

**BUSINESS  
FINLAND**

**World Bank Webinar on 8 July 2020**



# **FINNISH APPROACH TO ARTIFICIAL INTELLIGENCE**

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Head of Shanghai Office, Business Finland



# 5G

# AR/VR

# NETWORK

# AI

# GROWTH

# VISION

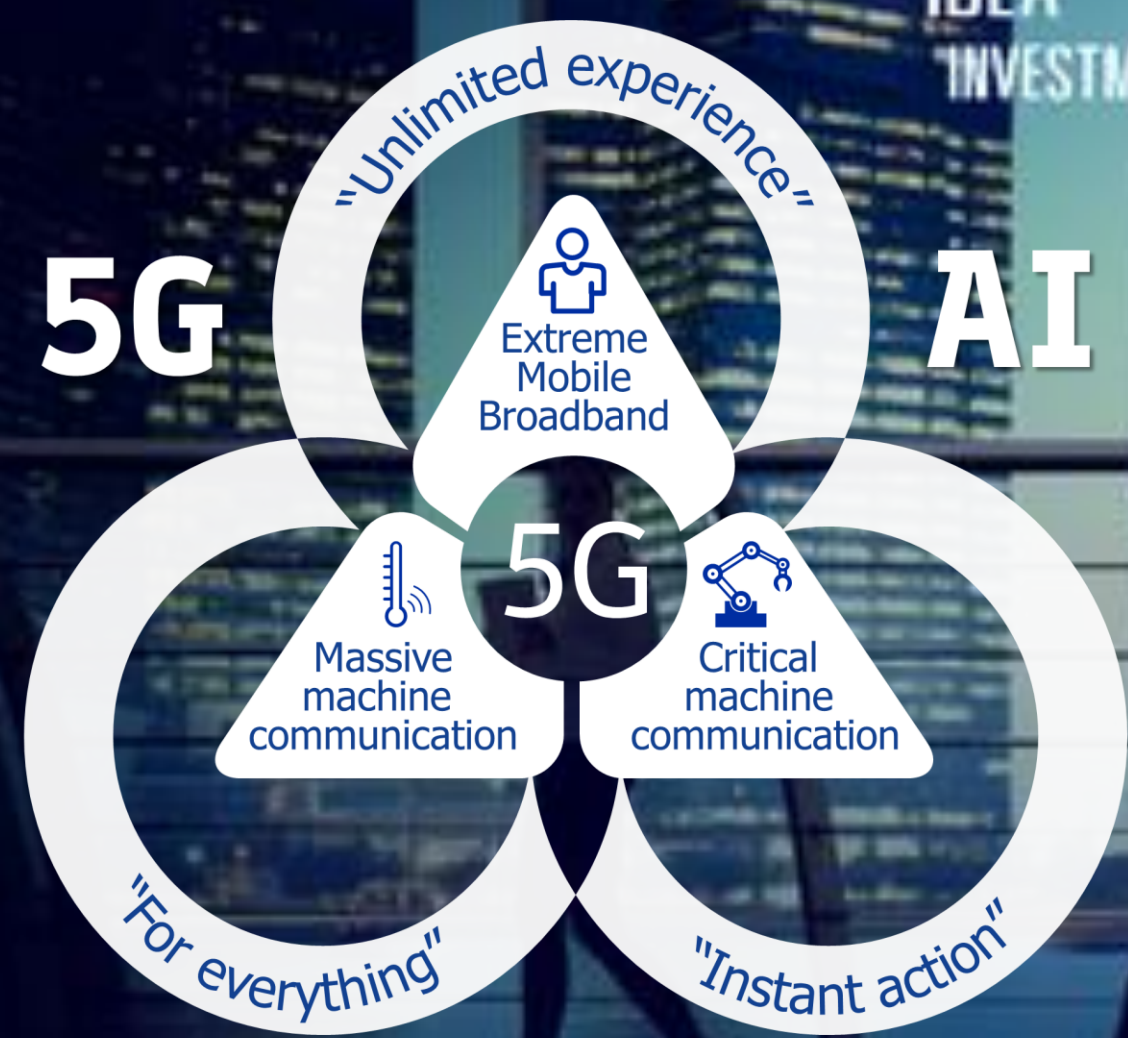
# BUSINESS

# COMMUNICATION

# SALES

# TEAM

# ROBOTICS



## FACTS: FINLAND IS...

**#1**  
 MOST INNOVATIVE COUNTRIES\*\*

**#1**  
 IN AVAILABILITY OF SCIENTISTS & ENGINEERS\*

**#1**  
 IN AVAILABILITY OF LATEST TECHNOLOGIES\*

**#2**  
 HIGHER EDUCATION AND TRAINING\*

\*World Economic Forum Global Competitiveness Report 2017-2018  
 \*\*The Consumer Technology Association (CTA)™ 2018

