

Zagreb March 26th

INKA – Innovative Cities

**New policy programme for promoting
world-class innovation hubs
2014-2020**

INKA – Innovative Cities Program 2014-2020

Mission

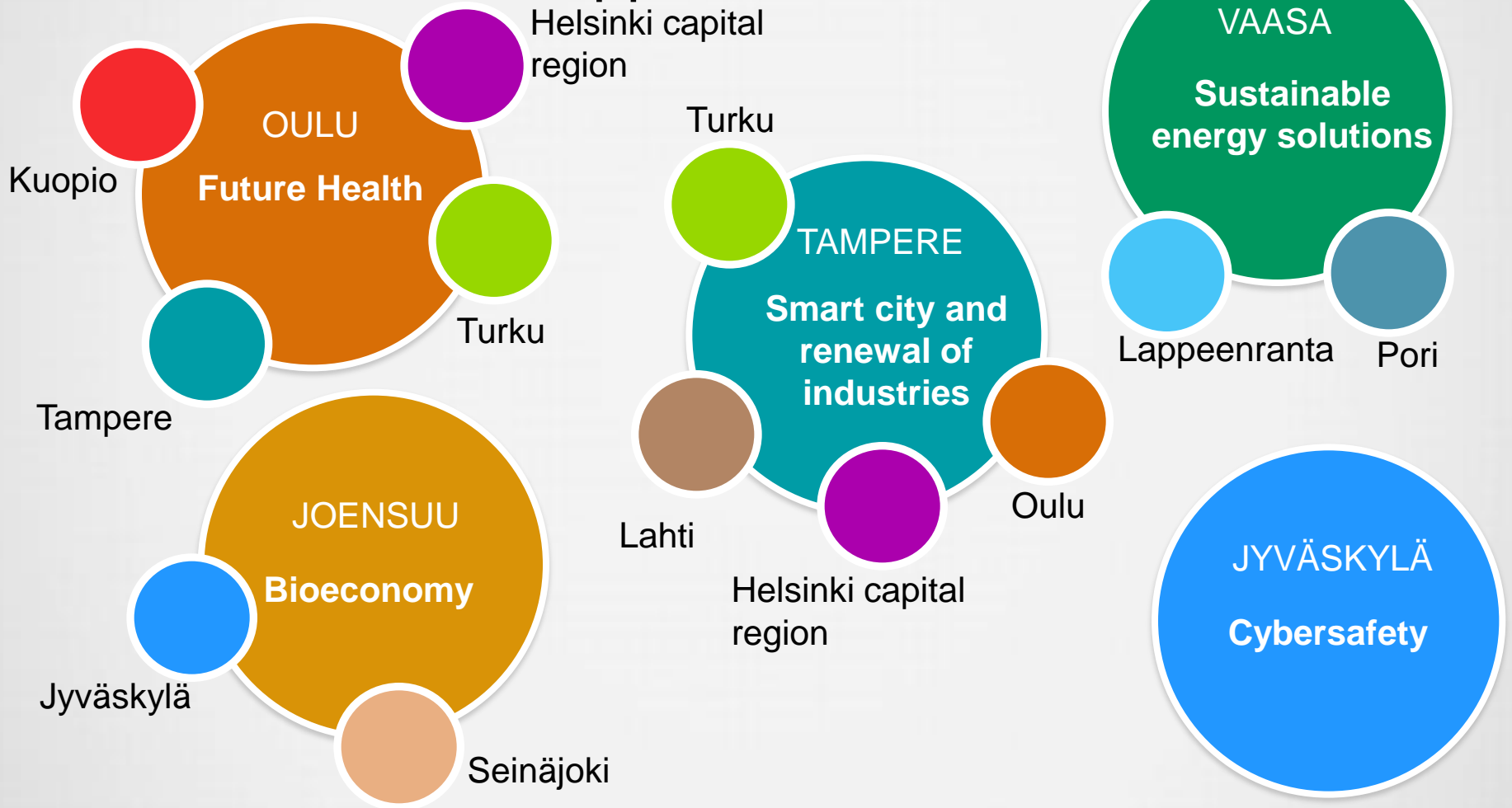
Accelerates new innovation-based businesses by promoting development platforms and lead market initiatives

