

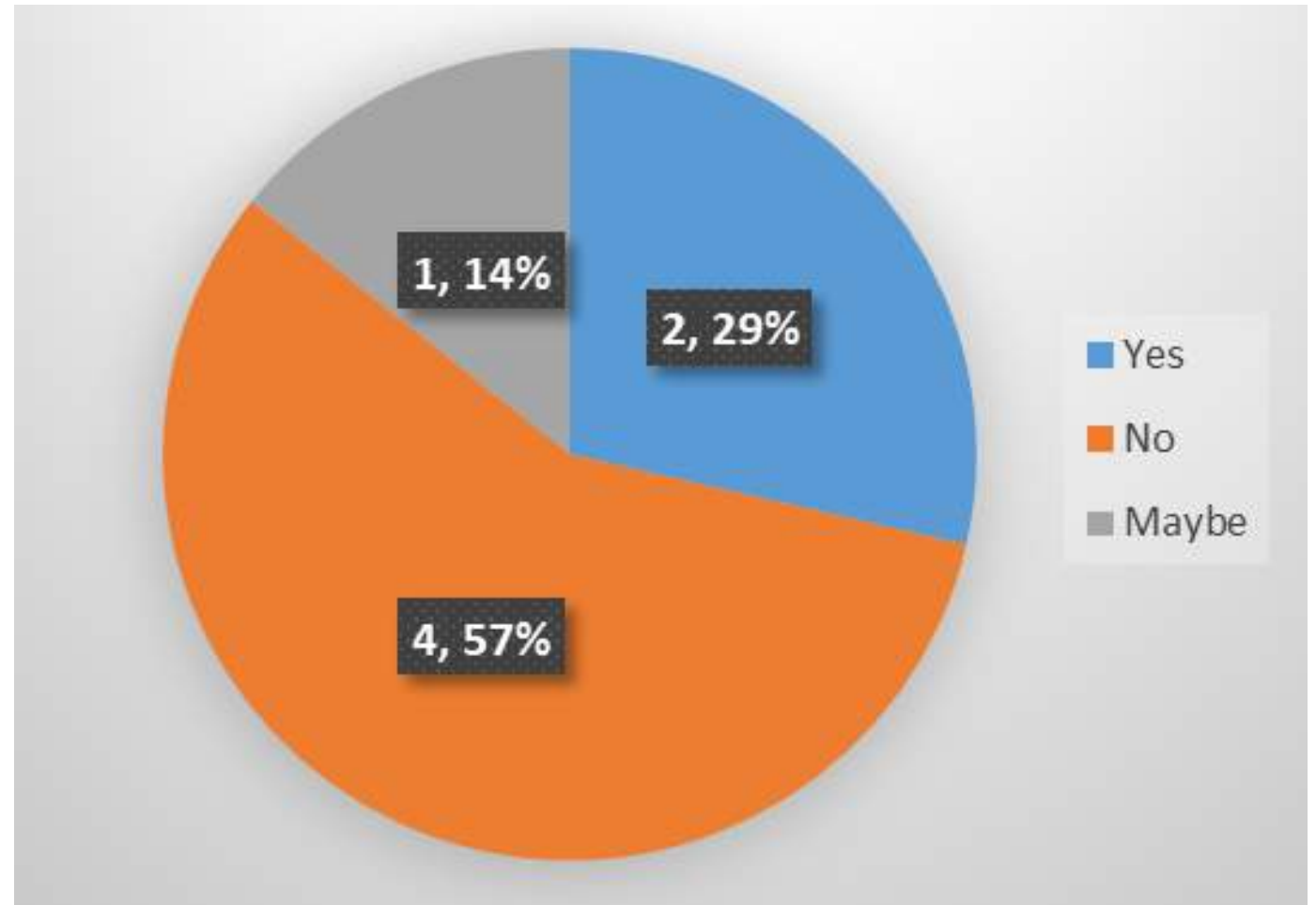
Please specify additional graduate skills preferences.

