

### **EUROPEAN BUSINESS FORUM 2017**

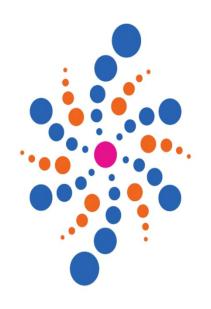
**Odense, Denmark** 





Keynote by Yuri van Geest





# Singularity UNIVERSITY



# The best vision on the future is peripheral vision



Accelerating Technologies

Al Robotics Biotech Nanotech Medicine Neuroscience Energy Computing



	Cost (Averages) for Equivalent Functionality	Scale Impact
3D Printing	\$40,000 (2007) to \$100 (2016)	400x in 9 years
Industrial Robots	\$500,000 (2008) to \$1,000 (2016)	500x in 8 years
Drones	\$100,000 (2007) to \$100 (2016)	1,000x in 9 years
Solar	\$30 per kWh (1984) to \$0.025 per kWh (2016)	1,200x in 22 years
ensors (3D LIDAR sensor)	\$20,000 (2009) to \$79 (2014)	250x in 5 years
Biotech (DNA sequencing of one whole human)	\$10,000,000 (2007) to \$80 (2016)	125,000x in 11 years
Neurotech (BCI devices)	\$4,000 (2006) to \$90 (2011)	44x in 5 years
Medicine (full body scan)	\$10,000 (2000) to \$500 (2014)	20x in 14 years



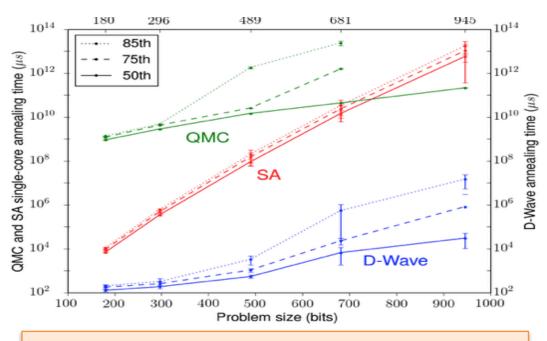
#EBF17

#### Audi RS 7 - Autonomous Car #EBF17



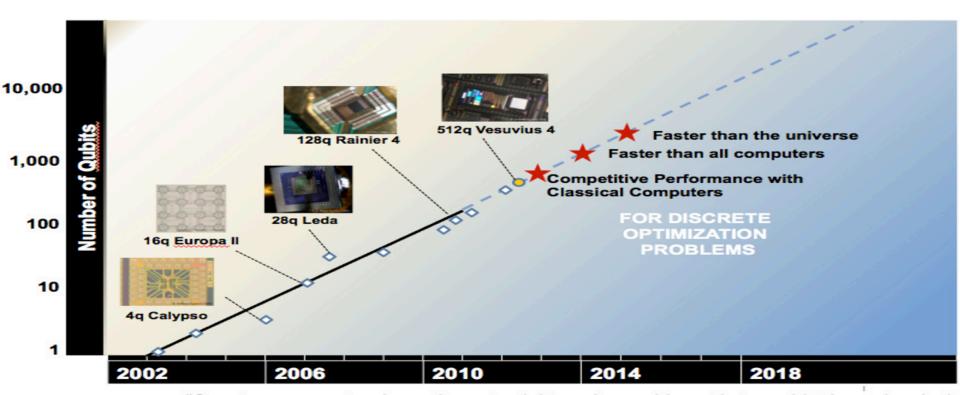
#### Google & NASA - Quantum Computing #EBF17





The D-Wave 2X quantum computer is **100** million times faster than classic computer with an optimization problem. Leaps in Big Data & AI.





"Quantum computers have the potential to solve problems that would take a classical computer longer than the age of the universe." — Professor David Deutsch, Oxford



# **Technology** behind Bitcoin allowing for **automated trust** in whole ecosystems and supply chains:



### **BLOCKCHAIN**



#### THE GLOBAL BRAIN

Viv radically simplifies the world by providing an intelligent interface to everything.



