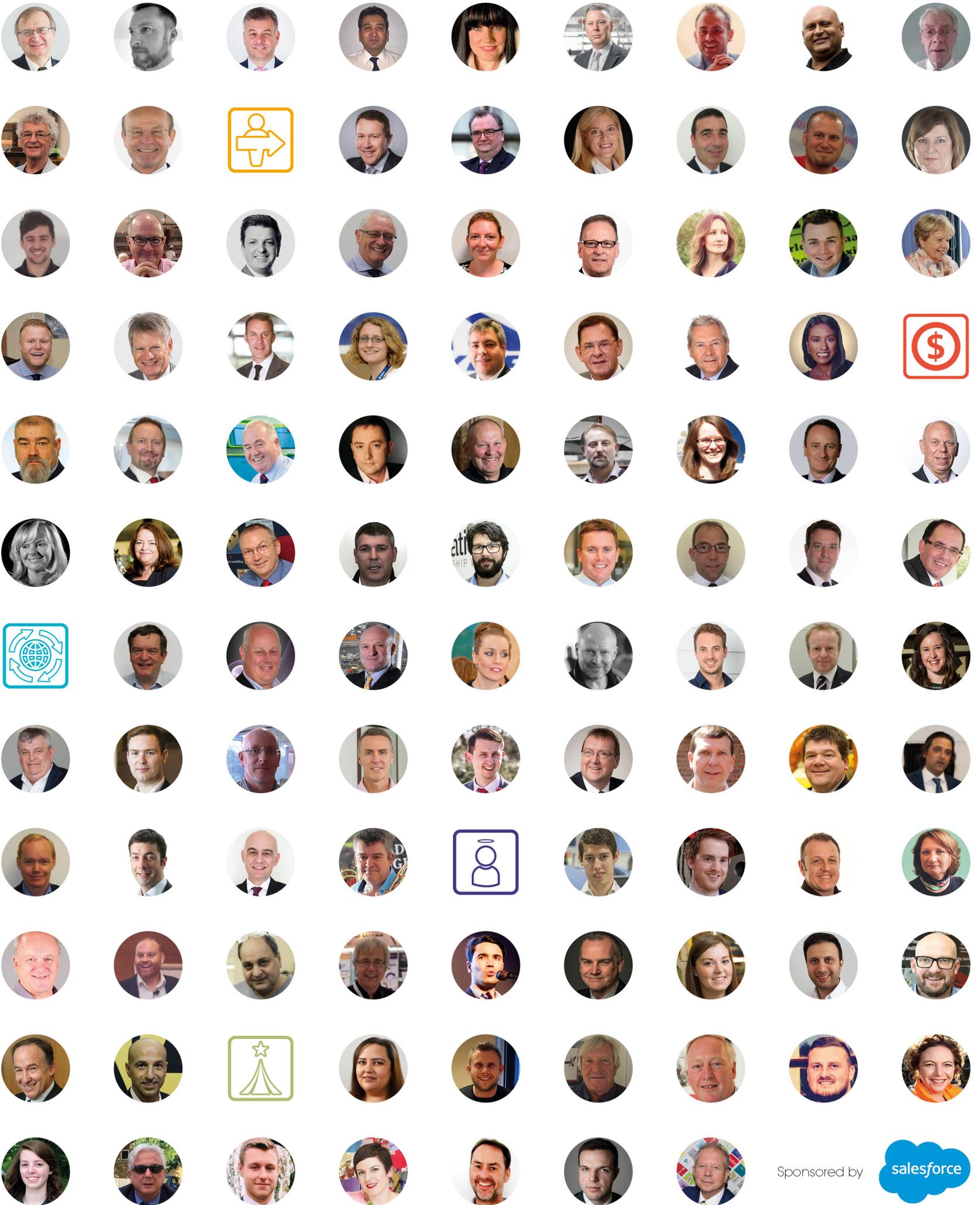




THE **Manufacturer**
TOP 100 **2016**





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BACKGROUND

The idea for *The Manufacturer Top 100* began in late 2013, as a response to the lack of visible role models in industry, as identified by several academic and parliamentary studies including Professor John Perkins' review of engineering skills.

The Manufacturer Top 100 project aims to provide a platform for the recognition of industry role models. The publication showcases the enthusiasm and commitment of the incredible individuals behind the innovation and drive in the sector. The report is a resource that reveals the exciting, well-paid and fulfilling careers that exist in the manufacturing industry.

For the third year running, we received more than 200 worthy nominations, each one a star in their own right. As always, it was an arduous task for our judges to whittle the list down to 100, but after many long hours of careful deliberation, the judging team reached a final decision, a decision brought to life in the pages of this report.

Out of 100 inspirational people, 20 have been highlighted as exemplars to reveal a deeper insight into the exceptional contributions that these individuals make to the sector everyday.

The pages that follow contain inspiring stories from a plethora of manufacturing

sectors; tales of courage, tenacity, determination and success; leaders, innovators, investors, exporters, pioneers, change-makers and facilitators that reveal the true worth of UK manufacturing and the great individuals that breathe life into the sector.

Once again, compiling this report has been a sheer delight, and we hope that it paints a comprehensive picture of the vibrant and thrilling reality of the manufacturing sector.

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The Pledge

As a member of *The Manufacturer Top 100* you have a vital role in achieving the change the sector desperately needs. We encourage you, as exemplary figures in this extraordinary cohort of people, to use your achievements to raise the profile of manufacturing by taking part in two of the following:

- Nominate two individuals for *The Manufacturer Top 100* 2017
- Become a STEM ambassador
- Open your factory doors to schools, universities and the local community
- Join our editorial board
- Write for us
- Host a stand at a career fair
- Speak at our events
- Join us at our events
- Take on an apprentice



FOREWORD

It is great to see the range of talent in *The Manufacturer Top 100* and I commend the winners and the publication for showcasing the best of UK manufacturing. Anyone claiming that manufacturing is declining in the UK, should read through *The Manufacturer Top 100* and be inspired by the breadth of entrepreneurship, creativity and capability that the sector has to offer. It's why the UK is recognised globally for quality products and services; its engineering prowess and problem solving. It is why the UK continues as Europe's number one destination for foreign direct investment.

Manufacturing plays a vital role in the UK economy. We know headline figures mask the real value across the value chain - putting the 9.8% GVA closer to 13.5% and the 2.7 million jobs more like 5.1 million. Percentage figures mask an understanding of the societal impacts - the role manufacturing plays in raising aspirations, on public health and in supporting whole communities.

Manufacturing has extensive links into strategically important sectors across regions and is uniquely positioned to underpin and deliver the world class levels of performance - vital to securing the UK's place in competitive global markets. The evidence is clear.

Manufacturing accounts for 70% of all UK business research and development expenditure, delivering productivity gains three times faster than the economy as a whole, and accounting for more than 50% of UK exports. The standard of award winners listed in *The Manufacturer Top 100* shows just why this is the case.

The Government continues to support UK manufacturers by providing the conditions that help them to grow and compete; through investment in research and development and through the successful Catapult networks that help commercialise manufacturers' ideas. The Government's forthcoming industrial strategy will ensure the economy works for businesses and communities in all parts of the country. We want manufacturers to reach their full potential and that includes maximising the opportunities from the UK's exit from the European Union, through accessing new markets and the adoption of technology.

The global fourth industrial revolution has grown in prominence over the past few years: from concept to presenting real challenges and opportunities for the UK. Characterised by the exploitation of data, digital connectivity and technology, the UK is already leading in the development and application of many of the related technologies in

3D printing/additive manufacturing, synthetic biology, in drones and driverless cars. Although it is the technology that is driving this revolution, it is still human capital, drive and appetite for risk that will make it a reality.

While large companies have the global reach and investment power, it is also highly innovative SMEs that are at the cutting edge of design and development. The UK's diverse mix of manufacturers means we are well placed to exploit opportunities and play a leading role. It is clear from *The Manufacturer Top 100* that the UK has the human talent and the capability to make it a success!

I wish all the winners continued success and hope to visit many of you in the future.



Nick Hurd
MP

Ruislip Northwood and Pinner

JUDGING PANEL

Our judging panel consists of representatives from academia, industry and government:



Halil Bedevi
Managing Director
Hennik Recruitment



Rachel Eade MBE
Automotive Ambassador
Clydesdale & Yorkshire Banks



Dick Elsy
CEO
High Value Manufacturing Catapult



Paul Everitt
CEO
ADS



Nigel Fine
CEO
Institution of Engineering and Technology



Alan Foster
Operations Director
McLaren Automotive



Philip Greenish CBE
CEO
Royal Academy of Engineering



Professor Sir Mike Gregory CBE
Former Head of the Institute of
Manufacturing
Cambridge University



Judith Hackitt CBE
Chair
EEF



Professor John Perkins
Director
JP2 Consulting Ltd



Max Roberts
Vice President & UK Leader,
Manufacturing & Automotive
Salesforce



Jane Robinson
Director
Cutting Technologies



Terry Scuoler
CEO
EEF



Jan Ward CBE
CEO
Corrotherm



Zoe Webster
Head of High Value Manufacturing
Innovate UK

JUDGING CRITERIA

The Manufacturer Top 100 nominee must represent one or more of the following criteria:



AN INSPIRING LEADER

A person who has created wealth for and created stable employment at a UK-based manufacturing firm, while remaining committed to investing in developing the value of their manufacturing business through people, processes and technology.



BOLD INVESTOR IN NEW MARKETS

Someone who has been courageous in finding new markets, increased revenue by venturing overseas and helped reshape one or multiple markets by providing a new and competitive business model involving UK manufacturing.



DRIVER OF CULTURAL CHANGE

An individual who has helped to alter popular perceptions about manufacturing locally or nationally, inspiring young people, women and minority groups or has influenced government to help make conditions better for manufacturing in the UK.



UNSUNG HERO

Someone who is instrumental in facilitating the success of those around them and the success of the business as a whole. They are the constants that provide support and knowledge both downwards and upwards within the professional hierarchy.



YOUNG PIONEER

A person who has made an impact disproportionate to their years, providing inspiration for the future of manufacturing in the UK.



Max Roberts

President and UK Leader of
Manufacturing & Automation
Salesforce



FORGING THE FUTURE

The individuals showcased in *The Manufacturer Top 100* are changing the face of British manufacturing and redefining the industrial landscape as we know it. Their innovation is pioneering new ways of engagement, and together with these visionaries, we can provide the tools required to write our future.

EMPOWERING THE GAME-CHANGERS

British business is in an entirely new era, one which includes managing Brexit while simultaneously continuing a history of innovation and economic performance. The future relies on optimising the way we operate and going beyond the product, to connect with customers in the way they need. Uncertain economic forecasts make it more important than ever to have tools that foster agility, and both anticipate and quickly respond to customer needs.

Ways of connecting products, suppliers, employees and customers have changed rapidly, and technology is set to revolutionise the fundamentals of business. Many manufacturers seeing challenging growth figures in this competitive marketplace look to technology to transform. Juniper Research predicts by 2020, IOT connected devices will triple to 40 billion. There is a profound shift taking place to

“smart enabling”, delivering synchronised products to consumers that mobilise, predict and respond using technology and data.

Leaders in the industry will be the ones who deliver amazing customer outcomes.



It is hugely rewarding to be a part of this project and together, with these inspiring individuals, we will continue to drive British manufacturing into the future at the top of its class



ENABLING TRANSFORMATION

Manufacturers I speak with are too often hindered by complex back-office systems that tend to be backward looking. Their valuable data is shackled in a myriad of systems and spreadsheets. Our goal at Salesforce is to unlock information, and enable companies to spot consumer needs and quickly adapt to market trends. Through data and cloud technology, we can move businesses to the forefront of their industry.

Our investment in manufacturing includes partnering with companies large and small such as, GE, Vax, Schneider Electric, GM and ABB. We enable field service excellence with real-time predictive analytics and a 360-degree view of their customers. Our technology works with existing infrastructures to deliver agile, mobile and connected businesses ready for the future.

INVESTING IN THE NEW AGE OF THE CUSTOMER.

More than ever, we are in the age of the customer. Everything and everyone is connected, and manufacturers recognise that to grow, they need to think differently and connect to their customers in new ways.

The individuals in *The Manufacturer Top 100* recognise that to succeed in the emerging Industry 4.0, going beyond existing boundaries to create new ways of working with employees, customers and products is imperative.

It is hugely rewarding to be a part of this project and together, with these inspiring individuals, we will continue to drive British manufacturing into the future at the top of its class.

THE MANUFACTURER TOP 100



THE MANUFACTURER TOP 100

Introducing
**THE MANUFACTURER
TOP 100 2016**

A - Z





GEORGE ADAM | DIRECTOR, IMPRESSION TECHNOLOGIES LTD

Dr George Adam is a chemistry graduate and has enjoyed a rich a career in manufacturing. Most recently, he grew a UK start-up business from scratch, overseeing the investment of £4m in a patented disruptive technology called HFQ®. He has been given an award from the Government of Shanghai recognising both his contributions to the city’s economic growth, and for being one of the first foreigners recognised as a ‘model worker’ in China’s leading automotive group, Shanghai Automotive Industry Corporation (SAIC). In Malaysia, he rescued a car component manufacturer from bankruptcy and more recently turned around the loss making Chinese subsidiary of a FTSE 250 company.



MARK AMPHLETT | GENERAL MANAGER, AMTEK PLASTICS UK LTD

Mark Amphlett has the passion and determination for Amtek Plastics UK to be the best in the industry, he prides himself on doing things differently and is always looking forward. Amphlett continually strives to provide the very best customer experience and is always on the lookout for the next opportunity. He has a single-minded determination to bring the plastics industry into the 21st century, and promote engineering and manufacturing as an attractive and exciting place to be. He is immensely proud of manufacturing in the UK and believes everyone should shout about it.



RICHARD ANDERSON | CEO, CRAWFORD HEALTHCARE

CEO of the UK’s fastest growing wound care business, Richard Anderson has overseen Crawford Healthcare’s rapid rise from small family-owned enterprise to international healthcare business. He boasts 20 years’ pharmaceutical experience, from senior leadership roles at AstraZeneca in Europe to Taro Pharmaceuticals in the US. Based in Cheshire, Crawford Healthcare has become a leading figure within the Northern Powerhouse, with Anderson acting as an advisor to HM Treasury on manufacturing, exports and business growth. In 2015, Anderson was named North West Director of the Year for Science & Innovation by the Institute of Directors.



ALISON BEARD-GUNTER | CONTINUOUS IMPROVEMENT MANAGER, ACCOLADE WINES

Alison Beard-Gunter worked in FMCG for 15 years making and packaging major high street brands. She leads the deployment and execution of operations and supply chain strategy creation through all levels of the business. She has a master’s degree in lean operations and along with a wealth of process experience, has made major strides in deploying this philosophy into liquid processing. Her team problem solving techniques make her a self-confessed ‘Bansky’ with her own brand of ‘industrial graffiti’. She is currently studying for a professional doctorate on the application of gameful design in operations and is continually looking at how future technology can be leveraged at Accolade Park.



LUKE BENNETT | NEW MODEL LAUNCH DIRECTOR, MCLAREN AUTOMOTIVE LTD

Luke Bennett has led the New Model Launch at McLaren for the past two years and has overseen the launch of the 570S model, 675LT & 570GT. In addition, Bennett manages the Manufacturing Engineering Function and the Pilot Build facilities, which includes a low volume general assembly line and paint shop. Before McLaren, he worked for three years at Caterham Technology as operations director and was instrumental in forming the partnership with Renault for the delivery of the new Alpine Sports car. At Lotus, Bennett spent more than 20 years in various operations roles leading up to his appointment as operations director, where he oversaw the delivery of the Lotus Evora and relationships with key clients such as Tesla and Aston Martin. Bennett also supervised the strategic acquisition of the chassis manufacturing facilities in Worcester & Wellingborough (formerly Hydro Aluminium). Bennett is a time-served injection moulding toolmaker by trade and conducted his apprenticeship at United Closures in Norwich.



