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british engineering excellence awards

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Contents

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british engineering excellence awards

"These Awards have shown, once again, that British companies are competing on a global stage and that they don't need to be big in order to be successful."

Graham Pitcher,

Group Editor,

Findlay Media

Engineering Design Division

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Group Editor, Findlay Media
Engineering Design Division

Excellence embodied

Engineering skill and entrepreneurial management create global success

"The winner of the Grand Prix and the winner of the Judge's Special Award ... are leading the world in their chosen fields."

One of the aims of the British Engineering Excellence Awards is to show that British companies are competing on a global stage and that companies don't need to be big in order to be successful.

This year's event has, once again, highlighted this fact. The winner of the Grand Prix and the winner of the Judge's Special Award have both shown that, despite being small companies, they are leading the world in their chosen fields.

Let's highlight the winners of our two main prizes. Andrew Burrows, named as the Design Engineer of the Year and winner of the Grand Prix, has developed a system that can save water on a massive scale.

Water is becoming an increasingly precious resource and concern is rising about the amount of water being lost in the distribution network. Yet this has not been addressed from a system point of view. Burrow's elegant solution is already saving 250tonne of water per day in each of the 50 systems installed in Malaysia. A full commercial prototype system being trialled by Thames Water could not only save water, but also reduce the amount of energy needed to pump water through its network by up to 30%.

Meanwhile, 13 strong Dexela is taking on four multinationals in the medical xray imaging sector. Its first to market approach, a fast moving development team and strong partnerships, have allowed it to prototype and supply a new generation of large area cmos xray detectors ahead of its competitors. And it has developed a manufacturing process in which the cmos sensors can be stitched together with a positional accuracy of a few microns and with an alignment accuracy of 0.001 .

Both companies show that engineering skill and entrepreneurial management can drive success.

I'm sure you'll join with me in congratulating our winners and thanking all companies who entered this year.

Making a real impact on a global problem

The winner of the British Engineering Excellence Grand Prix was selected by the Judges from winning entries in the other Award categories.

There is an industry that is losing a quarter of its finished product during delivery to the customer. That product is domestic water that has been collected, filtered, chlorinated and raised in pressure using large amounts of energy.

In fact, the World Bank has estimated that, every year, a staggering 32billion cubic metres of treated water is lost from global urban water supplies.

In 2005 Adam Kingdon and Andrew Burrows formed i20 Water at a time when it was understood that water leakage could be reduced by limiting pressure in the distribution system. For example, by reducing the mains pressure from 35m to 30m – a 14% reduction – could reduce leakage by 16% and in a UK city of 1million people, that would save enough water to supply another 37,000 people.

However, no effective technologies existed at the time. Andrew Burrows designed an intelligent valve, controlled by a central server which learns the behaviour of the network and constantly adjusts the pressure to the optimum. This smart water system reduces leakage by reducing pressure to the optimum to satisfy demand. The sensors and valves are located underground with no external power and must communicate and operate for five years without service. They must adjust the pressure hundreds of times a day and be fitted to an existing infrastructure with an average age of fifty years.

Once the overall architecture of the system was established, Andrew Burrows defined the electronic, mechanical hardware, hydraulic, software, firmware and graphical user interface requirements for the system. These requirements were documented into detailed system component

specifications. Burrows managed the project to demanding time and budget constraints, where concept, preliminary and detailed design phases were linked directly to three fund raising rounds. Initially a small team of engineers was recruited to carry out a proof of concept design phase with a limited budget. This proof of concept was successful and enabled the company to raise £1.7million in 2007, enabling more engineers to be recruited. A further £4.2m was raised in 2009 to complete design for manufacture and to support the full international commercial roll out.

On average, each system installed reduces water leakage by more than 20%. Each of 50 systems installed in Malaysia during July 2010 are saving 250tonnes of water per day. Andrew Burrows has been awarded the Grand Prix because his design addresses and solves a critical problem.

In 2008, Andrew Burrows designed and patented a system to control the pumps that pressurise the whole network. It follows that if the individual distribution systems can be optimised, then so can pump pressure to the whole network. This is significant because in the US, for example, water distribution pumping consumes approximately 10% of total energy production.

Andrew Burrows has recently applied learning algorithms to pump optimisation. Having identified that the technologies he had developed to control local distribution systems could be transferred to pump control optimisation, he carried out mathematical modelling to prove the concept. Having developed a prototype, the company won a contract from Thames Water in July 2010 to install a prototype on a significant London pumping station on a full commercial basis. The installation is expected to reduce pumping energy consumption by between 25 and 30%.

Four patents have been applied for covering: the Pilot Valve; Controller and control system; Water supply station control; and pump optimisation and water treatment optimisation.

Andrew Burrows is a chartered engineer, a member of the Royal Institution of Naval Architects and an active member of the International Water Association. He has presented several papers at international water distribution and water loss conferences.

Dr Stephen Bold, managing director of Sharp Laboratories Europe, nominated Andrew Burrows for Design Engineer of the Year. He said: "I have been impressed with the way that Andrew has built his engineering team from scratch. He directs and mentors them very well. Even though he is subject to the great demands of a start up, he still finds time to mentor other engineers through his non executive directorships at other companies."

What the judges said:

"This is an elegant solution to an urgent worldwide problem arrived at by thorough process and methodology"

"A great idea making a real impact on a global problem ... this is a great example of creative problem solving."

"Engineering isn't just about products, it's about using ingenuity to make a real difference to the world around us. That's the message that we want to get across and Andrew's work embodies that."

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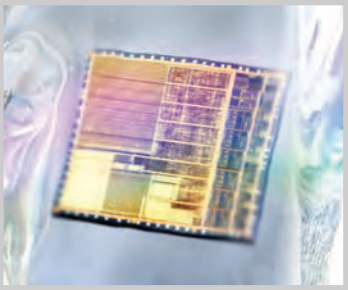

we're proud of our past... but excited about our future

After 50 years at the cutting edge of technology, we've learnt a thing or two about how to develop market-changing products, and have a string of 'world firsts' to our name. But far from being content with this pedigree, we look forward to the next 50 years, the challenges it will bring, and the rewards we will create for both our clients and our staff.