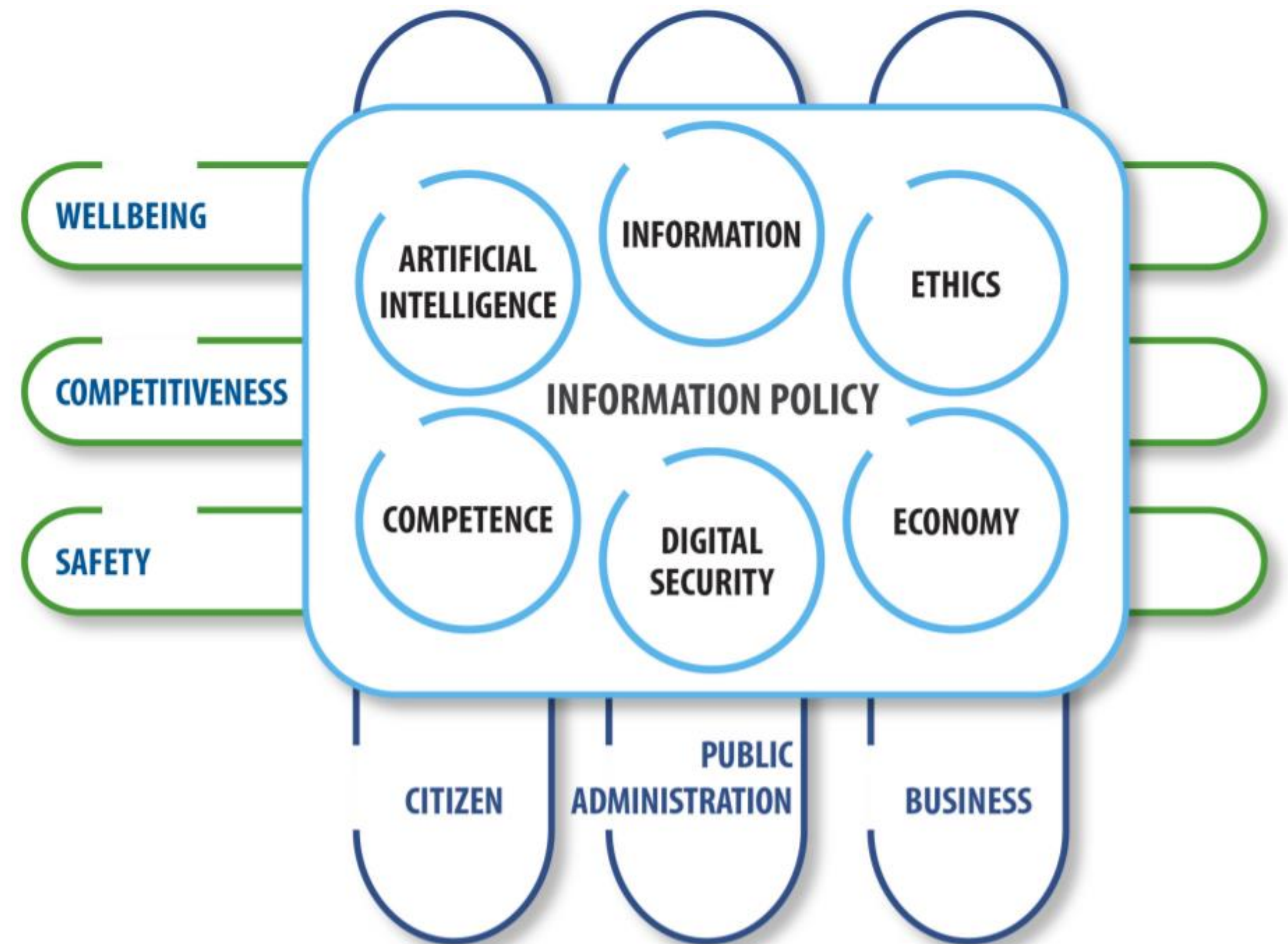


## Strategy: AI Finland with 11 Key Actions

1. Enhance **business** competitiveness through the use of AI
2. Effectively utilise **data** in all sectors
3. Ensure AI can be **adopted** more quickly and easily
4. Ensure top-level **expertise** and attract top experts
5. Make bold decisions and **investments**
6. Build the world's best **public services**
7. Establish new models for **collaboration**
8. Make Finland a **forerunner** in the age of artificial intelligence
9. Prepare for artificial intelligence to change the **nature of work**
10. Steer AI development into a **trust-based, human-centred** direction
11. Prepare for **security challenges**



