

ITM Bachelor 6. Sem.

9672 Seminar

Arbeitswelt und Tourismus

The Fourth Industrial Revolution



The Fourth Industrial Revolution (4.0)

Klaus Schwab, Founder and Executive Chairman, World Economic Forum, Januar 2017:

We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another. In its scale, scope, and complexity, the transformation will be unlike anything humankind has experienced before.

We do not yet know just how it will unfold, but one thing is clear: the response to it must be integrated and comprehensive, involving all stakeholders of the global polity, from the public and private sectors to academia and civil society.

The Fourth Industrial Revolution (4.0)

The First Industrial Revolution used water and steam power to mechanize production.

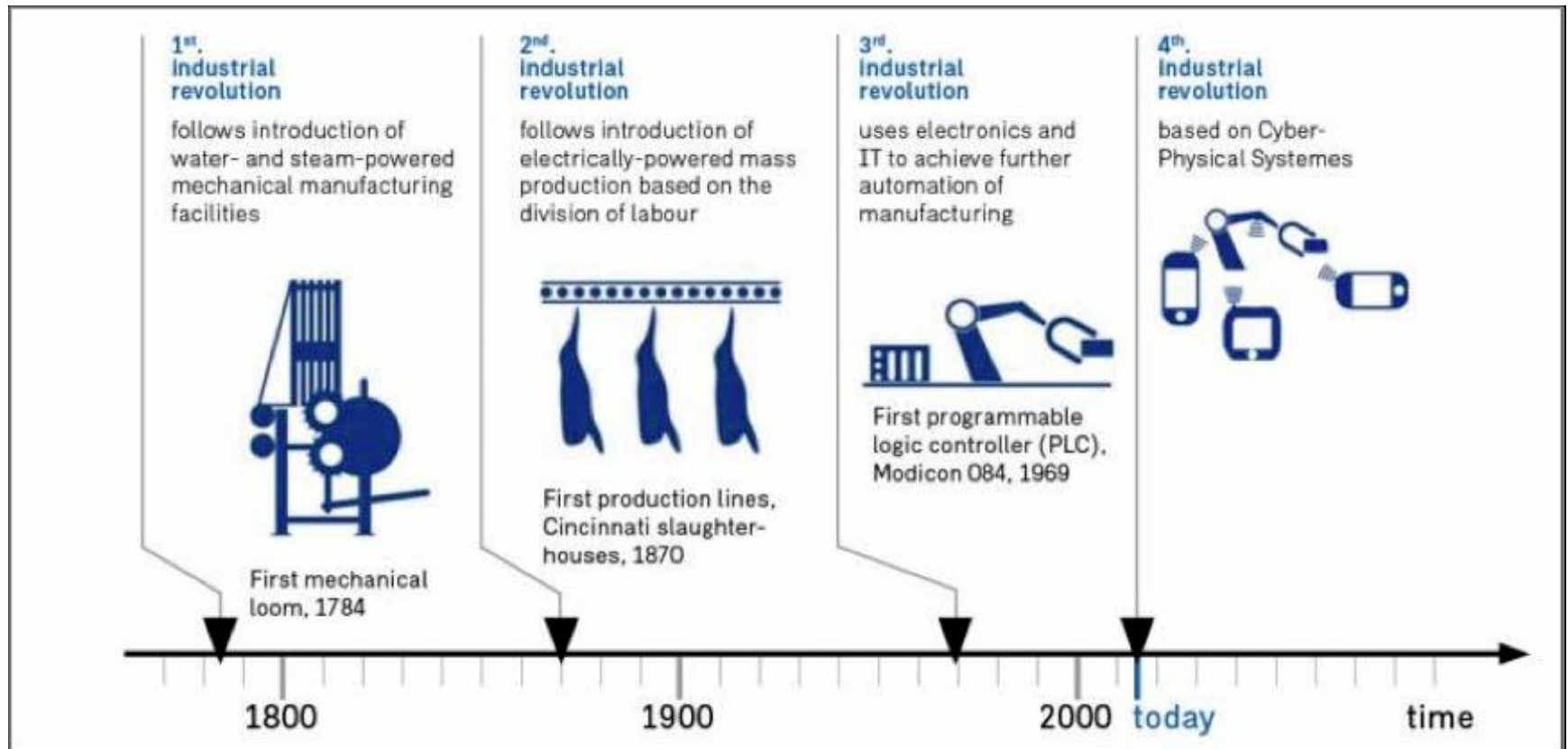
The Second used electric power to create mass production.

