



# THE Manufacturer

OFFICIAL OPUS 2017



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THE BEST MANUFACTURING COMPANIES IN THE UK

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“If anyone believes manufacturing is dark, satanic or a career dead-end, we urge them to wake up and smell the digital coffee”



Image courtesy of Siemens

## Foreword



**Henry Anson**  
Business Development  
Director,  
Hennik Research Ltd

The team spend all their year here at *The Manufacturer* writing about and championing the cause of UK manufacturing. It is, as the Americans would say, our meat and potatoes. It's what we do, and we love it.

Once a year, however, we get to do something extra special, something that puts the icing on our daily cake. We get to publish this book, *Opus*. In these pages you will find some of the very best of UK manufacturing, companies large and small who take pride in the unremitting pursuit of excellence. It gives us so much pleasure to be able to celebrate what they do, day in and day out. We don't claim to be bringing you the definitive list. This is a snapshot of a changing, dynamic scene. There is new gold being discovered every day, new companies that amaze with the brilliance of their innovation and execution. Older companies who shed their skins to get ready for the great digital future that lies ahead.

This is not a bad place to stop and think about what I just wrote... "The great digital future that lies ahead". I confess we have searched our souls over the last 12 months to ask if we were not getting carried away by the much-noised promise of digital manufacturing. Is it hype? Should we treat it with scepticism? We spoke to experts from right across the board: manufacturing operations, IT, exporting, supply chain, even politics. And the fact is, the future really is digital. We are convinced of it. Only by embracing all forms of new technology, from sensors through to cloud computing, big data, automation and additive printing will UK manufacturers win the global race. The fear is that too many will fail to heed the message, either because they cling stubbornly to old practices, or because they are caught like rabbits in the headlights, bewildered by the complexity of it all. Hopefully the government's new industrial strategy, which has been created with the help of manufacturers, will succeed in transmitting the digitalisation message loud and clear, offering practical support measures that will encourage companies to modernise.

And that brings me back to this book. As passionate supporters of manufacturing, we regard it as our duty to use every channel possible to tell the good news about modern manufacturing in the UK. *Opus* is a terrific way to demonstrate, particularly to schoolchildren, their teachers and their parents, that manufacturing in 2018 is a far cry from the grimy past of 40 years ago and offers brilliant career opportunities. If anyone believes manufacturing is dark, satanic or a career dead-end, we urge them to wake up and smell the digital coffee. If you are reading this and know of people who think like that, show them *Opus* and invite them to take another look. It's worth it.

We hope, after reading it, that you will too.

**DURA**  
Automotive Systems

www.duraauto.com



# DURA Automotive Systems

DURA Automotive Systems is a leading independent designer and manufacturer of driver control systems, seating control systems, safety hardware, structural body systems, exterior trim and integrated glass systems.

“Dura Automotive Birmingham is a highly organised manufacturing facility with great teamwork and a passion for continuous improvement. We have an amazing, motivated and engaged workforce which has been the driver behind our success. With over 470 implemented and documented Kaizen improvements in 2016, DURA is looking forward to 2017 and the positive changes we can bring”

With a presence on more than 300 models worldwide, DURA markets automotive products to every original equipment manufacturer (OEM) and a number of 1st and 2nd tier organisations throughout the world. It has a depth of expertise that it applies to this industry, a prime example of its capabilities being the manufacture of lightweight door structures. These are notoriously difficult and present a number of challenges in terms of tolerances and welding.

At Dura Birmingham we have integrated Learning and Growth and Sustainability Measures within the normal manufacturing KPIs, to create a balanced approach to manufacturing. The results of this are evident in many aspects of Dura work, from the condition of the shop floor to the training and lean deployment, and to the energy reduction success that we are enjoying. We invest heavily in our people and spend time and money on welfare and facilities provision.

Our balanced score card represents a touch point to ensure that we are on track. The management team all work together to ensure that our objectives are met and that any obstacles are overcome.

We communicate heavily with our people and as we do so, we are witnessing a more and more engaged workforce. We want our

people to take pride in working at Dura. To this end, we ensure that we create opportunity for growth and learning, and we promote health and wellbeing to all of our employees. It is this engagement by and with the workforce that has been the key to DURA's Birmingham manufacturing team receiving top honours in the 2016 TMMX awards hosted by *The Manufacturer* and the Institution of Mechanical Engineers (IMechE).

“I am very proud of the Birmingham team and their continued focus on demonstrating the best-of-the-best in manufacturing excellence,” said Tyrone Jordan, DURA Chief Operating Officer. “This recognition builds on our reputation for delivering high-quality products through sustainable operations planning, and validates our culture of continuous improvement and teamwork. Congratulations on a job well done.”

