

# The Impact of the 4th Industrial Revolution on Engineering Education – The Need of a Brave Paradigm Change

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In connection with the 4th Industrial Revolution we are currently witnessing a significant transformation in the development of education. There are at least three essential and challenging elements of this transformation process:

- the impact of globalization on all areas of human life,
- the exponential acceleration of the developments in technology as well as of the global markets and the necessity of flexibility and agility,
- the enormous (and accelerated) growth of the area of engineering.

To face these current real-world challenges, higher engineering education has to find innovative ways to quickly respond to the new needs of engineering education.

This means it is necessary to improve the agility of engineering education in the future.

On the other hand, we have a new generation of engineering students, who are 24/7 connected to the Internet, who communicate more electronically than in person, who have a noticeably dropping attention span, to name only some aspects.

From this point of view, I see especially for Engineering Education inter alia the following conclusions:

1. The requirements for EE coming from emerging technologies as for example Industry 4.0, online engineering, additive technologies, and many others, have to be broader discussed. The educational concepts from the past have to be checked and adapted in a disruptive and brave manner!
2. The new and future developments in engineering and the resulting new needs for EE require a new quality in the cooperation between adjacent educational levels (secondary, tertiary, continuing) and stakeholders of education (state and private universities/colleges, industry, governmental and international organizations).
3. Industry 4.0 is a global movement and therefore EE is a global challenge and endeavor too. As global players, we have a special responsibility for the exchange of the needs, experiences, best practices, etc. in Engineering Education between the institutions, regions and continents.