DAVINDER BAINS

MANAGING DIRECTOR, MAGAL CABLES LTD

Davinder Bains began his manufacturing career in 1980 as a 16-year-old apprentice with a subsidiary of British Leyland (BL). The 1980s were a challenging era of change at BL, especially for the subsidiaries that supplied the automotive giant. However, that didn't put off young Bains, "I was looking for an apprenticeship, I've always been mechanically minded and I didn't want to go into higher education."

Bains knew the choice of which apprenticeship to take was an important decision. Working in car dealerships was one of the options open to him, but he decided that the technical side of the automotive industry was where he wanted to be.

His first boss inspired him to continue his pursuit of a manufacturing career and helped him see the opportunities that were available in the industrial sector. "My general manager was the youngest in any BL subsidiary. This person was running the organisation at just 33 years old, I thought - 'wow, I can really do something here'," Bains explained.

After his apprenticeship, Bains held positions in quality and process engineering, and then joined his present company, Magal Cables.

There, he's responsible for executing company plans, as well as heading up the group's Centre of Excellence for control cables and mechanical spare wheel winch assemblies.

Bains is clear that the UK needs to be at the forefront of global manufacturing, and in the past 15 years there hasn't been sufficient support for apprenticeships and STEM subjects. The country has been too focused on banking and services as opposed to the manufacturing and engineering sectors. His advice to the younger generation is straightforward, "Don't go for the softer subjects, choose a STEM career path."



I was looking for an apprenticeship, I've always been mechanically minded and I didn't want to go into higher education



Media reporting of the manufacturing sector also frustrates Bains, in particular coverage of the recent steel crisis in the UK. "Everything we hear and see about manufacturing is

negative. It seems to have become the norm and it's unfair, untrue and counterproductive," he lamented.

Naturally, Bains welcomes any opportunity to raise the profile of manufacturers that have made it through the tough times since 2008, as well as recognising the individuals responsible for the turnaround in the industry. "I've always believed that my results should 'do the talking', as opposed to artificially raising my own profile in the media. I'm proud and absolutely delighted to be recognised," he said.

FAVOURITE MANUFACTURED PRODUCT:
Thermos flask

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Assists with financing community projects in India

ALTERNATIVE CAREER:
A pilot



LUKE BENTON | MANAGING DIRECTOR, MNB PRECISION LTD

Luke Benton entered manufacturing through the side door. He has not had a university education or achieved an apprenticeship. Benton started out as a labourer at his family firm, always working hard with extreme determination. After progressing to van driver then storeman, Benton progressed through office roles, which included assistant purchaser, supply chain manager, QHSE manager and business improvement manager, and ultimately to director level, where he is now managing director. Because of Benton's understanding of business throughout all levels and being introduced to servitization early in his career, he has been able to adapt his mind-set to look at challenges and opportunities in a unique way.



MO BHAM | CEO, GROUP IMPERIAL

Mo Bham's journey to becoming CEO of Group Imperial began back in 1974. Born a stone's throw away from The Imperial Typewriter Company Ltd in Leicester, Bham was there the day the factory closed its doors. Three years later, in 1977, Bham was there again, this time as a new employee for the revived Imperial brand under a new company. He was the first to start unloading boxes in the old Imperial factory and worked his way up from warehouse boy to managing many different aspects of the business. Eventually, in 2004, thanks to years of hard work, determination and a passion for success, Bham went from stacking pallets in the factory, to owning the company, buying out the bosses and becoming managing and design director.



JOHN BIGNALL | FOUNDER, OWNER AND DIRECTOR, BIGNALL GROUP

As a child, John Bignall was always taking things apart to see how they worked. After a fascination with electronics before the world of transistors, his interests moved to automotive, first cars and later trucks. After a period running the service department for a leading Atkinson distributor, he was made redundant. This inspired Bignall to begin his own business. The business began as a road haulage contractor, but later came to offer a mobile service, fitting automatic lube systems to truck sellers and operators. Eventually, the firm started to manufacture equipment and specialise in off-road equipment, principally agricultural. The business now has three profit centres with a subcontracting milling and precision turning shop. Bignall Group exports to 13 countries and is one of the few companies that runs entirely from solar energy in the summer months, as well as being entirely heated with biomass.



ALAN BLACK | FOUNDER & CHAIRMAN, SOUND LEISURE

At 18, Alan Black started Cavala Electronics, repairing TVs, radios, record players and electric goods. During this time, he invented electronics enabling lights to flash in time to sound – known as 'sound light'. The product was trialled throughout the UK with little success initially, however, a local business man realised the product's potential for discotheques, which led Black to jukeboxes. In 1978, Black set up Sound Leisure with one employee. By 1979 they were a team of six repairing, refurbishing and converting old jukeboxes. In 1979, Black began manufacturing his own jukeboxes. Under Black's direction, the firm now employs 103 people and has become an important employer in the area.



ROGER BOWN | LOGISTICS OPERATIONS MANAGER, MCLAREN AUTOMOTIVE LTD

Roger Bown has successfully transformed performance at several of the operations that he has been responsible for. Starting his management career in a production role, he realised the importance of unifying the supply chain function and stepped into the upstream processes of procurement, material planning, demand optimisation and supplier management. Bown has been instrumental in setting up international freight logistics and 3PL distribution partnerships. He has an inclusive, hands-on, leadership style and will often spend time in the operations to understand the issues that need solving. As a change agent, Bown indulges in developing new leaders and building talented teams that excel.



HARVEY BOWDEN

CHAIRMAN, HARVEY WATER SOFTENERS LTD

Harvey Bowden started selling water softeners in 1977; then a plumber, he would try to convince customers to cut holes in their worktops to accommodate the large water softeners of the day. Next, he started to work with an American company that sold neater, under-the-sink solutions to the British market. But, he knew he could do better, and in 1997 he began manufacturing his own water softeners.

Bowden knows his history, "In the 1920s, Britain was at the forefront of water softener technology and I'm determined to put us back as number one". However, success has not been straightforward. One of the biggest issues in Bowden's way was the harmonisation of European standards, which could have destroyed his business.

"If the DIN (European) standard had prevailed and become universal then we would have been put out of business; we simply couldn't have complied with the regulations. It took seven years and hundred of thousands of pounds to protect ourselves," he explained.

Bowden cites Isambard Kingdom Brunel as his hero, saying, "He did it in Britain, he innovated and he wasn't scared to have a go - that's exactly like us. We're investing over a million pounds in R&D

to support putting Britain back on the manufacturing map."

Bowden sources components from the UK, believing that it is vital to invest in home-grown manufacturing. He's seen colleagues and friends take business abroad to cut costs, "but, they come unstuck more often than not", he said.

"We have complete vertical integration, we design the product, manufacture it, sell it, service it and supply salt for it. We know what we're doing and know the industry from top to bottom," he added.



In the 1920s, Britain was at the forefront of water softener technology and I'm determined to put us back as number one



Asked what advice he would give his younger self, Bowden replied unambiguously, "I wouldn't give him any advice because it might change what

he'd do! I'd be extremely careful, keep my mouth shut and just let him get on with it."

During his career, Bowden has focused on becoming the best at what he does. He has set out his stall to make his products the best on the market, with an unapologetic focus on safeguarding British manufacturing. He has a firm belief in UK business and industry, high levels of investment in R&D and a company at the cutting edge of its industry. However, despite what he has achieved, Bowden believes that his greatest achievement is that his family, friends and staff still love him.

FAVOURITE MANUFACTURED PRODUCT:
Apple products

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Born on Trelawn farm in Cornwall, the home of squire Trelawney of the 10,000 angry Cornishman

ALTERNATIVE CAREER:
Mad inventor

THE MANUFACTURER TOP 100



Image courtesy of Coty Manufacturing UK Ltd



MARY BRADY

VICE PRESIDENT AND GENERAL MANAGER, COTY MANUFACTURING UK LTD

Mary Brady's softly spoken nature belies a steel core of grit and determination; after all, this is someone who's escaped from Alcatraz* – though that's not the reason why she currently resides in the UK.

Brady credits her move to Michigan during her final year of high school as the impetus for her manufacturing career, introducing her to the small STEM-focused Kettering University – an institution which counts her father among its alumni.

Formerly known as General Motors Institute, and part-funded by the automotive marque, Kettering University offered a five-year, cooperative work-study engineering programme.

"I thought that it would be a great way to pay for my degree and guarantee myself a job once I graduated," Brady explained.

The realisation would turn out to be quite prophetic as the electrical engineering graduate spent more than 20 years at General Motors, working her way up to become director of operations. It was during her time at GM that Brady fell in love with manufacturing, particularly the production process and people management.

In 2009, Brady left GM and her native country behind her, making the transatlantic trip to join the UK operation of global beauty products manufacturer, COTY.

Located in the Kent town of Ashford, the site is one of COTY's eight global manufacturing facilities, producing lipsticks; lip glosses; eye and face powders; foundations, and mascaras, among others.



One of my lifelong passions is teaching, especially with young people. If I can help influence them and inspire them to reach new heights, that's what I live for



Over the past seven years, Brady has played a leading role in helping the site realise a broad range of achievements; including reducing supply chain inventory by 11% while increasing production volume by 38%, and improving overall line efficiency for the site from an average of 42.3% to 76%.

Altruistically, Brady downplayed her own personal contributions to such successes.

"All of my greatest achievements have to do with the success of others, in their growth, development and milestones," she noted.

Brady is a passionate advocate of STEM skills – science, technology, engineering and maths – and regards all four of them as key drivers of innovation and economic growth. She feels that it's important for

businesses and academic institutions alike to promote interest in these areas.

"We started on that journey three years ago and we've had so many win-wins for both our placement students and COTY," Brady explained. "University students who've spent time with us have gone on to graduate with a first, as well as high school students receiving unconditional offers.

"For COTY, the students bring a totally different perspective and experience. One gap year student, for example, introduced the business to 3D printing, which has significantly aided our change over process and resulted in a step change in our OEE.

"One of my lifelong passions is teaching, especially with young people. If I can help influence them and inspire them to reach new heights, that's what I live for. If I wasn't involved in manufacturing, I'd love to have been a teacher."

*In June 2010, Brady successfully completed the Escape From Alcatraz Triathlon – which includes a one and a half mile swim, a half mile warm-up run, an 18 mile bike ride and culminating in an 8 mile run.

FAVOURITE MANUFACTURED PRODUCT:
3D printers

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Escaped from Alcatraz

ALTERNATIVE CAREER:
Teacher



MATT BOYLE | PRESIDENT AND CEO, SEVCON INC

Matt Boyle is president and CEO of Tyneside-based low-carbon vehicle firm Sevcon; a company which has positioned itself at the forefront of the global green transport revolution. After working for Phillips and then being headhunted by GEC Alsthom, he joined Sevcon in 1996 as chief operating officer, being made CEO the following year. Key to Boyle's vision for the company, and an essential part of Sevcon's DNA, is its commitment to innovation. Research, design and manufacturing process development keep the company ahead of its far larger international competition.



DAVID BROWN | CONTROLS ENGINEER, JAGUAR LAND ROVER LTD

Starting as an apprentice with the Ford Motor Company in 1985, over the past 31 years, David Brown has succeeded in many different roles within the maintenance department at Halewood. He has been vital in the transformation of the maintenance capability during multiple model launches throughout these years. Brown's current role within Jaguar Land Rover is to provide training and technical support to the maintenance team. Brown takes great satisfaction in seeing individuals develop their skills and abilities. He has a pro-active attitude to work and is always trying to implement improvements in the systems and processes used within body construction.



TIM BUTCHER | FOUNDER & MANAGING DIRECTOR, TRUE MOUNTAIN

Before the age of 18, Tim Butcher decided a career in the commercial side of outdoor sports was the way forward. He was the only person in his school year not to enter university or the army, instead, he was one of very few to have summited his first Himalayan peak, a 21,500ft previously unclimbed mountain in North West Pakistan. Bitten by the outdoor bug, time was served in product and marketing roles for international outdoor brands and was great preparation for conceiving, fundraising and founding True Mountain in early 2014, one of a handful of UK manufacturers of outdoor clothing and now recognised as the UK's technical and performance market leader.



CRAIG CAPEL | HIGHER APPRENTICE, HEPCOMOTION

Craig Capel is a 20-year-old higher apprentice working in the R&D department at HepcoMotion. Capel is an extremely motivated person. He has completed his PEO early and has earned a place on an educational visit to Munich studying Solidcam. The company realises Capel's hard work and plans for him to become the factory's Solidcam expert, allowing the apprentice to help further with Hepco's status as 'world leaders of linear motion'. Capel's apprenticeship has afforded him the opportunity to gain valuable experience and provided a great start to his engineering career.



PAUL COATES | R&D AND MANUFACTURING DIRECTOR, ICEOTOPE TECHNOLOGIES

Paul Coates is degree qualified in production engineering and management with a resulting career spanning more than three decades. During this time, he has worked for large blue chip corporations such as Nokia and Motorola and now innovative start-ups. In all cases, he has been challenged with turning around, establishing organisations, tackling some of the most challenging activities both in the UK, as well as during extended periods overseas. He possesses an extensive skillset including mechanical design, Six Sigma, project management, lean, FMEA, reliability, electronics manufacturing, sales and operations management, and organisational turnaround. Coates strongly believes in the philosophy, 'do what is right, not what is easy', to reap maximum benefits.



JUSTIN COLE | MANAGING DIRECTOR, URGO MEDICAL

Justin Cole was appointed UK managing director of Urgo Medical in 2013, a French, family-owned company specialising in wound healing and OTC selfcare products. Under Cole's direction, the firm has achieved double digit sales and profit growth in 2014 and 2015, and is on course for the same in 2016. In addition, significant value has been created within the business over the past three years, including an apprentice scheme, university collaborations, KTP research investment, significant change to operational processes and a 20% increase in the UK workforce. Cole is an active board member of the Leicester & Leicestershire Enterprise Partnership business board and the Lindsey Leg Club Foundation charity.



TOM COLE | CEO, INTEGRATED TECHNOLOGIES LTD

Tom Cole is a great supporter of apprenticeships, starting his career as an electronics apprentice in 1974. He is now owner and CEO of ITL, a successful medical device design and manufacturing business based in Kent, where he has worked for 25 years. Before joining ITL, Cole held senior management positions for Coulter Electronics, now known as Beckman Coulter, a leader in disease diagnosis. Cole has led global expansion at ITL, including the opening of facilities in the US and China. Cole focuses on manufacturing efficiency, growth in high end medical devices and investment in automation and own-brand products.



JENNY CONLON | HEALTH SAFETY AND TRAINING CENTRE MANAGER, KMF GROUP

Jenny Conlon joined KMF in 2001, and she has developed personally and professionally, as well as gained degree level qualifications in health and safety and teaching. Her willingness to drive improvements saw that Conlon was promoted to the KMF senior management team. She is solely responsible for the in-house apprentice training centre and has been able to work closely with the apprentices over the entirety of their apprenticeship programme, developing them into excellent engineers and role models for the business. As an ambassador for apprenticeships, Conlon thoroughly enjoys working with local businesses and high schools to raise the profile of apprenticeships, and gets real job satisfaction when presenting or speaking to groups of youngsters and apprentice employers to help them reach their potential.