ID ↑	Name	Responses
1	anonymous	Practical experience not just theory. Communication skills to be able to explain the systems and what he needs others to do to ensure projects are a success
2	anonymous	Soft skills - being capable of working as a multi-disciplinary team
3	anonymous	I completed the Siemens mechatronics 1st certificate and would love to progress onwards
4	anonymous	n/a
5	anonymous	Process Control

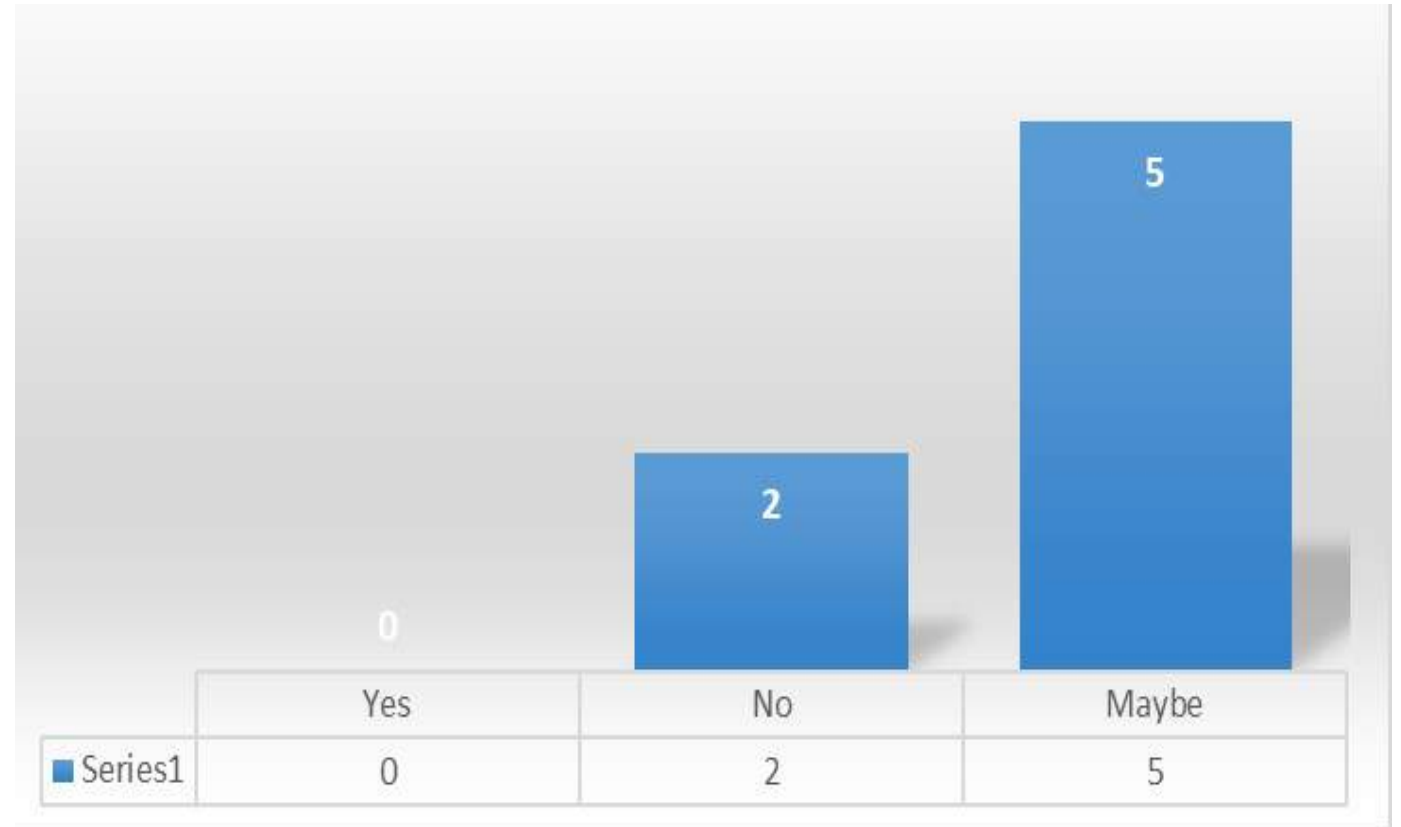
What do you identify as the biggest skills gaps between the knowledge of fresh engineering graduates and the needs of your industry?

