

**BUSINESS
FINLAND**

Local Policies in China and Europe for Collaboration 10 Dec 2020



FINNISH APPROACH TO INNOVATIONS

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Trade and Innovation Consul, Consulate General of Finland in Shanghai

Head of Shanghai Office, Business Finland





The Finnish innovation system: why Finland is a globally leading country in innovation?

What the greenest, happiest and one of the technologically strongest country has to offer?

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FINLAND

INNOVATIONS

TECHNOLOGIES

CASE EXAMPLES



FINLAND

INNOVATIONS

TECHNOLOGIES

CASE EXAMPLES

- Location: Northern Europe
- Population: 5,5 million
- Area: 338,424 km² (~Japan)
- Forest: ~75%
- Lakes: ~188,000
- Islands: ~179,000
- Largest cities in Finland (2017):
 - Helsinki 642,045
 - Espoo 277,375
 - Tampere 230,537
 - Vantaa 221,821
 - Oulu 201,124
 - Turku 188,584
 - Jyväskylä 139,260
 - Lahti 119,395



FINLAND
SMALL COUNTRY

FINLAND BIG POTENTIAL



*1 Global Innovation Index 2016 / 2 World Economic Forum, The Global Competitiveness Report 2016-2017 / 3 FDI attractiveness scoreboard, Copenhagen Economics 2016
4 World Economic Forum Global Competitiveness Report 2017-2018 / 5 Grant Thornton, Global Dynamism Index 2015 / 6 Bloomberg, Bloomberg 2017 Innovation Index
7 Education First (EF), The world's largest ranking of countries by English skills / 8 The Consumer Technology Association (CTA)™ 2018*