## Ethical Information Policy in the Age of Artificial Intelligence

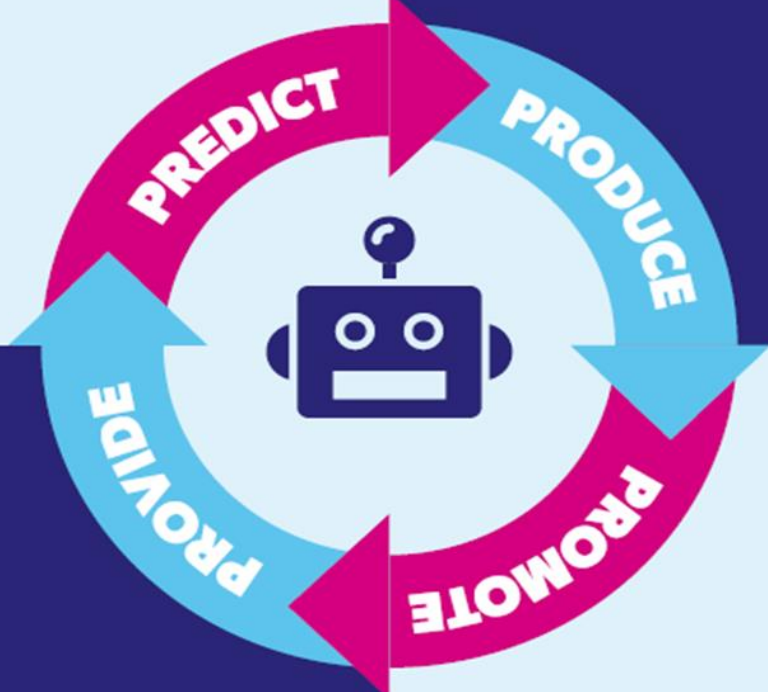




# AI can deliver real impact for businesses

**10%**  
**Targeted cut in electricity usage**  
 Demand forecast  
 Sourcing planning  
 R&D optimization

**30%**  
**Faster production time for a manufacturer**  
 Predictive maintenance  
 Automated fault correction  
 Yield optimization



**10%**  
**potential savings on global health care expenditure**  
 Richer user experience  
 Tailored offerings  
 Convenient services

**30%**  
**Online sales increase for a retailer**  
 Dynamic pricing  
 Promotion personalization  
 Sales lead generation

Source McKinsey

## AI will bring the automation of tasks, rather than the automation of jobs

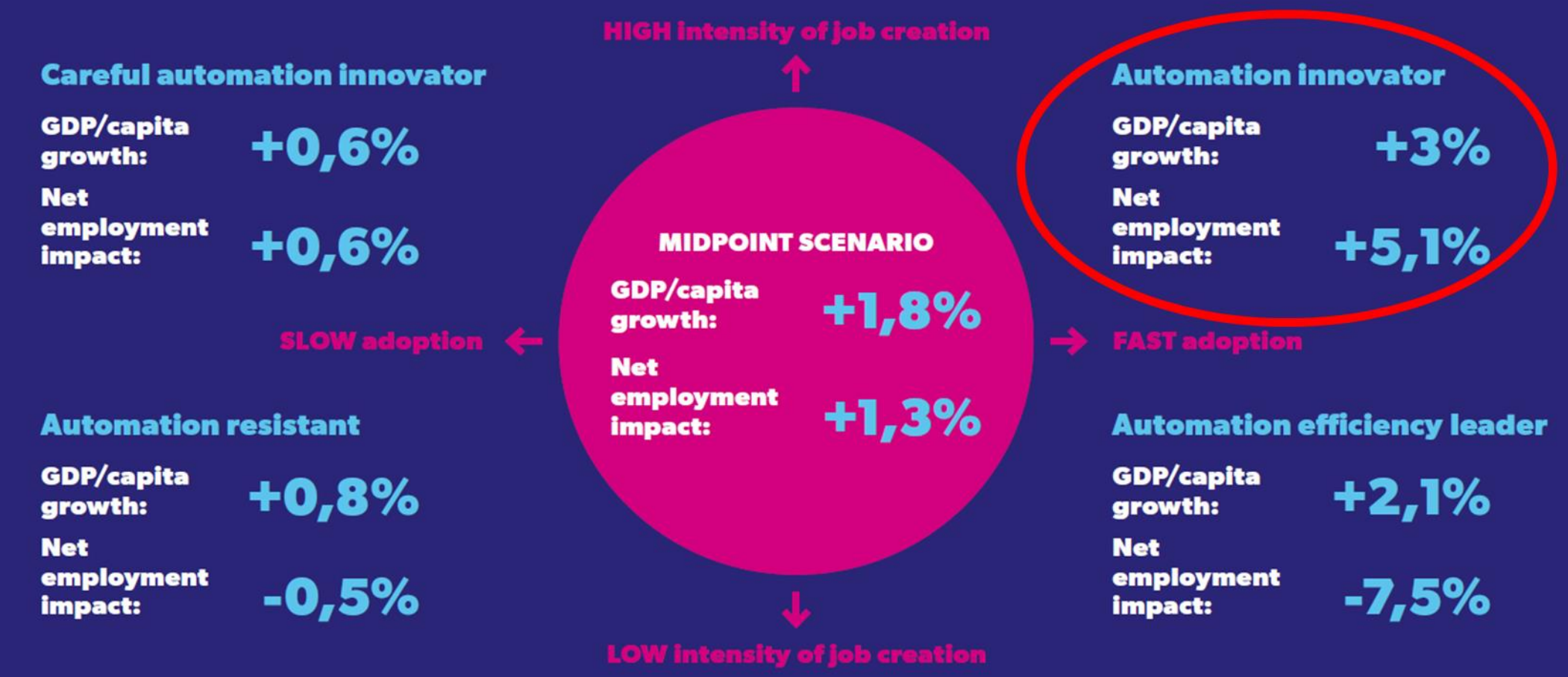
 **40% of current work could be automated**

