

PAUL SCHERRER INSTITUT



John Millard :: Technology Transfer :: Paul Scherrer Institut

Supporting Innovation @PSI

ESS TTO Conference, Copenhagen, October 11th 2017

John Millard

- Chemical Process Engineer
 - BP / ABB
- MBA London Business School
 - Enron / Swiss Energy Consulting (MD)
- Entrepreneur: Multiple Start-Ups (CH/US/AU)
 - Electrochemical Testing (Impedance spectroscopy)
 - IoT Platform Development
- Investor (Angel)
- Exec & Non-Exec Board Member

- Paul Scherrer Institute
 - Since September 2016
 - Technology Transfer Manager (Responsible for Entrepreneurship)
 - Head Technology Transfer from 1.1.2018

PSI: An Overview

← Basel

Germany ↑

Aarau/Bern ↓

Zürich →





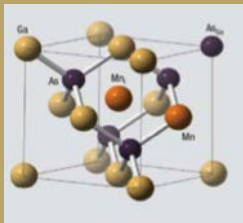
PSI west

PSI east

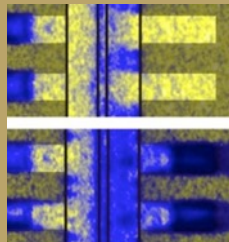
SwissFEL

Our Mission

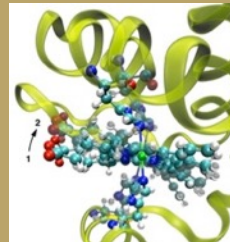
Matter and materials



Energy and environment



Human health



Development
Construction
Operation



Large research facilities



Swiss and foreign users
from academia and industry

more that 2300 external
users/year (38 beamports)

Knowledge & expertise



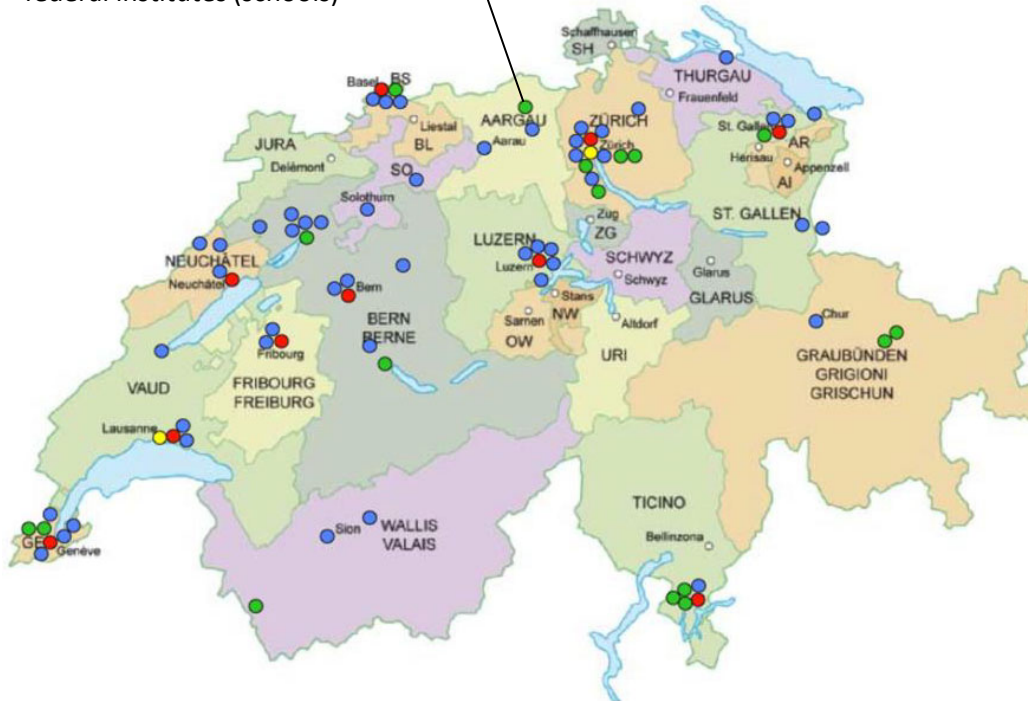
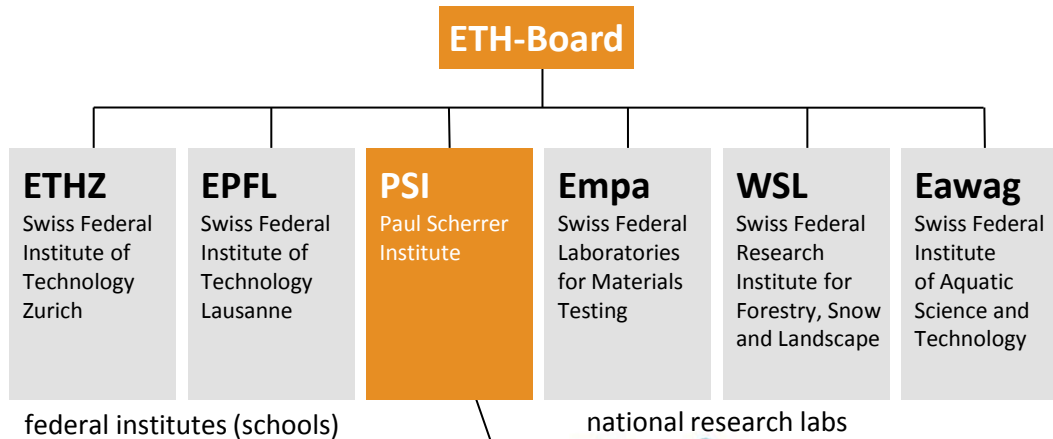
Education



