

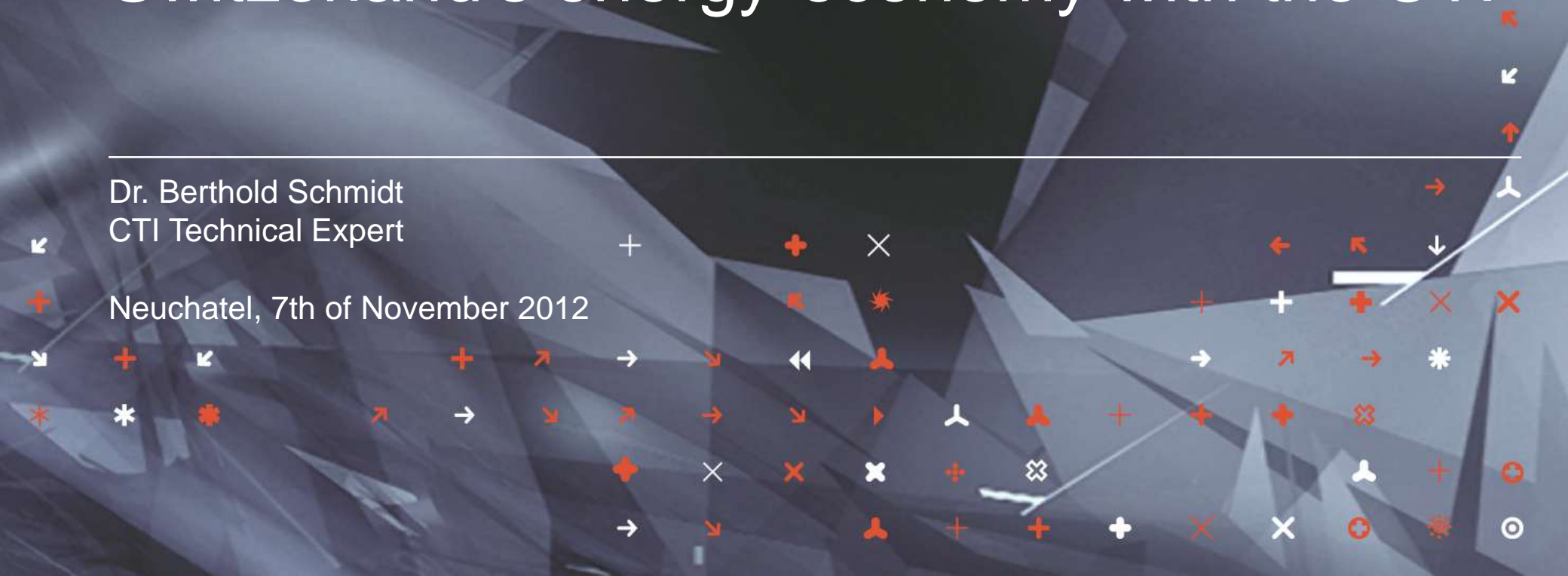


Commission for Technology and Innovation CTI

# Strengthening the innovative power of Switzerland's energy-economy with the CTI

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CTI Technical Expert

Neuchatel, 7th of November 2012





## Overview

- **CTI in Switzerland's innovation environment**
- **Plans related to energy-research funding in Switzerland**
- **CTI as a partner in energy research**
  - Project promotion
- **Motivation for today's workshop**



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation

Commission for Technology and Innovation CTI

Science to Market

# CTI in Switzerland's innovation environment





CTI in Switzerland's innovation environment

## CTI's mission

Mandated by the Confederation, the CTI strengthens the innovative power of Switzerland's economy.

- It funds and coaches **joint projects** by industry and higher education institutions to bring innovative products to the market.
- It supports **start-ups** and hence the creation of new jobs for highly qualified employees in Switzerland.
- It encourages **networking activities, transfer of knowledge and technology** between Swiss universities, research institutes and companies.



CTI in Switzerland's innovation environment

## CTI's three instruments to foster innovation

### Project promotion

Joint projects between industry and universities, innovation cheque

### Start-ups and entrepreneurship

Training modules, coaching, Start-up label, access to investors

### Networks

Regional and thematic networks



CTI in Switzerland's innovation environment

## Innovations as the driving force of Switzerland's economy

- Switzerland is a **small** country with **few natural resources**.
- It has one of the world's **most liberal economies** and is highly export-oriented. It earns almost every other franc abroad.
- Swiss companies **compete with companies from around the world under the light of a strong currency**.
- To succeed in this competition, they have to bring **innovative products** to the market.



CTI in Switzerland's innovation environment

## Switzerland is one of the world's innovation leaders

- Ranked 1<sup>st</sup> in EU Innovation Union Scoreboard 2011
- Ranked 1<sup>st</sup> in INSEAD Global Innovation Index 2012
- Ranked 1<sup>st</sup> in WEF World Competitiveness Index 2012
- Ranked 3<sup>rd</sup> in IMD World Competitiveness Ranking 2012

«Switzerland's economic success is not defined by certain products but by the way this country enabled the interlinking of different innovations.»

