The digital transformation of society, business...and humanity

www.futuristgerd.com
www.gerdtube.com
www.gerdcloud.com
@gleonhard

EASTERN EUROPE SHARED SERVICES
Reminder: big ideas often emerge in **conversations** because context is essential
Hybrid-thinking: dealing with what is, and discovering / creating what might be.
We’re at the pivot point of exponential technological change.

1 2 4 8 16 32 64 128

1234567... now
Exponential and combinatorial
<table>
<thead>
<tr>
<th>Technology</th>
<th>1971 Price</th>
<th>2015 Price</th>
<th>% Drop in Cost</th>
<th>Years of Drop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon chips</td>
<td>$150 per 1k transistors</td>
<td>$0.003</td>
<td>33 million times</td>
<td>50 years</td>
</tr>
<tr>
<td>DNA sequencing</td>
<td>$10 million (2007)</td>
<td>$1k (2014)</td>
<td>10,000% drop in cost</td>
<td>7 years</td>
</tr>
<tr>
<td>3D printing</td>
<td>$40k (2007)</td>
<td>$100 (2014)</td>
<td>400% drop in cost</td>
<td>7 years</td>
</tr>
<tr>
<td>Drones</td>
<td>$100k (2007)</td>
<td>$700 (2013)</td>
<td>142% drop in cost</td>
<td>6 years</td>
</tr>
<tr>
<td>Industrial robots</td>
<td>$500k (2008)</td>
<td>$22k (2013)</td>
<td>23% drop in cost</td>
<td>5 years</td>
</tr>
</tbody>
</table>
**Exponentially bigger, faster and ‘better’ – at much lower cost!**

---

**DNA sequencing**

$10 million (2007)

$1k (2014)

10,000% drop in cost in 7 years

---

**3D printing**

---

**Silicon chips**

$150 per 1k transistors (1971)

$0.003 (2015)

33 million times drop in cost (2^25) in 50 years

---

**Drones**

---

**Industrial robots**

---


**The Genesis Engine.**

We now have the power to quickly and easily alter DNA. It could eliminate disease. It could solve world hunger. It could provide unlimited clean energy.

It could really get out of hand.

by Amy Maxmen
“Software is eating the world, in all sectors. In the future every company will become a software company”

Mark Andreessen, founder of Netscape & renowned VC, 2011 in the WSJ

Distributed manufacturing / 3D printing
IoT / IoE / M2M
Self-driving cars
The Intergrid
Education in the cloud
Intelligent Digital Assistants (IDAs)
“We want Google to be the third half of your brain.”

Computing:

Tabulating ➔ Programmed ➔ Cognitive systems
Waves of Digital Disruption

1995+
- Music
- Photography
- Video rental
...

2010+
- TV
- News
- Travel
- Recruitment
...

2015+
- Retail
- Healthcare
- Finance
- Automotive
- Education
...

Source: DearMedia via Slideshare
Dell. EMC. HP. Cisco. These Tech Giants Are the Walking Dead

HP. Cisco. Dell. EMC. IBM. Oracle. Think of them as the walking dead.

Oh, sure, they’ll shuffle along for some time. They’ll sell some stuff. They’ll make some money. They’ll command some headlines. They may even do some new things. But as tech giants, they’re dead.
By 2018, six billion connected things will be requesting support.

By 2018, 20 percent of business content will be authored by machines.

By 2018, more than 3 million workers globally will be supervised by a "robo-boss."

By 2020, smart agents will facilitate 40 percent of mobile interactions, and the postapp era will begin to dominate.

By 2018, 45 percent of the fastest-growing companies will have fewer employees than instances of smart machines.

By 2020, autonomous software agents outside of human control will participate in five % of all economic transactions.

By year-end 2018, customer digital assistant will recognize individuals by face and voice across channels and partners.
By 2018, six billion connected things will be requesting support.

By 2018, 20 percent of business content will be authored by machines.

By 2018, more than 3 million workers globally will be supervised by a “robo-boss.”

By 2020, autonomous software agents outside of human control will participate in five percent of all economic transactions.

By 2018, 45 percent of the fastest-growing companies will have fewer employees than instances of smart machines.

By 2020, smart agents will facilitate 40 percent of mobile interactions, and the postapp era will begin to dominate.

Example: exponential machine intelligence

Humanity will change more in the next 20 years than in the previous 300 years.
The end of ‘donkey-work’?
Future success will depend on interdependent and holistic thinking.
Enterprises are increasingly pursuing liquid, hyper-networked models
Which parts of your business are “digitally contestable”?

Re-shaping of markets:
- After-sales services
- Insurance
- Supply chain & logistics

- 90% drop in vehicle crashes
- Need for parkings spaces in cities dramatically reduced

The music industry lesson: digitized, dis-intermediated, displaced, diminished.

Global recorded music revenue

- Physical
- Downloads
- Streaming

Forecast

DENIAL
It’s Not a River in Egypt
- Robin Williams

Quartz | qz.com

Data: Credit Suisse
From products and ownership to service and access

... to experiences and transformations
New business models that **only work because** of mobile, cloud, Internet if Things, Big Data...
Are you ready? Automation and Intelligent Digital Assistants
“Ations” will change every enterprise in every sector.

Digitization
- Screenification
- Automation
- Virtualization
- Optimization
- Anticipation
- Augmentation
- Robotisation

Humanization
The new normal by 2020: AR / VR, holograms, 3D, voice/gesture control
Big Data + Cloud + Artificial Intelligence = a kind of business ‘super intelligence’?
... and a kind of ‘super-communication’

@slackbot

slackbot 11:18 AM 🌟
Ricky. Great! Now, what is your last name?

ricky 11:18 AM
Synnot

slackbot 11:18 AM
Nice to meet you Ricky Synnot! (Tip: If you ever need to change your name or profile information, you can do so by editing your Profile Page.)

You can also add a photo there. Things look so much better with a picture of you. I'm happy to wait while you do that, but if you want to just keep going, say "continue" or "keep going" or even "go".

ricky 11:19 AM

go

slackbot 11:19 AM
Would you like to add your Skype username to your profile? If yes, please enter it now, otherwise type "no".

ricky 11:19 AM
rickysynnot

slackbot 11:19 AM
OK: rickysynnot. Got it.
Remember: if trust changes...everything changes

How many consumers would buy cars from a tech company?

Source: Capgemini (2015) and Statista
If you’re not really **meaningful** you’re probably not the future

**The Millennials**
Design and deploy technology for people (not despite of people)

*yes, more women!
Machines are for answers, humans are for questions (Kevin Kelly)

"I am not a speed reader. I am a speed understander."
Isaac Asimov
Embrace technology but don’t become it!

"No, you weren’t downloaded. You were born."
Thanks for your time and attention!

Download the PDF with these slides at futuristgerd.com

www.futuristgerd.com
www.gerdtube.com
www.gerdcloud.com
@gleonhard