



The logo for the British Engineering Excellence Awards (BEEA) features the letters 'b', 'e', 'e', and 'a' in a stylized, rounded, yellow font. The 'b' has a vertical stem on its left side. The 'e's are connected to each other and to the 'a'.

british engineering excellence awards

In association with:



The logo for elc consists of the lowercase letters 'elc' in a bold, brown, sans-serif font.

Headline sponsor:



The logo for Cambridge Consultants features a blue square with a white circle inside, followed by the text 'Cambridge Consultants' in a grey, sans-serif font.

“UK companies are producing world beating designs across the board. All winners have demonstrated excellence in their particular fields and we congratulate all of them.”

*Graham Pitcher,*

*Group Editor,*

*Findlay Media*

*Engineering Design Division*

## **Engineering excellence**

UK companies show their world leading engineering skills. 1

## **KERS set to clean up on world automotive market**

Saving energy and reducing CO<sub>2</sub> emissions, the Flybrid KERS will be one third the cost of the key competitive product. 2

## **Entry ‘ticked all the boxes’**

Flybrid Systems is profitable, has secured deals with three major car manufacturers and plans UK production of its KERS. 5

## **Hydraulic efficiency boost for hybrids**

Using recyclable components, Artemis has revisited the problem of improving the efficiency of hydraulic hybrid drive technology. 7

## **Market focus puts small company in the frame**

This company took on a big organisation and saw it move out of the market for ultra high speed imaging cameras. 9

## **Start at the top**

Oliver Start is an excellent example of the type of engineer that we need to encourage within industry. 11

## **A leader in his field**

High quality and valuable design work, coupled with his involvement with the education sector singled out Mark Sanders from the crowd. 13

## **Comms capabilities capture attention**

Providing services ranging from leading edge chip design to supply chain management captured the judge’s attention. 15

## **Wavelets work wonders**

How DSP wavelets have helped to maintain image fidelity, lower bandwidth and low latency in video transfer applications. 17

## **Analysis of the system solves dynamic problem**

Artificial ankle joint uses hydraulic damping to restore the lower limb’s natural movements. 18

## **Automotive expertise drives developments**

The Judges recognise a truly excellent organisation and an obvious flag bearer for all that is good in UK engineering. 19

## **Judges profiles** 20

## **Sponsors** IBC

# Engineering excellence



UK companies show world leading engineering skills

**“The entries have confirmed our beliefs; UK companies are producing world beating designs across the board.”**

It seems that every time you see engineering discussed on tv programmes, the stories are accompanied with images of lathes, dirty workshops and similar uninspiring environments. Those images tell the public that engineering belongs to the past.

But it doesn't and engineering today tells a much different story. That's why Findlay Media conceived the British Engineering Excellence Awards as a way of showing that engineering of all kinds is not only alive and well in the UK, but is also being pursued at the highest levels.

The Awards recognise the design engineering excellence of industry that creates world class businesses. They also aim to inspire and act as a benchmark against which others can measure themselves.

Above all, we are showing the world the power of engineering design innovation within the UK.

And the entries have confirmed our beliefs; UK companies are producing world beating designs across the board. All winners have demonstrated excellence in their particular fields and we offer congratulations to all of them.

We have to highlight the winners of the two main prizes: Grand Prix winner Flybrid Systems and Judges' Special Award winner Lotus Engineering.

Both companies are serving the automotive sector: Flybrid, which has in its short life, established itself as a leading developer of kinetic energy recovery systems; and Lotus, whose extraordinary range of expertise has positioned it as one of the 'go to' automotive design consultancies.

The automotive sector is one of the world's most competitive global markets and success in this sector is hard won, especially given the current economic climate. In achieving that success, both companies have shown that British engineering, coupled with entrepreneurial management, can lead the world.

# KERS set to clean up on world automotive market

The winner of the British Engineering Excellence Grand Prix was selected by the Judges from winning entries in the other Award categories. The winner has demonstrated quite amazing achievement in terms of application of a new technology, innovative design and a leading market development.

