




ACADEMY OF FINLAND  
RESEARCH FUNDING AND EXPERTISE

The Academy of Finland and SHOKs



## Strategic Centres for Science, Technology and Innovation (SHOKs)

- Science, technological development and innovation of a high standard in constant interaction
- Application-based, multidisciplinary and broad-based, virtual SHOKs create  a platform for cooperation among researchers, companies and other actors from all fields
- Based around one or more solid core areas
- Opportunities for pooling the knowledge resources of many different fields
  - High potential for new directions and applications, since the future needs of the business sector and society are anticipated and taken into account in a 5–10 year perspective.



## The aims of SHOKs

1. **The leading companies, universities, research institutes and research funding organisations in Finland make a commitment** to the operations and objectives of the strategic centres and **focus their resources** in a long-term perspective into these strategically selected centres, which hold a high international standard.
2. The strategic centres engage in **dynamic and interactive activity in science, technology and innovations (STI)**, and results are made available for effective and broad-based utilisation. The research activity at SHOKs anticipates the future needs of society and the business sector in a 5–10-year perspective.
3. The cutting-edge competence and reputation of top-tier science, technology and innovation **will attract innovative companies and experts who are world leaders in their field to Finland.**



## Criteria for SHOKs

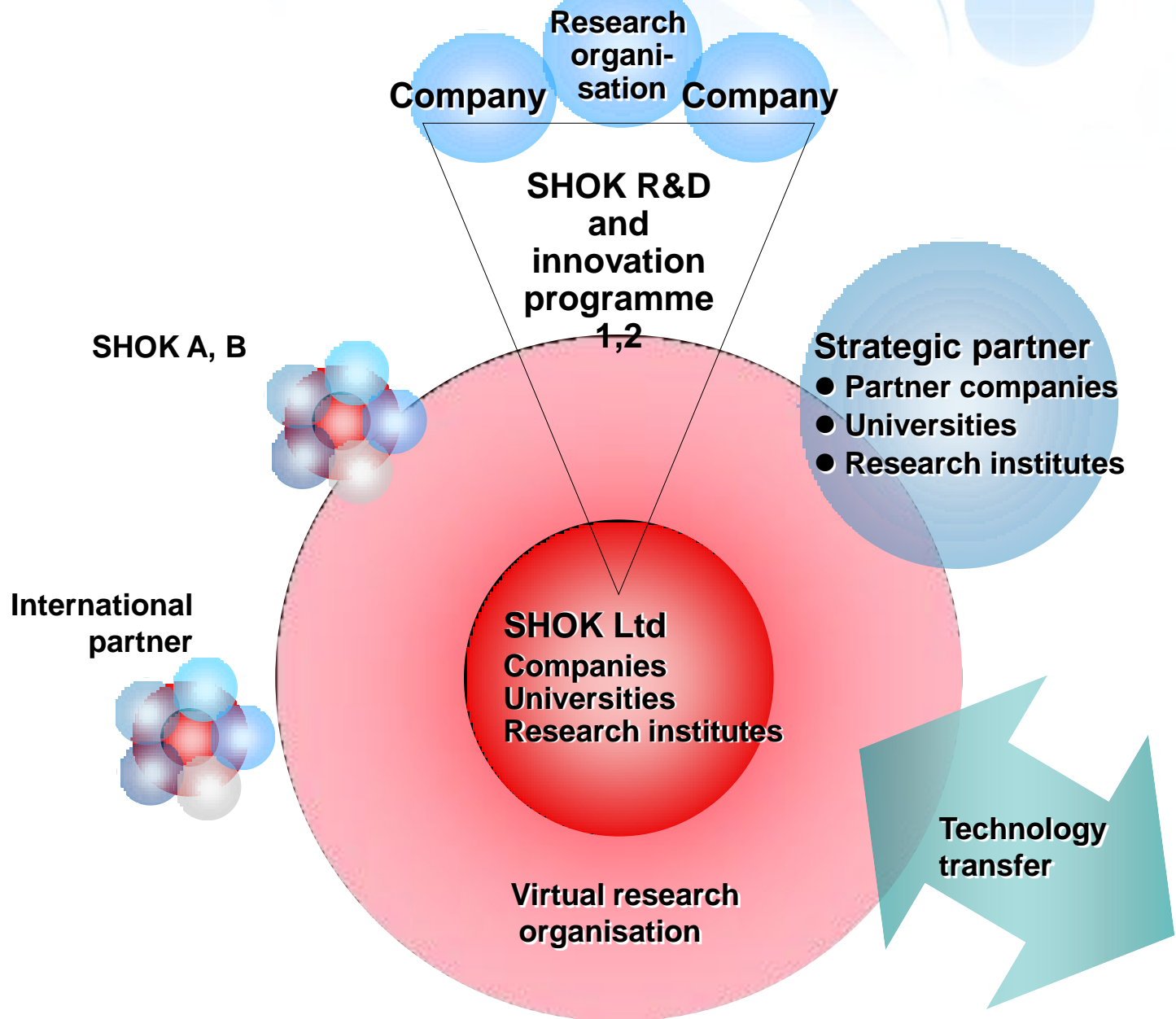
- **Strategic Centres for Science, Technology and Innovation must have high economic and societal potential and R&D input.**
- **SHOKs must have adequate personnel and financial resources.** Once operations have stabilised, the total volume of SHOK operations should reach a level of €50–100 million annually, depending on their focus and activity.
- **SHOKs must focus on applications that are crucial for the future of their field.** The emphasis on applications means that the research, development and innovation activity at a SHOK brings together expertise from many different fields. The prominent role of innovation further requires that testing environments are created in connection with the SHOKs, so that new application-based ideas can be piloted and tested in the most realistic conditions possible.



