

The Future of Automotive Engineering in the UK, Cranfield University

Keynote speech: Joe Greenwell, SMMT President

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Good evening ladies and gentlemen.

I'm honoured to be here today to celebrate the 50th anniversary of one of our best automotive engineering courses. As President of the Society of Motor Manufacturers and Traders, I am particularly proud of the steps the SMMT took 50 years ago to support and sponsor the start of this programme. The industry has changed a great deal since then, but SMMT remains committed to sustaining a vibrant UK motor industry that offers high value jobs and exciting careers.

The skills fostered in this country, through courses such as this one here at Cranfield, are utilised across the global industry. These skills are a key export product and one that we should be immensely proud of. This course is a jewel in the automotive industry's crown and one that SMMT will continue to champion as we encourage new generations to work within UK automotive at – what I think – is an incredibly exciting time.

And this evening, I would like to explain why. I will speak to you about why I am more confident about the future of engineering in the UK than ever before. We have a window of opportunity ahead of us, presented by the shift to a low carbon economy. Whether you work in marine, nuclear, biotech, nanotech, automotive – the emphasis placed on high tech and developed skills in the field of low carbon technology, will create a global opportunity that the UK must seize.

And I am sure we will succeed:

These may be uncertain times but we have a supportive political system. Whoever makes it through the door of Number 10, all three political parties have expressed their support for a strong manufacturing sector.

The UK automotive industry has a strategic direction, and the determination, will and spirit of collaboration that can achieve it.

We have the skills, knowledge and the capabilities and this is why I feel more confident now than I ever have before about the future of engineering, and particularly automotive engineering.

The UK has always had a rich heritage of engineering success. From the Flying Scotsman to Formula 1, from the Channel Tunnel to land speed record-breaking cars we have a proven track record of UK companies and UK engineers leading the way in what is a global industry.

In automotive circles, British engineers are world-renowned. Our engineering lineage can be traced from the heydays of the industrial revolution right through to our reputation today for producing some of the most sought-after and admired premium automotive brands in the world.

But throughout the years of the Cranfield course, the UK motor industry has experienced its own highs and lows. In the early 1970s, I joined British Leyland. The firm had a 50% market share, a great reputation and looked like it could do no wrong. In just ten years, we saw the company's market leadership slip away until British Leyland was a byword for failure. I've seen what it's like when things go wrong, but I've also worked through years of prosperity and growth.

Throughout these times, the tough and the prosperous, there's been a spirit that has existed throughout. A spirit of pride in our work, a passion to succeed and a determination to always be better. So, based on our heritage, fuelled by our spirit and with the prospect of a new set of challenges for our industry, I'm confident that the future of our industry is as bright as its heritage.

Now, I'm not an engineer by trade but I am from a family of engineers. I understand and respect the art. It's in my blood and I can certainly count it as a passion of mine. Throughout my time in the industry, I've always been passionate not just about the amazing products we build but the way they are designed, developed, engineered and produced.

Today, we are poised at a hugely exciting juncture for the global motor industry and it's the students currently on this course that will play a fundamental role in shaping the future. Despite the current market conditions, we know consumer demand will return and when it does, it will be for progressively lower and ultra-low carbon technology, not just from established markets but those growing fast in China, India and Brazil. This is the next challenge for the UK motor industry.

The shift to a low carbon economy is an opportunity for the motor industry, especially the UK. We need to embrace the transition to ultra low carbon technology and place the UK at the heart of this growing sector. Taking steps now to embed the industrial capabilities required for a low carbon industry to flourish, here in the UK, will allow us to fully exploit this opportunity and see the UK emerge as a European centre for low carbon vehicle production.

In 2008, the New Automotive Innovation and Growth Team, led by one of our industry's best engineers, Richard Parry Jones, investigated the strengths and weaknesses of the UK motor industry. It set a series of recommendations to develop our sector over the next 20 years and laid out a roadmap for future automotive technology.

The technology roadmap represents the essence of industry's future direction, it highlights how vehicle technology will develop, the timescales and phases of introduction. It set out a consensus technology roadmap that will see us progress through next generation internal combustion engines, through micro hybrids, full hybrids to plug-in hybrids and mass market electric vehicles, biofuels and fuel cells. A range of technology is being researched, developed and tested but importantly, whatever approach any individual brand may take, they are all following a similar pattern and contributing to the progress of the industry along the timeline set out by the consensus technology roadmap. This progression will be seen over the next 20 years and it will be today's students that will help deliver these products to motorists across the globe.