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'Unremitting focus' brings success

Highly commended
Congratulations to Oxford YASA Motors, whose entry has been highly commended by the Judges

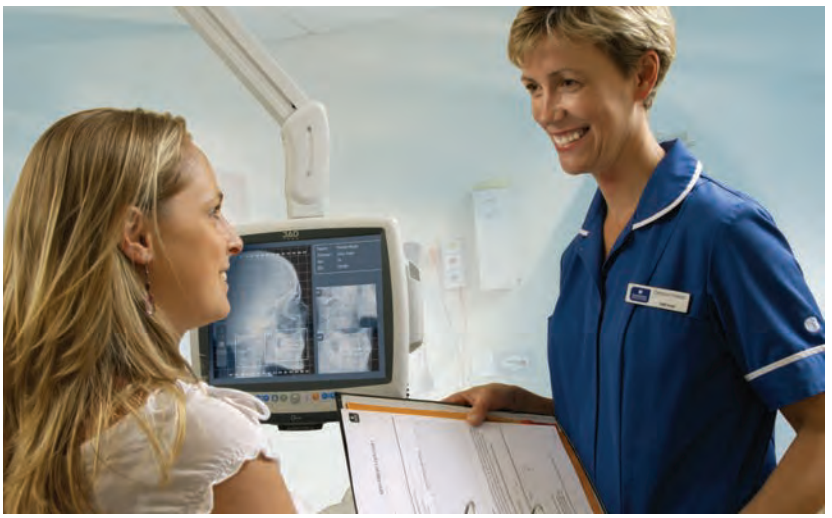
Designing a better mousetrap is one thing; bringing it to market and making a success of it is another. But the 'better mousetrap' is the milieu of the entrepreneur; the person who has spotted a gap and is determined to fill it.

As the UK economy continues to reshape itself, the need for start up companies grows; they are often where innovation is found and their products can be in demand around the world. But achieving success isn't easy; start ups need a sound business plan and a strong order book.

For this category, the Judges looked for a solution that was not only well designed, but also one that met the cost expectations of customers. The Judges selected JAOtech, which has established itself as the market leader in the design and manufacture of a range of embedded smart terminals intended for use at patient's bedsides.

Formed in August 2006, following research into the need for smart terminals in the healthcare sector, JAOtech has grown to a 35 strong company with a turnover of more than £6million. It has also made its first acquisition; a US company provides it with a presence in a key global market.

JAOtech designed its terminal following detailed consultation with users, including hospitals and patients. Its products are developed using the latest design technology, manufacturing techniques and assembly processes. Heat creation is minimised within the unit through the use of Intel Atom processors.



Innovative heat dispersion techniques have seen the mounting arm become part of the cooling system, eliminating the need for a fan, which would need a grille and be an obvious point of failure. A further challenge was sealing the system to a high IP rating.

JAOtech ascribes its success to what it believes is an 'unremitting focus' on hygiene and security, while offering flexibility and the capacity for customisation.

Its products are shipped to hospitals and clinics around the world, where they form the front end of the eHealth revolution, while delivering multimedia entertainment to the bedside. JAOtech's sales in 2009-10 will be boosted by a contract with Hospedia, which has the potential to replace 40,000 units within three years.

What the Judges said:

"Engineering is about solving problems and making money out of the solutions and that's what JAOtech has done."

"The success that JAOtech has achieved in a short period is little short of phenomenal — and looks set to grow."

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Mixing valve warms to the task

Five companies made the Judges' shortlist for the inaugural Mechatronic Design of the Year Award.

Entries for this category were required to describe the innovative application of electronic and mechanical technologies to solve a given problem. The design could have been developed for a client or to solve an in house problem, or it could be a product available on the open market.

In assessing entries for this category, the Judges looked at the innovation applied in meeting the design brief, as well as the degree to which the solution met marketing objectives.

Among the finalists was a train door monitoring system and OC Robotics' SAFIRE snake arm robot. But the entry which caught the Judges' eyes came from Kohler Mira.

Its brief was to create a true next generation product that would give unrivalled accuracy of temperature control, parameter set up, customisation and access to data. Additionally, Kohler Mira was tasked with making a product with a higher flow capacity than previous products and one which was easy to integrate into a water control system without the need for skilled set up.

Its electronically controlled thermostatic mixer valve has been designed to supply water for whole buildings at accurately regulated temperatures and at flow rates of up to 800litre/min.

The only product of its kind, the drv80 has the ability to monitor its own operation and to diagnose faults. It can also monitor a number of hot water system parameters and provide system maintenance information.

The design brings together mechanical design, electronics and software, with computational fluid dynamics used to perfect water mixing over a wide flow range.

A significant event during the design process was the decision to provide data access, parameter set-up and performance monitoring through the internet. This has created a huge commercial benefit and led to further product range extensions and innovation.

The product is now growing in significance to Kohler Mira's major customer and is substantially responsible for its customer's business enjoying a 23% annual compound growth.

What the Judges said:

"An elegant, inspired and accurate solution with a really significant financial and environmental impact."

"A genuine first generation product that started with a clean sheet of paper, combines excellent mechanical and electronic design and has met — and even exceeded — its brief in terms of performance."