“A lot of people have put in a great amount of hard work and effort. It is amazing to be recognised in such a spectacular way,” said Martin Dinsley, Plant Manager for DURA's Birmingham facility. “We entered three awards and have come away with four – we are absolutely delighted. This is for everybody's hard work. There are many different teams that have worked really hard to make this possible.” With over 470 implemented and documented Kaizen improvements in 2016, DURA are

looking forward to 2017 and the positive changes we can bring. Some of the exciting developments for 2017 are the application of collaborative robots working alongside our manufacturing teams, the launch of a bespoke process overseer system to monitor the health of key processes and the attainment of ISO 18001 Health and Safety certification. This is alongside two important launches for DURA Automotive.

We believe that DURA, above all, is a great place to work. We strive for world class manufacturing and we realise our journey is continuous and our improvements are incremental. Overall, this points us in the right direction. At DURA we “do the right things, for the right reasons, in the right way”.

#### DURA Birmingham by Numbers

- 300 Employees
- 3 Shifts
- 3 Business Units
- 3,700m<sup>2</sup>
- 3 Key product groups:
  - steel
  - aluminium
  - plastics and glass
- 473 implemented Kaizen's 2016
- £49M Turnover
- Exports to 3 Continents

“Helipebs Controls is a market leader in the design, manufacture, service and application of the highest quality hydraulic and pneumatic cylinder technology since 1969”



HELIPEBS  
CONTROLS

www.helipebs-controls.co.uk

# Helipebs Controls

With roots dating back to 1838 and the formation of Kell, Meats & Co, Helipebs Controls has evolved into a world leading, multiple award winning manufacturer of hydraulic and pneumatic cylinders, valves and systems.

After nearly 200 years of history and manufacturing experience, Helipebs Controls is still a family owned business and is an internationally recognised authority in cylinder and valve engineering technology. Helipebs Controls is market leading across a number of demanding industries and environments for the delivery of hydraulic cylinders, pneumatic cylinders, servo actuators, valves and hydraulic systems for markets including Formula 1, oil and gas, aerospace, pharmaceutical, green energy and tool making applications.

As a result of its impressive growth within the export market, the company has been recognised for its excellence in export by the 2016 Queen's Award for Enterprise – the UK's highest accolade for business success. Helipebs Controls won The Queen's Award for Enterprise: International Trade having grown its overseas sales by 700 per cent over the previous 6 years, which the company achieved by extending its product range from quality standardised hydraulic cylinders to bespoke items, often serving the most rigorous and safety critical industries in the world.

“Currently, 45 per cent of everything that we manufacture is sold overseas, and indirectly around three quarters of our equipment ends up abroad. It was these results that allowed us to win the Queen's Award for Enterprise: because our export growth has been excellent in recent years,” the company's managing director, Andrew Hopcraft says. “We are massively proud of this achievement because

the standards required for a Queen's Award are extremely difficult to reach and we have had to be very consistent in the way that we grew the business. To do this, it is important to have the entire company continuously improving and working towards a common goal, which is something that I certainly think we do.”

Further to establishing strong international relationships through its international sales force, co-operation with partners and a comprehensive client portfolio, Helipebs Controls maintains a strong culture of research, development and innovation. The company designs and manufactures standard off-the-shelf hydraulic cylinders and pneumatic cylinders, as well as bespoke servo actuators and hydraulic systems which now make up 90% of its order book. Helipebs Controls has recently expanded its product portfolio to grow on its traditional line of tie rod cylinders to include a new range of welded cylinders which use cutting edge engineering to set new levels of reliability and performance.

At the core of the company's cylinder and hydraulic system manufacturing is a consistent culture of continuous improvement and quality, which was further highlighted by Helipebs Controls achieving ISO 9001:2015 and ISO 14001:2015 certification and Fit for Nuclear accreditation in 2016.

These principles are at the heart of our production process, which is being continuously improved, enabling the

business to efficiently manage contracts from the planning phase through to final inspection, and this in turn is reflected in consistently above-industry-average on-time delivery performance.

These elements combined allow our customers to benefit from regular updates, helping them to keep peace of mind that they will receive the high quality product they expect on the agreed delivery date.

