



Innovation + Entrepreneurship @ ETH Zurich

Workshop: Promoting Spin-offs at Swiss Universities of Applied Sciences

Friday, 19 January, 2018

Dr. Tomas Brenner

Innovation & Entrepreneurship Lab, ETH

ETH Zürich



ETH Center



ETH Hönggerberg

ETH Zurich at a Glance

Founded 1855

Swiss public technical University
Driving force of industrialization in Switzerland

ETH Zurich in numbers

- ~ 500 professors
- ~ 20'000 students
- ~ 8'000 employees
- ~ 110 nationalities

Annual Budget

CHF 1.7 Billion
The largest in the world for a public University!

Ranking

University Ranking from the Times Higher Education (THE)

- **No. 1** in continental Europe
- **No. 9** in the world (2015)

Global Entrepreneurship Index Ranking (GEDI)

- **No. 2** in the world (2017)

Missions of the ETH Swiss ETH Law 1991

a. education

b. research

➤ 500+ ETH
Professors
16 Departments

Swiss Federal Law on the Swiss Federal Institutes of Technology (Bundesgesetz über die Eidgenössischen Technischen Hochschulen) ETH Law

of 4 October 1991 (Status as of 1 August 2008)

The Federal Assembly of the Swiss Confederation,
with due regard to Articles 27 and 27^{***} of the Federal Constitution ^{1 2} and the Message of the Swiss Federal Council of 14 December 1987³,

resolves:

Chapter 1: General provisions

Art. 1 Scope

¹This law shall apply to the Domain of the Swiss Federal Institutes of Technology (ETH Domain) comprising the following:

- a. Swiss Federal Institute of Technology Zurich (ETHZ);
- b. Swiss Federal Institute of Technology Lausanne (ETHL);
- c. ⁴Research Institutes

³These institutions come under the Confederation.

Art. 2 Purpose

¹The role of the Swiss Federal Institutes of Technology (ETHs) and the Research Institutes shall be:

- a. to educate students and specialists in scientific and technical fields and ensure continuing education;
- b. to expand scientific knowledge through research;
- c. to foster junior scientific staff;
- d. to provide scientific and technical services;
- e. ⁵to ensure a dialogue with the public;
- f. ⁶to exploit their research findings.

21 Nobel Laureates

1912	Chemistry	Alfred Werner
1915	Chemistry	Richard Willstätter
1918	Chemistry	Fritz Haber
1920	Physics	Charles-Edouard Guillaume
1921	Physics	Albert Einstein
1936	Chemistry	Peter Debye
1938	Chemistry	Richard Kuhn
1939	Chemistry	Leopold Ruzicka
1943	Physics	Otto Stern
1945	Physics	Wolfgang Pauli
1950	Medicine	Tadeusz Reichstein
1952	Physics	Felix Bloch
1953	Chemistry	Hermann Staudinger
1975	Chemistry	Vladimir Prelog
1978	Medicine	Werner Arber
1986	Physics	Heinrich Rohrer
1987	Physics	Georg Bednorz / Alexander Müller
1991	Chemistry	Richard Ernst
2002	Chemistry	Kurt Wüthrich



**Albert
Einstein**



**Leopold
Ruzicka**



**Wolfgang
Pauli**



**Vladimir
Prelog**



**Richard
Ernst**



**Kurt
Wüthrich**

Missions of the ETH Swiss ETH Law 1991

f. Exploit research findings

➤ ETH transfer

Swiss Federal Law on the Swiss Federal Institutes of Technology (Bundesgesetz über die Eidgenössischen Technischen Hochschulen) ETH Law

