LUMI AI Factory

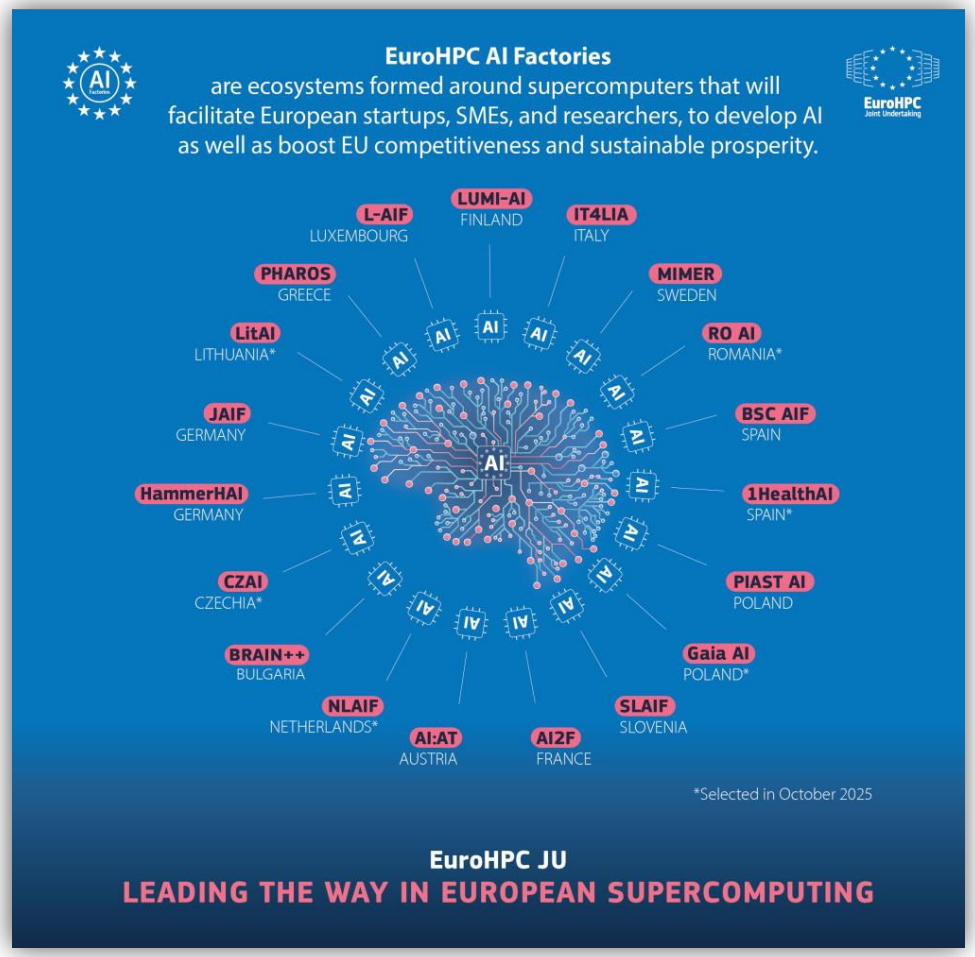
How can LUMI AI Factory support resilience in AI-native 6G?

Jasmine Holmström
Business Domain Manager
CSC / LUMI AI Factory

lumi-ai-factory.eu

EU promotes AI innovation

- European Commission launched the AI Innovation Package in January 2024 to support European startups, and SMEs in the development of trustworthy AI
- A series of competitive calls for AI Factory proposals – first seven announced in December 2024 and further six in March and six in October 2025
- AI Factory = **compute** + **data** + **talent**
- AI Factories focus on certain **AI ecosystems and communities in** alignment with **national AI strategies**