## Criteria for SHOKs

- **The core expertise of the SHOKs must be available in Finland. Each SHOK must have the potential to become a world leader in its field.** SHOKs must have international credibility and reputation and be able to attract leading experts and enterprises worldwide. In order to succeed in this, SHOKs must be internationally networked and actively involved in international cooperation.
- **SHOKs are based on a strong commitment from the key enterprises, universities, research institutes, funding bodies and ministries in their field.** SHOKs operate in a long-term perspective and they have long-term funding, with a view to giving them a competitive edge. SHOKs and all the parties committed to them have a clear, shared vision and a focused strategy.

# SHOK





## Selection and start-up processes

- Operative responsibility has been allocated to Tekes and the Academy of Finland
- Multi-stage process:
  - Identification of fields for SHOK operations
  - Feasibility studies
  - Planning stage
  - Start-up stage
  - Monitoring of implementation and evaluation of results
    - Steering group appointed by the Ministry of Employment and the Economy
      - includes representatives from Tekes and the Academy



## Operational and planned SHOKs

### Operational:

- Energy and the environment\* -> CLEEN Ltd
- Metal products and mechanical engineering\* -> FIMECC Ltd
- Forest cluster \* -> Forestcluster Ltd
- Information and communication industry and services\* -> TIVIT Ltd
- Health and well-being\* (launched in April 2009)
- Built environment innovations

\* SHOKs included in the strategy approved by the Science and Technology Policy Council.

Any additional SHOKs will be proposed by the SHOK steering group.



## The role of world-class research at SHOKs

- Scientific research of a high standard is vital for the development of new technologies, innovations and other applications.
- Constant interaction with end-users facilitates risk-taking and the identification of new avenues and areas in research.
- Attracts world-class expertise to Finland
- Provides training for experts in the field for Finland and the international market
- Attracts international R&D and innovation funding to Finland



## SHOKs: Challenges and opportunities

- Value added compared with present operating model
- Balanced cooperation between enterprises, universities and research institutes
- Strong commitment from public and private actors and funding bodies
- Management of IPR issues
- Creation of strong brand
- Creates and reinforces international cooperation on different levels
- Internationally attractive



## The role of the Academy

The Academy:

- Reinforces the scientific basis and standard of SHOKs
- Improves the potential for SHOK operations
- Encourages SHOKs to streamline their operations
- Contributes to bringing universities and research institutes into SHOK operations
- Promotes expertise in the SHOKs' fields
- Supports universities and research institutes in implementing their strategic choices once they have decided to participate in SHOK operations
- Provides funding for SHOK operations in accordance with its own principles



## The Academy's strategy

“Universities are the Academy's most important partner in its mission to develop scientific research.”