ID ↑	Name	Responses
1	anonymous	Practical experience in the implementation of ideas into workable items/projects
2	anonymous	There isn't so much a skills gap but more a retention problem with fresh graduates. I feel that they can become wrest-less very easy if not continually challenged and can get quickly frustrated with the bureaucracy in the industry.
3	anonymous	Use of software required in industry , e.g. Revit, AutoCad, Dialux, Amtech etc
4	anonymous	Maintenance - repetitive common failures are not really addressed
5	anonymous	Understanding the process of the Company. Every industry is different and with baking there would need to be an acceptance on how this works before integrating mechatronic engineering
6	anonymous	Practical knowledge and skills
7	anonymous	Programming

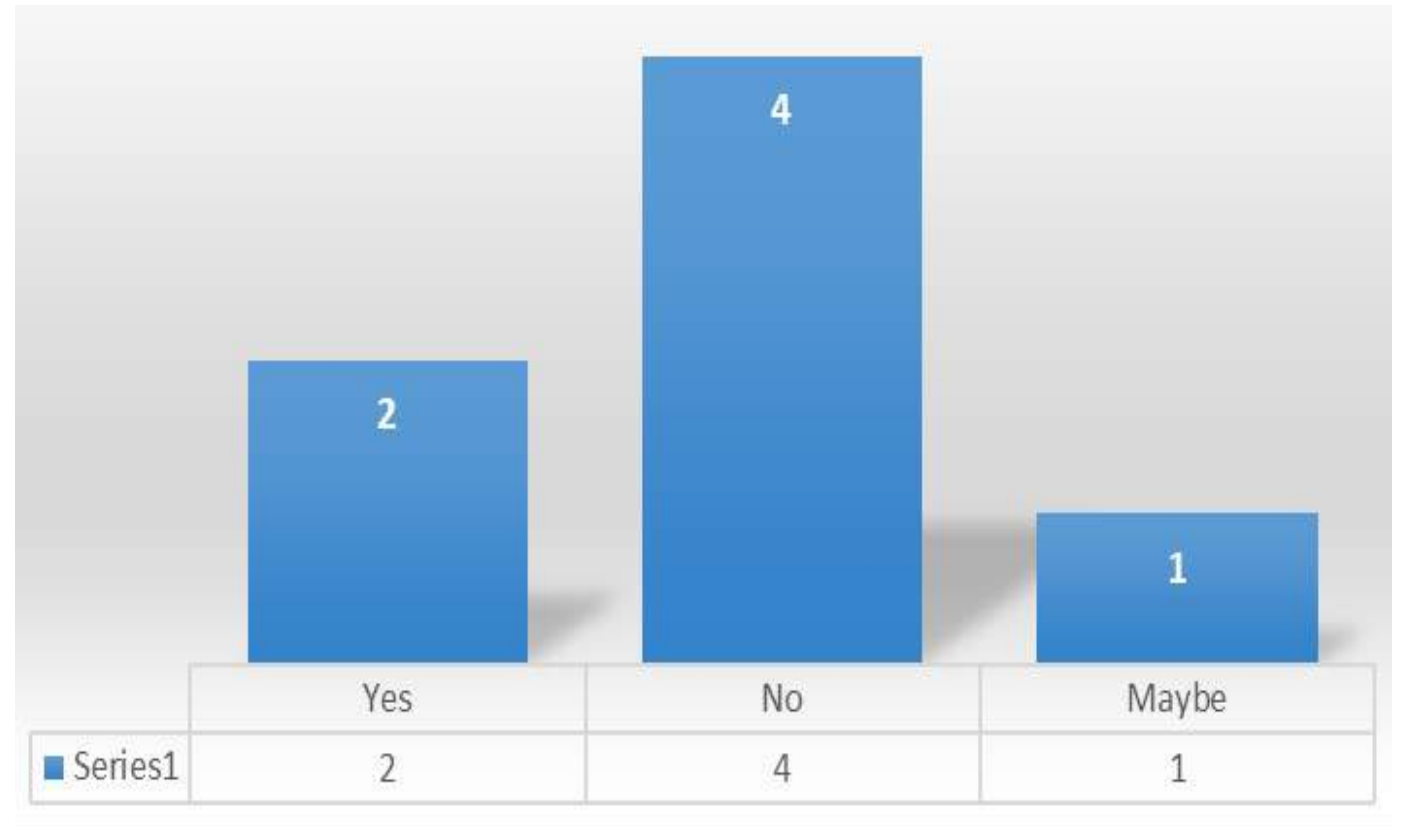
Would you be willing to be part of the Professional Advisory Board being setup for this programme at Queen's University Belfast?



