Challenges for the Future of Work

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We will teach machines how to think and laugh!
We will work in jobs that the world has not yet seen!
We will see just how close the whole world can be!
1. Human Factors and Ergonomics Have to Anticipate Interaction AND Evaluate Existing Systems

- Extremely **dynamic technological developments**

- Scientific technology evaluation is still missing or incomplete
  - cognitive workload
  - learnability
  - Physical workload

- Establish systemic proactive development approach
  From tech-savvy to human-centered

- New Reference Models and expertise for Evaluation
2. The Human Machine Role Model is changing

Potential of Automation und Assistance are increasing

**Human-centered technology design** is necessary to increase and ensure Learning motivation and User Acceptance

Qualification of system designers for Human-centered technology design

Exchanging best-practice solutions

(s auch Apt/Schubert/Wischmann 2018: Digitale Assistenzsysteme. Perspektiven und Herausforderungen für den Einsatz in Industrie und Dienstleistungen, Berlin.)
3. Digitisation Requires Novel Competencies

- Planning
- Innovation - Creativity
- Problem solving
- Analytical Competencies
- Thinking in networks
- Usage and manipulation networked systems
- Decision competencies using probabilistic systems

- Qualification of users to use, maintain and change networked systems

4. Learning Situations are Changing
Informal Learning will increase

**Formal Learning**: planned, structured, clear role model

**Informal Learning**: unplanned, uncontrolled, problem initiated, intrinsic motivation

- Room and space
- Ability to reflect
- Trust
- Autonomy

4. Creativity and Governance

- To enable digitization **governance models** are changing …
  - Delgation of decisions
  - Room for exchange and communication
  - Development of magement competencies to…
    - Moderate non-standard behavior
    - Foster creativity and innovation

**Qualification of upper management**
Responsible Creativity and Innovation

Understanding the system
Understanding the user
Shaping the reference
Quellennachweise:

Folie 2: TUM
Folie 3: https://www.pflegestudium.de/weiterbildung/praxisanleiter/
Folie 4: LfE
Folie 5: https://www.centigrade.de/news/de/article/industrie-4-0-auf-vier-quadratmetern-vr-ar-hannover-messe/#gallery
Folie 6: https://logistra.de/fachmagazin/fachartikel/logimat-sicherheit-durch-assistenzsysteme-15311.html