

IME department, but we believe that in the long run, this new program, which offers skills that are currently needed in the industry, will increase enrollment in the other existing MS programs, because the new courses in this new MS program will serve as technical electives for the existing MS programs.

Need of Graduates as Indicated by Market Demand

Rapid technological changes necessitate reskilling and upskilling of the current engineering workforce. According to the US Bureau of Labor Statistics projections between 2022-2030, the number of jobs that require STEM- (Science, Technology, Engineering and Mathematics) related skills will grow faster than other employment ([Employment in STEM occupations : U.S. Bureau of Labor Statistics \(bls.gov\)](https://www.bls.gov/employment-in-stem-occupations)). There are job opportunities on the growth today, that were not in demand a decade ago, these include expert systems engineer, artificial intelligence engineer, cloud architecture engineer, data analyst, among others. Our MS program is geared toward our current students in the Bachelor's degrees and the local and regional workforce with engineering and related backgrounds who wish to gain more knowledge in systems engineering and choose from among the elective focus areas.

A Principal Engineer from Heartland Technology Group, Inc., an engineering employer in the region and industry partner at UWM stated that, "As a leading Wisconsin employer in industrial automation, an advance degree in Industrial Internet of Things (IIoT), as proposed by the UW Milwaukee College of Engineering and Applied Sciences, is vital to the growth of our economy. As more industries adopt IIoT technologies to improve efficiency, reduce costs, and transform their operations, the demand for professionals with IIoT skills will grow exponentially. Beyond manufacturing, IIoT is expected to create new jobs in areas like data analysis, system management, and cybersecurity."

Additionally, the Directors of Global Academic Engagement and Advanced Technologies at Rockwell Automation fully support the establishment of the MS CSE as follows: "We believe that an interdisciplinary master's program focused on connected systems is a critical step in closing the current industry knowledge gap and preparing a pipeline of future industry leaders. Seeing this outcome was a core reason RA engaged in developing the Connected Systems Institute (CSI) and we fully support the MS program's establishment." Rockwell Automation is a leading employer of UWM's graduates and key industry partner to the UWM IME Department and UWM's CSI. CSI offers several workshops for workforce development, whose contents are embodied in the new MS in Connected Systems Engineering. According to UWM CSI data on attendees, (summer 2022-summer 2023) a total of 18 learners, all of whom are employees from local manufacturing industries, came through some of the non-credit learning pathways offered through the CSI Manufacturing Workforce Innovation Program.