STEVE DALTON OBE | MANAGING DIRECTOR, SONY UK TECHNOLOGY CENTRE

Steve Dalton's journey with Sony UK Technology Centre spans some 33 years, and has seen him progress from electronics graduate, to operations director, to managing director. Awarded an OBE for services to industry in Wales in 2011, Dalton has spent his entire career with Sony. As managing director, Dalton has consistently focused on the future sustainability of the business. He now has overall responsibility for the manufacturing facility in Pencoed, producing HD Broadcast and Professional camera systems worldwide. With an annual sales turnover in excess of £100m and circa 600 employees, the team has also developed an enviable reputation for third party contract manufacturing, producing high value-added products for a global customer base. This has all been achieved thanks to Dalton's strategic vision and commitment to continuous transformation, differentiation and business sustainability.



SERAPHINA DAVIS | FOUNDER AND CEO, NANCY DEE

The Nancy Dee label was founded in 2008 by Seraphina Davis and her sister Tamsin, who have a passionate belief that responsible fashion can be both stylish and affordable. The collection is entirely designed and made in Britain using sustainable and organic fabrics extracted from natural, renewable sources such as bamboo and beechwood. Davis studied fashion design at the Surrey Institute of Art and Design University and after moving to London was approached by a friend to design a garment collection for a boutique. Davis created an eight-piece, hand-dyed collection on a domestic sewing machine and sold every item. She was commissioned to create more. After taking advice from her Dad to go into business with her sister, the Nancy Dee label was born.



JORDAN DAYKIN

MANAGING DIRECTOR, GRIPIT FIXINGS

"For me, the essence of an inventor is somebody who spots a problem and solves it in a practical and affordable way." Well that is exactly what Jordan Daykin did with GriplIt, and at the age of 13. That's high praise from anyone, but the fact that it was business 'Dragon' Deborah Meaden who said it indicates just how much Jordan Daykin has achieved.

Daykin appeared on the BBC's Dragons' Den in 2014, where he secured an £80,000 investment from the international business magnate. At just 18 years of age, Daykin was – and still is – the youngest pitcher to gain investment through the programme.

In the 18 months since, and with Meaden's expertise still helping to guide the business, GriplIt has continued to expand its product range, grown the amount of outlets its range is stocked in, and increased the number of countries it exports to.

With a recent valuation of £14m and an almost 40-strong workforce, the business has come a long way from its humble beginnings eight years ago in Daykin's grandfather's shed.

The young entrepreneur credits his grandfather, Stanley, with introducing him to engineering. He said, "My grandfather is very practical, he used to produce cracked metal detection equipment for automotive companies; not only designing the product, but the machines needed to make it.

"His stories used to excite me from a young age, and ultimately inspired me to take the career path I have."

Working together, the pair created a winning solution to an enduring problem – that of hanging things on a plasterboard wall. The innovative design and unique three-way gripping system is proving to be a hit with tradespeople and DIY-ers alike the world over, with Daykin's determination and entrepreneurial mindset evident throughout GriplIt's journey.

"Aside from pitching the idea on Dragons' Den, the biggest challenge was making the decision to manufacture everything in the UK and setting-up our own facility in order to achieve that," he explained.



But crucially, I want to promote UK manufacturing, it's something we as a nation should be incredibly proud of



"I'm still only just starting off on my career, so having to explore the different methods of moulding, for example, and deciding which best suited our needs was quite daunting. Only then could I identify what was required to have that capability in-house, and ensure that the process was optimised and running smoothly," he added.

The decision to manufacture in the UK may not have been an easy decision to make, or contend with on a daily basis, but it was tremendously important to Daykin to "fly the flag".

"Many people look at plastic products, especially those in the fixings market, and assume they are produced in Taiwan or China," he explained. "I want to help support the national economy and keep control of quality, but crucially, I want to promote UK manufacturing, it's something we as a nation should be incredibly proud of."

So what advice does Daykin have for the next generation of budding inventors and entrepreneurs?

"Go and speak to professionals. While researching different moulding processes I turned to a moulding machine specialist who helped guide me. Tapping into that knowledge and experience is vital in helping you achieve your goals," he said.

FAVOURITE MANUFACTURED PRODUCT:
Anything by Dyson

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Currently writing his autobiography

ALTERNATIVE CAREER:
Sales

THE MANUFACTURER TOP 100



Image courtesy of Gript Fixings



JILL DUDLEY-TOOLE | CHAIRLADY, FRANK DUDLEY LTD

Jill Dudley-Toole has been with Frank Dudley Limited for more than 60 years, and first started working on the hand presses, producing washers in their thousands, and making peg springs after school. At the tender age of 15, she worked as an apprentice at British Steel Springs, and was soon promoted to office manager. Dudley-Toole also attended night school, learning shorthand, typing and accountancy. She has held varied roles within the company, including managing shipping, storage and customer orders, director of production and managing director. Dudley-Toole’s philosophy is that workers should be the number one customer, be treated with respect and that family should be first in and last out of the workplace every day.



JOSH DUDLEY-TOOLE | BUSINESS DEVELOPMENT MANAGER, FRANK DUDLEY LTD

Josh Dudley-Toole, has officially been with the firm for more than five years now, though he first started when he was just 11, cleaning trucks on a Saturday morning. Before working in a business development role, Dudley-Toole was responsible for five key accounts, and the generation of new business in a range of diverse markets. He also held the role of production manager, helping to ensure that every quality part was delivered right first time, every time. Dudley-Toole believes strongly in team development and his experience of teaching around the world has helped him to recognise how to get the best out of people.



TOM EGAN | MANUFACTURING IMPROVEMENT EXECUTIVE, LEONARDO HELICOPTER DIVISION

Tom Egan began as a Rolls-Royce apprentice in 1978. Great opportunities for learning through roles in aerospace have drawn him into manufacturing. Being part of a bid team overcoming the odds to win a prestigious VVIP aircraft export contract was a moment of pride both for its success and the change it engendered. Egan is passionate about being a catalyst for change. Leading a manufacturing network in Somerset, driving increased collaboration through ADS, providing input to national groups on manufacturing technology and working closely with the HVMC, Egan is humbled to know his experience is really making a difference to UK manufacturing.



DAVID EMBLING | PRODUCTION DIRECTOR, MCLAREN AUTOMOTIVE LTD

David Embling has more than 22 years’ experience in manufacturing. He started as a general assembly operator, fitting trim at Honda, working his way up to vehicle quality and general assembly department manager. To broaden his experience from Japanese to UK automotive, he moved to Jaguar Land Rover as progress manager. Embling joined McLaren in 2014 as head of quality and also held roles within new model quality and supply chain management. At the end of 2015, he joined the manufacturing department as production director, leading a team to the implementation of a second shift, overseeing the recruitment and training of more than 300 new staff that has seen volume output double. Embling is passionate that people are the key to manufacturing success.



JONATHAN FARNFIELD | MANAGING DIRECTOR, HYDRO SYSTEMS

Jonathan Farnfield has worked extremely hard to bring HYDRO Systems into the larger OEM supply chain. He is constantly on the lookout for new opportunities and ways to improve Hydro’s bottom line. Farnfield is leading a team that is, while already very successful, looking to make the next step. As the UK aims to create a stronger Tier 1 group of manufacturers, Farnfield’s work is essential in ensuring this happens.



EMMA ENGLAND

LOADS & AEROELASTICS ENGINEER, AIRBUS OPERATIONS LTD

Emma England grew up on an Exmoor farm. Her interest in aeronautics began at the tender age of six when she boarded a Boeing 747 to Australia and was given the opportunity to see the pilot in the cockpit, "I was absolutely fascinated and it's stayed with me ever since," she explained.

Later in her academic career, England wasn't sure how to translate this enthusiasm for planes into a career, and it was actually her maths teacher that encouraged her to consider a career in engineering and manufacturing. Feeling inspired, England applied for a degree in aerospace engineering at the University of Bristol.

"I deferred entry to complete a 'Year in Industry' with Rolls-Royce in Filton, Bristol. Working at Rolls-Royce was a very good experience. I had a fantastic manager who encouraged me and taught me a lot. It confirmed my degree choice and gave me a lot of experience," she said.

After completing her degree, England started the graduate programme at Airbus, which she finished at the end of 2015 and started her role as a loads and aeroelastics engineer in the flight physics department.

Despite being named Graduate of the Year and overall Best in British Engineering at the SEMTA Awards 2016, England admits that she didn't exactly

cruise to such dizzying heights without perseverance and believing herself.

"I fell ill during my third year at university and was not able to take my exams. It meant that I had to take a whole year out of university and move home. My career and education meant a lot, and having moved away from home at the age of 18, I found this very difficult," she said. England wasn't one for giving up. She returned to university, passed her exams, and even completed a summer research placement.



We should be encouraging students from all backgrounds to consider STEM, as diversity fosters innovation and inspiration



"The placement helped me with my final year project and helped me to decide to apply to Airbus to work in the flight physics department, where I now work. Ultimately, this negative turned out to be a big positive for me," she said.

England is passionate about the importance of raising the profile of careers in manufacturing. "Careers like engineering were not promoted when I was at school, instead, only careers like medicine, teaching or law were endorsed.

"Things have significantly improved since I left school, however, there is still a stereotype associated with engineering that suggests working with greasy, dirty machinery, which we in the industry need to dispel.

"To increase the number of STEM graduates, we need to reach people at a younger age. We should be encouraging students from all backgrounds to consider STEM, as diversity fosters innovation and inspiration. I go to careers fairs regularly and talk in schools as part of Airbus's outreach work," she said. "We might build gliders with younger children or do a workshop with older ones on the economics of aviation," she concluded.

FAVOURITE MANUFACTURED PRODUCT:
The computer

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Was part of a group of students and teachers that imported a single source Fair Trade Tea. It came from the Mabale Growers' Tea Factory in Uganda, and it offered a fair price to the workers and producers of the tea, as well as increased the amount of fair trade premium that goes into socio-development projects in the surrounding community of the tea factory.

ALTERNATIVE CAREER:
Travel writer



DAVID FOX | CHAIRMAN, PP CONTROL & AUTOMATION

David Fox is regarded as one of the UK’s most passionate advocates when it comes to lean manufacturing and training. These are two principles that have underpinned the expansion of his business, PP Control & Automation, into a £20m turnover company and a critical partner to some of the world’s largest manufacturers. A trained electrical engineer, he believes in ‘being the best you can be’ and has invested heavily in continuous improvement in technology and the skills of his 200-strong workforce. Fox’s passion has even seen the company recognised as Best Factory of the Year and a former winner of *The Manufacturer MX Awards*’ Manufacturing Excellence category, two prizes secured in the face of fierce competition from some of the largest names in industry.



RAY GIBBS | CHIEF EXECUTIVE OFFICER, HAYDALE GRAPHENE INDUSTRIES PLC

Ray Gibbs is a chartered accountant, and former Deloitte audit and corporate finance partner. He has more than 20 years’ experience in high technology and FMCG businesses, and is a former CFO of Chemring Group Plc. Gibbs was part of Haydale Graphene Industries’ management team that acquired Haydale Limited in 2010, and has been immersed into the graphene and nano world for five years. An accomplished international speaker and now seen at many graphene conferences, Gibbs offers a rare insight into industry and the ability to make the bridge with the academic world.



STEVE GREEN | SNR PROTOTYPE ENGINEER AND LEAD, PROTOTYPE MODEL SHOP, LOCKHEED MARTIN UK LTD

Steve Green got into engineering when he was just 16. He completed a fully indentured apprenticeship with Rolls-Royce WH Allen of Bedford, where he learned skills and trades that have stood him in great stead ever since, both in engineering and life in general. The experience provided him with a passion for high quality engineering. Nearly 40 years later, Green imparts some of those skills and experiences on to the next generation of young British engineers, working with, and mentoring apprentices and graduates at the Lockheed Martin site. In addition, Green regularly attends local colleges, schools and exhibitions to promote engineering and STEM subjects. Green is exceptionally proud of his outreach work and hopes he can inspire the next generation of engineering talent.



PAUL HAGGERTY | GROUP OPERATIONS DIRECTOR, ARCHWOOD LTD

Paul Haggerty knows the benefits of continued improvement, but recognises that hearts and minds are key to achieve culture change programmes. In the past two years, Haggerty has driven the company to invest in two key projects, these include a £3.5m investment in relocating the site from Oswestry to Chirk, and the introduction of a high speed line to world class performance. He achieved this at a time when investment was hard to justify. Haggerty set himself a target to achieve the efficiency and productivity improvements in the first stage that resulted in £800k savings a year. With the continued support from the board, he went on to secure funding from Welsh Government for the second phase.



KEITH HANSHAW | MANAGING DIRECTOR AND MASTER CRAFTSMAN, THE LEATHER SATCHEL CO

Born into a family of leather-workers, Keith Hanshaw has been making leather-goods for more than 30 years. While a master-craftsman in his field, he also encompasses a burning passion for everything design and digital. During Hanshaw’s tenure as MD, he has managed to increase turnover by 500% by developing tools that allow consumers greater control of the design and crafting process, allowing them to create unique products. His mission is to ensure the skills that his family has gathered are passed onto future generations by ensuring the family business evolves into the modern manufacturing business that can sustain itself in a globalised economy.



SHARMILA GOVENDER

LOGISTICS DIRECTOR, MCLAREN AUTOMOTIVE LTD

To say that Sharmila Govender has led an interesting life to date would be an understatement. Growing up in apartheid South Africa, Govender deviated from her intended career in economics to work for some of the world's largest and most recognised manufacturing brands.

Her first job out of university was with Coca-Cola Southern Africa; "Though more on the brand marketing side than manufacturing," she told me.

Rapidly rising up the soft drink giant's ranks over three years, a move from Johannesburg to Durban offered Govender the opportunity to try her hand at something slightly different.

Having successfully applied for an unspecified management role at multinational consumer goods company, Unilever, Govender was "horrified" to discover that she would be working in supply chain.

"I'd so far been involved in the glamorous, glitzy world of marketing," she said. "I had no idea about manufacturing or logistics, and I was to be in charge of the company's regional warehousing and distribution."

Her doubts proved unfounded, with Govender describing her time there as a "fantastic learning experience". Her next

career move, joining Toyota South Africa as a business manager for Exports, took her further down the industrial rabbit hole.

An anticipated three-year spell at Toyota became six years, and saw Govender rapidly move to head up the company's parts export division.

“

I look back now and laugh at myself for ever doubting entering supply chain and manufacturing

”

Govender was ultimately responsible for keeping other Toyota production lines running, a position she noted as "incredibly stressful". However, in less than five years she had fine-tuned the division's efficiency and doubled turnover to more than \$1.8bn.

"It was such a rich and defining learning experience that has changed the way I approach and resolve problems to this day. I look back now and laugh at myself for ever doubting entering supply chain and manufacturing" she said.

Her decision to live and work abroad saw the Govender family move to the UK in 2009. Again, an initial three-year spell

has morphed into six years, with no plans to relocate anytime soon.

McLaren was setting up its automotive company at the time, so the opportunity to get in on the ground floor of what was essentially a blank canvas proved tantalising.

With an initial remit to drive the commercial growth of the Aftersales business, Govender has risen from Aftersales and distribution manager, to head of Aftersales Commercial Parts Operation, to her current role as logistics director based at the McLaren Production Centre.

"To think that our first car rolled off the line in 2011, and to find ourselves now with award winning vehicles, a state of the art production centre, a profitable business and a global network of retailers is superb," Govender concluded. "This isn't about me, this is about everyone involved in the business, it's a real team effort."

FAVOURITE MANUFACTURED PRODUCT:
McLaren P1TM

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Is in her dream job

ALTERNATIVE CAREER:
Maybe the tech industry or perhaps the United Nations Development Programme

THE MANUFACTURER TOP 100





CHRISTOPHER GREENOUGH

COMMERCIAL DIRECTOR, SALOP DESIGN & ENGINEERING LTD

For someone who just “fell into industry”, Christopher Greenough has done pretty well for himself.

