The UK’s first ‘Faculty on the Factory Floor’
www.ame.co.uk
A warm welcome

Let me introduce you to the Institute for Advanced Manufacturing and Engineering (AME).

We are at the beginning of an exciting journey, a journey that will create the UK’s first “Faculty on the Factory Floor” and a means of developing industry-ready engineering graduates, boosting UK economic growth and accelerating the process from innovation to application.

A lot has already happened. Construction on our dedicated manufacturing and research centre is underway, the Institute’s first research projects have already been secured and, I’m proud to say, we have received interest from all over the world for students looking to benefit from our unique learning experience.

This brochure will provide you with an insight into AME, what we are trying to achieve and how you can engage with us, whether you are a student, customer, supplier or research partner/funder.

We want you to be as excited as we are about what is happening. We want you to believe in what we are creating. We want you to play your role in driving an important change in the way we not only generate graduate engineers of the future, but also in how we develop new technologies for the global market.

There has been nothing like it before, this is your chance to shape history.

How will you get involved?

Dr Carl Perrin
Director of AME
A game changing collaboration

The Institute for Advanced Manufacturing and Engineering is a joint collaboration between two of the most influential organisations in industry: Unipart Manufacturing Group and Coventry University.

**Unipart Manufacturing Group (UMG) is a vital part of the Unipart Group, a global specialist in manufacturing, logistics and consultancy.**

Employing 800+ employees across six divisions, UMG delivers tailored solutions to some of the most critical manufacturing, engineering and supply chain problems in the world.

The company has been built on a proud history of serving the automotive industry and, today, applies the same engineering excellence when dealing with original equipment manufacturers in aerospace, power generation, supply chain and consultancy.

All of its operations share a commitment to invest in innovation and operate to ‘the Unipart Way’ – a philosophy of working underpinned by tools and techniques that inspire efficiency, flexibility and outstanding customer service.

UMG currently runs two joint ventures in the UK: Kautex Unipart Ltd and Unipart Eberspächer.

The latter’s site in Coventry will house the Institute for Advanced Manufacturing and Engineering (AME).

**Coventry University is an ambitious, business-facing university whose roots can be traced back to 1843 to the Coventry School of Design.**

Its Faculty of Engineering and Computing has a well-earned global reputation for research and teaching, driven by activity-led learning, business innovation and industry-focused research.

A £55m investment has created a state-of-the-art building for the Faculty and provides access to numerous technologies, including a brand new Computerised Numeric Control (CNC) manufacturing centre, engine test cell and dedicated facilities in composite manufacturing, metrology, and materials & joining.

Coventry University, which is the Sunday Times 2014 ‘Modern University of the Year’, currently works with some of the biggest names in industry, including Jaguar Land Rover, GE Aviation, Cummins and Intel.

Today, Coventry University employs over 3000 members of staff and boasts an annual turnover of £220m.
AME is building a bespoke manufacturing hub at Unipart Eberspächer’s site in the heart of the West Midlands. This will form the focal point of activity and will house state-of-the-art robotic automation, forming, joining, analysis and simulation, metrology and product verification technology.

Furthermore, our unique manufacturing courses have been shaped by some of the leading minds in academia and industry, with the focus on activity led, ‘live project’ learning.

O UR VISION
To create a unique ‘live’ manufacturing and engineering environment that inspires the next generation of engineers and develops the powertrain technologies of tomorrow.

Introducing the Institute for Advanced Manufacturing and Engineering (AME)

Are you ready for the UK’s first ‘Faculty on the Factory Floor’?

The Institute for Advanced Manufacturing and Engineering (AME) is a £32m+ collaboration between Coventry University and Unipart Manufacturing Group. AME is part-funded by the Higher Education Funding Council for England (HEFCE).

We are bringing together the best in academia, industry and R&D in a live manufacturing environment, with the aim of:

- Developing industry-ready engineering graduates
- Accelerating powertrain related technologies for automotive, aerospace, oil and gas, power generation and rail
- Disseminating research and new technologies for the benefit of Unipart, its suppliers and industry
- Driving economic growth by making the UK globally competitive

A unique learning experience has arrived...

AME is building a bespoke manufacturing hub at Unipart Eberspächer’s site in the heart of the West Midlands.

This will form the focal point of activity and will house state-of-the-art robotic automation, forming, joining, analysis and simulation, metrology and product verification technology.

Furthermore, our unique manufacturing courses have been shaped by some of the leading minds in academia and industry, with the focus on activity led, ‘live project’ learning.
Supporting growth in UK engineering and manufacturing

Engineering and manufacturing are vitally important to the UK economy and in 2011 were responsible for:

- 46% of all UK exports
  Source: House of Commons manufacturing brief July 2012 SN/EPP/1942
- 72% of R&D spend
  Source: Business Enterprise Research and Development 2011
- 9.8% of total national employment
  Source: ONS: EMP/13: All in employment by industry sector Aug 2012

And they are growing...

However, skills continue to be the biggest issue and the current talent pool does not meet demand.

- 82,000 engineers, scientists and technologists need to be recruited and trained in the UK by 2017
  Source: Semta//IER Employment Forecasts 2012
- 363,000 of the 2011 technical workforce was qualified below world-class standards
  Source: Labour Force Survey (LFS) 2011
- In 2011, only 21% of the sector workforce was female
  Source: Labour Force Survey (LFS) 2011

Our courses aim to address the need for more graduate engineers that can enter industry and have an immediate impact. All students will be provided with training in the Unipart best practice manufacturing methodology and given the opportunity to benefit from working with some of the most talented engineering professionals in the UK.

