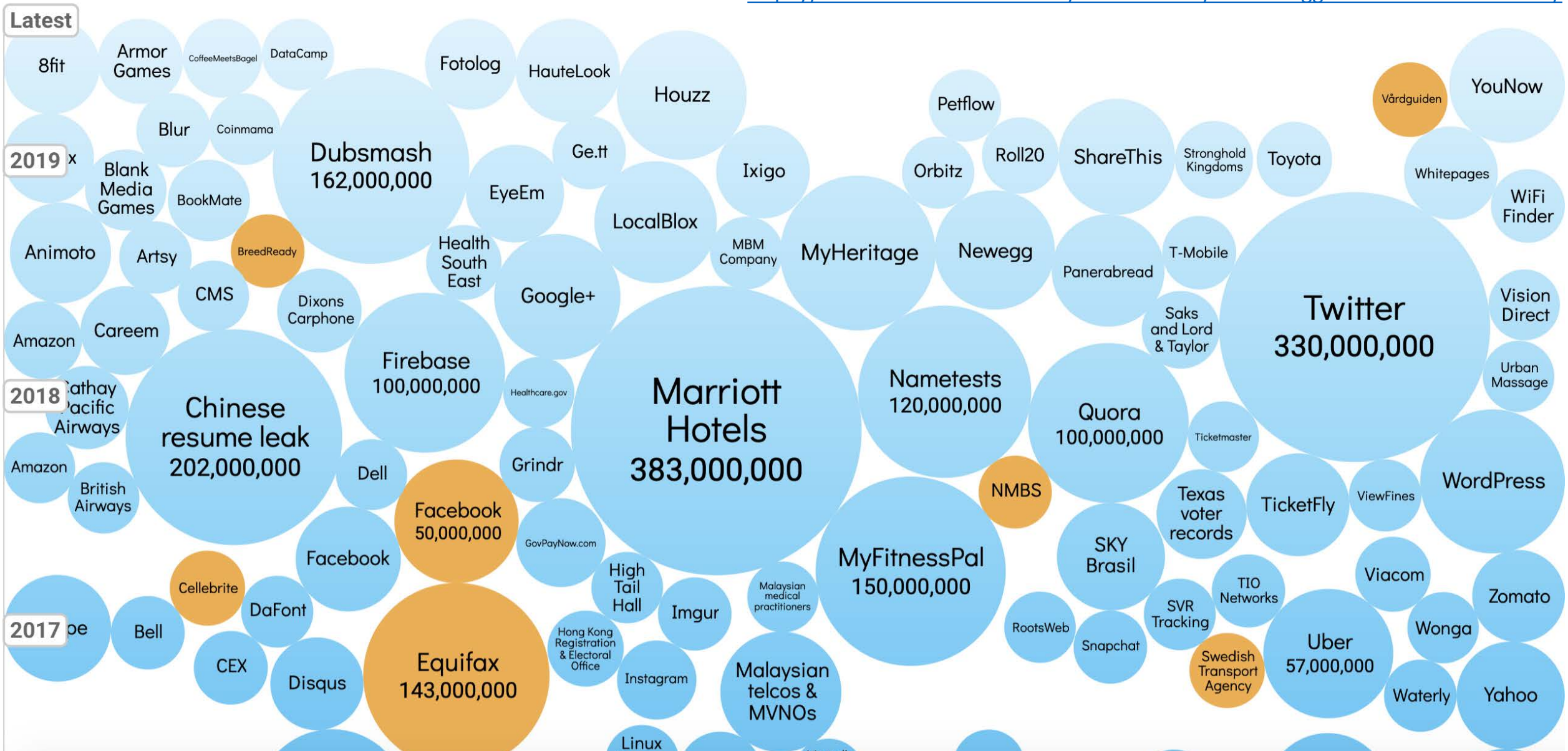
ETH zürich

Prof. Srdjan Čapkun, Chair Zurich Information Security and Privacy Center, ETH Zurich

Cyber Security Activities in Switzerland

Technology can erode trust!

https://informationisbeautiful.net/visualizations/worlds-biggest-data-breaches-hacks/



Technology can erode trust!