The winner is Flybrid Systems for its The Flybrid Kinetic Energy Recovery System (KERS). This mechanical device is fitted to a car, allowing it to reduce its fuel consumption and CO<sub>2</sub> emissions.

The system works by acting like a brake when the car is slowing but, instead of turning the braking energy to heat and wasting it (as normal brakes do), the energy is stored in a fast spinning flywheel. When the car accelerates again, the energy stored in the flywheel is recovered to help drive the car back up to speed, instead of the engine. Because a car burns the most fuel when it is accelerating, using recovered energy stored in the KERS reduces overall fuel consumption significantly.

The Flybrid KERS is suitable for use on all types of car and can be scaled up for use on heavier vehicles like buses, trucks and even trains.

The Flybrid KERS will be approximately one third the cost of the key competitor product in volume production, with an anticipated sale price of \$2000 in quantities of



200,000 units per year. To achieve this target price, Flybrid Systems has undertaken extensive 'productionisation studies', which have

included revisiting the design of every component to simplify manufacture.

The company has also looked at the methods used for manufacturing the

parts. For example, Flybrid has identified balancing the flywheel as a key operation that needs to be done accurately and quickly for mass production. There is no commercially available machine that can achieve the required tolerances and so Flybrid is currently designing and building a machine that will.

The key marketing objective was to make the Flybrid KERS a suitable replacement for the incumbent electric hybrid technology. To do this, it should offer at least equivalent fuel savings, a longer operating life, better low temperature performance, and greatly reduce lifetime CO<sub>2</sub> emissions of a vehicle; all at a much lower cost.

These objectives have been met and development contracts have been forthcoming with three major car makers. Initial vehicle tests have gone well and the first vehicles fitted with Flybrid KERS technology are expected to go on sale to the public in 2013. Flybrid KERS will reduce the CO<sub>2</sub> emissions of road vehicles; exactly how much depends on the car and the duty cycle over which it is used. But Flybrid believes a family saloon can achieve typical savings of 18% on the New European Driving Cycle and around 30% in real world conditions.

For larger vehicles on stop start duty cycles, Flybrid believes the savings can be even greater: for example, more than 50% of the energy can be saved for a Central Line tube train.

But emissions in use are only part of the story. There are a number of studies that suggest battery based hybrid cars often do not offer sufficient fuel savings over a vehicle to offset for the high amount of energy and embedded CO<sub>2</sub> involved in the manufacture of the battery and vehicle.

But, analysis performed on the Flybrid system by Jaguar Cars has concluded that all the CO<sub>2</sub> emitted during manufacture of the system will be recovered during the first 12,000km of use.

Being made entirely of conventional materials the Flybrid KERS is also easily recycled at the end of life.

Flybrid expects to become the predominant supplier of flywheel based hybrid systems to the automotive market in both road and racing cars. The intellectual property protection afforded by six patents and a trademark for the word 'Flybrid' should ensure it is difficult for competitors to effectively enter this market.

The company follows a very aggressive research and development policy, ensuring the product is always improving. Flybrid proposes to manufacture the flywheel module in a British factory and the planning for this is underway. Flybrid has already identified interested investors to help with the required capital expenditure.

#### What the judges said:

**“Flybrid has the potential of being huge. You don’t get many UK products that have the potential of being this massive.”**

**“At a time when the UK is often seen as having come up with great ideas and being poor at implementing them, the Judges’ Grand Prix Winner has demonstrated that this is simply not the case. And with green issues for automotive so crucial for the world in the future, this company and its product is key.”**

**“A great example of British engineering coupled with excellent entrepreneurial management.”**

**“This is a marvellous invention that has solved the barrier problems in mechanical energy storage. The speed with which the prototypes have been fielded and tested is remarkable and the team displays the experience needed to become a dominating world player.”**

Sponsored by

The logo for elc, consisting of the lowercase letters 'elc' in a bold, orange, sans-serif font.

# creating competitive advantage™



To grow your business, you need to create real competitive advantage. You need to turn your radical ideas into reality and get them to market fast. And at a cost that delivers clear profit. That's not easy. We should know. We've been creating products that give clients valuable competitive advantage for nearly 50 years. For further information on how we could help your business, call 01223 420024.

