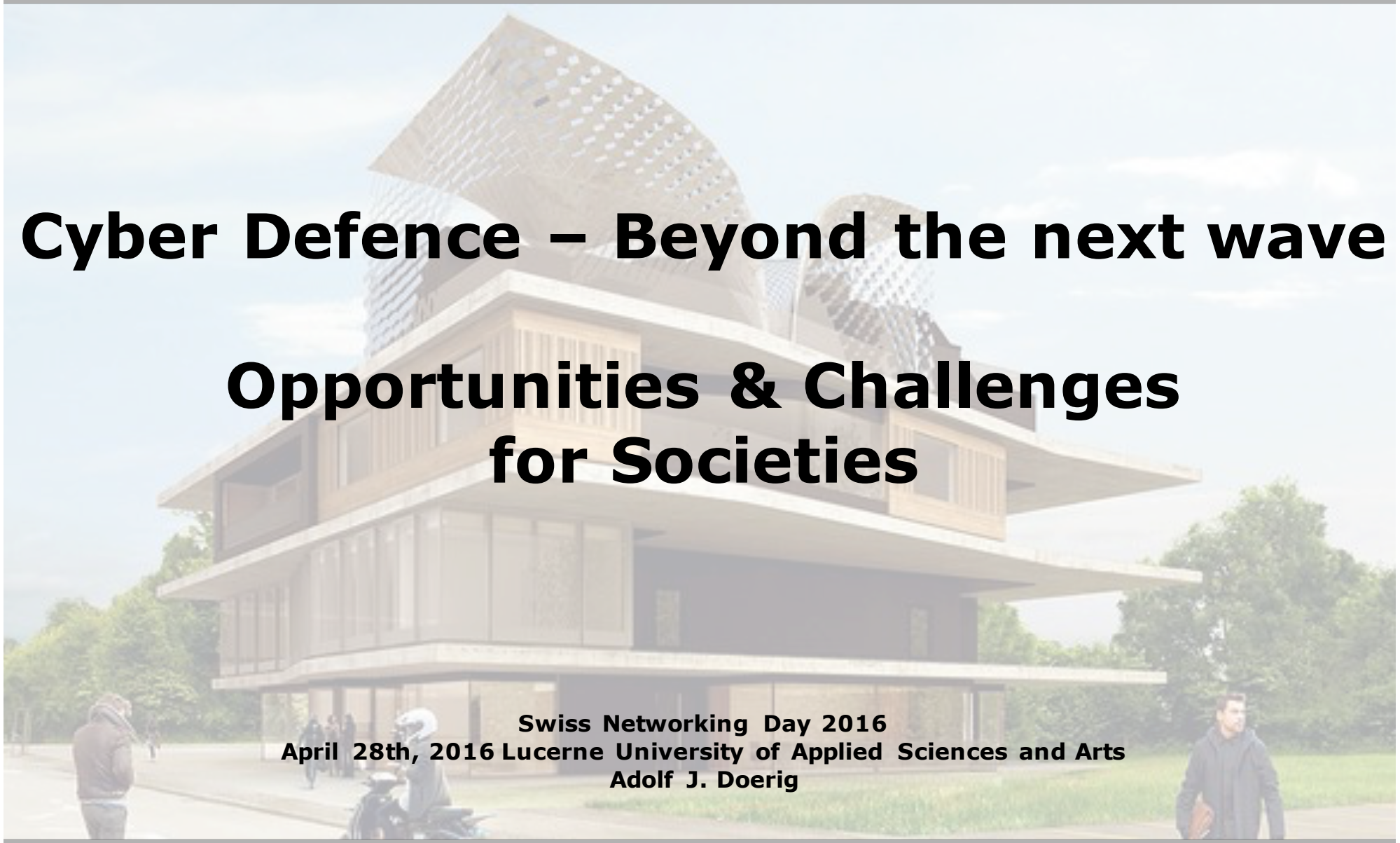


Cyber Defence – Beyond the next wave

Opportunities & Challenges for Societies

Swiss Networking Day 2016
April 28th, 2016 Lucerne University of Applied Sciences and Arts
Adolf J. Doerig

It's not just security. It's defence.