Cryptocurrency investors locked out of $190m after exchange founder dies

QuadrigaCX, Canada's largest exchange, was unable to access password or recovery key after Gerald Cotten died last December

US elections 2020

America's new voting machines bring new fears of election tampering

In the first of a two-part series: Many jurisdictions will offer voters a paper trail in 2020. But the systems involved are far from foolproof

- 'They think they are above the law': the firms that own America's voting system

Vulnerability in Swiss e-voting system could have led to vote alterations

A fix has been deployed to Switzerland's e-voting system, slated to roll out later this year.

By Catalin Cimpanu for Zero Day | March 12, 2019 -- 16:23 GMT (16:23 GMT) | Topic: Security

CNBC

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TECH

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South Korean cryptocurrency exchange Bithumb says it was hacked and $30 million in coins was stolen

- A major South Korea-based cryptocurrency exchange said it was hacked and about $30 million worth of cryptocurrencies were stolen.
- Bithumb is one of the busiest exchanges for virtual coins.
- The exchange said the stolen coins would be covered from its own holdings and that it moved all users' assets into safe "cold" wallets.

Saheli Roy Choudhury

Published 10:46 PM ET Tue, 19 June 2018 | Updated 2:44 PM ET Wed, 20 June 2018

CNBC

BRIAN BARRETT SECURITY 05.08.19 01:20 PM

HACK BRIEF: HACKERS STOLE $40 MILLION FROM BINANCE CRYPTOCURRENCY EXCHANGE

Forbes

7,738 views | Jun 1, 2018, 07:10am

Cryptocurrency Trader Says The Market Is Manipulated

Frances Coppola Senior Contributor

I write about banking, finance and economics.

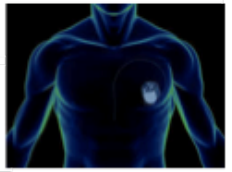
If you think cryptocurrencies are fairly priced by a free market, you are in for a

Everything is Being Hacked

The New York Times

A Heart Device Is Found Vulnerable to Hacker Attacks

By BARNABY J. FEDER
Published: March 12, 2008



Doctors disabled wireless in Dick Cheney's pacemaker to thwart hacking

The New York Times

Keeping Your Car Safe From Electronic Thieves

Last week, I started keeping my car keys in the freezer, and I may be at the forefront of a new digital safety trend.

'We hacked U.S. drone': Iran claims it electronically hijacked spy aircraft's GPS and tricked aircraft into landing on its soil

- RQ-170 Sentinel drone has been seen on display by Iran's gloating military
- Engineer claims Iran downed drone by using fake signals to confuse it
- Claimed GPS signals are easy to hack without cracking U.S. control codes
- Alleges aircraft's GPS weakness was long known to U.S. military officials

How Drones Can Find and Hack Internet-of-Things Devices From the Sky

Friday, August 07, 2015 Mohit Kumar

+1 146 Like 2.2k Share 617 Tweet 297 Share 26 ShareThis 1019

Security researchers have developed a Flying Drone with a custom-made tracking tool capable of sniffing out data from the devices connected to the Internet – better known as the Internet-of-things. Under its Internet of Things Map Project, a team of security researchers at the Texas-based firm [...]

