

Meta Evaluation of Socioeconomic Effects and Tekes

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Goal

- § A goal of my paper is to determine meta evaluation results of Tekes, Finland, in order to describe those socioeconomic effects that are defined in Tekes strategic goals and focus areas.
- § One target is the Tekes programs that have been carried out during 2008-2009. Tekes programs are the most important tool of the implementation of the Tekes strategy and strategy focus areas.
- § The socioeconomic goals in Tekes strategy are welfare effects based on the sustainable energy and environment, quality of social and health system as well as services and platforms of information society.
- § Impact model of Tekes concentrates on the effects of public R&D financing on the whole economy and society. We try to build up a framework of longer term societal welfare effects by focusing on the results of meta evaluation, Tekes strategic goals and focus areas, and Tekes impact model.

Tekes - Finnish Funding Agency for Technology and Innovation

- § Tekes is a public organization under the Ministry of Employment and the Economy
- § budget: 600 million euros annually
- § personnel: 360 in Finland and abroad
- § Tekes is the most important publicly funded expert organization for financing research, development and innovation in Finland.
- § We boost wide-ranging innovation activities in research communities, industry and service sectors.

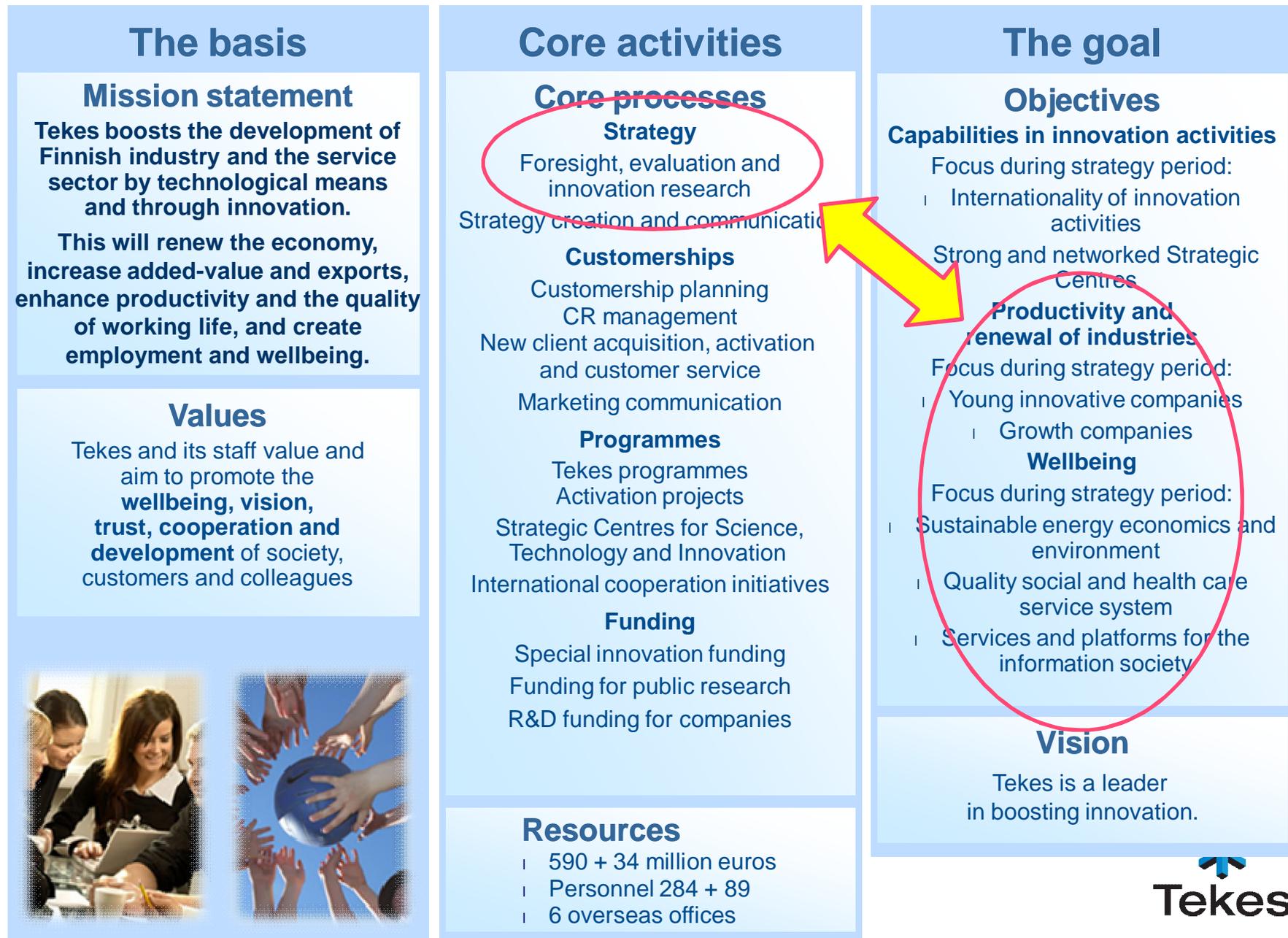


Tekes – working methods

- § Tekes promotes a broad-based view on innovation: besides funding technological breakthroughs, Tekes emphasizes the significance of service-related, design, business, and social innovations.
- § Tekes works with the top innovative companies and research units in Finland. Every year, Tekes finances some 1,500 business research and development projects, and almost 600 public research projects at universities, research institutes and polytechnics.
- § Research, development and innovation funding is targeted to projects that create in the long-term the greatest benefits for the economy and society.
- § Tekes does not derive any financial profit from its activities, nor claim any intellectual proprietary rights.



Tekes strategy in a nutshell



A changing world – a changing Finland

Asia is rising as an economic power.
Monetary economy is gaining significance.
Digitality is changing practices globally.
Climate change has a broad impact as a background factor, including also consumer behaviour.

Cultures are crossing borders.
New micro- and subcultures emerge easily.
New interaction creates new identities.
People's mobility is increasing.
The world has many cultural power centres.

Ever more people suffer from shortage of time.
Lifestyles can be chosen from many alternatives.
Consumerism as a lifestyle is becoming more common. Ethical consumption is rising.