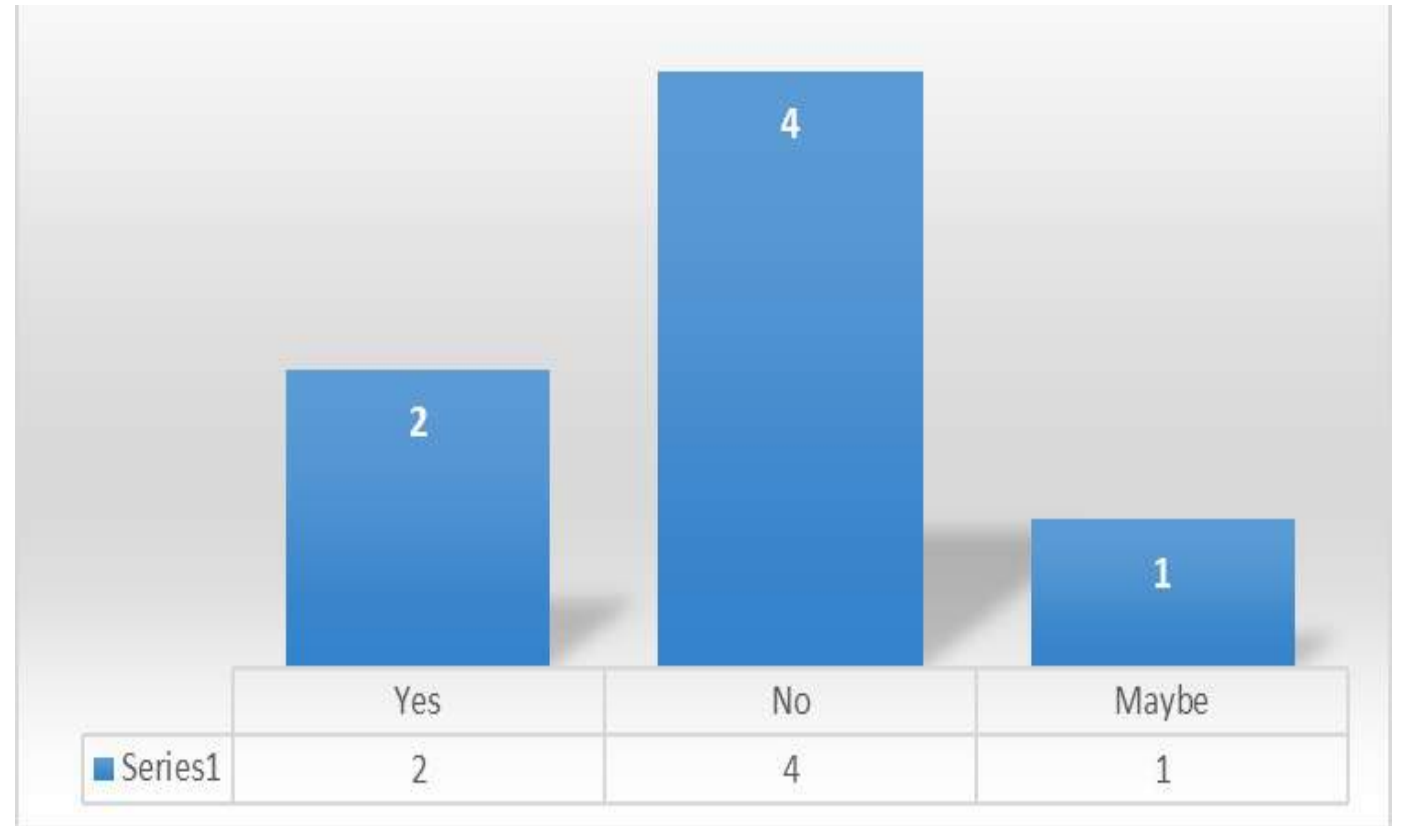
Would your company be willing to participate in specialist teaching activities such as guest lectures and seminars?



