WEITERBILDUNG IN ZEITEN DER DIGITALISIERUNG

MATTHIAS TEINE (C/BTC2)

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AGENDA

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Just my gutt feeling…
…but it led me to this presentation!

"Wie konnte es nur dazu kommen, dass wir Deutschen so angstbesetzt wurden, was den technologischen Fortschritt angeht? (…) **So eine Stimmung vor 500.000 Jahren, und die Sache mit dem Feuer wäre nie genehmigt worden**."

Vince Ebert (2018). "Wie viel Naturwissenschaft braucht die Zukunft?", Kolumne in Handelsblatt.

Matthias Teine (C/BTC2) | 27.02.2018

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EXCITING TIMES, OR:
LET'S TRANSFORM!

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Let's transform!
Ambiguity, uncertainty, constant flux.

/SCIENCE

Die Projektionen aus Star Wars könnten Realität werden

Objekte aus dem 3D-Drucker können WLAN übertragen

Bundesrat @bundesrat · 1. Jan.
Seit heute ist #Majestätsbeleidigung nicht mehr strafbar - #Bundesrat hatte Anstoß für Abschaffung #Böhmermann-Paragraf gegeben

Donald J. Trump @realDonaldTrump

North Korean Leader Kim Jong Un just stated that the "Nuclear Button is on his desk at all times." Will someone from his depleted and food starved regime please inform him that I too have a Nuclear Button, but it is a much bigger & more powerful one than his, and my Button works!

Twittern

Vodafone.de 11:20

News

Stanford-Lesetest: Microsoft- und Alibaba-KI erstmals besser als Menschen

VIDEO CHAOS COMPUTER CLUB

Wie wir lernen müssen, mit Fake News umzugehen

Researchers can now make neighborhood voting predictions from Google Street View images
Posted yesterday by *Catherine Shu (@catherineshu)*

Microsoft fordert klare Ethikregeln für künstliche Intelligenz

CRUNCH NETWORK
Building AI systems that work is still hard
Posted yesterday by *Martin Welker*

t3n News > Digitale Wirtschaft > In der NordLB-Kantine kannst du deine Currywurst jetzt mit Bitcoin bezahlen

News

In der NordLB-Kantine kannst du deine Currywurst jetzt mit Bitcoin bezahlen

TIME @TIME

Deutsche Bank economist says a bitcoin crash would endanger global markets

Original (Englisch) übersetzen

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Let's transform!
Ambiguity, uncertainty, constant flux.

Investition in Bildung
Mehr denn je setzt Wohlstand für alle Wissen für alle voraus

t3n News › Digitale Wirtschaft › Mängel bei der Digitalisierung deutscher Unternehmen kosten halbe Milliarde

News

Mängel bei der Digitalisierung deutscher Unternehmen kosten halbe Milliarde

BILDUNG   WEITERBILDUNG 4.0

Auf die Industrie kommen massenhaft Umschulungen zu

Christian Lindner und 2 weitere folgen

FDP ✔ @fdp · 8. Dez.
Wir setzen uns für eine #Exzellenzinitiative für die #BeruflicheBildung ein. Wir brauchen eine Stärkung der Aus- & **Weiterbildung** für alle Altersgruppen sowie einen Digitalisierungs- & Modernisierungsschub, um die Innovationskraft von 🇩🇪 zu sichern. @nicolabeerfdp #TagDerBildung

BiBB ✔ @BIBB_de · 28. Dez. 2017
- #Digitalisierung bietet neue Chancen für die #berufliche #Bildung -

„Auf die Ausbilder und Lehrer kommt es an"
Fachkonferenz zu Berufsbildung 4.0 in Leipzig / Chancen der Digitalisierung zur Stärkung der beruflichen Bildung nutzen

Wirtschaft 4.0 – Digitalisierung der Arbeit
Herausforderung und Chance für eine zukunftsfähige Berufsausbildung

Digitale Bildung

Die Bildungsangst der Pädagogen

TECHNISCHER FORTSCHRITT
Google will Millionen Deutsche „fit für den Wandel" machen

„Chaos macht Schule": Forderungen für digitale Bildung an Schulen

Wer ist der bessere Lehrer - das Whiteboard oder ich?