“Research creates new knowledge and new innovations from that knowledge base, promotes welfare and well-being, strengthens culture and education and spurs economic activity. The impacts of research are assessed over the long term.”

“The Academy works closely with universities, research institutes, research funding agencies, business and industry and public administration to improve the quality of basic research, its capacity for renewal and regeneration and the application of its innovation potential. At the same time, this cooperation serves to promote the mobility of researchers and knowledge, to improve researcher training and to open up new career opportunities for researchers.”

*Academy of Finland Strategy, 2006*



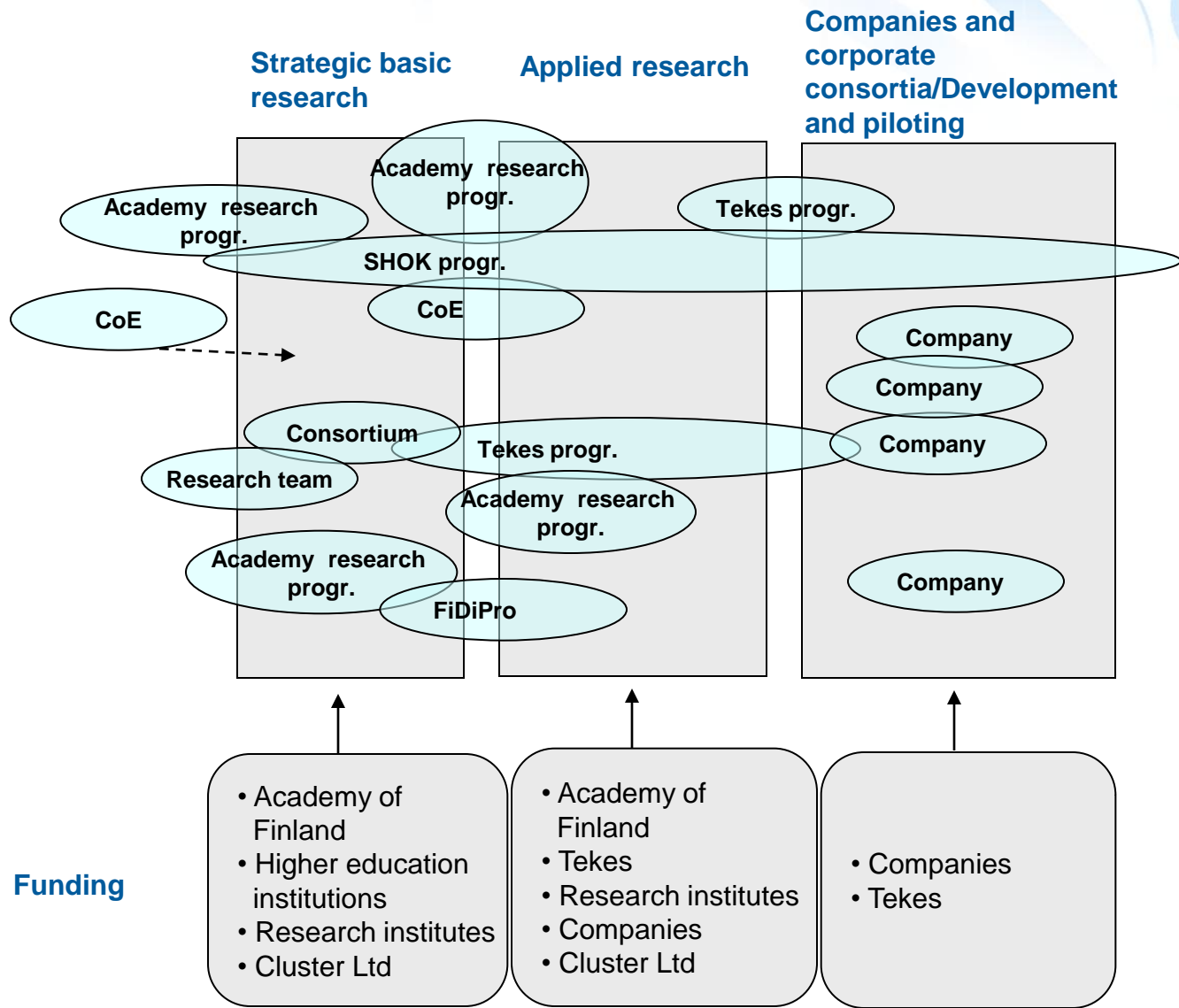
## Academy support for SHOKs 1/2

- In making funding decisions, the crucial factor is the scientific quality of a research project.
- In making funding decisions, attention is focused on promoting research that serves the SHOKs.
- In launching new research programmes, the Academy will take the thematic areas of the SHOKs into account.
  - In processing initiatives for research programmes and making decisions on them, the connection between the thematic area and SHOK operations will be taken into consideration, incl. the societal and economic relevance of the research in question.
- In making decisions on CoEs, the Academy will consider the SHOKs and research that serves their interests.