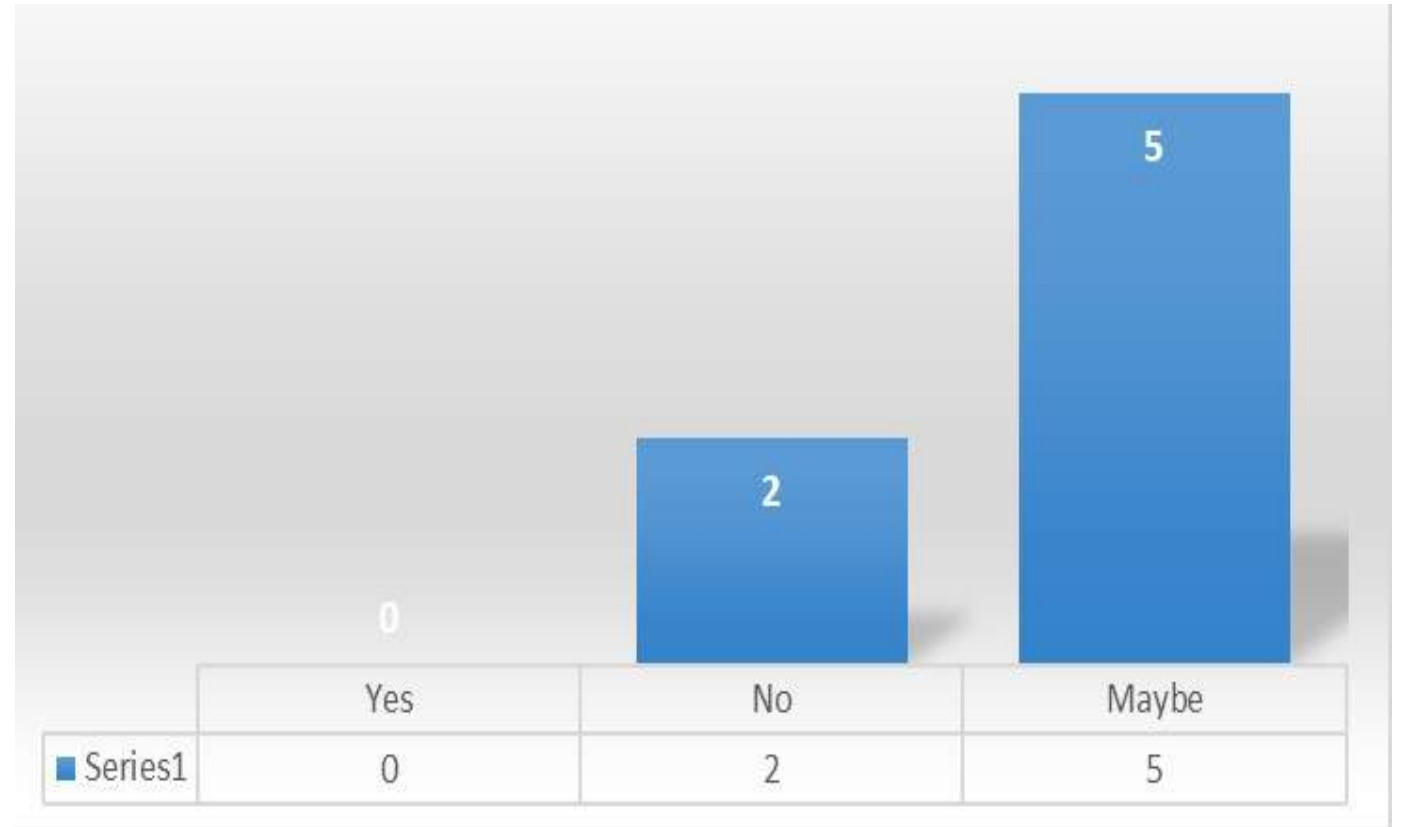
Would your company be willing to participate in the supervision of student projects (jointly with an academic supervisor)?