Matthias Teine (C/BTC2) | 27.02.2018

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Let's transform!
Interest and investment
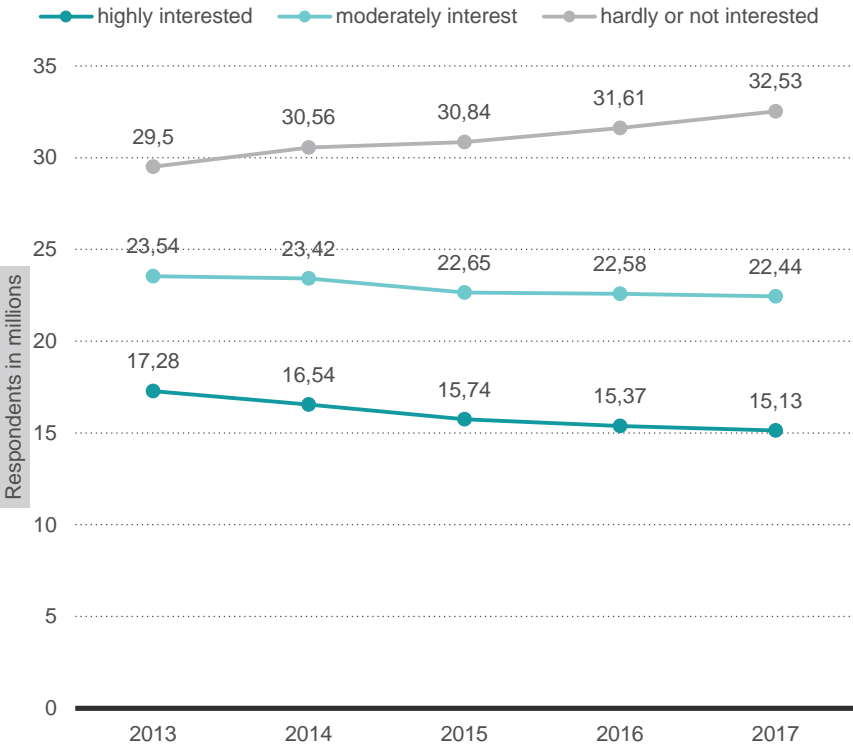
IfD Allensbach (2017), Allensbacher Markt- und Werbeträger-Analyse, > 23.000 p.a.

9 MIN. 30 to 44 y.o.

4 MIN. 45 to 64 y.o.

DAILY INVEST

Number of associates in enterprise

■ 1 to 40   ■ 50 to 249   ■ 250 and more

Robert Bosch GmbH
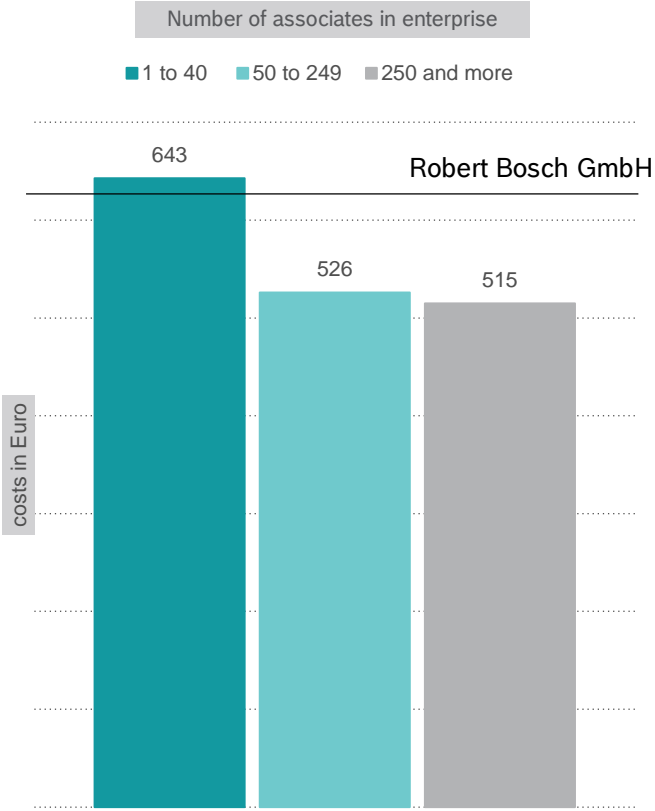
IW Köln (2017), Die neunte IW-Weiterbildungserhebung, n=1.706.

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"We need to increase and expand our expertise and skills. It is the only way that we will be able to help shape the fundamental change in which we find ourselves and use it for Bosch."