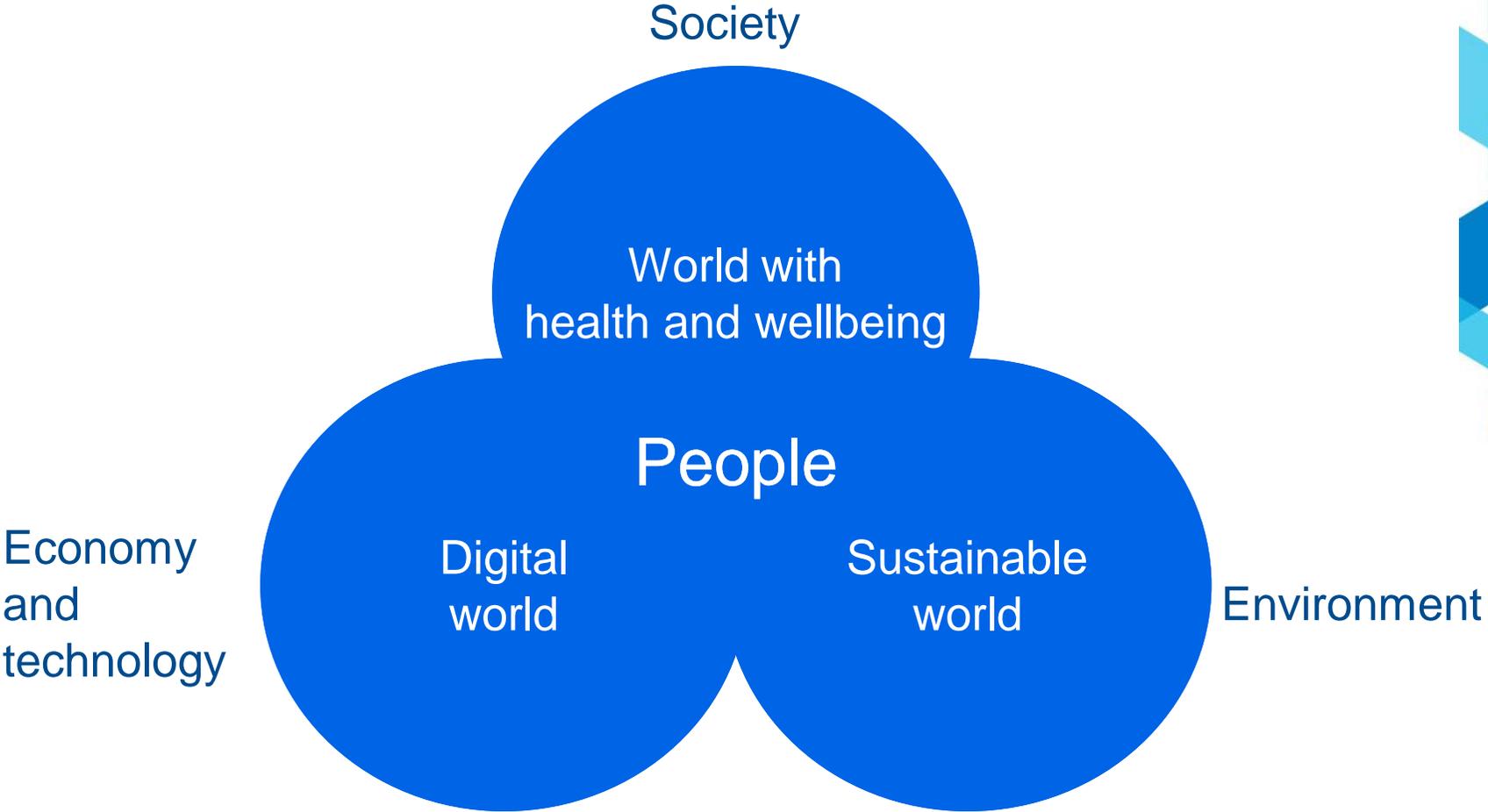
Families are getting smaller, with family models changing.
Women's influence in societies is increasing.
The world's population is ageing.

There is a huge amount of information available.
Publicity and openness are increasing.
The world is becoming more and more networked.
The media reaches billions of people.