*Prof. Harold James, Princeton University, USA («The Swiss Economic Miracle»)*



CTI in Switzerland's energy-innovation environment

## The Energy Challenge in Switzerland

- In May 2011 the Bundesrat decided to step back from using nuclear energy to generate electricity.
- It has been recognized that this requires additional efforts towards more energy efficiency and renewable energies.
- To foster energy related research activities in Switzerland, the Bundesrat envisions to support this sector with additional funding.
- As described in the latest energy dispatch additional 202 Million CHF have been requested by the Bundesrat for „Swiss Competence Centers for Energy research (SCCER)“ between 2013 and 2016 as a first step.
- Within this promotion program „Energy“ the ETH, Universities and FHs will be supported by coordinated efforts of SNF, CTI and BFE.

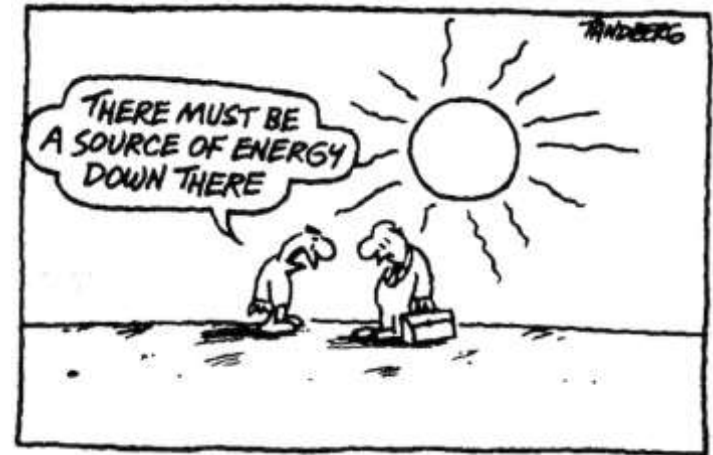




CTI in Switzerland's energy-innovation environment

## SCCERs

- Energy efficiency
- Energy network and its components, energy systems
- Energy storage
- Electrical power generation (deep geothermal energy, CO<sub>2</sub> storage, usage of water power and storage)
- Economy, environment, legal aspects, behavior
- Mobility: efficient concepts, processes and components
- Biomass





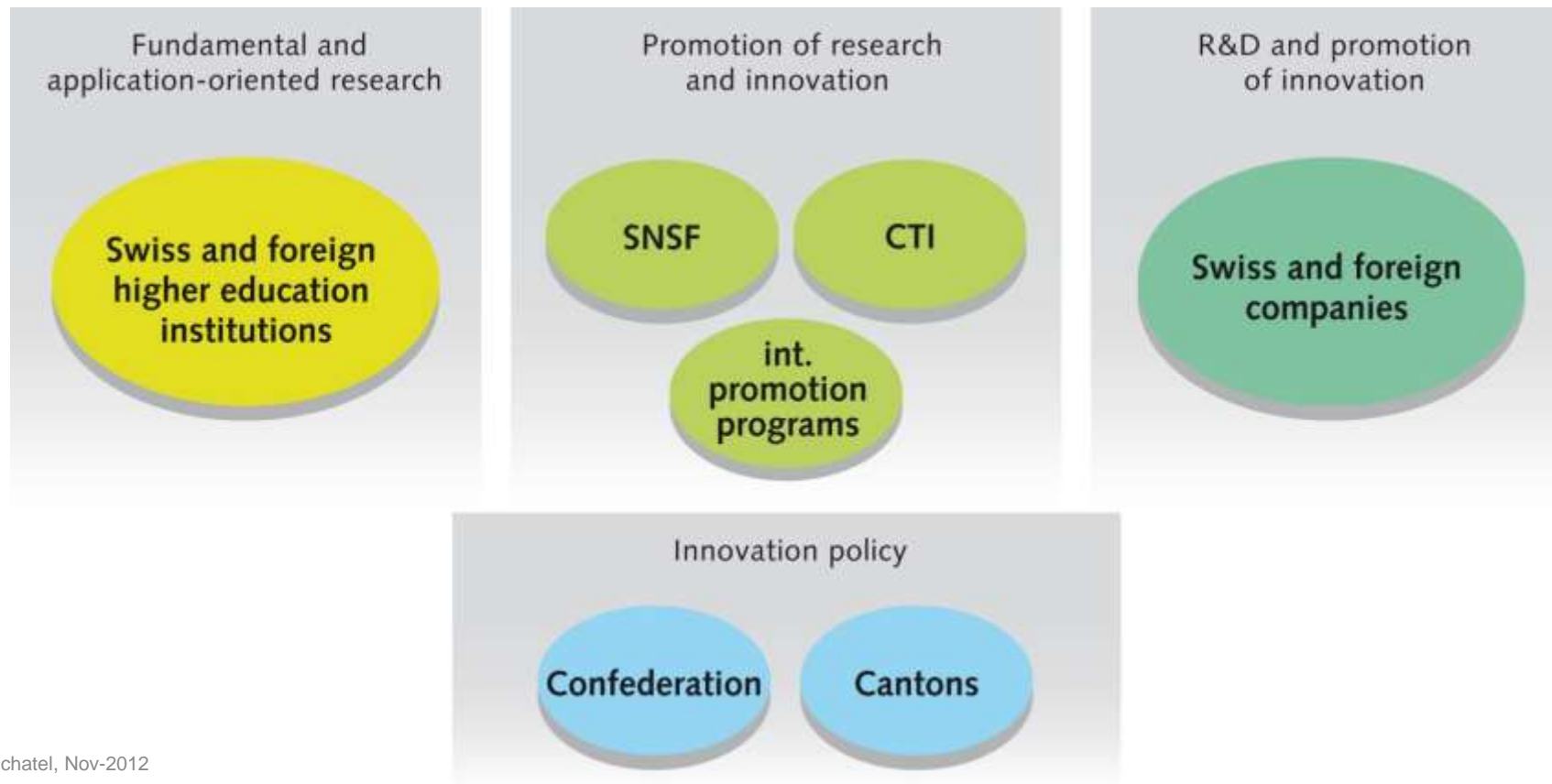
# CTI as a partner in energy related research

