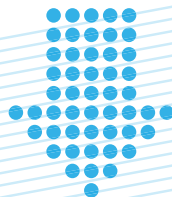




**LIVERPOOL  
CITY REGION**  
COMBINED AUTHORITY

**METROMAYOR**  
LIVERPOOL CITY REGION

So you're thinking of a career in...



# Advanced Manufacturing



**European Union**  
European  
Social Fund

**APPRENTICESHIP  
SUPPORT**

BY BE MORE



## What is the Advanced Manufacturing sector all about?



The Advanced Manufacturing sector is of vital importance to the future prosperity of the UK and the Liverpool City Region. Its continued and future success will be dependent upon the sector's ability to innovate and deliver world-class performance. Key to this will be a knowledgeable and highly-skilled workforce having the up-to-date skills required by employers. The Advanced Manufacturing sector and sub-sectors includes diverse areas such as: Automotive Manufacture; Aerospace; Pharmaceutical/ Chemical; Food and Drink; Engineering; Machining.



Do you have excellent attention to detail? Are you an analytical thinker? Do you have an interest in project management? Perhaps you want a career that involves ICT skills? If any of these sound like you, you might be interested in a career in the Advanced Manufacturing sector.

The sector employs close to **50,000** people



The Advanced Manufacturing sector generates over **£4.3bn** of economic value in the City Region



## Will there be opportunities and where are they?

With an ageing workforce, it is estimated that 30,000 employees will need to be replaced in manufacturing occupations over the next decade. Increasingly, Digital and IT Skills will underpin many job roles in Advanced Manufacturing, and in the future many roles will focus on new and emerging technologies and manufacturing processes covering areas such as:-

- Artificial intelligence, machine learning and data analytics;
- Additive manufacturing (3D Printing);
- Robotics and Automation;
- Virtual reality and augmented reality;
- The Industrial Internet of Things (IIoT) and connectivity (5G, LPWAN etc.)

There are some fantastic employers to work for locally including world-renowned brands such as Jaguar Land Rover, Unilever, Pilkington, Inovyn, Astra Zeneca, Alstom, ABB Group. Don't forget the supply chain businesses as well who can provide a wealth of employment and progression opportunities.


### QUICK FACTS



Employees in  
the sector represent  
**6.6%**  
of employment in  
the City Region but  
**13.9%**  
of GVA\*

Between  
2006-16 Advanced  
Manufacturing  
contributed **21%** of all  
Liverpool City Region  
GVA\* growth

**37%**  
of employees in the  
sector are over 50 so the  
sector will need to attract  
more young people  
into the workforce



\*GVA is the measure of the value of goods and services produced in an area, industry or sector of an economy.





## What types of jobs are available



### Design and Development Engineers

Design and development engineers conceive engineering designs from product ideas or requirements in mechanical, electrical and electronic engineering.

Annual Pay  
**£44,720**

Hours/Week  
**39h**



### Electrical Engineers

Electrical engineers undertake research and design, direct construction and manage the operation and maintenance of electrical equipment, power stations, building control systems and other electrical products and systems.

Annual Pay  
**£50,440**

Hours/Week  
**42h**



### Mechanical Engineers

Mechanical engineers undertake research and design, direct the manufacture and manage the operation and maintenance of engines, machines, aircraft, vehicle and ships' structures, building services and other mechanical items.

Annual Pay  
**£49,400**

Hours/Week  
**40h**



### Plant and Machine Operatives

Job roles in this group operate a variety of plant and machinery functions.

Annual Pay  
**£29,120**

Hours/Week  
**44h**



### Science, Engineering and Production Technicians

Job roles in this group perform a variety of technical support functions.

Annual Pay  
**£30,680**

Hours/Week  
**41h**

To search for further roles and salaries visit [www.Imiforall.org.uk/widget](http://www.Imiforall.org.uk/widget)



### Production Managers and Directors in Manufacturing

Production managers and directors in manufacturing plan, organise, direct and co-ordinate the activities and resources necessary for production in manufacturing industries including the maintenance of engineering items, equipment and machinery.