SKILLS — noun [skils]:

types of work, proficiency, knowledge, or dexterity that are acquired or developed through training and experience

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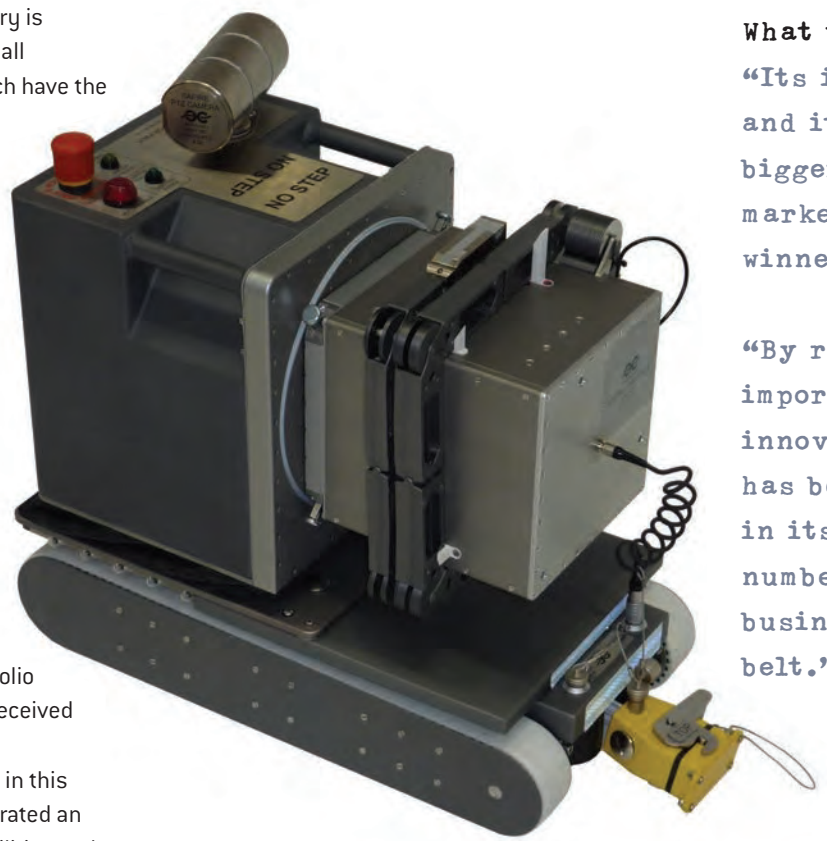
Reaching the parts other robots can't

Highly commended
Congratulations to Dexela, whose entry has been highly commended by the Judges



What the Judges said:

"Its innovative technology and its sales against much bigger players in its market niche make it a winner."

"By recognising the importance of investing in innovation, the company has become a world leader in its technology with a number of impressive business wins under its belt."

Much of UK industry is composed of small companies, which have the benefit of being able to focus closely on their chosen competency and to work within a tightly defined market.

The Judges assessed entries from companies with no more than 20 employees, looking for those which demonstrated a sound business strategy that addressed a particular market need. The winning company had to be able to demonstrate an evolving product portfolio and the reception it has received from end users.

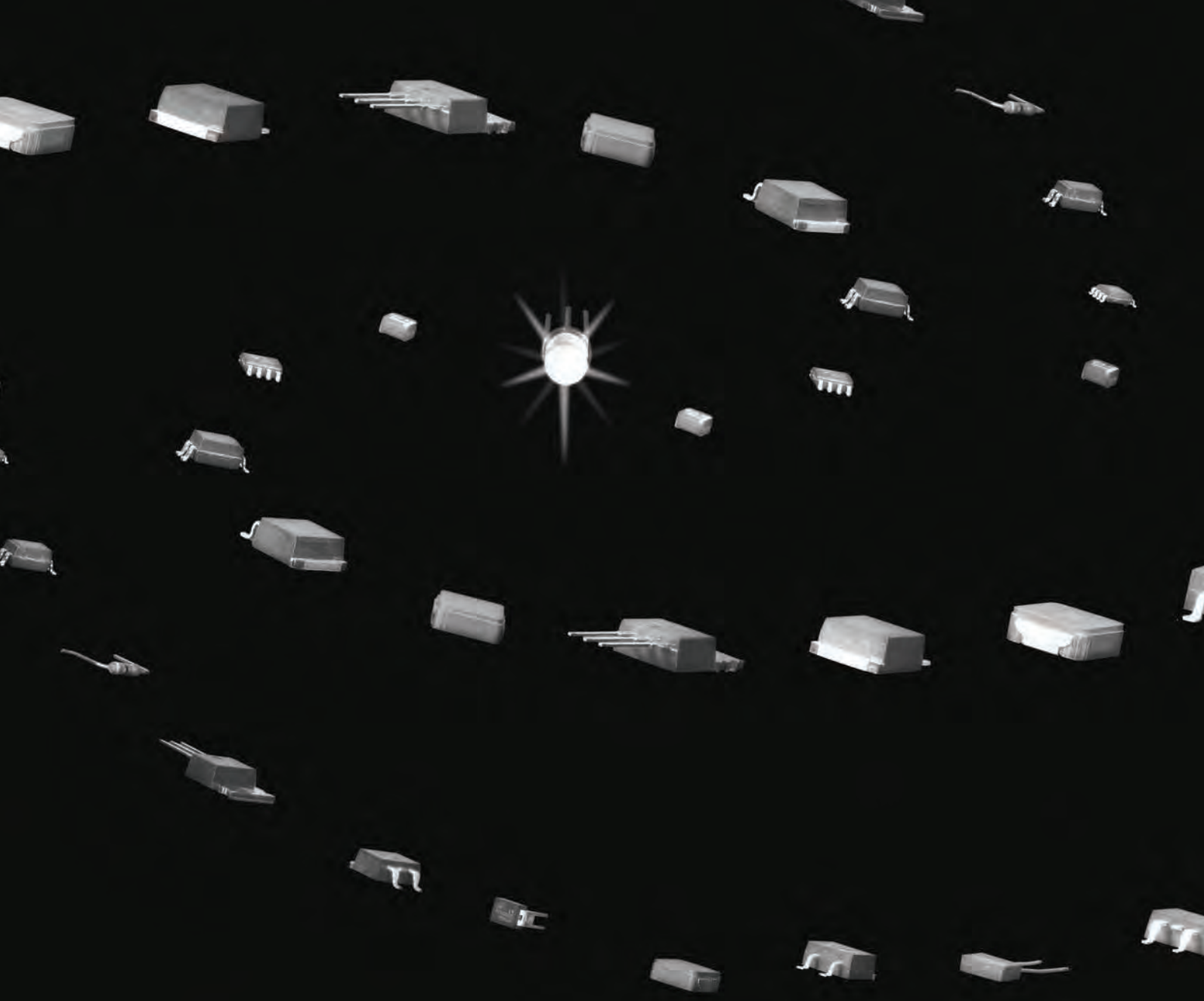
Companies competing in this category had all demonstrated an understanding of their abilities and their markets. While shortlisted companies spanned electronics, robotics and imaging, the Judges identified OC Robotics as deserving of the Award.

