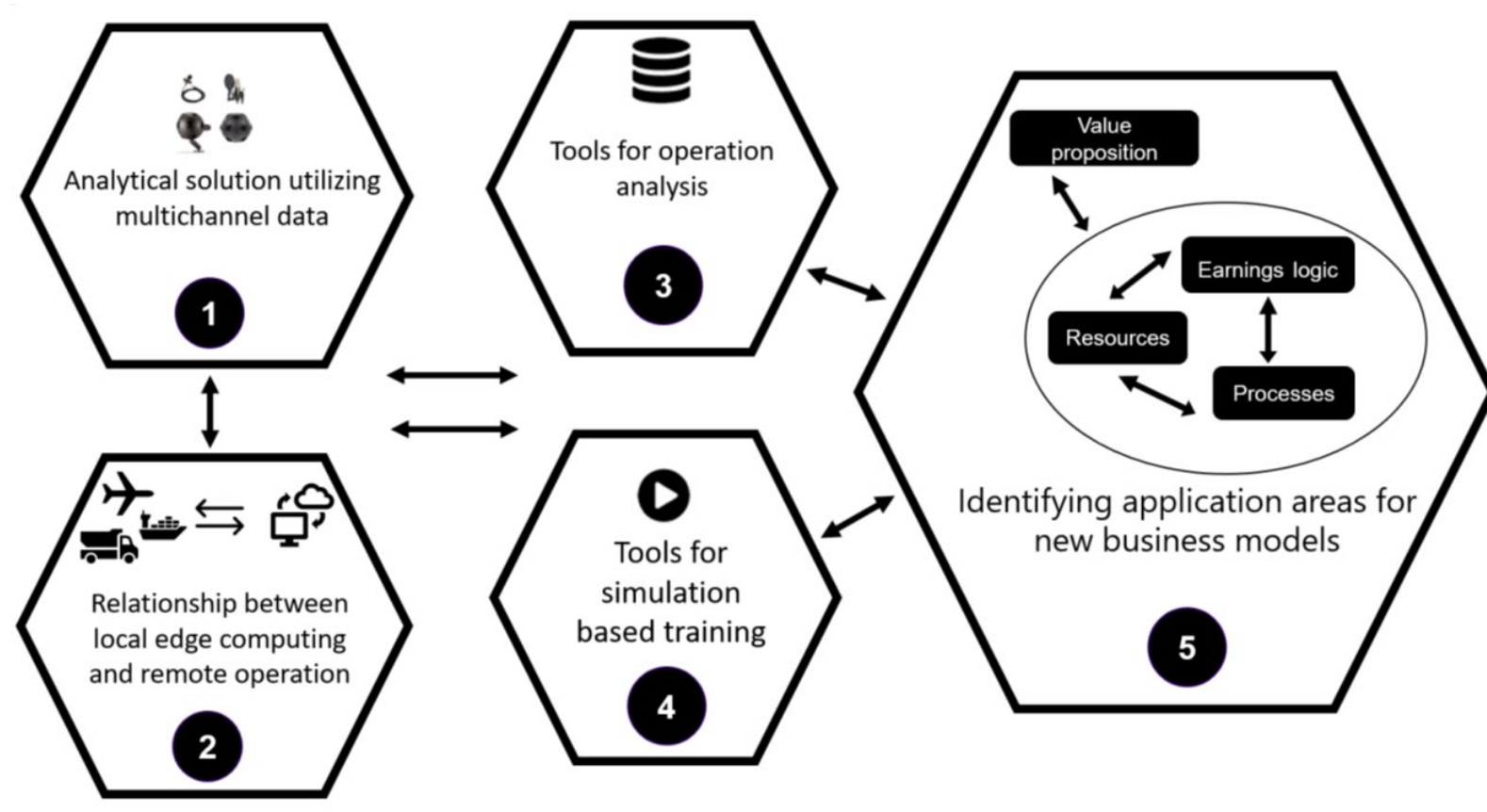
Intelligent Simulation and Performance Monitoring for Innovative Risk Management in Operator Ecosystems and Driving

Research topics

- Multichannel data collection and analytics, data fusion
- Data visualization
- Real-time data processing and edge computing
- Scalable and adaptive training simulations
- Cognitive load of (remote)operator and adaptive feedback
- Preventive risk-management and business models that facilitate behavioral change (safety)
- Case studies with companies & FIMA



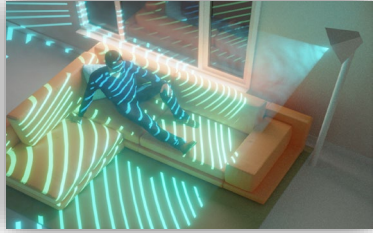
Project scope, FA1



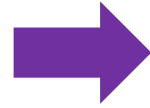
- Real-time data processing with edge computing techniques enables the most efficient solutions for training and (remote) operations
- Thus training and operations can be guided in real-time and even predictively utilizing timely feedback

Focus Area 2:

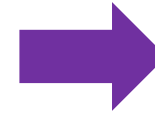
Volumetric Media Communication



Capture



Transmission



Rendering

Technical areas of interest:

- Real-time volumetric 3D capture with RGB-D cameras
- Real-time point cloud generation for 3D representation
- Dedicated media format generation for volumetric data
- Real-time video-based point cloud compression (V-PCC)
- Real-time HEVC/VVC coding methods for volumetric data
- Real-time viewport-dependent HEVC/VVC encoding

NOKIA



viaccess-orca

→SOFTABILITY

Tampere University

Join us to hear project details and experience
demos on **November 6, 2025** (Nokia Arena,
Tampere)!

Thank you!

**We are happy to answer questions,
please get in touch:**

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