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FINLAND

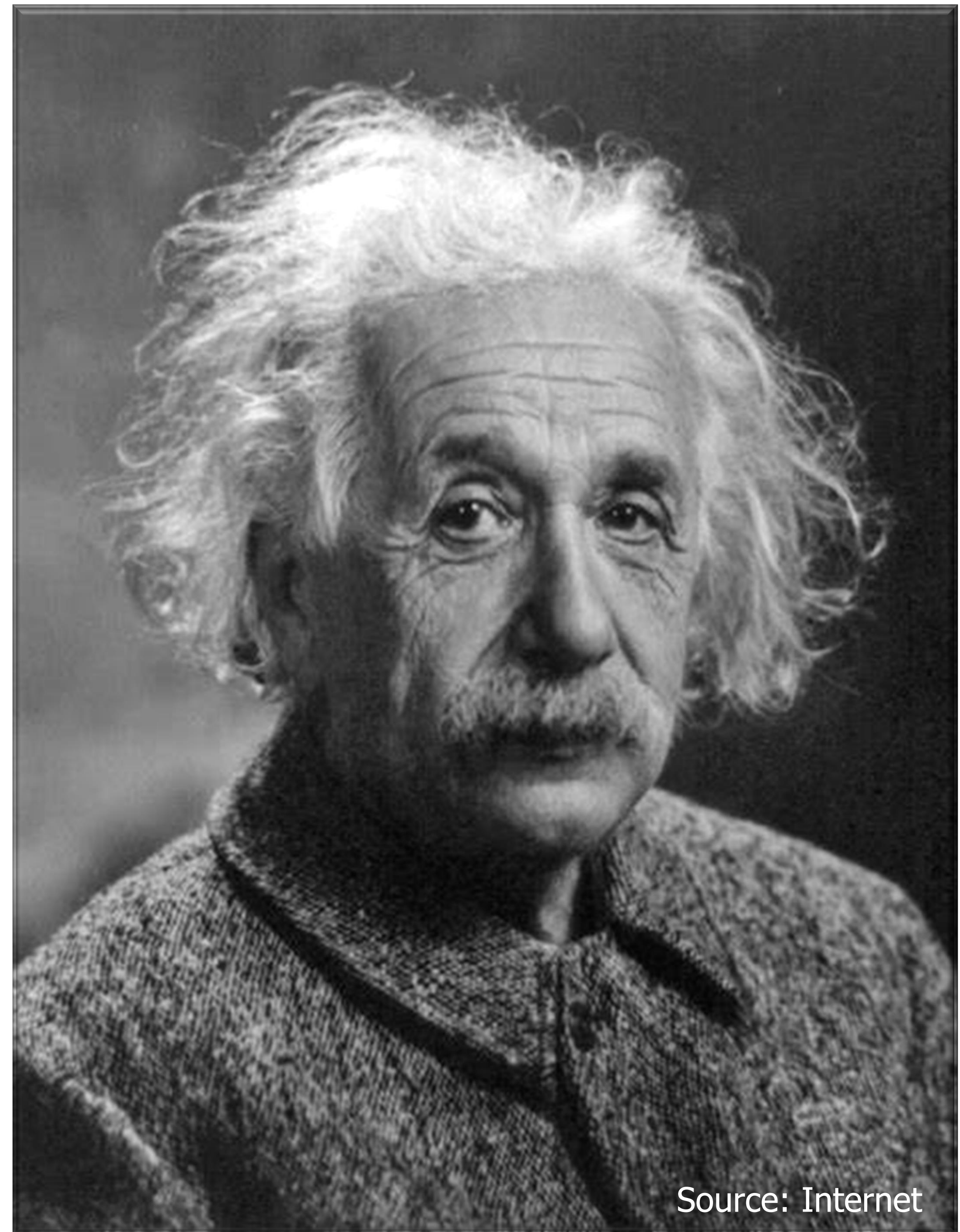
INNOVATIONS

TECHNOLOGIES

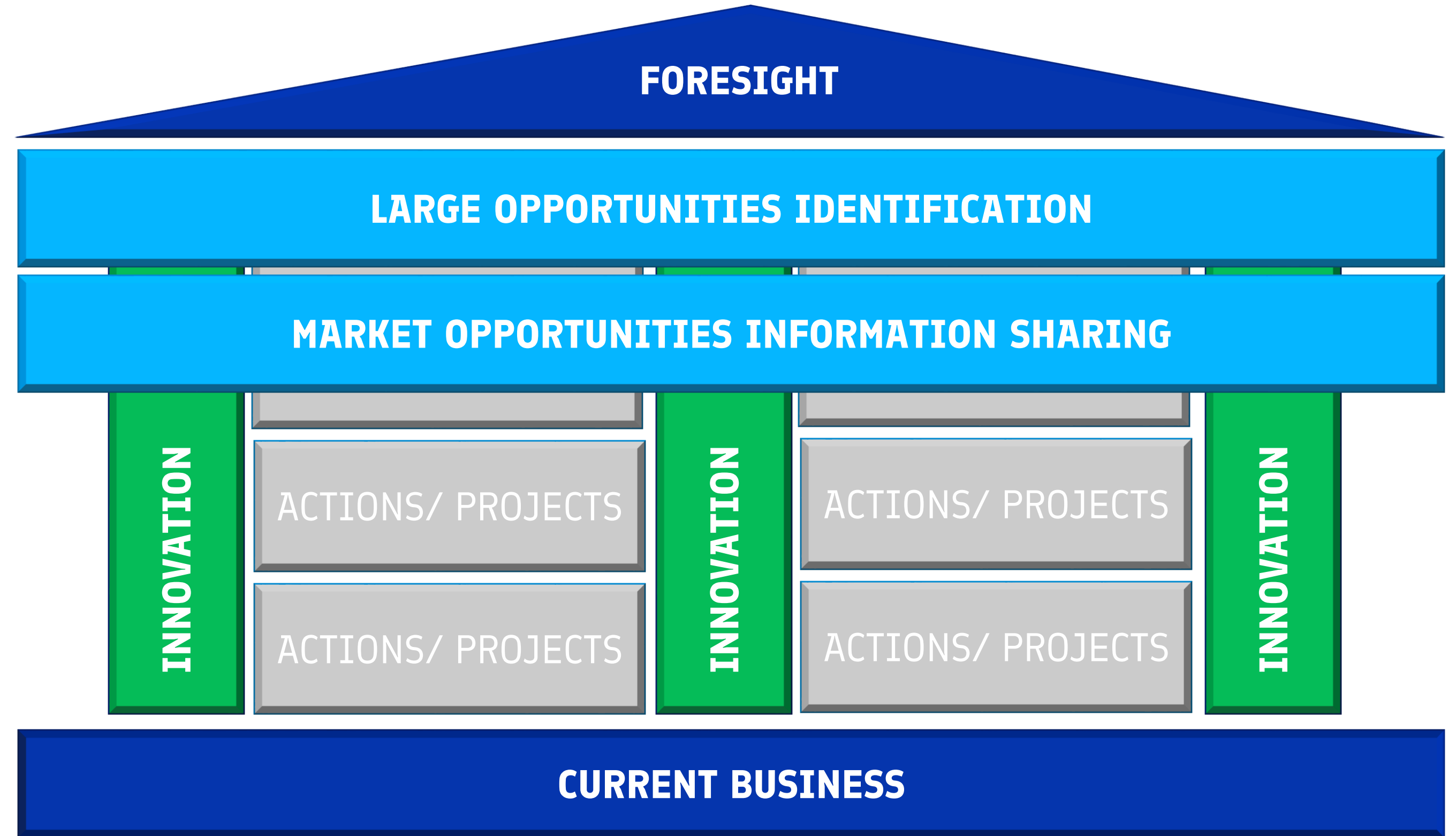
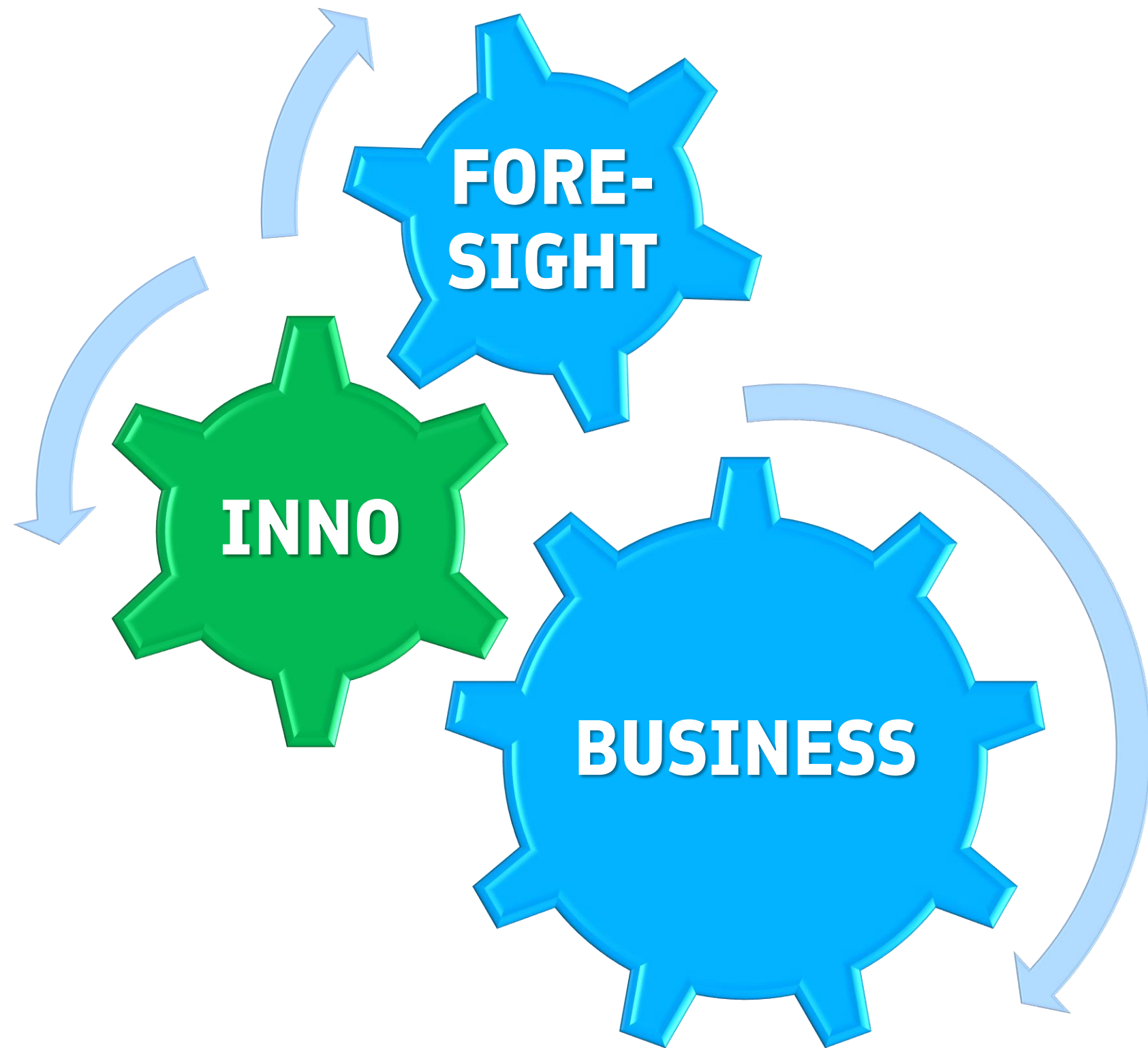
CASE EXAMPLES

***“If you always do what
you always did, you
will always get
what you always got.”
(Albert Einstein)***

**Innovations → Renewal,
Transformation and Competitiveness**



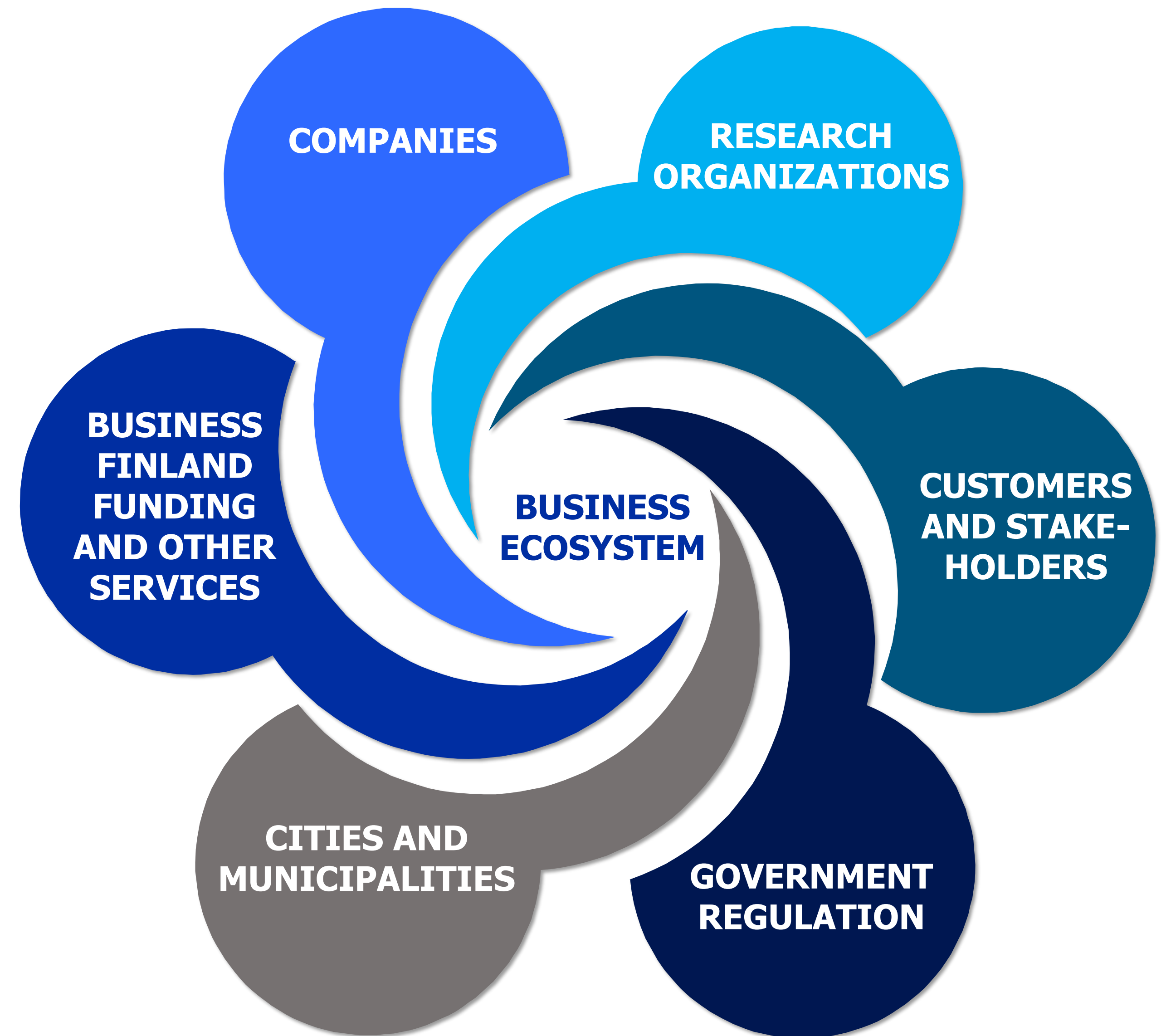
(BUSINESS ↔ INNOVATION ↔ FORESIGHT) → INSIGHT



