“The Future of Work – Scenarios for 2050 from the Millennium Project and beyond”

Future Impacts, Cornelia Daheim
(Scenario illustrations / collages by Jef Dewegenaere)
Questions to you

• Do you sometimes “additional” work (more than strictly needed as minimum, more than in the “job description”)?

• Do you do pro bono work?

• Does work provide you with (at least sometimes 😊) a sense of meaning, of contributing?
WORK TODAY IS ORGANIZED AROUND THE INDUSTRIALIZATION PARADIGM = PEOPLE GO WHERE WORK HAPPENS.

DIGITALIZATION FUNDAMENTALLY QUESTIONS THIS WAY OF WORK ORGANIZATION.
The Future of Work is Important....

As it is one of the major societal systems and structures

• Provides:
  • A “functioning” economy
  • Social security systems basis
  • Structure for day and life rhythms
  • Ways to make a living
  • Status
  • Identity
  • Social connections
Trends & Signals Concerning the Future of Work

Trends highlighted in most int. studies:

- Increased (perceived?) density of work
- Loss of jobs due to automation already visible in e.g. manufacturing
- Job growth in service sectors
- Increasing participation of women in the workforce and in leadership roles
- Rising shares of “alternative work forms”, part-time work and “Gig Work” / Blurring of organizational border
- More human-centric organizations and new leadership forms questioning traditional hierarchies
- Paradigm change towards more diversity in the workplace
- …
The Focus of Media concerning the Future of Work: Will your job be automated?
A New Generation Takes Over

Source: Humans Need Not Apply, by CGP Grey  https://www.youtube.com/watch?v=7Pq-S5S7XQU
Los Angeles Times

CALIFORNIA

This is the article generated by the LA Times algorithm: A shallow magnitude 4.7 earthquake was reported Monday morning five miles from Westwood, California, according to the U.S. Geological Survey. The temblor occurred at 6:25 a.m. Pacific time at a depth of 5.0 miles.

According to the USGS, the epicenter was six miles from Beverly Hills, California, seven miles from Universal City, California, seven miles from Santa Monica, California and 348 miles from Sacramento, California. In the past ten days, there have been no earthquakes magnitude 3.0 and greater centered nearby.

This information comes from the USGS Earthquake Notification Service and this post was created by an algorithm written by the author.
Net employment outlook by job family, 2015–2020
Employees (thousands, all focus countries)

-4,759 Office and Administrative +492 Business and Financial Operations
1,609 Manufacturing and Production +416 Management
-497 Construction and Extraction +405 Computer and Mathematical
-151 Arts, Design, Entertainment, Sports and Media +339 Architecture and Engineering
-109 Legal +303 Sales and Related
-40 Installation and Maintenance +66 Education and Training


Study by WEF 2016

Table 1.1: Top 5 Trends that Determine Global Developments

1. Rising Income and wealth disparity
2. Changing climate
3. Increasing polarization of societies
4. Rising cyber dependency
5. Ageing population
The conclusion of (most) studies concerning potential high shares of automation: Possible crisis on the way

“It is clear from our data that while forecasts vary by industry and region, momentous change is underway and that, ultimately, it is our actions today that will determine whether that change mainly results in massive displacement of workers or the emergence of new opportunities. Without urgent and targeted action today to manage the near-term transition, and build a workforce with futureproof skills, governments will have to cope with ever-growing unemployment and inequality, and businesses with a shrinking consumer base.” (WEF, Future of Jobs, 2016)
Delphi-Study: Future of Work/Technology 2050
Experts From Around the World in a Real-Time Discussion

The Millennium Project: International NGO
Over 50 Nodes worldwide
Publishes bi-annual “State of the Future Report”
http://millennium-project.org

(German) publication on Delphi discussions “Work 2050):
https://www.bertelsmann-stiftung.de/de/publikationen/publikation/did/2050-die-zukunft-der-arbeit/
MP Delphi: Expected development of global unemployment rates (%)
Until 2050, a basic income is ...