Formed in 1997, Bristol-based OC Robotics is extending the reach of robotics with a new type of device. The snake arm robot, for which it holds critical patents, can reach into confined spaces by following a defined path. The technology is scalable and can be adapted to fit any environment, space or task. Potential markets include nuclear inspection, security, aerospace and medical.

The 16 strong company's first product was a system to inspect and repair pipes beneath a nuclear reactor; business won against strong competition from multinationals.

One of the challenges which the company faced while developing its latest product, SAFIRE – Snake Arm Feeder Inspection Robotic Equipment – was simulating the proposed design. Alongside helping to refine the specification, this also allowed by customer to use the device virtually and to provide feedback.

Last year, OC Robotics won a Queen's Award for Enterprise: Innovation.



A cluster of young stars, one brilliant performer.
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Young engineer transmits enthusiasm

Companies today want graduates who can hit the ground running. Very few companies can afford the luxury of a long term induction programme; new recruits have to earn their keep almost from day one.

The Judges wanted to see a demonstration of the knowledge which the young engineer has had to apply; the contribution made to a project; the degree of innovation applied and the nominee's personal qualities, including their motivation, dedication and ability to act as an ambassador for their discipline.

Mairead Kelly has been with Dialog Semiconductor's Edinburgh design team since July 2008. In that time, she has been directly involved with two key innovations. A key project was the development of a low dropout regulator for a Class D Amplifier. This needed a complex control in order to switch between a cascoded output branch and a non cascoded output branch. The complexity was in

ensuring that the loop was kept stable. She has also assisted in the development of a low latency digital bypass circuit – currently being patented – for use in noise suppression and echo cancellation.

Over the last year, Mairead Kelly has been the joint leader of a discrete time Sigma-Delta a/d converter stereo, for which the key was low power and area. Key figures are a power consumption of 210 uW, a die area of 0.16mm^2, signal to noise ratio of 86dB and total harmonic distortion of 75dB.

Mairead Kelly is keen to support new engineers and actively seeks opportunities to do this. She is passionate about developing business/academic links and encouraging young talent into the business. She is currently acting as a graduate mentor for an Edinburgh University placement student and Mairead is actively helping to promote engineering as a profession to school leavers and undergraduates.

What the Judges said:

"The energy and enthusiasm of this person shines through in her entry: she's clearly a human dynamo!"

"I loved the fact that she's so keen on nurturing and mentoring other young engineers. It shows that not only is she a talented and enthusiastic young engineer herself, but that she wants to transmit that enthusiasm to others."

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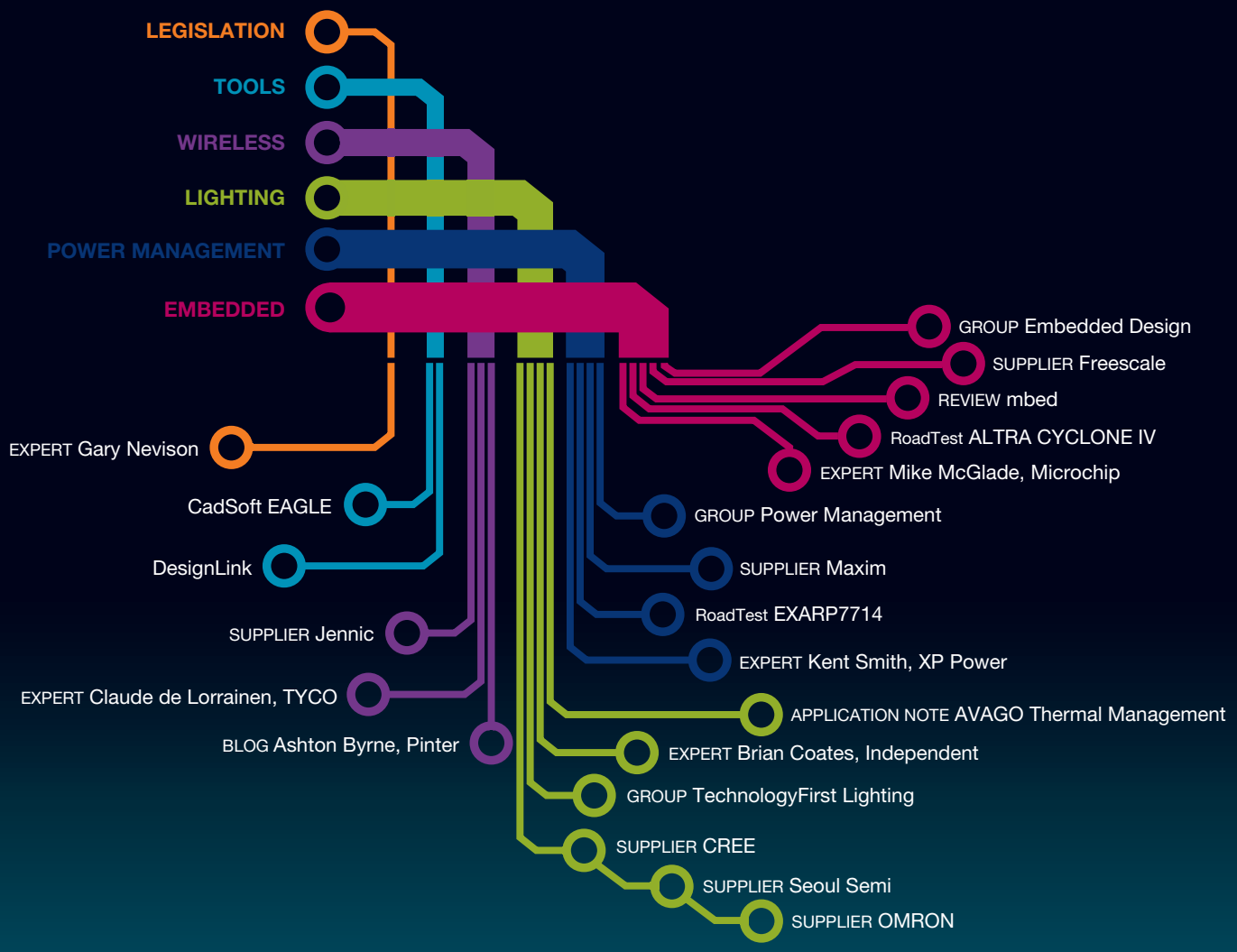