Main objectives and targets

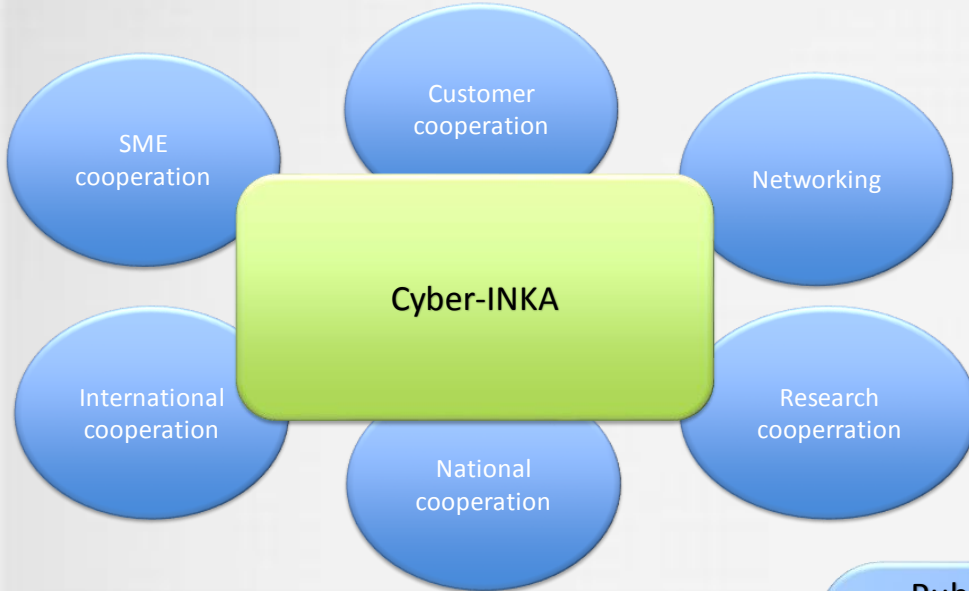
- Competitive Spirit: Challenge Call for the biggest cities
- Establishing thematic networks focusing on new business for global markets
- Creating new innovation-based businesses and start-ups
- Contributing to smart specialisation of city regions
- Encouraging cross-regional and international cooperation
- Creating market opportunities and developing ideas and companies, with a particular emphasis of SMEs.

Budget: 30 M€/year (divided even by Government, Cities and EU structural funds)

Partnerships in INKA for achieving critical mass in research, applications and markets



Cyber Security – Cyber Safe Finland



Cyber-INKA Vision: " Finland is a global forerunner and a centre of excellence in cyber security"

Six strategic cornerstones, competences and co-operation as a prerequisite for successful Cyber Business

Development initiation in national level, target in export

Cyber-INKA Themes in four dimensions

Cyber business originated in national cyber strategy, as part of public sector

Internationalization beyond EU per case, typically driven by private sector

Research ensuring competence

Cyber security involved in all other INKA programmes



Kestävät Energiaratkaisut

The Sustainable Energy Solutions INKA is the leading energy technology center in Europe in 2030

- Sustainable Energy Solutions INKA's key task is to support the global networks formed by top Finnish enterprises. The strategy of these top enterprises is technology leadership and global presence.
- The Finnish energy technology innovation center is based on the export industry driven by the [EnergyVaasa](#) ecosystem. The Vaasa city driven innovation center leads all key energy industrial stakeholders (industries, universities and the public sector) in Finland.
- The networks are developed in cooperation with the best energy cities in Finland with clear profiles; the collaboration between the universities is facilitated, the investments of the public sector will be used as innovation references and the new business models are developed to support the growth and internationalization of SMEs.