"The greatest achievement of human technology is to allow us the create more than we can understand"

Danny Hillis









**Toyota** - Japanese automotive of manufacturer

**Softbank** - Japanese telecom & Internet corporation

**Foxconn** - Taiwanese electronics manufacturer



Factories with robots creating new robots (STM Machines)

Started in 2016

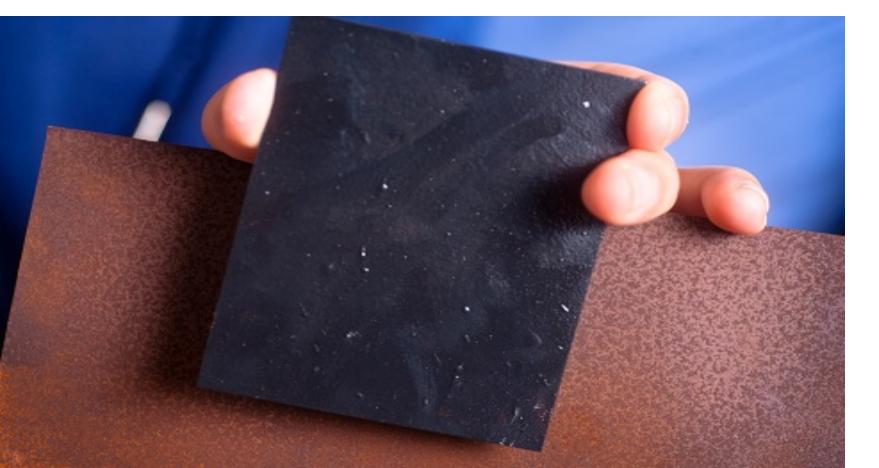


#### Qingdao Unique - House 3D Printer #EBF17





### Graphene - Nanomaterials

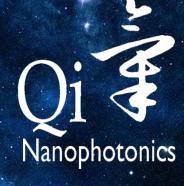




### Titanium Dioxide (TiO2) Nanocoating

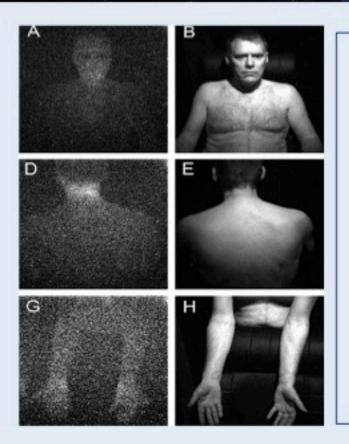






Platform-of-platforms of Light-based Technologies

### "The human body literally glimmers" Quantum ID - qinano.com



You have a unique Quantum **Identity** 

sensors for cyber security





"The Age of Understanding is over. It is migrating towards the Age of Mastery"

Michio Kaku





Exponential Organizations Overview



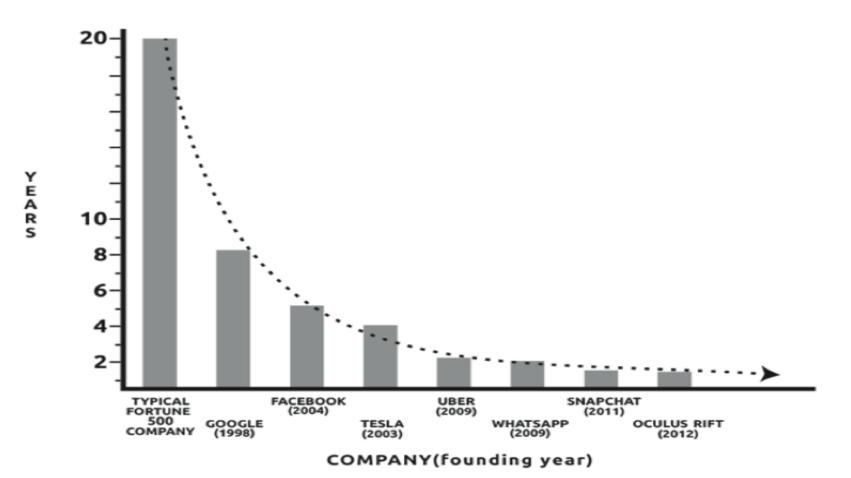
"The average lifespan of an S&P 500 company has decreased from: 67 years (1920's) to 12 years (today)."



