

Cheat sheet to education for medtech careers

Junior Certificate

English; Maths; Science; Business Studies; French; German; Technical Graphics; Construction Studies; Materials Technology (Wood); Metalwork (Materials and Technology)

Leaving Certificate

English; Maths; Biology; Physics; Chemistry; Engineering; Technology; Applied Mathematics; Construction Studies; Design and Communication Graphics; Geography; Accounting; Business

Undergraduate + postgraduate degrees

+ Biomedical Engineering Trinity College Dublin, University College Dublin, NUI Galway, University of Limerick, Dublin City University, Cork Institute of Technology

+ Mechanical/Manufacturing Engineering Trinity College Dublin, University College Dublin, NUI Galway, University of Limerick, Dublin City University, Dublin Institute of Technology, Limerick Institute of Technology, Galway Mayo Institute of Technology, Cork Institute of Technology, Waterford Institute of Technology, Athlone Institute of Technology, Institute of Technology Sligo

+ Computer Engineering Trinity College Dublin, NUI Galway, University of Limerick, Dublin Institute of Technology, Athlone Institute of Technology, NUI Maynooth

+ Electronic/Electrical Engineering Trinity College Dublin, University College Dublin, NUI Galway, University College Cork, Dublin City University, Dublin Institute of Technology, University of Limerick, Limerick Institute of Technology, Galway Mayo Institute of Technology, Cork Institute of Technology, Waterford Institute of Technology, Institute of Technology Sligo, NUI Maynooth

+ Polymer Engineering Athlone Institute of Technology, Institute of Technology Sligo

+ Industrial Engineering NUI Galway, University of Limerick

NEW industry-led apprenticeships

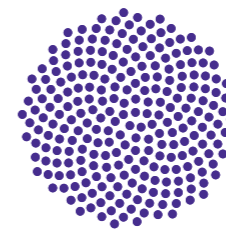
- Manufacturing Technician, Level 6
- Manufacturing Engineer, Level 7
- Polymer Processing Technologist, Level 7

Other key professional areas

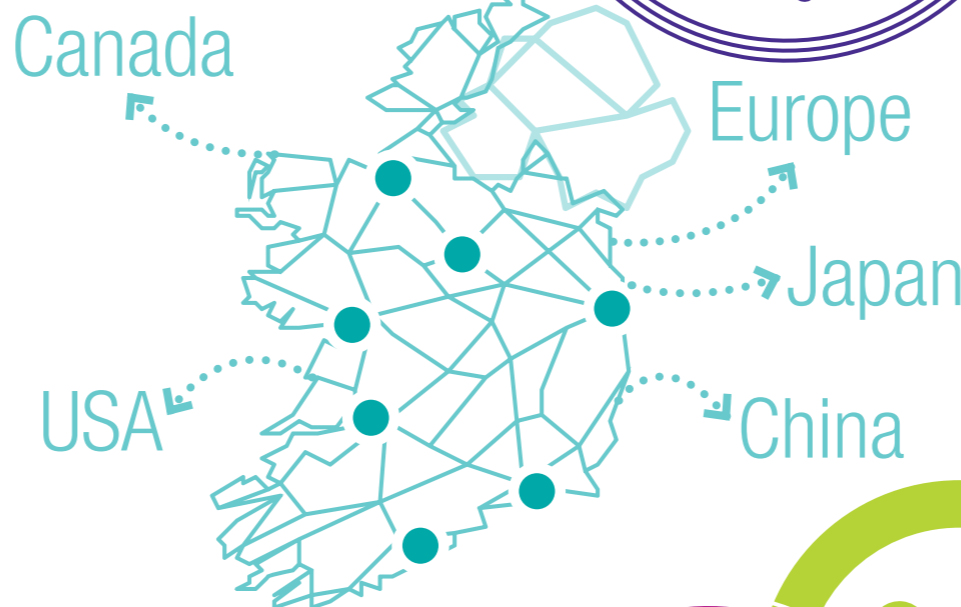
- Health economics
- Communications
- Modern languages
- Data analytics
- Quality and regulatory affairs
- Commercial, sales and marketing
- Human resources

Start local, think global with careers in medtech

35,000 people work in medtech in Ireland and 4,000 jobs to be added by 2020



Irish Medtech Association
Ibec



+ Galway, Cork, Dublin, Limerick, Sligo, Athlone and Waterford are key medtech clusters

2nd largest employer of medtech professionals in Europe, per capita

Get on the road to a career in medtech



Irish Medtech Association
Ibec

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18 of the world's top 25 medtech companies have a base in Ireland

Medtech champions

450 medtech businesses spread across Ireland

Julie Motherway

Product Development Manager, Stryker, Cork

Previous job roles:

- + Design Engineer, Stryker
- + Product Development Manager, Stryker
- + Program Manager, Stryker

Education

A lot of the boys schools offered applied maths and tech graphics which definitely helps in first year of engineering. You have less of a learning curve the first year.