**but less than 10% of jobs involve tasks that are >90% automatable**



Source McKinsey

## Automation has the potential to rebuild a major growth path within a resilient labor market



Source Eurostat, McKinsey analysis

# >reboot FINLAND

**DIGITAL TRANSFORMATION**  
1100+ ORGANISATIONS – 2000 PARTICIPANTS

Welcome to the Elements of  
Artificial Intelligence free  
online course



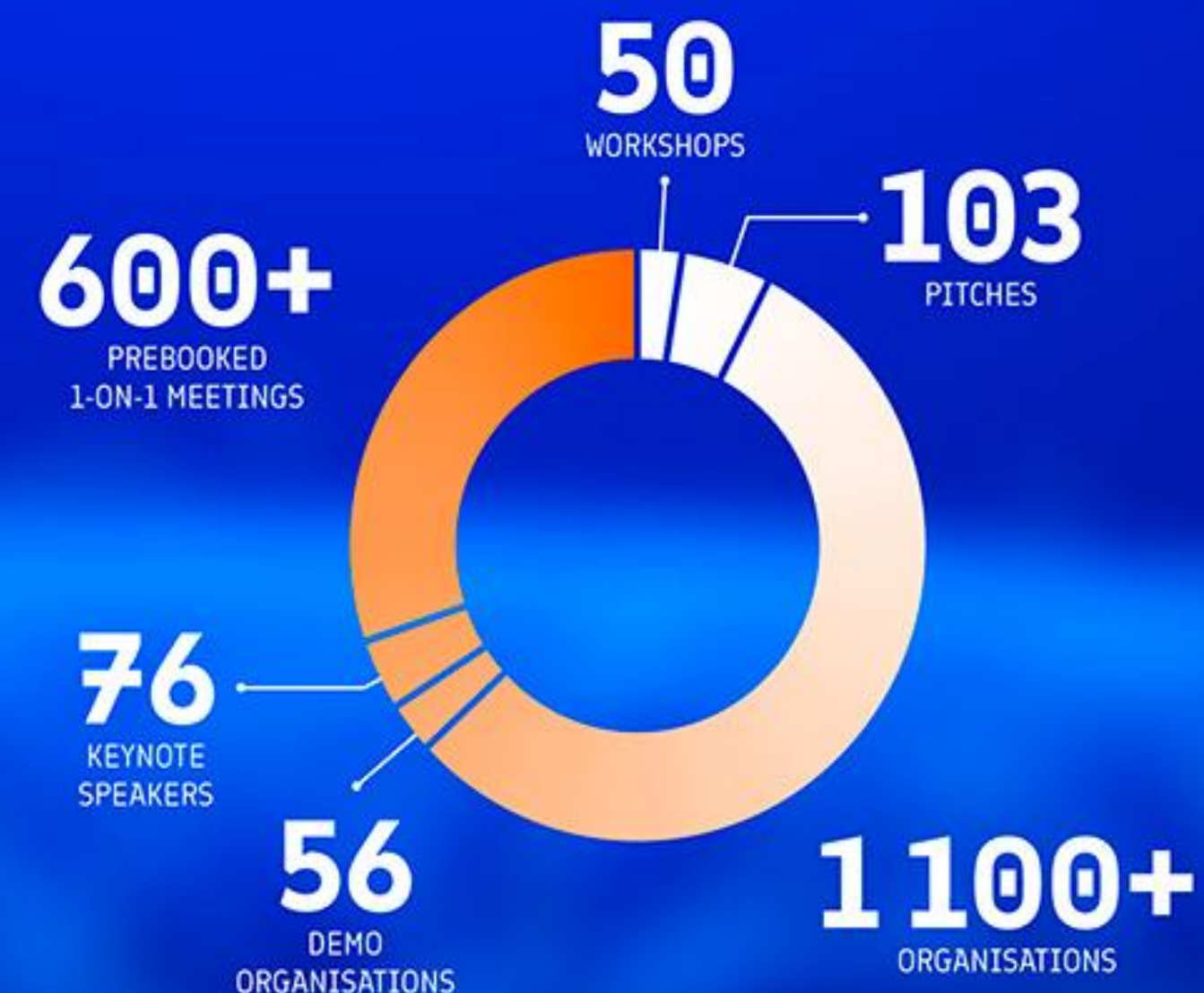
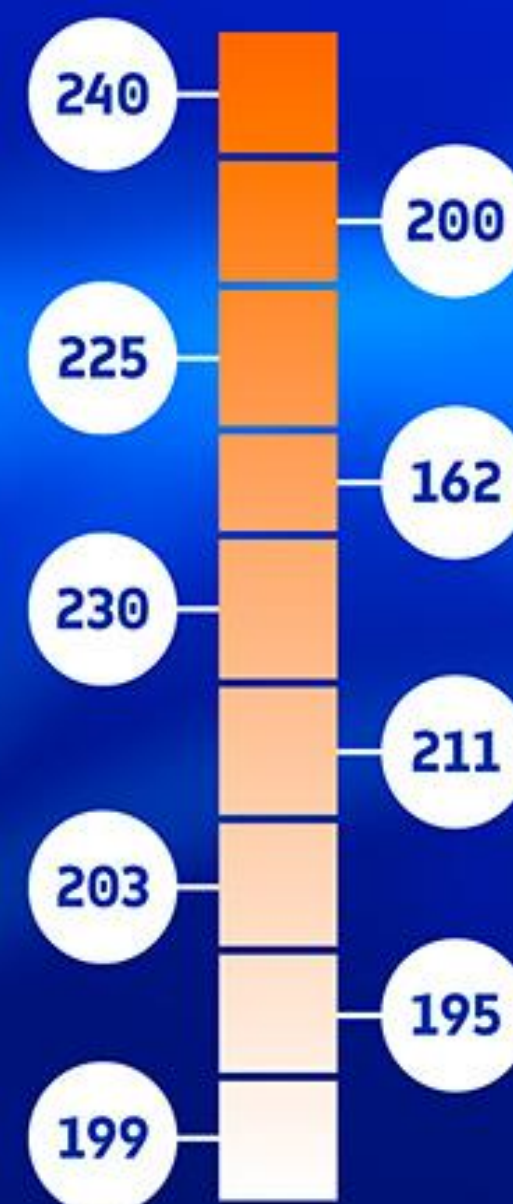
[www.elementsofai.com](http://www.elementsofai.com)

**FREE ONLINE COURSE**

500.000 PEOPLE – 170 COUNTRIES

REBOOT  
FINLAND  
D.DAY

1865  
Participants



"Small country like Finland really needs these kinds of  
knowledge sharing and networking events."

"Great international event"

"Atmosphere, content, speakers,  
logistics - everything was excellent"

4,4  
OVERALL AVERAGE

**RESEARCH:**



[www.fcai.fi](http://www.fcai.fi)

**STUDIES:**



[cs.helsinki.fi](http://cs.helsinki.fi)

**AI ACCELERATOR:**



[www.faia.fi](http://www.faia.fi)

