



I am Professor Richard Yang, the Director, Centre for Advanced Manufacturing Technology (CfAMT) at Western Sydney University. I have been part of the institution since 2012, specialising in Mechanical Engineering. Over the past 12 years, I have significantly contributed to research, teaching and governance and addressed students' urgent learning needs, focusing on Industry 4.0 and advanced manufacturing. I have been the Lead Academic Program Director, Engineering and Industrial Design for five years (2015-2019) and dedicated to teaching and learning, specifically working on the engineering education at the frontline.

The collaboration between our university and Omron began due to Omron's proactive role in the automation and robotics sector. Our relationship started when Omron supported Western Sydney University by providing products for our mechanical and robotics & mechatronics programs. Over recent years, this partnership has evolved from a supplier role to a contributor in engineering education. An example of this collaboration is the development of a 30-hour micro-credential course where students gained hands-on experience with autonomous mobile robots and collaborative robots, learning new concepts and tackling latest technologies out of class and beyond textbooks. This co-designed, co-delivered and co-reviewed course, supported by Omron, has been instrumental in advancing our educational offerings. The outcome was remarkable as students received first-hand experience in handling advanced robotics equipment, significantly enhancing their hands-on skills and industry knowledge. Omron staff members played a crucial role by sharing their expertise and answering career development questions, which greatly benefited the students. Additionally, equipment supplied by Omron is utilised in final-year research projects, enabling students to generate innovative ideas and apply the latest technology in their work.

The collaboration has had a profound impact on both our institution and Omron. It has enriched the students' learning experience, particularly in our discipline of mechanical, mechatronics and robotics, at both undergraduate and postgraduate levels. The partnership has significantly promoted new technology in the local area, supplying the knowledge and skills necessary for regional development. Students are now well prepared for their future careers, having been exposed to the latest advancements in AMR and Cobot technologies.

Cobots and AMRs are rapidly gaining recognition and are projected to be the fastest-growing areas in robotics under the concept of smart factory or factory of the future for Industry 4.0 and Advanced Manufacturing. Our current curriculums, supported by hands-on experience with robotics and automation, are crucial in making our students industry ready. Before this collaboration, there was a noticeable gap between theoretical knowledge and practical skills. While we had practical sessions, the equipment and facilities were often outdated. Working with Omron has helped minimise this gap, providing students with the latest technology and industry knowledge.

Feedback from students has been overwhelmingly positive. They appreciated the hands-on experience and the opportunity to learn from industry experts. This collaboration has not only increased their technical skills but also their confidence in pursuing careers in advanced manufacturing and robotics.

Our collaboration with Omron has been highly beneficial. It has provided our students with invaluable practical skills, enhanced their learning experience, and better prepared them for the workforce. We look forward to continuing this partnership and furthering our commitment to excellence in engineering education.

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