RollJam — $30 Device That Unlocks Almost Any Car And Garage Door

Saturday, August 08, 2015 Khyati Jain

+1 340 Like 3.6k Share 2954 Tweet 420 Share 28 ShareThis 4294

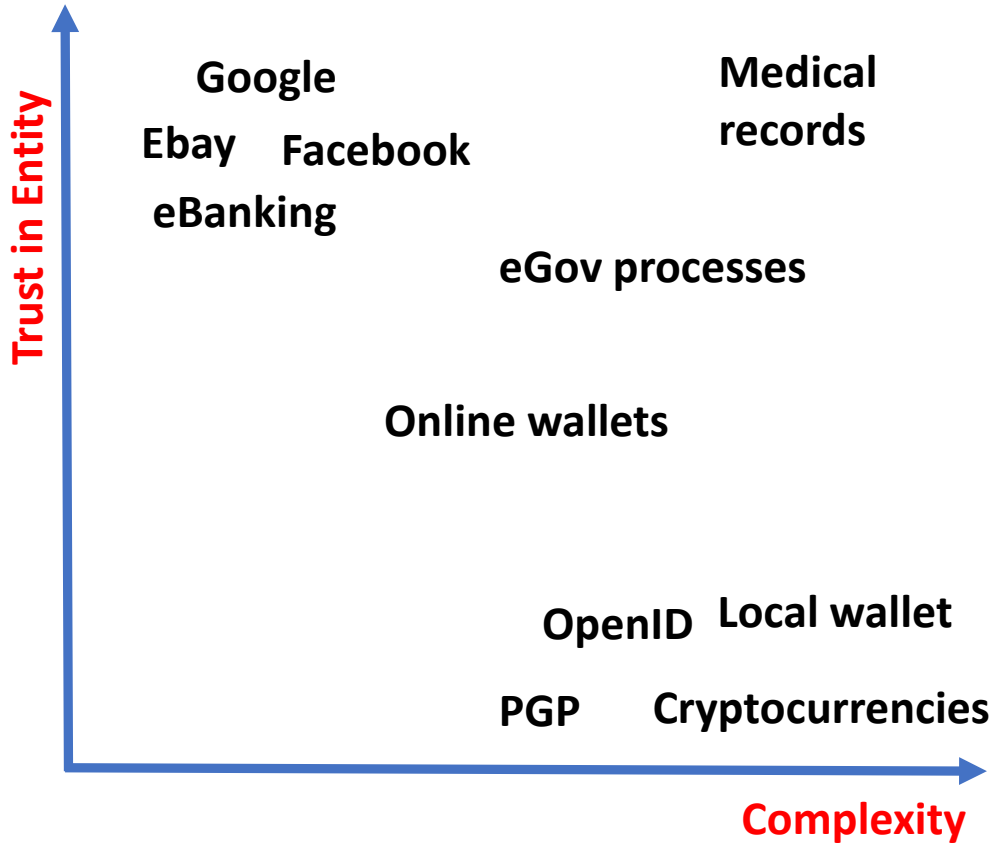
We have talked a lot about car hacking. Recently researchers even demonstrated how hackers can remotely hijack Jeep Cherokee to control its steering, brakes and transmission. Now, researchers have discovered another type of car hack that can be used to unlock almost every car or garage door. You [...]

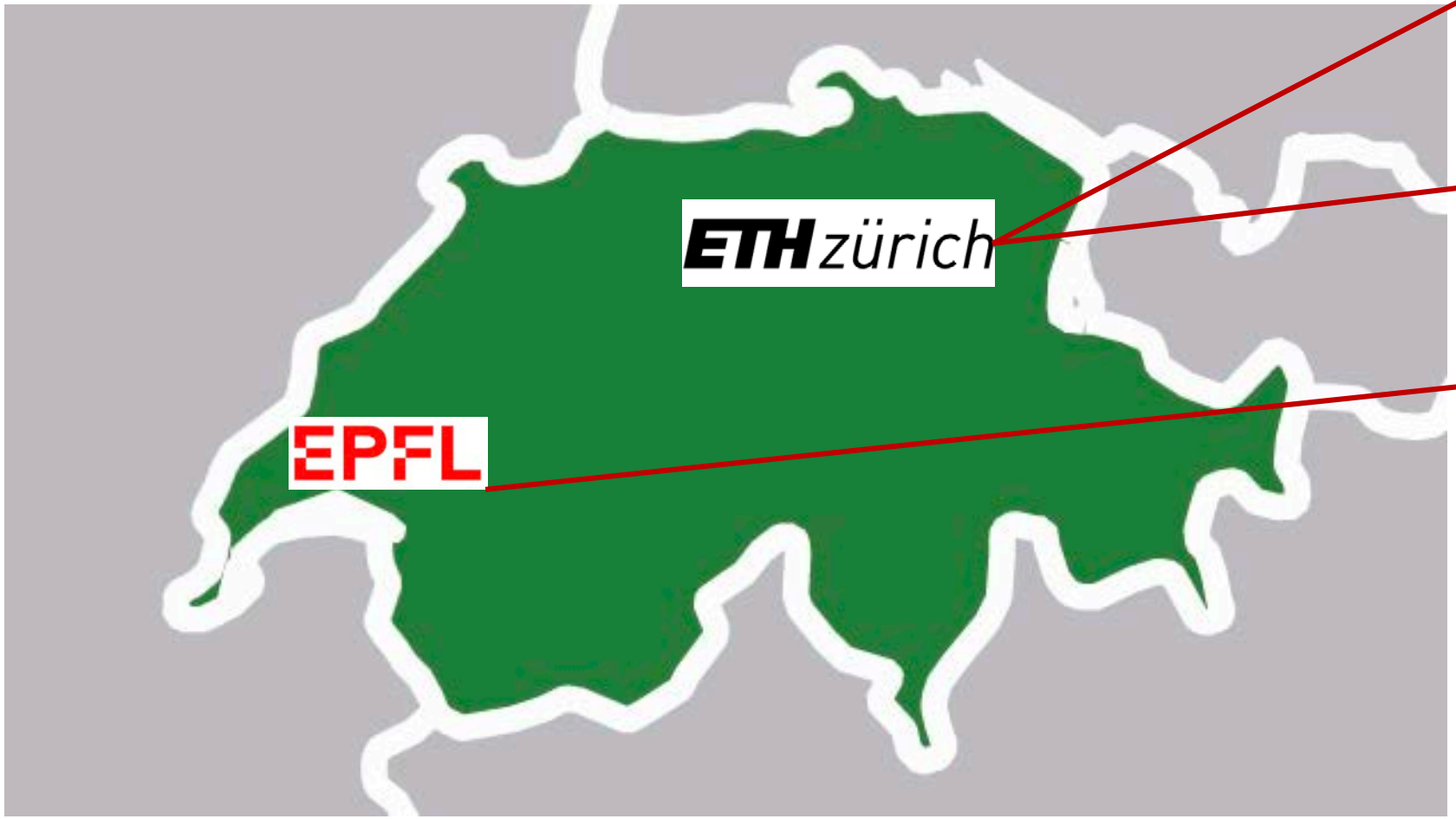
Increasing Complexity and Interdependency