[www.CambridgeConsultants.com](http://www.CambridgeConsultants.com)

# An entry that just 'ticked all the boxes'

As the economy has changed over the last few years, the start up company has become a far more important part of the UK's make up.

Start ups are where entrepreneurs come into their own; people who have the ability to identify an unmet need. But spotting opportunity in a market is one thing; taking a solution to it in a timely fashion is quite another. The Government is now looking to start ups as one way in which to change the make up of the UK's economy. To do this, start ups must have a global outlook; serving the UK market will not necessarily bring success.

The Judges looked for a company that was developing mechanical and/or electronic products that was established no earlier than 1 January 2006. Entries needed to demonstrate a sound business plan that addressed a particular market need. The company should have a product on the market or should be close to launching one. Entries should also demonstrate a successful reception of the company's product or evidence of advance orders.

The Judges looked for a solution that was not only well designed, but also one that met the cost expectations of customers.

Flybrid 'ticked all the boxes'. It has an elegant solution to kinetic energy

recovery, a strong business plan and market acceptance of its product.

Flybrid Systems has performed better than originally planned. The business is profitable and has been from the outset. There is a strong order book, with all overheads effectively covered until at least March 2010, and there are a number of major sales enquiries on the horizon.

Although originally developed for Formula 1, the move to road cars has come at least two years earlier than originally planned, with the company securing deals with three main car manufacturers. Flybrid says this will give it a big step change in profit when the first production units are produced.



**flybrid**systems

## What the Judges said:

**"Its product seems to be a world beating design, with patent protection on significant features."**

**"All CO<sub>2</sub> involved in manufacture is recovered within the first 12,000km."**

**"This product has the potential to be massive on a global scale."**

Sponsored by





# CENTRE FOR REMANUFACTURING & REUSE

## Centre for remanufacturing & Reuse

Supporting and promoting businesses supplying and using remanufactured products:

- Profitably
- Under warranty
- With large carbon benefits

## We can help you

Analyse your company and market potential for Remanufacture

- Quantify the reuse benefits
- Engineer business change
- Build Quality Standards for your products and services
- Access whole-life redesign capability for your products
- Showcase your business

think Again

The Centre for Remanufacturing & Reuse extends its warmest congratulations to the winner of the BEEA Green Product of the Year category. Well done and best wishes for future business success!

## Organisations we have worked with



is a pioneering not-for-profit organisation famous for its role in creating the Beddington Zero Energy (BedZED) housing project.

We supported BioRegional in creating a business plan for Re-I-Y centres - deconstructing old buildings and selling reusable components in a professional retail format. Having attracted Development Agency support, they are now considering five store developments around the UK.



The UK's trade body supporting all aspects of the automotive manufacturing and trading infrastructure.

Following a study of the market potential for remanufactured components and creating an export publicity brochure we assisted SMMT to kick start its Aftermarket Forum. A key action from this has been our development of the BS 8887 (MADE) series for OEMs and remanufacturers who want to inject quality into their design, manufacture, remanufacturing and end-of-life processing. This will enable vehicle manufacturers to buy from remanufacturers with confidence.



is a rapidly growing small company offering a mobile broadband handset Meos.

We supported Exoteq in using design consultancy Wax RDC to re-evaluate the Meos concept to enable reuse and upgrade capability. They examined, in parallel, technical challenges, different business models, possible user involvement and the net costs and benefits associated with the options. Exoteq is now seeking funding for the expansion of its development.



# Hydraulic efficiency boost for hybrids



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 at end of life, use of appropriate materials, and consideration of the product's carbon footprint.

The Judges also looked for novel solutions to problems and how individual companies are looking to address. Again, this category was very impressive and impressed the Judges with the quality, and diversity of entries. Allied Telesis was a particularly noteworthy innovation and was 'exactly what should be being done', in a 'ground up approach' to reducing power

consumption. If it was implemented on a wider scale electronic power consumption would fall drastically.