Since joining Salop Design & Engineering more than 20 years ago, Greenough has occupied almost every position from the bottom up. Starting on the shop floor as a press operator, he moved from welding, through logistics, production control and planning to his current position as director.

As a natural problem solver, Greenough describes his career as “absolutely fascinating” and “inspiring”.

“There’s nothing a young person couldn’t get out of a job in manufacturing that they couldn’t get anywhere else; it’s vibrant, fast moving and every day offers up new challenges,” he noted.

It’s this viewpoint that has seen Greenough become a passionate champion of careers in manufacturing to the next generation. He can often be found speaking to students either at schools or being hosted at Salop Design, and helping to inspire a new cohort of apprentices for the business and the surrounding region.

“My greatest achievement is helping to promote Salop Design as not only a Midlands business, but a Shropshire business,” Greenough explained. “Much of what I do with Made in the Midlands is focused

around Birmingham, a lot of people forget that the M54 goes past Telford and arrives at Shrewsbury in Shropshire.”

Through his work with the Shropshire Chamber of Commerce and Enterprise, Greenough has also helped establish a manufacturing group for local businesses to network, share best practice and promote the region.



A pragmatist at heart, Greenough has helped push a similar ethos at Salop Design



A proponent of The Manufacturer Top 100 since its inception, Greenough was surprised to discover he’d been not only named among this year’s cohort, but highlighted as an exemplar.

“It’s not just recognition for what I’ve done, but for what Salop Design has done,” he said. “The company is now at the forefront of manufacturing not in Shropshire, but in the UK. With our new training centre and partnering with a training provider, we are helping train engineers and manufacturers for the next generation for all Shropshire businesses.”

A pragmatist at heart, Greenough has helped push a similar ethos at Salop Design.

The company is both forward and outward looking, investing its own capital to ensure that manufacturing is well represented and attractive to future engineers, benefitting itself and the wider industry.

Being so involved in the automotive industry, it’s no surprise that Greenough’s choice of a company that epitomises world class engineering is Jaguar Land Rover; more specifically, what the global marque has achieved over the past half-decade.

“The quality, design, engineering and branding of the Range Rover Evoque, for example, is absolutely spot on,” he said. “British built is something that has become incredibly desirable and JLR – along with other engineering and manufacturing businesses – have successfully tapped into that.

“They are starting to think outside the box and that is going to keep them ahead of the pack for many years to come. A mindset we endeavour to emulate at Salop Design.”

FAVOURITE MANUFACTURED PRODUCT:
Range Rover Evoque

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Likes to set a yearly goal

ALTERNATIVE CAREER:
Radio/TV presenter



TONY GRIMSHAW OBE

DIRECTOR, WHAT MORE UK LTD

Tony Grimshaw has spent his whole career in manufacturing in a variety of different roles across several different sectors. He joined What More UK on the first day of business in 1999 as head of sales, and has been there ever since.

What More is the UK's largest manufacturer of plastic housewares, gardening products and storage, all under the brand name 'WHAM'. Based near Burnley, the company now exports to 68 countries.

"The superior quality of our products has been recognised all over the world, but exporting is our biggest challenge, especially ensuring products are suitable to more than one nationality – we want them to be ubiquitous worldwide.

"With over 650 products currently on the market we never stand still. We're constantly looking to expand our range by developing new innovative ideas for the home from our state-of-the-art manufacturing and distribution plant in the North West of England."

Grimshaw said that he owes much of his success in manufacturing to two of his early managers, Alan Murphy and Andy Holt. In fact, Grimshaw holds the two men in such esteem that when asked to

name his greatest achievement he said, "Meeting Alan Murphy and Andy Holt – and if I could have given my younger self any advice it would have been to meet Andy and Alan a lot sooner."

As well as praising his two mentors, Grimshaw also pointed out that, "There's a great team of very capable people behind me, and without them, I'm nothing."

“

Investing in young people is the way to re-establish Britain as a manufacturing powerhouse

”

Grimshaw firmly believes that the UK needs to re-focus on making things. "We used to be a manufacturing nation, but now there's a bias towards the service sector; we need to return to being a producer", he said.

"I'm worried that industry could die out if we don't invest in training the young, passing on the knowledge and experience of the past. Investing in

young people is the way to re-establish Britain as a manufacturing powerhouse, with apprenticeships being the best way to get new blood into industry."

Grimshaw has been named in the Queen's Birthday Honours list and will receive an OBE for his endeavour in international trade.

FAVOURITE MANUFACTURED PRODUCT:
Tixex

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Reads a lot of biographies

ALTERNATIVE CAREER:
Has his dream job



STEVE HAMMOND

TEAM LEADER, RBLI

Steve Hammond's route to manufacturing was far from straightforward. As a boy he wanted to follow in his father's footsteps as a toolmaker; but instead, the young Hammond became a professional football player. At 21 he left football to join the Welsh Guards, with tours in Canada, Belize and Northern Ireland.

In 1982, during the Falklands War, he was serving on the Sir Galahad when it was destroyed – 56 were killed and Hammond was injured. He was medically discharged from the army and spent a few years moving from job to job. Eventually, his injuries caught up with him and he needed an operation to carry on working. The Royal British Legion Industries (RBLI) helped to organise the operation and then, recognising his ability, gave him a job in its factory.

Fast forward 18 years, and Hammond is now a supervisor in that same factory, and is a highly valued member of the team at RBLI. He has helped to overhaul the metal shop at the factory; bringing in new machines, optimising assembly and developing the product line.

Despite his significant contributions to the metal shop, Hammond doesn't class that as his greatest achievement. "I work

with the disabled, and helping them to understand what you want from them as a manufacturer is at the heart of my job", he said. "It's not always an easy ride, but if people have a smile on their face then you know you've done a good job and for me that's better than getting paid."

“

This isn't just for me, it's for my workforce as well. If it wasn't for them I would never have been included in this

”

In addition to his busy supervisor role in the factory – adhering to production schedules and looking after the concerns of employees – Hammond is a councillor in his local community. "I always wanted to be somebody that can be the voice of the community. If I can help people, I will", he explained.

Visible role models of people who understand the manufacturing environment are important to Hammond.

He bought his son an old motorbike to tinker with, and taking after his father, the 14 year old has stripped the bike and is now rebuilding it. "It gives me time to bond while I work with him. It's nice to pass on practical knowledge to my son, and I'd be delighted if this leads him into manufacturing or engineering", Hammond commented.

When he discovered he'd been recognised as an industry role model, Hammond said, "I think it's unbelievable, absolutely out of this world – I'm very proud." Not surprisingly, as someone who lives to help others he was quick to add, "This isn't just for me, it's for my workforce as well. If it wasn't for them I would never have been included in this."

FAVOURITE MANUFACTURED PRODUCT:
The Shard in London and also the Iron Bridge in Telford

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Built a workshop for his son in his back garden

ALTERNATIVE CAREER:
A designer



KATIE HASSELL

SENIOR SPACECRAFT THERMAL ENGINEER & OUTREACH OFFICER UK, AIRBUS DEFENCE & SPACE LTD

In a brief chat with Katie Hassell, it's clear that the engineer exudes enthusiasm for her career, manufacturing and life in general. Growing up in a small town in the Yorkshire Dales, Hassell admitted that at school she had no idea what she wanted to do.

"I liked lots of subjects, so choosing A-Levels was difficult. I got a scholarship in biology and chemistry, so started off doing those subjects, and I really liked science at that point, so physics was on the list. I also liked maths, English literature and German," she explained.

When it came to deciding on a degree, Hassell confessed that she dragged her parents the length and breadth of the UK, and finally, after giving the institution's hall of residence the thumbs up, she decided on Warwick to study physics.

"I really enjoyed university. It was the first time I'd studied anywhere that had more than 500 students. I'm proud to say I never missed a lecture," she said. After graduating, Hassell took several temp jobs, working in the NHS, legal services and a call centre. Knowing this wasn't really what she wanted for a career, Hassell hatched what she called her "grandmaster plan".

"80% of my modules were based around space. So I starting looking for jobs that weren't the research science but were heavily involved with space. I moved back in with my parents, got myself another temp job and saved up money for a masters in aerospace engineering, so I could translate what I had done in physics into engineering.

“
I feel passionately about letting people know what the options are and supporting parents in helping young people make decisions. Parents are a great influence on their kids
”

"After my degree, I only applied for one job and that was at Astrium and I got it. In September, I'll have been there for five years. And it's by far the best job I've ever had and I would never look back. It was definitely the right choice."

As part of her role, Hassell is involved in many projects, however, she is particularly proud of her work on the Solar Orbiter, which studies, in unprecedented detail, how our sun

creates and controls the heliosphere, the bubble of space filled with particles and fields in which the Earth orbits.

Hassell is also heavily involved with Airbus public engagement with schools.

"I feel passionately about letting people know what the options are and supporting parents in helping young people make decisions. Parents are a great influence on their kids," she said.

When asked what advice she would give her younger self, Hassell believes perseverance is key.

"Trust your gut, if it isn't right, it's ok to move on and do something else. Keep it broad and give yourself options if you don't know what to do. You'll learn what you don't like, but you'll get more clarity on what you do like," she added.

FAVOURITE MANUFACTURED PRODUCT:
Remote sensing telescope or the cello

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Plays the cello and has taken part in 15 concerts in the past academic year

ALTERNATIVE CAREER:
Librarian or curator of a special collection

THE MANUFACTURER TOP 100





ROY HAWORTH | HEAD OF UK QUALITY ASSURANCE, SPACE SYSTEMS, AIRBUS SPACE AND DEFENCE

Roy Haworth started his career in 1980 in the Royal Navy where he learnt the value of training and development, leadership and the application of efficient and effective process. Moving to the space manufacturing industry in 1992, he has applied these principles through his various roles. In addition to his day job, Haworth is an active STEM ambassador, one of 60 within the UK company. He was recently appointed as an enterprise advisor to a local school to focus on the bridge between education and industry. The supply of fresh talent to industry is seen by Haworth as one of the biggest challenges we face in the coming years.



ANDREW HODGSON OBE | CHIEF EXECUTIVE OFFICER, SMD

Andrew Hodgson joined SMD in 2008 as the chief executive following a company buyout with Inflexion Partners. He oversaw the sale of the business to CRRC in April 2015. Prior to this role, Hodgson had a career in the aerospace and steel industries, which included working with Spirit Aerosystems, Airbus, BAE Systems and Corus. In addition, Hodgson is chairman of NELEP (North Eastern Local Enterprise Partnership), chairman of the North East Employment and Skills Board, chairman of Subsea North East and a director of the International Centre for Life. Hodgson is a chartered management accountant, he holds an MBA from Warwick and a BA in economics.



JENNY HOLLOWAY | CHIEF EXECUTIVE OFFICER, FASHION ENTER LTD

Jenny Holloway has worked in the fashion industry for more than 30 years, initially as an assistant buyer for Littlewoods, selector for M&S and a senior buyer for the Arcadia Group before opening her own label, Retro. In April 2006, Holloway incorporated Fashion Enter, an award-winning, social enterprise that employs more than 100 people. Fashion Enter has a factory which makes 7,500 units a week, its Fashion Studio for start-ups and a Fashion Technology Academy for skills training.



SARAH JARDINE | DIRECTOR OF MANUFACTURING, OPTOS PLC

Sarah Jardine is responsible for providing leadership and direction for staff in the manufacturing facility, and has a strong understanding of CGMP and lean philosophies and methodologies. Jardine holds a BSc(Hons) in laser physics and optoelectronics and an MSc in laser engineering. Having started her career as a laser engineer with Thales Optronics, she joined Optos as a senior optical engineer in January 2000 and progressed through operations and R&D teams to her current role as director of manufacturing. She is currently the chairperson of the Scottish Manufacturing Advisory Board. People are at the heart of how Jardine runs her manufacturing division. Since taking over as director of manufacturing, she has managed to create an environment where people have fun, they are engaged, open and participative.



GARETH M JENKINS | CHIEF EXECUTIVE OFFICER, FSG TOOL & DIE LTD

In a 44-year career in the manufacturing sector Gareth Jenkins has worked around the world in PLCs and more latterly SMEs. In his role as chair of EEF Wales, he has worked extensively with national and devolved government on behalf of the sector. In advising Welsh Government, he has chaired Industry Wales and an Enterprise Zone. In 2015, he was selected as the EEF UK Manufacturing Champion. He describes himself as a passionate advocate for the development of young people in industry.



KENNETH JONES | PRODUCTION SYSTEMS & LEAN LEARNING ACADEMY MANAGER, JAGUAR LAND ROVER LTD – HALEWOOD OPERATIONS

Kenneth Jones' role at Halewood operations is to support the continuous improvement journey through sustainment of the firm's Integrated Production System and the evolution of the Halewood Lean Learning Academy. Jones coaches and trains associates at all levels in understanding lean philosophies and tools, equipping them to become effective lean leaders who can optimise performance by increasing customer value. Prior to joining Halewood, Jones spent 16 years in automotive manufacturing as European director of quality & safety at Syncreon Automotive, as well as General Motors as global manufacturing system calibrator for all plants in Europe.



MIKE LEWIS | INNOVATIONS MANAGER, LAMBERT ENGINEERING

Mike Lewis began his career designing and developing bespoke food processing machinery before joining Lambert in 2011 as a mechanical design engineer. His work developing new step changing technologies, placed the Loughborough University graduate in good stead in 2013 to be appointed as innovations manager at the age of 30. Here, he set up and installed the new innovations department into the business service portfolio. Today, his team deliver the next generation of automation, working in partnership with world leading companies in medical and FMCG. Lewis was a key part of the Lambert team awarded *The Manufacturer MX Awards 2015* for Innovation & Design, Customer Focus, Leadership & Strategy and Manufacturer of the Year.



DES LINDSEY | TECHNICAL MANUFACTURING ENGINEERING – FACILITIES & BESPOKE TOOLING MANAGER, MCLAREN AUTOMOTIVE LTD

Driven by a passion for cars and bikes, Des Lindsey left college as a qualified mechanic. Lindsey has enjoyed a career in F3000 and various car manufacturers, including Aston Martin, where he received its Service Excellence Award. His 15-year stint at McLaren has included the SLR project, designing unique fluid fill devices for the McLaren P1 and installing bespoke test equipment for the McLaren Production Centre, including a new brake bedding facility. In his spare time, Lindsey has successfully raced motorcycles, winning two club Championships on 250 Yamahas, before racing F1 Sidecars nationally.



JOSÉ LOPES | HEAD OF TECHNICAL EXCELLENCE, JAGUAR LAND ROVER LTD

José Lopes is responsible for the development and nurture of engineering skills and competencies within the company. This responsibility extends to engineering graduates and apprentices, so they have the necessary skills to support future growth. Directly involved with a number of UK universities, colleges and engineering professional bodies, as well as the chair of University Technical College, Lopes is working for closer links between schools, academia and industry. He chairs skills for the UK Automotive Council, working across the automotive sector with government to deliver the needs for sustainable growth. This work is supported by his role as a non-executive director of industrial skills organisation SEMTA. A chartered engineer, Fellow of the Institution of Engineering & Technology and of the Institution of Mechanical Engineers, Lopes is also a Companion of the Chartered Management Institute.



GORDON MACRAE | SPECIAL PROJECT MANAGER, GRIPPLE

Gordon Macrae's primary function and interest is innovation, embedding it into the company, and lecturing and evangelising on the subject across a broad spectrum from primary schools to universities. Macrae is responsible for developing Incub, the company's incubator, which has brought a number of innovative ideas to market. Prior to joining Gripple, Macrae was involved in a broad spectrum of manufacturing activities primarily in the security, construction and DIY segments, including running Abru, the UK's market leading ladder manufacturer.