- Complexity is rapidly growing
- **Trust enables delegation of complexity**

Key Challenge:
Find the technologies that provide best complexity / trust tradeoffs

Key part of the Answer:
- attract and develop top security talent
- develop local security scenes, starting with innovative startups





CSS
ETH Zurich

ZISC
Zurich
Information
Security & Privacy
Center

C4DT
Center
for Digital
Trust

CYD
CYBER
DEFENCE
CAMPUS

ZISC – Platform for the Collaboration with Industry / Society

- **Zurich Information Security and Privacy Center**
- Founded 2003
- Research projects
- Spin-offs
- Education

#	Institution	Count	Faculty
1	ETH Zurich	18.8	13
2	CISPA Helmholtz Center	18.6	18
3	Ruhr-University Bochum	15.1	8
4	TU Darmstadt	12.4	11
5	Bar-Ilan University	11.2	4

10 professors, more than 100 PhD students and postdoctoral researchers

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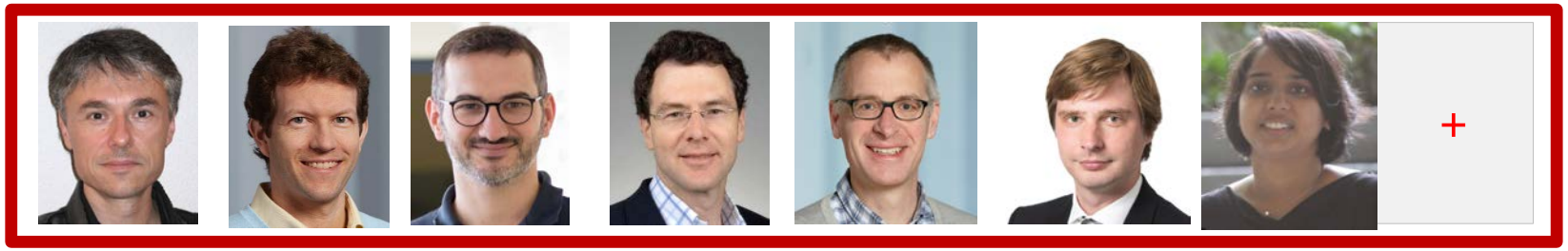
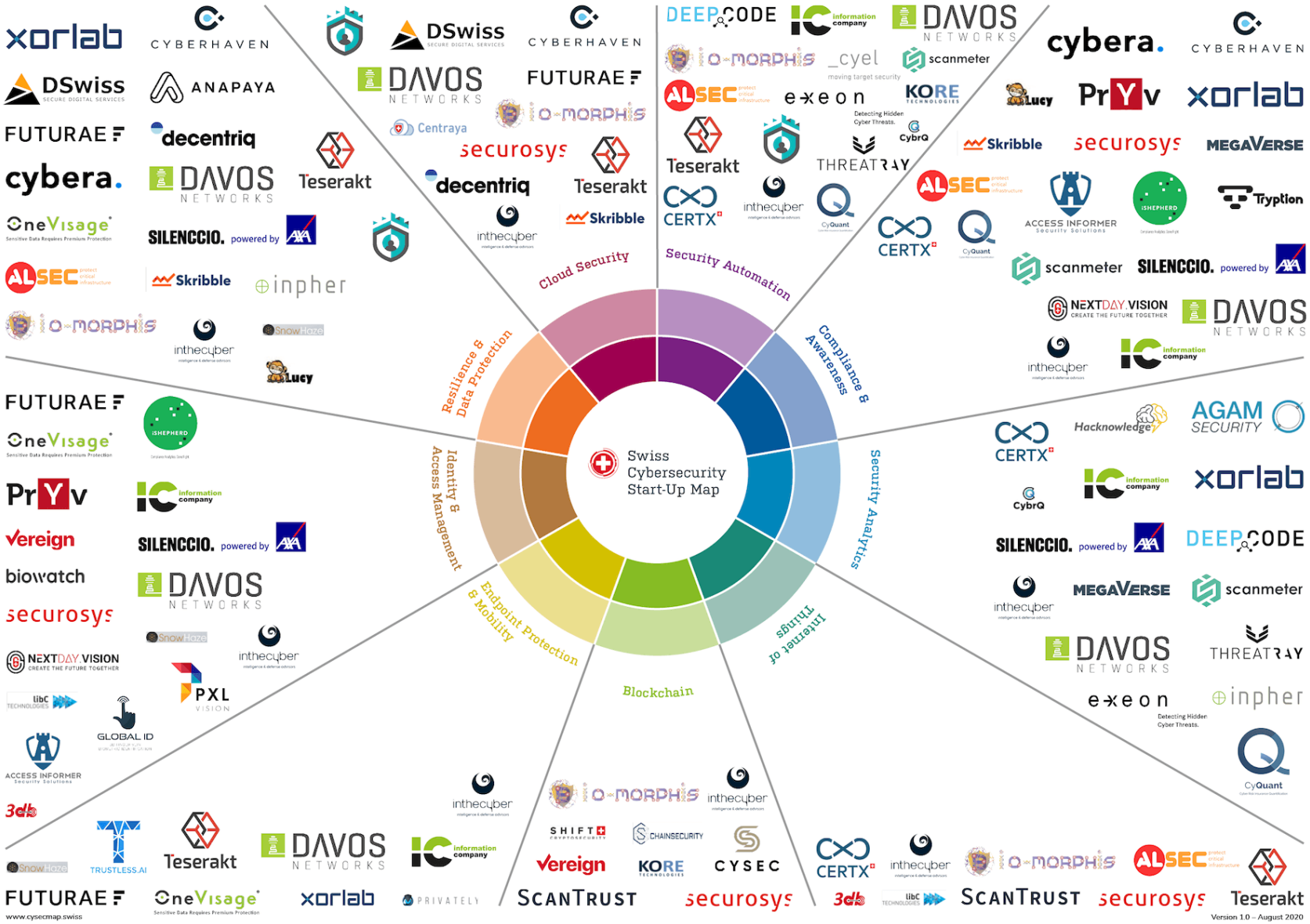
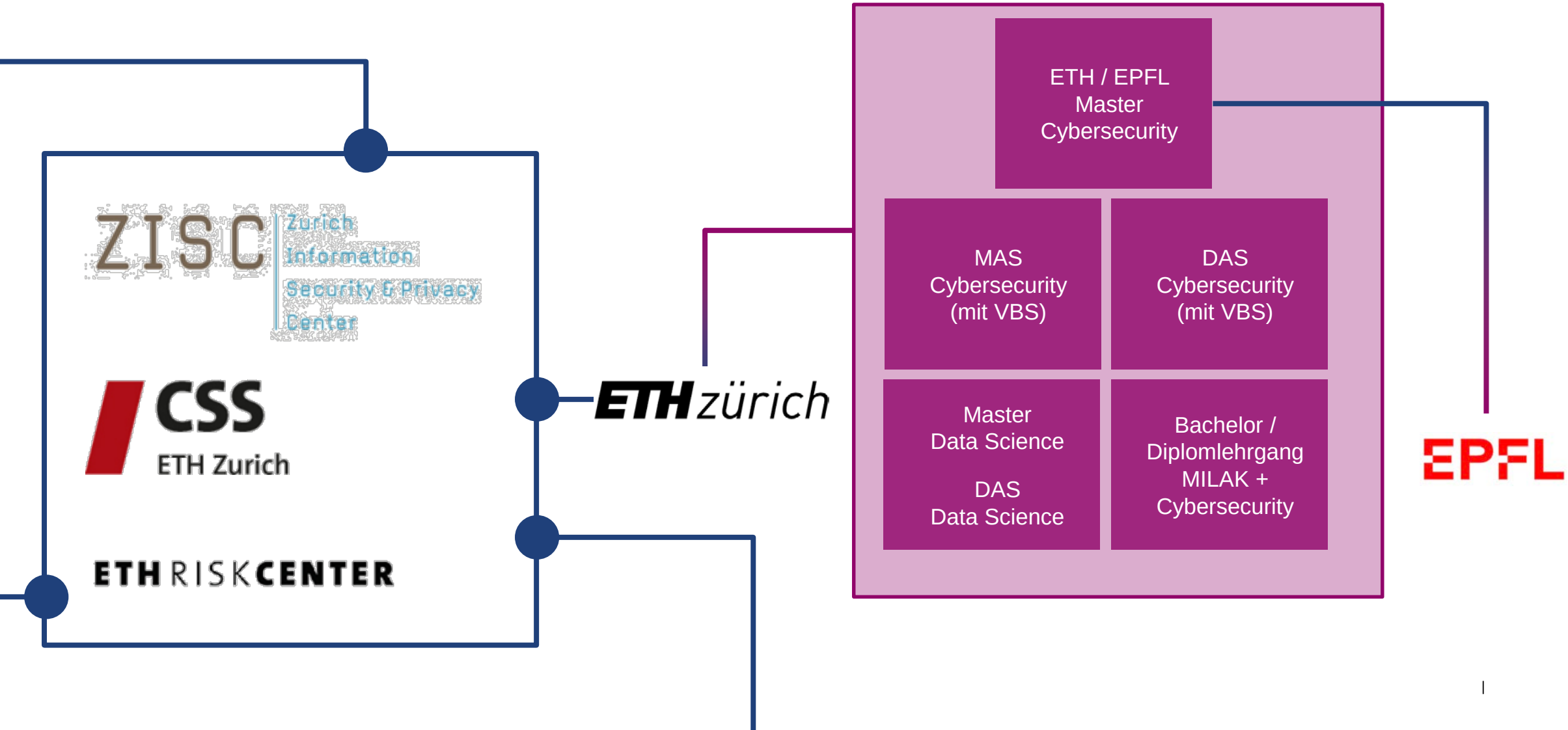