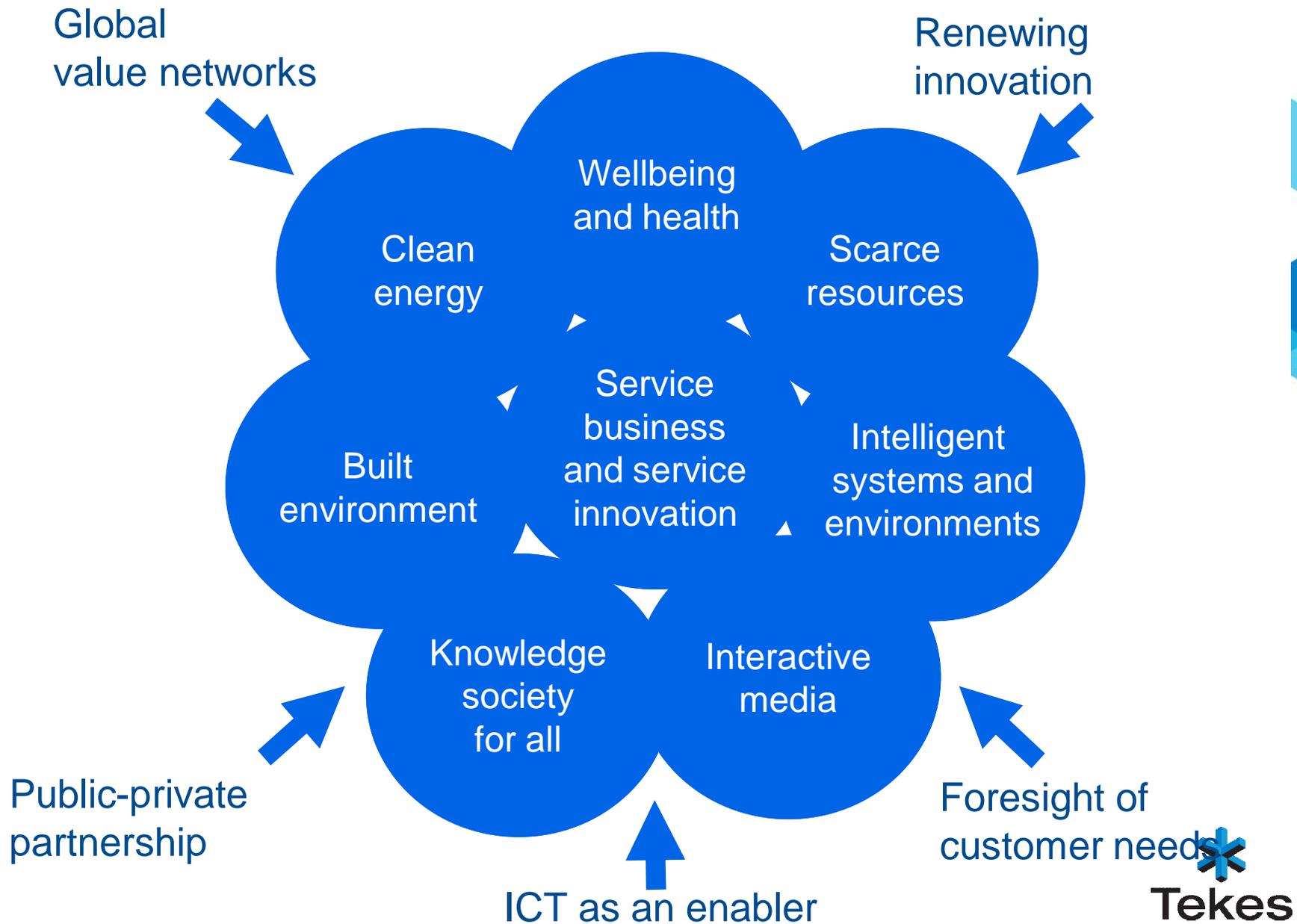
The share of middle-income population groups is growing around the world.
More and more people live in urban areas.
Population growth is continuing.

User orientation is emphasised in technology.
Innovations are shaped by users in the market.
Users are involved in creating innovations.
Ease of use and compatibility are strong trends.
Information security, privacy and safety are gaining significance.
Users want customisability, health promotion, intelligence and economy in technologies.
Technologies are expected to promote sustainable development.