But, it was Artemis Intelligent Power that won the Judges decision due to its novel approach to a vehicle hybrid power system. By using hydraulics, the system would do away with the need for battery packs and the components used are recyclable. In addition, the company has solved some pretty fundamental issues improve the efficiency of the hydraulic system.

Artemis said it had successfully demonstrated Digital Displacement Hydraulic Hybrid vehicle technology.

In its system, a saloon car is fitted with a series hybrid transmission featuring computer controlled hydraulic pump and motors.

Highly commended

Congratulations to Allied Telesis, whose entry was highly commended by the Judges

Independent tests confirmed that, in a typical urban environment, the car's fuel consumption was less than half that of a similar car equipped with a manual gearbox. The technology promises to deliver significant fuel consumption reductions, at greatly reduced additional cost compared to electric solutions.

Artemis proved there is still progress to be made in hydraulics – particularly on efficiency and noise – and that the well known benefits of hydraulics compared to electrics and low cost can now be matched.

## What the Judges said:

**Significant invention using solenoidal valves and digital control to improve hydraulic coupling. Does have potential for energy saving."**

**"Green engineering isn't always about 'silver bullets', it's about doing things well."**

Sponsored by



## **Times may be challenging.**

But through innovation, businesses can gain competitive advantage, benefit from new markets and prepare for the upturn. How can the Technology Strategy Board help? By being a catalyst. By providing leadership. By connecting partners and investing in new ideas. Our vision: a world where the UK is an innovation leader and a magnet for innovative businesses.

**Find out more at [www.innovateuk.org](http://www.innovateuk.org)**

**Technology Strategy Board**  
Driving Innovation

[www.innovateuk.org](http://www.innovateuk.org)

# Market focus puts small company in the frame

The Judges expected this to be a strongly competitive category, simply because much of UK industry is composed of small companies. If the industry is strong, then it follows that the small companies in industry must also be strong.

Small companies have the benefit of being able to focus closely on their chosen competency. Their ability to work within a tightly defined market is another bonus. But, what small companies should avoid is loss of focus as they add new elements to the business.

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. Two companies were undoubtedly world leaders in their particular fields; another had developed a useful approach of platform based design. Meanwhile, another company had interesting technology which has yet to be realised in a meaningful application. But it was Specialised Imaging that



won the Judges acclaim.

Specialised Imaging is the world's leading manufacturer of ultra high speed imaging cameras. It has three main products: the SIM series of multichannel framing cameras; the SIR range of ruggedised ballistic range cameras; and the SITT range of trajectory trackers.

The market for these is international, with more than 90% of sales being for export. Since April 2006, the company has been profitable and cash positive. It now employs 12 people and will shortly employ a further two in the US, when it sets up its own sales and support company later this year.

