

Start-up and Entrepreneurship Workshop

ETH Zurich, 8 Juni 2017

The Swiss Competence Centers for Energy Research

Purpose and Institutional Structure

- Promote innovation required to implement the **Energy Strategy 2050**
- Develop solutions for technical, social and political problems
- Bundle the energy research activities of Swiss universities
- Work closely with industry

SCCER

Leading House (University A)

University of Applied Sciences A

Research Institute

University B

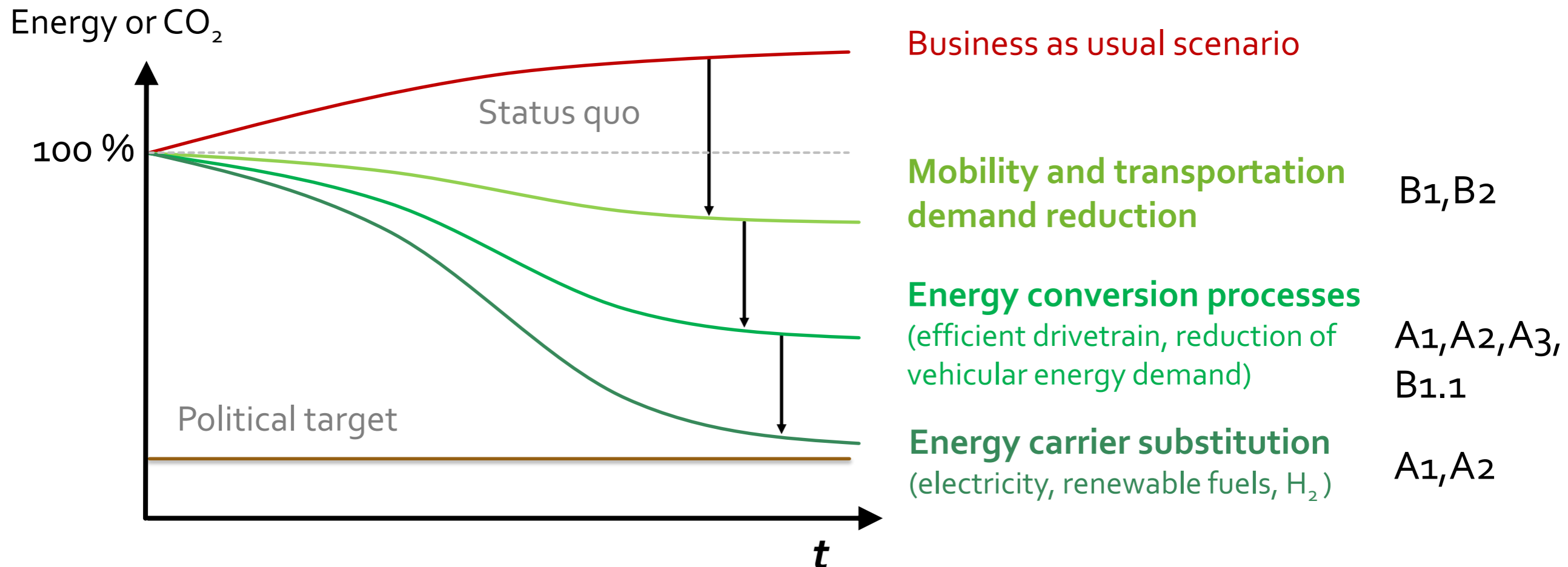
University of Applied Sciences B

University of Applied Sciences C

Cooperation Partners from Industry and Public Administration

SCCER Mobility: Mission

Developing the knowledge and technologies essential for the **transition of the current fossil fuel based transportation system to a sustainable one**, featuring minimal CO₂-output and primary energy demand as well as virtually zero-pollutant emissions.



Berner Fachhochschule BFH

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Biel | [Website](#)
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peter.brunner@bfh.ch

Zürcher Hochschule für angewandte Wissenschaften ZHAW

Wissens- und Technologietransfer
Gertrudstr. 15, 8401 Winterthur | [Website](#)
contact: Martin Jaekel | 058 934 78 17 |
forschung@zhaw.ch

Empa

Technology Transfer | Überlandstr. 129, 8600
Dübendorf | [Website](#)
contact: Marlen Müller | 058 765 41 97 |
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Paul Scherrer Institut PSI

Technologietransfer | 5232 Villigen PSI
| [Website](#)
contact: Giorgio Travaglini | 056 310 27 21 |
techtransfer@psi.ch

Universität St. Gallen HSG

- Center for Entrepreneurship | [Website](#)
- Startfeld - Innovation network in the St.
Gallen Bodensee Area | [Website](#)

Interstaatliche Hochschule für Technik Buchs NTB

Angewandte Forschung und Entwicklung
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contact: Andreas Ettemeyer | 081 755 34 87 |
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SUPSI

Dipartimento tecnologie innovative | [Website](#)
contact: Giambattista Ravano | 058 666 65 52

Program

- 15:15 Welcome and scope of workshop
- 15:20 CTI Entrepreneurship - Swiss federal training program for start-up founders
- 15:35 ImagineCargo GmbH - sustainable logistics (start-up mobility sector)
- 15:55 [Supporting activities for young inventors and entrepreneurs –ETH transfer](#)
- 16:15 vir2sense GmbH - virtual sensor technology (ETH-spin-off, D-MAVT)
- 16:35 Q&A and discussion - Philip Hassler and Marjan Kraak

Advisory Board Members: Partners from Industry

ABB Turbosystems AG

Adaptricity AG

Batteriewerk Schweiz AG

Bcomp Ltd

Bombardier

Boschung Engineering AG

Bucher Municipal AG

Carrosserie HESS AG

CTI National Network Carbon

Composites Schweiz

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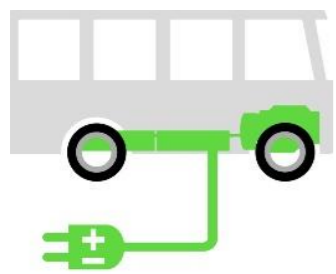
The Swiss Competence Centers for Energy Research