Global Advantage

AME also aims to use its facilities and knowledge to help secure funding opportunities for research projects focused on aerospace, automotive, oil and gas, power generation and rail.

Our vision is to help arm the UK industry with the skills, technologies and competitive advantage required to trade globally, creating jobs across the supply chain and generating hundreds of millions of pounds every year.
AME’s vision is to bring together the best minds in academia, the best people in R&D and the best professionals in industry.

Who is AME for?

AME has been created with collaboration at its heart and this is the approach we are adopting going forward.

We need to build mutually beneficial relationships and harness skills, expertise and influence from our customers, our suppliers, our partners and, over time, other universities.

So how will you benefit?

Undergraduate and Postgraduate students will experience unique learning opportunities by training on ‘live’ manufacturing projects and accessing cutting edge technologies.

Our customers will have the opportunity to be involved with the relevant research projects we undertake, ensuring new processes and technologies are developed to achieve product innovations, cost savings and increases in sales.

Suppliers will be able to use knowledge gained through research to help improve performance and open up new market opportunities.

We are encouraging our partners to work with us to identify and explore new technologies for growth markets that will attract high profile research projects.

There are no barriers to innovation with AME and we are keen to hear from industry on other collaborations we can pursue.
All this, delivered on ‘live’ manufacturing projects by some of the best industry professionals and academic minds.

Undergraduates and postgraduates from the UK and overseas will benefit from this unique experience. They will train on state-of-the-art machinery, test their skills on new processes and play an important role in bringing new technologies to a global marketplace.

Students will work towards either BEng, MEng (Hons) or MSc in Manufacturing Engineering over three, four or one year respectively, with the opportunity to apply for industry internships, company placements and possible employment opportunities with Unipart and its wider supply chain.

We also have a number of sponsored undergraduate scholarships available, worth up to £3000 per year.*

Away from the factory floor, students will enjoy all the opportunities and rich social life that comes from studying at Coventry University, awarded Modern University of the Year 2014 by The Sunday Times.

AME offers a blend of innovative activity-led teaching, product development and research to create a unique learning environment.

Why study with us?

AME offers a blend of innovative activity-led teaching, product development and research to create a unique learning environment.

All this, delivered on ‘live’ manufacturing projects by some of the best industry professionals and academic minds.

Undergraduates and postgraduates from the UK and overseas will benefit from this unique experience. They will train on state-of-the-art machinery, test their skills on new processes and play an important role in bringing new technologies to a global marketplace.

Students will work towards either BEng, MEng (Hons) or MSc in Manufacturing Engineering over three, four or one year respectively, with the opportunity to apply for industry internships, company placements and possible employment opportunities with Unipart and its wider supply chain.

We also have a number of sponsored undergraduate scholarships available, worth up to £3000 per year.*

Away from the factory floor, students will enjoy all the opportunities and rich social life that comes from studying at Coventry University, awarded Modern University of the Year 2014 by The Sunday Times.

Studying with AME, you can:

- Have the opportunity to gain BEng/MEng/MSc Degree level qualifications in engineering and manufacturing
- Access training on industry-leading machinery, automation and technology
- Work with experienced industry and research professionals on ‘live’ shop floor projects
- Explore lean manufacturing processes and tools, such as 5S, Six Sigma and value stream mapping
- Be involved in ambitious research projects on new powertrain technologies
- Accelerate your career progression, with management training and access to further learning

Studying with AME can help you to future proof your skills and accelerate your career in engineering and manufacturing.
AME has been developed with the ambition to support the growth of UK industry by providing a pipeline of skilled engineering graduates to begin solving the much publicised skills shortage.

This is just one part of our offer.

We will also aim to attract and deliver cutting edge research projects designed to test and develop the latest technology in priority areas, such as fuel systems and powertrain in automotive, aerospace, rail, power generation and oil & gas.

This could be used immediately to help Unipart Manufacturing Group develop the next generation of products for its global customer base, before being disseminated across the company’s supply chain and other globally recognised organisations.

As AME continues to evolve, we will look to engage with manufacturing businesses, funding partners and other Universities to harness collaborative expertise on projects that maximise our ‘Faculty on the Factory Floor’ and the research team’s wealth of specialist knowledge.

AME will work with manufacturing businesses to develop the engineering curriculum and arrange exciting projects with schools.
AME aims to accelerate the process from innovation to application

Engaging with funders and research partners

AME’s vision is to become a world class facility for exploring and challenging tomorrow’s manufacturing and engineering technologies.

The emphasis is on driving forward the UK’s global competitive advantage in fuel systems and powertrain by researching and delivering solutions for:

The purpose built ‘Faculty on the Factory Floor’ is the hub of the research activity and provides an environment that will allow professors, researchers and industry professionals to work together to develop anchor technologies, including joining, forming, simulation process verification and materials.

It is an approach that is driven by the desire to deliver ‘excellence with impact’, a desire that has already secured AME’s first research projects in:

- Next generation fuel rails for a high volume car manufacturer
- Zero prototyping to improve the speed and reduce the cost of the design cycle

This is just the start…
Are you ready to benefit from the UK’s first ‘Faculty on the Factory Floor’?