WARREN LIMBERT

MANAGING DIRECTOR, LAMBERT ENGINEERING

Warren Limbert started out in engineering at just 16 as an apprentice with a large manufacturing company in Leeds. Now, the 44-year-old Yorkshireman is at the helm of *The Manufacturer MX Awards'* most successful company ever.

"I was sponsored to go to university while working, it took 10 years from the start of my apprenticeship until I'd finished studying. By then I was a project engineer and a degree-qualified engineer. I had the best of both worlds as an apprentice and a graduate. This experience has underpinned why I feel it's so important to develop young engineers in both camps. I'm great a believer in needing a mix of both," he explained.

Limbert came to Lambert Engineering in 1997 as a project engineer. He progressed to production manager in 2001 and then managing director in 2007. "Four colleagues and I undertook a management buyout in that same year," he said, "We had great plans about what we were going to do with the business and how we were going to grow it. Then the 2008 financial recession came and it delayed things.

"I'm not saying we weren't successful – above all, we didn't have to make redundancies and we maintained turnover levels. It took an element of success for us to emerge from the recession so healthily," he added.

Since taking the reins, Limbert and the team have instigated significant cultural change throughout the business. "We have a strong vision and culture," he said, "In 2007, we took over a family run engineering company of about 110 people, today we are at 190 people, and far more professional in our attitude and the services we offer," he added.

“**Manufacturing offers a variety of roles, earning potential and personal achievement**”

Limbert admitted that it has been a great challenge to achieve such change. "It has not been an easy journey to lead and fuel that change. You make mistakes. But we've worked with some of the world's best companies, and met astute business people, and I've taken snippets of advice from all of them," he explained.

As MD, Limbert is incredibly proud of the firm's metamorphosis, as well as the entire team, which he calls "the cornerstone of the firm's success". He is particularly proud of creating a company that offers job security, where employees can flourish and progress.

He is enthusiastic about the career paths that exist within the sector and he is working hard at Lambert to dispel myths about the industry. "There's a misconception about manufacturing and the career it can give somebody," he said, "in industry there are intelligent individuals who have chosen a path in manufacturing and now they are highly paid, rewarded and respected.

"Quite often you don't associate those words with manufacturing, you tend to associate them with accountancy, law or medicine. In reality, manufacturing offers a variety of roles, earning potential and personal achievement," he said.

Despite his successes, Limbert is a modest man and said he was "overwhelmed" to be named as an exemplar. "I'm not the kind of person that wants that recognition or to be put on a pedestal. It makes me uncomfortable – but I am overjoyed without a doubt," he said.

FAVOURITE MANUFACTURED PRODUCT:
The space shuttle

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
His wife wears the trousers

ALTERNATIVE CAREER:
Surfboard designer and surfing instructor



EWAN LLOYD-BAKER

CHIEF EXECUTIVE, HAYWARD TYLER GROUP PLC

Ewan Lloyd Baker has been involved in manufacturing for more than 20 years. He began his career at Arthur Andersen working in corporate recovery and turnaround with a number of privately owned and publicly listed companies across a wide range of sectors.

"I was part of the management team in a venture capital backed, software start-up, which was ultimately sold to Reuters," he said. "I then helped set up a FTSE100 corporate incubator focused on technology businesses before completing a masters in business administration and working as an 'intrepeneur' consultant for a number of blue chip companies."

In 2016, Lloyd-Baker was granted an honorary doctorate by the University of Bedfordshire in recognition of his achievements in the manufacturing industry.

Lloyd-Baker is a partner in Lloyd-Baker & Associates LLP, a merger and acquisition boutique, focused on finding interesting opportunities for its acquisitive clients to buy in deal sizes ranging from £1m to £20m. The firm has a particular focus on the engineering and manufacturing sectors, and it was through this focus that he found the original Hayward Tyler opportunity.

"It has been 10 years since we bought Hayward Tyler," he said, "and we have survived a financial crisis and a situation where there was no financial support. I had months where I didn't take home a salary and I just didn't know if we were going to survive."

But under Lloyd-Baker's guidance the firm has not only survived, it has thrived. Hayward Tyler has been shortlisted in five *The Manufacturer MX Awards* categories this year, won a Queen's Award for Enterprise and in August welcomed the Duke and Duchess of Cambridge to officially open its new Centre of Excellence.



Perseverance is incredibly important and quite often the most difficult option is the right option



"It was a great pleasure to host the Duke and Duchess to officially open the facility and also to present us with the Queen's Award; an award that demonstrates the significant progress the Hayward Tyler Group has made, and will continue to make, with the help of everyone at the company," he said.

"It was a pleasure to have so many of our customers and other stakeholders witness the Royal visit, and see the outcome of all the hard work we have delivered over the past few years. We were proud to showcase the new facility to our strategic partners and loyal customers who will benefit from our enhanced capabilities."

Lloyd-Baker stressed that none of these success would have been possible without "perseverance" and hard work.

"Perseverance is incredibly important and quite often the most difficult option is the right option," he added.

FAVOURITE MANUFACTURED PRODUCT:
iPhone

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Has competed in six Fastnet yacht races

ALTERNATIVE CAREER:
Sailing the Caribbean





ROB MARCHANT/PAMELA CAIN | MANAGING DIRECTOR/MARKETING DIRECTOR, MARCHANTCAIN DESIGN LTD

Rob Marchant was a Peugeot master technician before studying automotive engineering design as a mature student and gaining a master's in design management. Marchant founded MarchantCain Design in 2006. Pam Cain began working with Marchant on the research and design of a diabetes management system, and the pair soon went on to become a strong team at Marchantcain. Cain is passionate about bringing on young engineers and supporting staff, giving them the opportunity to develop in an exciting, fast moving but disciplined environment. Determined to encourage as many young people as possible to take up an engineering career, Cain works closely with a number of organisations to promote STEM subjects at all levels. New technology and innovation are constants in Marchant's approach to engineering and he has an enviable reputation for providing quality product design and imaginative manufacturing solutions employing flexible, swiftly re-configurable assembly lines.



LAURA MCBROWN | MANAGING DIRECTOR, G&B ELECTRONIC DESIGNS LTD

Laura McBrown has been part of the family business for 18 years and has enjoyed every step of her journey, from the shop floor through sales, design and operations, before finally achieving her goal as MD. Since becoming MD, McBrown has set a clearer vision and introduced values that have transformed the culture of the business. In 2015, the firm became Made in the South East SME Manufacturing Company of the Year, then in 2016 were a National finalist for Manufacturer of the Year. Additionally, McBrown is the Manufacturing Ambassador for the Institute of Directors Surrey and sits on an EEF Regional Advisory Board.



ADRIAN MOORE | CHAIRMAN, ISLE OF MAN AEROSPACE CLUSTER

Adrian Moore is the founder and chairman of the Isle of Man Aerospace Cluster and the development manager for Manufacturing and Inward Investment within the Isle of Man Government's Department of Economic Development. He is a passionate advocate for UK and IOM engineering skills and clustering, drawing on more than 30 years' practical experience in engineering, manufacturing, business improvement and development. Originally trained via the apprentice route as a precision toolmaker, he has since worked in a number of disciplines within the industrial and technology sectors serving the automotive, aerospace, materials, fluid power, water and paper industries. He was awarded a national Award for Excellence for 'Freedom to Flourish' relating to the work of the Isle of Man Aerospace Cluster in 2010.



PETER MORRIS | FOUNDER AND DIRECTOR, LOCKABOX LTD

Peter Morris is a creative, positive and driven individual who enjoys a challenge. Morris recently began working full-time on his new startup business, LOCKABOX™. He has a background in carpentry and building. In his first year of living in student accommodation, he became frustrated with food and drink disappearing from the shared fridge. Unable to find a solution, he began working on the concept of a lockable food box for students and people in house shares. Now four years on, LOCKABOX™ is in schools, homes and workplaces for a whole range of uses. He said, "My life is seemly all about thinking within the box."



ALAN MUCKLOW | GROUP PRODUCT MANAGER – EUROPE, YAMAZAKI MAZAK

Having started out as a technical apprentice at The Hymatic Engineering Company, Alan Mucklow moved to Cincinatti Machine after studying business studies at the University of Birmingham. Mucklow's first experience of the machine tool sector came during three years at MAG, before joining Mazak in 2010. He has since helped spearhead some of Mazak's most innovative European launches, including a hybrid full 5-axis additive and subtractive machine tool, the INTEGREGX i-400 AM; and SMOOTH Technology, the world's fastest CNC. He is also a keen advocate of apprenticeship scheme having come through one himself.



MIKE MATTHEWS MBE

MANAGING DIRECTOR, NIFCO UK

Mike Matthews grew up on an estate in Darlington. He started his career as a shopfloor toolmaker, and from there worked his way up to be managing director of Nifco UK and the only non-Japanese member of Nifco's international board. He's been an active member of the business community in the North East, holding the position of president at the NECC (North East Chamber of Commerce) and has forged strong links between local business and schools.

Matthews had a tough start to his engineering career. After the first year of his apprenticeship he was made redundant and he had to find a company willing to take him on and complete his training. After finishing his apprenticeship and working as a toolmaker for a couple of years, he did some soul searching and decided that tool-making wasn't for him. During his childhood he loved fixing cars and doing DIY with his dad, so deep down he knew that he wanted to get into manufacturing. "I didn't want to go to college straight out of school, I wanted to go out and earn some money and an apprenticeship seemed the best route," said Matthews. "However, I've always found making things to be a creative and rewarding experience,

and that determined my move from tool-making to manufacturing."

A keen cyclist, Matthews loves rising to a challenge – and the biggest challenge he has faced in his career was also the making of him. In 2004, Nifco UK faced real difficulties. The company was making losses and Matthews was involved in part of the management team that turned the company around. In 2008, his contributions were recognised with his appointment as managing director, and since then the company has flourished with increasing productivity and a period of sustained growth. This success led to new premises in 2012, followed by the opening of a second facility in 2014.

“
**Personal recognition
 came in 2014, when his
 endeavours in the work
 place and the local
 community earned him an
 MBE in the Queen's Birthday
 Honours List**
 ”

Nifco UK has won a raft of commendations since Matthews took the helm – ranging from the Plastic Industry Awards to Investors in People accreditation. Personal recognition came in 2014, when his endeavours in the work place and the local community earned him an MBE in the Queen's Birthday Honours List.

If Matthews wasn't in manufacturing, his dream job would be a walking guide in the Lake District or the owner of a high-end cycling store, "I'm a keen cyclist and a great admirer of Italian bicycles. So, if you asked me for a non-work-related engineered item that I love, it would have to be my Colnago bicycle, it's a wonderful piece of engineering."

FAVOURITE MANUFACTURED PRODUCT:
iPhone

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Gets stuck-in and slogs away

ALTERNATIVE CAREER:
Owner of a cycle store or walking tour guide in the Lake District



ORLA MURPHY | AUDIO EQ ENGINEER , JAGUAR LAND ROVER LTD

Orla Murphy studied an MEng degree in electronics with music at the University of Glasgow, completing part of her studies abroad at the University of Radford in the US. Her job combines her passion for music and acoustics with her drive for problem solving, which helps produce exciting sound systems and features in Jaguar Land Rover vehicles. Murphy is the IET Young Woman Engineer of the Year and in June, she was awarded the Royal Academy of Engineering Young Engineer of the Year. Murphy is enthusiastic about encouraging more diversity in engineering and manufacturing. She wants to dispel the myths about engineering and manufacturing and entice more young talent into the sector by showing how dynamic and exciting careers in the sector can be.



DAVE MURRAY | CHIEF OPERATING OFFICER, HAYWARD TYLER GROUP LTD

Dave Murray has 30 years' experience in manufacturing and has worked tirelessly to achieve the turnaround of the main operations at HT Luton. Murray re-energised the workforce and built trust using and building upon pockets of lean Six Sigma expertise. Under Murray's guidance, both profits and training hours have increased, and net debt has been reduced. He has a unique leadership style, taking people on a journey with him. He is a remarkable leader, who enjoys working in demanding business environments, where experience, confidence and leadership navigate a difficult path to improvement. For Murray, team results are more important than personal goals.



TOM NEWMAN | COMMON SOFTWARE MANAGER (EUROPE), MEGGITT PLC

Tom Newman started his own IT consultancy while reading systems and control engineering at the University of Sheffield. After graduating in 2013, he joined the global graduate programme of Extreme Environment Engineering Concern, Meggitt PLC. His first four rotations led to InnovateUK funding and £5m follow-on funding to bring digital manufacturing to UK aerospace. Newman then prototyped an online forum for more than 1,000 engineers to discuss new technologies and share best practice. He was also commissioned to lead the development of a new global intranet designed to boost collaboration across all facilities and functions. Newman recently completed his final rotation in Tucson, Arizona, developing novel camera technology for Meggitt's aircraft security system and energy storage business. He is now responsible for centralising safety-critical software engineering within Meggitt's European facilities.



FIACRE O'DONNELL | HEAD OF STRATEGIC DEVELOPMENT, ENCIRC

Over the past 18 years, Fiacre O'Donnell, has played a fundamental role in ensuring Encirc lives and breathes sustainability. His passion for operational efficiency and carbon reduction led to the company winning the Sustainable Manufacturing category at *The Manufacturer MX Awards 2015*. As head of strategic development, O'Donnell is a key part of the Encirc leadership team, working to establish the company as one of the most environmentally friendly producers in the industry. Due to his ongoing commitment to continual improvement, O'Donnell is the embodiment of responsible business and Encirc's company culture.



SIMON O'NEILL | SENIOR DIRECTOR, GLOBAL PROCESS OWNER FOR S&OP, GSK

Simon O'Neill has more than 25 years of experience within blue chip consulting and industries across planning, logistics, procurement and manufacturing. At GSK, he leads the design, deployment, education and training of the global standard sales & operations planning process across the three primary GSK businesses of pharmaceuticals, vaccines and consumer healthcare. O'Neill has led similar "best in class" S&OP programmes in BP (lubricants) and H.J.Heinz. He has a passion for people and building organisational capability. O'Neill treats all business transformations using a very rigorous change management methodology to ensure a sustainable solution.



RICHARD ORMANDY | OPERATIONS MANAGER, AIRBUS DEFENCE AND SPACE LTD

Richard Ormandy started his career as an apprentice at BAE Systems within the military aircraft division. Upon completion, he moved into the manufacturing engineering department working on the Eurofighter Typhoon, specialising in complex problem solving and the application of lean manufacturing. In 2012, Ormandy joined Airbus Defence and Space, Stevenage. This has led to an exciting number of years in various roles ranging from project managing a development Eurostar E3000 telecommunications satellite, to heading up the manufacturing improvement programme. More recently as manufacturing engineering manager, Ormandy implemented a new integrated production system in preparation for a pulse-line production initiative. Now, as operations manager his aim is to make this production concept a success.



STEVE PARKER | CHIEF EXECUTIVE OFFICER, CREAVO MEDICAL TECHNOLOGIES LTD

Steve Parker has held a series of senior roles in international medical device companies for the past 35 years. As CEO of Creavo Medical Technologies, Parker has played an instrumental part in the commercialisation of the firm's technology to date with its first product, Vitalscan, beginning international clinical trials later this year. Vitalscan utilises advanced quantum principles to create unique 'rule out' technology that identifies normal heart function in patients presenting to the emergency department with chest pain or suspected heart attacks. The technology enables clinical practitioners to perform a simple, non-invasive scan at a patient's bedside in around three to five minutes, which 'rules out' heart attacks and other heart-related problems more quickly, helping to ensure that patients can access the right treatment faster.