7 Action Areas and 8 SCCERs

- Efficiency of the **building sector** and **industrial processes**
- **Grids and their components**
- **Storage** of electrical, chemical and mechanical energy
- **Power supply** (hydropower and geothermal energy)
- **Economy, environment, law, behavior**
- Efficient concepts, processes and components in **Mobility**
- **Biomass**

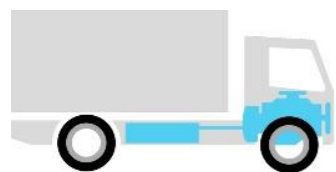
SCCER Mobility: Capacity Areas

Innovation Field A: Components, Devices and Processes



A1 Swiss Battery Research Platform (E-Mobility)

- Battery systems for rail, bus, construction, agricultural and utility vehicles



A2 Chemical Energy Converters

- Cost reduction for fuel cell systems
- Internal combustion engines: renewable fuels, efficiency increase, zero pollutants



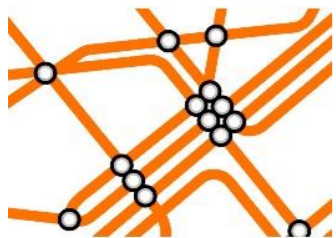
A3 Minimization of Vehicular Energy Demand

- High volume lightweight thermoplastics and bioinspired composites
- Thermal management



SCCER Mobility: Capacity Areas

Innovation Field B: System Aspects of Mobility



B1 Integration, Operation and Optimization of Mobility Systems

- Infrastructure and new urban transport
- Urban planning and environmental impact
- Spatio-temporal data Acquisition and analysis, monitoring devices and user communication



B2 Integrated Assessment of Mobility Systems

- Technology assessment and energy economics
- Socio-economic aspects of mobility

CTI Startup


SCCER Mobility
Zürich, June 8th, 2017

www.cti-entrepreneurship.ch



A CTI training programme

 **Start-up and entrepreneurship**
CTI Entrepreneurship

 Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Commission for Technology and Innovation CTI

Philip Hassler, IFJ / Program Manager Venture Kick
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CTI Entrepreneurship-Training-Module

www.cti-entrepreneurship.ch

A CTI training programme

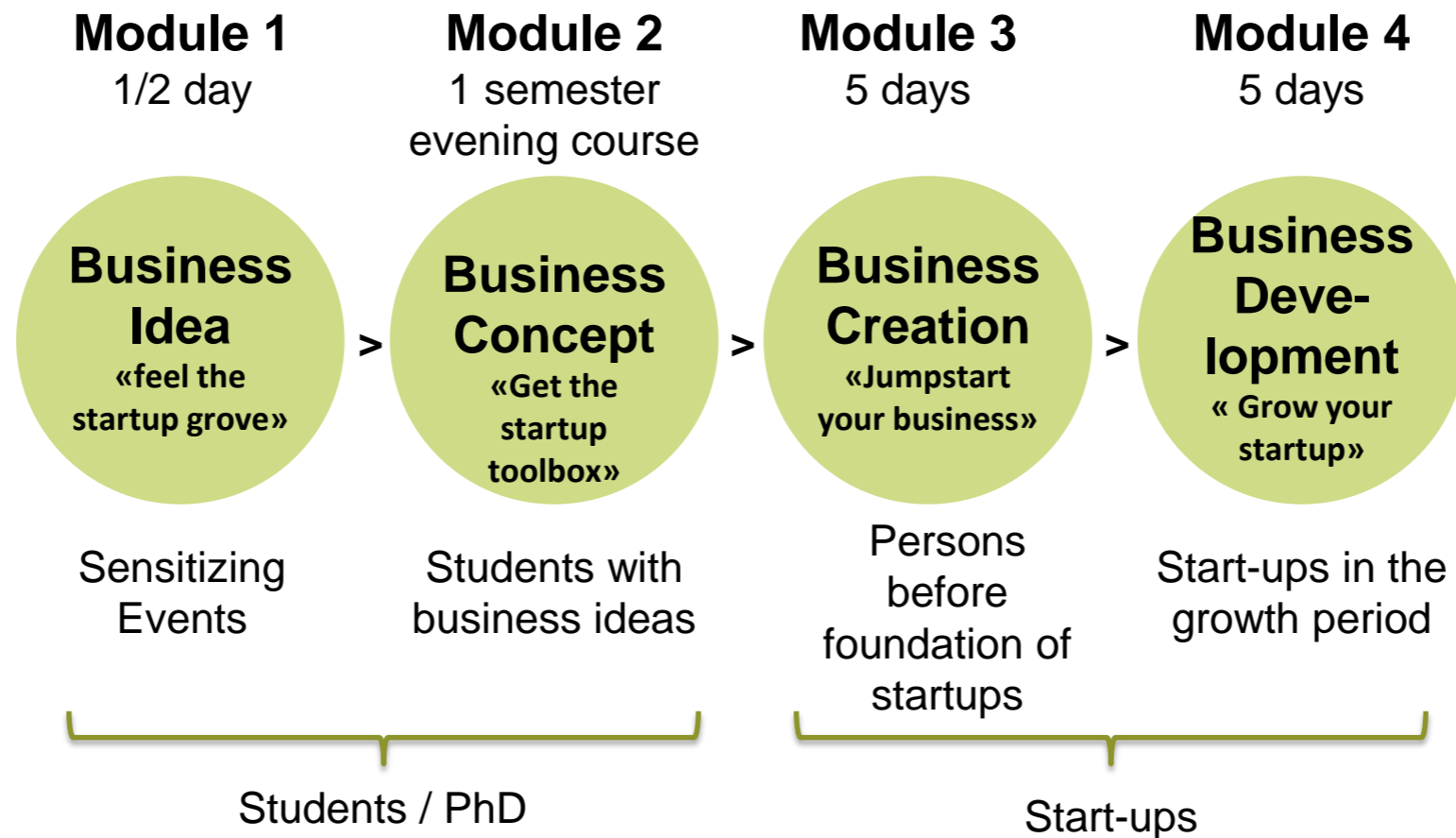
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Registration: www.cti-entrepreneurship.ch




80 courses per year (120 trainers) with more than 3'800 participants

Agenda

A CTI training programme

 Start-up and entrepreneurship
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- 15h15 Welcome & Introduction
Gloria Romera, SCCER Mobility
- 15h20 CTI Entrepreneurship & Start-up
Christoph Falk, CTI
Philip Hassler, IFJ
- 15h35 ImagineCargo GmbH
Nick Blake, CEO & Facilitator
- 15h55 Supporting activities for young inventors & entrepreneurs
Marjan Kraak, ETH transfer
- 16h15 vir2sense GmbH
Christophe Barro, CEO & Co-founder
- 16h35 Q&A
- 17h00 Apéro



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

Commission for Technology and Innovation CTI

Start-up and Entrepreneurship Workshop, Zürich

Zürich, 8 June 2017
Christoph Falk



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The CTI's mandate

The CTI is mandated by the Confederation to improve the innovative strength of the Swiss economy.