Would your company be willing to facilitate industrial visits for Mechatronic Engineering students?



Would your company be willing to provide placement opportunities for students on the Mechatronics programme?



What types of job roles does your company have now, or have planned for the future, that could benefit from having graduates with Mechatronics and Robotics skill sets?

ID ↑	Name	Responses
1	anonymous	Process Engineers role
2	anonymous	Modelling and auto-coding of control and behaviour for the actuation of autonomous systems which consist of an array of sensors and actuation systems
3	anonymous	n/a
4	anonymous	Maintenance engineers covering pneumatic, hydraulics, PLC , programming and electronics
5	anonymous	We are at the start of a journey of introducing robotics into the business. We see this as a strategic growth opportunity and in doing so we need the in-house expertise to manage this process.
6	anonymous	PID Tuning and Monitoring Software installation engineer
7	anonymous	Mechanical Engineering, Mechatronics, Automotive Engineering, Electrical Engineering etc.

Industrial Survey: Mechatronic Engineering Programme at Queen's University Belfast



UL@Work

Prof. Martin Hayes – Academic Lead UL@Work

Dr. Sinéad Burke – Project Manager UL@Work



Rialtas na hÉireann
Government of Ireland

FUTURE JOBS
IRELAND
Preparing Now for Tomorrow's Economy



Human
Capital
Initiative

Confirm
Smart Manufacturing



UNIVERSITY OF
LIMERICK
OLLSCOIL LUIMNIGH

Bringing Together Education, Industry and Technology to Support the Future of Work



Micro Credentials and **Professional Diplomas** can be stacked to realise an accredited Masters in Professional Practice

Driving Collaboration across the UL@Work Portfolio of offerings through Co-Design & Co-Delivery



Overview of Programmes



All Level 9 Professional Diplomas contain two modules (20%) on Transversal Future Focused thinking designed to embed a futures outlook and enhance Cross-Disciplinary collaboration



Overview of Manufacturing Relevant Programmes Sept 2023

Online – 9 month programmes – 30 ECTs at Level 9 (Masters Level)



- **AI Computer Vision** – relevant to manufacturing companies who wish to develop general AI expertise and or with an interest in being able to leverage vision systems on predictive maintenance, detecting product defects, packaging etc.
- **Equipment Systems Engineering** – relevant to manufacturing companies who are planning on making industry 4.0/5.0 equipment investments in the medium term designed in collaboration with Confirm.
- **NLP** – relevant to manufacturing companies interested in minimising repetitive and mundane jobs like paperwork and reports. Supports employees to focus on the tasks that require human skill sets.