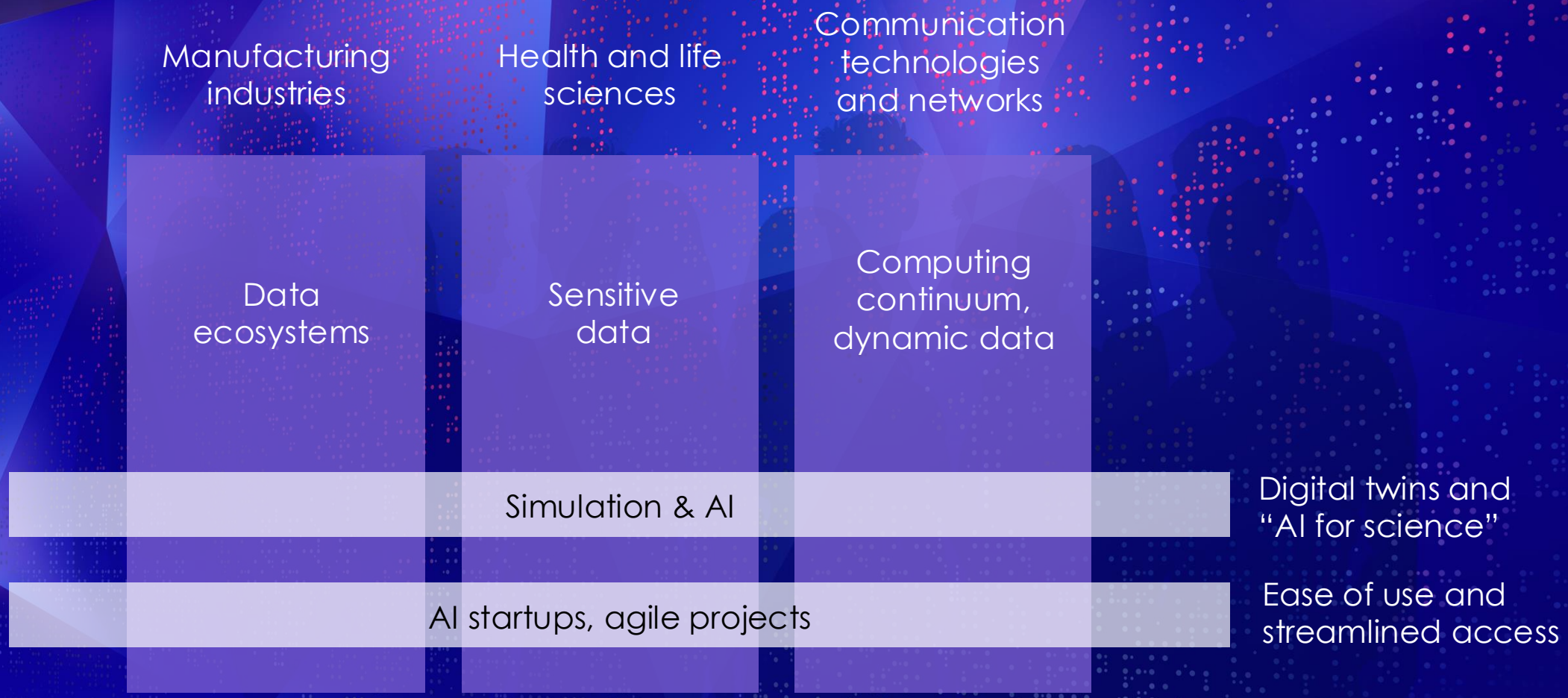
The three pillars of LUMI AI Factory

1. AI-optimised supercomputer **LUMI-AI**

2. Expert support by **LUMI AI Factory Service Center**

3. Experimental quantum-computing platform **LUMI-IQ**

Key industrial sectors and focus areas



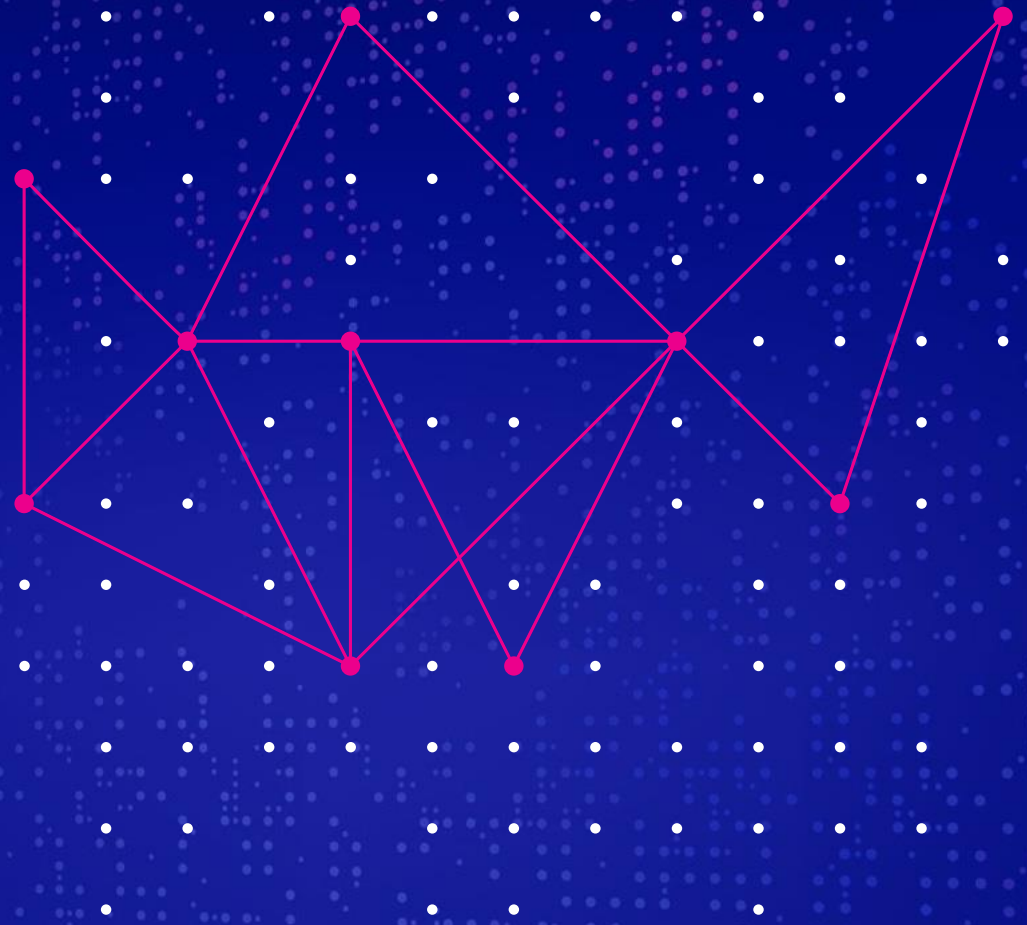
LUMI AI Factory

Supporting Resilience with

European AI and data infrastructure