The Third used electronics and information technology to automate production.

Now a Fourth Industrial Revolution is building on the Third, the digital revolution that has been occurring since the middle of the last century.

It is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres.

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<https://youtu.be/khjY5LWF3tg>

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There are three reasons why today's transformations represent not merely a prolongation of the Third Industrial Revolution but rather the arrival of a Fourth and distinct one:

velocity,

scope, and

systems impact.

The speed of current breakthroughs has no historical precedent. When compared with previous industrial revolutions, the Fourth is evolving at an exponential rather than a linear pace.

Moreover, it is disrupting almost every industry in every country.

And the breadth and depth of these changes herald the transformation of entire systems of production, management, and governance.

The Fourth Industrial Revolution (4.0)

The possibilities of billions of people connected by mobile devices, with unprecedented processing power, storage capacity, and access to knowledge, are unlimited.

And these possibilities will be multiplied by emerging technology breakthroughs in fields such as artificial intelligence, robotics, the Internet of Things, autonomous vehicles, 3-D printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing.

The Fourth Industrial Revolution (4.0)

Like the revolutions that preceded it, the Fourth Industrial Revolution has the potential to raise global income levels and improve the quality of life for populations around the world. To date, those who have gained the most from it have been consumers able to afford and access the digital world; technology has made possible new products and services that increase the efficiency and pleasure of our personal lives.

Ordering a cab, booking a flight, buying a product, making a payment, listening to music, watching a film, or playing a game—any of these can now be done remotely.

In the future, technological innovation will also lead to a supply-side miracle, with long-term gains in efficiency and productivity. Transportation and communication costs will drop, logistics and global supply chains will become more effective, and the cost of trade will diminish, all of which will open new markets and drive economic growth.

The Fourth Industrial Revolution (4.0)

At the same time, the revolution could yield greater inequality, particularly in its potential to disrupt labor markets. As automation substitutes for labor across the entire economy, the net displacement of workers by machines might exacerbate the gap between returns to capital and returns to labor. On the other hand, it is also possible that the displacement of workers by technology will, in aggregate, result in a net increase in safe and rewarding jobs.

We cannot foresee at this point which scenario is likely to emerge, and history suggests that the outcome is likely to be some combination of the two.

However, I am convinced of one thing—that in the future, talent, more than capital, will represent the critical factor of production. This will give rise to a job market increasingly segregated into “**low-skill/low-pay**” and “**high-skill/high-pay**” segments, which in turn will lead to an increase in social tensions.

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The Fourth Industrial Revolution, finally, will change not only what we do but also who we are. It will affect our identity and all the issues associated with it:

- our sense of privacy,
- our notions of ownership,
- our consumption patterns,
- the time we devote to work and leisure, and
- how we develop our careers,
- cultivate our skills,
- meet people, and
- nurture relationships.

It is already changing our health and leading to a “quantified” self, and sooner than we think it may lead to human augmentation. The list is endless because it is bound only by our imagination.

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- High unemployment and wage stagnation herald a warning about the effects of automation
- In the second machine age, 50% of the jobs in the industrialized countries are vulnerable to computerization
- Automation and digitization indicate to a contradictory dual crisis. On one side, they raise the quality of life. On the other side, they cause unemployment in the long run

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Impact on business:

- Customer expectations rising
- Product enhancements possible through customisation
- Collaborative innovation on a global scale made easy
- Organizational forms changing
- Physical machines enhanced by the new digital capabilities.

The Fourth Industrial Revolution (4.0)

Impact on jobs:

- The fourth industrial revolution will shape the job market by assigning more tasks to the customers and displacing low skilled jobs.
- Algorithms can research, update, combine and offer information much more effectively than human beings, in more channels, in more languages, 24 hours a day.

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Impact on Europe:

Roland Berger:RolandBerger40.pdf

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Impact on jobs in tourism, hospitality, events industries:

Example Portugal: “Old” ideas called 4.0: Tourism40.pdf

Example Sri Lanka: 4.0 and tourism in traditional beach destination: <http://www.ft.lk/article/525503/Fourth-Industrial-Revolution--Implications-for-tourism-in-SL>

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**Impact on your career in tourism,
hospitality, events industries**

What do you think?