The continued success of WMG, over the past thirty-four years, is the result of cutting-edge research, renowned education programmes and knowledge transfer, working in partnership with companies around the world. As one of the world’s leading research and education groups we are cited frequently as an international role model for how academia and industry can work together successfully.

I feel passionately that UK organisations should exploit exciting new technologies and produce high-quality innovative products and processes in order to succeed on a global stage. There is a clear role for universities in applying their knowledge and skills to business and technology challenges.

At WMG, innovative thinking is at the heart of everything we do. In a global environment, technology and products are fundamental to developments in all industries. We have taken the knowledge and expertise we have built in the manufacturing sector and applied it successfully to other sectors. Through our multidisciplinary approach we provide organisations of all sizes with opportunities to engage in hi-tech research, development and innovation, leading to new processes and products or services that customers actually want.

For example, we have a partnership with Tata Steel researching and developing steels processing. This will focus on the physico-chemical aspects relating to iron and steel manufacturing and usage, including ore reduction, alloy chemistry and cleanliness control, segregation, and scaling.

We are also creating the National Automotive Innovation Centre which will develop new technologies for low carbon mobility, working with partners from OEMs to component makers to create a critical mass of research capability. We’ll work with supply chain partners and the UK Automotive Council, as well as research laboratories in the US, India, Japan, and China. The Centre will also address the shortage of skilled R&D staff in the automotive supply chain, creating a pipeline of people into companies.

Through the delivery of our undergraduate, postgraduate and post-experience education we are enabling inspirational leadership by transferring our valuable knowledge and expertise to students at all stages of their careers. We are a leading international centre for engineering, technology and business management studies with a network of UK and overseas centres. Collaborating with business and other organisations, we have developed focused programmes based on real-world scenarios that enable our students to succeed in a constantly changing international environment.

Professor Lord Kumar Bhattacharyya, KT, CBE, FREng, FRS
Chairman of WMG, University of Warwick
About WMG

WMG was founded by Professor Lord Bhattacharyya in 1980 to help reinvigorate UK manufacturing. From its inception, WMG’s mission has been to improve the competitiveness of organisations through the application of value adding innovation, new technologies, and skills deployment, bringing academic rigour to industrial and organisational practice.

Today we are one of the world’s leading research and education groups, with over 500 people working across six buildings on the Warwick campus plus collaborative centres in seven countries. We have an annual programme of £180 million which includes industrial and collaborative centres in seven countries.

An academic department of the University of Warwick, we are at the forefront of innovative technology, leading major multi-partner projects to create and develop exciting new processes, products, and services that can lead to major breakthroughs and be of huge benefit to organisations, both in the UK and globally.

These projects have seen us impact a wide range of sectors including automotive, aerospace and defence, digital, construction, energy and utilities, finance, food and drink, healthcare, IT, pharmaceutical and rail.

We have collaborated with government sponsored bodies, the NHS, innovative SMEs, and global corporations such as Airbus, AstraZeneca, Auto Insulations Limited, BAE Systems, Bladon Jets (UK) Ltd, Bosch Ltd, Buehler, Drayson Racing Technologies LLP, GlaeserSmithKline, Jaguar Land Rover, Lloyds Banking Group, Network Rail, Rolls-Royce, Siemens, Simpact Limited, Tata Motors, Tata Steel and TVS Motor Company, to name but a few.

We are a leading centre for world class management studies, offering unparalleled innovative postgraduate and professional education programmes that meet business and industry needs. We attract high calibre students and executives, and in the academic year 2012/13 we awarded over 900 Master’s degrees and around 400 Professional Awards.

The development of the WMG Academies for Young Engineers is part of two new and exciting learning campuses catering for 14 - 18 year olds from Coventry, Warwickshire, Solihull, and Birmingham. We will be working alongside some of the largest employers in the region to deliver a dynamic curriculum, underpinned by a radical learning and teaching approach designed around the needs of both students and employers.

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For more than thirty years Professor Lord Bhattacharyya has been at the heart of business and a powerful advocate for manufacturing. Over that time he has grown WMG into an international research and education group working in a wide range of sectors, from automotive research to innovations in healthcare.