Key Questions

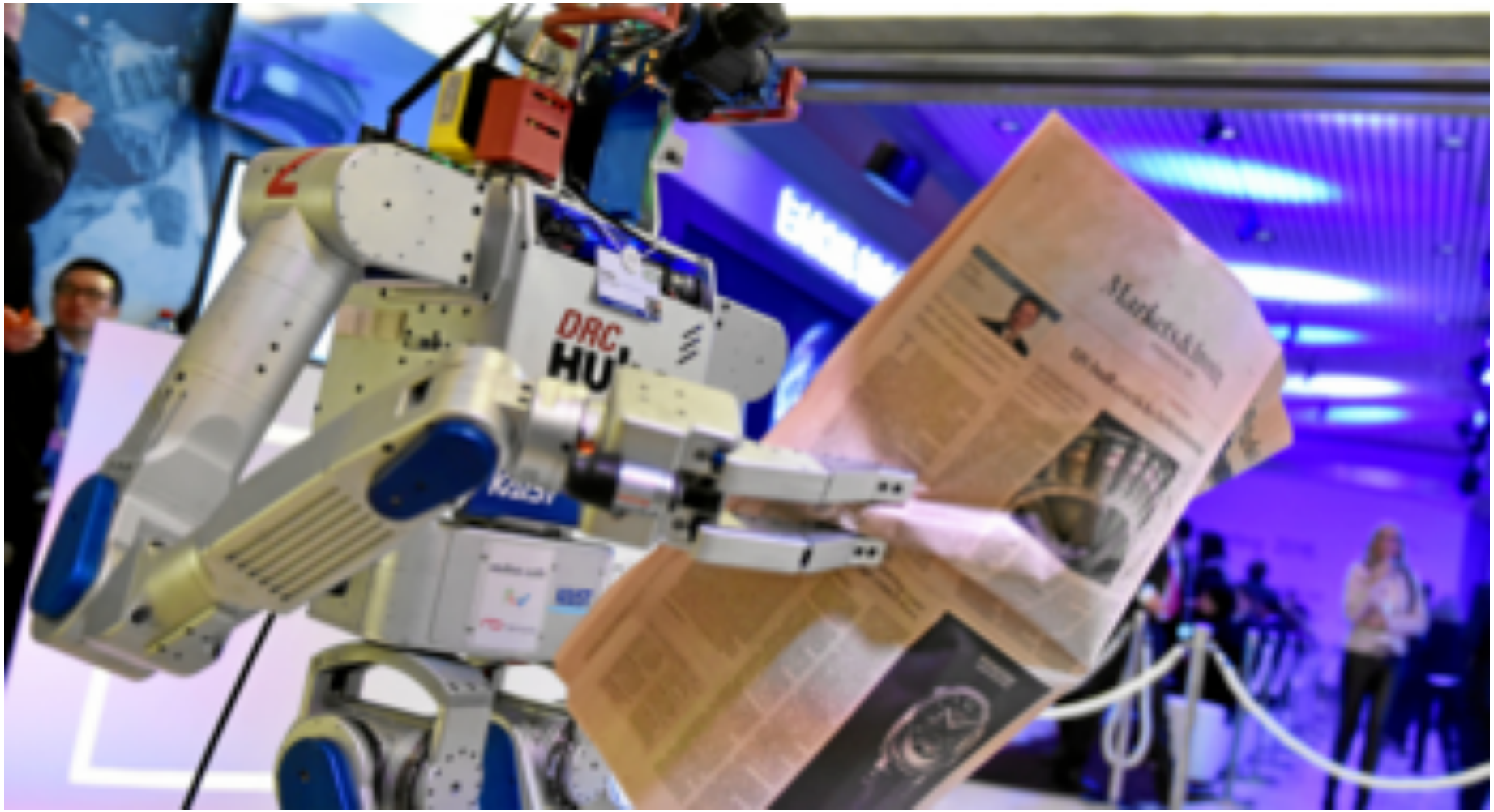
- „What does the digitalisation to our nation, our infrastructure, our business and our life?“
- „What do we need to change in our models?“
- „How could a successful strategy for digital sovereignty look like?“
- „What are the most important measures for a successful transition?“

CYBER DEFENCE
SOME STRATEGIC DIMENSIONS

$15 trillion in world trade, highly complex, hyperconnected world

World economy is running on Critical Infrastructures („system of systems")