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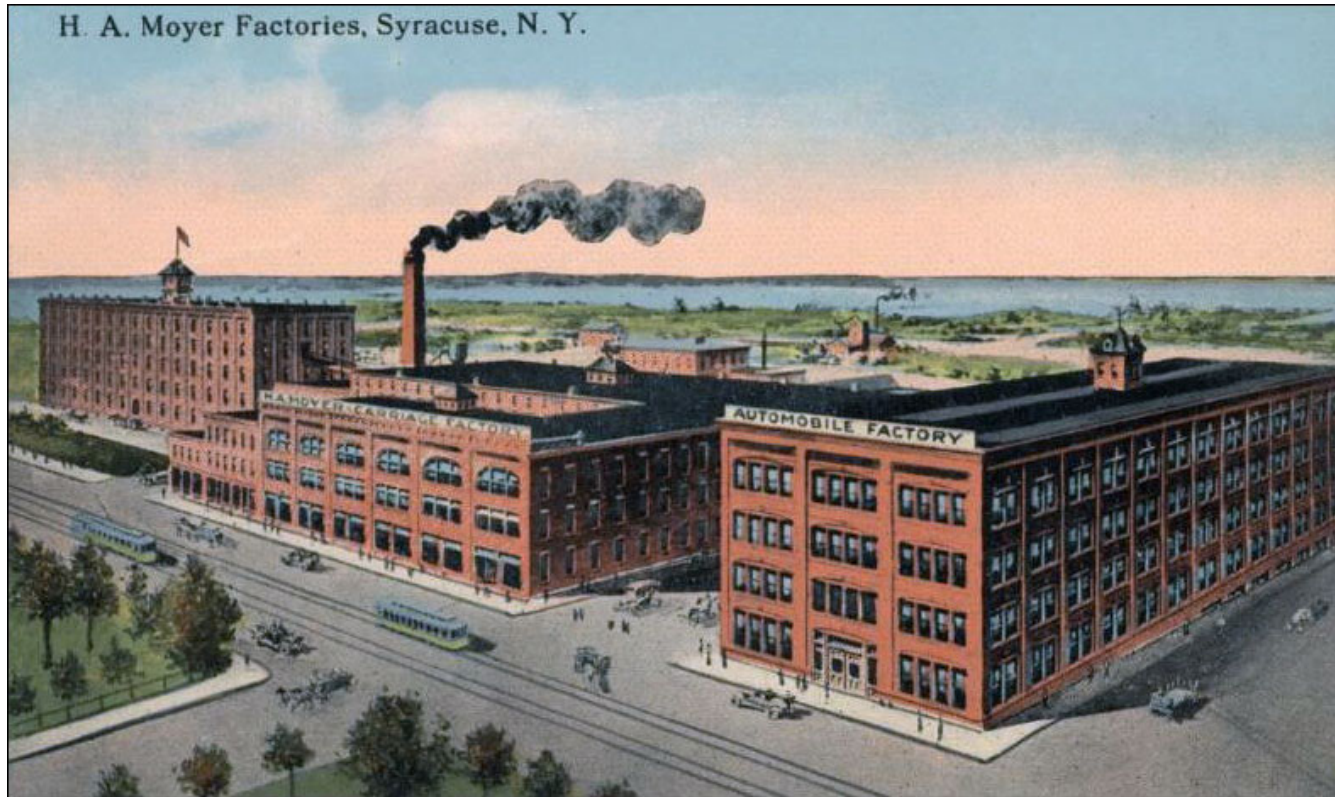
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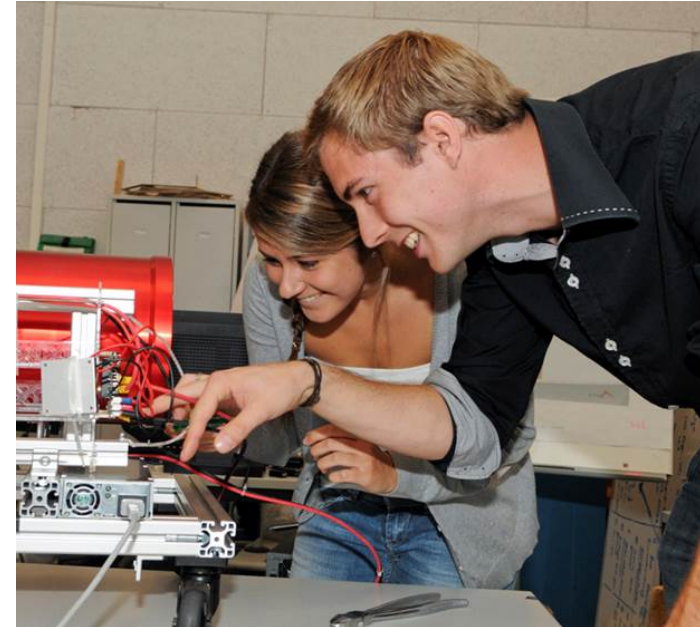
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How to Achieve the Biggest Impact for Society?