Our ongoing focus on production and customer service improvements will strengthen the business as it continues to grow and develop its presence with both new and existing clients. “Specifically there are two areas that we are focusing on as a business. The first is diversifying where we operate. We have had one or two segments that have dominated our business and we have done very well with those, but there are others where we feel that we could expand,” Andrew Hopcraft says. “Secondly we are also looking at how we might use current technologies such as electronics that are embedded into the systems more effectively. We are currently 18 months into a five-year plan where we are very clear about what is in and out of that plan, which helps us to focus on what we do. We also communicate that continuously, using regular team briefs, company meetings, appraisals and even posters around the site. Therefore the strategic intent of the business is known by everybody and everybody knows what part they have to play in driving the business forward.”



“ JCB is the world’s third largest construction equipment brand, has 22 plants on four continents and employs more than 12,000 people. JCB is privately-owned and was founded in Staffordshire in 1945. The company is the world’s number one manufacturer of backhoe loaders and telescopic handlers ”



**JCB**

www.jcb.com

# JCB

The story of JCB is one of innovation, ambition and sheer hard work. From small beginnings building agricultural tipping trailers in 1945, to the global force in manufacturing the company has become today, JCB has constantly pushed the boundaries in its desire to be the best. JCB Chairman Lord Bamford’s father, and company founder, Joseph Cyril Bamford’s motto was “Jamais content”, and that is exactly right – JCB is never content with its achievements. From a business founded by one man in a garage in Uttoxeter, the company today has 22 plants on four continents and more than 750 dealers with 2,200 depots around the world.

So, in just 72 years JCB has gone from one man to major global brand renowned for its pioneering spirit. And while JCB’s achievements over the past 72 years have been considerable, the company is always looking ahead to the next development, the next level of success.

Lord Bamford is best known for his position at JCB, one of Britain’s most successful family-owned businesses. As Chairman of the iconic construction equipment manufacturer since 1975, he has presided over the prolific global expansion of a brand that stands for strength, durability and reliability in products ranging from 46 tonne tracked excavators to children’s toys and DIY equipment.

Born on October 23rd, 1945 on the day his father, Joseph Cyril Bamford CBE set up JCB, Anthony Bamford’s path into the family business after leaving Ampleforth College started with an engineering apprenticeship at Massey Ferguson in France. The three years spent on the Continent were to prove invaluable in preparing him for a JCB career that started on the shop floor in 1964 before he moved into management to lead the company’s early export drive into Europe in the late 1960s and early 1970s.

When his father retired in 1975 after 30 years at the helm to allow “younger management to

show its strengths”, he set about transforming JCB into a world leader in construction equipment technology. An early move was to start producing major components in-house by opening an axle factory in Wales in 1978.

This was the first of many decisions taken over three decades to vertically integrate the company’s operations. Today, JCB makes its own axles and gearboxes in Wrexham, hydraulic cylinders and cabs in Staffordshire and engines in Derbyshire: all part of Lord Bamford’s determination to have complete technological control over JCB’s product range.

Arguably, his most inspired decision was to set up JCB’s first overseas manufacturing operation in India. That was in 1979, when few companies would have contemplated setting up business there. His love for the country and its people, and an absolute conviction in its long-term market potential have paid dividends, as JCB now employs over 5,000 people in India, which has become the company’s largest single market. The move was to become a template for the company’s subsequent moves into Brazil, USA and China.

Since becoming Chairman, Lord Bamford has taken JCB from a one-factory operation in Staffordshire with a turnover of £43 million to a global business, with 22 plants around the world employing more than 12,000 people,

making over 300 different products. Recent results speak for themselves - JCB reported a turnover of £2.62 billion in 2016 and earnings of £287 million. A new £63m factory was opened in Brazil in 2012 and two new factories costing £62 million were opened in Jaipur, India during 2014.

JCB may be the world’s third largest construction equipment manufacturer by volume, but its Chairman remains firmly committed to manufacturing in Britain. With 6,000 employees in its 11 factories in the UK exporting over 75% of production, JCB makes a hugely positive contribution to the nation’s trade balance. In fact, an independent analysis by Oxford Economics has calculated that JCB contributes £1.4 billion to national GDP, £555 million to the Exchequer and 24,000 jobs overall to the UK economy.

Lord Bamford has also presided over JCB winning 30 Queen’s Awards for Innovation and Enterprise since the company’s first award in 1969 and in 2013, Her Majesty The Queen conferred the honour of a Life Peerage upon the JCB Chairman with Lord Bamford taking the formal title of Baron Bamford of Daylesford in the County of Gloucestershire and of Wootton in the County of Staffordshire.



www.lander.co.uk

# Lander Automotive

The company was originally founded by William Lander in 1877 as a wire goods manufacturer, building up manufacturing and engineering experience over 60 years of steady growth before supplying the growing UK automotive industry in the 1950s. By then W. Lander & Sons Limited was manufacturing products within a facility in the Digbeth area of Birmingham.