Mission: Bring science to market

- It funds and supports **cooperation projects** between companies and higher education institutions to encourage the introduction of innovative products on the market.
- It supports **start-ups** and thereby helps to create jobs for highly qualified workers.
- It promotes the **transfer of knowledge and technology** between higher education institutions and Swiss companies.

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 survive in this competitive environment, their products must be **innovative.**

Switzerland as innovation champion

The World Competitiveness
Scoreboard 2015

Global Innovation
Index 2015

WEF Global
Competitiveness
Report 2015 – 2016

Union Innovation
Scoreboard 2015

1st place 2nd place 3rd place 4th place





Three funding areas

Start-up and Entrepreneurship

Training modules,
Coaching,
Start-up Label

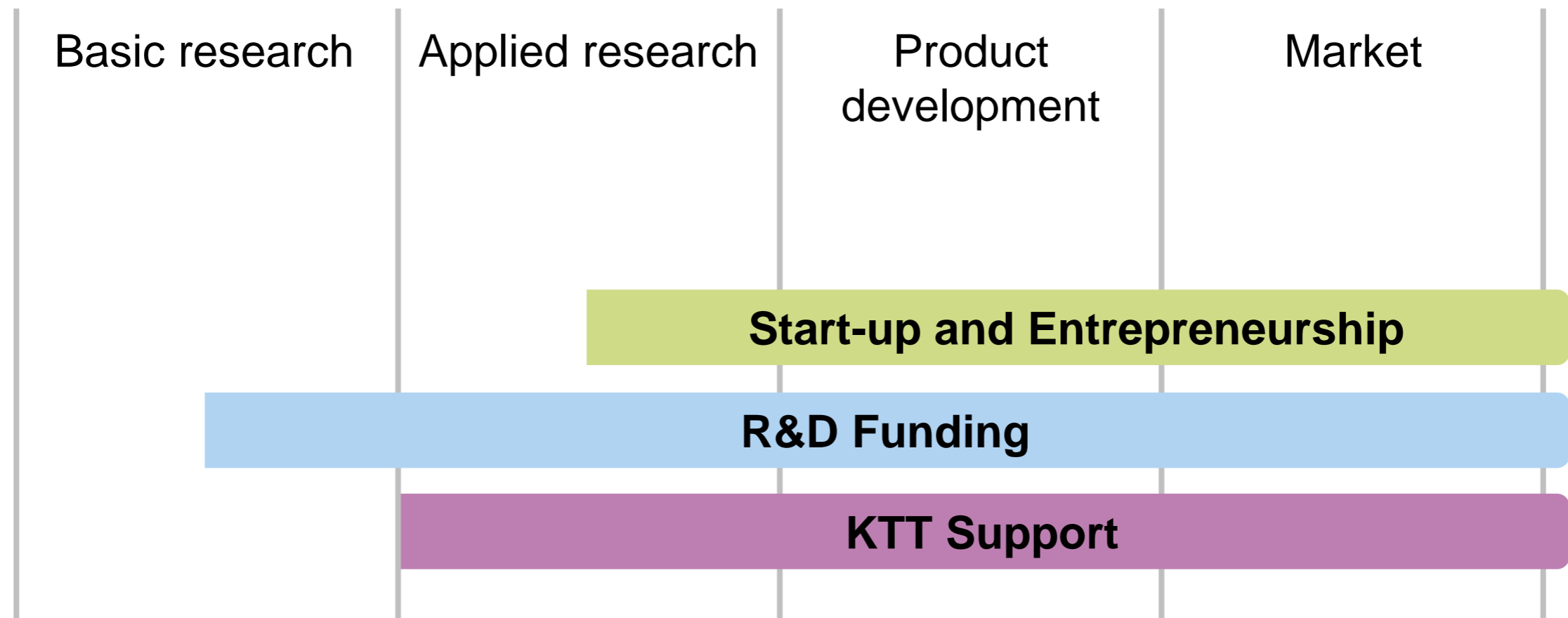
Projects

Joint projects
companies - higher
education institutions,
innovation cheque,
innovation voucher

KTT Support

National Thematic
Networks
Innovation mentors
Platforms

CTI instruments in innovation chain



Start-up and entrepreneurship

CTI Start-up & Entrepreneurship





From ideas to successful companies

The CTI promotes growth-oriented, technology-based business projects in two ways:

- **CTI Entrepreneurship training**

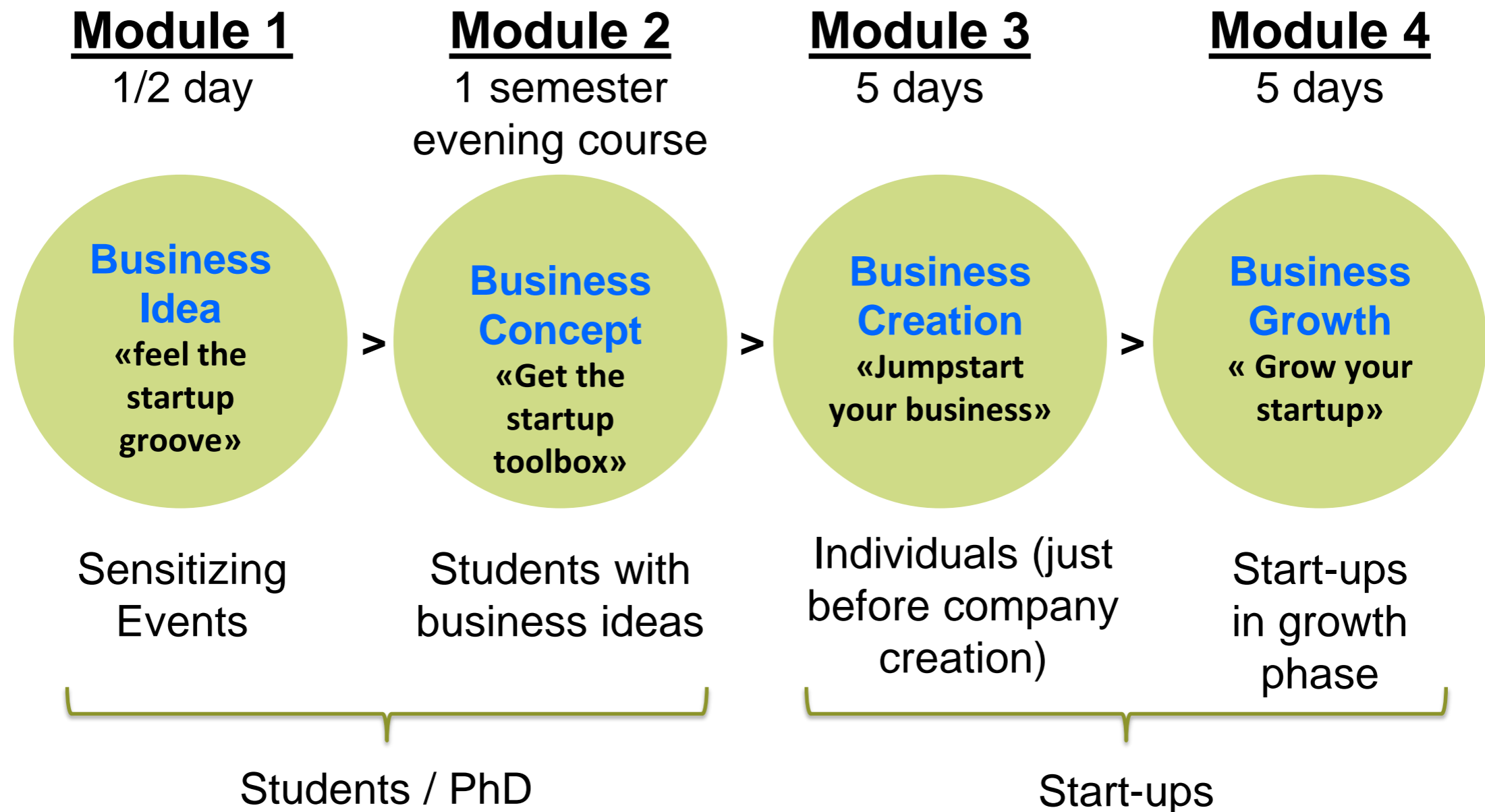
Program for sensitizing and training for potential entrepreneurs before and after the foundation of a company.

- **CTI Start-up coaching**

Highly qualified coaches with considerable professional experience give you personalized coaching tailored to your business.