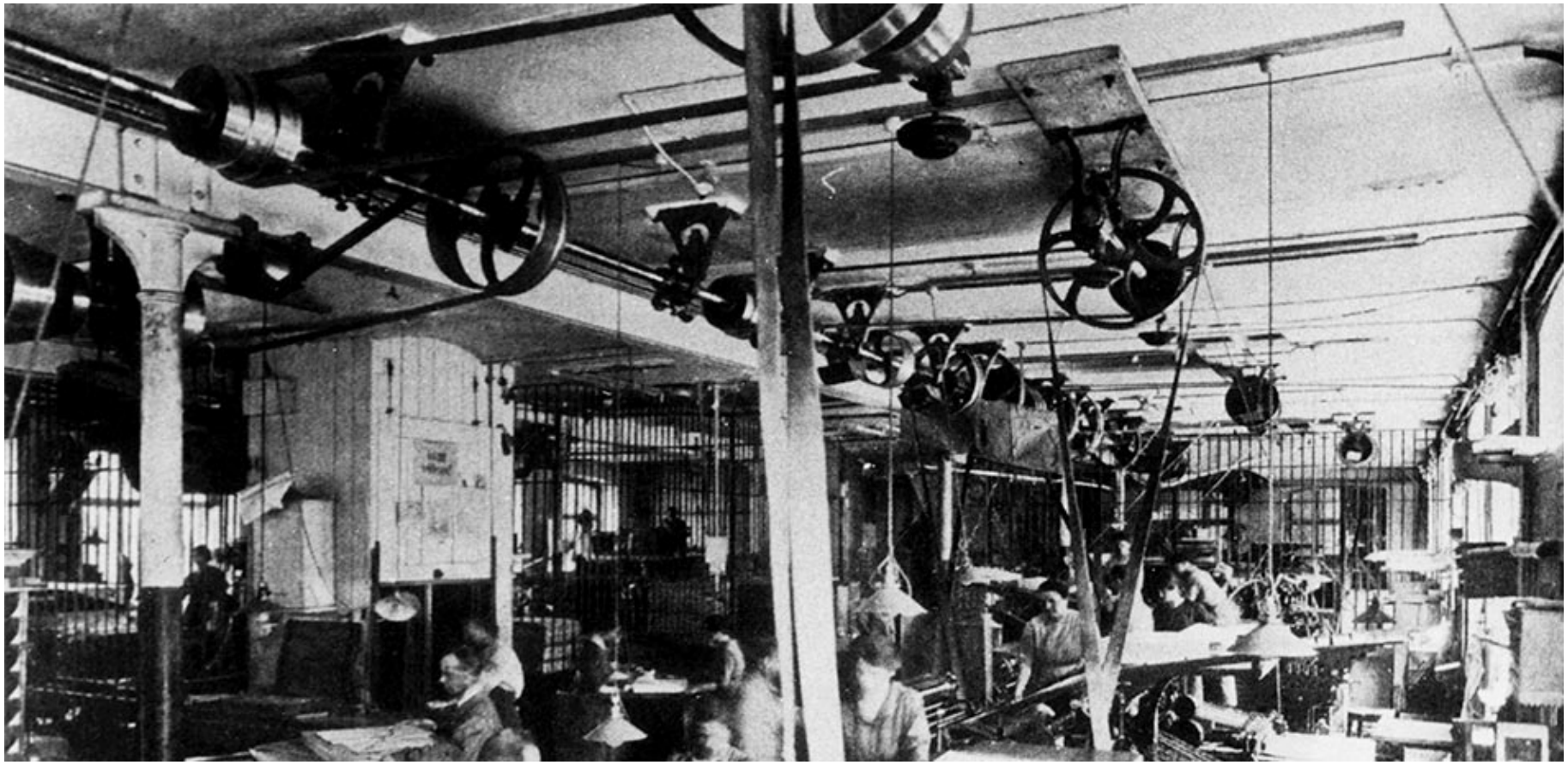
4th Industrial revolution (WEF)