Main Themes

Developing the innovation system

Developing the higher education system

Pilots and demonstrations

Smart Power Generation

Smart Grids

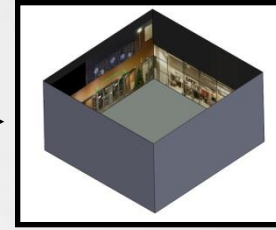
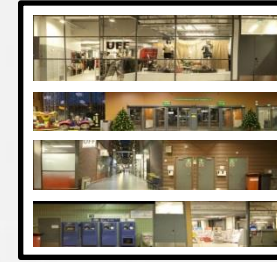
Energy Efficiency

City	The labour growth of the energy technology industry (v. 2010)	The turnover growth of the energy technology industry (v. 2010)
Vaasa	10 000	5 Mrd €
Pori	5 600	1,2 Mrd €
Lappeenranta	1 000	0,5 Mrd €
Total	16 600	6,7 Mrd €

Smart City and industrial reform

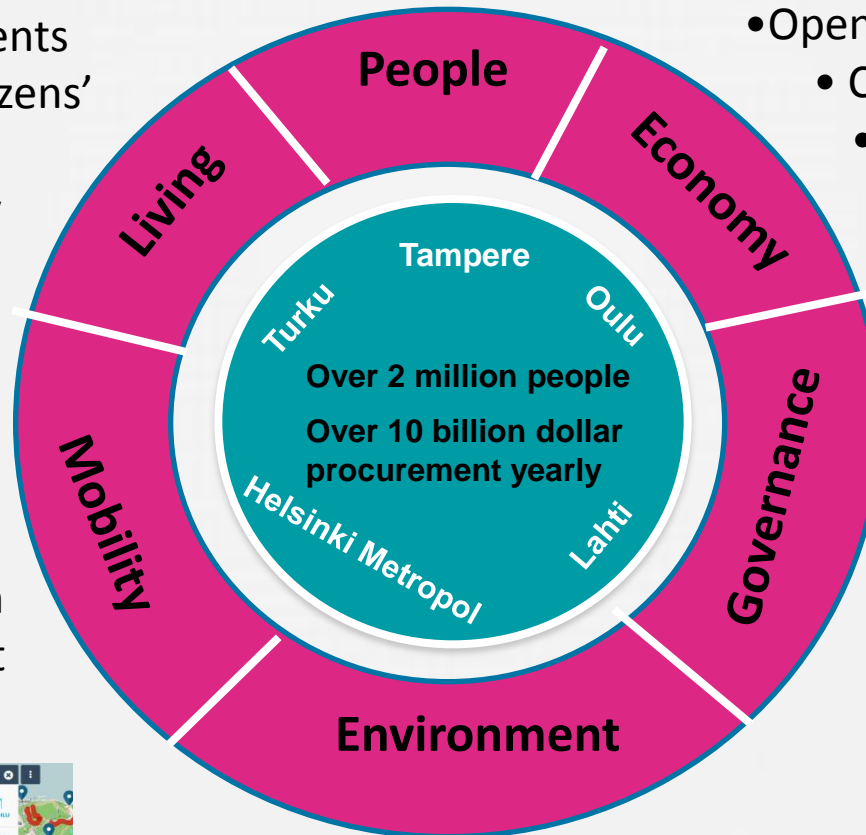


- Open participation
- High level education
- Real life innovation platforms



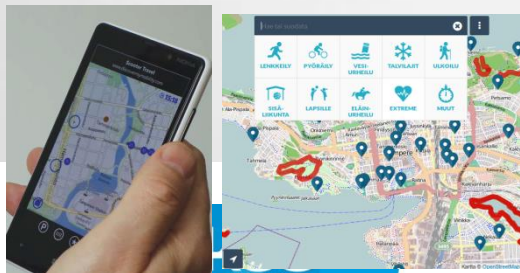
- Open Innovation platforms
 - Companies as partners
 - Industrial ecosystems

- Innovation environments
- Services based on citizens' needs
- Wellness and security



- Open data
- Innovative procurement
- Transparent administration

- Traffic as a service
- Connected, interactive and citizen oriented environment
- Electric mobility



- Eco-efficient urban planning
- Industrial symbiosis
- Energy-efficient built environment



Bioeconomy Finland 2020

Finnish companies are groundbreaking providers of expertise and solutions with high added value for...