COLLABORATION (INCL. PUBLIC-PRIVATE-PEOPLE PARTNERSHIP) IS A KEY TO SUCCESS

BUSINESS ECOSYSTEMS GENERATE GROWTH AND INNOVATIONS MORE THAN ANY SINGLE COMPANY ALONE CAN

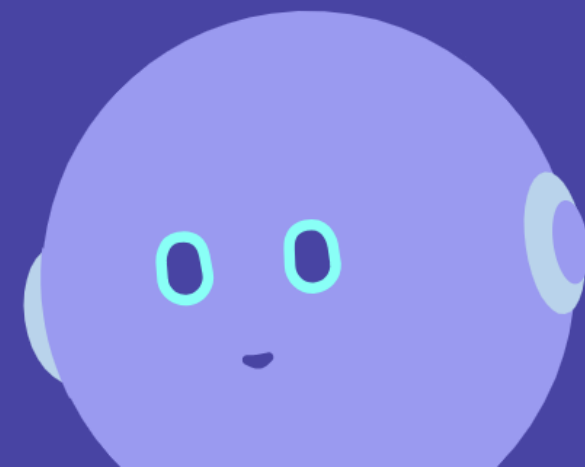
BUSINESS FINLAND IS A CATALYZER THAT CAN MAKE THIS TO HAPPEN



>reboot FINLAND

DIGITAL TRANSFORMATION
1100+ ORGANISATIONS – 2000 PARTICIPANTS

Welcome to the Elements of
Artificial Intelligence free
online course



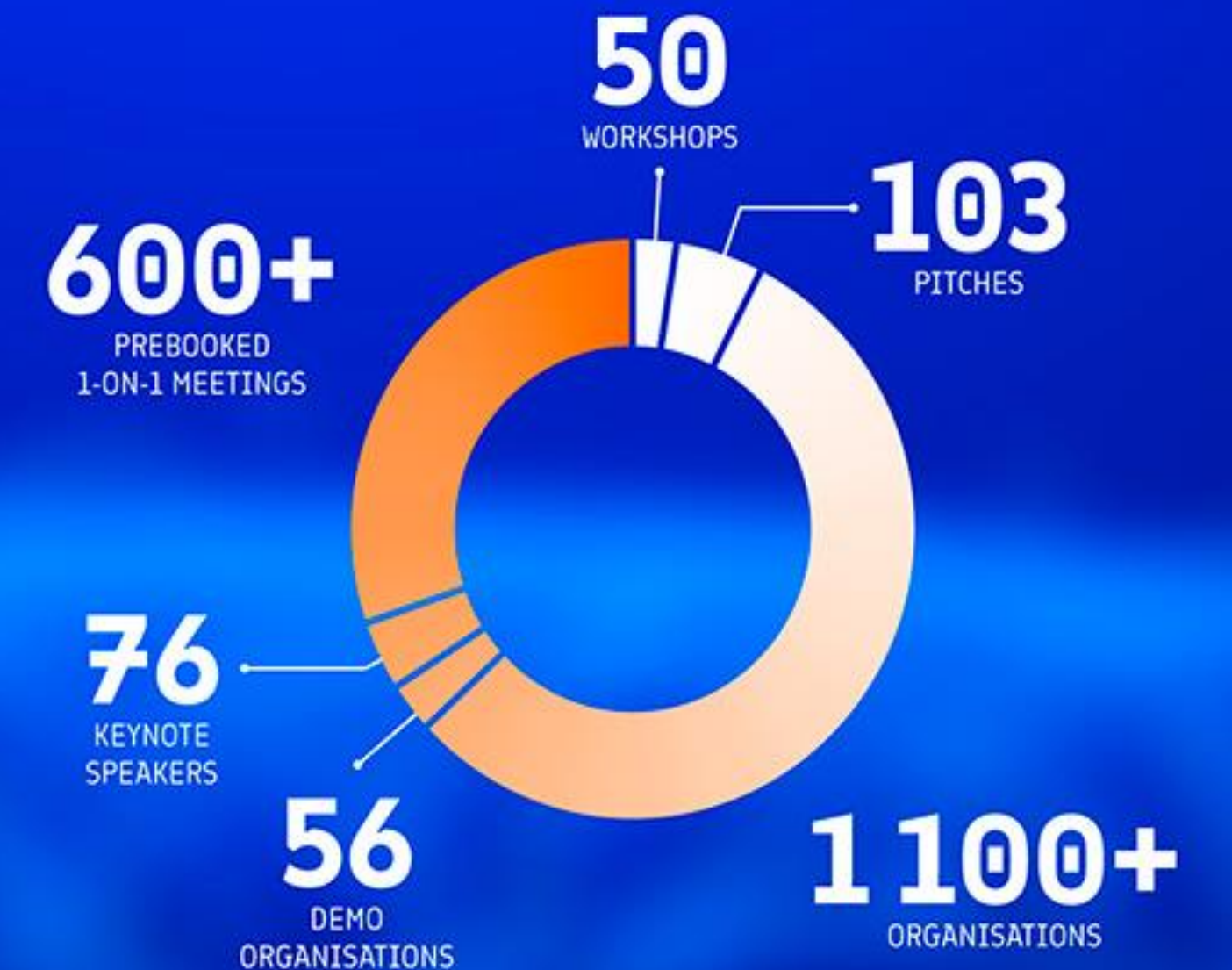
www.elementsofai.com

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"