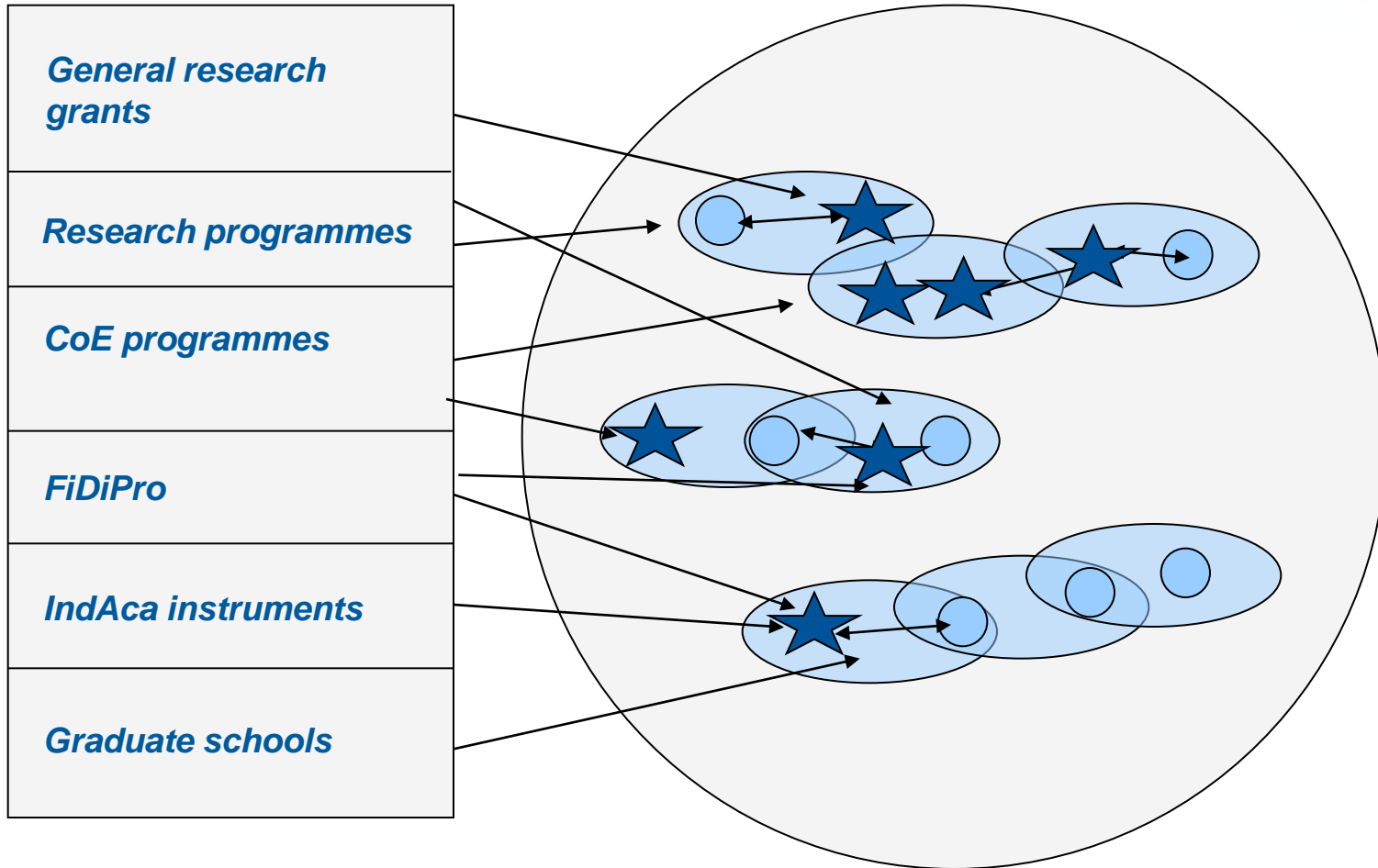
## Academy support for SHOKs 2/2

- The Academy can channel funding on the initiative of one or more Research Councils or the Board into SHOK operations and into their thematic areas.
- The Academy can fund SHOK operations and thematic areas through all the funding instruments at its disposal.
- The international engagement of SHOK operations can be supported through funding instruments such as FiDiPro.
- Funding from the Academy is fixed-term, usually 3–5 years.



Academy of Finland

SHOK





## Application and evaluation process

### Applicant

The applicant (the principal investigator of a research project) for Academy funding must have the qualifications of a professor or adjunct professor or be a researcher with a doctorate, unless the call for applications indicates otherwise or the call allows otherwise.

### Evaluation criteria:

- Scientific quality and innovativeness of the research plan
- Competence of the applicant/research team
- Feasibility of the research plan
- Cooperation contacts for the research nationally and internationally, and researcher mobility
- Significance of the research project for the promotion of professional careers in research and for researcher training



## Application and evaluation process

### Other factors to be considered:

- CoEs and other top-level research teams within SHOKs, and the potential of SHOKs in developing creative research environments
- The new form of long-term inter-sectoral cooperation to be implemented within SHOKs (universities – research institutes – public administration – business sector)
- Support for research careers within SHOKs
- The international operations of SHOKs

In connection with SHOK applications, evaluation will focus particularly on the societal and economic significance and impact of research. Projects funded are expected to serve Finnish research, society or international cooperation.



## Application and evaluation process

### Evaluation process

- In accordance with the Academy's general procedures: usually a written statement from a scientific expert panel or written statements from at least two external experts.

