



CTI – Start-up and entrepreneurship,
R&D Funding, KTT-Support

Activities and instruments of the CTI

Workshop A for Science Administrators of the Asia-Pacific Region

Berne, 24 May 2016

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CTI Secretariat



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Swiss Confederation

Commission for Technology and Innovation CTI



Content

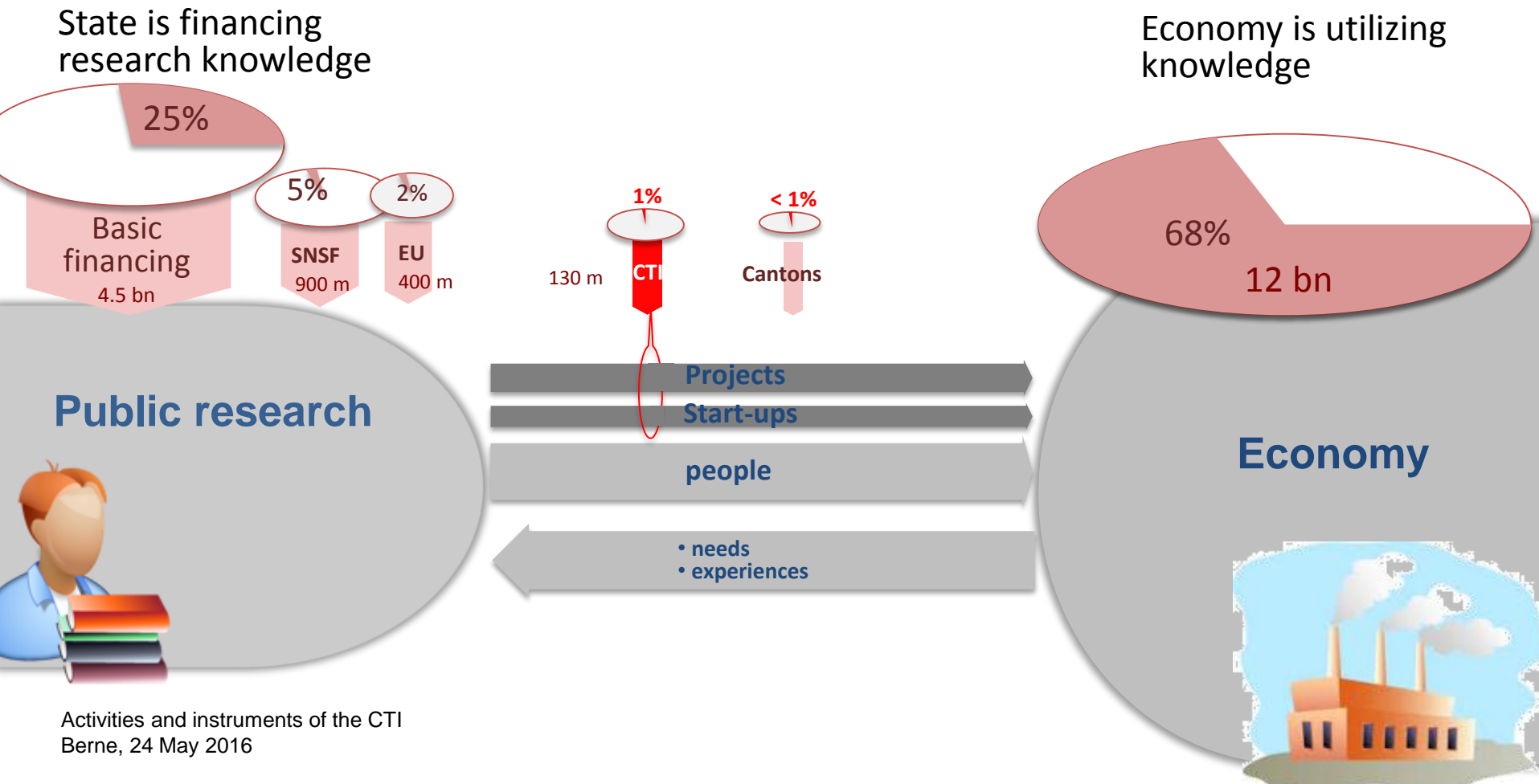
- **Pre-conditions for innovation in Switzerland**
- **What is the mandate of the CTI?**
- **How does the CTI achieve its mandate?**
- **Funding of R&D projects**
- **Two Cases of R&D project contents**
- **International activities of the CTI**