**FUNDING PROGRAM:**



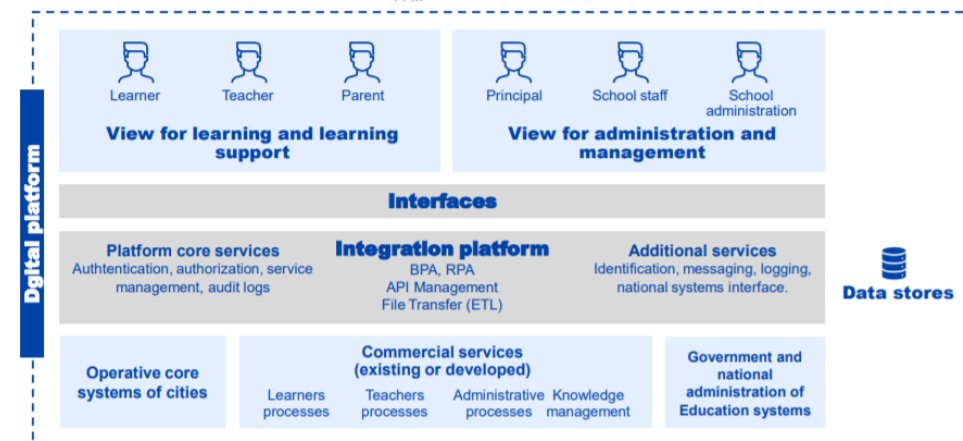
[www.bf.fi/ai](http://www.bf.fi/ai)

**PUBLIC SERVICES:**



<https://vm.fi/en/national-artificial-intelligence-programme-auroraai>

**BASIC EDUCATION:**



[www.vantaa.fi/digione/en](http://www.vantaa.fi/digione/en)

**HEALTH DATA:**



[www.findata.fi](http://www.findata.fi)

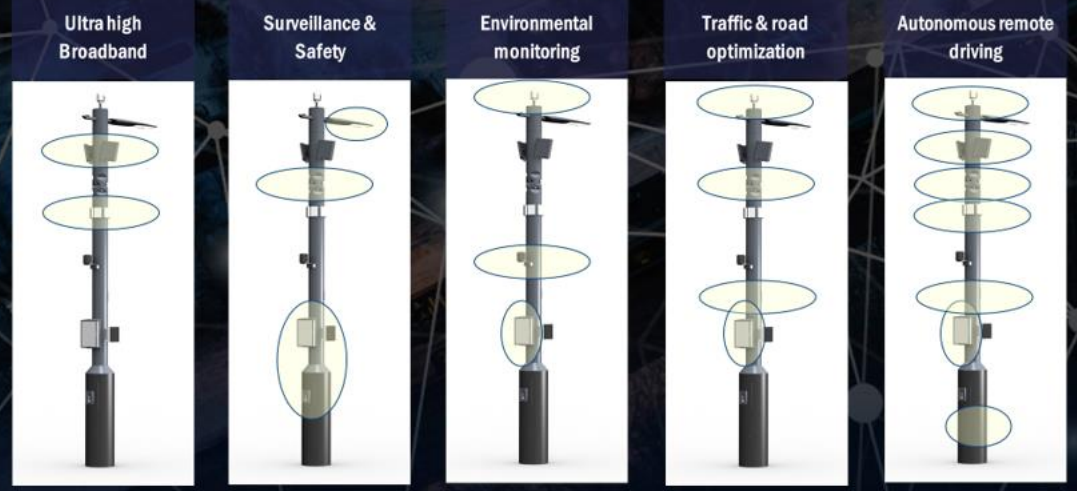
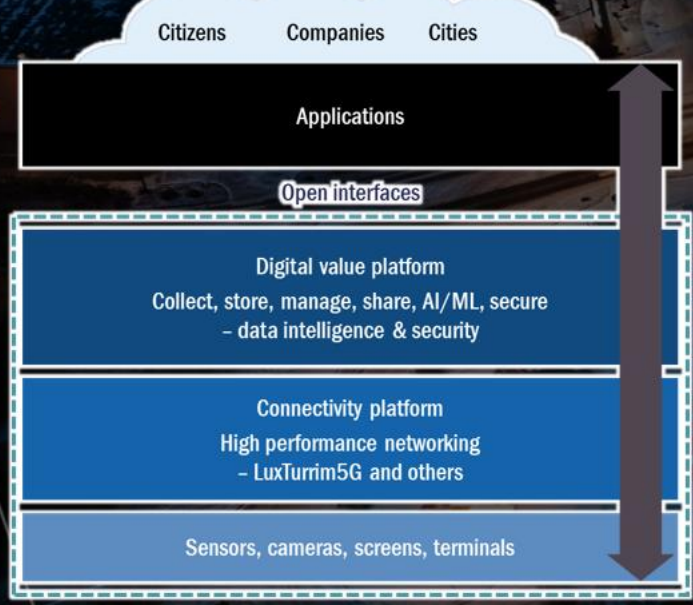
**FAIR DATA ECONOMY:**



[www.sitra.fi](http://www.sitra.fi)

