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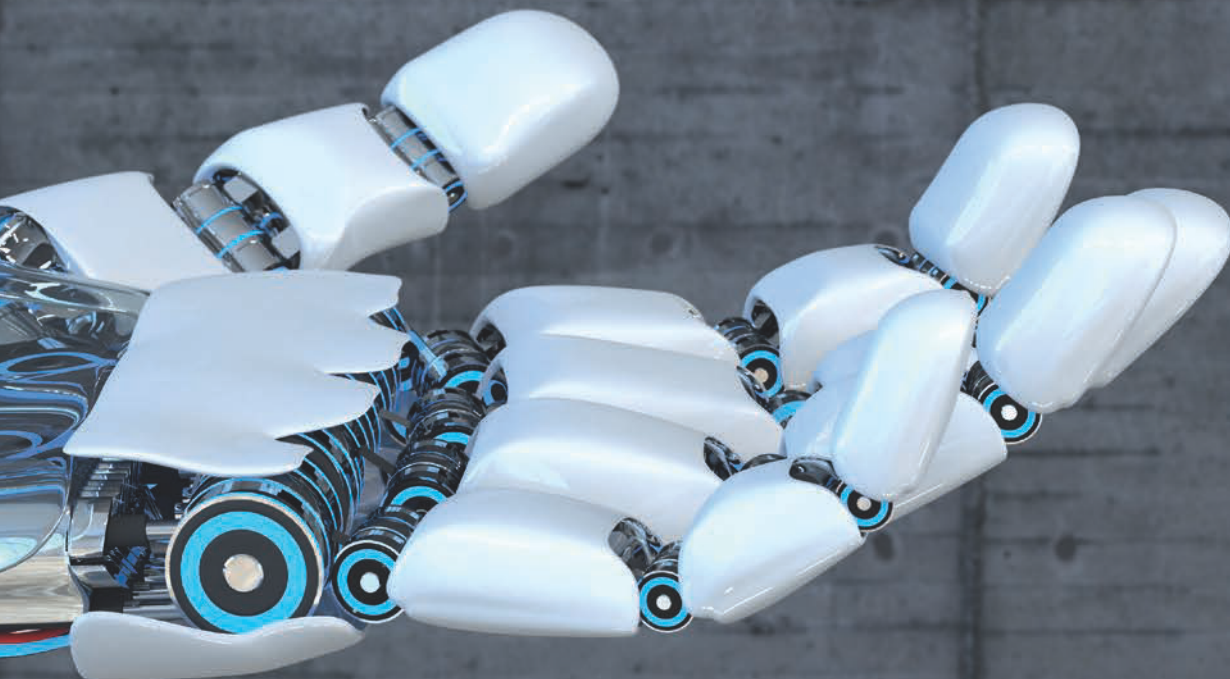
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Co-Creative Curriculum Design towards Industry 4.0 Transformation

The latest digital transformation in industry has reinforced the need for agile, future-oriented skills and competence development, especially in the field of Industry 4.0 related sectors. In this transformation process university-industry collaboration plays an essential role. The collaboration must be based on dialogue, iterative by nature, open and co-creation oriented. ►



In this article, we describe Tampere University of Applied Sciences' (TAMK) educational and pedagogical approach for Industry 4.0 capability creation, where TAMK FieldLab plays a vital role. TAMK FieldLab is the latest strategic initiative and major investment by TAMK consisting both of state-of-the-art equipment and novel co-creative operational model.

How to respond to the Industry 4.0 transformation needs?

Industry 4.0 is commonly used to describe the widespread integration of ICT in industrial value chain. Industry 4.0 opens up new opportunities for value creation and increases the competitiveness of companies. However, this improvement in competitiveness will not be achieved without the continuous updating and upscaling of both technological and soft skills of students and professionals working in companies. This requires co-creative curriculum design and implementation both in terms of content and pedagogical solutions.

TAMK FieldLab fostering knowledge transfer for Industry 4.0

TAMK FieldLab promotes the expansion of Digital Competences 4.0. In this way, TAMK FieldLab responds to the knowledge challenges posed by digital

transformation as well as encourages capitalization of new business opportunities and more effective utilization of new technologies.

TAMK FieldLab's novel operational model emphasizes an open co-innovation process allowing the use of versatile machines in an industrial-like experimental environment by students, staff and companies alike. Ensuring TAMK FieldLab as an industrial testbed to be compatible with the Industry 4.0 requirements, special attention as regards to technology investments has been paid to accessibility and communication capabilities.

TAMK FieldLab improves student learning as it increases research and innovation activities. In addition to developed skills, students receive new contact space for interaction with companies together with opportunities for internships and job vacancies.

Co-creative curriculum design - Case Technology Academy

Education and related curriculum needs to be designed towards industry and business needs. Simultaneously, curriculum must ensure student mobility and employability. TAMK's strategic ambition is to pursue pedagogical and educational approach having close industry-specific co-creation and joint



curriculum design framework. As one example in the field mechanical engineering, TAMK has formed technology academies. In these technology academies, new technologies related to Industry 4.0 will be applied in student projects implemented within TAMK FieldLab.

These technology academies have strong industry cooperation. Students form independently operating student academy teams around specified delivery targets given by industry partners. Teams have also university agreed academic targets and they are credited for their performance. Students learn expertise skills in latest professional technology environment and gain industrial personal networks advancing their career. University offers project guidance for the academy teams ensuring quality of results. In exchange, university gains free access to industry partners' latest equipment and applications.

Join us on this journey!

TAMK FieldLab activities support our vision and profiling strategy. Our aim is to strengthen the business cooperation network towards internationalization. TAMK FieldLab conducts research and innovation experiments and pilots to prioritize the needs of the labor market. We are open to all collaboration that enables us to strengthen Industry 4.0 skills. We listen

and collaborate with interest the experiences of other universities and industrial partners regarding the Industry 4.0 related curriculum design and delivery. ■

Tampere University of Applied Sciences (TAMK) is a Finnish higher education institution oriented towards university-industry collaboration. Our strengths are multidisciplinary education, creativity, and a strong international dimension. We provide our R&I infrastructure for business and entrepreneurial cooperation to promote innovation.

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