Technology transfer



Synoptic view over Switzerland's university landscape

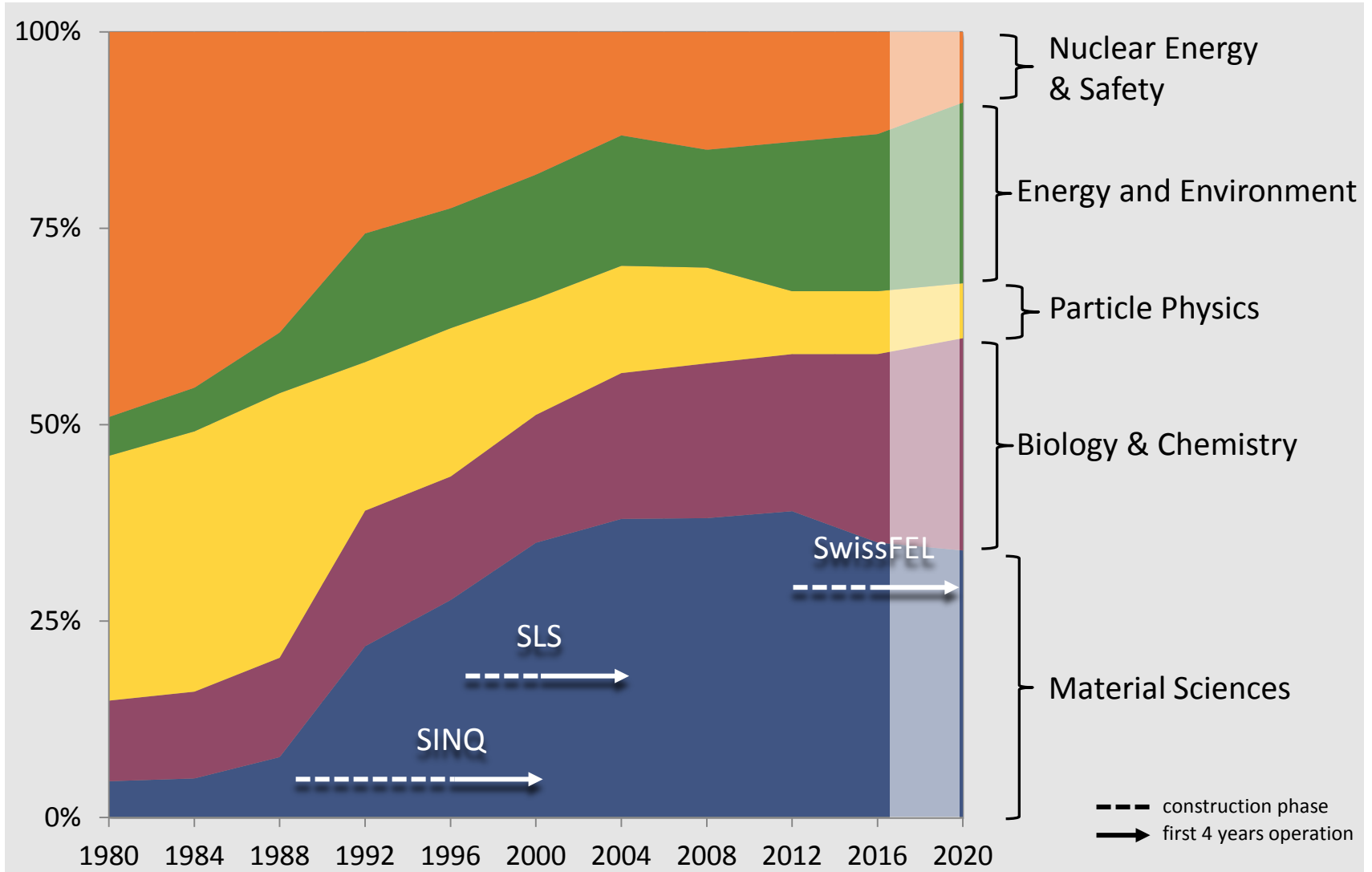


- **2 Federal Institutes of Technology** (ETH Zurich and Lausanne)
- **17 Federal Research Institutes** (among them the *four national research labs* for energy, materials, natural risks and water)
- **10 Cantonal Universities**
- **50 Universities of Applied Sciences (UAS, Fachhochschulen)** organized in 8 regional clusters (seven are public, one is a Public-Private Partnership, PPP)

Key figures

ETHZ Swiss Federal Institute of Technology Zurich	EPFL Swiss Federal Institute of Technology Lausanne	PSI Paul Scherrer Institute	Empa Swiss Federal Laboratories for Materials Testing	WSL Swiss Federal Research Institute for Forestry, Snow and Landscape	Eawag Swiss Federal Institute of Aquatic Science and Technology
PSI funds (global budget)				270	MCHF
External funding				100	MCHF
Staff				2000	
• Externally financed				650	
• Doctoral students				330	
• Apprentices				100	
External users: people / visits				2300 / 5300	per year
Number of scientific publications				1200 (> 12.2% high impact)	per year
PSI employees with teaching duties at both ETH and universities				100	
Patient visits (proton therapy treatment)				5500	per year

History of research activities at PSI



Creating a culture of Entrepreneurship

What steps can be taken to spark entrepreneurship ?



Recognise that Spin-Offs are High Value for TT

Spin-offs...

- ❖ ... are perhaps the most efficient way to commercialize technology and to bring it to market.

- ❖ ... establish new high tech companies and create new jobs
 - supports innovation within Switzerland
 - creates visibility for PSI (politically)

- ❖ ... represent an alternative and challenging career direction for researchers as an alternative to seeking professorship or entering industry.
 - scientists are high risk individuals!

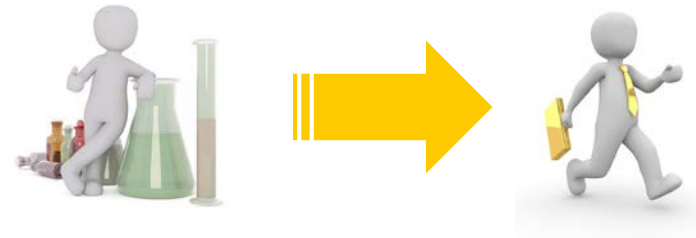


Creating an Entrepreneurial Culture

- At PSI – «Park Innovaare» was initiated to create a «home» for spin-offs.