Innovation: driver of the Swiss economy

- Switzerland is a **small country with few raw materials**
- It has one of the **most open economies** in the world and is heavily dependent on exports. Almost one in every three francs is earned abroad.
- Swiss companies **compete with businesses throughout the world.**
- In order to be successful in this competitive environment, their products must be **innovative.**

Value chain from research to innovation

CTI is a small, but important catalyst for Swiss innovation system



Partners in innovation process

Basic research > Applied research > Product development > Market

SNSF

Turns money into knowledge

CTI

Turns knowledge into money

Parliamentary mandate

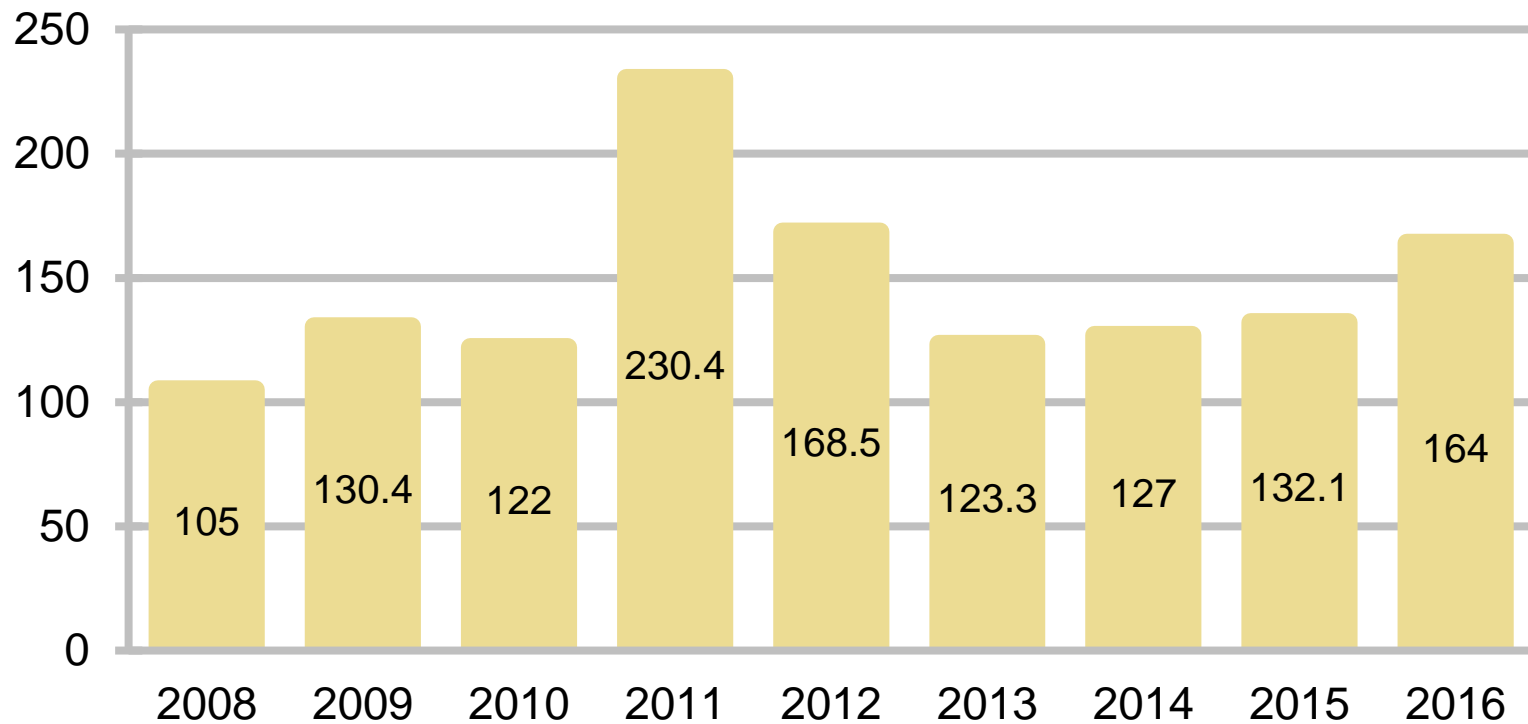
The CTI promotes

- market-oriented R&D projects,
- foundation and development of start-ups,
- knowledge and technology transfer.
- **Funding provided where no other contribution available**

The CTI focuses on

- knowledge-based innovation
- cooperation between public-sector research and companies based in Switzerland
- SMEs with interest and need in R&D and with focus on competing in international markets.

