INDUSTRIE 4.0
term – relevance - impact on VET

Ute Hippach-Schneider
Federal Institute for Vocational Education and Training, BIBB

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INDUSTRIE 4.0

name of the German strategic initiative to establish Germany as a lead market and provider of advanced manufacturing solutions.

First time used in 2011 on Hannover Messe.
First mechanical loom
1784

First assembly line, slaughterhouses
Cincinnati 1870

First programmable control and steering (SPS), Modicon 084 1969

1. Industrial revolution
by introduction of mechanical manufacturing plants based on water- and steampower

2. Industrial revolution
by introduction of division of labour in mass production based on electrical energy

3. Industrial revolution
by introduction of electronics and IT for further automation of production

4. Industrial revolution
On the basis of cyber-physical systems
Industry 4.0

End of 18th century
Beginning of 20th century
Beginning of the 1970
Today

Level of complexity

Source: based on BMBF (2017): Duale Berufsausbildung sichtbar gemacht; own translation
INDUSTRIE 4.0 opens the door to an age of “smart industry” in which people, devices and systems combine to form dynamic, self-organizing networks of production.

INDUSTRIE 4.0 represents a paradigm shift from "centralized" to "decentralized" production.

INDUSTRIE 4.0 means individualized production, e.g. direct configuration and order by a customer.
Relevance

- Changes work processes
- Impact on labour market – question of polarisation
- Impact on professions and occupations
- Impact on needed skills and competences
- Impact on relevance of life-long learning
Impact on VET

VET 1.0

Traditional form

From lifelong profession (mainly in the crafts sector) to skilled workforce in industry

VET 2.0

Specialized form

Sector- and work specific VET on a conjoint VET basis

VET 3.0

Process-oriented form

Autonomous and responsible acting in processes

VET 4.0

Extended form ("erweiterte Beruflichkeit")

Experience- and science oriented VET in a digitised and cross-lined working environment

End of 18th century

Beginning of 20th century

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Today

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Impact on VET

BMBF/BIBB umbrella initiative: VET 4.0

- Screening of occupational profiles and sectors: necessity for new occupations and new training regulations, e.g. mechatronics and IT professions
- Digital competences of trainers, teachers and instructors
- Impact on provision of VET: e.g. Learning processes, digital learning/learning media, communication platforms, e.g. "Digital Media in VET",-programme; evaluation of equipment in VET schools
- Impact on VET system, e.g. reform of BBiG
Relevance of VET 4.0

- Application
- INDUSTRIE 4.0
- Skills/Competences
- Work processes
- Occupational profiles
Relevance of VET 4.0

INDUSTRIE 4.0

Application

Skills/Competences

Work processes

Occupational profiles
Questions? Feedback? Remarks?

hippach-schneider(at)bibb.de