Overview of Manufacturing Relevant Programmes

Online – 9 month programmes – 30 ECTs at Level 9 (Masters Level)



- **Jan 2022** Data Analytics— relevant to engineering companies who wish to leverage their data to make better decisions and who want to use dashboard to visualise data
- **Sept 2023** OT Security – relevant to manufacturing companies who use SCADA and PLC systems, as they are becoming increasingly interconnected, organisations should prioritise operational technology (OT) security efforts alongside IT security.
- **Mar 2023** 6 week course in Problem Solving that can stack towards a Jan 2024 Professional Diploma Transferable Skills – for engineering companies who wish to embed problem solving and collaboration skills in their workforce

Overview of Power Skills Programmes

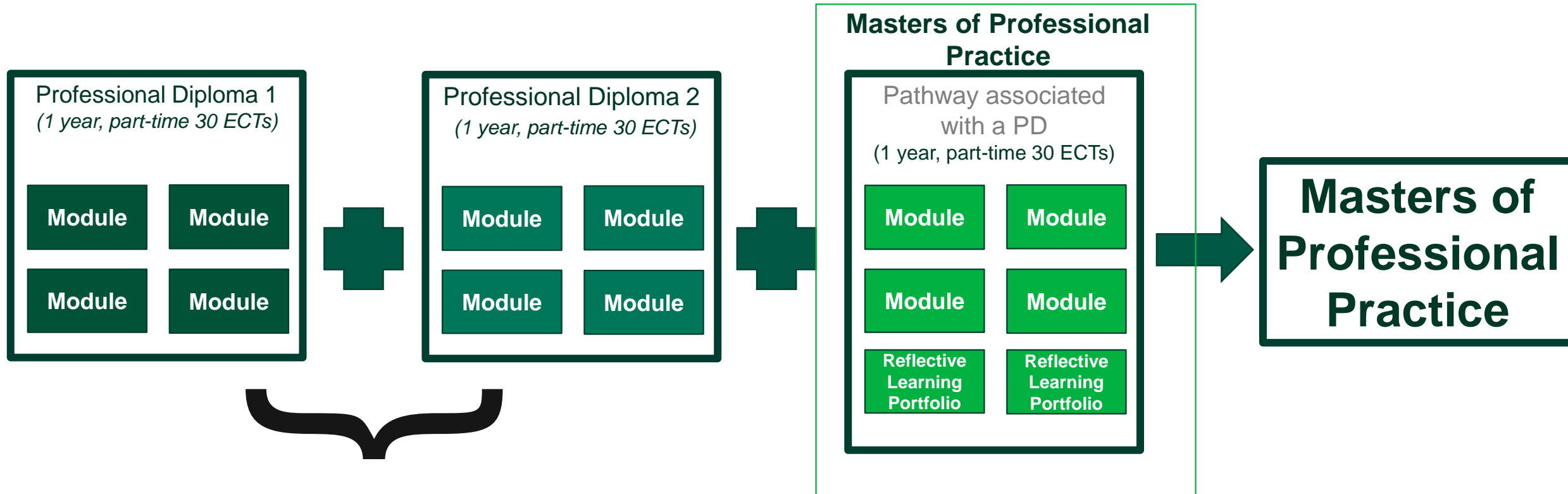


- **Sept 2023** Human Resource Management and the Future of Work— 2 year part time, BA Degree. For manufacturing companies who wish to manage the Changing World of Work and Employment Relations
- **Summer 2023** Digital Futures and Innovation – relevant to manufacturing companies whose senior leaders are future focused want to create markets within their ecosystem not just react to market changes
- **Sept 2023** Strategic Leadership – relevant to companies wishing to grow their next generation of leaders
- **Jan 2024** Law and Technology – relevant to manufacturing companies who are impacted by the interface between legal and regulatory governance and new technologies.