ForestBio

Wood procurement and logistics solutions

Eg. forest machinery and ICT solutions for forest industries, bioenergy production and modern biorefineries

Biorefinery technology

Eg. wood based biorefineries, integrated bio-products plants

Forest sector ICT and automation

Eg. natural resources inventory, consultation and other services, biomass measurement technology, process automation

Bioenergy value-chain

Eg. forest biomass production and procurement, logistics solutions and optimization, combustion technology, district heating knowhow and de-centralized solutions

Wood construction

Eg. CLT technology, wood products industries and processing equipment

AgroFood

New food- ja non-food-components

Eg. functional food, allergy and dietary products, fertilizers, new packaging materials

Increasing energy efficiency and decreasing emissions

Eg. cold technology, biodiesel engines, manure cooling processing machinery and equipment

Increasing efficiency and productiveness in primary production

Eg. machinery for precision farming, minimal processing -machinery, control systems

Food quality and safety controlling

Eg. controlled processing facilities, modular production facilities, logistic systems

Training, consultancy, R & D co-operation in food safety, security and sustainability



The use of biomass residues for de-centralized production of power, heat and cooling

- Fluidized-bed and grate boilers are commercially available from several Finnish suppliers for large scale energy production > 5 MWe
- Small-scale downdraft gasification systems and engine-generators available for high-quality wood chips in the smallest size class < 100 kWe (e.g. Volter)

New gasification-based CHP/C-system under development at VTT

- wide feedstock basis
- suitable to 200 kWe – 2 MWe size
- integrated production of power and heat/cooling on village level or at small industrial sites
- piloting scheduled for 2015 – industrial demos in 2016-17
- international partners searched for intensive market penetration

Moso and madake bamboo samples from Fukuoka district were characterized for gasification in 2014



Integrated production of high-value biomass products and the use of residues for massive production of fuels and chemicals

Multiple industrial sites with local energy and material recovery integration



Renewable transportable intermediate products



Large-scale refineries or chemical industries



- Forest residues and agricultural residues
- Industrial and municipal wastes
- Integration to food, forest, chemical or metal

Industries

- Pyrolysis oil
- Methanol
- Fischer-Tropsch hydrocarbons
- Synthetic methane, bio-hydrogen

- Drop-in transportation fuels
- Olefins for renewable packaging materials
- Basic chemicals, fertilisers
- Aromatics

The New York Times

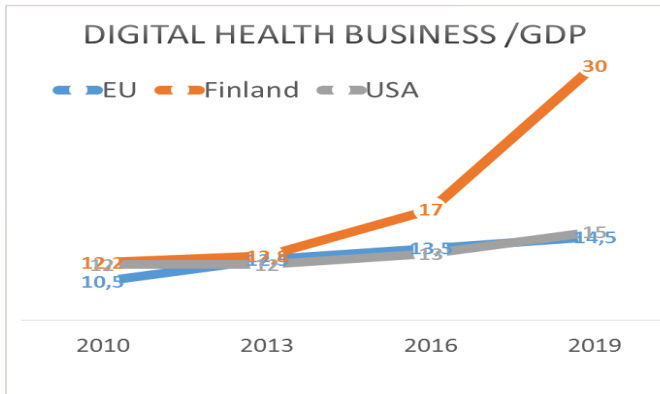
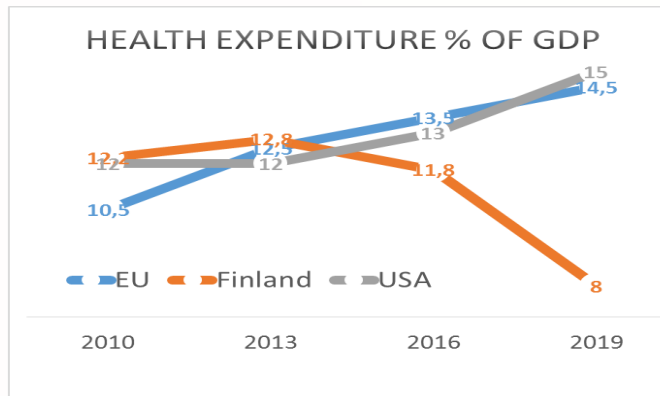
Wednesday, November 4, 2020

Miraculous Healthy Living – A Finnish model

The Finns made a clever realisation years ago. They concluded that **all behaviours in a person's everyday life are health related** – from nutrition habits to the services we use. Therefore, all data, collected in every day interactions, is relevant for guidance in health choices. This led to the development of preventive health services that make use of a person's digital footprint, her/his health data and user preferences in seeking information and using services that are good for her or his short and long term health.