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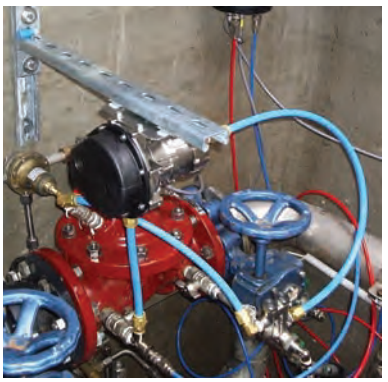
Engineer doesn't go with the flow

Engineers are the people that make things happen. Sometimes it's all about refining someone else's ideas but, occasionally, an engineer will take their own idea from concept to market. And, in the latter instance, that may well involve starting their own company.

Entrants for this award category had to be nominated by another person, who needed to demonstrate the nominee's ability to produce innovative designs within strict commercial limits as well as developing transferable technology. The Judges were also looking for engineers who have made a wider contribution to engineering in the broader community.

Engineers need to be able to design a product that meets expectations and which comes in on time and, preferably, under budget. But there's another element which isn't always considered – and that's meeting a global need. In Andrew Burrows' case, it's saving water – an increasingly precious resource.

Despite being collected, filtered and chlorinated, then being distributed via high pressure mains, 25% of water is lost before it reaches the consumer. Water leakage can be reduced by limiting pressure in the distribution system but, until recently, no effective technologies existed to do this. Andrew Burrows has designed an intelligent valve, controlled by a central server. This learns the behaviour of the network and constantly adjusts the



pressure to the optimum. The system also reduces leakage by reducing pressure to the optimum to satisfy demand.

The sensors and valves are located underground with no external power and must communicate and operate for five years without service. They must make many adjustments a day to the mains pressure and work with an infrastructure with an average age of 50 years. Andrew Burrows has been completely responsible for the system's design, which involved mechanical, electronic, electrical and software engineering.

The system, now in service, reduces water leakage by more than 20%. Fifty systems installed in Malaysia during July 2010 are each saving 250 tonnes of water per day. In a further development, the system is being upgraded to address pump pressure in complete networks; a move considered significant, as distributing water in the US is believed to consume 10% of all electricity generated.

Andrew Burrows has jointly filed a patent for a valve whose innovative hydraulic feature enables it to be actuated 400 times per day for five years using only tiny amounts of energy.

Contributing to the industry, Andrew Burrows finds time to mentor other engineers through non executive directorships at other companies.

What the judges said:

"This is an elegant solution to an urgent worldwide problem arrived at by thorough process and methodology"

"A great idea making a real impact on a global problem ... this is a great example of creative problem solving."

www.prototypeprojects.com

Consultancy moves through the gears

What the Judges said:

"DSD is an example of solid expertise well sold that has achieved traction in a highly competitive market very quickly."

"Just looking at the names DSD is involved with tells you that this is a very serious, very innovative business."

There are many factors which help to identify what is a good consultancy. To start with, there's the range of technologies which the company handles and other considerations include the number of staff and, crucially, the degree of innovation applied. And, of course, the best consultancies will help their clients get leading edge products to market in a timely fashion.

Bearing in mind the UK's strong consultancy sector, this category will always be hotly contested and the 2010 entries reaffirmed this belief.

Three companies reached the shortlist – two serving the automotive market, with the other primarily focused on electronics design. Because of this, the Judges needed some time to compare and contrast each company's strong points.

Standing out, however, was Drive System Design, which impressed the Judges with its innovative work for automotive manufacturers.

Formed only in 2007, the company specialises in delivering cost effective projects against extreme time constraints and providing access to innovative technologies and solutions.

