

# EMPOWERING TOMORROW

## APPLIED RESEARCH FOR LIFELONG LEARNING IN THE AGE OF ROBOTICS

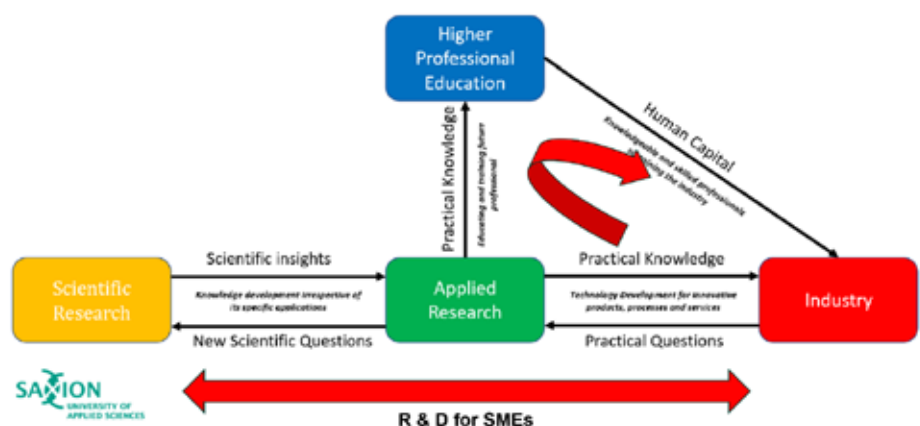
Advances in affordable electronics and the proliferation of digital technology have fundamentally transformed our world, revolutionizing the way we conduct our daily activities. These rapid developments are dynamic and continuously evolving, profoundly impacting our industries, particularly regions like ours that are heavily reliant on manufacturing. To maintain competitiveness, the regional industries require a consistent influx of skilled professionals equipped with the latest practical knowledge and skills across various levels. Furthermore, on-the-job training is essential for professionals to upgrade and adapt their skills effectively. Our applied research group, **Smart Mechatronics and Robotics Research Group at Saxion University of Applied Sciences**, plays a pivotal role in providing access to state-of-the-art practical knowledge and equipping

both aspiring and experienced professionals with the necessary skills to fully leverage the latest advancements.

Our research group conducts mission-driven applied research in collaboration with public and private partners.

We focus on developing innovative and practical technologies in Robotics, Mechatronics, and Artificial Intelligence, while evaluating the effectiveness of associated Systems Engineering approaches. Presently, the group is involved in approximately 25 projects and actively engages around 300

### Applied Research: Demand-Driven



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students from various educational departments within the scope of the running projects. We not only boost the innovation capacity of our partners, particularly SMEs, through collaborative projects but also ensure that the curricula of our technical educational departments, such as mechatronics, applied computer

science, and mechanical engineering, remain up-to-date. Through extensive and systematic dissemination efforts, we make innovative practical knowledge in robotics, mechatronics, and AI accessible to all.

Contrary to the classical misconception that robots are poised to replace human

jobs, we are now entering an era where life without robots is difficult to imagine. The benefits of robots extend beyond the well-known advantages of handling dull, dangerous, and difficult tasks. They also play a crucial role in optimizing resource utilization and increasing throughput. Robotization should not be viewed as a hype, nor should we attempt to automate everything in isolation without human involvement. A comprehensive and integral approach to robotization is paramount, where the roles of humans and robots are thoroughly examined and optimized based on their competencies and merits. Additionally, this integral perspective fosters acceptance of robots, seamless integration into the work floor, and the smooth transition of human workers into new roles. Lifelong learning and development are, therefore, instrumental in harnessing the competencies of both humans and robots effectively.

The challenges we currently face are multifaceted and complex, far too significant to tackle alone. Simultaneously, there are abundant opportunities for everyone to benefit. Therefore, coming together in lifelong learning is not merely a choice but an existential necessity for ensuring perpetuation of life and betterment of our planet. Some of the baby steps to realize symbiotic lifelong learning include real and consistent collaboration through making knowledge equally accessible, sharing testing facilities, R&D infrastructure, and networks.

**Let's march together to make the world livable for our children and grandchildren! ▪**

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