But these developments demand enormous investment and times are tough. The motor industry, not just in the UK but around the world, has just endured one of the most challenging periods in its history.

Every part of the sector has been affected from component suppliers to global vehicle manufacturers, through to the retail networks and garages that sell and service the finished products.

Vehicle registrations fell on a global level. The impact on manufacturing was immense – in the US, light vehicle output fell from nearly 10.5 million units in 2007 to just over 5.5 million in 2009. In Western Europe, car production fell from highs of over 16 million to

around 12 million in 2009. But the situation could have been so much worse. It is estimated that between 7-8% of all global vehicle sales in 2009 were made as a direct result of specific automotive stimulus policies such as scrappage in the UK.

At home, against a high of nearly 2.6 million units in 2003, current expectations are for UK car registrations to stay around 1.9 million in 2010, similar to figures seen last year.

Without scrappage, it's estimated that 2009 registrations would have been less than 1.7 million.

Commercial vehicle sales have been hit even more severely. Against an all time high of 369,000 registrations in 1983, this year's market is set to close at around 220,000 units.

Total vehicle production in the UK is expected to drop from a high of nearly two million a decade ago to just over one million units, the lowest figure since 1982.

Over the last 18 months, tough decisions had to be made across the industry. We had to ensure not just short-term survival, but long-term stability. But in times of crisis, the industry came together and was stronger as a result. In fact, one of the most important lessons we've learnt from this recession is that the UK motor industry is stronger when it works together around a common agenda.

With our highly skilled workforce under immense pressure through the depths of recession, our manufacturing community took the opportunity to focus on the future and as we begin to emerge from the worst, the early signs of recovery are evident and promising.

While no one would wish for conditions that we've seen recently, it has demanded that businesses reassess their direction, focusing on what will enable future growth, strength and

prosperity. It has forced government to take stock and concentrate on the essential elements of our economy.

Across the political spectrum, there is now recognition that the UK needs a better balanced economy. One where growth and prosperity is generated by designing, developing and producing goods and services we can sell around the world. The UK motor industry is well placed to support this shift and politicians are recognising the importance of our sector.

It is fair to say that historically, the UK government's approach to the motor industry has been ambivalent, stepping in during periods of extreme crisis and ignoring it at others. But the recession has brought a fresh approach from government driven by a strong and determined industry, led by the SMMT.

Through the challenges of the last 18 months, SMMT has played a central role - encouraging an era of collaboration, not just within the industry but between organisations throughout the economy. Its lobbying efforts brought about the Automotive Assistance Programme which is now supporting future low carbon projects across the sector and importantly, the Scrappage Incentive Scheme that ran from May 2009 to March this year. The scheme was an essential stimulant for the UK automotive industry and for the UK economy.

The 400,000 new cars that scrappage brought to our roads did not simply support our manufacturing facilities and retail outlets, it had far reaching consequences for numerous elements of our society and economic wellbeing. The UK automotive industry employs around 800,000 people in R&D, manufacturing, component supply and retail. It has a turnover of about £52billion each year and contributes over 10% of the UK's total exports.

These statistics begin to demonstrate the importance and significance of automotive in the UK and how the close relationship SMMT has with government is so important. The shift in government attitude, from ambivalence to active support is critical. A supportive government is vital to the long-term success of our industry.

Manufacturing is now back on the A-list of government's core strategies for driving our economy. Political support for manufacturing combined with the ambition of the UK's skilled workforce has the potential to transform the UK to a world-leader for automotive, a hub for engineering excellence and ultra-low carbon technology will be key.

It is this spirit of collaboration, within industry and between industry and government that will strengthen the UK's proposition to multinational companies who can choose to design, develop, engineer and build their products anywhere in the world.

And there is no greater demonstration of this spirit of collaboration than the newly formed Automotive Council. Consisting of a diverse array of the UK's top automotive executives, the Council represents a partnership between industry and government through which the strategic direction of the UK motor industry is developed and guided to the benefit of both. It is the Council's belief that the UK can become a global leader in low carbon transportation and it is determined to see this happen.

There's already been success with major global manufactures choosing the UK as their base for development of low carbon vehicles and components. This early and growing interest will recharge UK automotive helping to power our assault on the new wave of industry's development.

The goals of the Automotive Council are not founded in blind ambition. The faith industry and government has in the country's automotive potential is grounded in the well established skill base, the world class manufacturing facilities and a supportive business environment.

Since the earliest days of motoring, Britain has forged a world class reputation for its engineering excellence and has produced some of the world's most highly regarded automotive brands. Names such as Aston Martin, Bentley, Jaguar, Lotus, MINI and Rolls-Royce are known the world over as inherently British.