Dr. Volkmar Denner

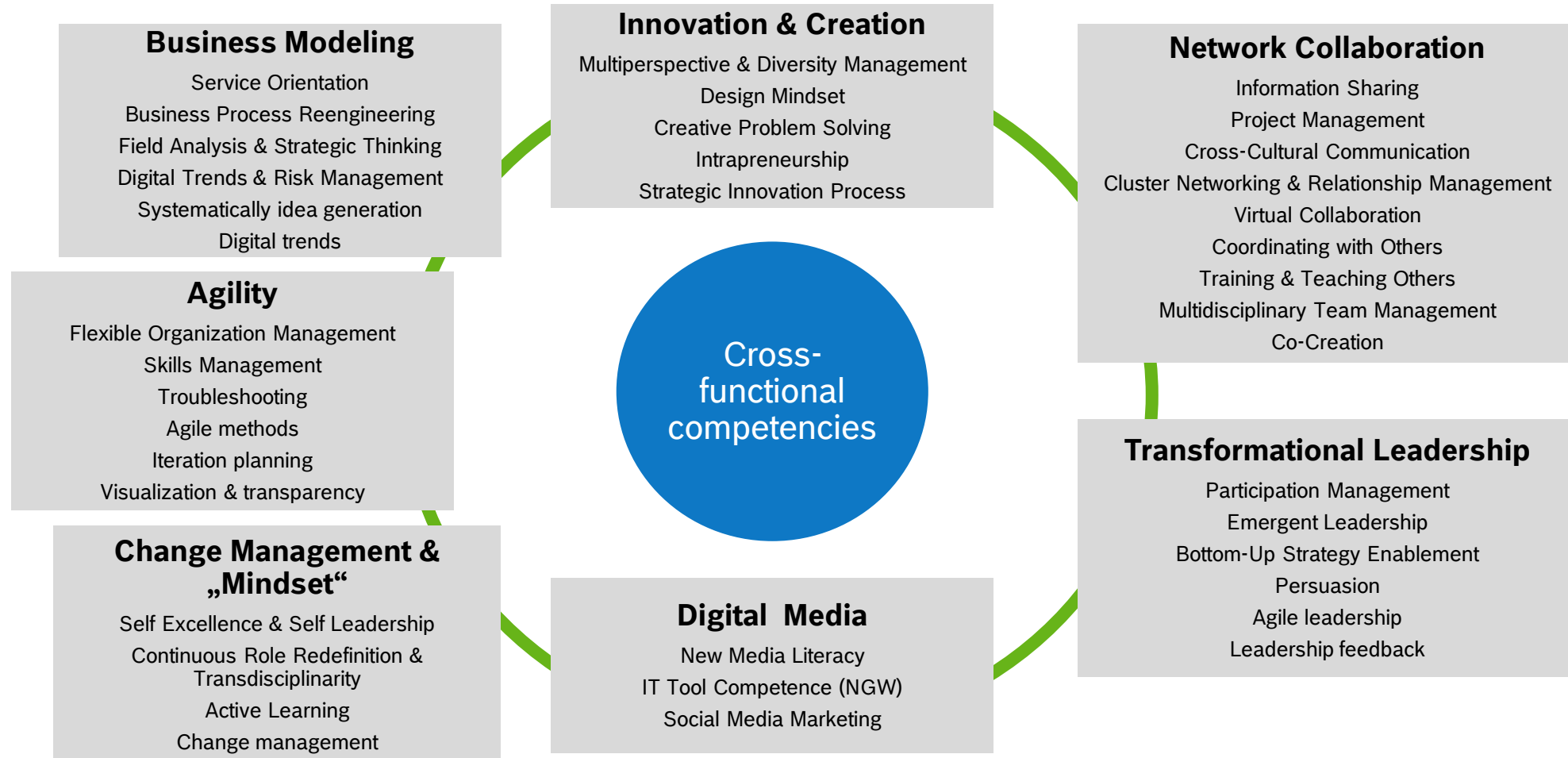Chairman of the Board of Management
Robert Bosch GmbH