Chairman’s Profile

For more than thirty years Professor Lord Bhattacharyya has been at the heart of business and a powerful advocate for manufacturing. Over that time he has grown WMG into an international research and education group working in a wide range of sectors, from automotive research to innovations in healthcare.

Professor Lord Bhattacharyya advises many companies and governments on matters of industrial policy and strategy, manufacturing, innovation and technology. He was a member of the UK Government’s Council for Science and Technology and he is closely associated with many organisations in countries including China, India, Malaysia, Singapore, Thailand and South Africa. He served as a scientific adviser to the South African government for many years.

Professor Lord Bhattacharyya has advised on several large scale inward investments in the UK, most recently the Tata acquisitions of Corus and Jaguar Land Rover. He has been intensively involved with the British automotive industry enabling the development of new technologies, products and manufacturing processes, and the professional development of company engineers and technologists. The new National Automotive Innovation Centre, opening in 2016, is a further marker of Professor Lord Bhattacharyya’s achievements.

He has spoken extensively in the field of manufacturing and has received many international honours and awards and honorary doctorates from universities around the world. In 2014 Professor Lord Bhattacharyya was elected to the Fellowship of The Royal Society for his contribution to engineering research and education. In 2011 The American Society of Manufacturing Engineers awarded him an Honorary Membership, the only person from outside of the USA to be awarded this in the last ten years. He was honoured in January 2002 by the President of India with one of India’s highest honours, the Padma Bhushan, for services to science, technology and industry.

For the past 20 years, he has worked with the Confederation of Indian Industry and numerous companies including Tata Motors, Bharat Forge and TVS Motors. Professor Lord Bhattacharyya chaired the UK Manufacturing Excellence Awards for many years, and he is currently the Chair of the Judges of Singapore’s MAXA.
Global Influence

Our research and education programmes have had a global impact for over thirty years, with our staff recognised as international experts in their respective fields. By establishing long-term collaborative partnerships, we are able to deliver innovative solutions to address major challenges, making a significant positive impact on economic growth, society and the environment.

We work with entrepreneurial leaders in organisations of all sizes located and operating all around the world. Many of these are global leaders in their respective marketplace, for example China Aerospace, GE Healthcare, Goodrich, IBM, Nikon, Larsen and Toubro, PTC, Siemens, and Tata. Our multi-sector approach enables us to work closely with industry, advising and applying our knowledge to develop innovative products, services and processes that enable companies to improve their international competitiveness.

As advocates of manufacturing, innovation and technology, our senior staff provide policy advice to the UK government and research organisations.

We also provide advice to many overseas governments, who regularly visit the Group to study how we operate in order to develop similar initiatives in their own countries. Pioneers of working with businesses, we have hosted many high profile visits to show the impact universities can have on industry and were cited in the Lambert, Wilson and Witty reviews on university and business collaboration.

All of our activities benefit from the rich global understanding that our international presence provides.

China
WMG has worked with China for thirty years through programmes delivered in Beijing, Hangzhou, Hong Kong, Kunming and Wuhan. Through a long-term relationship with SAFeA, the Chinese Government body responsible for all overseas training, we have worked with over 1,100 senior managers from a wide range of sectors in targeted education programmes. In collaborative R&D we work with companies and universities in China and the UK, including SAIC Motor Corporation and the University of Science and Technology Beijing.

Europe
We work closely with research and technology teams to provide direct support to European companies in their facilities, as well as working with them on a wide range of collaborative R&D projects, for example those supported by the EU Framework Programme for Research and Innovation and the new Horizon 2020 Programme.

India
In 1995, we forged a long-term partnership with the Confederation of Indian Industry, through which our programme is delivered at a number of sites across India. Our partnership with IIT Kharagpur, which was the first of India’s prestigious Indian Institutes of Technology (IIT) and IIT Bhubaneswar, covers all aspects of research, education and knowledge transfer, with a range of collaborative projects and an active programme of staff and student exchange. We work closely with major companies in India including Bharat Forge, Tata Motors, Tata Steel and TVS Motors.

Latin America
We regularly host delegations from government, industry and universities in Latin American countries looking to build on our model (or effective university/business collaboration). Individuals come to the UK to study on our Master’s programme from countries including Brazil, Chile, Colombia and Mexico.