"The average half-life of a business competency has dropped from 30-years in 1984 to 5-years today."\*

\*In IT it's now 2-years



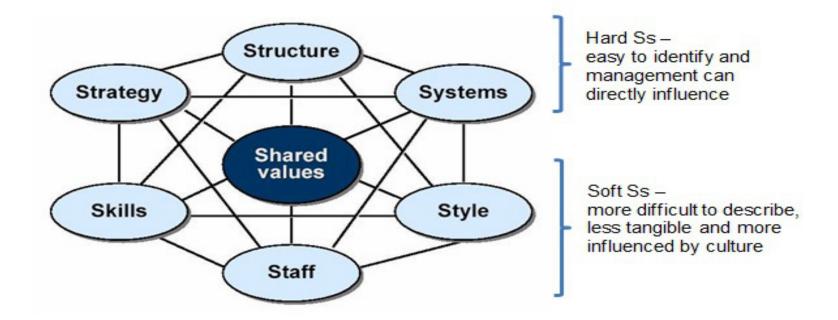




# Why Exponential Organizations?







Millennials #EBF17





# What are Exponential Organizations?



## An Exponential Organization (ExO) is one whose impact is disproportionally large

#### at least 10x larger –

compared to its peers because of the use of new organizational design and leveraging exponential technologies.



#### Every Company Will Become a Software Company



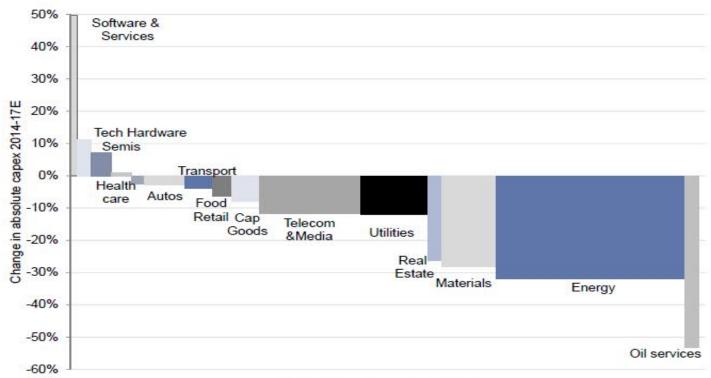
Marc Andreessen founder of Netscape, renowned Venture Capitalist Andreessen-Horowitz

"Software is eating the world, in all sectors.

And AI is eating software afterwards."



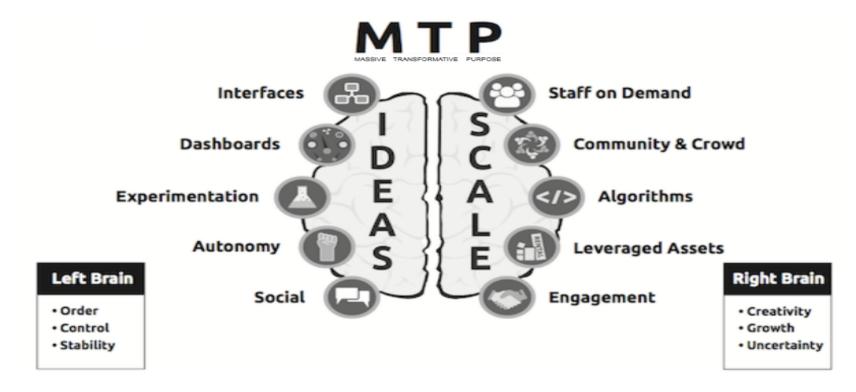
Share of capex in 2014 vs. change 2014-2017E, GS global coverage





Exponential Organizations Attributes





# How is your organization improving the world?



#### ExO Attribute 1: Staff on Demand

Staff on Demand is a necessary characteristic for speed, functionality and flexibility in a fast-changing world.

Rather than 'owning' employees, **ExOs connects with external** people for simple to complex to even mission critical work via online marketplaces.