Strong fluctuation in CTI funding – Budget



Achieving the mandate - CTI funding areas



The CTI funds R&D projects of companies working together with higher education institutes aiming at innovation



The CTI supports start-up companies and therefore the creation of highly qualified jobs



The CTI enables the Knowledge and Technology Transfer (KTT) between companies and higher education institutes and informs about funding opportunities („no wrong door“)



The CTI supports the buildup of Swiss Competence Centers for Energy Research (SCCER) for future energy solutions

Success factors of CTI

- Experts with strong experiences and know-how
 - from public research, industry and Start-up scene
- Fast promotion decisions
 - immediately for Start-up coaching
 - about six weeks in R&D project promotion
- Not only decisions but also “advising”
- “Bottom-up”-principle
 - focusing on quality of applications, not on topics
- Trustworthy for industry
- Reliable for public research institutions

Three pillars of the Knowledge and Technology Transfer (KTT) support

- Support of SME's in the innovation process and identifying the best research partner.
- Promote knowledge and technology transfer between research institutions and companies.
- Increase transparency of information along Swiss funding (and support) opportunities.

**Innovation
Mentors
(IM)**

**National
thematic
networks
(NTN)**

**Thematic
Platforms**

How the CTI helps Science and Industry to connect?

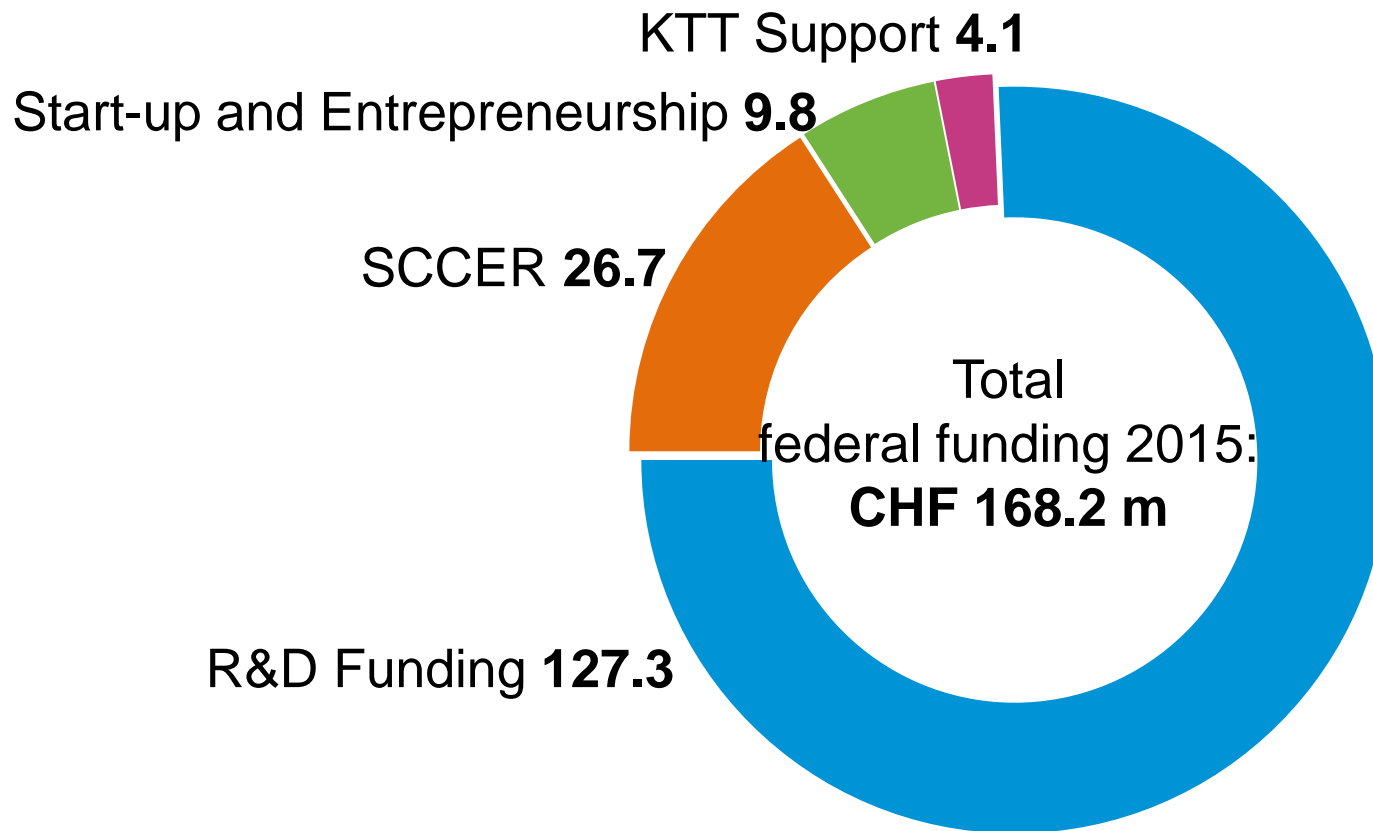
The CTI KTT support encourages

- Knowledge transfer between public-sector research and businesses
- Information on (future) possibilities of science-based innovations
- Transparency about funding instruments – also non-CTI

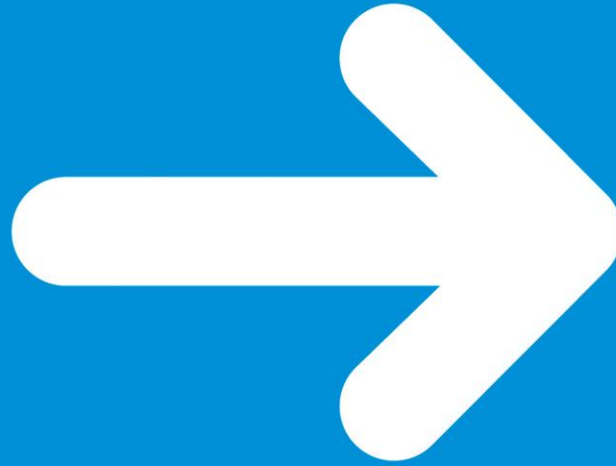
The CTI KTT Support is based on

- Knowledge and technology transfer “face-to-face”
- Industry’s needs, in particular those of SMEs
- Subsidiary funding

Achieving the mandate - CTI funding areas



R&D Funding



R&D project funding

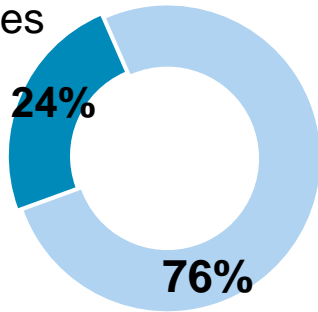
Principles and guiding rules

- Primarily promoting innovation for **Swiss national economy**
- Selection of topics **bottom-up** from industry partners
- Promotion is **subsidiary**
- Keep in mind the special character of Swiss Economy
 - 99.7% of all firms are SMEs; 67% of all employees
 - 88% are micro firms (less than 9 FTE)
 - Almost 90% of all SMEs are family business.
- Efficient promotion without cost-intensive preliminary work for firms.

Focus on SMEs and UAS

Economic partners

Large companies
> 250 employees



SMEs < 250 employees

Total no of companies involved in approved projects 2015: **716**

Research partners

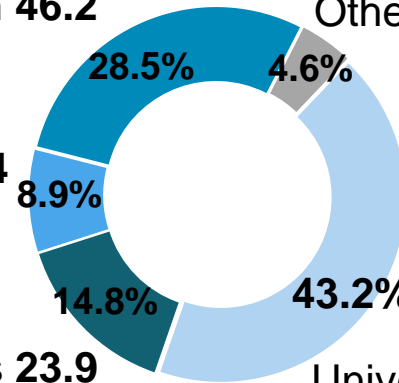
ETH Domain **46.2**

Other **7.5**

CSEM **14.4**

Universities **23.9**

Universities of applied sciences **69.9**



Total federal funding 2015: **CHF 161.9 million**

Applications are possible at any time !