### Demonstrating connection with a SHOK

- When submitting his/her application, the applicant selects the SHOK in the list available in the online services whose thematic area the research is tied in with.
- The applicant shall attach a statement from the executive director of the Strategic Centre as an attachment file with his/her application. The statement shall confirm that the applicant's project is affiliated with the SHOK and give a description of the role and significance of the applicant's project for the SHOK's operations.

### Affiliation of projects identified by the Academy with a SHOK

- The matter will be agreed on separately on the basis of discussion with SHOK management.



## Application and evaluation process

### **The research falls within the thematic area of a SHOK but is not directly affiliated with the SHOK**

- If an application is not directly affiliated with a SHOK but the applicant feels that his/her application is tied in with the thematic area of a SHOK, the applicant shall justify this in his/her application.



## More information

[www.aka.fi/en](http://www.aka.fi/en) > Science in Society > Strategic Centres

[www.tekes.fi/en](http://www.tekes.fi/en) > Networking > Strategic Centres for Science, Technology and Innovation

The Strategic Centres' own websites:

[www.cleen.fi/en](http://www.cleen.fi/en)

[www.fimecc.com/en](http://www.fimecc.com/en)

[www.forestcluster.fi/en](http://www.forestcluster.fi/en)

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

[www.tivit.fi/en](http://www.tivit.fi/en)



## Contact persons

The Academy of Finland:

- Ritva Dammert, Director, Programme Unit
  - Energy and the environment: Leila Häkkinen, Jaana Lehtimäki and Salla Karvinen
  - Metal products and mechanical engineering: Ritva Taurio
  - The forest cluster: Kati Lüthje
  - Health and well-being: Mikael Fogelholm
  - Information and communication industry and services: Anu Juslin
  - Built environment: Maaria Lehtinen

Tekes:

- Executive Director Jussi Kivikoski and named contacts