 - incubator mileau
 - shared offices / services



- Create (and market) a fellowship (funding) for would-be entrepreneurs



- Ensure visibility of existing (successful) spin-offs and Entrepreneurial Fellows

Determine the level of funding

- Seek internal and external financial support
- Our Experience so far at PSI:
 - Small initial outside support. We targeted local banks and the big swiss banks, as well as foundations that support start-ups in Switzerland
 - But - Initial funding provided mainly by PSI
- Goal: Mid-Term to set up a Foundation, sponsored by external donors as well as returns from start-ups.
- Our initial financing: up to 450k for first 3 fellowships, 3 year test phase, 1-3 fellowships per year (variable).

Define the Fellowship

PSI Founder Fellowship



From Researcher



To Entrepreneur

Not Spin-Off Financing

Bridges the step from idea to proof of concept and initial business plan

Awarded via a competitive process and an external jury

Not funding for continued research

Support of up to CHF150k per fellowship

Max 18 Months for 1 Person, or 12 Monate for 2 (Team)

Define the Eligibility

- Masters, PhD's Postdocs, and other PSI employees on fix term contracts
- Open to external people IF the project is based on technology developed at PSI*
- Project start within 6 months of the award
- Must leave PSI on completion (no further extensions)
- Application can be made up to 6 months ahead of graduation, defense of thesis or end of contract (flexible)
- Must be eligible to start a company in Switzerland
- Technical Support for Proof of Concept
- Business-Coaching Required
- Deliverables: Proof of Concept; Business Plan



Preparation Workshops

- Presentation and discussion of relevant start-up topics
- Help in finding ideas
- Help in development of existing ideas
- Practice presenting ideas in a safe environment.
- Planned every 2 – 3 weeks
- Max 20 participants
- Dont have to come to each and every one...



Hire someone that knows about start-ups!

Maybe not him....

But definately someone who...

