



E4E

Engineers for Europe

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Partner Snapshot Engineers Ireland

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Background to Engineers Ireland

With over 28,000 members from every engineering discipline, Engineers Ireland is the voice of the engineering profession in Ireland. Established in 1835, Engineers Ireland is one of the oldest and largest professional bodies in the country. Members come from every discipline of engineering and range from engineering students to fellows of the profession.

Our responsibility is to

- Promote knowledge of engineering
- Establish and maintain standards of professional engineering and engineering education
- Provide opportunities for Continuing Professional Development (CPD)
- Maintain standards of professional ethics and conduct
- Ensure that professional titles are granted to qualified candidates
- Act as the authoritative voice of the engineering profession in Ireland

Our Vision Statement

Engineers Ireland: a community of creative professionals delivering sustainable solutions for society.

Our Mission Statement

Engineers Ireland is an institution that enables the engineering community to progress in their professional development and make a sustainable impact on society, advocates for the profession, quality assures education and encourages future generations of engineers.

Introduction

The engineering profession is undoubtedly one of the most crucial industries in Ireland, and it is no secret that the country has been heavily investing in innovation and technology. As a result, the engineering sector in Ireland has been experiencing steady growth in recent years. Engineers Ireland has conducted extensive research to provide a comprehensive overview of the industry's current state. The annual "Engineering: Barometer Report" is an invaluable resource for understanding engineering employment, infrastructure and careers, engineering education, and sustainability in Ireland.

According to the findings of Engineers Ireland, the engineering profession has played a pivotal role in Ireland's economic growth and development. The demand for engineers has increased significantly, and this has resulted in almost 6,000 new engineering jobs being expected in 2024. However, the number of engineering graduates remains consistent at around 6,000 students¹. Finding experienced engineers has become one of the biggest challenges facing the engineering profession in Ireland.

Despite this challenge, Engineers Ireland has been working hard to promote engineering as a career choice, when polled 92% of the public view engineers as highly competent, the highest of any profession. It is important to highlight the importance of sustainability in the engineering profession and the need for engineers to be equipped with the necessary skills to design and implement sustainable solutions.

The engineering profession is critical for driving innovation, infrastructure development, and economic growth in Ireland. While there are some challenges facing the industry, the future looks bright with the continued focus on innovation and technology in the country.

¹ HEA, 2023

Trends in the Engineering Profession in Ireland

Engineering in Ireland remains critical to ensuring that our infrastructure, our economy, and our public services can support living standards and sustainable growth – from clean water supplies and safe buildings to renewable energy and new manufacturing technologies. The engineers work extends beyond blueprints and equations—it touches lives, transforms communities, and safeguards our future. Employers seek engineers with the right skills: fundamental knowledge, effective communication, and problem-solving.

In 2022, the Central Statistics Office (CSO) undertook a national census. The title engineer is not a protected term in Ireland and is used in numerous industries, making the identification of the exact number of engineers employed in Ireland a challenge. The CSO data, however, reveal that the largest proportion of engineers employed here are civil engineers (8,907), the second largest, electrical engineers (7,560), and the third, mechanical engineers (5,927). There are now 61,353 people employed in engineering and technical engineering roles in Ireland, an increase of 30% from the figure in 2016. The occupations included in this total are based as closely as possible on Engineers Ireland's criteria for accreditation.

Ireland is the European location of choice for growing numbers of industrial engineering and technology companies in manufacturing, research and innovation. It is tenth in the European league table of the most attractive investment opportunities for Foreign Direct Investment (FDI), according to the European Attractiveness survey in May 2022. Dublin ranked fourth of Europe's most attractive investment cities over the next three years. Ireland's business-friendly environment, tax regime, education system, and quality of life were all cited by respondents as top drivers of its attractiveness. Ireland's rating around sustainability-related factors was exceptionally strong, with the majority saying we perform as well as, or better than, the European average for the availability of skills to facilitate sustainability projects.²

² [How Ireland's attractiveness is bolstering FDI performance | EY Ireland](#)

Challenges in the Engineering Profession in Ireland

Gender gap: Engineering has remained a male-driven profession, with only about 12% of engineering professionals in Ireland being female. This highlights the need to increase diversity and bridge this gender gap.

Skills shortage: There's an ongoing shortage of skilled engineers. The skills shortage within the construction and engineering sectors is a result of the 2008 financial crisis, which led to significant emigration. The demand for engineers now exceeds the available talent pool, particularly in specialised areas such as data analytics, cybersecurity, and renewable energy. Ireland already ranks third in the rate of third-level education attainment globally, with about 6,000 engineering graduates per year³. However, emigration remains a common career path for Irish graduates. This is illustrated on the government "Critical Skills Occupation List", which lists 24 disciplines of engineering professionals as a shortage⁴.

Companies are upskilling, maintaining hybrid work models, and attracting talent from overseas to address this issue. 79% of engineering employers expect a hybrid model of working with the flexibility to work from home, site and the office as required going forward. This work-life balance increases work opportunities for people with caring responsibilities. Most engineers attracted from overseas come from Brazil, India, and South Africa, they are attracted to Ireland because of global investment, high salaries, supportive environment and continuous learning.

Despite these challenges, the profession remains robust in terms of remuneration, job opportunities, and outlook. Engineers play a critical role in Ireland's success, contributing to sustainable solutions and societal well-being.

³ [Engineering barometer | Engineers Ireland](#)

⁴ [Critical Skills Occupations List - DETE \(enterprise.gov.ie\)](#)

Opportunities in the Engineering Profession in Ireland

Infrastructure Development: Ireland is investing in infrastructure projects such as roads, bridges, public transportation, sustainable energy, and utilities to match the expanding population. Civil engineers, transportation planners, and project managers play crucial roles in these developments.