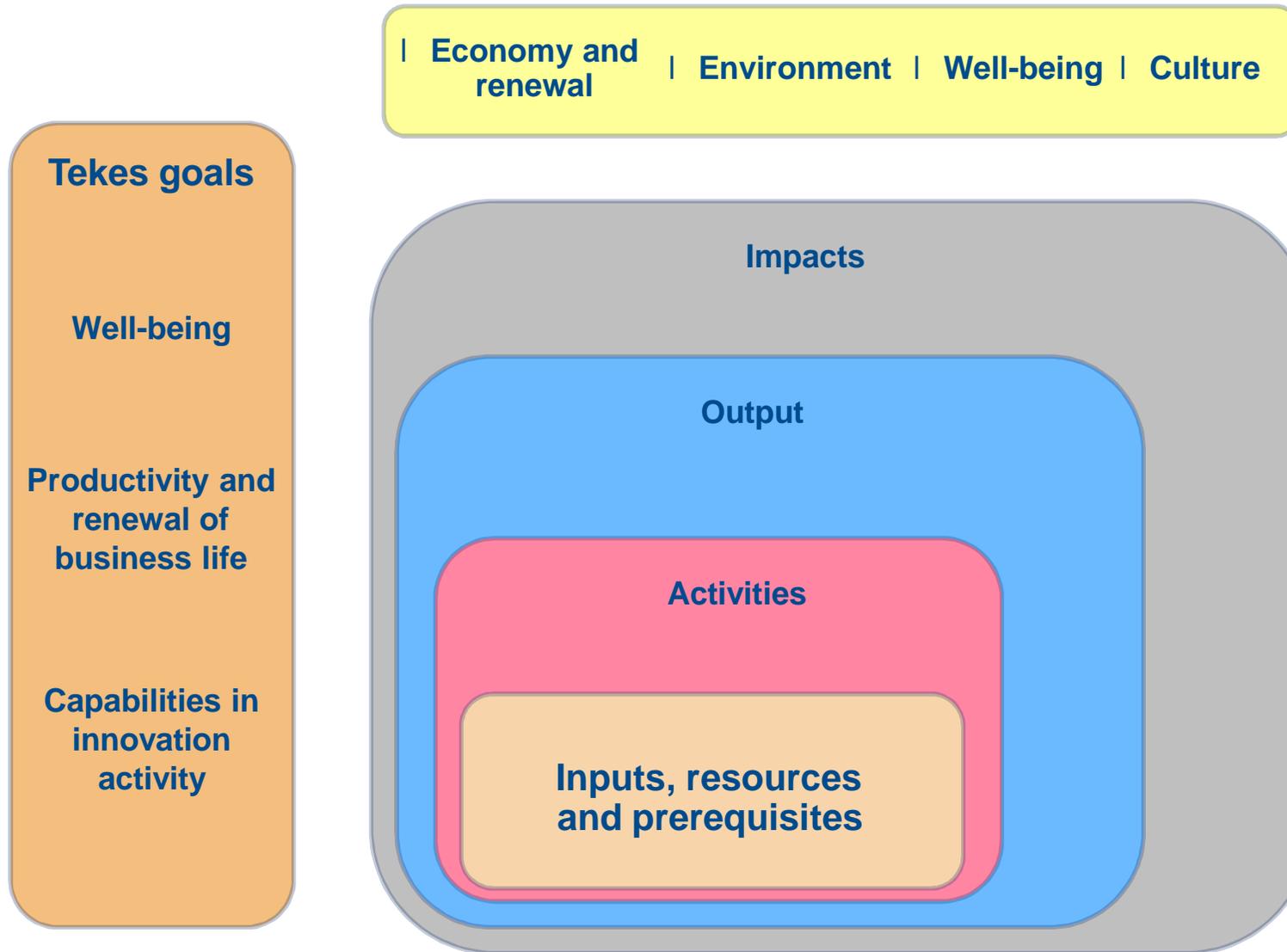
Tekes strategy focus areas



Tekes strategy focus areas - themes



Tekes impact model 2010



Evaluation method - Additionality

- § **Input additionality** means that private firms invest more in R&D than it would otherwise do without the public funding.
- § **Behavioral additionality** explain changes in the desired direction of a firm's subsequent behavior.
 - How has public funding impacted the working behavior of research projects in research institutes and universities? Has public funding spurred permanent and pervasive changes in their working behavior in projects?
- § **Output additionality** - would we have obtained the same outputs without a policy action?
- § **Impact on Economy and Society** which in turn can be measured for example as productivity, economic growth, environmental issues and social well-being.