Offering a platform for developing and training AI models

Building and maintaining the AI skills in Finland and Europe



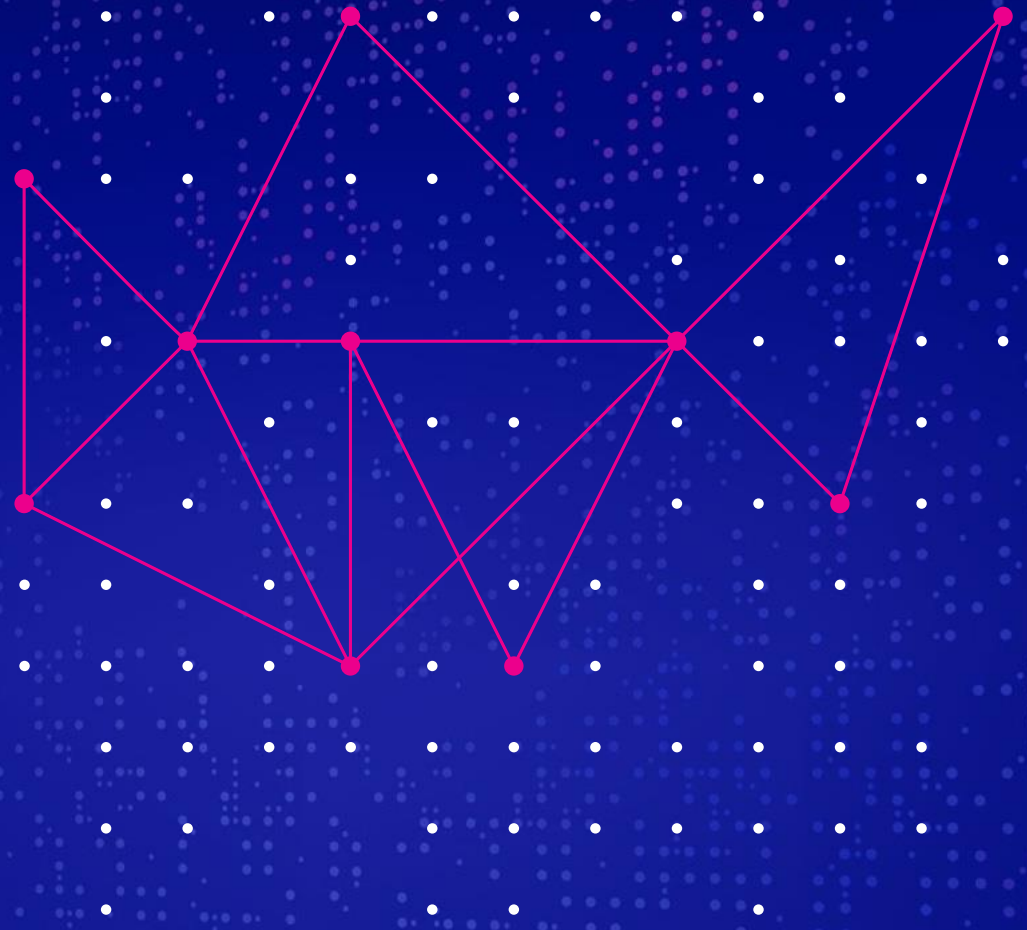
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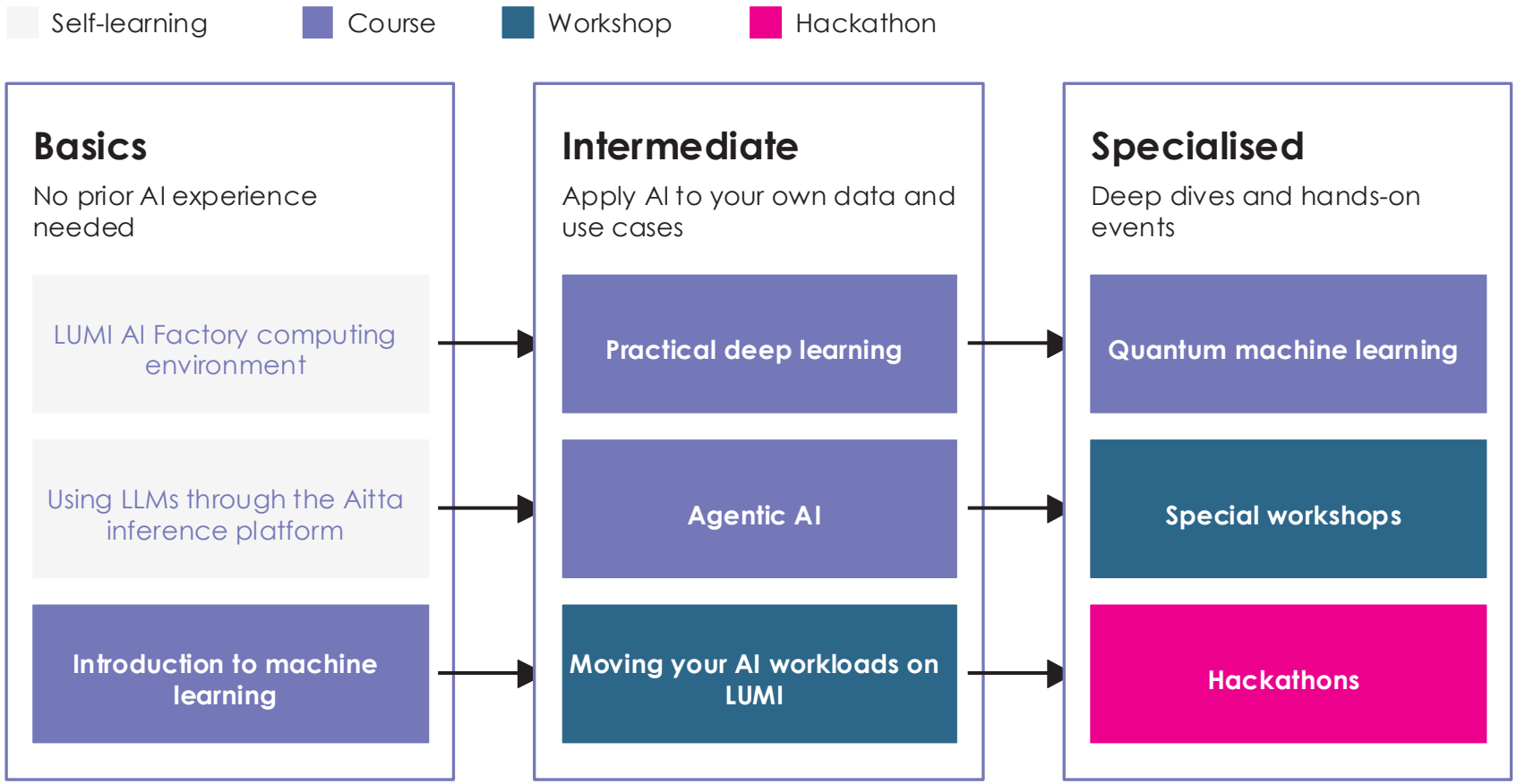
Offering a platform for developing and training AI models

Building and maintaining the AI skills in Finland and Europe



LUMI AI Factory

Practical training from AI awareness to AI agents



3000+

participants trained

60+

training activities since 2025

See upcoming trainings
lumi-ai-factory.eu/trainings

Chips Technologies Program

LUMI AI Factory

VISION

Connecting chip design and manufacturing through trusted, shared supercomputing and AI to strengthen Europe's ability to design and produce its own chip at scale.