Research and Innovation: Ireland hosts several research centres and institutions focused on technology, biopharma, and renewable energy. Engineers can contribute to cutting-edge research in areas like artificial intelligence, sustainable materials, and medical devices. Facilities like Ireland National Advanced Manufacturing Training Centre of Excellence (AMTCE) in Dundalk, Ireland, provide exciting opportunities for engineers and learners in the manufacturing sector. From apprentices to lifelong learning, AMTCE offers upskilling in a vast spectrum of engineering sectors like, Pharma, Robotics, BioPharma, and cyber security.

Foreign Direct Investment (FDI): Multinational companies establish their European headquarters in Ireland due to its favourable business environment, skilled workforce, and strong engineering capabilities. Engineers can find opportunities in sectors like tech, pharmaceuticals, and manufacturing⁵.

Renewable Energy: Ireland aims to achieve a significant increase in renewable energy by 2030. With huge developments planned for offshore wind. Engineers specialising in wind, solar, and hydroelectric power can contribute to this transition.

Data Centres and ICT: With major tech companies having data centres in Ireland, opportunities exist for electrical engineers, network specialists, and data centre managers.

⁵ [Engineering jobs in Ireland, careers updated daily- Jobs.ie](https://www.jobs.ie/engineering-jobs-in-ireland-careers-updated-daily-)

Quantitative Indicators: A focus on Green, Digital, Entrepreneurial and Resilience Skills

Engineers Ireland conducts an annual Salary Survey of members, focusing on salaries and employment benefits. Since 2023, the survey includes questions asking respondents to expand on the different skills engineers will need to develop in the coming 10 years under the headings; Green, Digital, Entrepreneurial and Resilience Skills.

Green Skills

Responding to the question “Over the next 10 years, what Green skills will engineers need to develop?”, *Sustainability* and *Carbon Accounting* were ranked highest, as in 2023. *Sustainable Design* moved up somewhat compared to 2023, while *Biodiversity* ranked significantly higher than 2023.



Rank	Topic	% of 469 responses	Rank 2023	Rank	Topic	% of 469 responses	Rank 2023
1	Sustainability	19	1	10	Green Energy	2	0
2	Carbon Accounting	12	2	10	Green Procurement	2	6
3	Sustainable Design	9	5	10	Green Technologies	2	0
4	Life Cycle Analysis	7	3	10	SUDS	2	6
5	Renewables	6	6	11	Carbon Reduction	1	4
6	Sustainable Materials	5	6	11	Climate	1	0
7	Circular Economy	4	6	11	ESG	1	12
8	Environmental	3	6	11	Net zero	1	12
9	Biodiversity	2	27	11	Offshore	1	0
10	EIA	2	12	11	Recycling	1	6

Digital Skills

Responding to the question “Over the next 10 years, what Digital skills will engineers need to develop?, *Artificial Intelligence*, *Building Information Modelling (BIM)*, and *Data*, once again make up the top three critical skills, however, in 2024 *AI* represents the top skill for almost half of all respondents compared to less than one-fifth in 2023.

Rank	Topic	% of 702 responses	Rank 2023		Rank	Topic	% of 702 responses	Rank 2023
1	AI	47	2		11	Revit	1	11
2	BIM	12	1		11	3D	1	12
3	Data	7	3		11	CAD	1	16
4	Coding	5	4		11	Cloud	1	15
5	Programming	4	9		11	Remote	1	8
5	Software	4	5		11	Digital Twin	1	15
7	Automation	2	7		11	Microsoft Suite	1	8
7	Communication	2	13		11	Parametric Design	1	16
7	Cyber Security	2	0		11	Modelling	1	10
7	Machine Learning	2	0		11	AR/VR	1	6

Entrepreneurial Skills

Responding to the question “Over the next 10 years, what Entrepreneurial skills will engineers need to develop?, *Financial Acumen*, *Innovation* and *Start Up* skills were ranked highest.

Entrepreneurial Skills

Rank	Topic	% of 257 responses	Rank 2023
1	Financial Acumen	17	1
2	Innovation	13	3
3	Start Up	9	4
4	Business Acumen	8	
5	Communication	7	
6	Leadership	6	
7	Business Development	5	
8	Critical Thinking	4	
9	People Management	4	
10	Management	3	5
10	Commercial Awareness	3	
12	Adaptability	3	
12	Marketing	3	
12	Networking	3	

Resilience Skills

Responding to the question “Over the next 10 years, what Resilience skills will engineers need to develop?, *Adaptability* and *Mental Wellness* were the top two responses, the same as 2023. Notably, in third place under Resilience skills was *CPD/Learning*.

Resilience Skills

Rank	Topic	% of 176 responses	Rank 2023
1	Adaptability	16	1
2	Mental Wellness	15	2
3	CPD/Learning	13	0
4	Stress Management	11	5
5	Communications	11	4
6	Problem Solving	6	0
6	Change	6	7
8	Remote	5	2
9	Emotional Intelligence	4	0
10	Negotiation	3	7

Conclusion

Engineering remains a strong element of the Irish economy despite continued skills shortages. The field of engineering in Ireland is experiencing exciting transformations driven by technological advancements, sustainable goals, and the move towards digitisation. This is creating new engineering opportunities in infrastructure, offshore wind, and cybersecurity. By embracing these trends and overcoming obstacles, engineers in Ireland can shape a promising future and contribute to the country's sustainable growth.

The engineering profession in Ireland has numerous open doors, particularly in the fields of innovation, technology, and renewable energy. The Irish government's commitment to renewable energy and favourable business environment makes the country an appealing destination for engineering companies.