- **Project promotion**
  - General information
  - Energy related activities



CTI in Switzerland's innovation environment

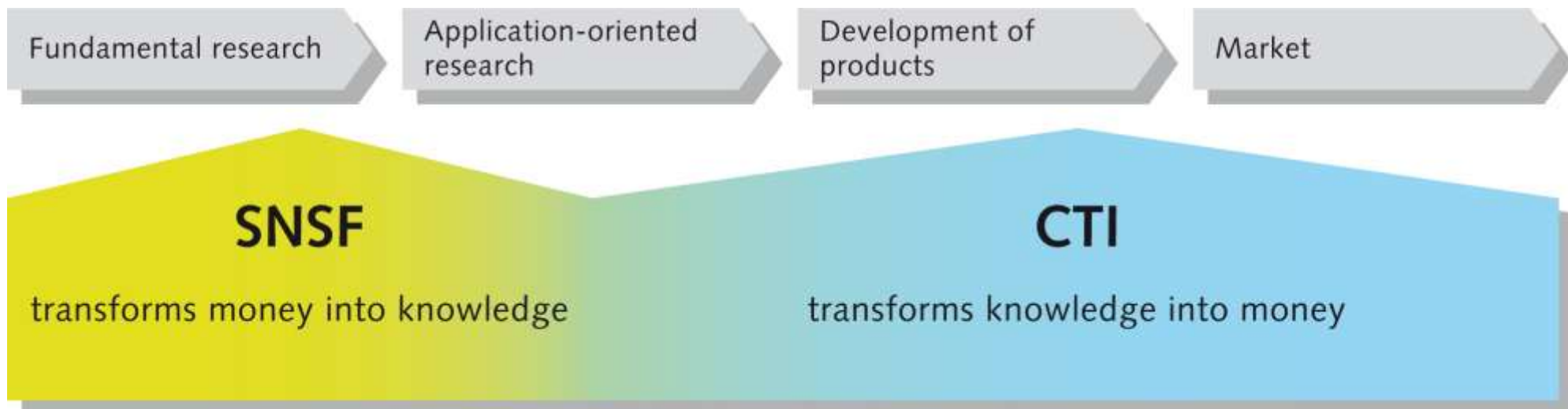
## Innovation hub Switzerland





CTI in