# LuxTurrim 5G

## SMART CITY INFRASTRUCTURE AND SERVICES



**5G network**  
 High capacity, low latency  
 Small cells -> many sites  
 5G network: NOKIA Bell Labs, TECHOMET  
 Smart pole: TECHOMET, PREMIX  
 Radome materials: PREMIX

**Smart city services on top of a connectivity platform**  
 - Video surveillance, public safety, infotainment screens: TELESITE  
 - Air quality, weather: VAISALA  
 - Location, navigation: INDAGON  
 - Drones: Rumble Tools

Public research partners contributing in each research area  
 VTT, AI

LuxTurrim5G ecosystem lead  
 SPINVERSE

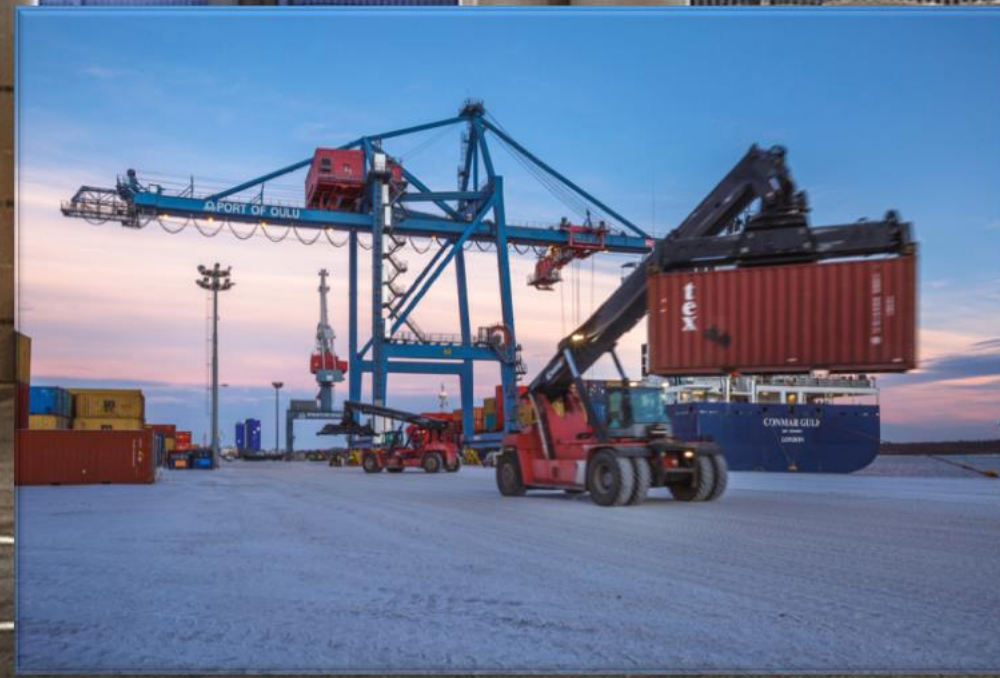
**City and street infrastructure**  
 Smart pole infra, power, data transport  
 Street infra construction and planning: DESTIA  
 Infra owner: ESO

[www.luxturrim5g.com](http://www.luxturrim5g.com)

LuxTurrim 5G 5G TNF

Seeking for utmost reliability, minimal network latency, sensor systems, data collection and use, utilisation of artificial intelligence, automation, low energy consumption, sustainability, virtualisation and cloud services.

PORT OULU  
 5G TNF



5G VIIMA SMART PORT  
[www oulu.fi/university/news/5gviima](http://www oulu.fi/university/news/5gviima)