The company continued to flourish in the automotive market, using bending and welding technology to manufacture bonnet props, linkages, headrests and many other similar products. When this technology was eventually applied to tube, this became one of the company's core activities, helping expand the product range into many of the key metal seating assembly products.

In 1991, the business was renamed Lander Automotive Ltd, relocating to a new, purpose-built premises on the outskirts of Birmingham. We continued to grow the business to where we provided full design, manufacturing and engineering support to our growing customer base. We are proudly owned by descendants of the original founder and maintain the same customer-centric focus the business was founded on.

Today we are a company with a global outreach, and our Indian commercial office is dedicated to providing a professional pan-Asian supply chain as we work together with our partners to develop new products. We are committed to enhancing our award-winning business to meet the evolving needs of our customer base. As we continue to invest heavily in our international expansion, a Slovakia-based manufacturing plant is planned to be operational by early 2018. Looking further forward we will grow our global manufacturing footprint in order to meet the expectations of our major customers to support their worldwide production plants.

## Adaptive

Lander Automotive prides itself on offering a flexible and fully supported service to its customer base. We are an agile business with a short decision making structure so we can move quickly when required. We offer a range of commodities, with teams working within each to provide a premier service to our customers. We have a strong growth plan, with a commitment to developing long standing partnerships with our suppliers and our customers whilst maintaining an effective social accountability programme.

## Engineering

With many years of combined experience through application, design and process expertise, we offer engineering excellence, which drives the business forward to achieve our customers' cost and quality expectations. Lean manufacturing principles have been the foundation of our successful manufacturing and business operating strategies, implementing flexible manpower, automation and single-piece flow production lines, in order to meet the very challenging demands presented by our customers.

## Solutions

Through first class product development and seamless programme introduction, we support our customers' needs for system assemblies in aluminium, coated mild steel and stainless steel, with rubber hoses and plastic components. We transfer our customers' requirements from concept to realisation, utilising our in-depth

product knowledge to achieve the demanding cost and quality expectations. Support is also offered through early involvement, with prototyping for pre-production, and our small order manufacturing centre offering solutions for slow running or aftermarket requirements.

## Lean Manufacturing

Operational excellence at Lander is achieved via a unique combination of world class best practice, by utilising Lean manufacturing principles to attack waste, and 6-Sigma tools to attack variability.

We achieved excellence in Quality Cost Delivery (QCD) by the utilisation of a combination of automated robotic cells, flexible manpower production cells, and a focus on team work to achieve the most efficient and effective material flow through our plant.

We employ rigorous process controls based around capable and repeatable process performance. By utilising the talents of flexible cross functional support teams we are able to provide maximum flexibility and responsiveness to our customers.

With a culture of continuous improvement at the heart of everything we do, we follow simple Plan-Do-Check-Action rules in all of our activities, and with deeply embedded Lean tools we create the 'Lander Way'.

## Our people

High Performance Working (HPW) has given

Lander the opportunity to identify how we engage, enable and energise our employees to grow and develop with and beyond the business.

As a result we have developed the Lander Manager DNA in an 'easy guide' format which every manager carries around with them. The competencies are: Champion of integrity and trust; Vision and purpose; Managerial courage; Build effective teams; Learning/change agility; Driving for results; Business acumen; Manages diversity; Customer focus.

Benefits have included increased employee engagement being driven by the teams rather than by management, with individuals at a personal level having greater control of their ever-increasing workload to better cope with a growing business.

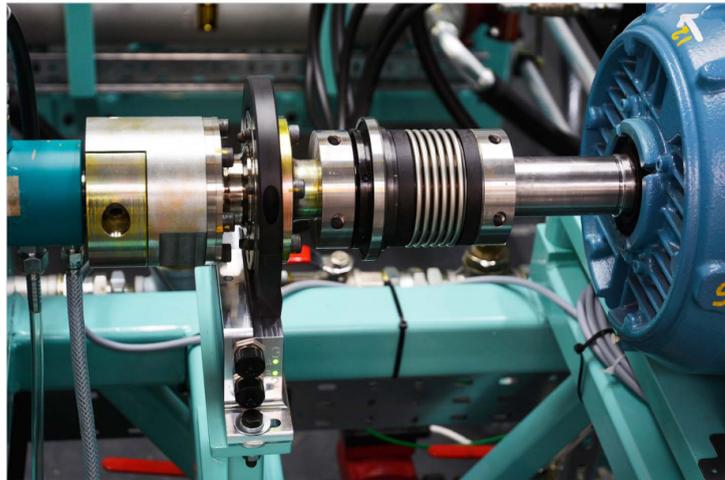
We can now demonstrate a consistent approach in developing, managing and growing our own talent. 2016 saw external recognition across a number of customers and industrial bodies, confirming the strength of our programme.