Switzerland's innovation environment

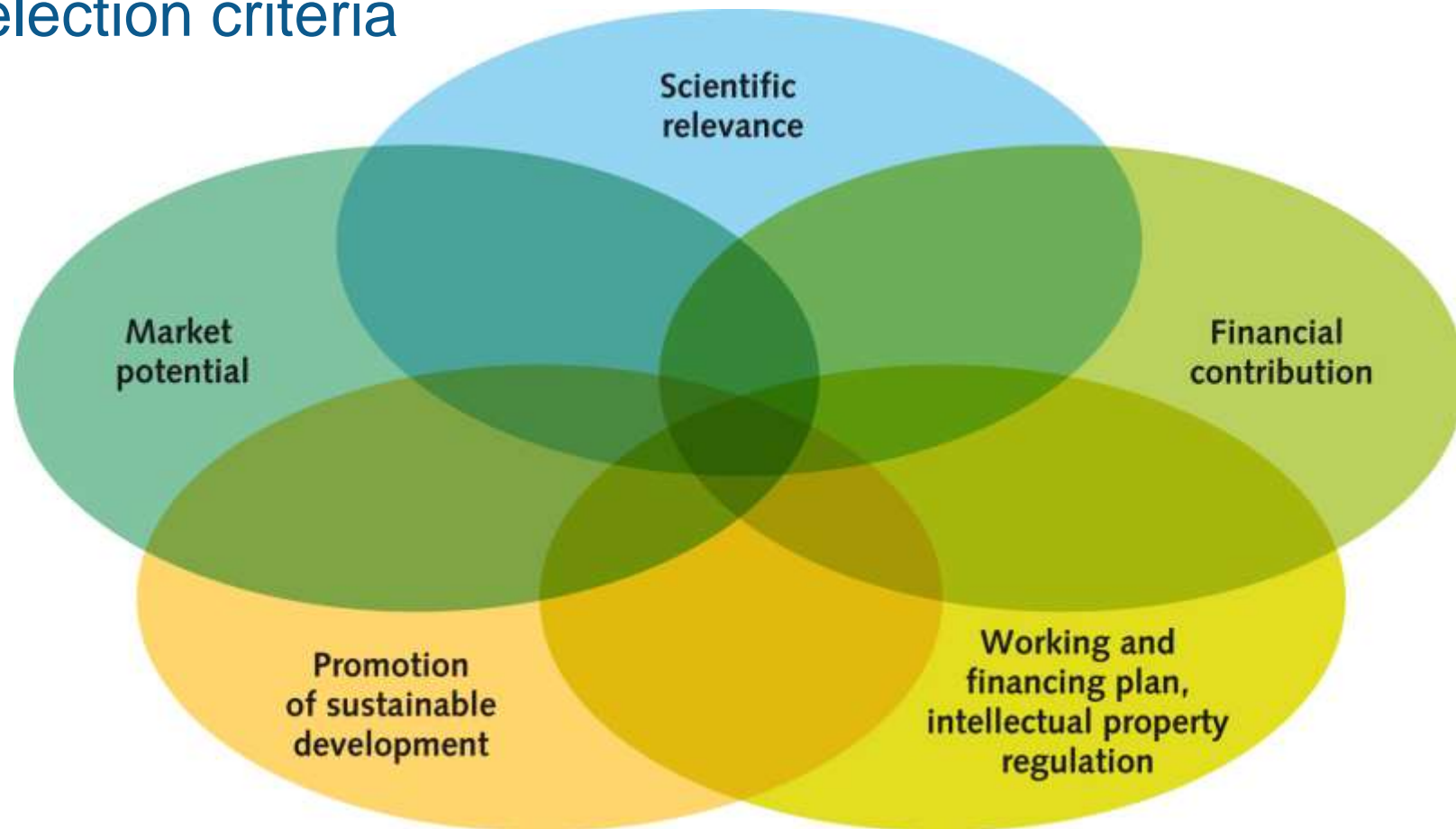
## Partners in the innovation process





Project promotion

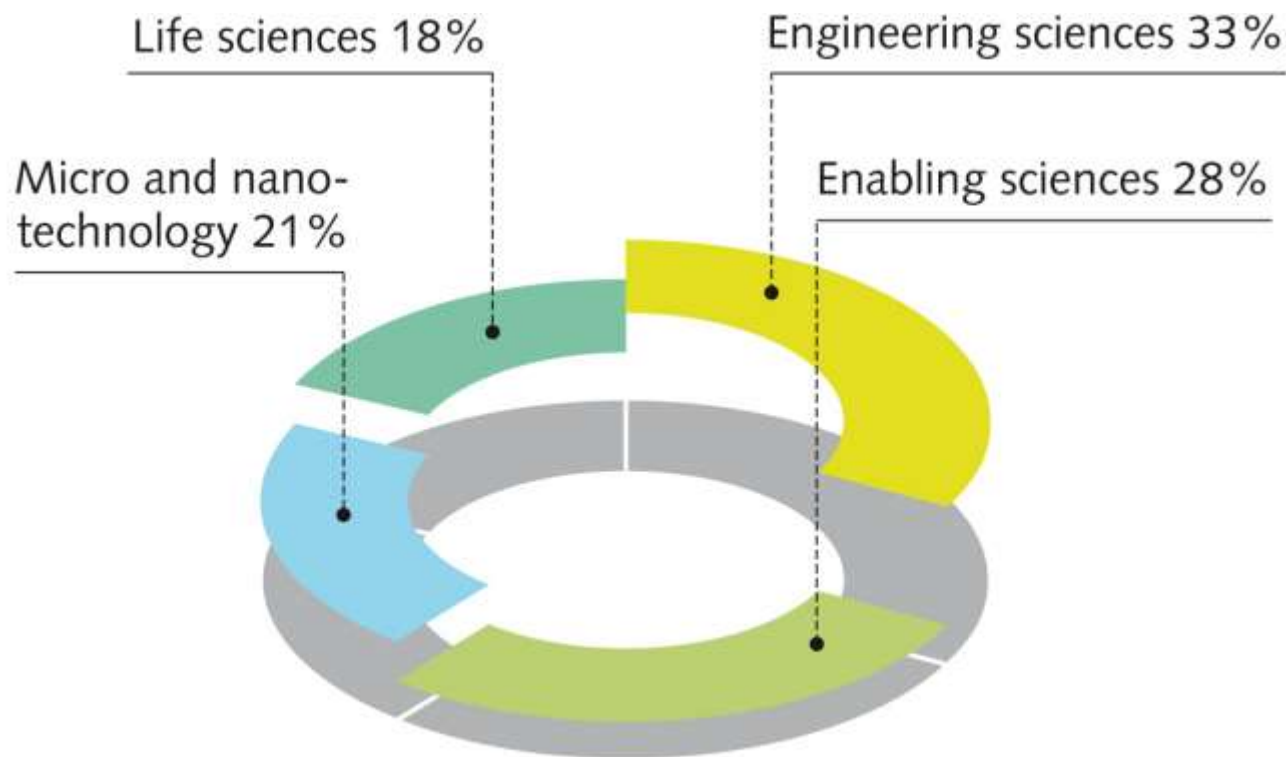
## Selection criteria





Project promotion