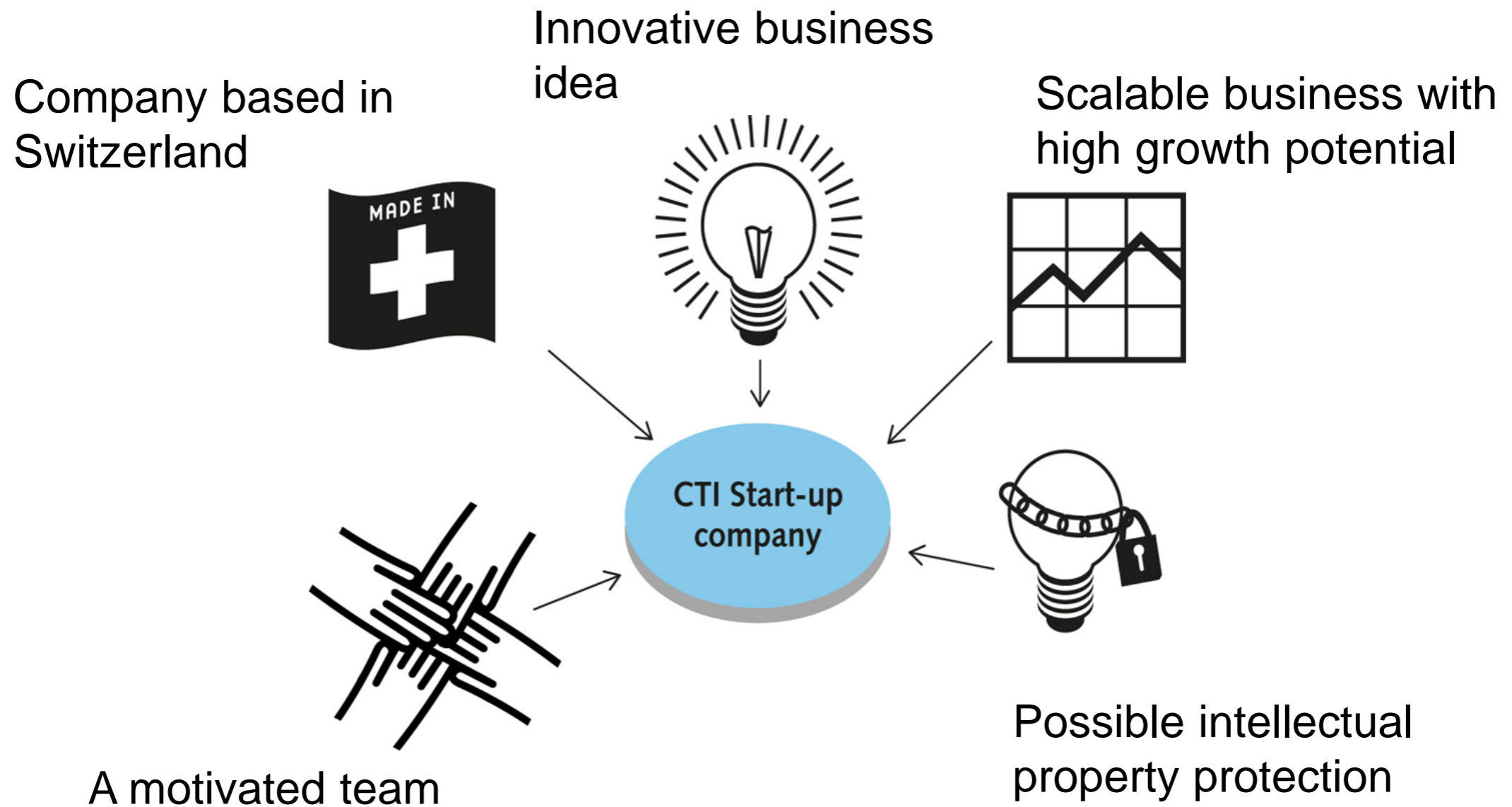


CTI Entrepreneurship training modules



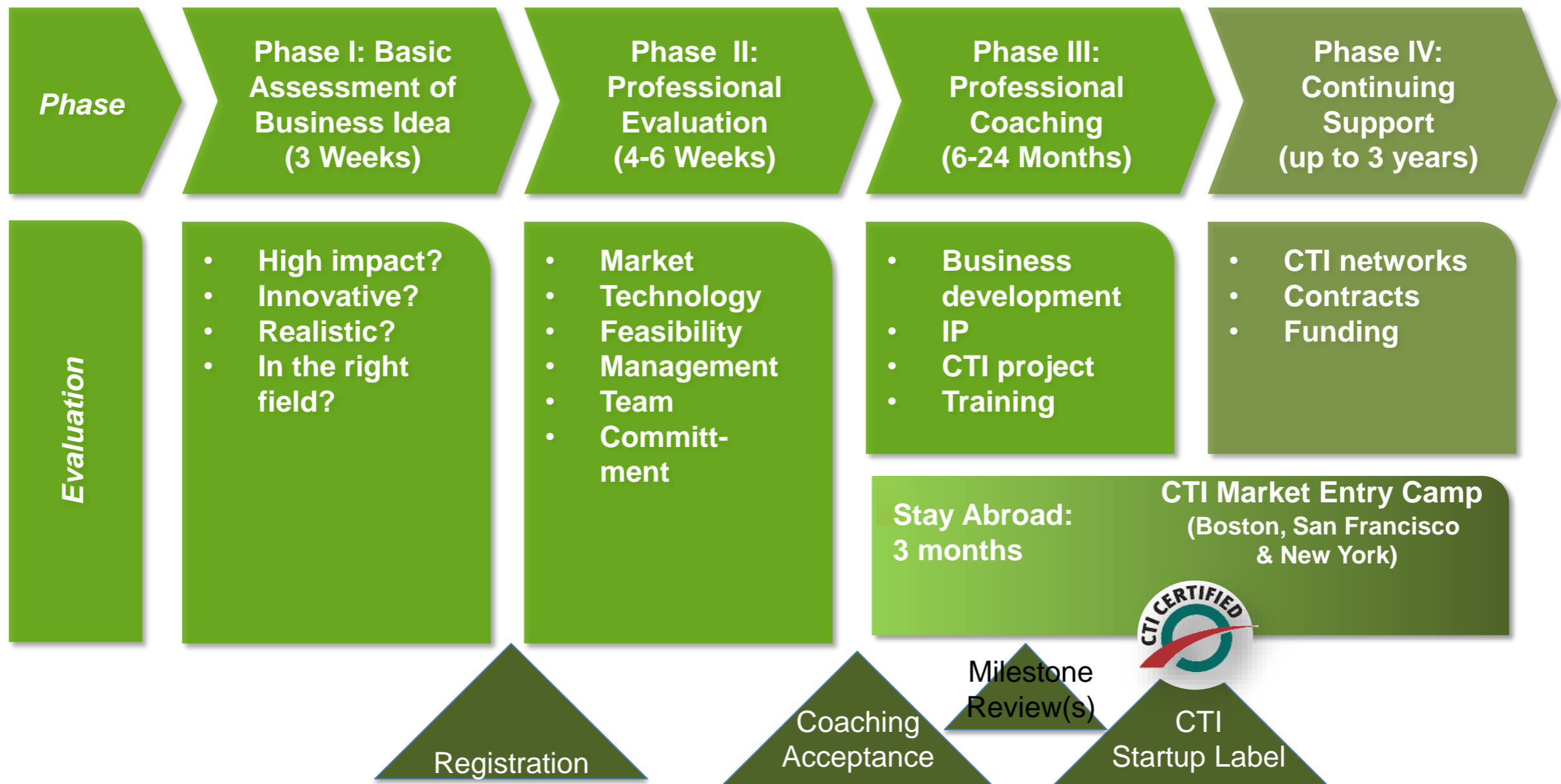


Criteria for CTI Start-up coaching





CTI Start-up – Coaching phases





The Team

Coaches:

- Deep entrepreneurial and corporate experience
- Relevant knowledge
- Very well connected

Complemented by experts:

- Legal
- Sales
- IP
- Finance
- Regulatory
- Technical/Scientific





We help startups go global

- Collaboration with Swissnex and embassies/consulates
- US market entry camps in Boston, San Francisco and New York
- UK market entry camp in London
- Asia market entry camps in Bangalore and Shanghai

- Additional hubs planned



CTI start-ups are well perceived and do well

- Top 100 Startup Award
 - 70% CTI companies
- Top 50 des start-up Suisses BILAN
 - 60 % CTI companies
- Applications for de Vigier awards
 - 50 % CTI companies



Thank you for listening.