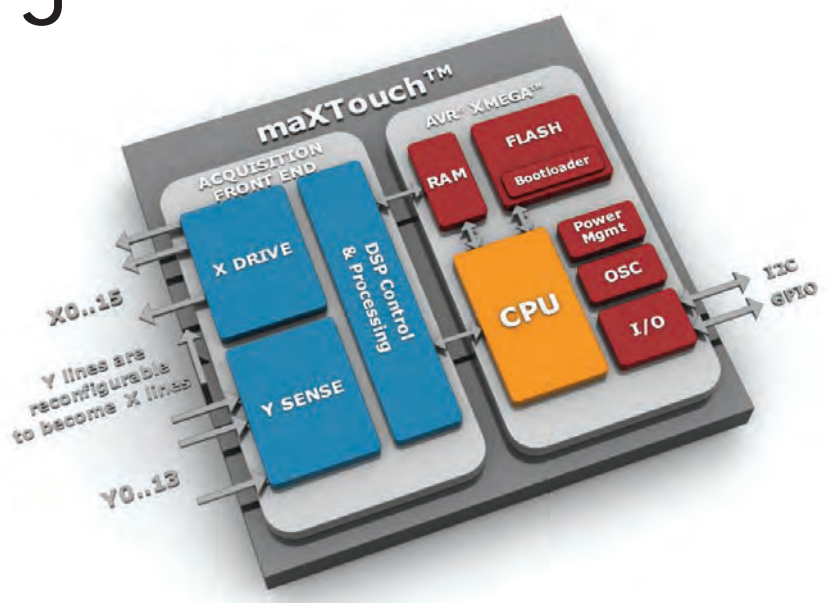
By 2010, Drive System Design has secured contracts with Aston Martin Lagonda, Audi and Hyundai, amongst others. Now, it is looking to expand its work to address the military, renewable energy, rail and aerospace markets.

Drive System Design has also become an authority in hybrid and electrical vehicle transmissions: a position it says it has attained by challenging conventional thinking. It believes this should be the way any great consultancy operates.

DSD invests in its own intellectual property and runs internal research projects. During 2009, it won partial funding for a Technology Strategy Board project into an Ultra Cost Efficient Hybrid Powertrain. This project has enabled DSD to conduct research into automated manual transmission with hybrid function.

In 2010, the company has expanded to 12 full time employees and moved to new premises while exceeding its budget plan for the year.

Success at your fingertips



One of the problems which people face when determining the extent of the electronics market is that fact that it is a pervasive technology; it might not be immediately visible, but it enables the features of the product in which it is incorporated.

For this reason, the importance of electronics to the UK's economy is often underestimated. Yet the UK's electronics sector is worth £23billion a year – fifth largest in the world – and employs 250,000 people directly and indirectly.

But a more interesting fact is that the UK is home to more than 30% of Europe's fabless and ic design houses. That points to the UK being a highly effective design resource for the world.

This was another tough category for the Judges and debate continued for some time. This was no surprise, with the shortlisted products ranging from a device providing high speed rural broadband access to a range of sensors providing precision angle measurement.

In differentiating the entries, the Judges looked at the technology used and the speed with which the design had been brought to market. They also considered how the company assessed the need for such a product.

Atmel developed maXTouch technology to provide the opportunity for manufacturers of mobile phones and other consumer electronics products to design multitouch user interfaces into their offerings. The aim was to create a competitively priced solution which provided the required performance.

In designing the device, specialised capacitive sensing circuitry was developed, reducing external component count. Meanwhile, an on chip microcontroller drives the interface functionality. A high signal to noise ratio and rapid signal acquisition allows the device to consume less power and extend battery operating life. The design allows the device to spend most of its time drawing only stand by current

With 224 nodes, the mXT224 can also support stretch, pinch and rotate gestures, along with handwriting recognition.

Since maXTouch Mxt224 was introduced in September 2009, it has been designed into most smartphones, including Samsung's Galaxy S and Motorola's Droid-X. Interest in the interface is now growing in other market segments.

What the Judges said:

"The product's success with a range of highly credible companies is testimony to the quality of the design."

"The product's high signal to noise ratio is impressive and has given it a clear advantage over competitors. It's one of the key factors that has allowed it to become the market leader within a year of being released and makes it a classic example of good engineering facilitating business success."

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Modular system boosts surgery success rates

Mechanical products are, in general, considered to be part of an industrial system. Most times they are, but engineered products often have other applications.

With shortlisted entries ranging from a high tech vacuum pump to a heat resistant metal coating, the Judges had a hard task in picking the winner.

An important aspect for the Judges was to look at the technology used and the speed with which the design had been brought to market. Evidence of how the product was received and its performance in 'the real world' was also taken in to consideration.

After weighing the various factors, the Judges selected JRI's Vaios shoulder system, intended for use in shoulder replacement surgery. While similar products are available, JRI believes its offering to be the only modular system.

The system was developed following a review of available shoulder replacement technologies. This highlighted an opportunity to develop a product through collaboration with a university and a hospital. Using these clinical inputs, JRI used its manufacturing, design and commercialisation expertise to create Vaios, which is expected to have a four year payback.

With failure rates in shoulder surgery in excess of 20%, JRI believes its solution addresses problematic clinical issues. The design has been optimised through collection and analysis of patient data, finite element contact stress analysis and through a thorough test programme.

The Vaios system brings a 60% reduction in component parts and a similar reduction in the level of instrumentation.

The objective was to produce a market entry product with substantial novel features that overcame clinical problems. These objectives have been exceeded, according to JRI. Not only has it overcome the clinical problems but, through increased modularity, it has reduced the inventory of both implants and instruments.

In addition to the improved product features and modularity, JRI believes this product demonstrates the best of cutting edge British design and manufacture.

What the Judges said:

"JRI's Vaios Shoulder System has captured a strong position in a really important and competitive market by virtue of clever design."

"It addresses the key obstacles to successful shoulder surgery and overcomes them whilst also making the job of the surgical team easier."

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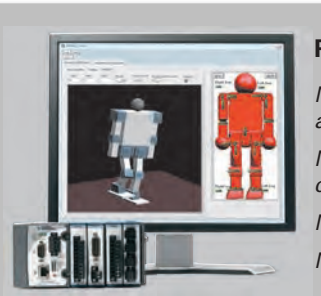
LabVIEW graphical programming software and modular NI hardware such as CompactRIO and PXI are helping engineers develop fully autonomous robotics systems, including unmanned vehicles designed to compete in DARPA Grand Challenge events.