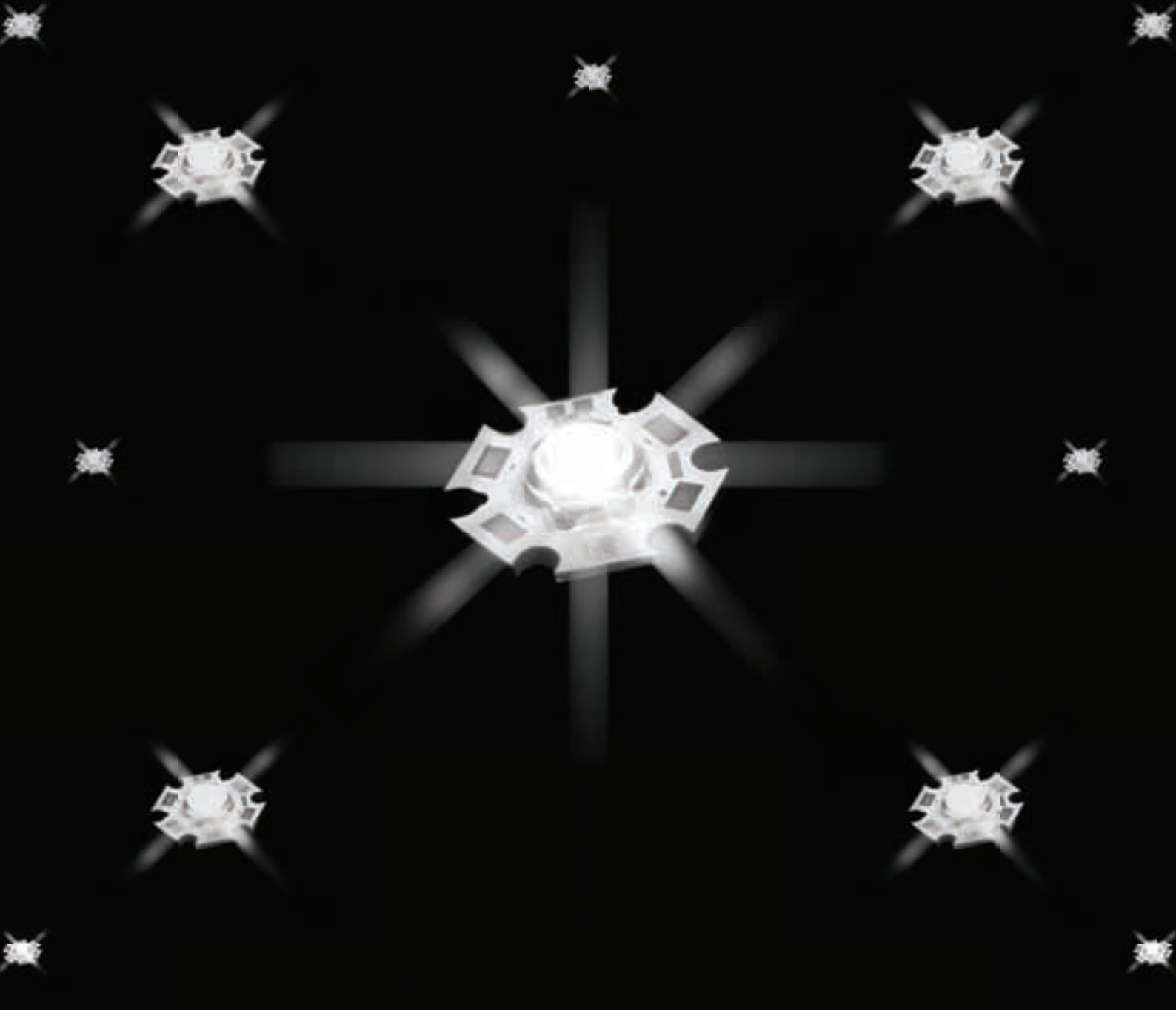
## What the Judges said:

**“The company took on a big organisation, which has since moved out of the market.”**

**“This company is thinking on a global scale and it shows in its success.”**

Sponsored by

**Technology Strategy Board**  
Driving Innovation



**Helping tomorrow's stars shine.  
RS are proud to sponsor the BEEA Young Design  
Engineer of the Year Award for 2009.**

**OSRAM**  
Opto Semiconductors

[rswww.com/electronics](http://rswww.com/electronics)



# Start at the top

If designers are the people that make things happen, young designers are the people that will make things happen tomorrow. But, that doesn't stop them contributing today.

But the Judges also 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.

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.

Oliver Start's entry highlighted this ability and impressed the Judges unanimously. In a small company, where you have to take more responsibility, the Judges believed this was an outstanding achievement.

Start's broad skill set has allowed him to develop, singlehandedly, a device which has given Powelectrics a significant market advantage and enabled them to secure a global supply agreement from a major multinational.

Just a few of the skills Start has demonstrated since starting work at Powelectrics include the design, development and implementation of the electronic, software, mechanical and 3D modelling aspects of the company's products.



He took a number of concepts for the company's major project of 2009, the Metron 2, very early on and rapidly prototyped these to demonstrate and test their feasibility. His highly practical nature allowed him to realise these ideas remarkably quickly. He took these ideas further to complete the product's development, resulting in a product that is intuitive, reliable and appealing.