Ownership of these companies may change with foreign investment supporting and develop them, but the fact remains that they have British roots, British production facilities and form a significant part of what makes our country proud.

It's not just British brands that the UK plays host to. There's a wealth of international companies that have chosen the UK as a manufacturing, design or R&D base. BMW, Honda, Nissan, Toyota, Ford, Vauxhall, Leyland Trucks, Alexander Dennis – they all have a significant presence in the UK contributing to the three million vehicles and engines we produce in this country every year.

From design through to manufacture, the UK boasts some of the world's most advanced and flexible production facilities. It is the success stories borne out of these operations, and the people that work within them that make those facilities great and attract international investment to the UK.

Our efficient production facilities and flexible workforce make the UK a strong contender in the competition for international investment. And once again, the UK's proposition is

strengthened by our collaborative approach. At industry's top level of competition, the challenge is not between competing brands, but between competing countries. Automotive brands are not competing with each other; their UK facilities are competing against their own European counter-parts to secure investment from their head office.

Competition is fiercer than ever. Brazil, China and India offer massive cost savings and mushrooming demand that will see these economies flourish. And competition within Europe is equally as tough. Based on the UK's successful industry and government collaboration, Germany has established its own Automotive Council.

This should give us even greater determination to succeed and a stronger commitment to a path that even in its early days, it is setting an example for arguably Europe's strongest automotive nation to follow. I'm confident we'll remain on top as we have world class people, world class facilities and world class ambition. But to guarantee this, we must stay united and work together, through the good times and the bad to deliver the objectives of the Automotive Council. A clear path has been set. We need to make sure we don't stray from it as economic conditions ease.

And we must make sure we invest in sustaining and developing the heart of our industry – the highly skilled workforce on which we rely. Cranfield, and courses like it, will play a major role in developing a world-class skills base. It's the students of today that will be the leading engineers when much of the current fledgling technology becomes mainstream and mass market. I think that is very exciting!

But it's not just here and it's not just degree courses that will play a part in our engineering future. It's a widespread uptake of subjects and vocations that lead to the skills required that's necessary and happily, again there's government support for this.

In late 2008 The Sector Skills Council for Science, Engineering and Manufacturing Technologies began an investigation to develop a better understanding of the demand for Science, Technology, Engineering and Mathematics (STEM) skills from different sectors of the economy, the need for different specialism in these subjects and the level of skills needed.

We have been speaking to industrialists across all sectors and the feeling is unanimous and clear. We are working to address our skills requirements at the basic and intermediate levels but to succeed, we must accelerate our capabilities across all levels. Good leadership and effective management is needed at all levels – from team leaders on the shop floor to the boardrooms of our biggest businesses, across all sectors, we must step up our efforts to meet our ambitions. The skills challenge is broader than we previously envisaged but SMMT is committed to addressing it.

If engineering and manufacturing is to help generate future jobs and prosperity in the UK then investment in innovation and skills must be core commitments from our new government. Investing in our future generations we will be laying the groundwork for a greater uptake of courses such as this, producing the next generation of world-class engineers. Investment is vital to make sure our country remains competitive in our increasingly global industry.

New nations are already testing the resolve of established automotive world leaders. So, to combat the threat from the new automotive nations in the Far East and South America, the UK must capitalise on its heritage, its skills and the reinvigorated relationship with

government. Ultra-low carbon technology is where the future lies and industry's commitment to this has already borne fruit.

My own company, Ford, earlier this year announced a £450 million investment in specifically targeted UK projects that improve fuel efficiency and reduce emissions. It will support UK research and development investment related to new-generation, environmentally-friendly vehicle and engine technologies, supporting Ford's engine production facilities in Bridgend for a new, down-sized EcoBoost engine family.

Nissan has announced that its Sunderland production facility will be the company's first low carbon hub outside Japan. It will continue production of the massively popular Qashqai and will soon begin production of its full-electric LEAF small family car.

This year, Toyota will begin production of its hybrid Auris at its Burnaston plant in Derbyshire, Land Rover cites lightweight and hybrid SUVs in its business plan and Honda has made a long-term commitment to its Swindon plant through investment in new machinery for the production of the Jazz last Autumn. We've also seen the Oxford-built MINI embark on a real-world testing programme for its electric MINI-E and even Aston Martin has plans to produce a two-seat city car!