CTI – application oriented project promotion

Research Partner RP

- Scientific state of the art
- New Technology
- Research infrastructure

Implementation Partner (SME)

- Entrepreneurial competence
- Development experience
- Market access and implementation

Joint R&D project

CTI financial contribution up to max. 50% of the project costs

- SME participating at $\geq 50\%$ of the project costs
- by in kind activity
 - 10% cash contribution to RP

Basis for a proposal

Criteria

- Business model is in the focus, high innovation potential and differentiation in the market (USP).
- Risk analysis, added value (RoI).
- Scientific excellence; feasibility.
- Increase of competence and export potential.

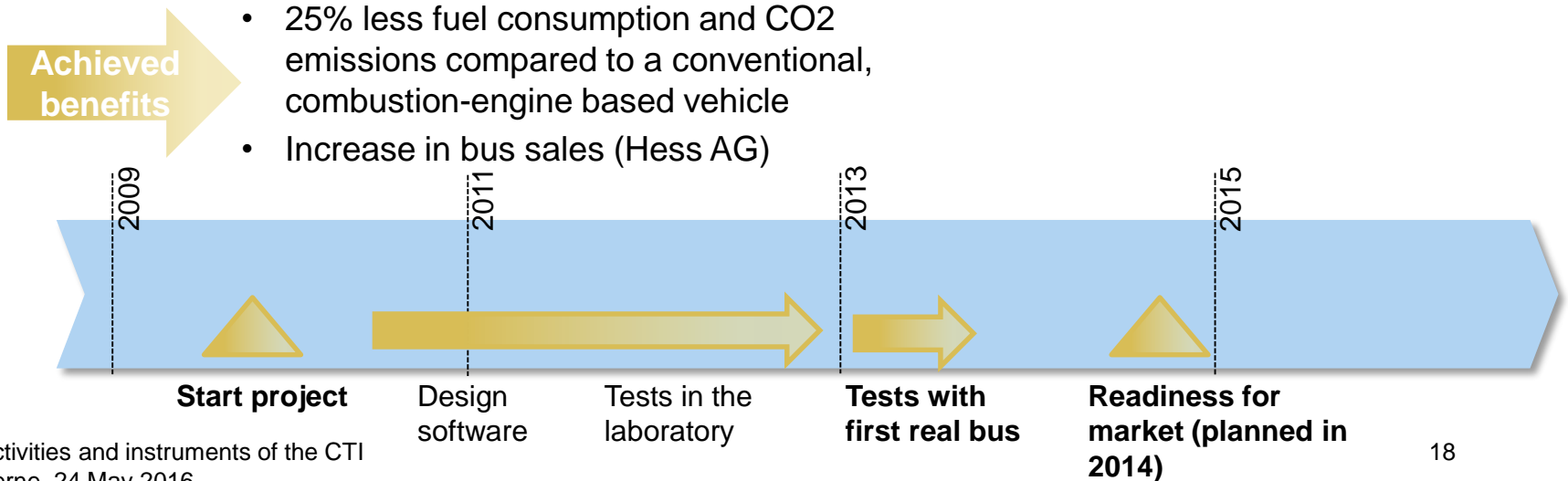
Requirements

- Clear and transparent description of the proposition.
- Innovation method and development plan.
- Knowhow Transfer.
- Provision of an IPR agreement.