- + BE Mechanical Engineering, UCD
- + PhD Mechanical Engineering, UCD
- + Certificate in Medical Sciences, RCSI

How did you first hear about careers in medtech?

During my engineering degree I organised a summer work placement in a Biomechanics Research in UC Berkley and that was my first exposure to biomechanics and engineering applied to biomedical applications. I found it extremely interesting and I really liked the impact you could make to others through that kind of application of engineering knowledge.

How has innovation changed in medtech in your experience?

I am only in medical devices for 5 years, but I have seen a drive towards new cutting edge technologies. In Stryker we have focused on robotic total joint replacement and additive 3D printing of implants.



Brian MacNamara

Product Owner, S3 Connected Health

Previous job roles:

- + Technical Product Manager, Aspire Technology
- + Technical Product Manager, TheNowFactory
- + CEM Consultant, Aran Technologies

Education

- + BTech IT and Telecommunications, University of Limerick
- + Higher Diploma in Operations Management Dublin City University
- + BTEC Irish Institute of Nutrition and Health (INNHI)

How did you first hear about careers in connected health?

I became aware of connected health through my own use of various pieces of technology for managing a health condition. I decided to get involved in the industry as I saw huge opportunities for using technology to empower people to better manage their own health.

What's good about working in connected health?

It's about more than just technology. Working in connected health provides opportunities for learning across a wide range of subject areas ranging from user experience design, psychology and behaviour change, through to quality and regulatory processes – while building products that make a difference to the day to day lives of patients.



What's interesting about device design?

Every project is different and there is always more to learn. There is a great buzz in seeing an idea of yours being developed into a product. The best part of the product development cycle is the concept generation phase because this allows the team to explore many different designs. As engineers we are happy 'making and breaking' things! It's also very rewarding designing products to help create better outcomes for patients.

How did you first hear about careers in medtech?

With a primary science degree and an interest in business I naturally fell into the healthcare industry starting in the pharmaceutical industry – I was aware of the growing medtech sector in Ireland and was keen to leverage my experience in a new area of the healthcare business.

What do you like most about working in medtech?

I have had the opportunity to travel the world as part of my work. However there is no greater reward than knowing that more people are able to get better faster as a result of the work you do. I could not be more proud of the work we do in Aerogen. It is a privilege to work in the medtech sector.

Colin Kavanagh

Device Technician, AbbVie Ireland, Ballytivnan, Sligo

Previous job roles: **Joined AbbVie at age 21**

Education

- + Level 6 in Polymer Technologies, IT Sligo
- + Level 7 in Polymer Processing (one year remaining), IT Sligo

My ambition is to become a polymer process engineer and be more involved in the design and conceptualisation of new products for the medical device sector. This is a really exciting area as you can help millions of people across the globe.

How did you first hear about careers in medtech?

My initial exposure to the medtech industry was through my family. Two family members happen to work for medtech companies and this gave me a valuable insight to potential career opportunities in the sector.

What do you like about your role?

What I like about polymer engineering is that it is an area that is constantly changing, with new products, materials and processes. We now have the ability to design prototypes using computer-aided design (CAD) based programmes and 3D print materials on site in less than 24 hours, which is an incredible development.

Samantha Forrest

Senior Quality Engineer, West Contract Manufacturing, Dublin

Previous job roles:

- + Quality Engineer, Nypro Healthcare
- + Validation Scientist, Diasorin

Education

- + BSc Bionalytical Science, Institute of Technology Tallaght
- + MSc Pharmaceutical Validation Technology, DIT

How did you first hear about medtech careers?

I heard about medtech careers through college through lecturers, career days, and company talks.

What do you like most about working in medtech?

No matter what your job is in a medtech company you are helping to bring life saving technologies to the market and people who need them the most. Quality engineering and validation are critical as without them there would be no way to ensure that the products produced are reliable, replicable, and meet specifications, therefore it would not be fit for its intended purpose and not safe for patient use.



Fionan Keady

Senior Research & Development Engineer, Cook Medical

Previous job role: **R&D, EnBio Ltd**

Education

- + BEng in Mechanical Engineering, University of Limerick
- + MSc in Bioengineering, Trinity College Dublin

How did you first hear about careers in medtech?

I was introduced to medtech through the co-operative education module or 'co-op placement' in UL which I completed in the engineering department of Cook Medical. This had a huge influence on my current career.



Tara Spain

Director of Global Marketing, Aerogen

Previous job roles:

- + Therapeutic Area Director and Head of the Women's Health Business, Abbott
- + Marketing, Roche Pharmaceuticals
- + Product Manager, Pfizer UK

Education

- + Primary Science Degree, Biochemistry, NUIG,
- + Postgraduate Diploma in Drug Development Sciences, University of Surrey, Guilford, UK
- + Executive MBA, UCD