OBJECTIVES

1. Enable design to sign-off at scale
2. Build digital twins of fab processes and equipment
3. Accelerate R&D with AI-defined labs
4. Grow a national and European chips ecosystem

LUMI AI Factory

LUMI AI Factory use cases

Paving the way for autonomous vehicles: streaming smart car sensor data at scale



Image: research group

The LUMI AI Factory is supporting **a smart car data streaming pilot with the University of Oulu** to test how large volumes of vehicle sensor data can be transferred and processed on LUMI. The project uses a Toyota RAV4 research vehicle equipped with lidar, stereocameras, thermal cameras, and other sensors, generating more than 10 gigabytes of data per minute. The pilot explores how this data can be used for machine vision, digital twins, and future autonomous driving functions.

IMPACT:

- Enables real-time and offline processing of extremely large vehicle sensor datasets on European supercomputing infrastructure.
- Supports development of machine vision, ADAS, and digital twin applications for future smart vehicles.
- Demonstrates how the LUMI AI Factory can handle demanding, safety-critical data streaming workflows with strong reliability requirements.

Read the whole story behind the QR code or this link

Benjamin Kämä, Doctoral Researcher

LUMI's computing power is essential for us. The sensor and vehicle data rates are so high that any real-time or near real-time processing requires massive computing capacity. Even offline processing – for machine vision applications or the development of digital twins – demands significant performance.

UNIVERSITY OF OULU

The research group is developing methods to stream and process large vehicle sensor datasets on supercomputing infrastructure to advance machine vision, digital twins, and safe automated driving.

Advancing 4G and 5G telecom with LUMI AI Factory

LUMI AI Factory



Image: Poutanet

Poutanet uses LUMI AI Factory Services and the LUMI supercomputer to develop AI-powered tools that simplify 4G and 5G network operations, troubleshooting, and technical support. By fine-tuning domain-specific language models with proprietary data, the company is working towards more user-friendly, reliable, and data-sovereign network management solutions.

IMPACT:

- LUMI enabled faster experimentation and more fine-tuning iterations without hardware limitations.
- AI-powered tools can simplify network troubleshooting and reduce operational complexity.
- The case demonstrates how European AI infrastructure can support telecom innovation while strengthening data sovereignty and resilience.

Read Poutanet's whole story behind the QR code or this link

Martti Ylikoski, Managing Director at Poutanet

With using LUMI supercomputer, we are no longer hardware limited but can run many more fine-tuning iterations compared to using our own servers. In other words, we wanted to put the constraint on our side in our ability to generate and gather enough training data, Ylikoski continues.

Poutanet, a Finnish provider of private mobile networks, develops portable 4G and 5G solutions that can be deployed rapidly wherever connectivity is needed.

Supersight Oy: AI technology for real estate usage reporting

Supersight is a leading Finland based company developing cutting-edge technology that ensures 100% privacy, makes everyday life easier, brings efficiency and prevents climate change. They developed an AI model to map occupancy rates in real estate using human flow analytics.

Challenge

Processing large-scale visual datasets–combined with the development of a sophisticated AI model requires simultaneous processing of massive amounts of data. Need for parallel computing to accelerate the training of the neural networks for the development of own AI model

Solution and impact

- Using the LUMI supercomputer, Supersight significantly accelerated the testing and modification of its AI model and achieved 99% accuracy in modeling real-world space usage.
- Supersight received support funding from Business Finland for the calculation. The machine vision application was improved with the support of CSC's AI expert.
- The AI model is now the most accurate in its industry worldwide.



READ ARTICLE:

Harnessing AI to reduce emissions: Supersight's vision for the future of real estate

Ready to take the next step?

LUMI AI Factory

- We'd like to hear from you!
- Whether you're interested in computing resources to tailored guidance and training, the LUMI AI Factory helps turn your ideas into impactful solutions
- Get in touch with us through our contact form on our website.

https://lumi-ai-factory.eu/contact-us/

https://lumi-ai-factory.eu/

LUMI AI Factory



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