Commission for Technology and Innovation CTI
Innovation Promotion Agency
Einsteinstrasse 2
CH-3003 Bern

www.kti.admin.ch





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ImagineCargo GmbH

Nick Blake, CEO & Facilitator

Supporting activities for inventors & entrepreneurs

Marjan Kraak, ETH Transfer



Spin-off support at ETH Zurich

Marjan Kraak, PhD - Head of the Spin-off group

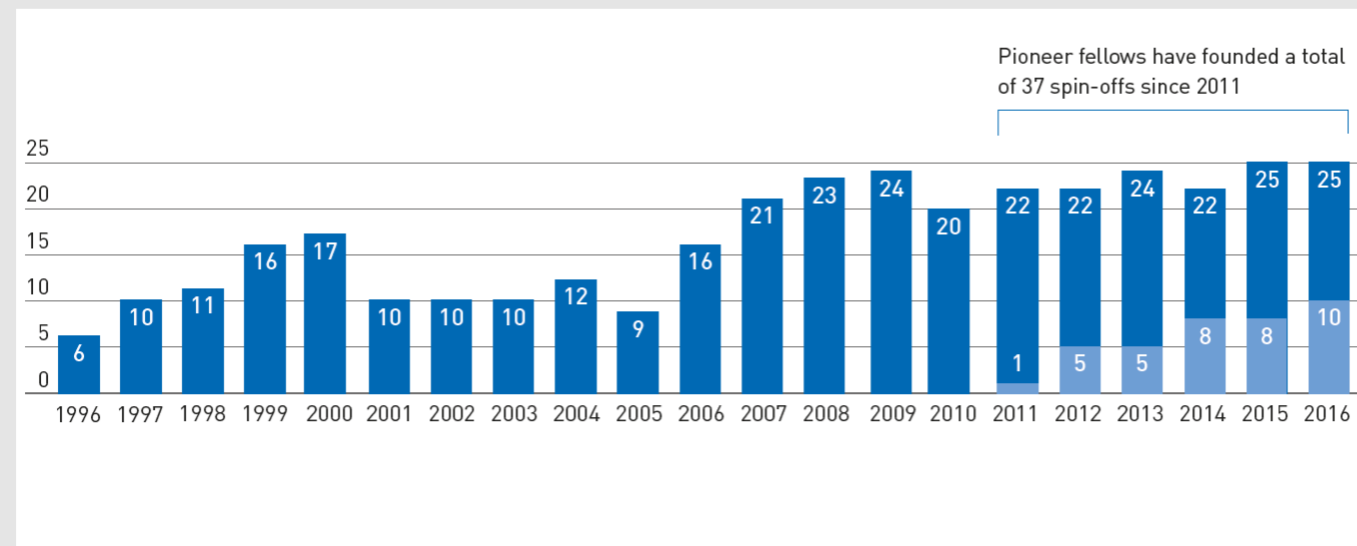
SCCER Mobiligy Workshop – June 8, 2017 at ETH Zurich

Topics

- ETH Zurich's tradition in entrepreneurship
- Spin-off support
- Pioneer Fellowship Grant & ieLab
- Some promising young ETH Spin-offs

In 2016 a record of 25 spin-offs were founded

355 spin-off companies founded at ETH Zurich between 1996 and 2016



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Acquisitions in 2015 - 2017:

- Adaptricity by Leoni
- Dacuda's 3D division was acquired by Magic Leap
- AutoForm was acquired by Astorg Group
- GlycoVaxyn acquired by GSK (\$ 212mio)
- Faceshift by Apple
- Koubachi by Husqvarna
- Upicto by Logitech
- Skybotix by GoPro

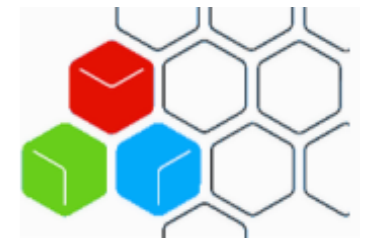
How does it work: ETH Spin-off support

- Discussing the idea of starting a spin-off
- Giving feedback to business ideas / business plans
- Supporting in intellectual property issues (patent applications, software rights (©), confidential know-how, etc.)

In case of an invention → Patent before publishing!

- Negotiating license agreements
- Formalities regarding the incorporation:
Domizilannahmeerklärung, ETH Spin-off Anerkennung, Miet- und Infrastrukturverträge

Spinoff ETH zürich



Pioneer Fellowship Grants

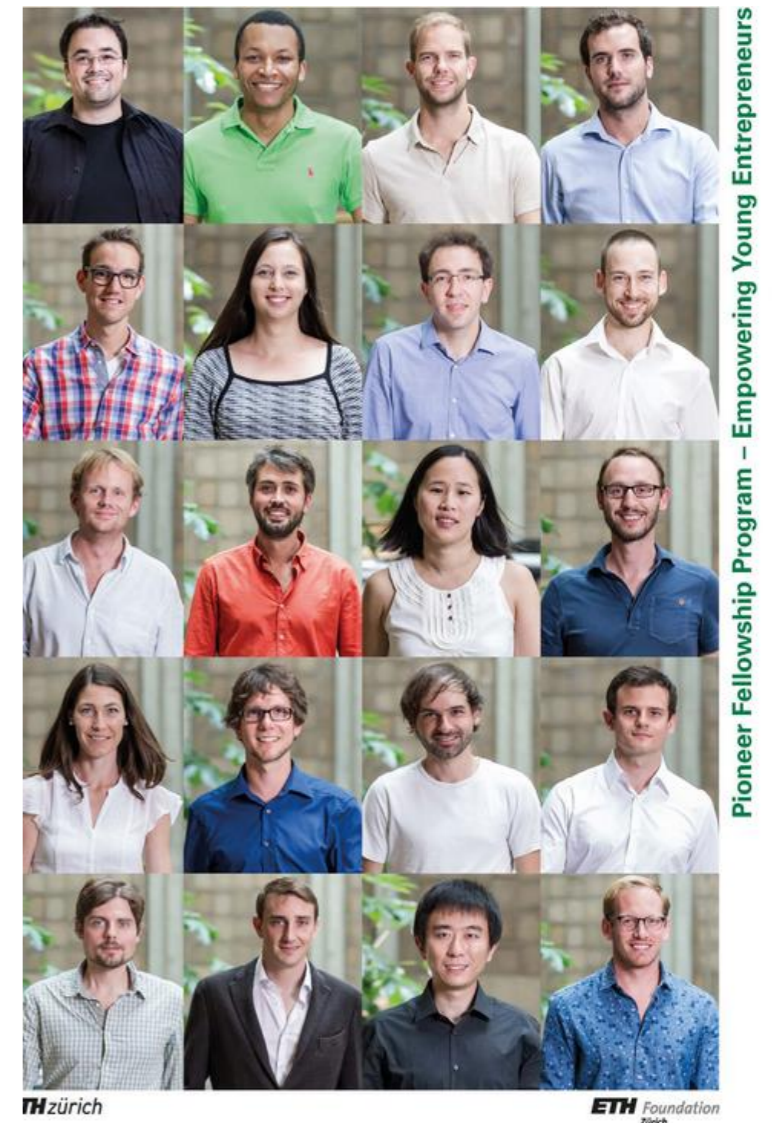
- Initiated in 2010 - Application on March 1st and Sept. 1st
 - The Pioneer Fellowship is awarded to candidates who want to become entrepreneurs based on their own research carried out during their Master or Doctoral Thesis at ETH Zurich
 - One or two Pioneer Fellows can be supported
 - 150 kCHF for 18 months, flexibility to use the money in the best way to support their business case