“Lander Automotive is the class leading manufacturer of fluid and air transfer systems, structural assemblies and conventional trim products in the United Kingdom.

Building on decades of industry expertise, we use state of the art design and manufacturing facilities to provide first-class adaptive engineering solutions for an extensive range of OEMs and blue chip first tier automotive organisations”



“Lontra’s flagship Blade Compressor is the first clean sheet compressor design in over 80 years and has proven efficiency gains of over 20 percent”



# Lontra

Lontra’s revolutionary Blade Compressor® represents the first, widely applicable, clean-sheet compressor design in over half a century. With compressors used in the manufacture of nearly everything around us, its proven efficiency gains promise real benefits.

Many people will be surprised to learn how important compressors are to our everyday lives. Compressors are ubiquitous. They’re an integral part of fridges and many cars. They’re behind the distinctive ‘whoosh’ of a tube or train door and a vital part of countless industrial processes, from water treatment to cement to food processing, and for everything from powering the tools in factories to the spray guns which paint our furniture. Yet despite their widespread use there has been no major innovation in their design since the screw compressor of 1935.

Every compressor comes with at least one compromise, whether that is air leakage or insufficient compression. Today compressors account for a staggering 10% of Europe’s industrial electricity use and as much as 40% in some plants. That equates to over 10TWh of electricity every year and 4.3 million tonnes of CO2. Current compressors can also run up unnecessarily high costs in terms of maintenance and downtime.

This was a challenge that appealed to self-confessed problem solver Steve Lindsey, founder and CEO of intellectual property firm Lontra. His solution, the Blade Compressor®, has seen him dubbed ‘the new Dyson’ by the Carbon Trust and named in *The Manufacturer’s* Top 100 UK role models.

Unperturbed by the fact he is not a trained engineer, Lindsey, who has a degree in chemistry, conceived the first clean sheet compressor design in 80 years. The Blade Compressor® has a circular mechanism that replaces the traditional rotary compressor geometry, compressing air – or gas – in front and inducing the air or gas behind in continuous motion, minimising waste.

By virtue of its unique design the Blade Compressor® has proven to be a fifth more efficient than rival concepts, a remarkable step-change where most industries try to optimise for gains of 1-2%.

Because of its excellent internal sealing, this oil-free compressor operates at a lower rotational speed, improving reliability as well as efficiency. That means the myriad benefits extend to longer bearing and machine life and much reduced maintenance costs.

It’s also easy to integrate into products and can be scaled up or down. The design is simple – with no advanced materials or complex parts – so it’s more durable and easy to manufacture. Crucially, their partnership with leading manufacturer Shield Group, means the time to market for their licensees and partners has also been significantly shortened. End users will see the lower energy demand of the Blade

Compressor® as soon as it is switched on, with ROI modelled over an average of three years, dependent on usage.

The benefits of the patent-protected technology have already been proven in the wastewater industry, where low pressure compressors work around the clock to aerate water. In a UK trial with Severn Trent Water, the Blade Compressor® delivered energy savings of 21 per cent and the potential for a three per cent reduction in the company’s total energy bill. If the company was to introduce the innovation across its entire network, the firm’s £9m annual spend on electricity for compressors would shrink by £1.8m.

This ground-breaking technology is now licensed for production within the £600m per annum municipal and regulated waste water industry to Sulzer, a global leader in pumping equipment with 21 manufacturing facilities worldwide. The multimillion pound deal will see aeration equipment incorporating Lontra’s technology sold across 150 countries.

Within the past year, Lontra has launched their state-of-the-art Technology Centre to accelerate the development of its trademark oil-free compressor technology. The Technology Centre is a world-class facility of the type usually restricted to universities and

multinational firms and will enable Lontra to deliver ever greater energy efficiency and reliability to the compressor market.

Lontra is now shifting its focus to other markets including Dilute Phase Pneumatic Conveying, the ‘blowing’ of powders and products through pipes, a huge user of compressed air for transporting products from grain to foodstuffs to pharmaceuticals to cement. An area where the lower energy consumption and reduced maintenance cost demonstrated in the water industry is already gaining significant interest.

With huge potential markets, strong market interest and a proven technology, the next year is expected to see further exciting developments from Lontra, including the development, in partnership with the Shield Group, of a substantial UK-based manufacturing capability.



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