## What the Judges said:

*"A very impressive young man who gets things done, who has clearly communicated with all stakeholders in the projects and who has delivered with those needs in mind. He has demonstrated a good breadth of skills and applied these across a range design areas."*

*"He is an excellent example of the type of engineer we need to encourage within industry."*

Sponsored by

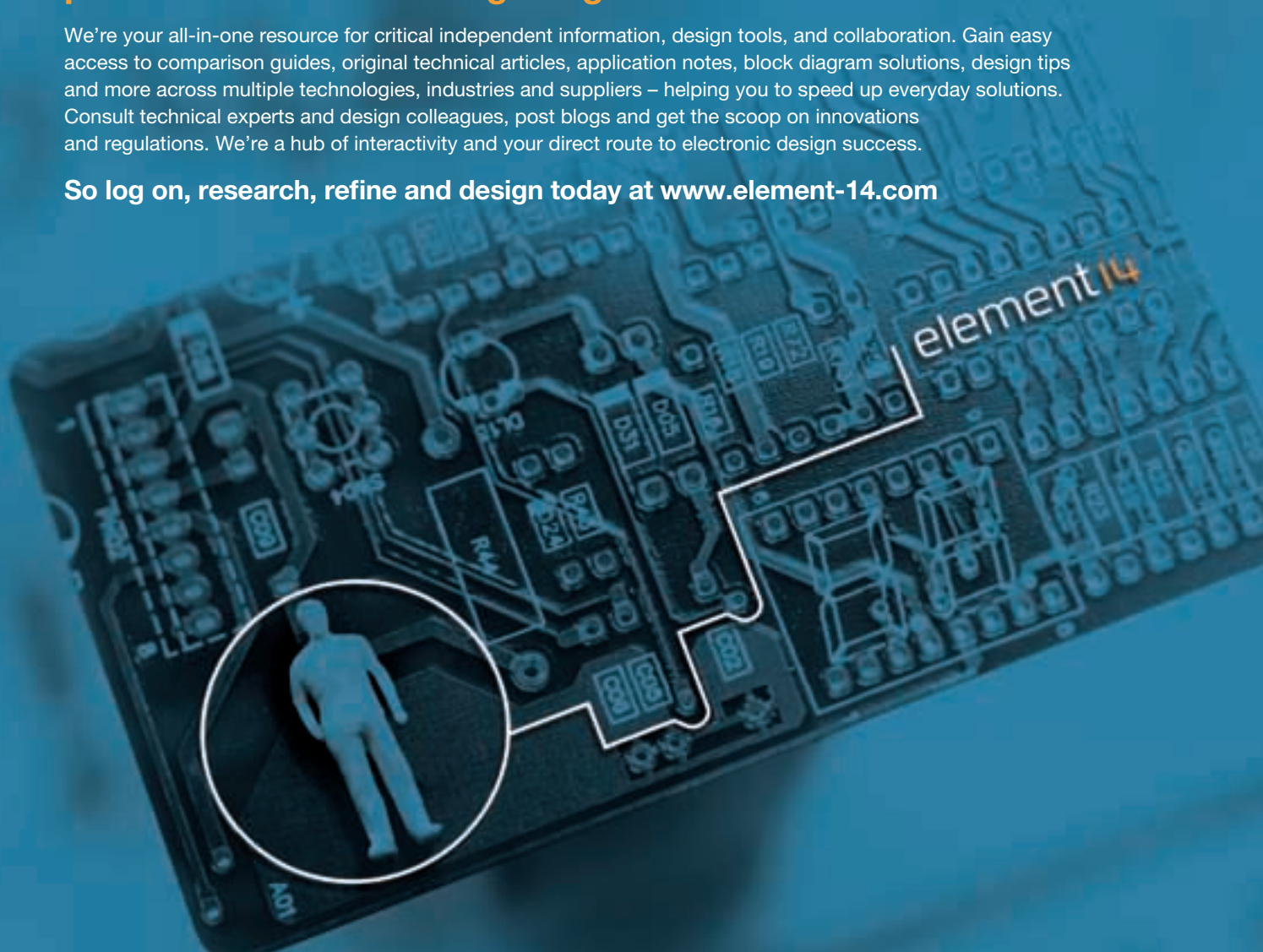


# Take the most direct route

**Presenting element14, the first online technical portal for electronic design engineers.**

We're your all-in-one resource for critical independent information, design tools, and collaboration. Gain easy access to comparison guides, original technical articles, application notes, block diagram solutions, design tips and more across multiple technologies, industries and suppliers – helping you to speed up everyday solutions. Consult technical experts and design colleagues, post blogs and get the scoop on innovations and regulations. We're a hub of interactivity and your direct route to electronic design success.

**So log on, research, refine and design today at [www.element-14.com](http://www.element-14.com)**



element14

[www.element-14.com](http://www.element-14.com)

# A leader in his field

Engineers are the people that make things happen. Engineers are the people that take designs from the back of the envelope to the market.

Once, engineers were only worried about design; today, their responsibilities are spread more widely. Not only must they design the product, they must ensure that the product meets the specifications, and those specifications include not only physical parameters, but also financial constraints.

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 contributed to their industry, either through participation in professional bodies and/or through standard committees, and who work to promote engineering in the broader community.

People who can design a product that meets expectations and which comes in on time and, preferably, under budget are always in demand.

Mark Sanders was judged to be prolific, practical and creative, with a range of design expertise. In particular, the Judges were impressed



with his involvement in the education of the next generation of engineers.

Although Mark Sanders runs MAS Design Products singlehandedly, his company is seen to punch 'above its weight'. This, says his nominator, is demonstrated by Sanders having conceived, designed and engineered many patented, successful and multimillion selling products.

Sanders – a qualified engineer and industrial designer – is acknowledged as a leader in both these fields. He specialises in combining engineering and industrial design and can take projects from preconcept stage to

Highly commended