DR ROBERT PEARSON | PRODUCT LINE DIRECTOR FOR LAND, MARINE & TECHNOLOGY AND TECHNICAL DIRECTOR, COBHAM ANTENNA SYSTEMS, COBHAM PLC

Dr Robert Pearson has been involved in innovation in the field of communications, navigation, satellite technology, radar and antenna systems for more than 30 years. His work has encompassed advanced R&D, consultancy, urgent operational requirements and advanced manufacturing. He has led the teams that developed advanced stealth technology for aircraft, researched next generation satellite technology and development of radar technology that was used to successfully detect IEDs in Afghanistan. He is a regular speaker at international events, presenting on space and satellites, electronic warfare, search and rescue and counter IED. He recently was invited to talk on innovation at the launch of the Manufacturing Engineering and Technology Alliance (METALL). He has also sat on various university panels.



ZEB PERVAIZ | MANAGING DIRECTOR, SKA TEXTILES

Today SKA Textiles is being driven forward by the passionate Zeb Pervaiz, who is third generation of the SKA family. Pervaiz's enthusiasm for the family business began when he spent most of his spare time with grandad and dad on the factory floor. He was keen to get a feel for every part of the business and understand every nut and bolt of the entire operation. He went on to study textile manufacturing with business economics at the University of Huddersfield and after graduating joined SKA Textiles. Pervais has progressed through the ranks to managing director and under his direction he has pushed for greater investment in machinery and R&D capabilities, which has seen the business flourish.



DR JIM PHILLIPS | CHIEF EXECUTIVE OFFICER, MIDATECH PHARMA PLC

Dr Jim Phillips has a strong background in company leadership and business development, and is a physician by training. He founded Talisker Pharma in 2004, which was the first and cornerstone acquisition of EUSA Pharma in 2006. As president of Europe and senior vice president, corporate development of EUSA Pharma Inc., Phillips led the strategy resulting in the acquisition of OPI and its ultimate acquisition by Jazz Pharmaceuticals in 2012. He is currently a non-executive director of Herantis Pharma plc (listed in Helsinki), Insense Ltd (a private spin-out from Unilever), and, until joining Midatech, was chairman of Prosonix Limited, guiding its successful transformation into a respiratory focused business.

THE MANUFACTURER TOP 100





CARL PERRIN

DIRECTOR, INSTITUTE FOR ADVANCED MANUFACTURING & ENGINEERING

Carl Perrin can trace his more than 20-year career in industry back to a childhood spent playing with Meccano and helping his father fix the family car.

Raised in a rural community, Perrin's enjoyment for tinkering and getting his hands dirty led to many a summer spent working on local farms and ultimately to the University of Sheffield where he gained a Bachelor of Engineering in Metallurgy.

"The advice I always give to my children is to do the things you are good at and enjoy, if you can find a career that allows you to do that, then you're going to be very happy and probably quite successful," Perrin explained. "That was the environment that I was brought up in and it has always created opportunities for me."

Having worked first in automotive and subsequently aerospace, Perrin admitted that his career has not been without its challenges – predominantly around the way in which the UK develops technologies, and the commercial and operational hurdles associated with that.

However, it was his decision in April 2014 to make the leap from engineering to a role that bridged industry and academia that proved the most difficult.

"For the first time in my career, it was a role that brought together everything from learning and education and basic fundamental research through

to the full commercialisation of that research," he said.

"Trying to integrate academia and businesses, and have them speak a common language has been tremendously challenging, but it's one I think we've succeeded in with what we've created."



Do the things you are good at and enjoy, if you can find a career that allows you to do that, then you're going to be very happy and probably quite successful



The role in question was taking the concept and funding for the UK's first 'faculty on the factory floor' and helping to create the Institute for Advanced Manufacturing & Engineering (AME) – a unique collaboration between Unipart Manufacturing and Coventry University.

"It was a difficult decision because it was essentially a step into the unknown," recalled Perrin. "The vision had already been laid out, but the opportunity was there for me to take that vision and make something tangible from it, and really put a lot of myself into it. That was one of the things that really drove me to accept it."

In little over two years, Perrin has helped create a world class automation facility with a team of highly skilled engineers, a large cohort of undergraduates – the third year of which started in September, and by this time next year, many of them will have begun their own careers in industry.

"We've also fostered superb supply chain engagement on technologies that have, in some cases, already made their way into production," he added. "The big challenge will be maintaining this superb momentum into the future."

Perrin is particularly proud of the role that AME plays in changing people's perceptions of what engineering and manufacturing looks like, particularly those of young people. The Institute operates an incredibly clean shop floor filled with the latest examples of automation, digital technologies and processes.

"It's vital that we use whatever opportunities we've got to not just train good engineers, but to encourage young people to go into engineering in the first place," he concluded.

FAVOURITE MANUFACTURED PRODUCT:
Anything by Rolls-Royce

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Carl enjoys walking in the countryside

ALTERNATIVE CAREER:
Something outdoors, i.e. forestry



DR RICHARD PRICE | CHIEF TECHNOLOGY OFFICER AND FOUNDER, PRAGMATIC

Dr Richard Price has a 20-year track record in technology commercialisation, with a particular focus on printed electronics and materials chemistry. As a venture manager at the University of Manchester Intellectual Property Ltd (UMIP) he led the creation of spin-out companies from the engineering and physical sciences departments. Price's successes include CableSense, Arvia Technology and Nano ePrint. Previously, he was a senior chemist at Elam-T (later OLED-T) discovering more than 100 novel materials and co-inventor on seven patent families sold to Merck KGaA. Price is inventor on 15 patent families and holds a first class degree and PhD in chemistry, both from Durham University.



TIM PUGH | CEO, JAMES BRIGGS LTD

Tim Pugh is an experienced leader specialising in developing high growth manufacturing businesses. Pugh is currently leading James Briggs, one of Europe's largest manufacturers of consumer chemicals and aerosols. He has also held senior positions with Scania Group, RAC and U-POL. Pugh has a wealth of international experience and has been recognised for his ability to strategically shape and drive businesses forward, whether from a commercial, structural or operational standpoint. Adaptable and approachable, Pugh has contributed significantly to the international success of some of the UK's most recognised export brands.



ALEX RICHARDSON | SMT TEAM LEADER, INTEGRATED TECHNOLOGIES LTD

With a love of taking things apart and putting them back together again (most of the time), Alex Richardson was destined for engineering. After college he started work as a machine operator before joining ITL as a machine technician, quickly rising through the ranks to become SMT team leader. His main role is to run the PCB manufacturing department, but his job goes beyond that, to include process validation, maintenance and the product testing regime, as well as supporting sales. Richardson strives to continuously improve and perform better than the day, the week or the year before.



ANDREW ROBINSON | MANAGING DIRECTOR, ARC ENERGY RESOURCES LTD AND CLG ENGINEERING LTD

Arc Energy Resources supplies weld overlay cladding and specialist fabrications to the oil and gas, defence and petrochemical markets. Since joining the company in 2008, Andrew Robinson has worked in various roles, including procurement, project management and scheduling. Following his appointment to director in 2013, he developed a six-year business plan emphasising 15% year-on-year growth and diversification into new markets, notably nuclear. In 2015, he managed the construction of a new workshop, and in 2016 negotiated and completed the acquisition of CLG Engineering, adding precision machining to the company's scope of supply. He is heavily involved in CSR activities, particularly encouraging young people into engineering, and is a member of the Gloucestershire LEP Advanced Manufacturing sector group. Robinson also sits on the Advisory Board to the National Skills Academy for Nuclear.



PAUL ROE | GENERAL MANAGER, RP TECHNOLOGIES LTD

Paul Roe's career has seen him gain valuable experience within the plastic injection moulding industry. Starting in a junior position after leaving school, he progressed to various challenging roles within the industry including process engineer, production manager and sales engineer. His career has seen him work across Europe, managing automotive tooling and processes. Roe was a founding member when setting up a UK manufacturing facility for a global organisation. He joined RP Technologies in 2013 to establish its moulding facility and is a vital part of the company's growth to become the UK's leading manufacturer of injection moulded prototype components.



MICK RATH

MANAGING DIRECTOR, MICHAEL RATH BRASS MUSICAL INSTRUMENTS LIMITED

Graduation from music college, followed by further studies in musical instrument technology meant that one way or another Mick Rath was always destined to be involved in the production of musical instruments. His first job was producing French horns in Covent Garden, where he was perfectly placed to make friends and contacts in the music industry.

Later, Rath started to specialise in work on trombones and in 1990 he moved to Yorkshire to start his own repair business. Five years on, the backing of some of the UK's finest jazz players convinced him to start production – one even asked him, “when are you going to start making your own?”

Those initial clients have now been joined by such household names as Tom Jones, Robbie Williams and the band Simply Red, who all look to Rath to provide Trombones. He said that one of his proudest achievements has been to put British trombones on the global stage, and has received pictures of musicians using his instruments in Taiwan, Australia and even Tahiti.

This success has been earned through hard work and meticulous product

development. Rath explained that over the course of a decade, his company has diversified from one product to 20 different models to cover a range of customer needs.

There were early struggles – moving from a start up to an SME produced cash flow challenges as Rath developed his products and the company. The tooling to create a new trombone is specialist and pricey, and all too often banks are over cautious about lending money to manufacturers at the start of their journey.

“

I've simply gone out to make a living and the way you do that properly is to make sure the quality is top level and to never get complacent

”

The company also suffered a tragic set back early in its existence. Rath explained, “We hired a young lad, who became my right-hand man. Then sadly he died in a motorcycle accident – that was a tough time.”

When Rath was told he'd been named in *The Manufacturer Top 100*, he responded, “It seems odd! I just carry on and do my job without trying to impress anyone. I've simply gone out to make a living and the way you do that properly is to make sure the quality is top level and to never get complacent.”

FAVOURITE MANUFACTURED PRODUCT:
The trombone

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
HRH The Princess Royal visited the factory in February 2015

ALTERNATIVE CAREER:
Chef in a small restaurant



JACKIE ROYALL | CHIEF EXECUTIVE OFFICER, VISCOSE CLOSURES LTD

Jackie Royall is a qualified accountant with a masters in lean manufacturing and is a Six Sigma black belt. Royall’s career in general management, running manufacturing sites for US multinationals, progressed to a vice president role with PerkinElmer Inc. supporting the strategic procurement and supply chain processes for 27 manufacturing sites located all over the world. In 2005, Royall set up her own business specialising in turnaround and support in the SME market, stabilising and recovering under-performing organisations or supporting businesses to realise profitable growth as they expand. In 2014, Royal joined Viscose Closures Ltd as CEO. Royall’s board experience includes public and private sector appointments as executive and non-executive director.



JAMIE RYAN | MANAGING DIRECTOR, MILLERS OILS LTD

Jamie Ryan started out as an electrical engineer in the RAF. His first role in manufacturing was as part of a multi-disciplined team that built, commissioned and ran a fully automated factory in North Wales and from there his employers moved him regularly from one hot spot to another. Ryan was never afraid to invest when required, but he learned very quickly that often the answer is in the people. Now, as the managing director of Millers Oils, Ryan is passionate about employee engagement and presents at many conferences on the cultural change required to prepare businesses for a fast moving and often uncertain future.



BEN SALDER | MANAGING DIRECTOR, LEANING THE WAY LTD, FORMERLY BAE SYSTEMS

Ben Salder comes from a production management background in organisations such as Pepsico, Toyota Motor Manufacturing UK and BAE Systems. He has led multiple lean transformations, supported conflicting organisations to collaborate successfully and been the change management lead and change management advisor on significant ERP implementations. He combines this practical leadership experience with his extensive knowledge of lean, change management and organisation development in an exceptionally engaging and inspirational way to support organisations through significant transformations. Salder is also a guest lecturer at Warwick University where he speaks on lean leadership to MSc students.



JACK SAVVA | DIRECTOR, STAFFA SHOES

Jack Savva has spent almost half a century working in the footwear trade. He began at age 13, working part-time at a shoe factory in Islington, North London. Savva’s grit and determination saw his business survive the decline of the textile industry in the 1990s, as well as 2008’s recession. Although, he came very close to opening a café, his passion for the industry urged him to do everything he could to keep the business afloat. Staffa Shoes is one of very few shoemakers in the UK, offering quality shoemaking from start to finish. Staff Shoes make footwear for British brand Yull and have provided catwalk pieces for Julian McDonald and Alexander McQueen.



COLIN SCARSI | CHAIRMAN AND CEO, GREENTYRE COMPANY

Colin Scarsi started his own company 25 years ago, after appearing on BBC’s Tomorrow’s World showcasing bicycle tyres that never go flat. A natural problem solver, Scarsi strove to introduce the concept of a never failing tyre to the healthcare sector too. After many years of pounding the streets and banging on doors, he single handedly got the NHS in the UK to adopt solid tyres for wheelchairs. This saved millions of pounds in service calls for the hard stretched NHS, where now almost all new wheelchairs have a puncture proof solution on the wheels. His team in Middlesbrough now export UK made products to countries around the world.

THE MANUFACTURER TOP 500





ALEXANDER SCHEY

CHIEF EXECUTIVE OFFICER, VANTAGE POWER LTD

"I was never that interested in cars and, to be honest, I'm still not. I can appreciate the design styling of a Ferrari, for example, but most cars don't excite me." When Alex Schey, co-founder and CEO of Vantage Power, said that to me, I must admit it came as a bit of a shock.

Here was someone who has been involved in cars for almost a decade. He was part of the Imperial College London Racing Green Endurance (RGE) team, which drove 26,000km down the Pan-American Highway from North Alaska to the southern-most tip of Argentina in a road-legal, long-range electric supercar.

What really excites Schey, however, is what's beneath the hood, the engineering and dynamic movement taking place below the surface. That's a fitting analogy for Schey himself; someone who appears calm and still on the surface, yet gives the impression of a mind that never sleeps, constantly thinking and reviewing challenges and ideas.

Schey established Vantage Power in 2011 alongside fellow co-founder and current CTO, Toby Schulz. The West London-based business designs, manufactures – in partnership with Northamptonshire metal engineering firm, Fablink – and retrofits complete diesel-electric hybrid powertrains for public buses.

The retrofit nature of the system allows operators to reduce their fleet's fuel consumption and CO2 emissions at a fraction of the cost of purchasing new hybrid buses.

By designing the entire hybrid system – everything between the fuel tank and the wheels – optimal performance of every component can be ensured, which in turn results in higher fuel economy, lower emissions and greater reliability than alternative systems.



What really excites Schey, however, is what's beneath the hood, the engineering and dynamic movement taking place below the surface



His biggest challenge and biggest achievement are one and the same for Schey, namely starting Vantage Power and growing it from a two-person outfit with no money to now, where the business employs 35 and has received investment totalling £5m.

"It's difficult to fully appreciate when you're looking at a business from afar and you only see individual successes, because that's what you trumpet," he explained. "Of course those are all

successes in themselves, but actually surviving and going through your technology development in itself is probably the biggest achievement because there are just so many things to stumble on along the way."

Being so focused on Vantage Power meant that being named among *The Manufacturer Top 100 2016* came as a shock to Schey, let alone being highlighted as an exemplar. However, the nomination has provided him with a fitting opportunity to stand back and take a look at how far he and the business have come.

"I'm not constantly thinking we are doing something absolutely incredible here because my head is so deep into it that it just becomes the norm," he said. "Being nominated reminds me how far we've come and achieved. That's one of the reasons why I'm so honoured to be a part of this."