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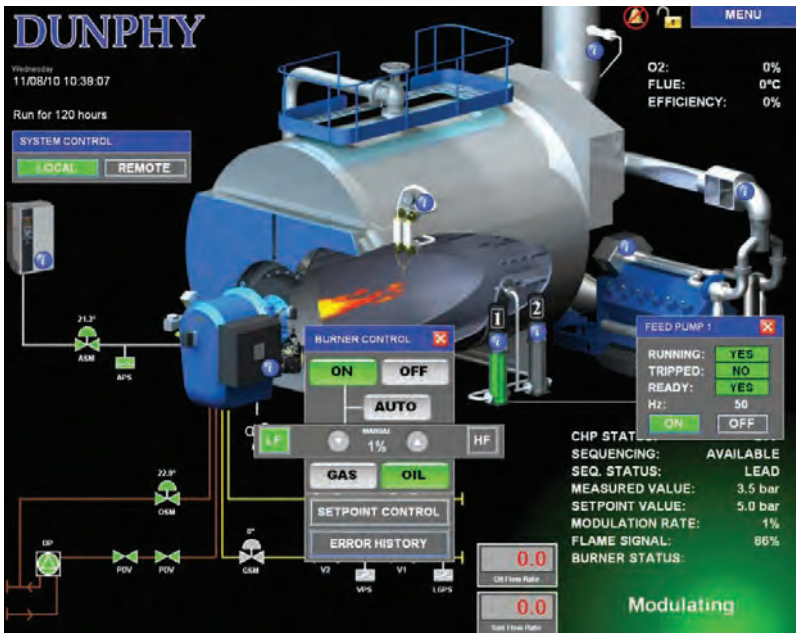


What the Judges said:

"An apparently obvious improvement with a really broad impact that optimises the efficiency of existing technology."

"Being green isn't just about finding new technologies, it's about making the technologies we've got as efficient as possible – and that's what this product does."

The Green Design of the Year Award was judged on the application of appropriate technology to the design of the entered product. The Judges looked for evidence of the product's 'green' credentials, including the ability to be recycled, use of appropriate materials, and consideration of the product's carbon footprint.

Combustion processes result in the production of greenhouse gases, considered to be a major contributor to global warming. But there are other effects, including the creation of acid rain and poor air quality through smog.

There is also an economic side to the problem. Inefficient combustion means the full benefit of the fuel burned is not received and unburnt fuel is discharged into the environment.

While nitrogen oxides, referred to as NOx, can cause smog, they also react with sunlight to form ozone, which is believed to be a lung irritant. Reducing the production of thermal NOx – caused by a high flame temperature – has been one of the main targets for Dunphy Combustion's T-series burners.

These ultra low NOx burners, in production for more than three years, have enabled the company to increase its market penetration in countries with strict low emission standards.

Apart from reducing NOx emissions, the burners also reduce electrical energy consumption of up to 65%, eliminate the need for flue gas recirculation and duct work, and reduce noise pollution.

Dunphy's solution was to design and develop technology which would reduce NOx levels to, at least, European compliance standards without the need to install expensive and noisy flue gas recirculation systems. An electronic fuel:air ratio system enables fuel to be controlled separately. Different mixing nozzles are used when burning fuel oils so the ratio between the secondary and primary air streams can be changed at different firing rates within the burner. This enables the flame temperature to be reduced by nearly 300 C, reducing NOx levels to the order of 65mg/m^3, corrected to 3% O_2.

Innovative xray detector improves your image

This Special Award was available for the Judges to make, at their discretion, to an entrant for any of the Award categories.

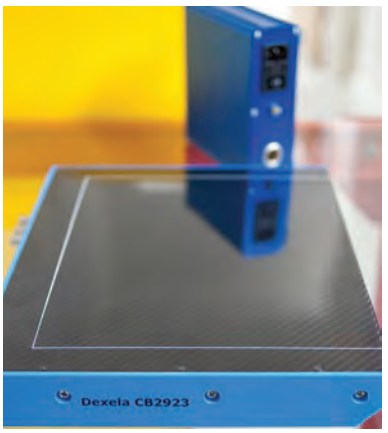
The Judges wanted to recognise a company that epitomised the British Engineering Excellence Awards by being recognised globally as being a world leader in its chosen field.

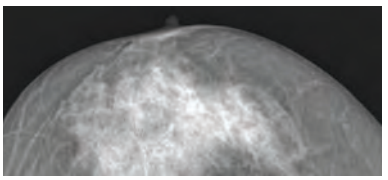
A number of finalists for the British Engineering Excellence Awards were considered by the Judges, but Dexela was selected as the winner, having made a strong showing in a number of categories.

The company was formed in 2005 to commercialise tomosynthesis for breast cancer screening and other low dose medical xray imaging applications. Since then, it has built a portfolio of intellectual property and is now a leading company in computational techniques for image reconstruction.

Last year, Dexela launched a range of flat panel xray detectors based on an innovative cmos sensor technology. The detectors combine a large active area with high resolution, high speed and high sensitivity. As part of this project, Dexela developed a bonding process in which multiple sensors could be combined into a single unit. Each cmos sensor is buttable on three sides. The butting gap between active pixels is 75 m – equivalent to a bad row or column.

Dexela's challenge was to align the sensors with a positional accuracy of a few microns and with an alignment accuracy of 0.001 . Any contact between the cmos chips or any residual air bubbles in the adhesive, would mean writing off the entire sub assembly at high cost.





What the Judges said:

"Dexela has exploited cutting edge technology to create a a product that works and has proved its worth across the world."

Although four suppliers dominate the market, Dexela has a first to market approach. Its small, fast moving development team and strong development partnerships, have allowed it to prototype and supply a new generation of large area cmos xray detectors ahead of its competitors. In June 2010, Dexela's 2923 detector has the largest field of view of any CMOS detector currently on the market. A responsive approach to market requirements and to the requirements of individual customers has meant that Dexela has developed new detector models, all employing a common modular technology platform, in a matter of months.