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NEW CHALLENGES, NEW **COMPETENCES!**
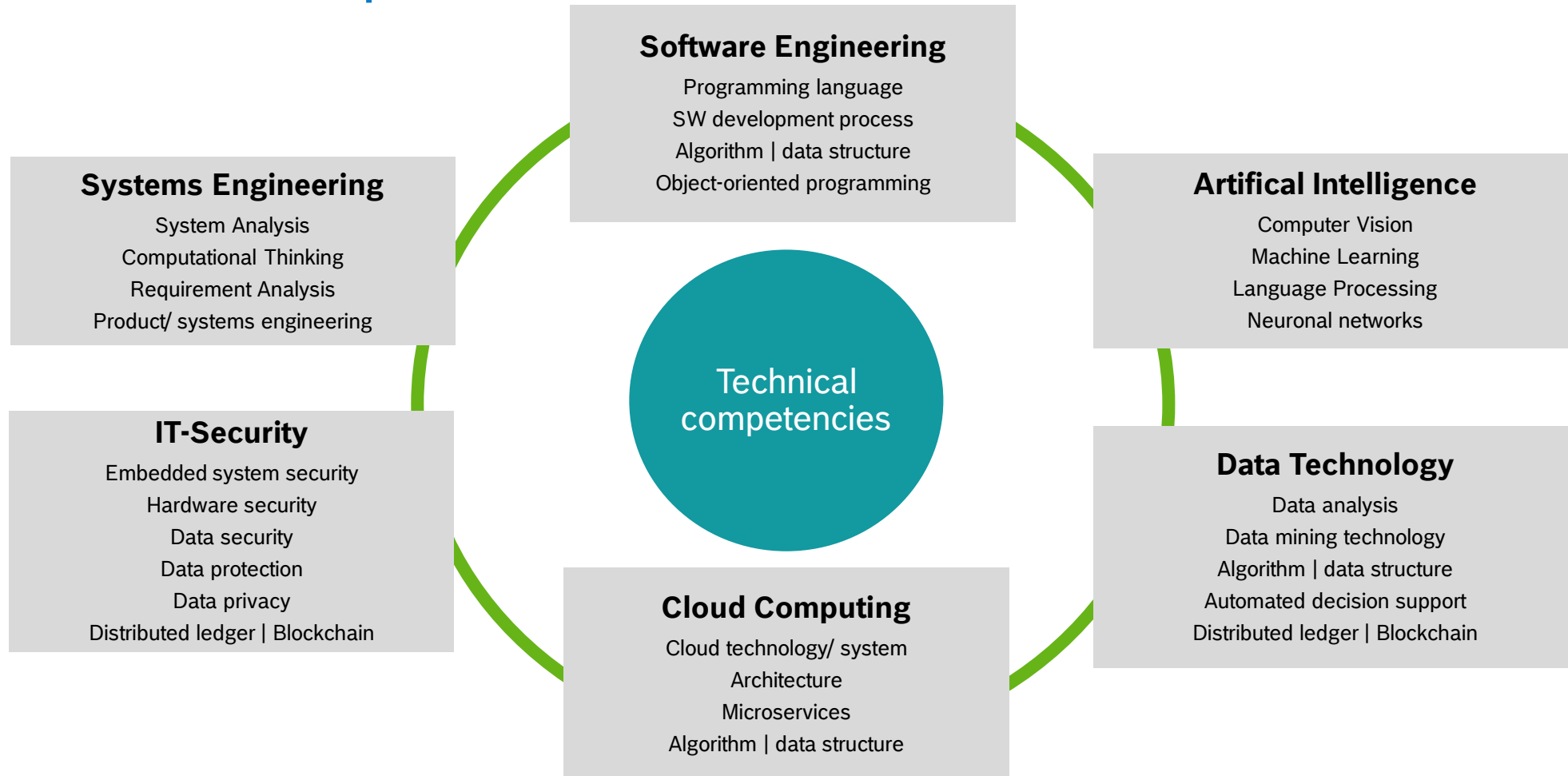
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New Challenges, New Competences!
Cross-functional competences

Business Modeling

Service Orientation
Business Process Reengineering
Field Analysis & Strategic Thinking
Digital Trends & Risk Management
Systematically idea generation
Digital trends

Innovation & Creation

Multiperspective & Diversity Management
Design Mindset
Creative Problem Solving
Intrapreneurship
Strategic Innovation Process

Network Collaboration

Information Sharing
Project Management
Cross-Cultural Communication
Cluster Networking & Relationship Management
Virtual Collaboration
Coordinating with Others
Training & Teaching Others
Multidisciplinary Team Management
Co-Creation

Agility

Flexible Organization Management
Skills Management
Troubleshooting
Agile methods
Iteration planning
Visualization & transparency

Cross-functional competencies

Transformational Leadership

Participation Management
Emergent Leadership
Bottom-Up Strategy Enablement
Persuasion
Agile leadership
Leadership feedback

Change Management & „Mindset"

Self Excellence & Self Leadership
Continuous Role Redefinition & Transdisciplinarity
Active Learning
Change management

Digital Media

New Media Literacy
IT Tool Competence (NGW)
Social Media Marketing

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New Challenges, New Competences!
Technical competences