Other L9 programmes coming soon in Sept 2023

Climate Adaption and Sustainability
Storytelling with Data
Public Relations for Enterprise
Digital Content Development
Sustainable Work Futures

Transdisciplinary Stackable Masters – Masters of Professional Practice 2023



Entry Requirements

2 PDs (2:1) to be completed within 5 years of Masters application

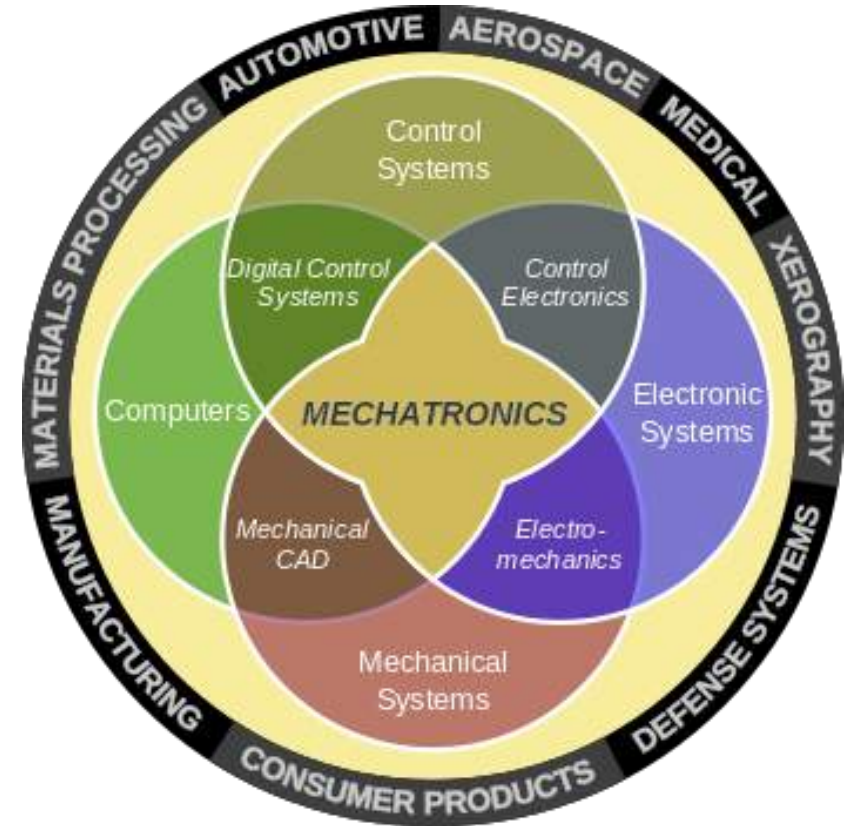


UNIVERSITY OF
LIMERICK
OLLSCOIL LUIMNIGH

UL@Work

“Challenge-Based Degree” BE/ME Digital Mechatronic Engineering

- Integrated BE/ME (4/5 Year, May Finish)
- **Workplace Based (extended 13 Month Co-Op Placement)**
- Common Entry through LM116 (with new elective in Intro to Digital Mechatronic Engineering)
- Combination of mechanical, electronic, robotic and software engineering systems.
- Core programme co-designed by 2 departments
- With a problem-solving module codesigned with Engineering, Arts and Mathematics and Statistics
- Underpins many sectors
- Used extensively in modern manufacturing industries
- Becoming one of the fastest growing career areas
- Manufacturing sector in Ireland employs over 230,000 people directly and a further 230,000 indirectly
- Responsible for 34.5% GDP in 2020



Contact us for

- More information on UL@Work
- if you wish to join the advisory panel BE/ME in Digital Mechatronics
- Want to support promotion of Mechatronics as a career path

Email:

Sinead.Burke@ul.ie

Or

Martin.J.Hayes@ul.ie



BSc/MSc in Immersive Software Engineering

Learn software engineering by doing it

- ISE's residencies inspired by medical residencies where trainee doctors and nurses put theory into practice under expert supervision.
- Software engineering is a craft you'll learn best in the workplace.
- 5 paid ISE residencies, each between 3 and 6 months long.
- Throughout the degree you'll alternate your time between on-campus learning blocks and residencies in partner companies.
- Inside these companies you'll be a part of real, professional teams solving problems like fighting the climate crisis, improving access to financial services around the world, helping anyone, anywhere start a business, building the next generation of speech technology, and much more.



UNIVERSITY OF
LIMERICK
OLLSCOIL LUIMNIGH

UL@Work