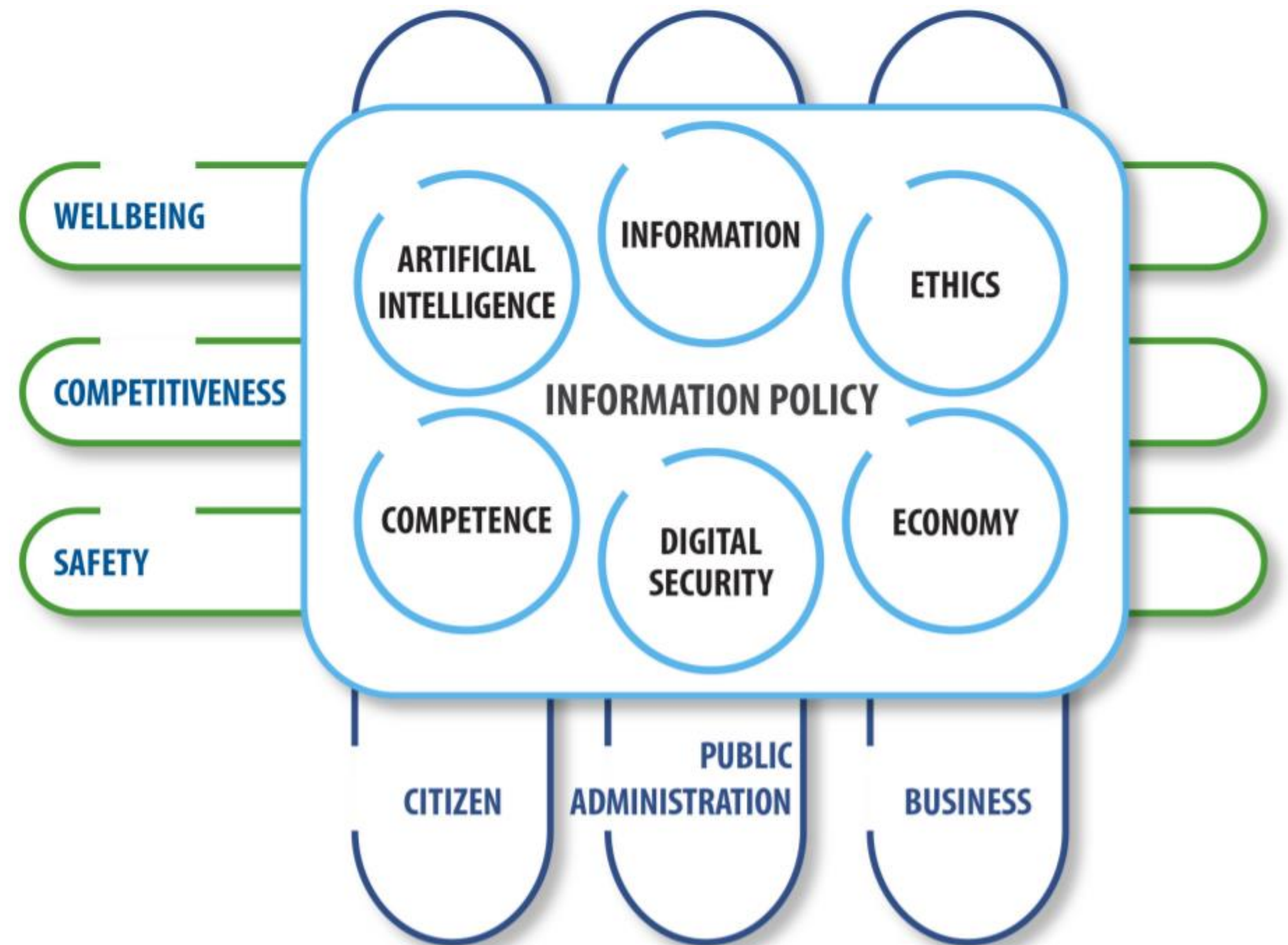
4,4
OVERALL AVERAGE

Strategy: AI Finland with 11 Key Actions

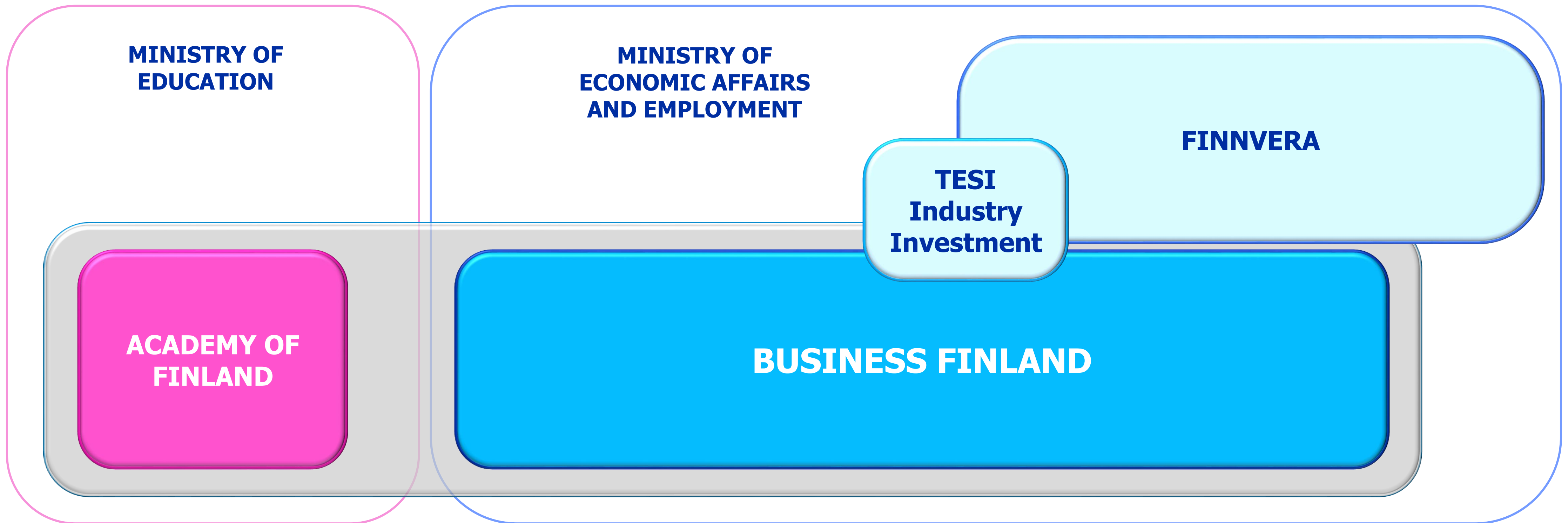
1. Enhance **business** competitiveness through the use of AI
2. Effectively utilise **data** in all sectors
3. Ensure AI can be **adopted** more quickly and easily
4. Ensure top-level **expertise** and attract top experts
5. Make bold decisions and **investments**
6. Build the world's best **public 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



PUBLIC ACTORS PROVIDING INNOVATION FUNDING & SERVICES FOR COMPANIES



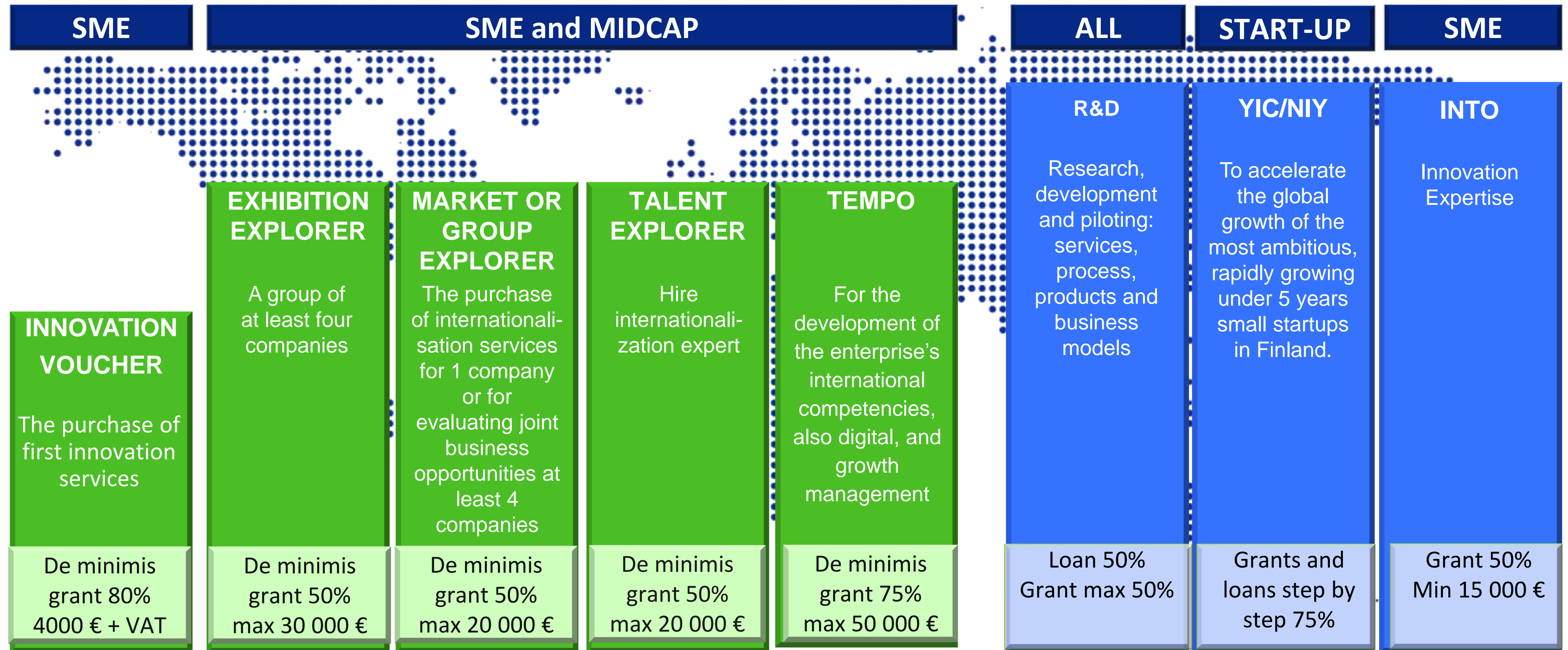
BASIC RESEARCH

APPLIED RESEARCH

BUSINESS R&D

**BUSINESS DEVELOPMENT
MARKETING
INTERNATIONALIZATION**

BUSINESS FINLAND FUNDING (~600 MEUR) FOR DIFFERENT STAGES OF INTERNATIONAL GROWTH



BUSINESS FINLAND SERVICES

- Internationalization Services
- Funding Services

Basic Services

Internationalization Advice

- Market selection and validation
- Defining market entry model
- Local problem solving
- Local renewal and growth plan