A crucial element in the success story has been **the trust of privacy** that the developers have been able to build into the services. Users truly can rely that their personal behaviour and health data is not misused in any way or disclosed to others without their explicit approval.

An additional factor were peer support health networks focusing on the value and meaning of personal data started to question customary ways of thinking about short and long term health concerns, leading to innovative products and services.



The rethinking of health and wellbeing generated an important societal learning curve that facilitated the development of **highly successful and competitive services** for the global healthcare needs.

The Finnish digital health now referred to as **the Finnish data miracle** - has been remarkable and Finland now ranks among one of the most competitive in the world.

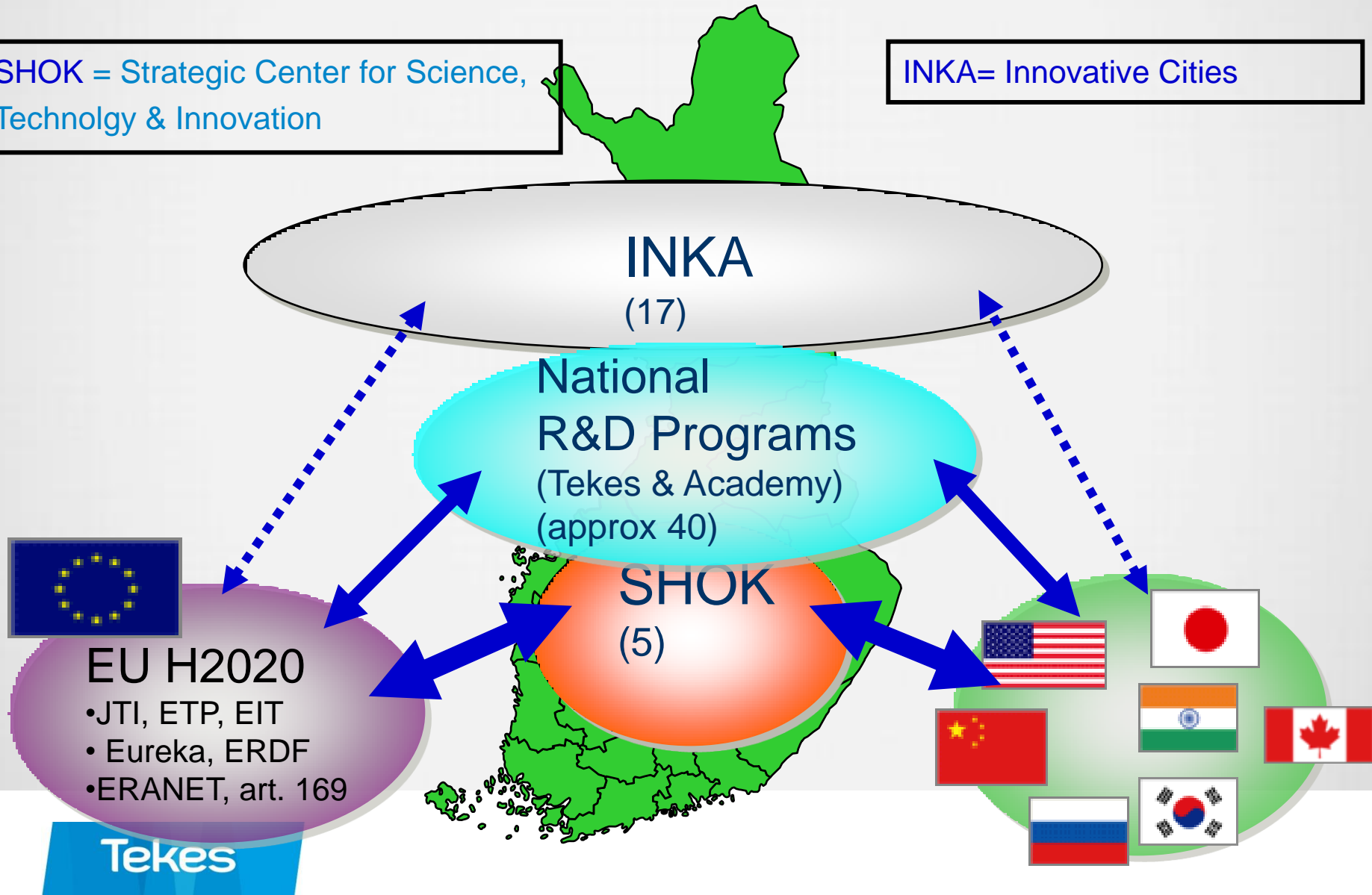
In addition, Finns enjoy services that enable them to lead healthier lives, as recorded by international statistics. Remarkable indeed!