Turkey
We deliver our R&D Technology Management Programme through a partnership with Yıldız Technical University to innovative companies in Turkey and are actively involved in the science and innovation landscape in Turkey.

United States
We work with many global companies headquartered in the USA, delivering programmes with them in the United States and in their global operations. We have received visits from State Governors and Mayors interested in reproducing the impact that a WMG-type organisation can make. For example, after a visit to WMG by the Mayor of Indianapolis, we are linking up with academia and industry across Indiana in joint initiatives, including Purdue University’s involvement in our International Doctorate Centre. Major research collaborators include Carnegie Mellon University, where we are working together on research and teaching in data acquisition, analysis and processing for next generation applications. This will bring together our expertise in cybersecurity, energy storage, materials and surfaces, and robotics, with CMU’s expertise in autonomous systems, cybersecurity, digital healthcare, machine learning and sensing and data processing. Activities will underpin strategic initiatives at the two universities, including Warwick’s Global Research Priorities and CMU’s Brain Initiative, City 21 and Traffic 21 initiatives.

www.wmg.warwick.ac.uk
Collaboration with Business

We are continually growing our research and development capabilities, working with entrepreneurial leaders in organisations of all sizes across a diverse range of sectors. In order for companies and organisations to stand out, the need to invest in research and development has never been greater. Working in collaboration with an internationally renowned university research group gives access to a wealth of expertise. We are at the cutting edge of knowledge transfer, whether through strategic and applied research or blue skies thinking.

Our reputation and success have been built on working collaboratively with companies and organisations regionally, nationally and internationally, to help them create innovative products, processes and services. Developing partnerships enables us to understand the current and future challenges that industry faces, so that we help turn innovation into marketable products. Whether a local SME or a global multinational, our collaborators have benefited from our academic and industrial expertise. Three major programmes that enable us to deliver our research and knowledge transfer are: the WMG centre High Value Manufacturing Catapult, the Institute of Digital Healthcare, and the International Institute for Product and Service Innovation.

Over the last few years we have continued to develop our relationship with Tata Steel, Jaguar Land Rover and Tata Motors. All have dedicated teams of R&D staff working in our buildings on the University campus. JLR and Tata Motors are also partners with us in the National Automotive Innovation Centre (NAIC). The Centre will address the shortage of skilled R&D staff in the automotive supply chain, creating a pipeline of people into companies. The research focus of the Centre includes hybrid and electric vehicles, carbon reduction, and smart and connected vehicles. See page 15 for more information.

WMG centre High Value Manufacturing Catapult

The High Value Manufacturing (HVM) Catapult is a government initiative to support a range of industrial sectors and accelerate the transfer and commercialisation of new and emerging technologies into world beating products and services. The WMG centre HVM Catapult focuses on the global challenge of Low Carbon Mobility, with a whole systems approach exploiting our capabilities in Lightweight Product/ System Optimisation, Energy Storage and Management, and Digital Validation and Verification.

The Institute of Digital Healthcare

The Institute of Digital Healthcare aims to improve people’s health and wellbeing through the development, evaluation and implementation of innovative digital technologies. It is a partnership between ourselves, the NHS and Warwick Medical School. By supporting the design and implementation of digital solutions the Institute seeks to improve the quality, safety, accessibility and productivity of healthcare.

This is achieved through applied multidisciplinary research in the areas of biomedical and health informatics, big data analytics, medical imaging in clinical and neuroscience settings, health systems engineering, biomedical sensors and signals, systems modelling and simulation, and health and innovative interventions for behavioural change and assistive and healthy living technologies.

SME Innovation Programmes

The focus within our Innovation Programmes is accelerating SME economic growth through research-led innovation. Building on strong, sustainable, collaborative relationships with SME businesses and partner organisations, our SME programme activity includes intensive projects in which ideas are realised, collaborative R&D, demonstration of new ideas, technology sandpits and horizon scanning. In parallel to innovation support, an education programme helps small businesses understand global challenges, encouraging business leaders to introduce new thinking to gain competitive advantage.

Since 2007, our dedicated SME team has worked with over 12,000 SMEs to enable businesses to innovate and bring user focused products to market. Our knowledge exchange services are linked directly to our research base and emerging technologies, providing small businesses with a conduit to create competitive advantage and generate growth.