Large companies



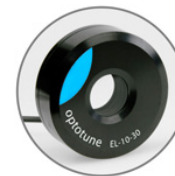
Start-ups

Large Companies - ETH Technology Inside!

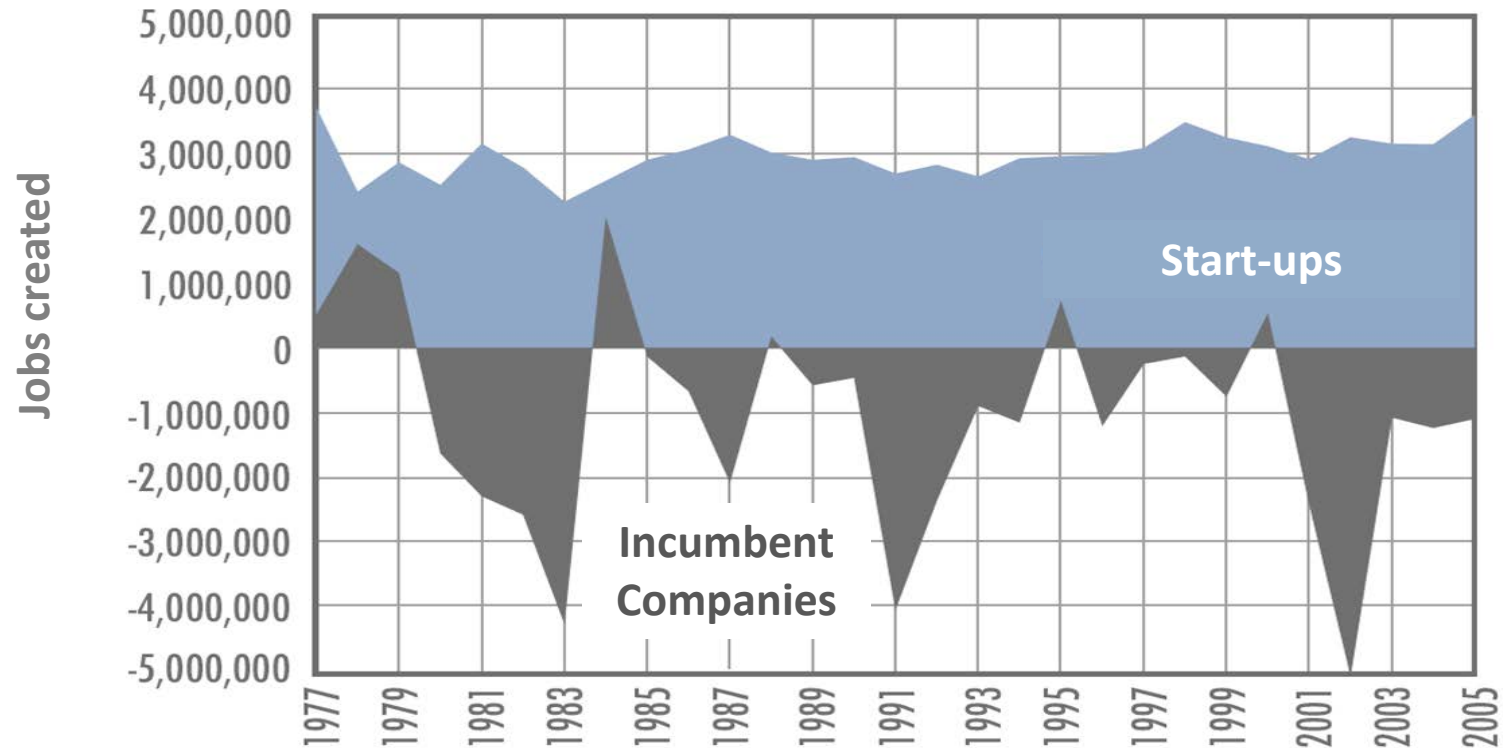
ETH transfer (2016)

- ❖ 307 Research Contracts + 16 EU grants
- ❖ 215 Invention Disclosures (32 SW)
- ❖ 109 Patent applications
- ❖ 78 Licenses (38 SW)

- ❖ 851 PhD & 2'015 Masters “dispatched” to industry



Start-ups Create New Jobs (USA Data)



Data: Kauffman Foundation, USA

Big companies start small !