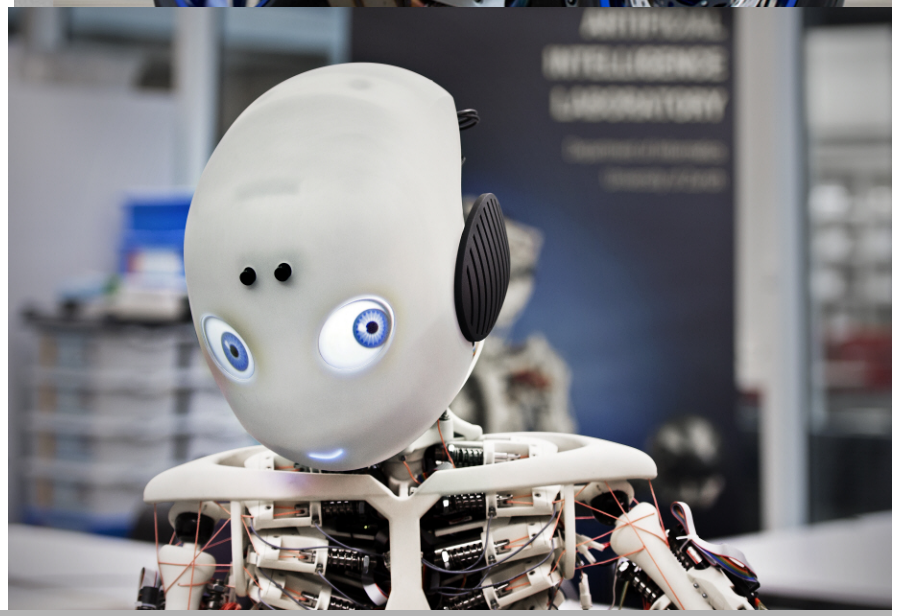
„Don't Be So Sure - The Economy Will Return to Normal"