Supported by

David Kynaston, Chairman
Previously chair of the Electronics Innovation Growth Team, David was president of Solectron from 1996 to 2001. Previous roles have included managing director of Philips Private Mobile Radio Division, Philips Business Communications Systems Division and Philips Mullard.

Doug Cross
Technical director and co-founder of Flybrid Systems, Doug previously worked for Renault Formula One, where he was responsible for the design of a 19,000rpm 2.4L V8 engine. During this time, the team achieved back to back victories in the drivers' and constructors' Formula One championships.

Paul Fanning
Paul has been a trade and technical journalist for more than 15 years. Since starting his career with Machinery & Production Engineering, he has gone on to edit a number of industrial titles. He took over as editor of Eureka in January 2010.

Colin Brown
Colin has spent 25 years in engineering, working for Rolls-Royce, BP and T&N in a range of roles. He joined the Institution of Mechanical Engineers in 2005 to support its work in promoting the value of engineering.

Kate Bellingham
Former presenter of Tomorrow's World and holder of an MSc in electronics, Kate is a champion of science and engineering education in schools.

Nick Appleyard
Originally lead technologist for electronics, photonics and electrical systems, Nick is now responsible for the Technology Strategy Board's strategies and programmes relating to digital services and the internet.

Mark Sanders
Mark Sanders trained as a mechanical engineer and as a designer at the Royal College of Art. Mark has combined these professions for 25 years as an engineer, inventor and design consultant.

Graham Pitcher
An engineer by training, Graham is an expert journalist who has covered the electronics industry for 30 years.

Andrew Sleigh
Previously group technology officer for Qinetiq, Andrew is now director of Pinoak Innovation Consulting and an adjunct professor at Imperial College Business School. His experience spans senior leadership positions, technological innovation and strategic transformation in the private and public sectors.

Eric Wilkinson
A director of Cambridge Consultants and head of product development, Eric has managed projects as diverse as anti terrorism radar, a cosmetics applicator and something to liven up a can of beer! This has given Eric the insight necessary to manage some of his company's largest projects.

Cambridge Consultants

For 50 years, Cambridge Consultants has led the way in innovative product development. It is the partner of choice for leading blue chips, as well as the virtual development team for ambitious start ups. It develops breakthrough products, creates and licenses IP and provides business consultancy in technology critical issues for clients worldwide.

www.cambridgeconsultants.com

Digi-Key

One of the world's fastest growing distributors of electronic components, Digi–Key has earned its reputation through its total commitment to service and performance.
Digi–Key is a full-service provider of both prototype/ design and production quantities of electronic components, offering more than 1.7million products from more than 440 quality name brand manufacturers.

www.digikey.com

Electronics Leadership Council

Formed in October 2005 in response to the first recommendation of the Electronic Innovation and Growth Team's report of December 2004, the ELC will take forward the key recommendations from the report and provide a strategic view of its overall implementation. The Council will provide focused and high profile leadership for the sector.

www.electronicsleadershipcouncil.org.uk

Element 14

An innovative information portal and eCommunity built specifically for electronic design engineers, element 14 provides product data, design tools and technology information whilst incorporating web 2.0 functionality. The site facilitates communication, interaction, collaboration and information sharing between colleagues from around the world. Users can consult with experts, discover trends and post blogs, articles and comments.

www.element-14.com

Findlay Media

Founder of the British Engineering Excellence Awards, Findlay Media is committed to UK engineering. Owning the most comprehensive range of manufacturing and engineering publications, websites and data in the UK – including *New Electronics* and *Eureka* – Findlay Media enables suppliers, associations and Government to communicate with the engineering community.

www.findlay.co.uk

National Instruments

National Instruments transforms the way in which engineers and scientists design, prototype and deploy systems for test, control and embedded design applications. Using NI LabVIEW graphical programming software and modular measurement and control hardware, customers increase productivity and reduce time to market.
NI customers continuously develop innovative technologies that impact millions of people's lives.

www.ni.com/uk

Prototype Projects

Prototype Projects works with great companies every day of the year as part of its work and is proud to sponsor the British Engineering Excellence Awards because they allow the UK's Design, R&D and Manufacturing companies to come together and celebrate the very best of engineering.

www.prototypeprojects.com

Rockwell Automation

Rockwell Automation strives to develop automation solutions that provide real value: be it in plantwide optimisation, machine builder performance or sustainable production. Its focus on innovative products and services is a constant driver. Rockwell Automation is part of a global organisation with a turnover of $4.4billion. The UK operation has more than 100 professional account managers, application engineers and technical specialists.

www.rockwell.com

RS Components

RS Components is the world's largest distributor of electronics and maintenance products, with around 500,000 products sourced from more than 2500 suppliers. RS brings its customers the latest technologies at competitive prices. Innovative ecommerce solutions enable its customers to manage all aspects of their relationship with RS online. RS understands that engineers need new products quickly and is continually investing in making the product selection journey simple and easy to use.

rswww.com

Technology Strategy Board

The Technology Strategy Board works with business to stimulate innovation and create future growth for the UK.
Its vision is for the UK to be a global leader in innovation and a magnet for innovative businesses, where technology is applied rapidly, effectively and sustainably to create wealth and enhance quality of life. Between 2008 and 2011 TSB is investing around £1bn in programmes which focus on key challenges and mobilise business to find innovative solutions.

www.innovateuk.org

WEG Electric Motors

With global sales exceeding $3billion, WEG is a premier supplier of power supply, distribution, transmission and turnkey automation systems. Best known for electric motors, WEG is also a systems supplier, providing turnkey solutions including motors, inverter drives, transformers, generators, high and low voltage switchgear, soft starters and systems software. WEG has more than 400 product lines, offering high levels of technology, efficiency and protection.

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