#### ExO 1: Staff on Demand







kaggle





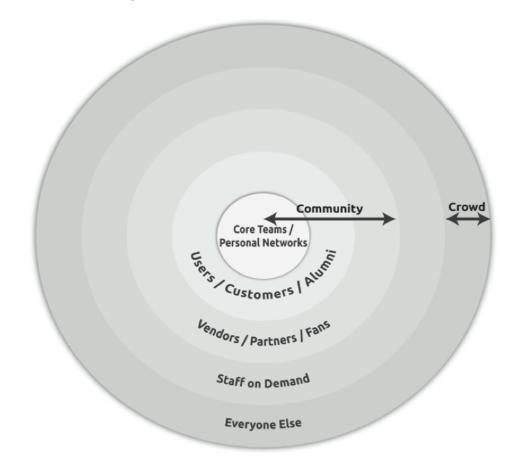
#### ExO Attribute 2: Community & Crowds

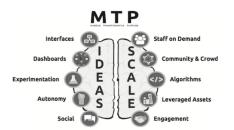
Connect with your extended crowd. From customers, to staff on demand to detractors.

Invite them to share creativity, ideation, validation and even funding.



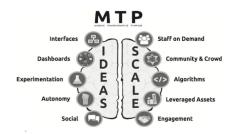
#### ExO 2: Community & Crowds







#### ExO 2: Community & Crowd











#### ExO Attribute 3: Algorithms

ExOs leverage Algorithms, including **Machine Learning** and **Deep Learning** to get new insights about customers and products.

Algorithms first, rest is secondary



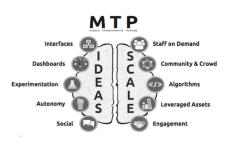
#### ExO 3: Algorithms













#### ExO Attribute 4: Leveraged Assets

Don't own. Access, rent or share assets to stay nimble.
Outsourcing even mission critical assets.

Leveraged assets include cloud computing, hackerspaces and customer and partner assets as inputs for your business.



#### Attribute #4: Companies Built on Leveraged Assets













#### ExO Attribute 5: Engagement

Engage employees, customers and partners through digital reputation systems, gamification and incentive prizes.

This creates network effects and positive feedback loops.



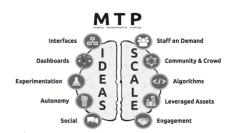
#### Attribute #5: Engagement



**CISCO** 



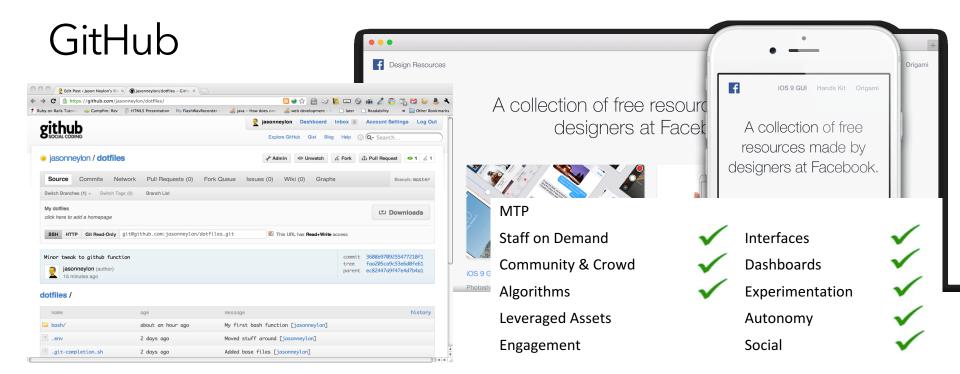






### Examples of Exponential Organizations





Open source code and collaboration community

#### **Permissionless innovation**

Passion, purpose and potential for HR





- 80,000 employees
- Organized in 2005 into 2,000 selfmanaged units with decisionmaking authority (Autonomy)
- Market cap grew from \$20B to over \$60B today in the last 3 years.

MTP

Staff on Demand

Community & Crowd

Algorithms

Leveraged Assets

Engagement



Interfaces

Dashboards

Experimentation

Autonomy

Social











#### Future of Jobs and Work



## Humans are best at being human





#### Thrive in an Exponential Era





# REALITY IS A PERMANENT MUSEUM



## More info on Exponential Technologies & Organizations and my upcoming book:

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