- Is an expereinced entrepreneur (preferably with High Tech start-up experience)
- Has had successes **and** failures
- Is not still looking for the big win
- Is not necessarily from a VC / private equity background

Someone that can and will share their own experiences



Leverage Existing Support for Start-Ups (You can't do everything)

Start-Up competitions

Entrepreneur mentoring programs

External Courses (how to start-up a company etc...)

Link up with Business Schools and other institutions that promote Entrepreneurism

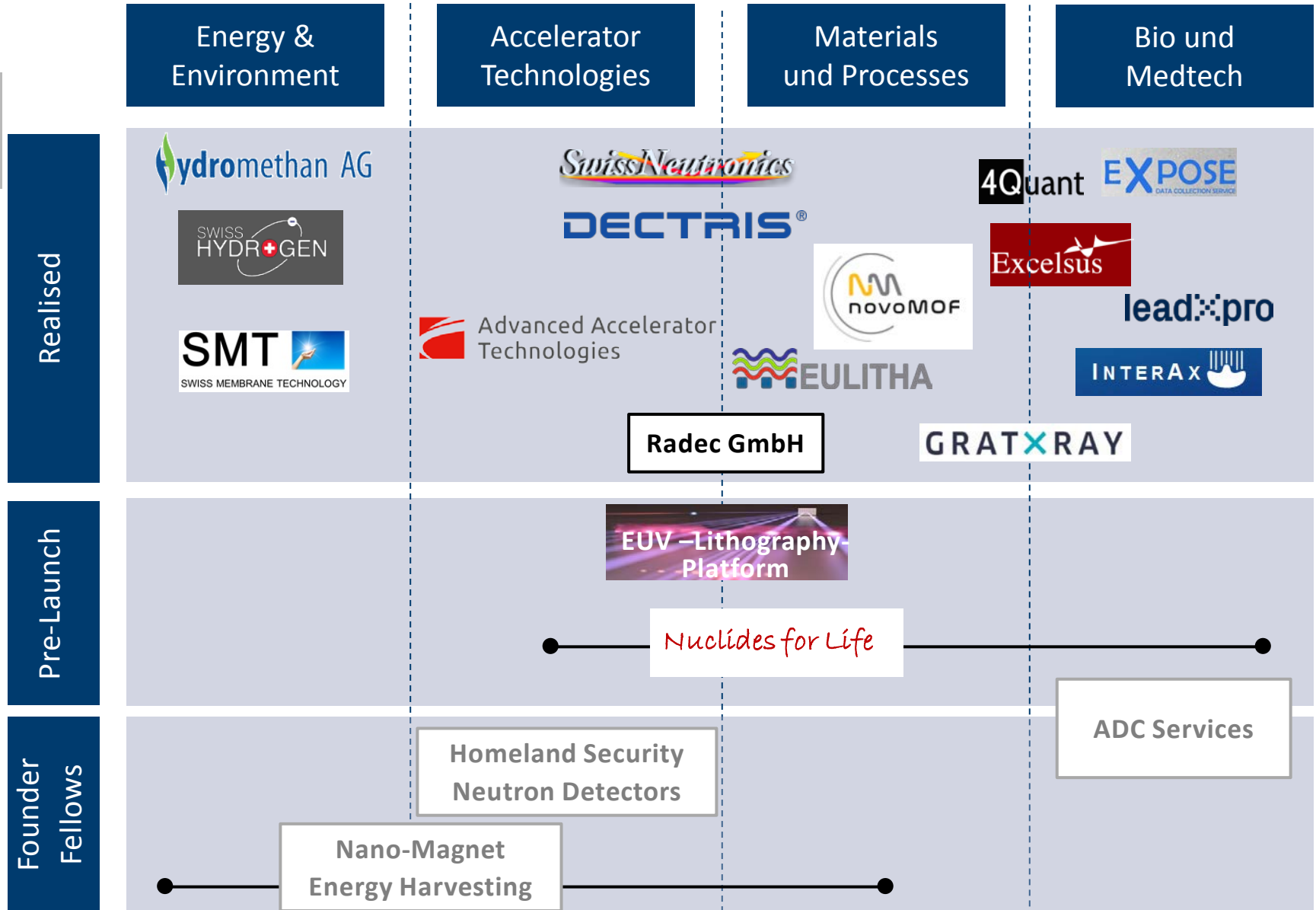
Not all scientists will be good CEO material – but this does not stop them being a founder of a startup based on their idea – they just need to find the right team

Begin creating a network of potential investors

- Banks (introduction to high net worth individuals)
- Business Angel Networks

Dont forget that industrial partners can be perfect investor partners.

Spin-Offs am PSI



Thank you for your attention



thank you!