In its bid to be a world leader for ultra-low carbon vehicles, the UK industry and government has not lost sight of the importance of the automotive supply chain. Without suppliers there are no vehicles, and if those suppliers are based elsewhere in the world, the UK's argument to be a leader for manufacturing is far weaker.

A recent independent study, conducted for the SMMT by Auto Analysis demonstrated an industry-wide desire from UK-based vehicle manufacturers to source more components from

the UK. There are immediate tactical reasons such as the positive exchange rate but in the longer-term, vehicle manufacturers cited the UK's workforce flexibility, its coherent low carbon agenda and the renewed enthusiasm for manufacturing as key factors creating a better business environment for UK-based companies.

And again, the Automotive Council is looking to promote the UK motor industry through a strengthened supply chain. It has convened a specific Supply Chain Council with senior executives from the likes of Bosch, Valeo, Continental, Visteon and TRW to identify the best route to encourage inward investment to the UK.

The new low carbon direction presents exciting opportunities for the UK supply chain. There is a wealth of new technology and new skills needed to research, develop, produce and integrate components for alternatively fuelled vehicles. Additionally, factors such as the size of the component play a big part. For example, components for an electric vehicle are typically bulkier and are therefore costlier to transport.

This country's potential relies on the consistency of government support and continuity in policies and incentives that promote manufacturing and motoring as core aspects of our economy and society.

Working with the industry, SMMT ensured that all three political parties recognised the importance of manufacturing, specifically automotive manufacturing, and the role it could play in strengthening our economy.

Four days on from the General Election, it remains as important as ever that action is taken to sustain the economic recovery. For the UK motor industry to flourish and prosper we need continued support for the Automotive Council, action to encourage more and better

priced finance and credit for consumers and businesses, investment in R&D, skills and training across the public and private sectors and a stable and durable framework for motoring taxes and incentives.

There is a renewed enthusiasm in the corridors of power for manufacturing and engineering in this country. The recognition that UK plc needs a more diverse economy may have its origins in the crisis in the financial sector, but what matters, is that we take advantage of this new mood.

It is time to put the engineer front and centre. Dealing with the issue of climate change presents a stronger opportunity for the future of engineer. Whether it's marine, energy, biotech, nanotech, nuclear or automotive, it's up to us to position the UK as a global leader and organise ourselves to deliver. The future dependency of UK plc is on the engineers of tomorrow.

So, with all that you've heard this evening I hope that you too will feel that the next 50 years are set to be even more exciting than the 50 years that have passed. I'm sure this course will continue to be a beacon for UK engineering and a catalyst for continued progress in the UK automotive industry.

I am hopeful that the work of the Automotive Council will allow us to start to dismantle some of the negative stereotypical images still associated with the UK industry. We do need to promote our strengths and achievements more clearly.

I feel better about our future now than ever before and coming here today has simply reinforced that feeling. We have big choices to make in the next few years as we embark on the new wave of the sector's developments. It's these choices and the passion we all put into them that will determine the degree of success that we see individually and collectively.

We need to embark on the future with confidence, working along the lines of the technology roadmap and in accordance with the Automotive Council's guidance. We will need to continually communicate with those around us. Our new government has committed to manufacturing as a core element of the UK's economy, but we will need to maintain this collaborative approach to see long-term benefits.

From the ground up, the government will need to support our industry. From education and support for courses such as this to ensuring greater access to finance and credit there's still a lot of work to do. Companies need to be incentivised to invest in Research and Development to enable industry to maintain its required rate of change and advancement.

Consumers require incentives to continue investing in our industry's products and reasons to demand new technology. The easy option is to remain static, so there must be a constant effort to progress and improve. Government has started the process by schemes such as its 'Plug-In Car Grant' that, from next January, will incentivise motorists to buy low-emission plug-in and hydrogen fuelled cars. The integrated approach that also sees a network of 'Plugged-In Places' developing nationwide is just what we need to see and it aligns infrastructure with products and consumer demand.

I think, and I hope you agree, that all the ingredients are there for a whole new automotive age and a whole new age for engineering in the UK. And that is vitally important. I may be

painting a heady picture here today but don't get me wrong. There will be highs and lows, challenges and problems along the way. We may veer off course from time to time but with a combination of determination and collaboration we can ensure our skills, knowledge and capabilities steer us to a stronger automotive industry.

I hope you'll share my vision that the UK can be at the forefront of global developments and that with your skill, our industry can be at the pinnacle of a low-carbon future.

I'm excited about what the next few years holds for our industry and the role that the UK will play in it. So, congratulations to Cranfield in helping to shape a thriving and world renowned British industry and here's to another 50 years of prosperity for UK automotive.