Living a Culture of Innovation & Entrepreneurship at ETH Zurich



Entrepreneurship - an Integral Part of the ETH Culture

1st + 2nd
Mission



University

Industry



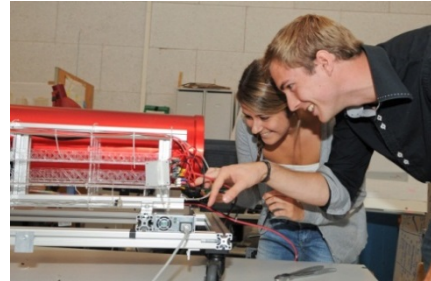
Focus Projects
Student Projects

Pioneer
Fellows

Spin-Offs
Entrepreneurs

Company
Executives

3rd
Mission



Departments

ieLab

Wyss Zürich
Technopark

Corporate
World

Ask successful entrepreneurs



“What would have made a major difference in the early phase of your young start-up?”

What ETH Entrepreneurs Would Have Wanted ...

- Seed Capital** Initial funding to bridge the “**valley of death**” from scientific findings to a early stage start-up
- Peer Home** A second home (“a biotope”) for like-minded young ETH scientists with entrepreneurial aspirations: **Peer support and peer pressure**
- Coaching** Supervision and support by experienced, successful entrepreneurs with a similar background: **Compelling role models**
- Networks** Access to the **complete ETH network**, including its **Professors**, services, **industry relations**, **ETH spin-offs**. Access to the **start-up scene** in CH and international **investors, founders, organizations**

Pioneer Fellowship Program - Moving Ideas to the Market



18 month duration, 150 KCHF seed funding financed by donations (via ETH foundation)



Promote ETH talents who want to pursue an entrepreneurial career



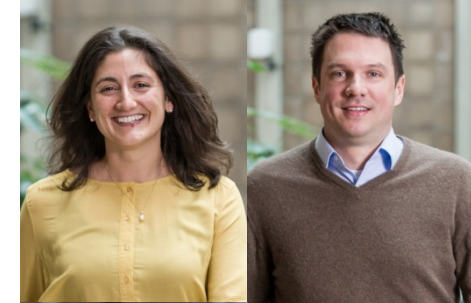
Move **research results** to the market



Access to all services of **the Innovation & Entrepreneurship Lab (ieLab)**

Benefits for program partners

- Interaction with tomorrow's entrepreneurs
- Early insight into disruptive technologies
- Participation in public & private events
- Visibility of partnership with ETH Zurich



ieLab & Pioneer Fellowship Program (2010 – 2017)



granted 78

currently 20



founded 45

at ieLab 6

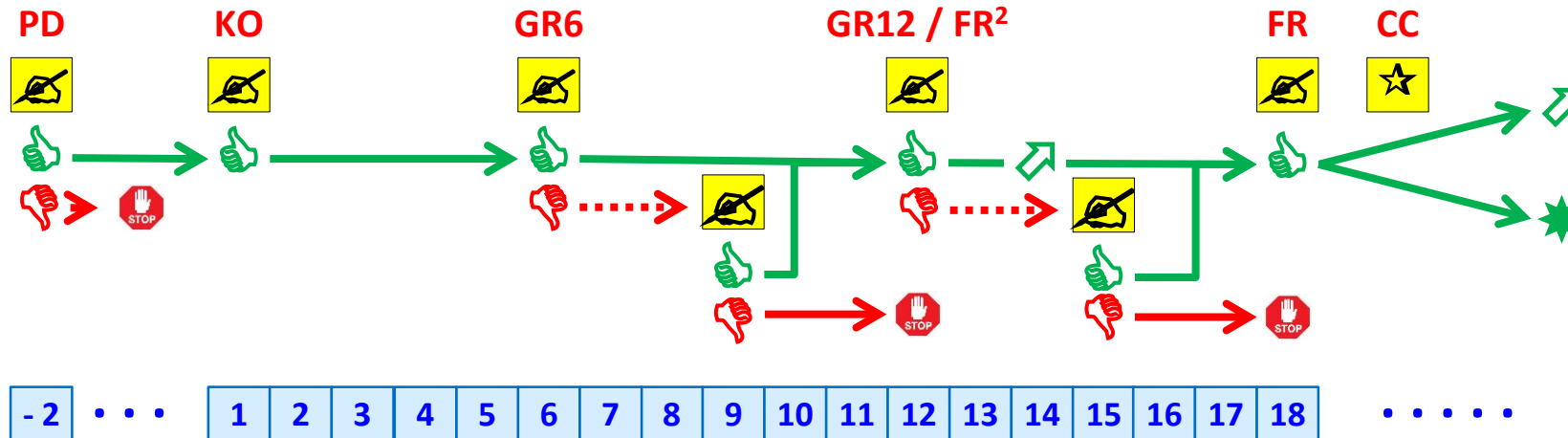
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Innovation & Entrepreneurship Lab (ieLab)