### Local flexibility

- Aggregator business models
- Local Flexibility Market

### Smart mobility:

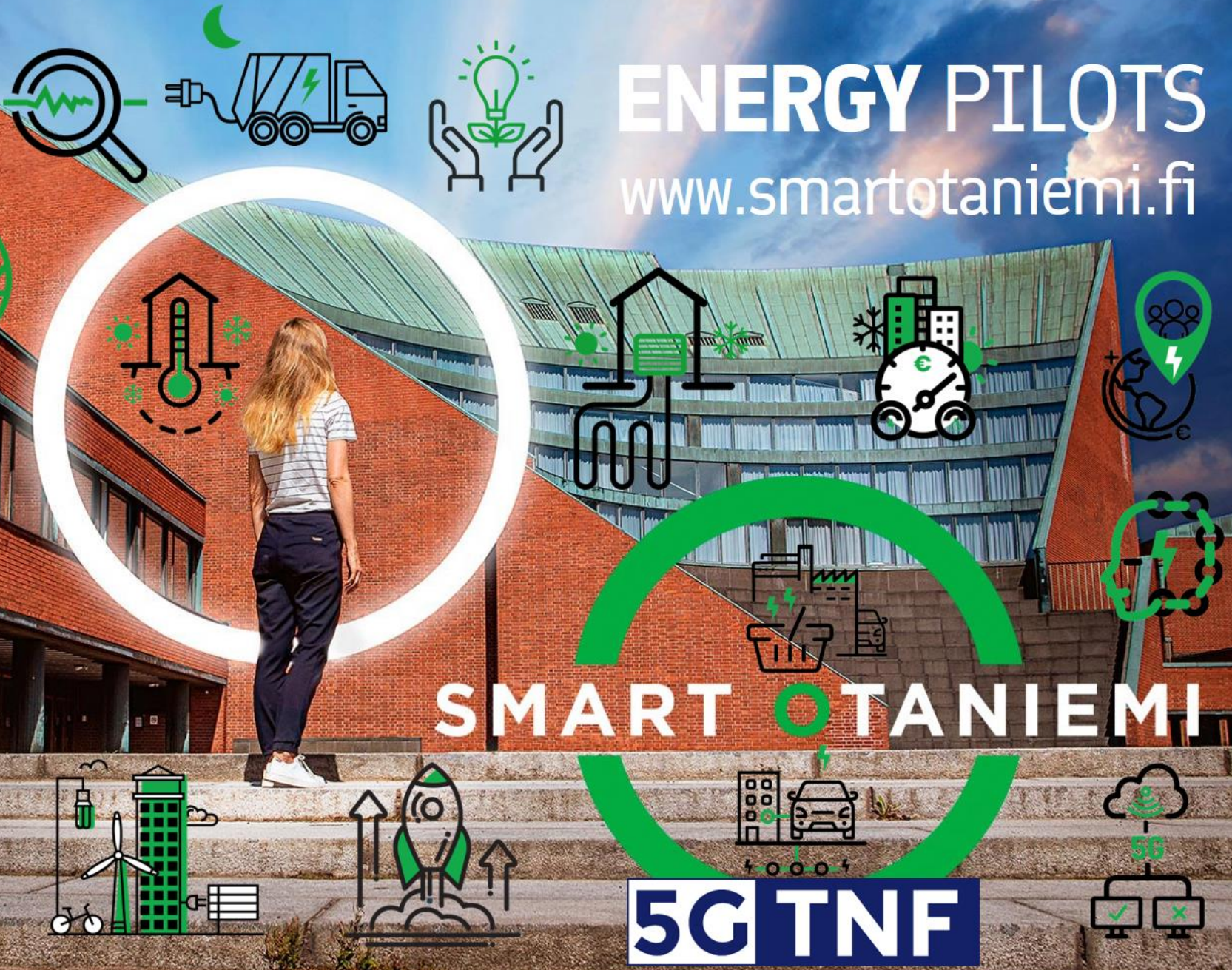
- Smart EV charging
- Silent Refuse Truck

### Building level intelligence

- Building level intelligence
- Underground thermal energy storage
- Novel integration of prosumers and hybrid energy systems

### Platforms, connectivity and enabling technologies

- Platforms & Connectivity
- Enabling Technologies: AI & DLT/Blockchain
- Operational reliability in smart energy systems



## ENERGY PILOTS

[www.smartotaniemi.fi](http://www.smartotaniemi.fi)

SMART OTANIEMI

5G TNF

### Reboot IoT Factory

## 20 Proof-Of-Concepts



#### DATA DRIVEN SUPPLY CHAIN AND PRODUCTION



#### ROBOTICS FUSION



#### LABOUR AT DIGITAL WORK ENVIRONMENT





# AI UTILISATION ACROSS ALL INDUSTRIES

**Example:**  
**Valmet Automotive:**  
Human and AI-powered  
robots working together

**Number of jobs in 3 years:**  
**800 → 4500**





# FINNISH APPROACH TO THE FUTURE SOCIETY: SOLUTIONS FOR PEOPLE

## BUILDING BLOCKS OF THE FINNISH APPROACH

### DIGITAL SERVICES

MOBILITY

BUILT ENVIRONMENT

ENERGY WITH WATER & WASTE

### DIGITAL INFRASTRUCTURE & OPEN PLATFORMS ECONOMY

EDUCATION

HEALTH

TRAVEL

PORT

MANU-FACTURING

We make the world **safe**, **connected**, **intelligent** and **convenient** with new digital solutions, business models and ways of working. We have the abilities to transform industries to be **competitive** in the global markets and the society to be **sustainable** as well as **functional** for its citizens.

We strive for a **smart**, **safe** and **sustainable** society.

**BUSINESS  
FINLAND**

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**Thank You!**