Source: The New York Times, May 15, 2015

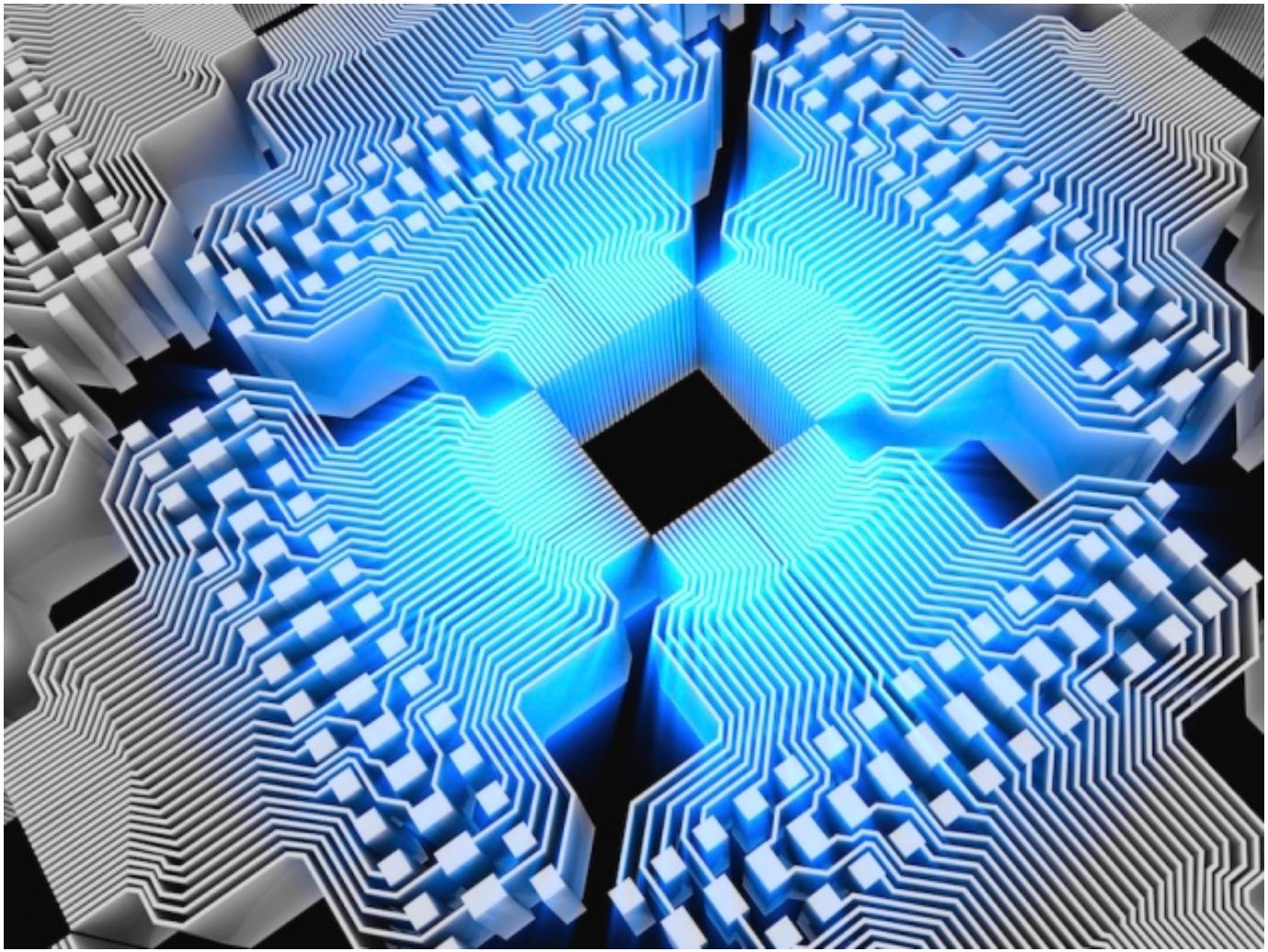
Global Demographics .. Social Security



Robotic / Artificial Intelligence



Europe plans giant billion-euro quantum technologies project



Opportunity Surface and Threat Environment

Worldwide Digital Assets

Swiss Networking Day 2016, Lucerne © Doerig+Partner AG

Opportunity Surface and Threat Environment

Web Front Ended apps

There's an "app" for that

Big Data apps or bots everywhere!

2007 **2016** **2020**

Apps

Opportunity Surface and Threat Environment

Dawn of Smartphones

Smartphone/tablet ubiquity

Internet of Things

2007 **2016** **2020**

Devices

Opportunity Surface and Threat Environment

MySpace

Focus on monetizing

Total Commercialization of social media: **absence of privacy**

2007

2016

2020

Social Media

Opportunity Surface and Threat Environment

NO direct control over physical infrastructure

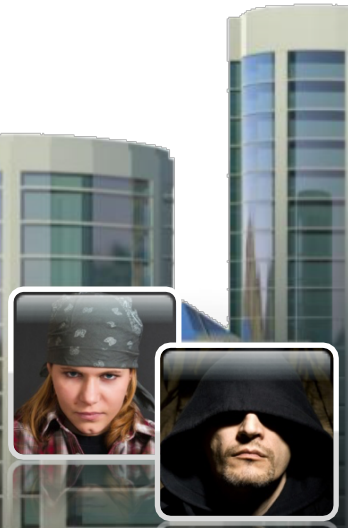
2007 **2016** **2020**

"Perimeter"

Swiss Networking Day 2016, Lucerne © Doerig+Partner AG


CYBER DETERRENCE
CYBER ARMS RACE

Attack Surface and Threat Environment



Komplex
"Intrusions Attacks"

2007

Sophisticated
"Disruptive
Cyber Attacks"

2016

Global
"Destructive Cyber
Attacks"

2020

Cyber Arms Race .. Cyber Deterrence

- Arms races can end in three ways: conflict, mutual amity via trust-building, or exhaustion/outstripping of players.
- Conflict is the more likely outcome under conditions of deep uncertainty and complexity of interaction,
  - as a result of the pace of technical innovation,
  - a high number of players,
  - and tendencies towards opacity in states strategies and activities.
- Now that most major states are committing serious resources and political will toward the large-scale development of cyber conflict and espionage capabilities, the actual threats the states pose to one another will intensify much more rapidly and severely than has hitherto been the case.

Source: Eli Jellenc, Stroz Friedberg (Explaining the Global Cyber Arms Race : Strategic Rivalry and the Securitization of Cyberspace among Nation-States)

A Cyber JSOC Could Help the US Strike Harder and Faster ..

April 25, 2016 By Frank Cilluffo Sharon L. Cardash
A network-attack analogue to the manhunting Joint Special Operations Command would allow cyber warriors to decide, deconflict, and execute more effectively.
Source: www.defenseone.com

I am pleased to answer your questions.

Thank you for your attention.