

# Designing new ways of working in Industry 4.0

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## Background

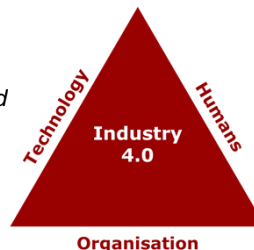
Industry 4.0 is introducing new technologies that are changing the role of humans and the work they perform and enabling a new level of interactions between the different elements of industrial work systems, starting from customer needs to the delivery of finished products. The introduction of these new technologies and integration of other Industry 4.0 enablers will have an impact on sociotechnical work systems of industrial companies, creating new opportunities and pose new challenges.

## Challenges and Opportunities

In its current maturity level, there is no common understanding of the human's role in Industry 4.0 or how human work will change as the concept evolves and technological capabilities increase. It is most likely that many companies will find themselves in unknown territory, as they will face challenges related to the implementation of new technologies and the complexities involved when humans and technology overlap and cohabitate within the same work systems. It is therefore important that we get a better understanding of the related challenges as well as opportunities that may arise as we progress further into dawn of this new Industrial age, where the line between automated and manual labour is getting more blurry.

## Research question?

*How can technology, humans and organisation be sustainably aligned in the design of Industry 4.0 work systems, in order to enhance productivity and human wellbeing in industrial companies?*



## Project approach and methodology

Industry 4.0 is a new concept that dates back to only 2011. Hence, the available literature on the implementation of Industry 4.0 enablers with special focus on organisation and human factors is limited. This PhD project intends to use a pragmatic approach to address this literature gap and industry need, by conducting multiple industrial case and explorative pilot studies to investigate and answer the proposed research question.

## Expected results

This project is expected to identify major elements in how Industry 4.0 technologies will change human work in industrial work systems and hereby the conditions for enhancing productivity, communication and human factors in industrial companies. The scientific contribution will be a conceptual framework for designing new ways of working in Industry 4.0 industrial work systems with focus on aligning the interfaces between technology, humans and organisation. The industrial contribution will be guidelines and tools for companies in how to achieve this.



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01 September 2017 to 31 August 2020

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