- Peer Home** An **entrepreneurship peer home** ("melting pot") for **peer support and peer pressure**
48 working desks | **42** lab benches (2 locations)
- Coaching** Individual **coaching** by experienced serial **entrepreneurs**, successful **ETH founders** and industry **experts**
- Training** Complementary **entrepreneurship training** incl. Seminars, Workshops, Round Tables, Immersion Experience
- Events** Networking with Spin-off / Thanksgiving dinner, Meet the Coaches, 3 Pi Competition
- Networks** Access to all **ETH entities**, **380 ETH spin-offs** , **Biz Angels**, **VCs** and **CH Start-up ecosystem**
- Social Media** ETH founders community **Beekeeper**

The Pioneer Fellowship Lifecycle

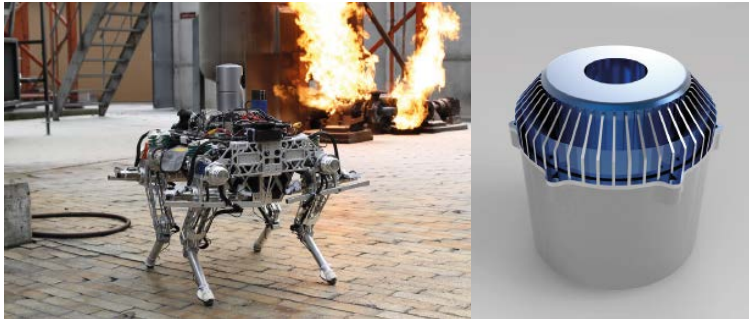
Stage Gate Process



-  PD Pitch Day
 -  KO Kick-Off Meeting
 -  GR Gate Review
 -  FR Final Review
 -  CC Certificate Ceremony
- ² Dual Pioneer Fellows
-  Go / NoGo
 -  Stop
 -  Spin-off
 -  Entrepreneurial graduates

Pioneer Projects ...

Collaborations with HSLU: Design Thinking (UX) w / Dr. C Acklin, HSLU



ANYBOTICS



rqmicro
rapid quantitative microbiology



pregnolia
INFORMED
PREGNANCY
CARE



noonee
the Chairolution

TAPTOOLS



CellSpring
The next level in 3D Cell Culture.

3D Bloom™
Biopolymer-Technology
bringing in vitro studies
closer to human
biological response.

ETH Spin-offs: Conditions and Benefits

Requirements for ETH Spinoffs

- **ETH technology**, know-how or software
 - Know-how or unlicensed technology to be verified with ETH group / professor
- At least one **founder** is ETH student, employee, or alumnus

...and

- **Business idea** and plan are sound and sustainable
- Team demonstrates **entrepreneurial skills**

...and

- **Impact** on Swiss economy
 - Company founded less than 2 years ago

Benefits for ETH Spinoffs

- Rent **offices** and **lab spaces** and use **infrastructure** at **preferred conditions** at ETH and Technopark (for **2+1 years**)
- Get (limited) **consulting** and **coaching**
- Link to Venture Incubator and other VC's
- Use of "ETH spin-off" **label**