Market Information and Contacts

- Market specific information
- Expert and service provider search
- Meet the Buyer
- TF Market Opportunities
- Team Finland Visits/Delegations

Funding

- Tempo
- Market Explorer
- R&D
- Co-Innovation
- Advice for EU funding

Specific Services

- Localizing and validating the product offering
- Local way of contracting and negotiating

- Joint offering
- Trade fair services
- International business programs (GAP, MAP, etc.)
- Accelerators abroad
- Soft landing services
- Finnish suppliers
- "Meet the Network / Grow Your Network"
- European Enterprise Network EEN
- European programs (Eureka, Eurostars, Cost)
- Future Watch
- Dealflow.fi
- Shipping handbook
- Publications, guides

- Innovation voucher
- Exhibition Explorer
- Talent Explorer
- Group Explorer
- Into
- NIY
- Research to business
- Co-creation
- Innovative Public procurements
- Growth Engine
- Testbed
- Energy aid
- Material audit
- Innovation aid for shipbuilding
- Production incentive for audiovisual industry

CHINA INNOVATION COLLABORATION

[China](#) » China Innovation

INNOVATION COOPERATION BETWEEN FINLAND AND CHINA

www.businessfinland.fi/en/locations/asia-india-and-oceania/china/china-innovation

- [Zhejiang joint innovation call](#) (DL 30.9.2020)
- [Jiangsu joint innovation call](#) (DL 30.9.2020)
- [MOST joint innovation call](#) (DL 27.11.2020)
- From 2021 onwards: Shanghai joint innovation call

EXPLORE MARKET OPPORTUNITIES

We help companies take action by offering advice and building activities that connect Finnish companies to market opportunities.

www.marketopportunities.fi/home/

BROWSE BY CATEGORY



SALES LEAD (1)



BUSINESS OPPORTUNITY (1)



COUNTRY OUTLOOK (1)



FUTURE WATCH (3)

FILTER BY

HEALTH AND WELLBEING

MARKET AREA

CHINA

LATEST (TOTAL 5)



Internet + Nursing Service in China

Country / Region: China
Market area: Asia and Oceania
Industry: Health and wellbeing



Chinese Group based in Shenzhen looking for Finnish Senior Care and Rehab equipment

Country / Region: China
Market area: Asia and Oceania
Industry: Health and wellbeing

FUTURE WATCH 12.12.2019

FUTURE WATCH 03.07.2017

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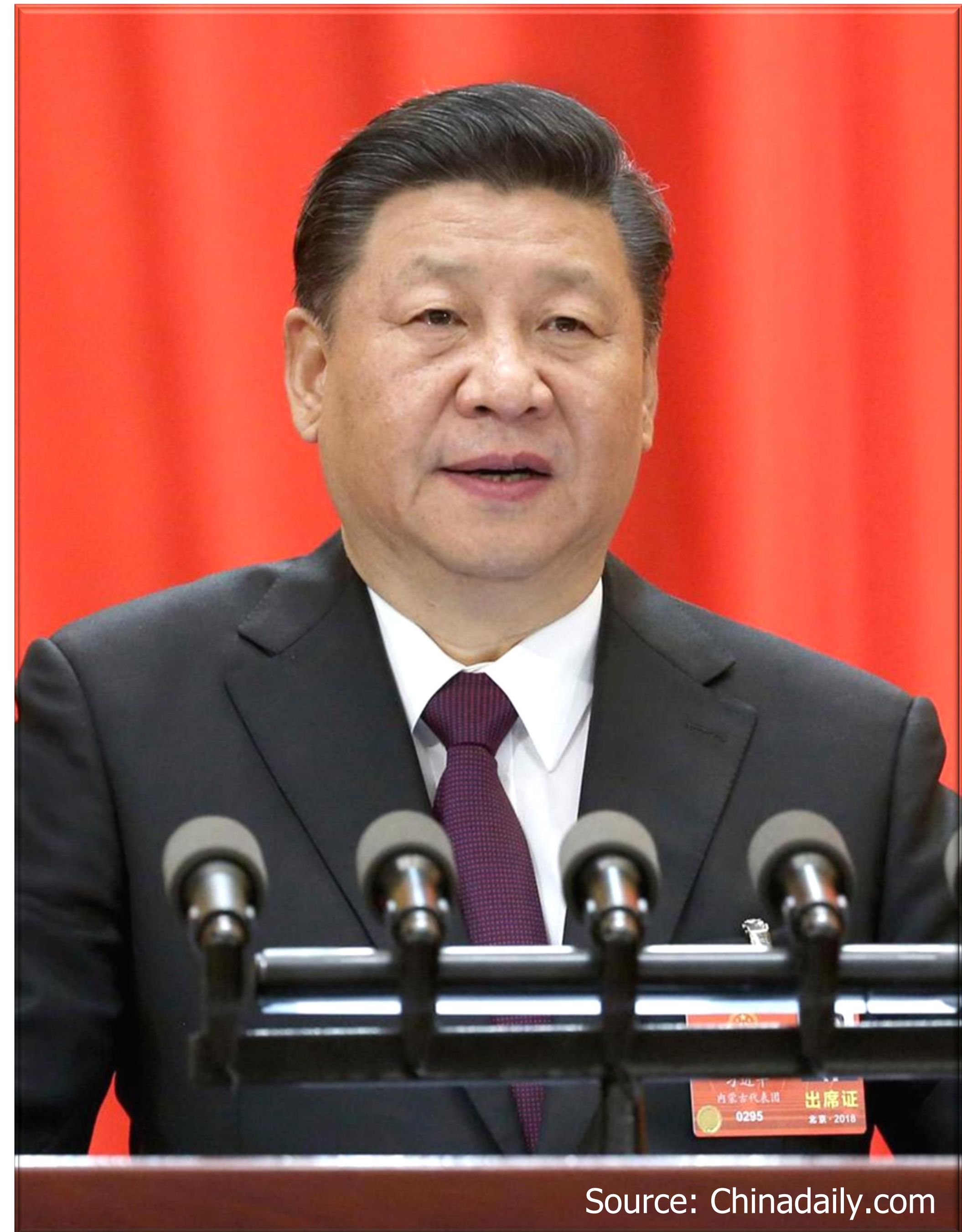
SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY 	2 ZERO HUNGER 	3 GOOD HEALTH AND WELL-BEING 	4 QUALITY EDUCATION 	5 GENDER EQUALITY 	6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY 	8 DECENT WORK AND ECONOMIC GROWTH 	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 	10 REDUCED INEQUALITIES 	11 SUSTAINABLE CITIES AND COMMUNITIES 	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION 	14 LIFE BELOW WATER 	15 LIFE ON LAND 	16 PEACE, JUSTICE AND STRONG INSTITUTIONS 	17 PARTNERSHIPS FOR GOALS 	 SUSTAINABLE DEVELOPMENT GOALS

“China must rely on innovation-driven growth model.”

“China aims to bring carbon emissions to a peak by 2030, and achieve carbon neutrality by 2060 with more forceful policies and measures.”