## Approved project proposals according to promotion area

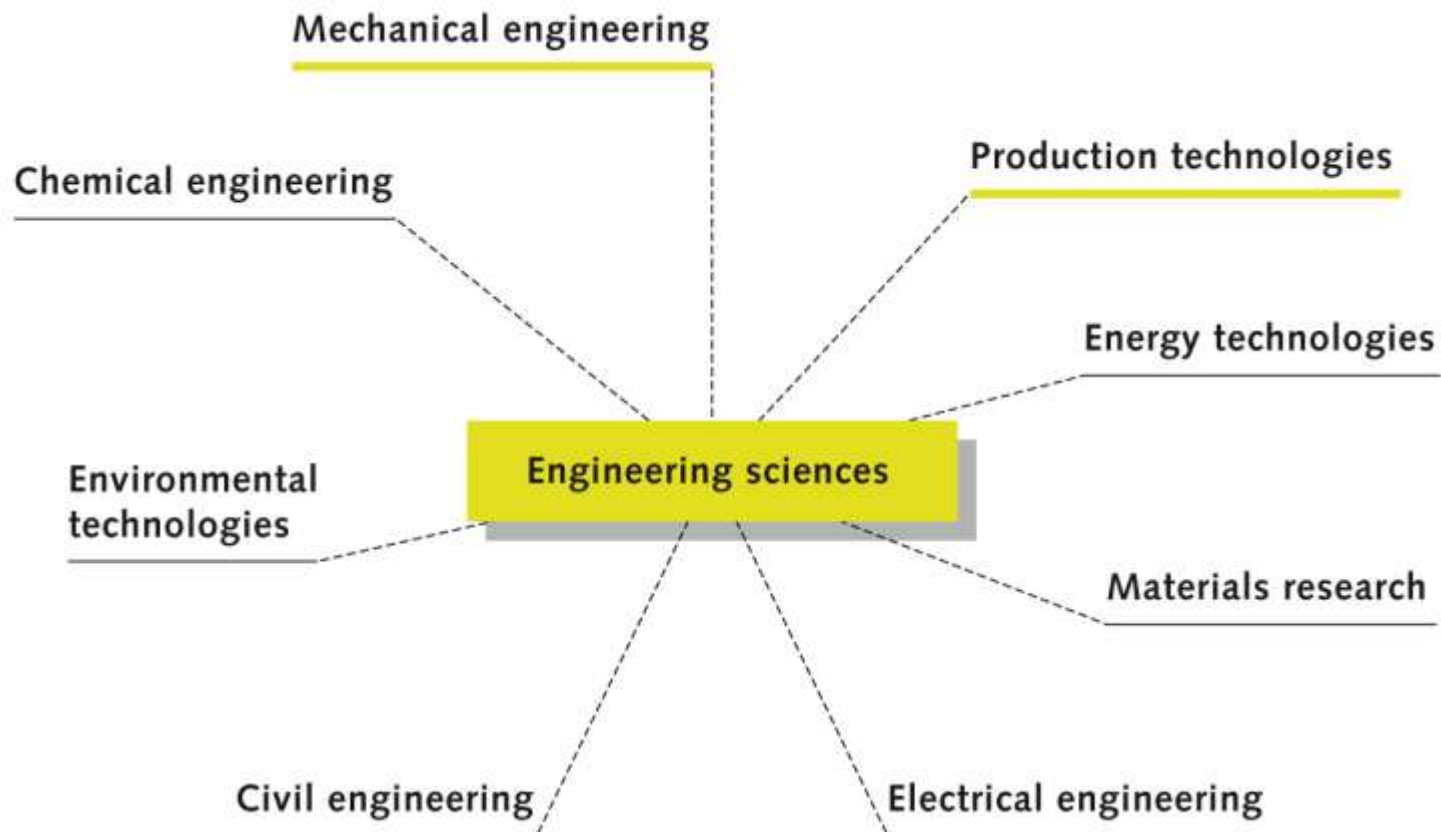


Approved project proposals 2010 according to promotion area (343 projects in total)