An Innovation Programme, operating through the International Institute for Product and Service Innovation, encourages SMEs to embrace new technology, processes and ideas to develop new products and services. This is achieved through a range of activities including workshops, technology demonstrations and customised projects.

Of the collaborative research projects undertaken, a number of innovative new products have been developed. Several of them have hit the headlines including: LightwaveRF with its novel user-led energy management and control system, Barkley Plastics Ltd’s storage solutions for phone accessories, and CMK Ltd’s novel bicycle mudguard – the Mudhugger.

In just one year of the Innovation Programme the SME team assisted over 115 new jobs in the West Midlands. Funding has also been provided for 25 small businesses to take on skilled interns to help them develop new products or services.
Research

Research Profile
Our success is underpinned by a culture of research excellence, creating impact for our partner companies and organisations both nationally and internationally. We achieve this through our internationally leading academics and our state-of-the-art research facilities and infrastructure. Our vision is to deliver high quality, interdisciplinary research to achieve global impact in the fields of low carbon mobility, healthcare, and infrastructure. We have invested heavily in our world class academic, who all share a passion for applied research. Recent appointments have been made in the areas of materials processing, cyber security, advanced propulsion, structural composites, e-health innovation, nanocomposites, supply chain and operations, automation systems, vehicle electrification and energy storage, low carbon materials, energy for low carbon vehicles, and digital manufacturing.

These new appointments come alongside a period of significant infrastructure expansion for WMG. Three new R&D centres provide WMG’s academics and researchers with the scope to work even more closely with collaborative partners from industry. Driven by research teams that combine both industrial and academic experience, we have been successful in attracting a broad portfolio of funding from the Technology Strategy Board (TSB), Engineering and Physical Sciences Research Council (EPSRC), European Union, Royal Academy of Engineering (RAEng), as well as industrial funding from project partners.

The Research Assessment Exercise 2008 confirmed the University of Warwick’s position as one of the UK’s leading research universities, ranking 7th overall of the UK multi-faculty institutions. A total of 56% of the University’s research activity is at a quality level of either 3* or 4*, and in the unit of assessment that included WMG, 70% of research was ranked 3* or 4*. Warwick is also continually ranked within the top 10 UK universities.

Both programmes are designed to equip future entrepreneurs, researchers and business leaders with the high-level knowledge and research capability essential to compete in today’s global marketplace. Our students are given the environment to explore fully an issue which will have a commercial impact.

EngD
Our International Doctorate Centre was launched in 2001, backed by the Engineering and Physical Sciences Research Council (EPSRC) and building on the pioneering Engineering Doctorate (EngD) we established more than 20 years ago. In 2004 we were awarded a new EPSRC Centre for Doctoral Training in Sustainable Materials and Manufacturing. We now offer two EngD (International) programmes, a single award from the University of Warwick, and a joint award from the Universities of Warwick, Cranfield and Exeter. These have their research focus in the areas of high value, low environmental impact manufacturing, and sustainable materials and manufacturing respectively.

Both Centres bring together research entrepreneurs with sponsoring companies that have real world challenges to solve. Students are able to divide their time between the University and their sponsor company.

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Research Degrees
Building on our reputation for delivering award-winning postgraduate education, we offer the opportunity to combine doctoral-level research with business relevance through our Doctor of Philosophy and Engineering Doctorate (International) degrees.

Our current industry partners include Alstom, Albañarre, BAE Systems, Jaguar Land Rover, FTI, Tata Motors and Tata Steel. We are also supported by a large number of international academic partners including Monash University in Australia, Purdue (USA), Fribourg (Switzerland), Kyoto (Japan), IIT Bangalore (India), British Columbia and McGill (Canada) and Jonköping (Sweden).

Combining industrially relevant research, taught courses, group projects, international placements and networking opportunities will enable our doctoral researchers to excel as industry entrepreneurs. With the close involvement of a sponsoring company they gain an understanding of academic, business, cultural, and environmental issues in global manufacturing nations, thus enabling them to become future leaders.