(Xi Jinping)



5G

AR/VR

NETWORK

SHARES

AI

GROWTH

PRODUCTIVITY

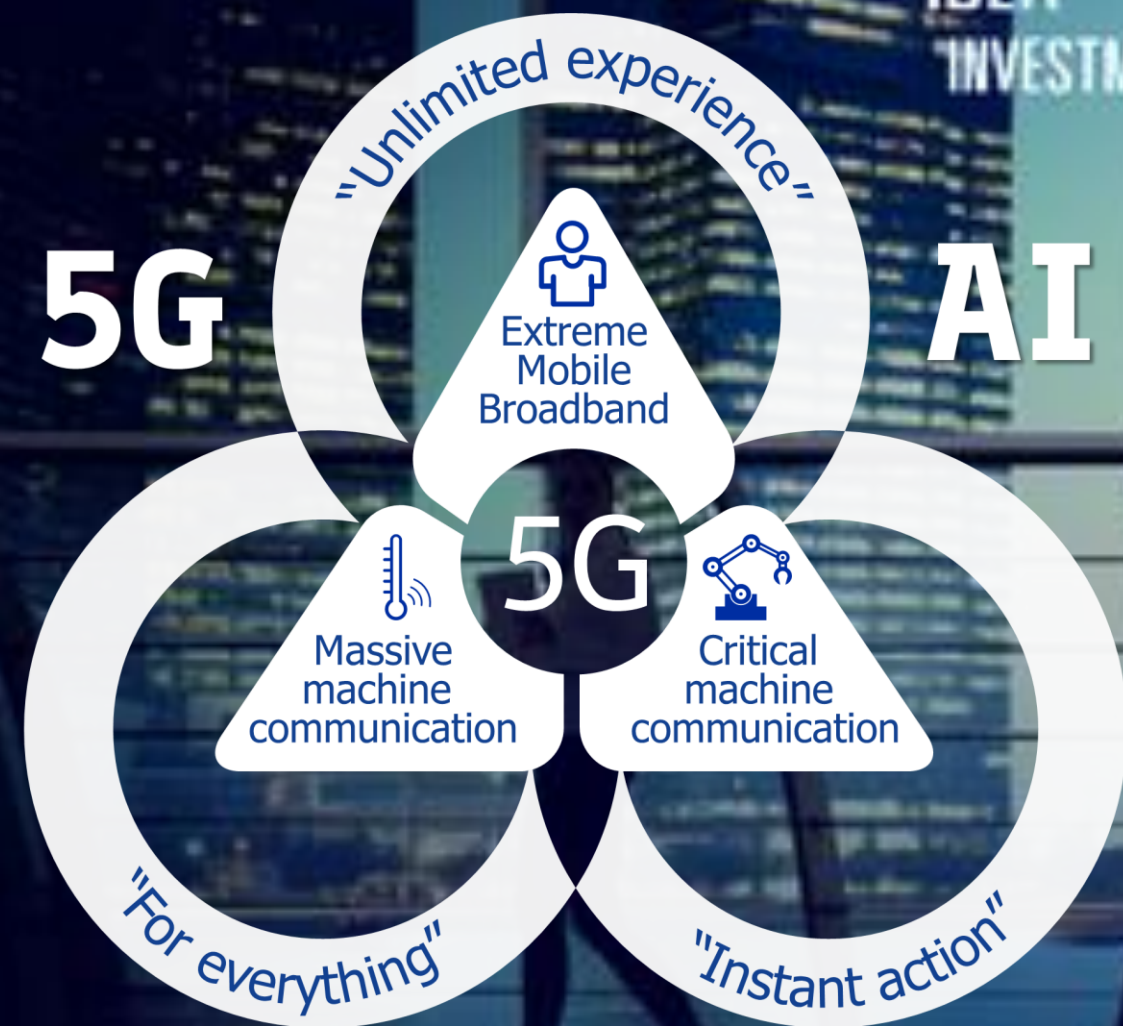
6G

VISION

BUSINESS

COMMUNICATION

SALES



ROBOTICS

ROBOTICS



SUSTAINABLE DEVELOPMENT



Source: Internet



Smart solutions
Green technologies
Circular economy

Digital Health
Digital Education
Etc.

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

MANUFACTURING

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.

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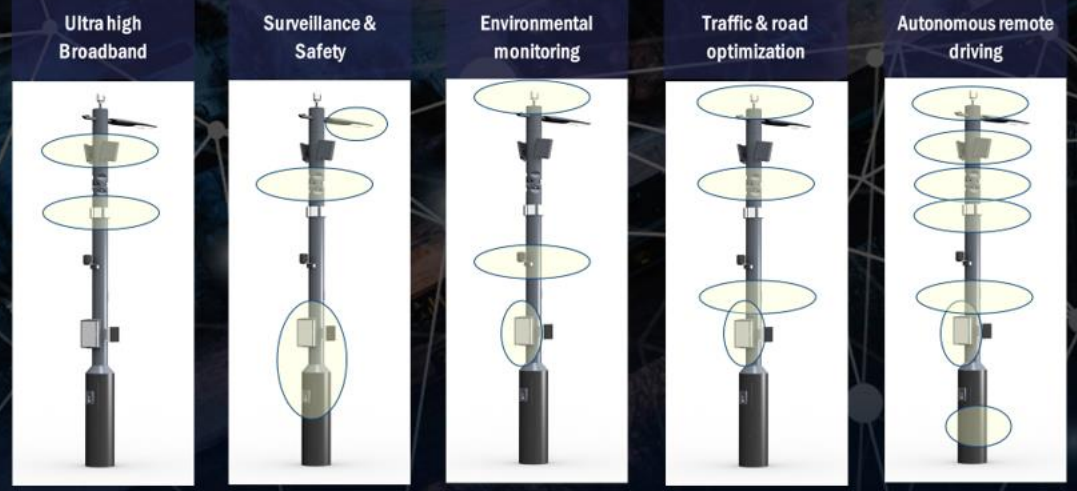
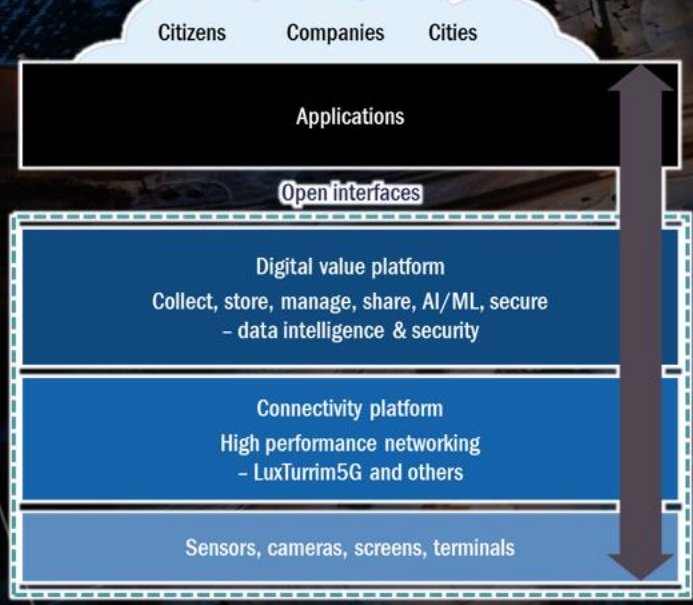
INNOVATIONS

TECHNOLOGIES

CASE EXAMPLES

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

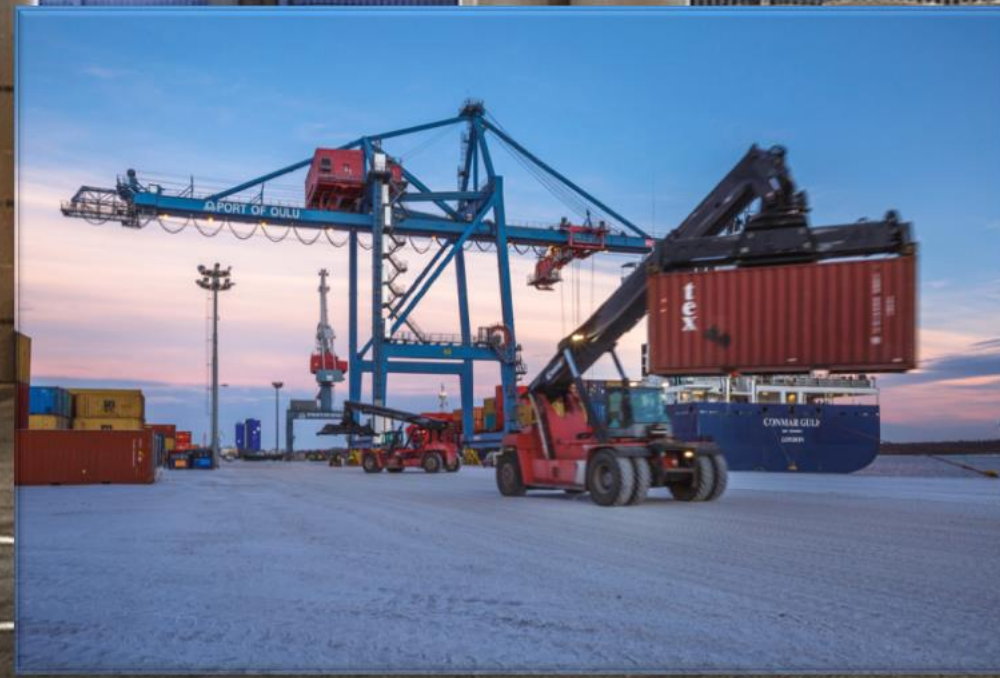
City and street infrastructure
 Smart pole infra, power, data transport
 Street infra construction and planning: DESTIA
 Infra owner: ESO

www.luxturrim5g.com

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

Local flexibility

- Aggregator business models
- Local Flexibility Market

Smart mobility:

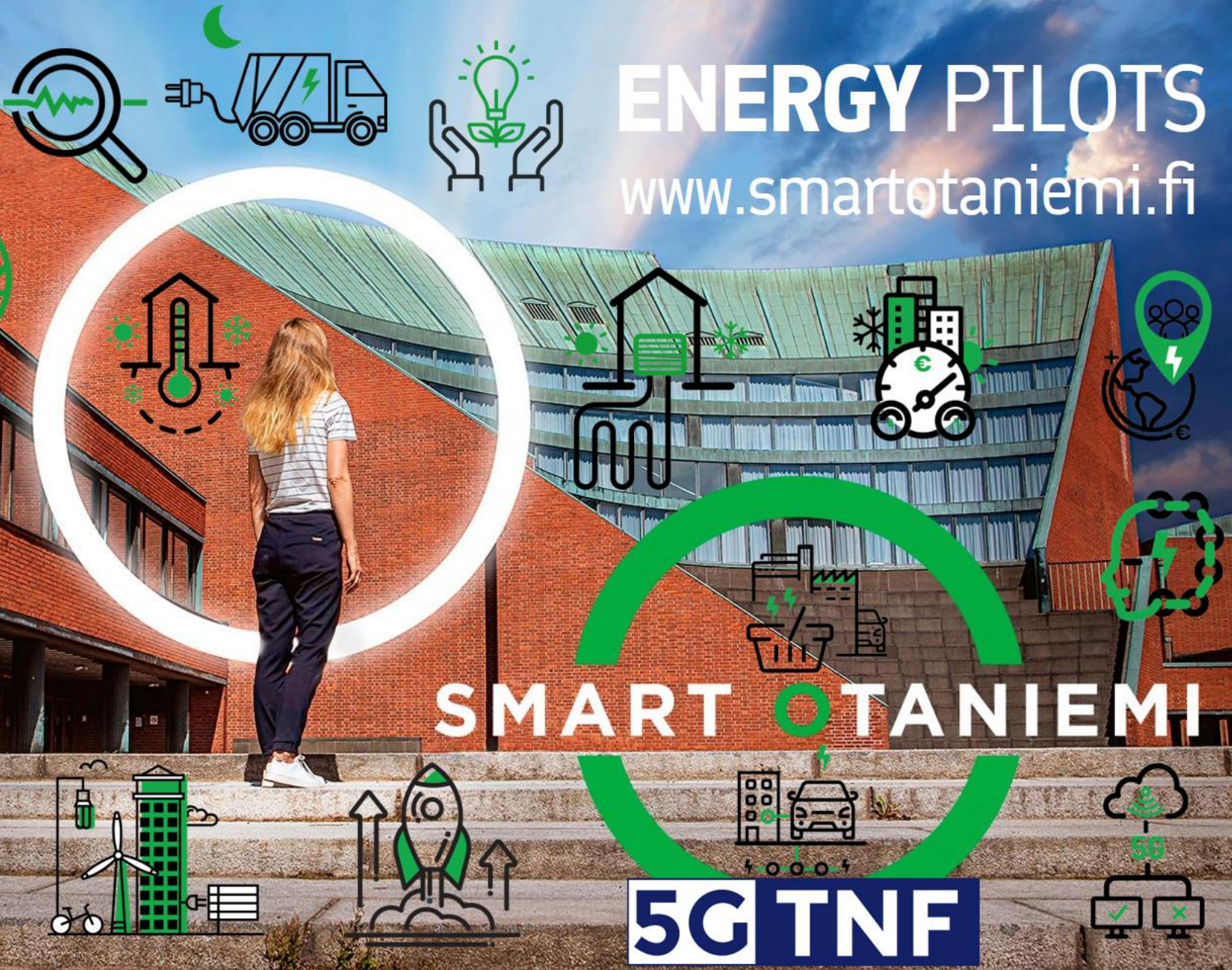
- Smart EV charging
- Silent Refuse Truck

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

SMART OTANIEMI

5G TNF

Reboot IoT Factory

20 Proof-Of-Concepts



DATA DRIVEN SUPPLY CHAIN AND PRODUCTION



ROBOTICS FUSION

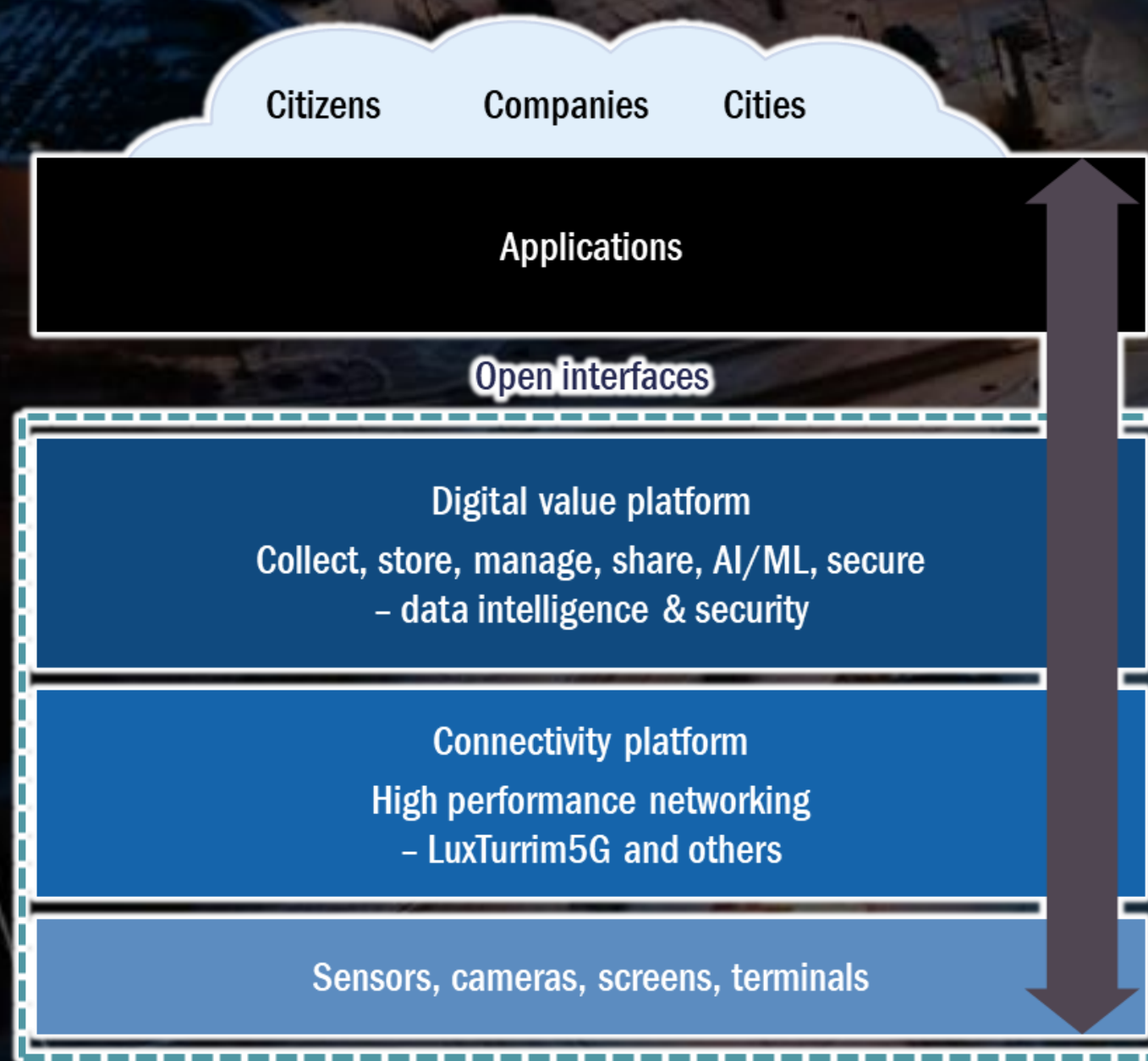


LABOUR AT DIGITAL WORK ENVIRONMENT



LuxTurrim 5G

SMART CITY INFRASTRUCTURE AND SERVICES



5G network
High capacity, low latency
Small cells -> many sites

5G network: **NOKIA** Bell Labs

Smart pole: **TEHOMET** **ORBIS**

Radome materials: **PREMIX**

Smart city services on top of a connectivity platform

- Video surveillance, public safety, infotainment screens: **TELESTE**
- Air quality, weather: **VAISALA**
- Location, navigation: **INDAGON**
- Drones: **Rumble Tools**
UNMANNED SYSTEMS