Software Engineering

Programming language

SW development process

Algorithm | data structure

Object-oriented programming

Systems Engineering

System Analysis

Computational Thinking

Requirement Analysis

Product/ systems engineering

Artifical Intelligence

Computer Vision

Machine Learning

Language Processing

Neuronal networks

Technical competencies

IT-Security

Embedded system security

Hardware security

Data security

Data protection

Data privacy

Distributed ledger | Blockchain

Data Technology

Data analysis

Data mining technology

Algorithm | data structure

Automated decision support

Distributed ledger | Blockchain

Cloud Computing

Cloud technology/ system

Architecture

Microservices

Algorithm | data structure

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ENABLERS CALLED **TECHNOLOGY & CULTURE**

Technology & Culture
Potentials

Learning is no longer exclusive.

Enhanced communication and support.

Make learning more motivating and fun.

Support informal learning.

Foster self-determined learning.

Access learning contents quick and easy.

Learning independent of time and space.

Allow situated learning.

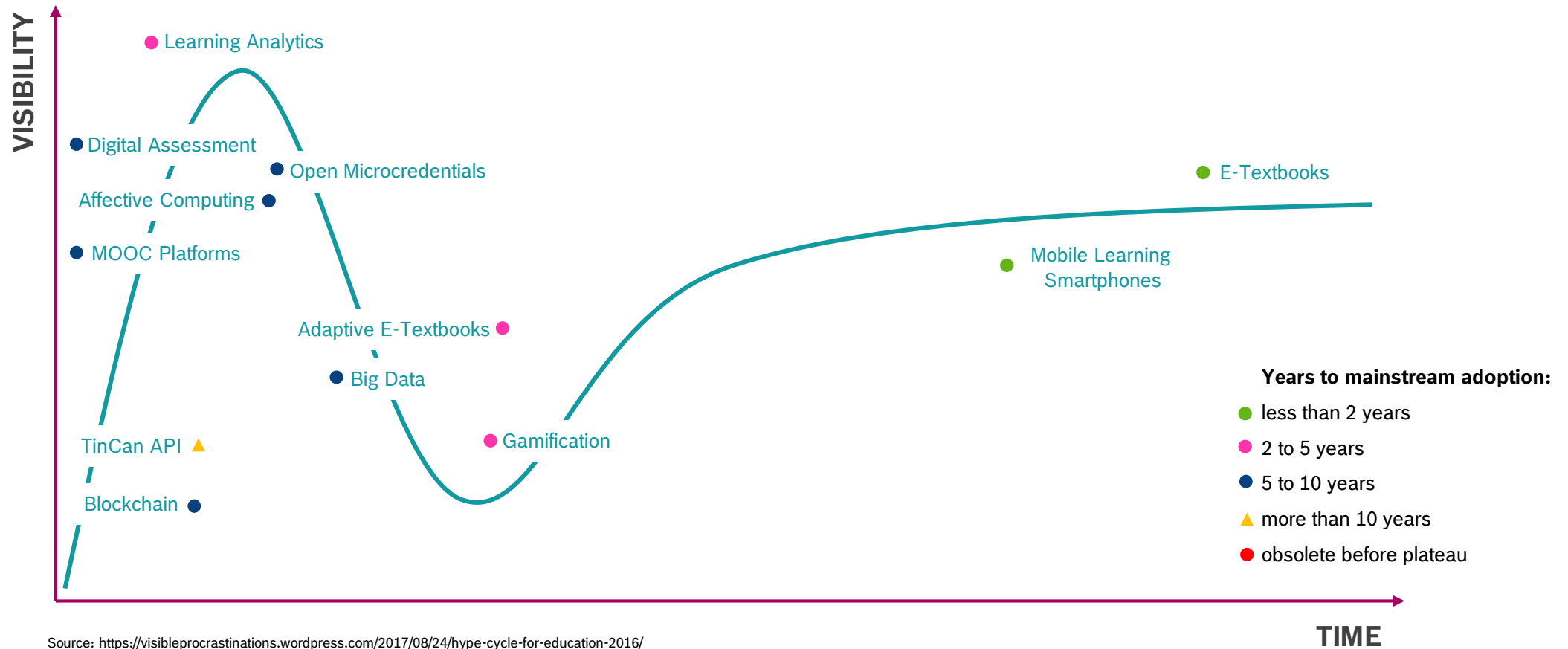Acknowledge informally acquired competencies!

Spare deployment costs.

Better outreach.

Fast and early response to market needs.