Project promotion

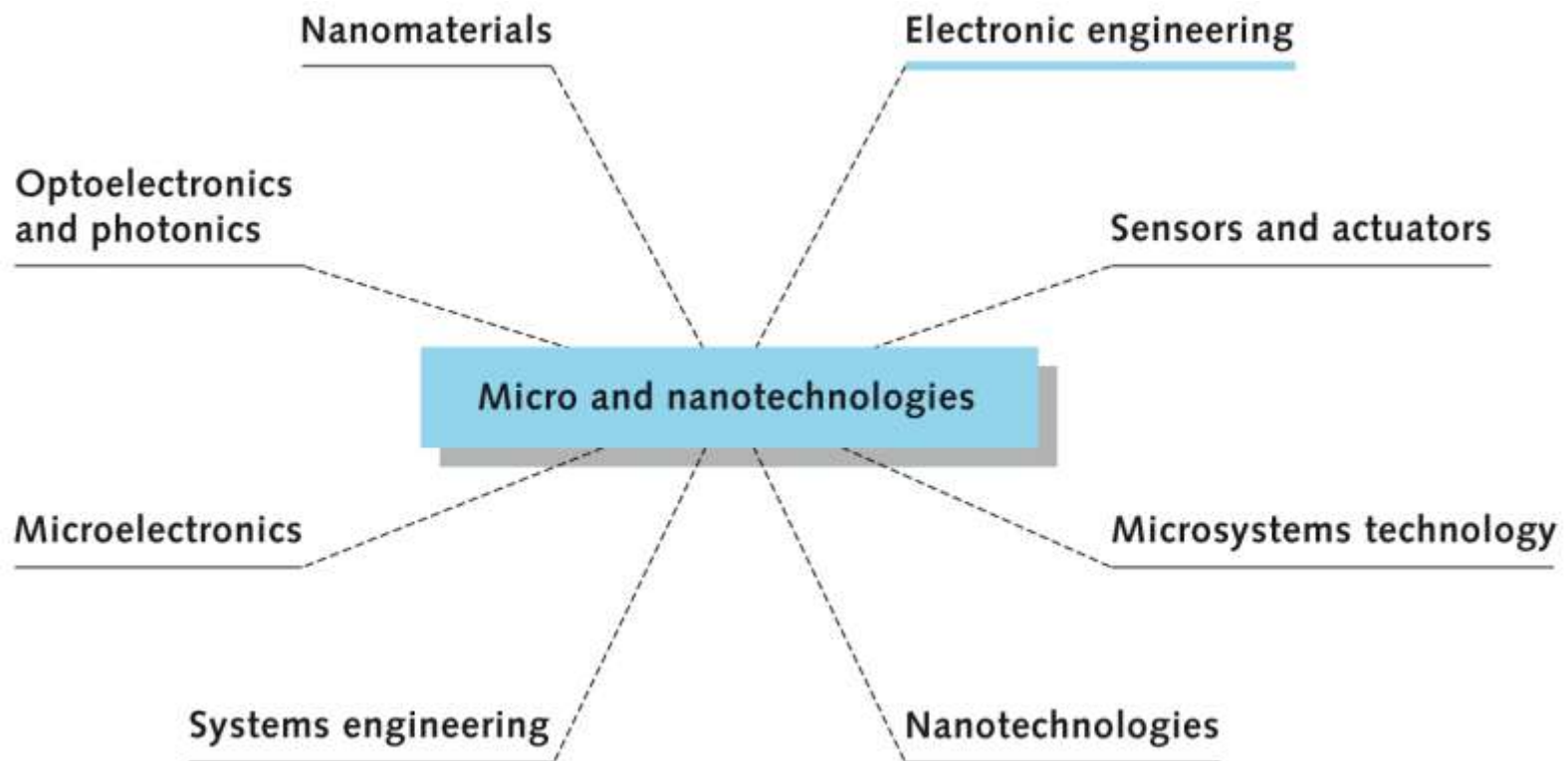
## Research areas in engineering sciences





Project promotion

# Research areas in micro and nanotechnologies







CTI in Switzerland's energy-innovation environment

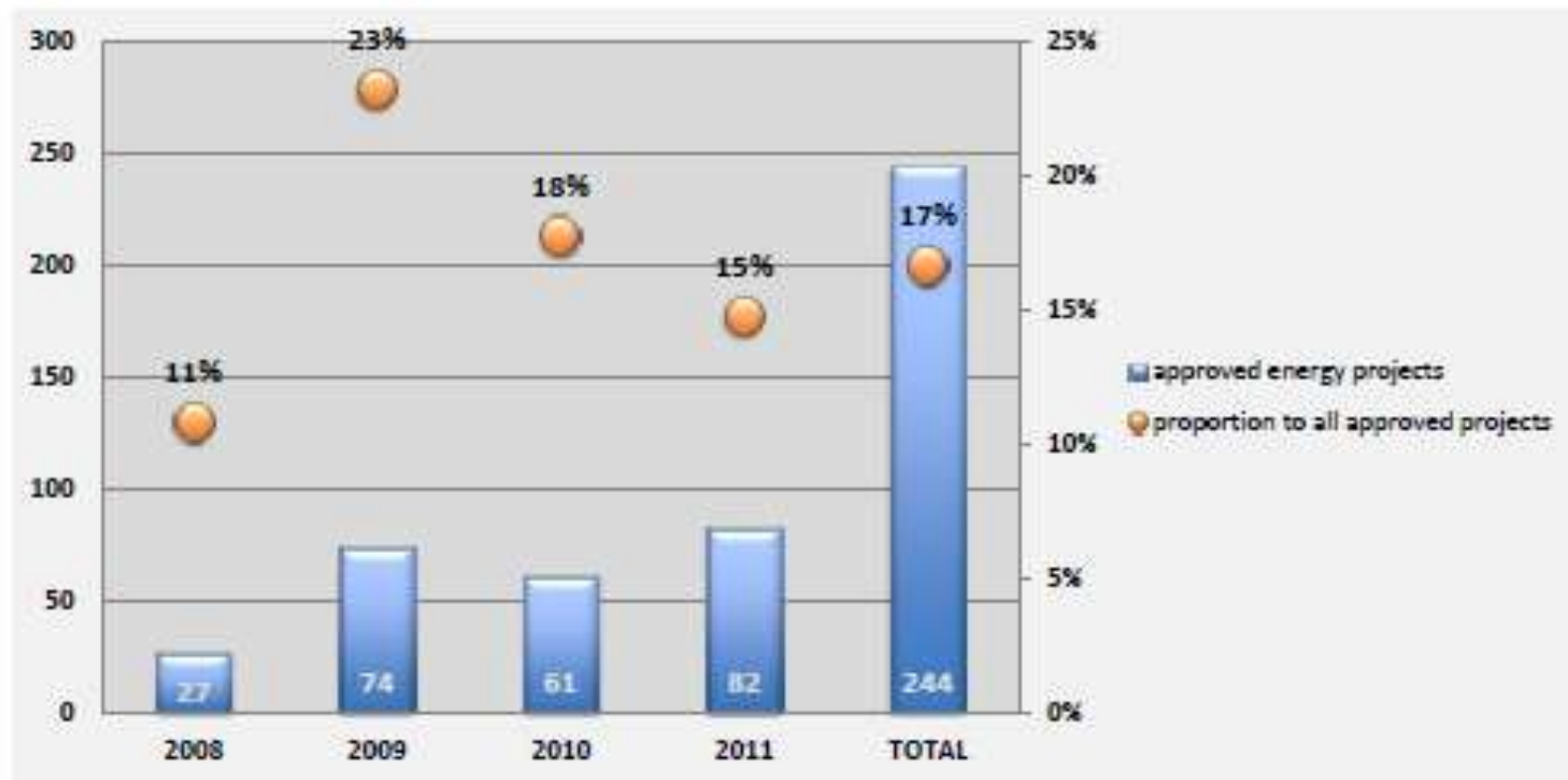
## CTI ..... the right partner to support energy related research activities?