Swiss Cybersecurity Technology Startup Map



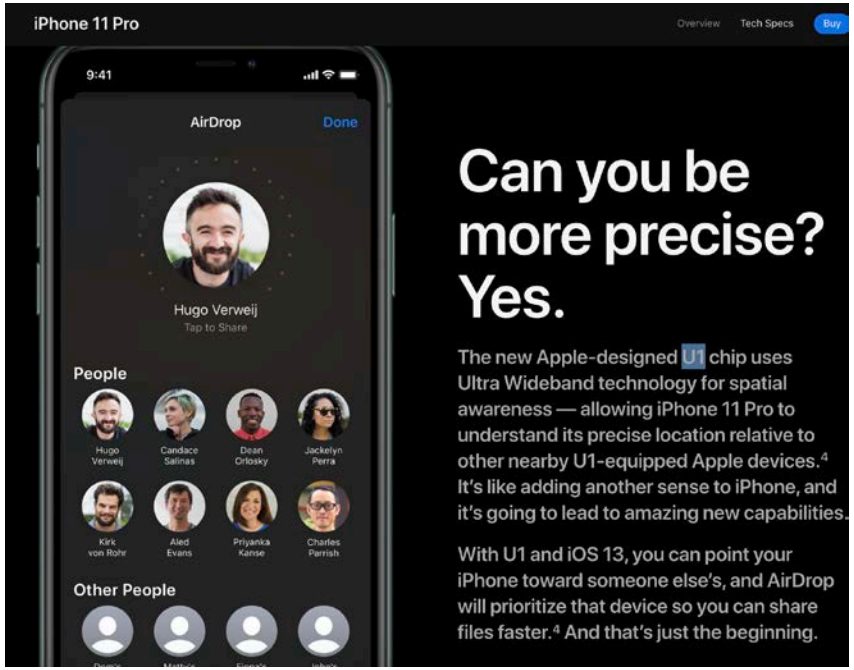
Security Education: MSc and Continuous Education Programs