PhD
The traditional PhD route focuses on contributing to a body of knowledge in a chosen field. Students on our Doctor of Philosophy in Engineering (PhD) programme are trained in rigorous research methods that will allow them to become part of an international community of scholars and industry leaders. They will discover, interpret and communicate new knowledge through original research, and present and defend research outcomes which extend the boundaries of their chosen discipline.

Our current students are researching areas as diverse as brain-computer interfacing, cost modelling in the oil and gas industry, 3D printing for bone tissue engineering, and electrospun nanocomposites. Our PhD graduates have gone on to work in high profile academic institutions across the world, as well as rising through the ranks of multinational companies in sectors such as automotive, aerospace, information technology, finance and civil engineering.

To make a big impact you need critical mass in expertise, laboratories and equipment. Private companies don’t give [money] as charity. In return for [investment] they will expect output, and we have a track record of excellent output over the past 25 years. This allows us not only to do impactful research, but to train people - creating top class researchers and entrepreneurs who will go on to be leaders on the global stage.

Professor Lord Bhattacharyya, Chairman and Founder
We educate people to understand the bigger picture, encouraging students and delegates to implement new ways of thinking. We have been educating the leaders of tomorrow for over thirty years and we have seen over 28,000 individuals studying with us on a full-time or part-time basis in the UK and abroad. In the academic year 2012/2013 we awarded over 900 Master’s degrees and around 400 Professional Awards.

Our educational offering now covers all stages of the education pathway, from school students, to undergraduates and postgraduates, to senior professionals. This provides a clear progression route (for those wishing to study engineering or management) and to establish a career in academia or in engineering, manufacturing or technology-led commercial organisations. The majority of our academic and teaching staff have industrial or business backgrounds, which translates into innovative courses with real-world applications.

Being awarded the Queen’s Anniversary Prize for Higher and Further Education in 2009 was a tremendous honour and highlights that our philosophy of providing academic excellence with a clear business focus is a winning formula.

WMG Academy for Young Engineers

The Academy consists of two WMG Academies for Young Engineers is part of the Government-backed initiative for University Technical Colleges. WMG’s two exciting new learning campuses will cater for up to 14-year-olds from Coventry, Warwickshire, Solihull, and Birmingham, giving students the skills they need to become the UK’s future inventors and engineers. We will work alongside some of the great employers in the region to deliver a dynamic curriculum, underpinned by a radical learning and teaching approach designed around the needs of both students and employers.

Undergraduate Programmes
Our full-time undergraduate degrees (taught in partnership with the School of Engineering) enable students to benefit from a range of expertise and facilities. Learning from staff who teach internationally and who also have immediate access to our research base enables students to reach their highest goals, both personally and through teamwork. For example we have multi-disciplinary student teams competing annually in competitions across the world, including the Formula Student Competition at Silverstone, the European International Submarine Race, and International Robosub Rescue in Germany.

Our part-time undergraduate degree, the Applied Engineering Programme, enables employees of engineering and technology-led companies to obtain a Bachelor’s in Engineering whilst working, and gives companies the opportunity to develop their workforce through access to key skills and latest thinking.

Full-time Master’s Programme
Our Full-time Master’s programme delivers a challenging and rewarding academic experience to over 500 students per year. We welcome students from 60 different countries each year, who study with us for our expertise and innovative teaching methods. Students work practically with their studies and are well equipped upon graduation to apply their knowledge and competences in the workplace.

Our integrated and flexible portfolio of Master’s degrees is designed to develop skills in management and leadership for students with a technical background, or those wishing to work within technology based organisations. We are continually developing our offering and have recently added programmes in Innovation and Entrepreneurship, Cyber Security and Management, and Service Management and Design.

The modular structure of the programme gives students an extensive range of business and management, operational, and technical subjects to choose from. Interactive lecturing is supported by real-life case studies, industrial games, syndicate exercises and small group projects which enable the theory and academic content to be put into context.

Alongside the academic programme, we offer industrial visits to local, national and international companies. Guest speakers from industry and government are regularly welcomed and students have the opportunity to attend lectures and seminars from distinguished researchers.

Professional and Executive Programmes
Our part-time professional education programmes have been developed in partnership with engineering, manufacturing, technology and service-led companies to ensure benefit to both employer and employee through business relevance and academic excellence.