Finnish data miracle

R&D&I Programmes – an Overview

SHOK = Strategic Center for Science, Technology & Innovation

INKA= Innovative Cities



Smart Specialisation Strategies

Smart Specialisation Strategies should be developed in an entrepreneurial discovery process trough involving:

- ✓ national or regional managing authorities
- ✓ stakeholders such as **business**, universities and other higher education institutions **and RTOs**
- ✓ and civil society/users.

The authorities directly involved in the implementation of Horizon 2020 should be closely associated to this process.

No "one-size-fits-all"

Policies must be tailored to the local context, acknowledging that there are different pathways for regional innovation and development. By:

- a) **rejuvenating traditional sectors** through higher value-added activities and new market niches (mining Silesia; shipbuilding Skåne; automotive West Midlands);
- b) **modernising** by adopting and disseminating new technologies (logistics Flanders);
- c) **diversifying technologically** from existing specialisations into related fields (Aeronautics in Toulouse to GPS technologies);
- d) **developing** new economic activities through **radical technological change** and **breakthrough innovations** (Tourism in Balearic Islands);
- e) **exploiting new forms of innovation** such as open and user-led innovation, social innovation and service innovation (Historical heritage in Italy).

▪ Adapted from: R. Ortega

Cities' Role in Smart Specialisation for Finland

- In 2013, important national development programmes for cities were under preparation: **Innovative Cities (INKA programme)** and **Witty City (Tekes programme)**
- The purpose of these programmes is to help cities to develop attractive **innovation hubs in Finland**
- City regions are challenged to create new types of **ecosystems based on smart specialisation**, leading to knowledge-based development of business environments and lead markets.
- Moreover, cities and SMEs will find interesting new opportunities opened up in the **Horizon 2020** programme, and the European Innovation Partnership on Smart Cities and Communities (**EIP SCC**) will lay basis for integrated policy coordination between European Union and the Member States in the coming years.

Thematic Priorities in the Finnish City Regions 2014-2020

Bioeconomy

JOENSUU, Jyväskylä, Seinäjoki

Sustainable Energy Solutions

VAASA, Lappeenranta, Pori

Cyber Security

JYVÄSKYLÄ

Future Health

OULU, Kuopio, Metropolitan Area, Tampere, Turku

Smart City and Industry Renewal

TAMPERE, Lahti, Oulu, Metropolitan Area, Turku

**ONLY 10% of ERDF funding
for Finland is channelled
through Tekes and for these
City Development
Programmes**

**Multi-KETs
in all these
Priorities!**

Two programmes – two approaches

H2020 – Funding comes from Brussels

- Apply for funding at EU-level - basis H2020 Work Programmes
- Consortia include complex Pan-EU networks of competence centres

ESIF – Funding comes from your region

- Apply for funding in each region and with the relevant authority
- Operational plans of the regions should include a HOOK in terms of a high keyword:
 - Supporting the shift towards a low carbon economy in all sectors (this is a MUST!)
 - Strengthening research, technological development and innovation (including KETs)
 - Enhancing access to and use and quality of ICT
 - Enhancing the competitiveness of SMEs
 - Other

Creating together!



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