- YES: CTI topics are bottom up and therefore highly flexible
- YES: CTI team includes experienced experts that can cover various project scopes in the field of energy research
- YES: Energy related research projects have a long track record within the CTI
- YES: Additional funding for energy projects is expected based on the energy dispatch of the Bundesrat.
- BUT: CTI funding underlies specific rules and guidelines (financing, length of a project, project scope & size and partners)
- BUT: CTI has a defined budget and high quality standards



CTI in Switzerland's energy-innovation environment

## CTI is already an active partner in energy related development projects (2008-2011)





CTI in Switzerland's energy-innovation environment

# Approved energy projects

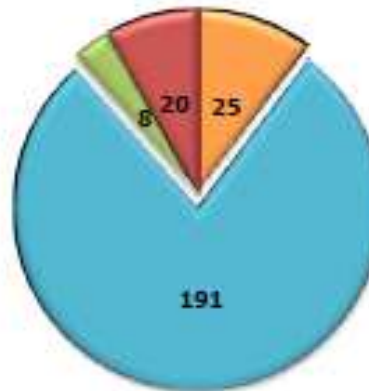
by categories



- Efficient energy systems and applications
- Sustainable mobility
- Renewable energies and materials
- Sustainable resource management
- Resource protection and emissions reduction

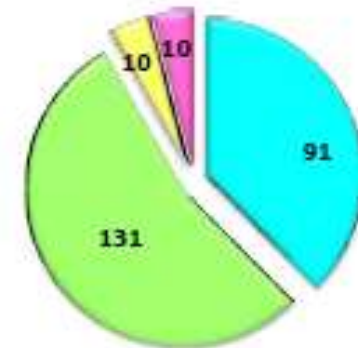
MaggEngem, 12. September 2012

by areas of funding



- Enabling Sciences
- Engineering Sciences
- Life Sciences
- Mikro- and Nanotechnologies