Annual Pay  
**£59,800**

Hours/Week  
**40h**



### IT Business Analysts, Architects and Systems Designers

Job roles in this group provide advice on the effective utilisation of IT and design IT systems in order to meet the business objectives or to enhance the business effectiveness of the organisation.

Annual Pay  
**£52,000**

Hours/Week  
**38h**



### Engineering Technicians

Engineering technicians perform a variety of technical support functions to assist engineers with the design, development, operation, installation and maintenance of engineering systems and constructions.

Annual Pay  
**£39,000**

Hours/Week  
**41h**



### Research and Development Managers

Job roles in this group, plan, organise, co-ordinate and manage resources to undertake the systematic investigation necessary for the development of new, or to enhance the performance of existing, products and services.

Annual Pay  
**£52,520**

Hours/Week  
**38h**



### Production and Process Engineers

Production and Process Engineers advise on and direct technical aspects of production programmes to ensure cost-effectiveness and efficiency. Jobs in this group include planning and control engineers and chemical engineers.

Annual Pay  
**£44,720**

Hours/Week  
**40h**

All hours and salaries are averages taken from [www.Imiforall.org.uk/widget](http://www.Imiforall.org.uk/widget)

What types of jobs are available?





## How to get into the sector



### Useful subjects to study:

**English and maths**

**Science**

**ICT/ Business Communications**

**Computer Science (including coding and systems analysis)**

**Art and Design/ Design and Technology (e.g. Art and Textiles, Product Design)**

**Electronics**

**Engineering (Mechanical and Electrical)**

### Important skills to have:

**Critical and Analytical thinking (including around 'big data')**

**Project management**

**Excellent attention to detail**

**Teamwork and working with others**

**ICT skills**

**Resilience, patience and problem-solving**

**Reliability and Punctuality**

**Literacy and Numeracy**





To search for further roles and salaries visit [www.lmiforall.org.uk/widget](http://www.lmiforall.org.uk/widget)

With more than **100,000 students**, of which **30,000 graduate** each year, Liverpool City Region offers you direct access to some of the world's best resources;

<b>Apprenticeships and Traineeships</b>	<p>Apprenticeships combine a job with practical training and study.</p> <p>Apprentices:</p> <ul style="list-style-type: none"><li>• Work alongside experienced staff</li><li>• Gain job-specific skills</li><li>• Earn a wage and be entitled to holiday pay</li><li>• Get time off the job for study related to your role (usually one-day a week)</li></ul> <p>If you are a young person aged 16 to 24 and would like to secure an apprenticeship but don't yet have the appropriate skills or experience then choosing a Traineeship as an option may help you acquire the entry requirements needed.</p> <p>Further information available at: <a href="http://www.apprenticeshiphub.org.uk/becomean-apprentice">www.apprenticeshiphub.org.uk/becomean-apprentice</a></p>
<b>Training Providers</b>	<ul style="list-style-type: none"><li>• School Sixth Forms</li><li>• FE Colleges including VI Form Colleges</li><li>• Independent Training Providers</li><li>• Adult and Community Learning Providers</li><li>• University Technical Colleges (UTCs)</li><li>• Studio Schools</li></ul>
<b>Universities and Higher Education Institutions</b>	<ul style="list-style-type: none"><li>• University of Liverpool</li><li>• Liverpool John Moores University</li><li>• Liverpool Hope University</li><li>• Edge Hill University</li></ul>





Find out more...



Virtual Engineering Centre: find out about  
the development and integration of  
Virtual Engineering technologies  
[www.virtualengineeringcentre.com/about](http://www.virtualengineeringcentre.com/about)



STEM Learning  
[www.stem.org.uk](http://www.stem.org.uk)



LCR 4.0 Expert knowledge and support for  
industry to help transform production  
[www.lcr4.uk](http://www.lcr4.uk)



LCR 4.0 Case study videos  
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