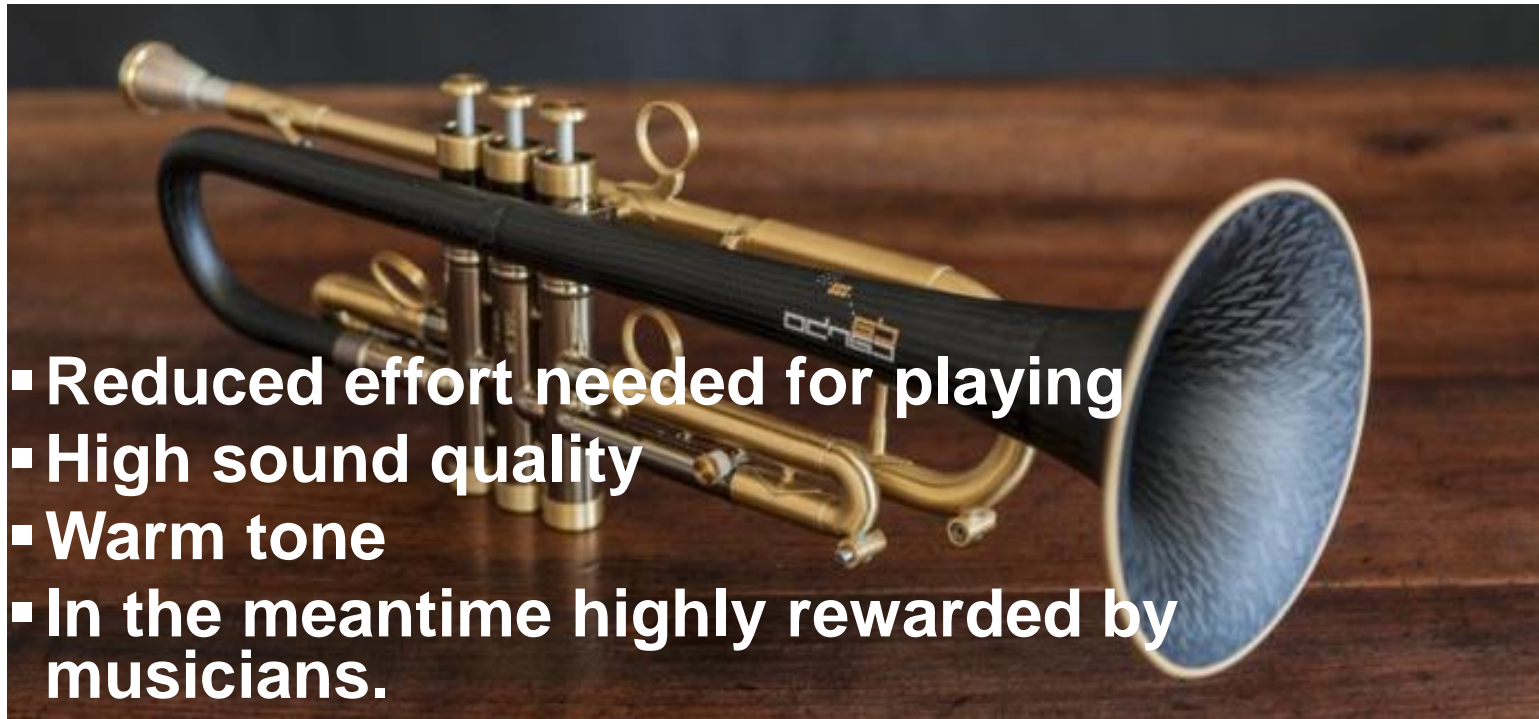
Example 1

Success story: Ahead – Advanced Hybrid Electric Autobus

- The project is a cooperation of Hess AG (implementation partner) and ETH Zurich (research partner)
- Project goals:
 - optimizing the powertrain of a serial hybrid electric bus for public transportation
 - implement a predictive energy management strategy that takes into account the altitude profile of the line



Example 2 for a R&D project: daCarbo; wind instruments from fibre composite (carbon)



- Reduced effort needed for playing
- High sound quality
- Warm tone
- In the meantime highly rewarded by musicians.

Example 2:

daCarbo; wind instruments from fibre composite (carbon)

CTI R&D Project Partners

Higher Education Research Institute

- University of Applied Sciences (Hochschule für Technik Rapperswil)
- Institute of Music Acoustics (Vienna)

Industrial partners

- daCarbo AG (instrument maker)
- Spiri AG (instrument maker and distributor)
- Nägeli Swiss AG (carbon manufacturer)

International Co-operation

The CTI currently has two options for international co-operation:

- The project partners might submit a R&D project having a foreign (NON Swiss) higher education institution as project partner
- The Commission may co-launch or join a joint programme

International Co-operation – R&D project

- Submission anytime – no call needed!
- Agreement with foreign funding organisation required (eligibility of foreign research partner)
- Foreign research partners are only accepted in co-operation with a main Swiss research partner
- The foreign research partner does complement needed competencies
- Majority of research to be done by the Swiss research partner (share of the funds > 50%); leading institute.
- 100% of the funds will be paid to the Swiss main research partner who will allocate the funds
- No funds for industry partners

International Co-operation – joint programmes

1. The CTI can give researchers and businesses access to international research networks

Examples: ProSafe Joint Transnational Call; ERA-NET MANUNET II

2. The CTI can co-launch a call with another country

Example: S. Korea – Switzerland Call



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Thank you for your attention!

Any questions?

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