by research institutes



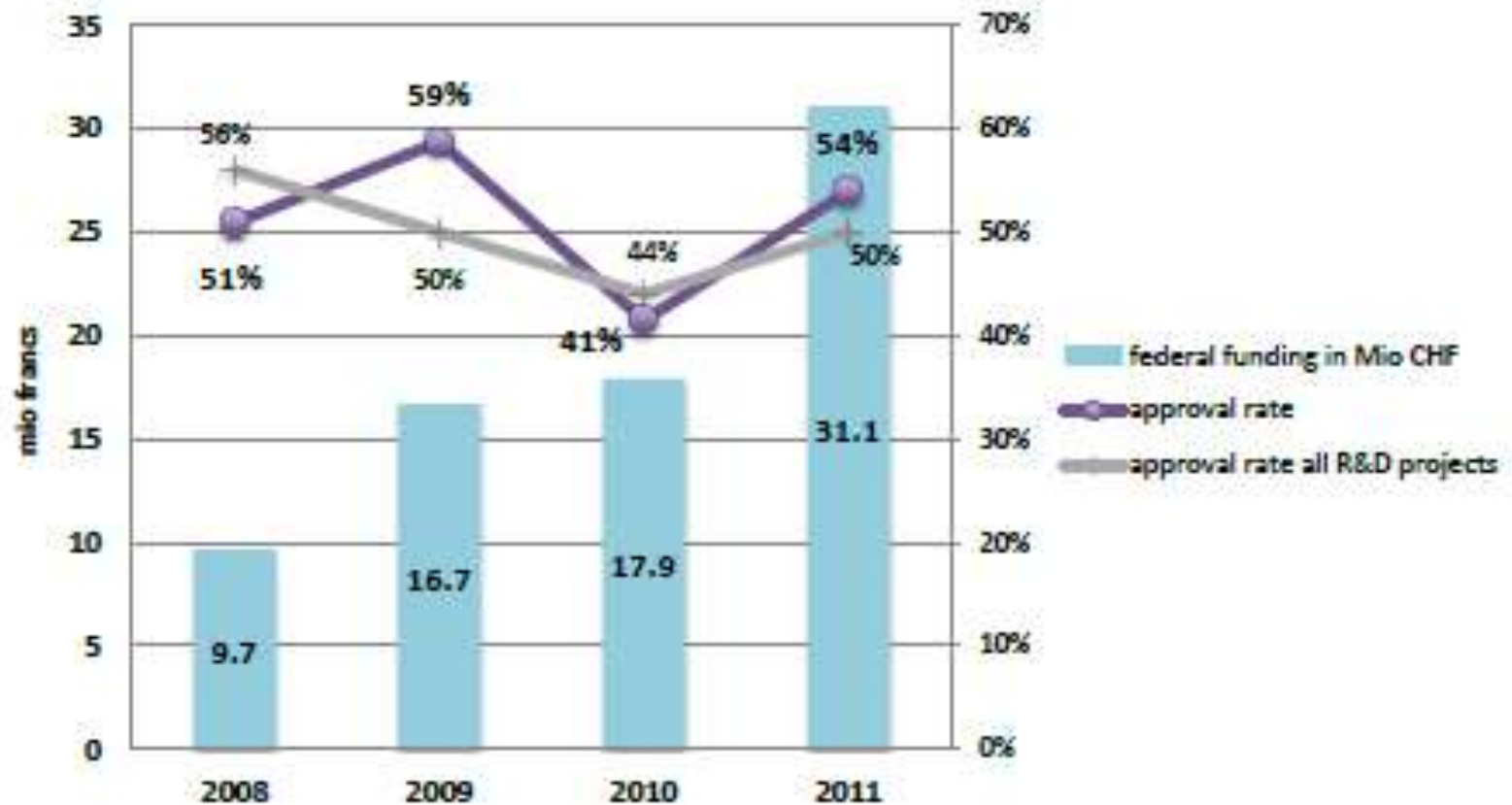
- ETH Domain
- Universities of applied sciences
- CSEM and others
- Universities

**Total 244 approved energy projects**



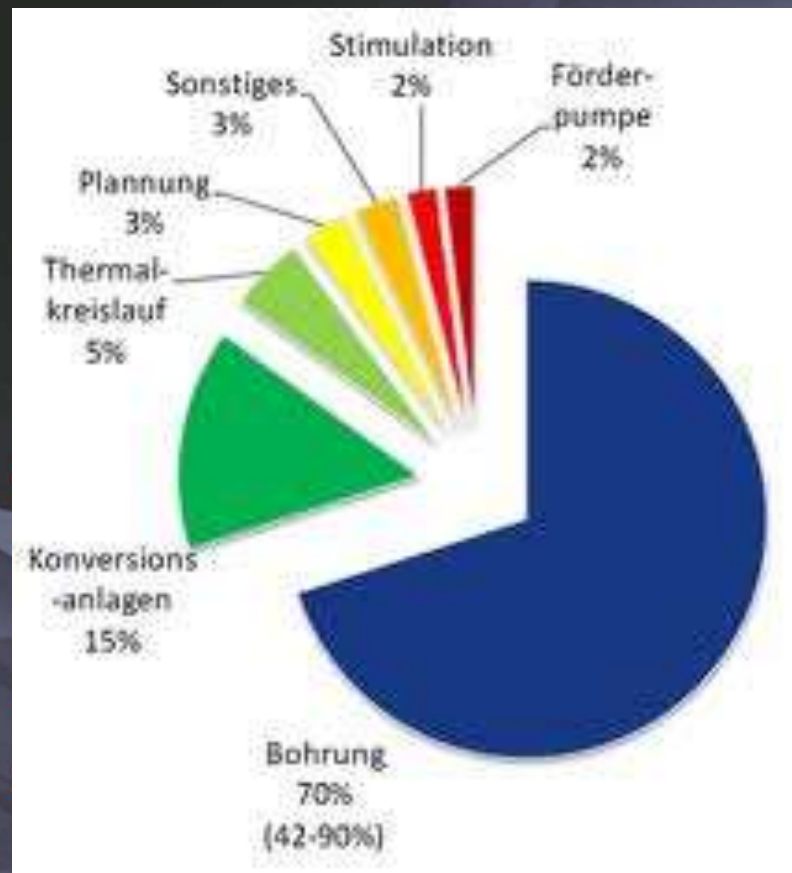
CTI in Switzerland's energy-innovation environment

## Federal fundings (energy projects)





# Boring cost are the lion share to access geothermal energy...





# So, enjoy the workshop and let's find out more about alternative boring technologies....

