

Digitization in the Metal Construction Sector

Presented for

METVET-
Thematic
Workshop

Maximiliansau /DE

May 23rd 2019

Paul Geiger

Trainer /Advisor for
Metal Professions
CJD Rhein-Pfalz/Nordbaden



METVET

JOINT HIGHER VET COURSE IN THE METAL SECTOR

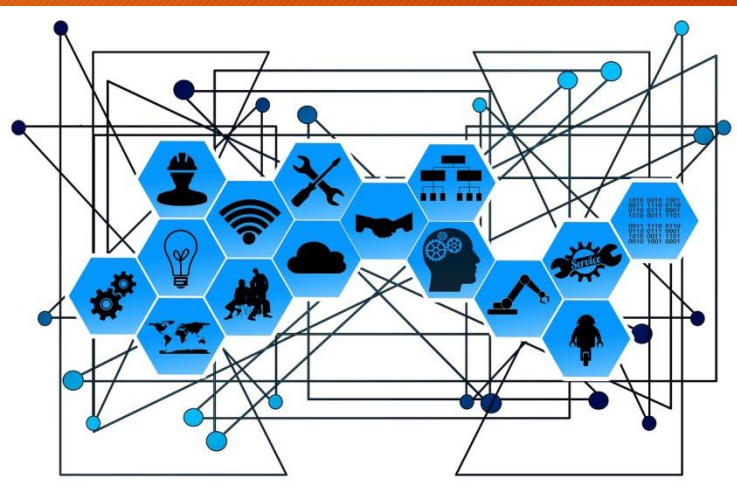
597806-EPP-1-2018-1-EL-EPPKA3-VET-JQ

Co-funded by the
Erasmus+ Programme
of the European Union



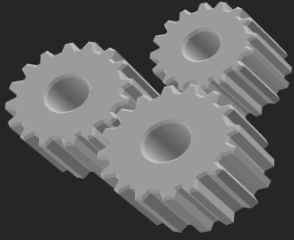


>> Industry 4.0



Technological Advancements In The
Metal Industry >>



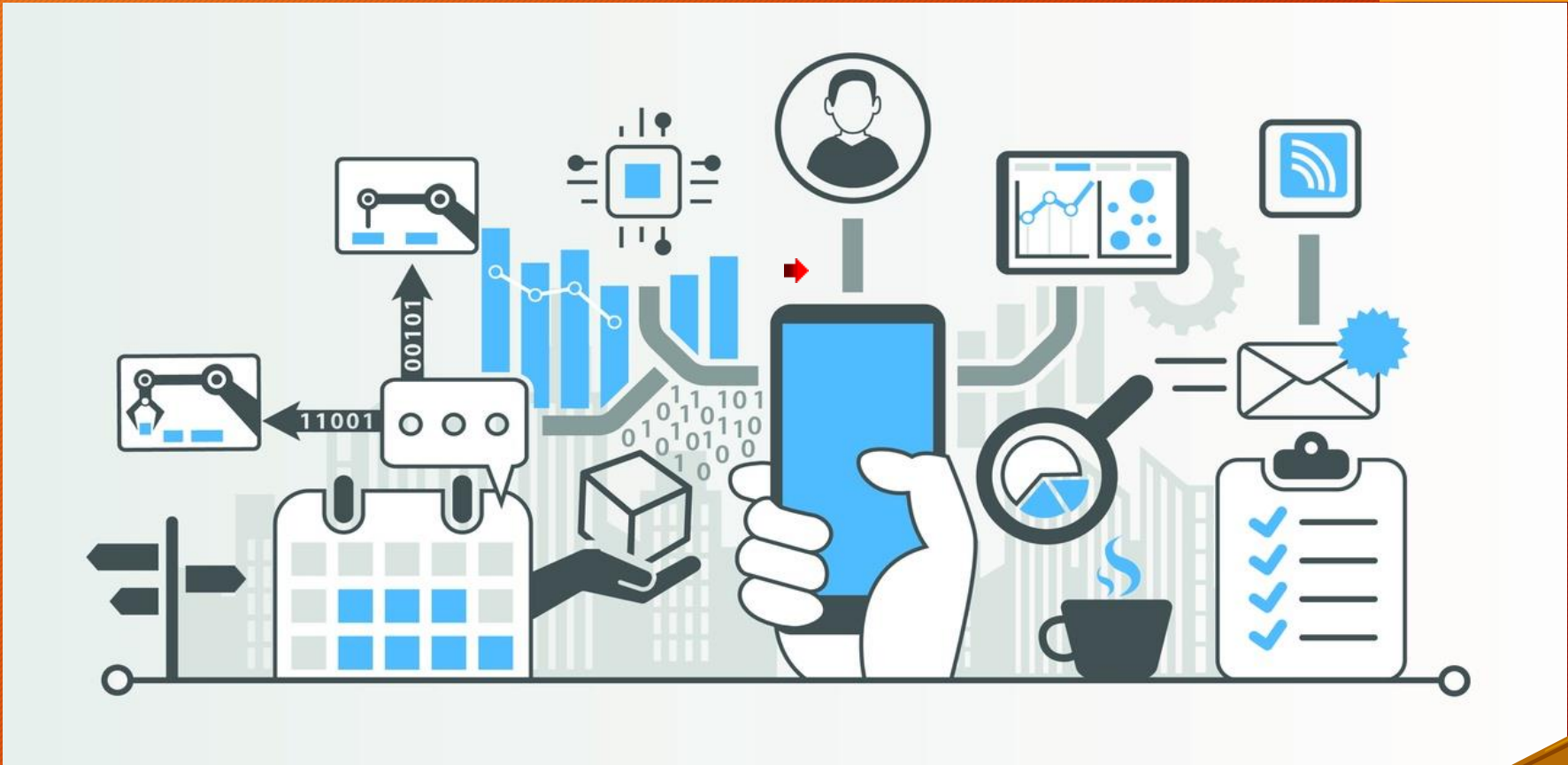


>> „The 4th industrial revolution“

1. Mechanization - Steam Power
2. Mass Production and Electricity
3. Electronic and IT-Systems, Automation
4. Cyber - Physical Systems



- Intelligent Communication between Man and Machine to increase Productivity and Sustainability along the value chain



> An example...

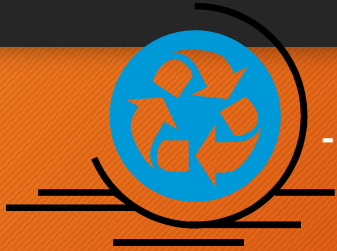
- Intelligent predictive maintenance (see also ISO 9000 family!)
 - digitization of production machines



- Machines will permanently check components for wear and stress
- Prior to reaching critical state the machine will identify required spare parts from an intelligent catalog
 - a) The part(s) will be ordered from the manufacturer
 - b) The part(s) will be manufactured **just-in-time**, e.g. 3-D-printed



...how do we „go green“ 4.0?



- Sustainable energy must become part of the continuing improvement in manufacturing technologies and quality management >>
- Self-servicing machines increase not only productivity but ecological efficiency (e.g. by means of optimized energy & resource management) >>
- Increased on-the-job training regarding responsible use of resources (e.g. energy, packaging materials, lubricants, solvents, cleaning agents, etc.) >>





>> from manufacturing industry to metal construction

- Technological progress in the industry should inspire advancements in the construction sector
- Future „working society“ can no longer be divided into isolated fields
- Networking between different sectors/branches essential for Level 5 and upward