Public research partners contributing in each research area

Tampere University **VTT** **A!**
Aalto University

LuxTurrim5G ecosystem lead

SPINVERSE

City and street Infrastructure
Smart pole infra, power, data transport

Street infra construction and planning: **DESTIA**

Infra owner: **ESPOO ESBO**

<p>Ultra high Broadband</p>	<p>Surveillance & Safety</p>	<p>Environmental monitoring</p>	<p>Traffic & road optimization</p>	<p>Autonomous remote driving</p>
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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

Local flexibility:

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- Local Flexibility Market

Smart mobility:

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Building level intelligence

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Platforms, connectivity and enabling technologies

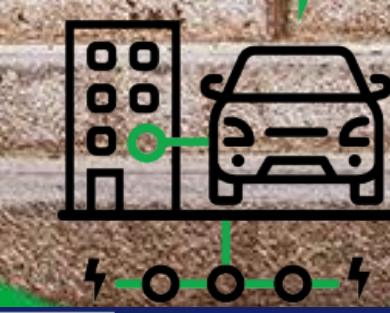
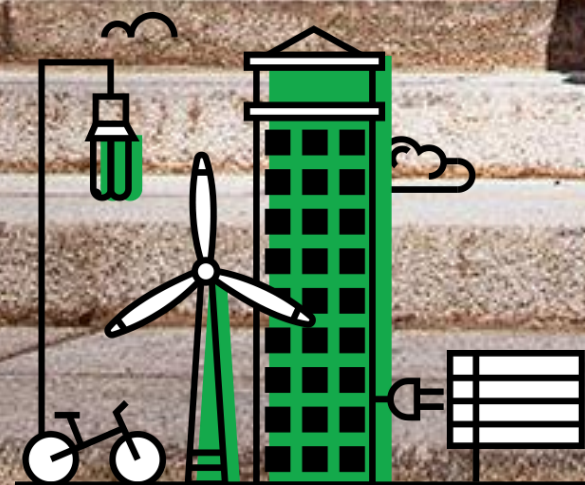
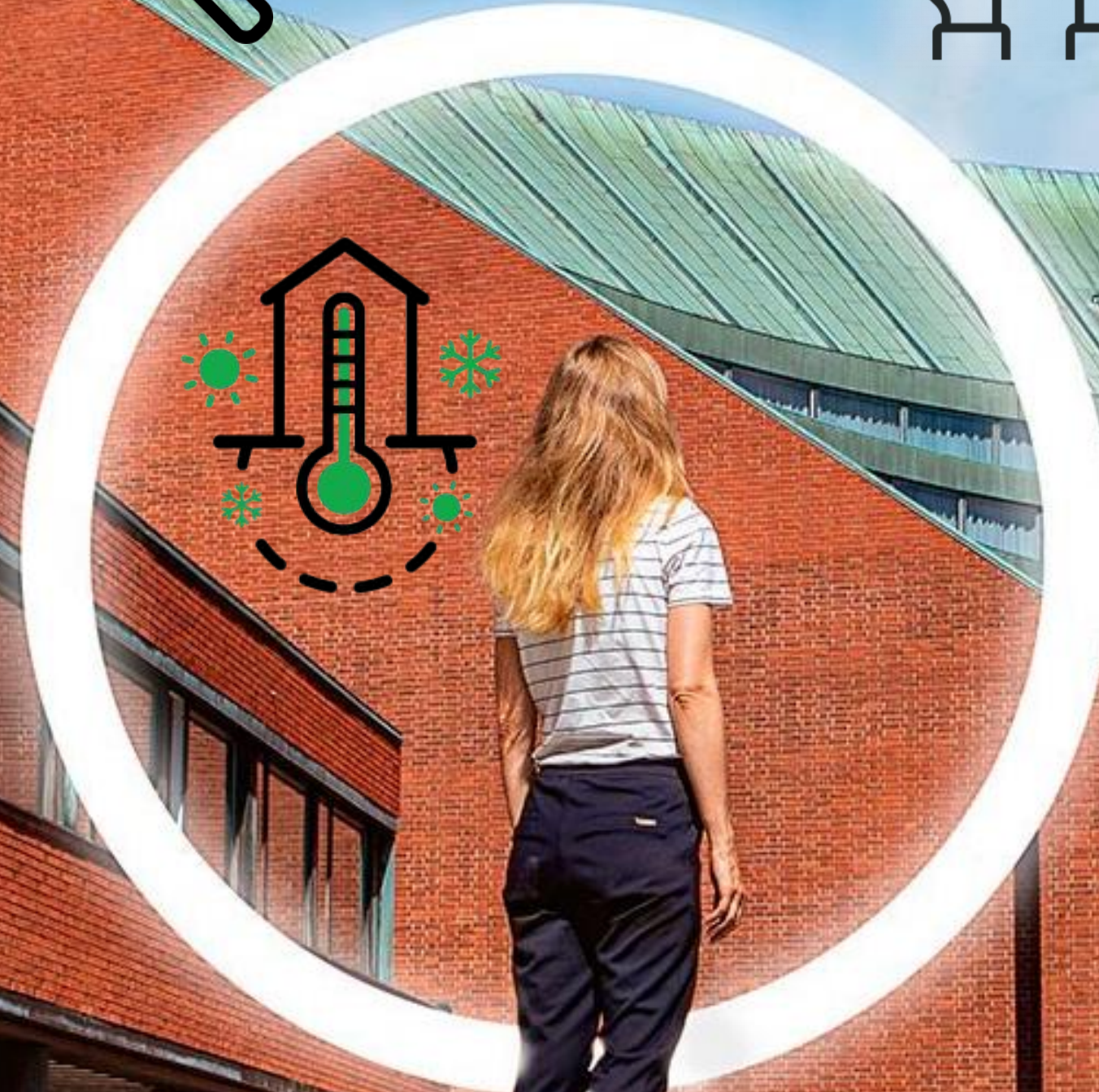
- Platforms & Connectivity
- Enabling Technologies: AI & DLT/Blockchain
- Operational reliability in smart energy systems

ENERGY PILOTS

www.smartotaniemi.fi

SMART OTANIEMI

5G TNF



20 Proof-Of-Concepts



www.rebootiotfactory.fi



Factory acceptance testing

DATA DRIVEN SUPPLY CHAIN AND PRODUCTION

1100100



Prospect to project



Supply chain transparency and agility



External B2B platform



Digital twin technical development



Tester predictive maintenance



Robotics process automation in production



B2B extranet data transfer



Value of service enabled by digital solutions

ROBOTICS FUSION



Mobile robot in material handling



Automatic component quality control



Standard robot interface



Automatic error handling

LABOUR AT DIGITAL WORK ENVIRONMENT



AI foreman: Requirements and core functionality



AVR for undestandable instructions



AI foreman: productivity from data



Wearables in industry



Well-being at work



Gamification



Legislation, GDPR, privacy in automatic decisioning



China has needs.

**Finland and EU have solutions
and innovations for the future.**

Let's collaborate!

**BUSINESS
FINLAND**

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FinChi, Room 402, Building 2, 690 Bibo Road, Shanghai 201203, China



Thank You!