 - Full programm with trainings, round table discussions
 - Coaching & Mentoring of Pioneer Fellows
 - Networking activities
- ➔ With the Pioneer Fellowship more high growth Spin-offs are expected

Pioneer Fellowship projects and Spin-offs

- Since 2010 thanks to the start of the Pioneer Fellowships:
- 73 Pioneer Fellows
- > 35 ETH Spin-offs incorporated
- > 70% of the finished projects started an ETH Spin-off

- Donations by industry and private persons to the ETH Foundation are directly supporting young people & their projects



The Innovation and Entrepreneurship lab (ieLab) in action!



Former successful Entrepreneurs will coach the Pioneer Fellows

Networking activities



Seminars by those who have done it

Round table discussions



Wingtra – A new way of autonomous flying

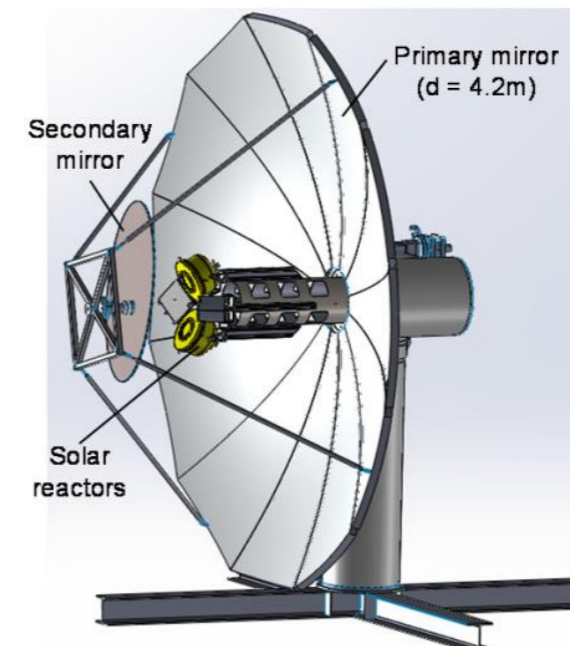
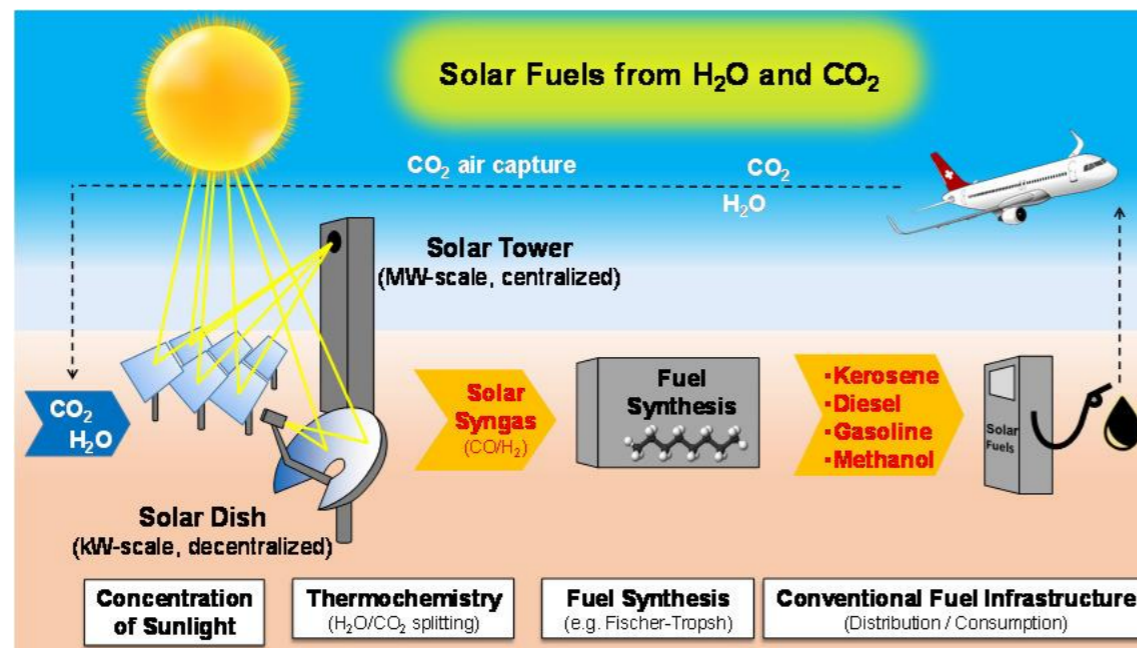
Wingtra is an ETH Spin-off that started in the Autonomous Systems Lab at ETH Zurich by a group of students. Just after incorporation they already employ 20 people.



- Fly like an airplane, start and land like a helicopter.