- 79%: Absolutely necessary / very important / maybe helpful
- 21%: Irrelevant / not necessary
3 Scenarios to 2050

If Humans Were Free: The Self-Actualization Economy

It’s Complicated: A Mixed Bag

Political / Economic Turmoil: Future Despair
2 Contrasting Scenario Paths

More and more automation

Opening social gaps

Global Cooperation

Opening social gaps

Upheavals / Conflicts

Upheavals / Conflicts

Work = for a living

More and more automation

Basic Income Pilots

Civil Wars

= for meaning, self-actualization

More Migration

Education push

Freelancer-Wave

„Wars for Work“

More and more automation

Tax on Robotic Work

BI-„Boom“

„New self-supporters“

Loss of jobs

New Sharing / Swapping Economies

Much more poverty

Loss of jobs

Global Cooperation

Civil Wars

Extremely split society and world

Transformation-Phase

2017

2050

Scen. 1: Self-Actualization Economy

Scen. 3: Turmoil & Despair

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Long-Term Perspectives in the Scenarios
Next Technologies – In Synergy

- Artificial Intelligence
  - Augmented Brain

- Robotics

- Synthetic Biology

- Supercomputer
  - Cloud
  - Big Data

- Internet of Things
  - Semantic Web

- Augmented Reality
  - Tele-everything
  - Holographics

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Work in a World of Augmented Geniality

“Imagine a world in which every human being has the creative and intelligent capacity of Newton, Da Vinci, or Aristotle”
New Human Identity and Ethical Questions in the Face of Technology Disruptions / Artificial Intelligence
STEM Education Important - but Less Usefull for Employment after 2035
Are We Walking into the Future Technologically Blind?
Many New Jobs Emerging: Some Exemplary New Professions

- Designer for virtual rooms
- Creativity Coach
- Personal health assistant
- Empathy-Interventionist
- Algorithm-Insurance-Supplier
- Biosignal-Trainer
- Education-Portfolio-Optimizer
- Syn-Biologist
- Metaverse-Housekeeper

- Free time and occupation designer
- Translator human-machine and machine-human
- Ethics expert for AI
- Virtual team-assistant
- Personal learning coach
- Estate Agent for Attracting Job Nomad Knowledge Workers
New Communication Expectations & Relationship with Technology of the Younger Generation

Source Video:
https://www.youtube.com/watch?v=kJZSLvTK4pw&ebc=ANyPxKoOgTcc4PkJ6H6CpstRoU8cThXlbIpyadzmvexPjQMwuUMhhFE_pcW4PwuuilqvpcgxDPU_mrymiy452y_eYXxJ sk2DUuw&nohtml5=False
Knowledge Work = Independent of Time and Place
### Ongoing: Future Work-Tech 2050 Workshops

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<td>Germany</td>
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<td>11. South Korea (two)</td>
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<td>United States</td>
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<td>12. Venezuela</td>
<td>Suggestions from Mexico</td>
<td>and Hungary not added</td>
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*Updated May 25, 2017*

Suggestions from Mexico and Hungary not added yet.
Examples of Initial Implications from the Workshops

- Change curriculum starting in nursery schools, to normalize self-employment
- Implement schemes to promote and support work from home
- Free tele-education for everybody
- Begin shift from mastering a profession to mastering skills
Conclusions. Urgently needed: More positive visions of possible changes in the future of work

- MP Scenarios map out „what if” questions - tool for debate
  - Especially with the assumption that large parts of work will be automated
- Would in the positive scenario imply:
  - Education push and support for freelancing and cooperative work
  - Redistribution of wealth & income, new social systems
  - New definition and understanding of work – as self-actualization, for creating meaning and a positive impact, for connecting with the community
- Challenges to tackle now – even if you do not go with the “robots replace humans” theory:
  - Education push, for STEM, but also for meta-skills (self-organization, job-crafting, collaboration, ...)
    - Re-skilling initiatives
    - Ongoing learning / new learning forms (outside of / on top of traditional qualification systems)
  - Income gaps and access to newly emerging jobs
- Futurists to foster broad debate on alternative options for future of work
  - Younger generations can act as catalysts
Thank you!

www.future-impacts.de

http://www.millennium-project.org