Spinoff **ETH zürich**

ieLab Team

+ 60 entrepreneurs, industry experts
and service providers



Dr. T. Brenner
ieLab Head
*Venture Capital
Start-ups
Industry Expert*



Dr. D. Grabulovski
ieLab Mentor
*former CSO
Covagen*



A. Mzumara
BioSafety Lab Manager
Cambridge University



S. Scheer
ieLab Mentor
*High-tech entrepreneur,
NoTube*



Prof. Dr. P. Seitz
ieLab Sherpa
*Serial Entrepreneur
Industry Expert*



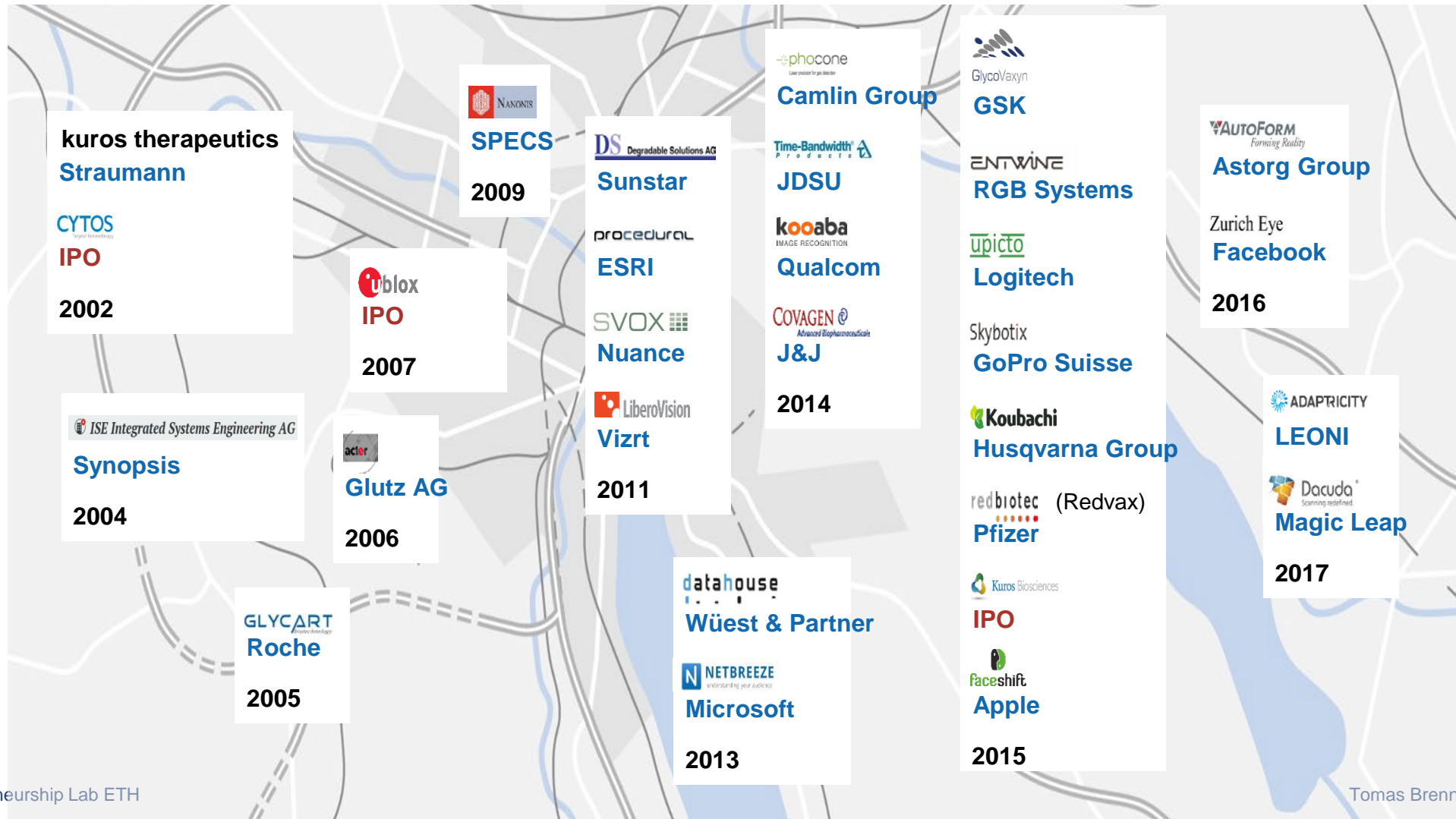
M. Stucky
ieLab Mentor
*former CFO
GlycoVaxyn*



S. Zimmermann
MarCom Manager
*CreditGate24,
UBS AG, UBP SA*

Acquisitions and IPOs of ETH Spin-offs

> 2 bCHF





Thank you for your attention !

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