Research Highlights: Secure Distance Measurement

IEEE UWB 802.15.4z: technology for secure short-range distance measurement

- Standard initiated and co-developed by ETH Zurich researchers and ETH Spinoff
- Securing physical access to cars, homes, …
- Secure Payments, …



Research Highlights: New Secure Internet

SCION: Scalability, Control, and Isolation On Next-Generation Networks

Enables control over where data goes. Secured against route hijacking.

SCION provides control

SCION is designed to provide path-control, failure isolation, and explicit trust information for end-to-end communication. This gives end-users strong control over their traffic, providing meaningful and enforceable trust, and enabling high path-awareness.

Policy-based path selection

Select how your information is transmitted based on policies you select that optimise for location, speed, cost and quality.

Geo-fencing

Set-up path selection policies to avoid certain jurisdictions or regions to boost security and reliability.

Research Highlights: New Secure Internet

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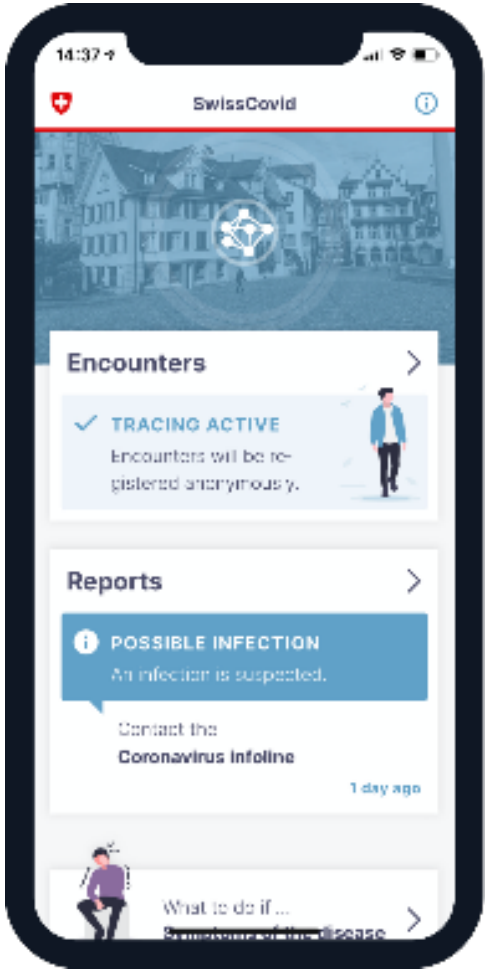
Research Highlights: DP-3T – Secure and Private Contact Tracing

> **When we build something we have to pick an architecture that works. And it has to work globally, for all countries around the world. And when we did the analysis and looked at different approaches we were very heavily inspired by the DP-3T group and their approach – and that's what we have adopted as a solution. We think that gives the best privacy preserving aspects of the contacts tracing service."**

Dave Burke, VP of Android, Google, ***24.4.2020***

https://techcrunch.com/2020/04/24/apple-and-google-update-joint-coronavirus-tracing-tech-to-improve-user-privacy-and-developer-flexibility/



Decentralized Privacy-Preserving Proximity Tracing

Version: 25 May 2020.

Contact the first author for the latest version.

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About ZISC

The world is undergoing a dramatic transformation. New information technologies emerge at rapid pace and these innovations have a significant impact on our social, political, and economic lives. The change does not come without risks. The goal of ZISC is to bring academia and industry together to solve the information security challenges of tomorrow. ZISC is an industry-funded research center of ETH Zurich where PhD students and senior researchers perform academic research under the supervision of ETH faculty members.

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