Since 1981 we have offered high quality professional education at both postgraduate and post-experience level, including part-time Master’s degree, intermediate awards, and short courses to bring employees up to date with the latest thinking. In 2013 we added to our portfolio with the launch of our first part-time undergraduate course, leading to a Bachelor’s in Engineering (see opposite).

The high level of flexibility available across our postgraduate and post-experience programmes ensures that we continue to meet the needs of busy professionals through a wide range of modules and progression pathways. The networking opportunity that is brought into the classroom is another major benefit. Many of our Master’s degrees are also approved by professional bodies such as the IET, CIPS and CICT, which enables delegates to build towards Chartered status.

We are experts in creating customised programmes for global companies that deliver educational solutions to meet their particular business needs. With active collaborations across a variety of sectors we tailor programmes to the customer and can deliver these both in the UK and overseas.

The Supply Professionalism Programme developed for Syngenta and AstraZeneca, or the Technical Accreditation Scheme developed for Jaguar Land Rover, are excellent examples of what we can offer. Our Manufacturing Awareness Programme, developed for Relationship Managers working with clients in the manufacturing sector at Lloyds Banking Group, is now in demand with a number of banking, law, and accountancy firms who have customers working in the manufacturing industry. Our Stepping Stones programme, developed jointly with WBS (Warwick Business School) for Network Rail, achieved a Highly Commended in Network Rail’s Partnerships Awards 2011 for ‘Investing in People’.

www.wmg.warwick.ac.uk
Education

Overseas Programmes

Master’s level education programmes are delivered by WMG staff both in the UK and across seven countries, in collaboration with nine international partner institutions who have vital knowledge of the local industrial and economic context. These centres are in China, India, Malaysia, North Cyprus, Singapore, Thailand and Turkey, enabling us to deliver our programmes to an international market.

Our part-time programmes continue to attract students from a wide range of companies and sectors, which provides a rich learning environment. Programme streams include Engineering Business Management, International Technology Management, Programme and Project Management, and Supply Chain and Logistics Management. Through a system of intensive modular study and the completion of their work-based project/dissertation, employees transfer the learning immediately back into the business.

In recent years we have also introduced the option to study on a full-time basis in some of our collaborative centres, including Cyprus and Singapore. This format draws on the award-winning model used for our UK-based Master’s programme. These courses are designed for those who want to complete their Master’s degree within one year.

The modules that are available at our overseas centres are delivered by our own staff, with input from local experts. Modules are tailored to meet local needs, both through their content and the delivery schedule, and projects and dissertations (whether part-time or full-time) are supervised by local staff appointed by our collaborative partners and approved by us.

Since 2006 we have been delivering a variant of our MSc in Engineering Business Management for Bharat Forge, India. Their middle and senior managers, primarily from engineering and manufacturing functions, across Germany, Sweden, USA, and India, undertake the course at their headquarters in Pune, India. Other customised programmes in India include those with Tata Group, TVS, Bombay Dyeing and Bajaj Auto. With TVS we have developed a Project Management Academy for TVS employees, delivering four separate three-day modules over a period of six months. At Tata Group we have delivered short courses, including Project Management.

We have also seen a growing appetite in China for our expertise in Project Management. Supply Chain and Logistics Management and some 1,110 senior managers have now benefited from studying with us. Our core programme, which is supported by China’s State Administration of Foreign Expert Affairs (SAFEA), attracts over 200 Chinese executives each year. Courses are specifically developed for each cohort, typically with an intensive two month period of teaching and project work both in China and at Warwick for senior managers from many of the major state-owned industries and institutions. This includes companies in banking, construction, oil and gas, the automotive industry, aviation, aerospace, transport, and defence, in addition to the provincial governments.

Being offered a scholarship to study at WMG was the beginning of an exciting journey of academic, professional and personal development. The MSc in Engineering Business Management surpassed my expectations. The practical elements of the programme were of huge benefit. As well as academic study across a range of subjects including project management, logistics and supply chain management, strategic marketing and financial control, there were lots of real-life case studies.

Cindy Liu, Engineering Business Management graduate

Alumni

We are proud of the accomplishments and the contributions that our alumni give to their chosen industry / profession, communities and beyond, and we are continuing to develop a strong international alumni network of graduates from across all of our education programmes.