FAVOURITE MANUFACTURED PRODUCT:
All the work Tesla Motors is involved in

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
He is very competitive

ALTERNATIVE CAREER:
Physics – applied research



ANDY SCHOFIELD | HEAD OF MANUFACTURING & MATERIALS ENGINEERING, BAE SYSTEMS MILITARY AIR AND INFORMATION

Having more than 35 years of product lifecycle experience in the aerospace industry, Andy Schofield is currently responsible for the development, deployment and subsequent governance of all engineering processes, technology and capabilities used across a variety of military aircraft products. He sits on a number of advisory groups in the UK and represents BAE Systems on the programme boards of a number of High Value Manufacturing Catapult Technology Centres in the UK. He is a member of the Institute of Materials, Minerals and Mining and a chartered engineer.



KAMALJIT SINGH KHAKH | MANUFACTURING EXCELLENCE MANAGER, JAGUAR LAND ROVER LTD

Kamaljit Singh Khakh has worked at Jaguar Land Rover for six years, joining the Manufacturing Graduate Programme in 2010. Since then, Khakh has worked in a number of roles ranging from engineer in current manufacturing to production supervisor, as well as working across different technologies. Khakh was very quickly promoted to management level, where he currently works in the manufacturing excellence department. Here, he uses his knowledge of lean, both from his university studies and experience gained through working in production, to drive the manufacturing business forward, help support growth in the company and build a strong platform for the future.



JON SUMNER | ASSOCIATE SALES DIRECTOR, LAMBERT ENGINEERING

Jon Sumner received his BEng manufacturing systems through Leeds Metropolitan University and MBA through the Open University. Sumner's specialism is in automation systems and he worked for several years at Mitsubishi Electric before joining the Lambert team. During Sumner's tenure, Lambert has achieved record growth in sales order input together with great success at *The Manufacturer MX Awards 2015*, culminating in the award for Manufacturer of the Year. Sumner's mantra has been to achieve true partnerships with both customers and the supply chain, creating mutually beneficial and long-term relationships. Sumner is passionate about promoting engineering within the UK to ensure sustainable employment.



RICHARD SWART | GLOBAL SALES DIRECTOR, BERGER GROUP EUROPE

Richard Swart has been instrumental in turning around the fortunes of a German-owned stock-listed manufacturing business and in supporting the global export ambitions of hundreds of UK companies. He was initially hired to establish a UK manufacturing base in Durham in 1988 before becoming group chief executive officer, where he reformed and stabilised the business and returned it to good strength. He initiated acquisitions in Turkey and Italy and oversaw the creation of a new Chinese manufacturing base. He established new markets and relationships in Europe, Singapore, China, Saudi Arabia, Czech Republic and facilitated the company's first trade with Cuba. He was recently awarded the UK South Africa Bilateral Trade Promotion Award by the South African Chamber of Commerce in London.



ARIA TAHERI | MANAGING DIRECTOR, GLADIATOR PC

Aria Taheri is CEO and owner of Gladiator PC, manufacturing high end gaming systems. Taheri has had a varied career background, including working in a chicken factory giblet room, working as a chambermaid and dispatch riding. During his master's degree at UMIST, he developed a smell sensing array, which was later used in the Ariane Space Project. In 1993, he learned how to cook memory modules in an Argos grill oven, which led to the foundation of Aria Technology Ltd - a business that swiftly outgrew his student flat in Manchester. In 2011, Taheri featured on the Channel 4 reality show *The Secret Millionaire*.



JOANNE SHARPLES

TYTAN CONTRACT CHANGE PROJECT MANAGER, BAE SYSTEMS - MILITARY AIR AND INFORMATION

Inspired by her grandad's enthusiasm for aviation, Joanne Sharples joined BAE Systems in 2012 as a project management apprentice and has completed four 12-month placements so far. "I chose the apprenticeship route as I believe hands on work experience is key to success," she explained, "I had a strong desire to gain experience alongside my learning.

"Within each role, I have had the responsibility of controlling cost and schedules, learning about the company and how to manage projects of different sizes and complexities. Through these placements the knowledge and experience gained has allowed me to take on more responsibility and widen the scope of work undertaken," she added.

A keen advocate of hard-work and perseverance, Sharples advice to anyone embarking on a career in manufacturing is "never give up on your dreams", and she learned this the hard way when she developed a neurological muscular-skeletal disorder, which resulted in her taking six months off from her apprenticeship.

"The company and the college were very supportive during this time and suggested that I postpone my apprenticeship and foundation degree. However, I was determined to continue with them both. I became the first one of my cohort to achieve sign-off of all the apprenticeship competencies and achieved a distinction in my foundation degree."

**“
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”**

Sharples' fearless determination saw her awarded National Highly Commended at the National Apprenticeship Awards for Higher Apprentice of the Year, as a result of which she visited 10 Downing Street to meet the Prime Minister.

Sharples is dedicated to encouraging the next generation of youngsters into the skills pipeline. "I am very passionate about encouraging young people into STEM, especially encouraging more females into the engineering sector and I am aware of the gender imbalance issue facing most STEM careers.

"I have helped influence the BAE Systems Apprentice recruitment campaign to ensure that it is attractive to young children considering a future career in STEM," she said.

When asked about how it felt to be not only shortlisted but placed on a pedestal as a shining example of great talent in the sector, Sharples said, "I am shocked but feel honoured to have been recognised for the work that I do."

FAVOURITE MANUFACTURED PRODUCT:
Eurofighter Typhoon

INTERESTING FACT THAT FEW PEOPLE KNOW
ABOUT YOU:
Qualified Marine Mammal Medic

ALTERNATIVE CAREER:
Veterinary surgeon



KIRAN TAILOR | PROJECT CO-ORDINATOR, LONTRA

Kiran Tailor began her career with Cummins fast-track Graduate Scheme at its high horsepower plant, which manufactures engines for power generation, marine, construction and rail. She was soon promoted to account manager at Cummins' EMEA Headquarters and made responsible for engine sales across Western Europe. Tailor gained her PRINCE2 Practitioner qualification at Lontra, where she plays a key role in overseeing both engineering and commercial engagement projects. Tailor works closely with organisations such as the InnovateUK, the EU's Horizon 2020 and the Carbon Trust, all of which are actively engaged in projects with Lontra.



PATRICK TONKS | CREATIVE DIRECTOR, PRECISION STITCHING LTD

Patrick Tonks graduated from Nottingham Trent University with a first class honours degree in industrial/product design. Straight after university he started life in business by splitting his time between handing out the Metro newspaper in the mornings, printing t-shirts for his fledgling business in the storeroom of a textiles factory in the afternoons, and working behind a bar in the evenings. Ten years later he now owns that same textiles factory, along with two other partners. Under Tonks' direction, the firm now employs 22 people, recently moved premises to a 10,000 square foot facility in Nottingham city centre and has seen 20% growth on last year's revenue. As part of this growth, Tonks has recently overseen Great Bean Bags' success in becoming the bean bag supplier to ESPO.



RICHARD TOWES | SENIOR MECHANICAL DESIGN ENGINEER, AIRBUS HELICOPTERS UK LTD

Richard Towes' childhood interest in flying led to a lifetime career in aviation. He entered an engineering apprenticeship with British Aircraft Corporation, Weybridge and learned, by both practical and theoretical application, the various facets of aircraft design and construction. Towes spent 20 years of his career overseas working at companies such as DeHavilland (Canada) on Dash 8, Canadair on the Challenger and Fokker Aircraft (Amsterdam) along with various other companies. A chance opportunity in 1996 led to a new avenue in rotary wing aircraft with work for Bristow Helicopters and Helicopter Service (Norway). This led to accepting a job with McAlpine Helicopters (Oxford). McAlpine was acquired by Eurocopter in 2008 and subsequently re-branded as Airbus Helicopters a couple of years later. Towes is a staunch advocate of apprenticeships.



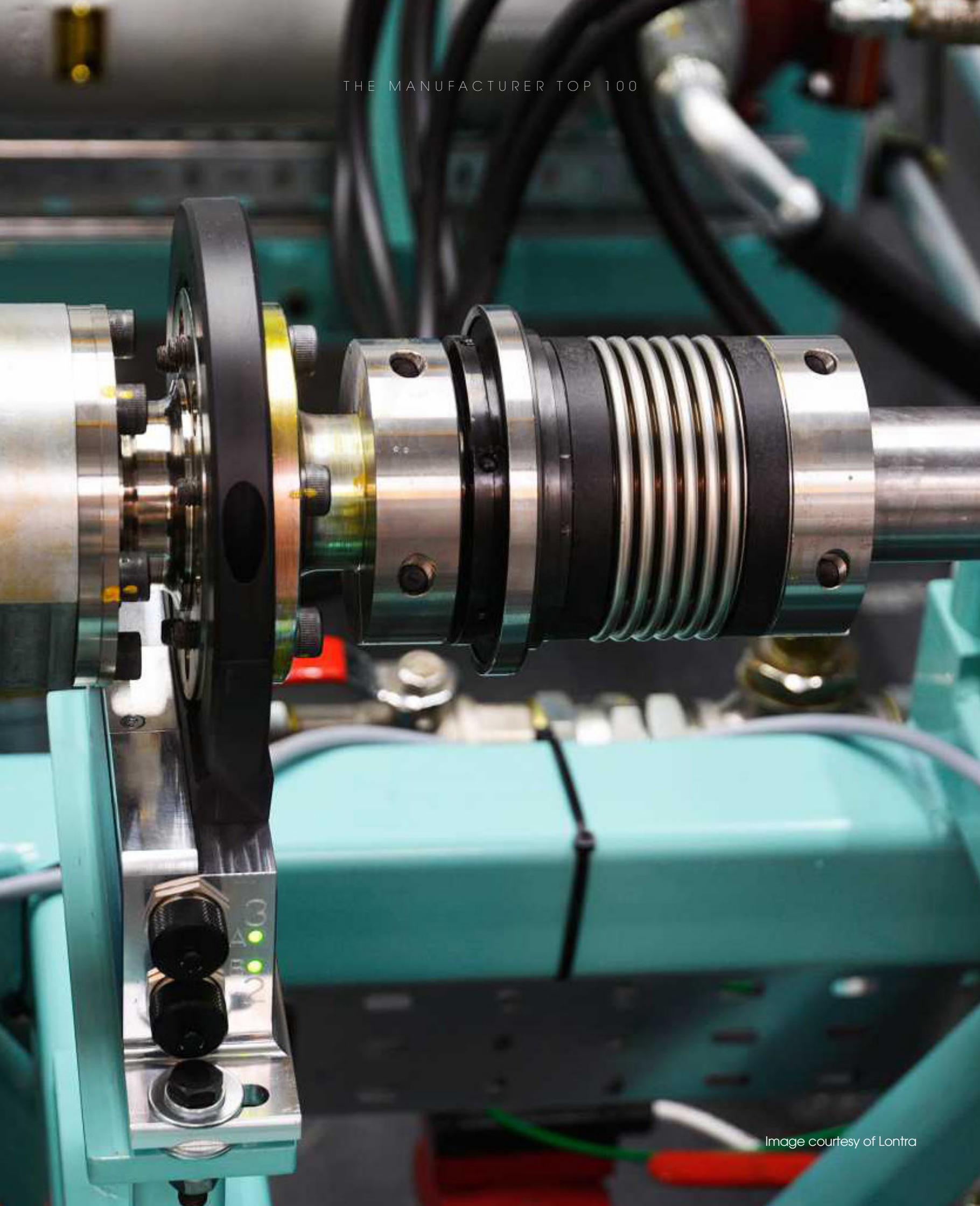
FRED TURNER | MANAGING DIRECTOR, FLOOD TECHNOLOGIES LTD

Fred Turner is an inventor, experienced patternmaker, and manufacturer. Putting his patternmaking skills to good use, in 2001, he invented, designed, innovated and started manufacturing his patented range of demountable aluminium flood barrier systems, at his factory in Coventry. Turner has become synonymous with his market leading product and a highly respected engineer in the field of flood defence technologies. His barriers are now sold in the UK and exported around the world. As a City of Coventry Freeman, he also enjoys sharing his engineering knowledge, experience and expertise with engineering students from Coventry University, when inviting them along to his manufacturing facilities.



NICK WALKER | OPERATIONS MANAGER, SCREENTEK INTERNATIONAL LTD

In September 2008, as a self-proclaimed University dropout, Nick Walker decided a career in manufacturing would be his best option. Walker started working at Screentek UK in 2008. Since then, he has built his knowledge of manufacturing and progressed through the company to become operations manager just seven years later. The firm has supported Walker by providing training from the likes of The Manufacturing Institute, in turn, his knowledge of lean and implementation of 5S procedures has had a positive effect on the company's manufacturing processes. For his hard work, Walker has earned the award of a Lean Manufacturing Fellowship of The Manufacturing Institute.





BRIDIE WARNER-ADSETTS

CHIEF OPERATING OFFICER, NAYLOR INDUSTRIES PLC

Being one of eight children, Bridie Warner-Adsetts knows how to make her voice heard, particularly in the world of manufacturing.

A Yorkshire woman born and bred, she was educated in Sheffield and when she told her school careers advisor that she wanted to be an engineer, she was given an application for a typing course and sent on her way. Luckily for Warner-Adsetts her career aspirations were fully supported at home, "In my family, we were encouraged to be anything we wanted to be," she said.

Ignoring the naysayers, Warner-Adsetts took her natural affinity with science and went on to study mechanical engineering. After graduating in the mid-1980s, the young engineer found it increasingly difficult to find a job in manufacturing as a woman, however, she called this difficulty her "biggest motivator" to succeed.

Warner-Adsetts went on to have several finance roles in manufacturing companies, but admitted that she found finance a little dull.

"I had a moment where I realised finance was quite tedious. I wanted to shake it up and do something different. I decided to go 'walkabout'. I lived in Hong Kong for a while and then Australia. I

travelled the world, in between work and backpacking," she said.

Warner-Adsetts began to understand that her interest lay in people and values, so she set up her own consultancy and it was through this venture that she found Naylor Industries.

"I was asked by a non-executive chairman of Naylor Industries, who had been a non-executive chair of one of my businesses, to do some consultancy work. I agreed and over 12 months, I got more and more absorbed in the firm.



Warner-Adsetts has many great achievements to shout about, however, 'bringing Naylor Industries back into private ownership was a biggie'



"Edward (Naylor) asked me to join the board and that was six years ago," she said. Now chief operating officer is Warner-Adsetts' full-time, day job and with her contribution, the business' turnover has increased from £30m to £50m, the product range has grown, acquisitions have been accomplished, and now Warner-Adsetts is part of ambitious plans to double turnover to between £80m to £100m in the next five years.

Warner-Adsetts has many great achievements to shout about, however, "bringing Naylor Industries back into private ownership was a 'biggie'," she said.

"As much as it was important for the structure of the business, it was important for all the employees too. It ignited the business and showed that we the board, had put our money where our mouth was. What came from that was great," she added.

She may be an incredible role model for young people, but Bridie Warner-Adsetts is modest and said she felt "slightly uncomfortable" with the attention. "But I'm thrilled that I have a way of getting across to a younger audience that there are incredibly dynamic careers in manufacturing. I'm privileged to say that to a wider audience," she added.

FAVOURITE MANUFACTURED PRODUCT:
Denlock jacking pipe

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Qualified agronomist

ALTERNATIVE CAREER:
Farmer


EMMA WILDING | VEHICLE SAFETY ENGINEER - DEGREE APPRENTICE, JAGUAR LAND ROVER

Emma Wilding started on a degree apprenticeship within vehicle safety at Jaguar Land Rover in 2012. She is passionate about promoting apprenticeships and women in engineering and manufacturing. She was featured in The Telegraph magazine as 'Crash Test Smarty' and has been a finalist in various local and national apprenticeship awards programmes. Wilding is a founding member of the Apprentice Forum within JLR and has worked on events promoting engineering, including working with Zara Phillips. In her spare time, Wilding is a youth leader in her local community and has supported a school and orphanage in Mozambique.