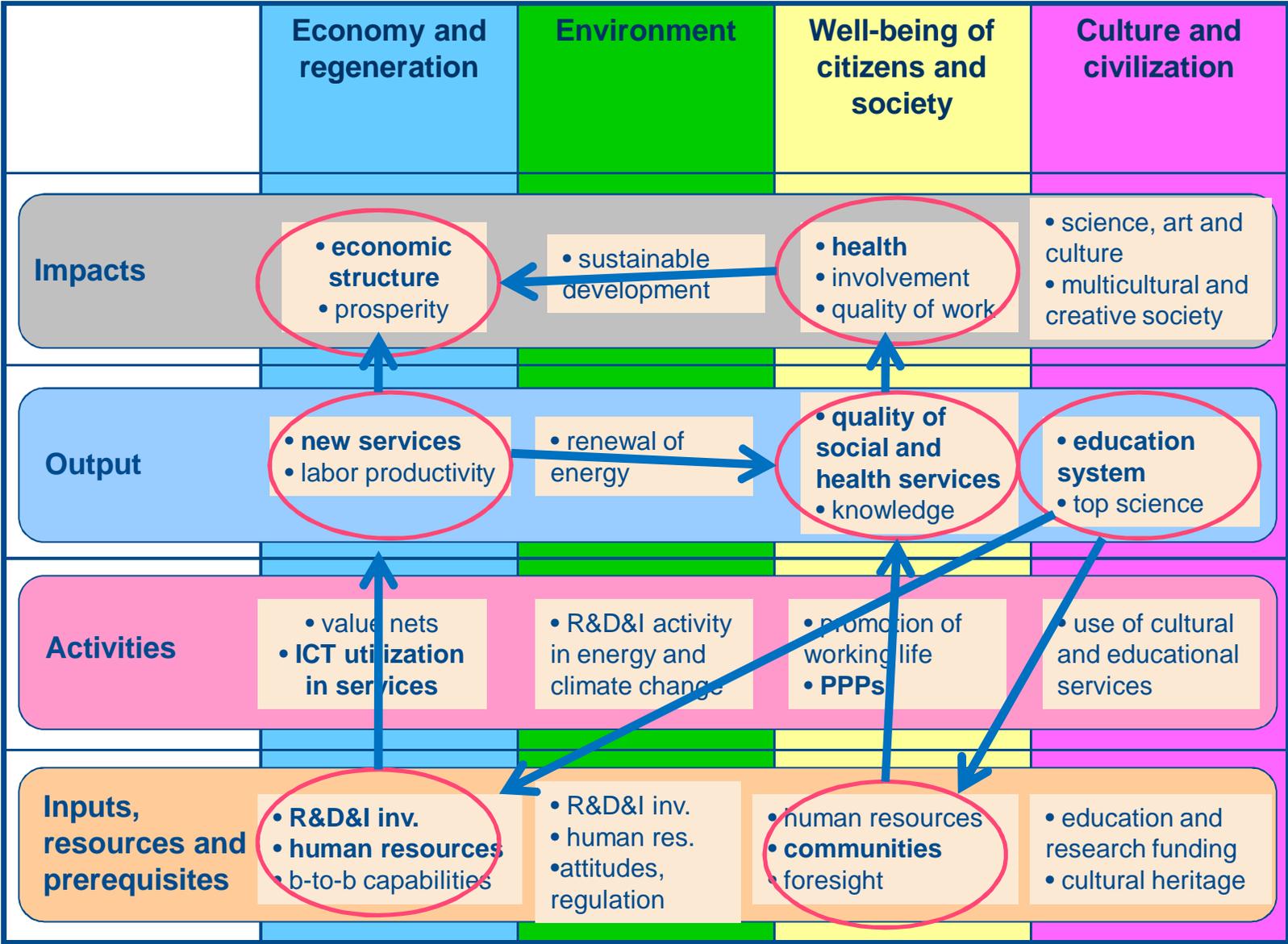


Tekes impact matrix and indicators

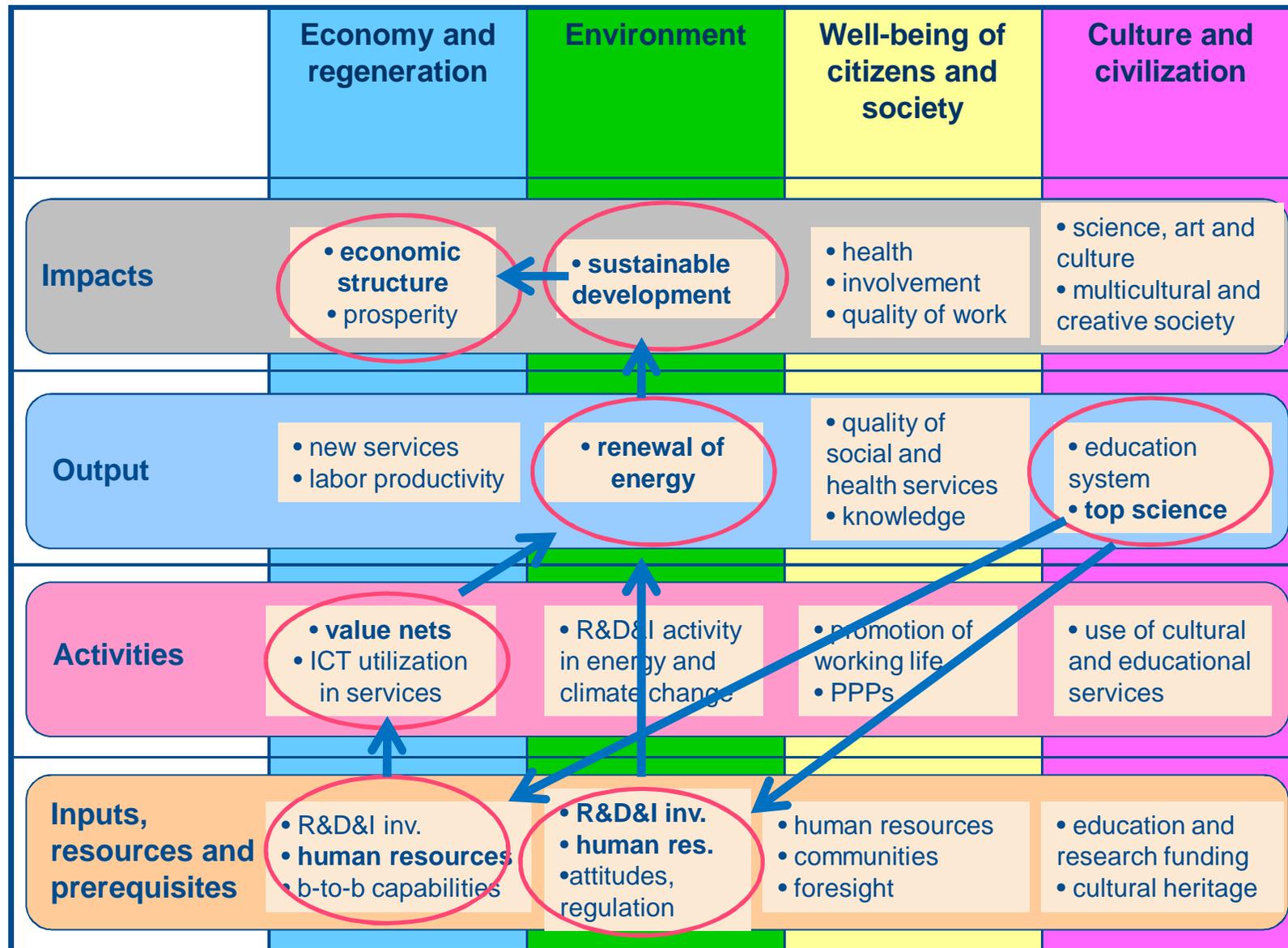
	Economy and regeneration	Environment	Well-being of citizens and society	Culture and civilization
Impacts	<ul style="list-style-type: none"> • economic structure • prosperity 	<ul style="list-style-type: none"> • sustainable development 	<ul style="list-style-type: none"> • health • involvement • quality of work 	<ul style="list-style-type: none"> • science, art and culture • multicultural and creative society
Output	<ul style="list-style-type: none"> • new services • labor productivity 	<ul style="list-style-type: none"> • renewal of energy 	<ul style="list-style-type: none"> • quality of social and health services • knowledge 	<ul style="list-style-type: none"> • education system • top science
Activities	<ul style="list-style-type: none"> • value nets • ICT utilization in services 	<ul style="list-style-type: none"> • R&D&I activity in energy and climate change 	<ul style="list-style-type: none"> • promotion of working life • PPPs 	<ul style="list-style-type: none"> • use of cultural and educational services
Inputs, resources and prerequisites	<ul style="list-style-type: none"> • R&D&I investment • human resources • capabilities 	<ul style="list-style-type: none"> • attitudes, standards, regulation 	<ul style="list-style-type: none"> • human resources • communities • foresight 	<ul style="list-style-type: none"> • education and research funding • cultural heritage



Tekes impact chart



Tekes impact chart



What kind of material we have?