Sunredox – Solar fuels from CO₂ and H₂O

- Sunredox is securing the availability of clean and renewable fuels for sustainable transportation through energy-efficient and cost-effective production of solar liquid fuels exclusively from CO₂, H₂O and sunlight



- Sunredox builds on ETH patents and an ETH Pioneer Fellowship

ComfyLight – the learning light that protects your home

ComfyLight is an ETH Spin-off that started in the “Bosch Internet of Things (IoT) Lab” at ETH Zurich and the University of St. Gallen

Spinoff
ETH zürich

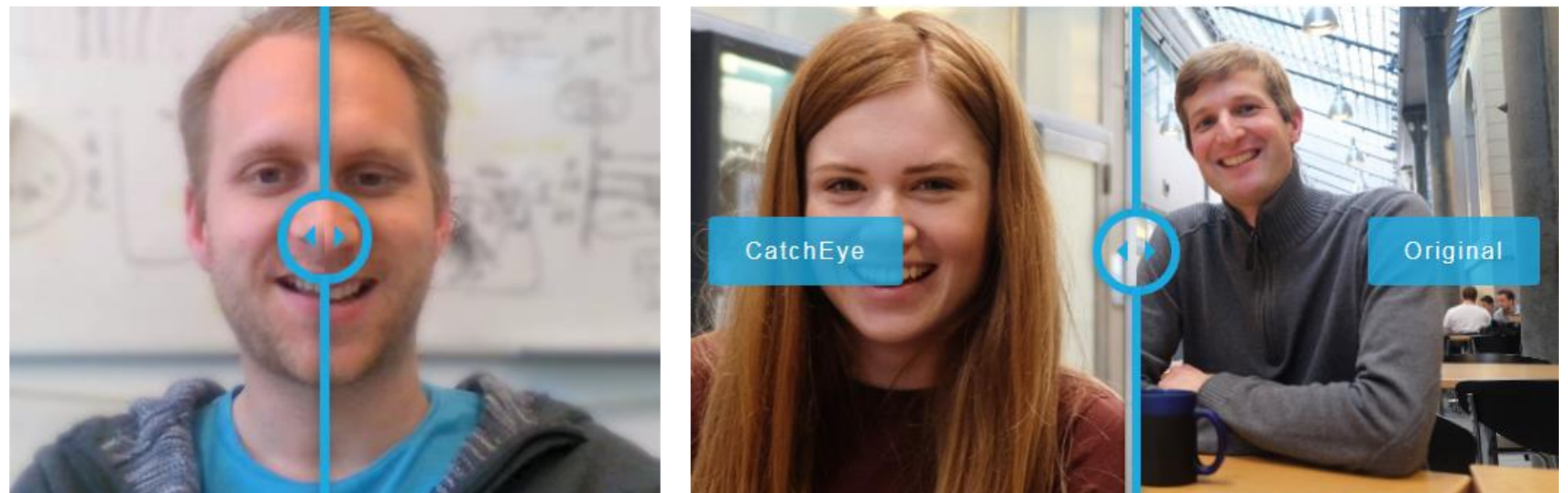


- ComfyLight offers a novel home security solution that actively protects your home from burglars - gently posing as a light bulb

Perceptiko – Feel closer when skyping by using CatchEye

Perceptiko developed a software at ETH Zurich and during a Pioneer Fellowship to improve features for e.g. skype:

- Eye contact
- Automatic zoom
- Lighting correction
- Background blur



Existing hardware (webcams, etc.) can be upgraded and improved

<https://catch-eye.com/>

The Performance of ETH Spin-offs (Jan. 2015)

A large study (Jan. '15) showed that ETH spin-offs:

- Produced revenues of CHF 585 Mio in 2013 alone (n=122)
- Have a 92% survival rate in their first 5 years of operations
- Created 2500 jobs until the end of 2013 (n=125)
- 30.8 % of ETH Spin-offs are backed by VCs

<https://www.ethz.ch/de/wirtschaft-gesellschaft/innovation-und-firmengruendung/spin-offs.html/>




Thank you!


In case of questions related to Spin-offs or Pioneer Fellowship Grants please don't hesitate to get in touch with us:

- Marjan Kraak (Head of the Spin-off group: BIOL, BSSE, CHAB, GESS, HEST, MATH, MAVT, USYS)
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- Hanna Brahme (Technology manager Spin-offs: ARCH, BAUG, ERDW, INFK, ITET, MATL, MTEC, PHYS)
hanna.brahme@sl.ethz.ch
- Silvio Bonaccio (Head of ETH transfer)
silvio.bonaccio@sl.ethz.ch



A CTI training programme

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vir2sense GmbH

Christophe Barro, CEO & Co-Founder

Panel discussion / Q&A

- Creativity & Innovation
- Team & Culture
- Start & Financing
- Success factors for startups

Ask questions anytime!

Your Next Steps ...

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- **CTI Entrepreneurship:**
www.cti-entrepreneurship.ch



- **Training for Hightech und Life Science:**
www.venturelab.ch



- **Up to CHF 130.000 in Seed Capital:**
www.venturekick.ch



- **Free Courses for founders:**
www.ifj.ch/kurse

Feedback

venturelab c/o IFJ Institut für Jungunternehmen AG
Kirchstrasse 1
9010 St. Gallen





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Teilnehmer/in: _____

Start-up Student/in Expert/in

info@venturelab.ch
www.venturelab.ch


Können Sie «venture ideas» weiterempfehlen? Ja Nein
 Interessieren Sie sich für «venture plan» (Strategie-Workshop für Start-ups)? Ja Nein
 Interessieren Sie sich für «venture challenge» (Semesterkurs für Studierende)? Ja Nein






 Kommentare

Gesamteindruck					
Impulsreferate „Start-ups“					
Referat „Vision“					
Workshop 1: „Vision“					
Workshop 2: „Elevator Pitch“					
Elevator Pitches					
Referat „Erfolgsgrundsätze“					
Workshop 3: „SWOT-Analyse“					
Referat Support venturelab					
Referat Support CTI Start-up					
Interview „Start-up Erfolg“					
Organisation					
Lokalität					
Was hat Ihnen besonders gut gefallen?					
Was war weniger gut? Was könnte man besser machen?					

Please give us your feedback!

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Thank you!

www.cti-entrepreneurship.ch

www.ctistartup.ch