Our graduates are highly sought after by leading employers and enjoy excellent career options, joining companies such as Jaguar Land Rover, Samsung, Mars, JP Morgan, IBM, Unilever, BMW, Lloyds Banking Group, PricewaterhouseCoopers (PwC), Adidas Group, Lotus Engineering, Shell and Tyco.

Those on part-time Professional Programmes have seen their careers develop significantly since studying with us, moving onto senior management and CEO roles. We have also seen a number of successful entrepreneurs developing multimillion pound businesses.

This growing alumni network affords additional opportunities for continued relationships after graduation. We are currently developing an exciting new proposition that will provide a landscape of opportunities to expand both professional and social alumni networks at local, national and international levels.

In addition to the provincial governments.

www.wmg.warwick.ac.uk
We currently have six buildings on the University campus. Five are focused on research and development, with the sixth dedicated to delivering education.

**International Manufacturing Centre**

The International Manufacturing Centre (IMC) is our headquarters. This is where a range of our manufacturing and automotive research capabilities are housed.

The Engineering Hall showcases our cutting edge collaborative research in forming, joining, and performance of engineering material (steels, light alloys, composites and hybrids) through a number of demonstrators and research projects. Warwick Formula Student, Warwick Submarine and Warwick Mobile Robotics teams have their own labs here to help them prepare for their annual national and international competitions. Working alongside our R&D teams and technicians, undergraduate engineering students gain valuable hands-on experience through their student projects.

Within the IMC there are also microscopy laboratories, an audio listening suite and a range of advanced metrology facilities including a 3D Visualisation Suite, Micro Computed Tomography (CT) Scanner and Coordinate Measuring Machines.

Facilities within the Centre include forming presses, computer controlled cutting, resin mixing/injection, plasma treatment and joining facilities.

**Automotive Composites Research Centre**

The Automotive Composites Research Centre (ACRC) is a £2.3m extension to the IMC. The Centre’s focus is on lightweight vehicle technologies and manufacturing capability for polymeric composites. It provides industry with hands-on technical expertise and equipment to develop lightweight structures.

Facilities within the Centre include forming presses, computer controlled cutting, resin mixing/injection, plasma treatment and joining facilities.

**International Automotive Research Centre**

The International Automotive Research Centre (IARC) is a dedicated facility for our energy storage and energy management R&D. Underpinning our role in the High Value Manufacturing (HVM) Catapult, we have developed an Energy Innovation Centre that provides a one-stop-shop for the development of new battery chemistries, from concept to fully proven traction batteries for industrial-scale testing.

This unique facility is the first of its kind in the UK and includes a battery characterisation lab and abuse testing chambers, as well as our established Vehicle Energy Facility for electric and hybrid drive testing. It also houses a new £13m Battery Materials Pilot Line which provides a climate-controlled facility to create full-size prototype battery cells using novel chemistries. This has been co-funded by the UK Government’s Department for Business, Innovation and Skills, and the Technology Strategy Board.

IARC is also home to Tata Motors European Technical Centre (TMETC). A 300-strong team is engaged in design engineering and the development of products for the automotive industry. Tata Steel’s Automotive Engineering team, which is part of their Research and Development Division, is also based here.

**International Institute for Nanocomposites Manufacturing**

The International Institute for Nanocomposites Manufacturing (IINM) is the first of its kind in the world. This new £4.1m Institute exploits polymer processing techniques, enabling industry to innovate their manufacturing technologies to produce polymer nanocomposites.

IINM houses state-of-the-art facilities, including characterisation laboratories, a wet chemistry laboratory, processing hall, offices and open plan research space.

The research activities within the Institute align closely with our research in lightweighting and composites where nanoparticles can be added to polymers and foams introducing functionality to structural components. Academic research teams work collaboratively on industry projects in sectors including aerospace, automotive, electronics, medicine, pharmaceuticals, security and telecommunications.

IINM houses state-of-the-art facilities, including characterisation laboratories, a wet chemistry laboratory, processing hall, offices and open plan research space.
International Institute for Product and Service Innovation

The International Institute for Product and Service Innovation (IIPSI) provides SMEs with access to world-leading technology to enable development of innovative products and services. An Innovation Programme offers company projects, workshops, specialist internships and networking opportunities in the areas of digital, experience-led, and polymer innovation. The programme is research led, linking SMEs to WMG research teams, exploiting our cutting-edge knowledge and expertise to enable innovation and transformation within UK industry.