- § Tekes programmes and evaluation reports
- § Tekes success stories
- § Tekes survey – three years after...
- § Publications of Tekes, scientific journals and other reports
- § Innovation research coordinated in Tekes evaluation unit
- § Information inside from Tekes



Tekes programmes

- § Tekes programmes are complete packages of financing and expert services, aimed at the most important targets in terms of the future of Finnish business and society
- § Tekes finances research and development projects aimed at specified areas and provides programme services that support a programme's objectives
- § About half of the financing granted by Tekes is channelled through Tekes programmes
- § The ideas for new programmes are based on initiatives by Tekes customers and the focus areas in Tekes strategy. The focus areas are made in interaction with society and business
- § There were 29 ongoing programmes in 2008
- § Companies participated in about 3,300 and research units in about 1,400 programmes' projects
- § Each programme is evaluated by outsiders



Tekes success stories

- § Joy of innovation - Tekes works with the top companies and research groups in Finland. The success stories portray innovations achieved in research and development work supported by Tekes.
- § For example:
- § Growth of wind power sector spurs Finnish high tech - The Switch Ltd
- § Established in late 2006, The Switch has had the right product range to be able to take rapid advantage of investments in wind power. After two years of operations the company's turnover already exceeds 53 million euros.
- § And more than 200 stories in our [www-pages](#)



Information inside from Tekes

Pre-project evaluation (EVAL software)

- § Financial information, such as other financing, international cooperation, strategic importance to the client, novelty value, risks, challenges, other partners, exploitation of results.
- § Evaluation information, such as client description, goals, technological and knowledge development, resources and cooperation, exploitation of results and commercialization.



Tekes survey – three years after...

Post-project evaluation (Data Warehouse)

1. Accomplishment of goals in development, commercialization and competitive advantage.
2. Differentiation of technology and innovation know-how compared to competitors before and after the project.
3. Impact on research unit, such as research demand, researcher movement, new research fields, co-operation, spin-offs, internationalization, efficiency and adaptability etc.
4. Broader impacts of the project on the research field, economic activity, innovation networks and so on, such as R&D activity, knowledge base, new firms, productivity and competitiveness, new co-operation relations, commercialization, foresight, efficiency, innovativeness, adaptability etc.



Tekes survey – three years after...

Post-project evaluation (Data Warehouse)

5. Impacts on society and the economy, such as the environment, public services, national knowledge base, safety, employment, regional development, internationalization, entrepreneurship and renewing of business life.
6. Impact of Tekes on the projects, such as challenge, extent, schedule, resources, co-operation and overall realization of the project.
7. Results of the project, expansion of own R&D expenditures, IPR issues, new technology, innovations and know-how, spin-offs.



Publications of Tekes, scientific journals and other reports

For example:

- § According to research results, one euro of public R&D funding increases private R&D investments by 0.40-0.93 euros. In other words, the overall additionality of public R&D funding is 1.40-1.93 euros. (several publications)
- § R&D enhances productivity of Finnish companies in 3-5 years. Ali-Yrkkö et al. (2006)
- § Public subsidies to the cooperation of universities and SMEs generates substantial added value. Kutinlahti et al. (2006)
- § Tekes' clients have experienced more rapid growth than companies in the business register in general. Business Aid Database Creation: Final Report by the Working Group (2006)

Innovation research coordinated in Tekes evaluation unit

Global Innovation Economy

Themes for strategic basic research:

- § Global innovation Economy and Reorganization of Work and Production
- § Extending innovation (innovation activities e.g. in public sector, expanding sources for innovation, horizontal innovation policy etc.: conceptual work)

Themes for applied and developing STI research:

- § Intangible Capital / Investments and Productivity
- § Spillovers and Innovation Activity
- § Systemic innovation, innovation processes and innovation policy
- § Finland in the Global Innovation Economy in the 2010s



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Thank You!

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