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Technology & Culture
Gartner's hype cycle for technology in education, 2016

VISIBILITY

- Learning Analytics
- Digital Assessment
- Open Microcredentials
- Affective Computing
- MOOC Platforms
- E-Textbooks
- Mobile Learning Smartphones
- Adaptive E-Textbooks
- Big Data
- TinCan API
- Gamification
- Blockchain

Years to mainstream adoption:
- less than 2 years
- 2 to 5 years
- 5 to 10 years
- more than 10 years
- obsolete before plateau

TIME

Source: https://visibleprocrastinations.wordpress.com/2017/08/24/hype-cycle-for-education-2016/

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Technology & Culture
Potential fields of application

1.		**Acknowledge informally acquired competences** utilizing TinCan API and Distributed Ledger Technologies.
2.		Support **learner and employee mobility** using a standardized, widely acknowledge Micro Credentialing-system and Distributed Ledger Technologies.
3.		Allow **sustainable competence development** based on situated learning, targeted in-situ feedback, and responsive arrangements using VR/AR and Affective Computing.
4.		**Provide access** to qualitative and curated contents using OERs, MOOCs, and repositories, also to better **support self-determined learning** processes.
5.		Allow for **individualized and self-paced learning** using Predictive Analytics and advanced Assessment technologies.
6.		Foster **trial-and-error learning in real-life environment** using advanced manufacturing, such like 3D printing – allow making real experiences, rather than simulating.
…		…

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Technology & Culture
A desolate playground.

We're not lacking technology!
We're lacking didactics.

Matthias Teine (C/BTC2) | 27.02.2018

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Technology & Culture
A desolate playground.

We're not lacking technology!
We're lacking applications.

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Technology & Culture
A desolate playground.

We're not lacking technology!
We're lacking visions.

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Bosch Learning Company-Initiative
Enabling for Transformation - Overview

BLC – Enabling for Transformation

Why?

The transformation goes far beyond any previous need to build up knowledge continuously.
That's why a **stronger focus on learning is a key success factor for the transformation.**
Learnagility determines Bosch´s ability to quickly, effectively, and efficiently generate knowledge in a VUCA world.

What?

- Transformation focused qualification - Landscape of qualification measures for strategic initiatives (identify synergies/gaps, create a common qualification program)	Make learning faster ("in the moment of need"), cheaper, more flexible and attractive	Increase learning mindset and excellence, informal and self-directed learning
Cluster 1 **Transformation Qualification Programs**	**Cluster 2** **Digital Learning Project**	**Cluster 3** **Learnagility Toolbox**

How?

SoftwareQualification@Bosch EL-Qualification@Bosch Enabling for Digital Transformation (EDT) Transformation Methods	Virtual Classroom Community based Learning „eUniversity" LEARNING PORTAL Mobile Learning Gamification Video Learning / Bosch Tube	Team Competence Evaluation Self-Organized Learning Forum (SOLF) Inspiring Learning Environment Development Store Working Out Loud (WOL) Learning Consultant

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Bosch Learning Company-Initiative
Learnagility Manifesto

Level	
Company Level	• **"We have understood the importance of learning for the Transformation."** • "We ensure attractive, effective, and efficient parameters for successful learning." • "We value the individuality of our associates regarding their capabilities and preferences."
Unit Level	• **"We have anticipated and identified qualification needs for the transformation."** • "We make learning continuous."
Managerial Level	• "I trust in self-directed learning." • "I facilitate learning as part of my leadership role." • **"I act as a role model and live a learning culture."**
Team Level	• **"We share knowledge."** • "We check our knowledge."
Individual Level	• **"I drive my individual learning journey self-dependently."** • "I like to teach others." • "I never stop learning."

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SUMMARY

- Demystify hypes by understandings what's behind!

- Understand education as a playground for new technologies!

- Get out of your cinema chairs, and take a seat at the driver's position!

- Make change your culture, and break with Silo thinking!

- Think holistically, think differently!

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Just keep in mind…
…that others had frustrating challenges as well!

„Wissen Sie, was vor 150 Jahren von den führenden Fachleuten als das größte Umweltproblem der Zukunft gesehen wurde? Der Pferdemist in den Großstädten. **Halten Sie mich für verrückt, aber Pferdemist ist derzeit nicht unser größtes Problem.**"

Vince Ebert (2018). "Wie viel Naturwissenschaft braucht die Zukunft?", Kolumne in Handelsblatt.

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THANKS!

Let's stay in contact!
Feel free to connect with me.

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