MICHAEL G WILLIAMS | EXECUTIVE DIRECTOR, HAYWARD TYLER GROUP LIMITED

Michael Williams has worked in manufacturing for 40 years. He is one of the UK's first lean/Six Sigma practitioners with a pedigree of change management. He proactively walks the floor, listens to everyone and engages with their day-to-day activities, building trust and respect within teams. Williams first took command of the supply chain team shifting from 'make versus buy' process, identifying 'core and non-core' activities to reduce costs and enhance the customer experience. Williams tirelessly supports graduate and apprenticeship programmes, in fact, he recruited and mentored the winner of The Manufacturer Young Manufacturer of the Year 2013. Williams was instrumental in providing support to the board to develop the concept of the Centre of Excellence, creating the world's most advanced facility for specialist motor manufacture, thus underpinning not only Hayward Tyler's future in the local community but also globally.


STUART WOOD | HEAD OF BUSINESS EXCELLENCE, OXFORD INSTRUMENTS PLC

Stuart Wood began his manufacturing career as an apprentice at Austin Rover, after which he studied mechanical and manufacturing engineering at Bristol, and later industrial engineering (specialising in lean techniques) at Coventry University. Wood's principal focus is operations management and the implementation of lean philosophies and practices, and the development and execution of global lean transformation programmes. A chartered engineer and fellow of the Institute of Mechanical Engineers and Institute of Directors, Wood is also an Industrial Advisor and Interviewer for the IMechE (reviewing and assessing engineers seeking chartered engineer status). Wood is passionate about business success through operational excellence.


GIL WOODWARD | MANUFACTURING MANAGER, ACCOLADE WINES

Gil Woodward has been with Accolade Wines since January 2010 in a variety of local and global continuous improvement roles, and since 2014 as manufacturing manager. Woodward was the architect for Accolade's Lean Management System, which includes its bespoke policy deployment, Review and Direction Setting and a successful apprenticeship programme using BIT. With Woodward's input, the firm won Leadership and Strategy (2012) and World Class Manufacturing (2015) at The Manufacturer MX Awards. Woodward is a GSK trained Lean Sigma Blackbelt and an Ambassador of TeachFirst. He's an alumni of Bath University, where he studied Chemistry, and IOE UCL where he studied for a masters in Teaching.


MARK WOODWARD | CHIEF EXECUTIVE OFFICER, THE PRINTED CUP COMPANY LTD

Having previously worked for Huhtamaki, one of the largest manufacturers of printed cups, Mark Woodward established the Printed Cup Company from his front room in 2005, setting up its own distribution network in 2009. Driven by a desire to bring manufacturing back to the UK, his presence as CEO is seen in all aspects of the company. Woodward is proud to be a UK manufacturer and continually invests in people and equipment to improve products and achieve success year on year. From incorporating flexi-time for salaried staff, to making sure everyone stands out, Woodward is dedicated to his workforce and continually strives to make The Printed Cup Company a great firm to work for.



JACOB WILSHAW

MANUFACTURING ENGINEER, THALES

Unsure of where to turn after underperforming in sixth form and then reluctantly following a traditional path to study aeronautical engineering at college, Jake Wilshaw's career was saved by advice from a friend, who recommended he join Siemens as an apprentice. "It's been brilliant, I've been involved in so many different projects and so many different schemes."

At Siemens he thrived, and even as an apprentice he contributed to £300,000 worth of savings for the company through business improvement initiatives, reducing waste and optimising processes.

Over 300 people applied for Wilshaw's apprenticeship, so along with the savings, one of his proudest achievements was simply to have been accepted. Finishing the apprenticeship was an even bigger challenge – he had to juggle full-time work with studying. Nevertheless, he took it all in his stride, qualifying from his apprenticeship 18 months early.

Although it sounds like Wilshaw took to his apprenticeship like a duck to water, it hasn't always been a smooth ride. By his own admission he was unsure about what he really wanted to do after

school. He tried sixth form but didn't enjoy it, and was never properly told about apprenticeships as an option. So he moved on to college before finally finding success as a Siemens apprentice. If Wilshaw could give his younger self any advice, he said it would be, "Don't panic! – there's more than one route to a good career and a good education."



People within UK manufacturing know how brilliant the industry is, but the rest of the UK isn't as proud of the people or industry as it should be



Since entering the world of manufacturing, Wilshaw has only positive words for the industry and the people in it, commenting, "I think it's really important to recognise the number of great individuals in UK manufacturing". He believes there should be more positive role models for young people to help raise interest in the industry. "People within UK manufacturing know how brilliant the industry is, but the rest of the UK isn't as proud of the people or industry as it should be," he said.

When it comes to choosing his favourite piece of manufacturing, Wilshaw is in no doubt. "Rolls Royce gas turbines – the logistics, level of engineering and supply chain that go into a product like that are an achievement that the general public should be more proud of," he enthused.

Wilshaw's a passionate believer that apprenticeships are undervalued in the UK and that it doesn't matter what age you decide to take that route. "Although sixth form wasn't a success because I wasn't sure what I wanted to do, I can show people that even if you make a mistake or are uncertain about the road ahead when you're 16, you can still turn it around and make something of yourself," he said.

Wilshaw started his newest role at Thales as a manufacturing engineer in September 2016.

FAVOURITE MANUFACTURED PRODUCT:
Turbine engine

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Started his apprenticeship aged 20

ALTERNATIVE CAREER:
Engineer



ROSIE WOLFENDEN MBE

CO-FOUNDER AND MANAGING DIRECTOR, TATTY DEVINE LTD

Rosie Wolfenden founded Tatty Devine in 1999 together with her business partner and art school chum, Harriet Vine. The pair began their business venture by making leather cuffs and other pieces, which they took to Portobello Market. They very quickly began selling to shops like Harvey Nicholls and Whistles, and even had some of their pieces showcased in vogue.

"We were a tiny business at that point, making everything ourselves," Wolfenden said, "We discovered laser cutting around 2001, then we started really making what we are known for now, laser cut jewellery.

"On a trip to New York, we came across a place that had lots of laser cut acrylic signage and architectural model-making. We took some examples back, loved it and it continued from there. We found a local model maker to laser cut our shapes, and at that time no one was laser cutting jewellery, it's really common now, but back then it was a novelty," she added.

In 2009, Wolfenden and Vine set up a studio in Kent, where they now employ 16 people who manufacture the jewellery.

"We also do all of our fulfilments at the studio in Chatham. Because it's so specialist, it is not something we've ever wanted to manufacture elsewhere. We are the leaders in what we do and the quality is really important to us. The nearby studio means we have everything at our finger tips," she said.

Irrespective of her great success, Wolfenden is incredibly modest and remarked how she is "constantly amazed" to have played a part in creating a brand "that has so much resonance and is so well loved". But Wolfenden admits that it hasn't been easy.

"There is a tremendous amount of pressure to grow and that is always a challenge, because it needs investment and people.

“It's lovely to be acknowledged. When you run your own business, you're rarely acknowledged, there's no one to pat you on the back



"But you should never be afraid to ask for help. There's always someone who knows a bit more than yourself. The London small business centre has always been amazing. We've been visiting it on and off for the past 16 years. Its support has been phenomenal," she added.

When asked how it felt to be an exemplar, Wolfenden said it was "fantastic", particularly on top of the MBEs both her and Vine received in 2013.

"It's lovely to be acknowledged. When you run your own business, you're rarely acknowledged, there's no one to pat you on the back."

FAVOURITE MANUFACTURED PRODUCT:
Stationary such as hole punches, staplers and calculators, especially old ones from 1940s or 1960s

INTERESTING FACT THAT FEW PEOPLE KNOW ABOUT YOU:
Started young by selling homemade friendship bracelets and scrunchies aged seven

ALTERNATIVE CAREER:
Artist

THE MANUFACTURER TOP 100



Know someone inspirational in manufacturing?

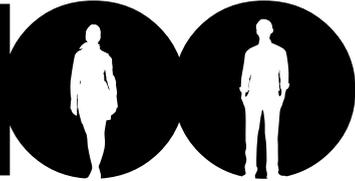
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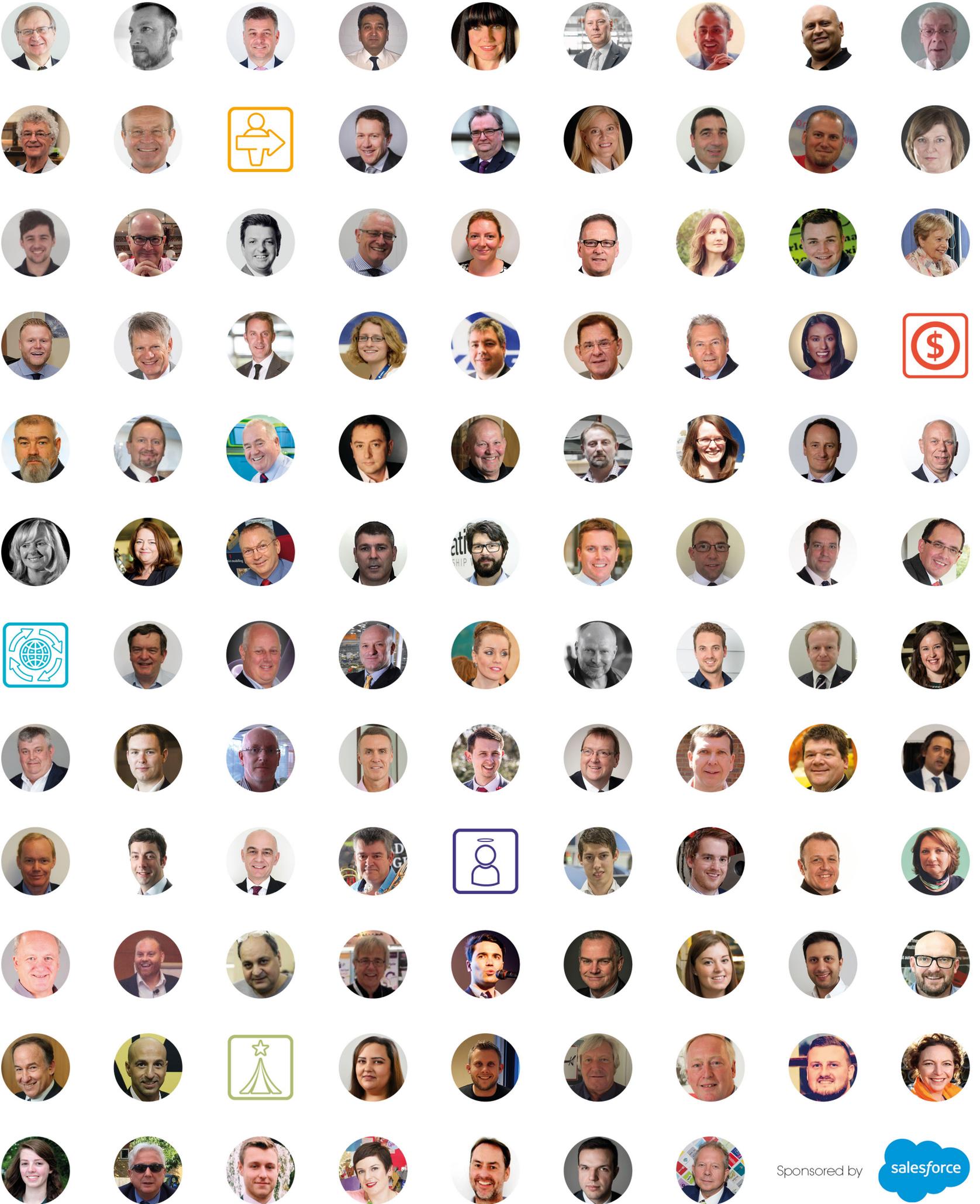


H E N N I K

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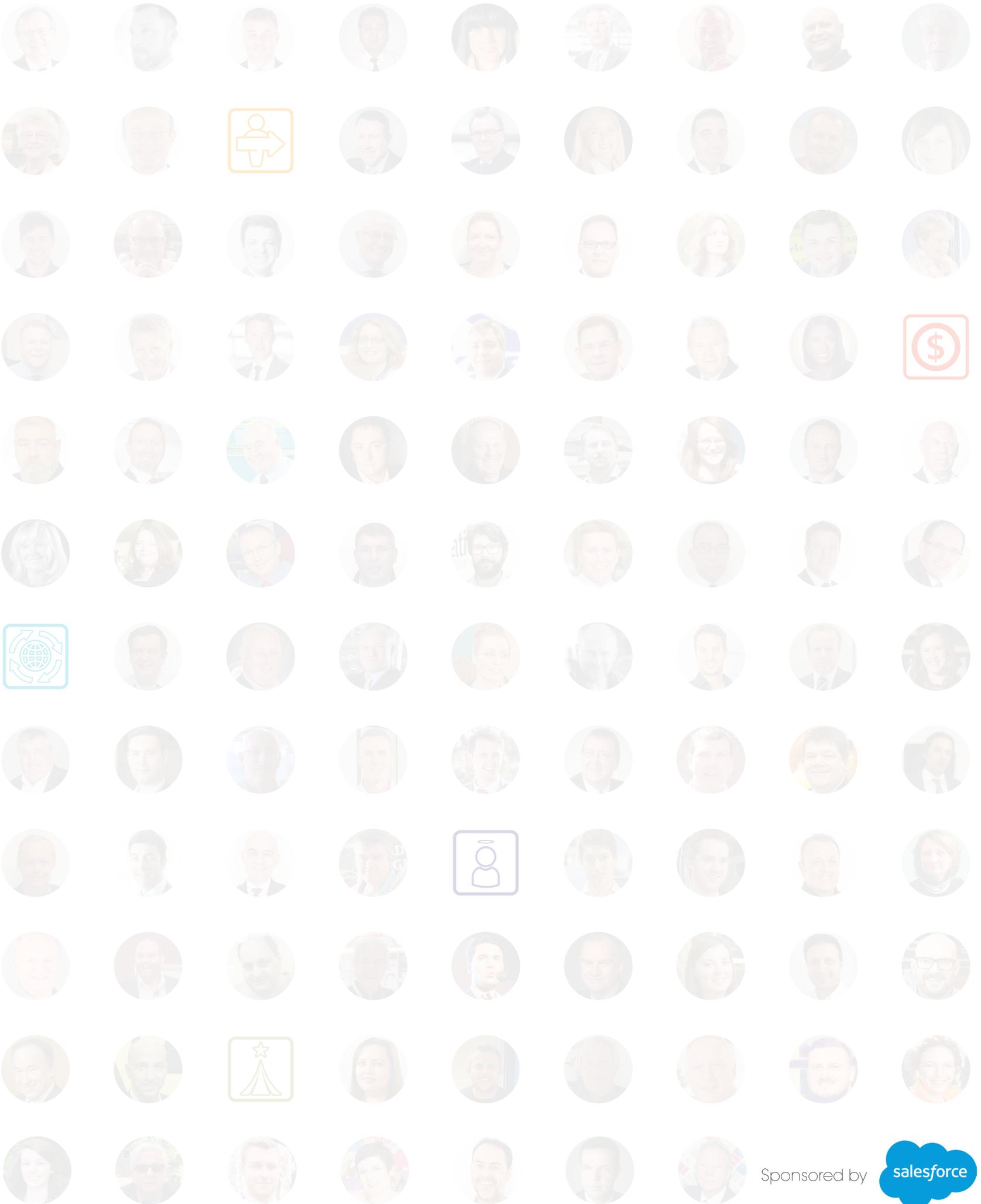
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