The building houses a range of demonstrators that enable SMEs to explore ways in which various technologies can work for their specific business needs. The Technology Hall includes technologies and equipment for Additive Layer Manufacturing and testing of new materials.

IIPSI was opened in 2012 and is part-funded by the European Regional Development Fund.

International Digital Laboratory

The International Digital Laboratory (IDL) was the first digital research centre of its kind, providing an accessible centre of innovation and excellence in digital technologies to serve business, industrial, healthcare and educational needs. Facilities include visualisation and demonstration rooms, meeting rooms, open plan offices and an auditorium with state-of-the-art audio visual system for broadcast quality presentations.

It is home to the WMG centre High Value Manufacturing (HVM) Catapult and the Institute of Digital Healthcare (IDH). It also houses Jaguar Land Rover’s Advanced Research Group.

Engineering Management Building

The Engineering Management Building (EMB), situated on the University’s Westwood campus, is a dedicated facility for our Part-time Professional and Executive Education Programmes. It is located next to the Arden Conference Centre where delegates are provided with residential facilities during their studies.

The building comprises a range of facilities including lecture and syndicate rooms for large and small group work, a fully equipped PC suite and comfortable communal areas which are available for students to network and relax during their modules.

Building and Facilities

National Automotive Innovation Centre

The National Automotive Innovation Centre (NAIC) will focus on the long-term multidisciplinary challenges, identified by the UK Automotive Council, of Electric Vehicles (including energy storage and e-drives), Carbon Reduction (including hybrids, lightweighting and composites), and Smart and Connected Vehicles (including on-vehicle competence, driver assist and cyber security (or connected vehicles)).

NAIC will deliver a long-term strategic plan creating a new research base which will enhance the UK’s capacity and capability in key areas of automotive research, such as advanced propulsion systems. The Centre will be a unique resource, enabling academic and industry teams to work together in a state-of-the-art building to create and integrate breakthrough technologies. The environment will foster collaboration, cohesion and cross-fertilisation of knowledge and will provide a platform for greater involvement in EU-wide research programmes.

Within NAIC, an Advanced Propulsion Research Laboratory will address the national requirement to position the UK as a leading innovator in advanced propulsion systems. Research will focus on internal combustion engines, hybrid and electric systems, lightweight vehicle technology and advanced automotive control systems. These systems will be essential to enable the UK automotive industry to embrace and deploy new vehicle technologies and deliver a low-carbon future, which will have a major impact on the supply chain and the wider economy.

NAIC is a partnership between Jaguar Land Rover, Tata Motors European Technical Centre and WMG/the University of Warwick. There is an investment of £150m in the capital building and research activities, with £15m of the capital cost provided by the Government (Higher Education Funding Council England).

NAIC is due to open in late 2016.

International Digital Laboratory

The International Digital Laboratory (IDL) was the first digital research centre of its kind, providing an accessible centre of innovation and excellence in digital technologies to serve business, industrial, healthcare and educational needs. Facilities include visualisation and demonstration rooms, meeting rooms, open plan offices and an auditorium with state-of-the-art audio visual system for broadcast quality presentations.

It is home to the WMG centre High Value Manufacturing (HVM) Catapult and the Institute of Digital Healthcare (IDH). It also houses Jaguar Land Rover’s Advanced Research Group.

Engineering Management Building

The Engineering Management Building (EMB), situated on the University’s Westwood campus, is a dedicated facility for our Part-time Professional and Executive Education Programmes. It is located next to the Arden Conference Centre where delegates are provided with residential facilities during their studies.

The building comprises a range of facilities including lecture and syndicate rooms for large and small group work, a fully equipped PC suite and comfortable communal areas which are available for students to network and relax during their modules.

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Excellent transport and road links

• 1 hour to London by train
• Nearest airport – Birmingham International – 20 minutes
• Nearest train station – Coventry

Getting in touch

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The information contained in this brochure was correct at the time of going to print. For updates and latest information, please check our website.