Congratulations to Dr Robin Taylor of Lein Applied Diagnostics, who was highly commended by the Judges

**What the judges said:**

“He has the engineering excellence we were looking for, undertaking high quality and valuable design work, with involvement within the education sector.”

“He has products on the market, which shows he is successful, and the variety of projects on which he has worked and their quality demonstrates a clear winner.”

production. Most projects involve a high level of innovation and usually result in at least one patent.

Sanders also runs a workshops in schools and universities, both in the UK and internationally. During most of the last 20 years, Sanders has been a once a week visiting tutor on the innovation design engineering Masters degree course run by Imperial College and the Royal College of Art.

Sponsored by

element14



[www.prototypeprojects.com](http://www.prototypeprojects.com)

# Comms capabilities capture attention



In identifying the Consultancy of the Year, the Judges looked for evidence of the speed with which projects have been delivered, along with the range of technologies handled by the company. Other critical factors were the ratio of concepts to final products, and the degree of innovation applied. The Judges also looked for such factors as the ratio of consultancy staff to the number of projects delivered and the number of staff employed on particular projects.

The Judges expected the Consultancy of the Year category to be one of the strongest of all and the entries confirmed that view. And it's no surprise: the design consultancy sector is one of the UK's stronger markets, with companies of all sizes offering a range of services.

The Judges needed some time to debate the virtues of the shortlisted companies because there was no obvious winner. All Judges agreed the

category proved difficult to evaluate due to the high level of expertise demonstrated by all entrants.

However, Plextek impressed the Judges with the range of its design capabilities and its market reach within the communications sector – from leading edge chip design to supply chain management. Particularly impressive was the recent growth in the company's business, which includes some 'big ticket' projects.

According to Plextek, it has evolved successfully from being a pure 'design house' into a multidisciplinary consultancy. Alongside its design capabilities, the company can now manage customers' products through the entire cycle from concept through design to the manufacture and supply.

This transition has seen Plextek grow its revenues by 56% year on year since 2005, allowing it to become one of the country's fastest growing, unquoted technology companies.

Highly commended

Congratulations to Lotus Engineering, whose entry was highly commended by the Judges

## What the Judges said:

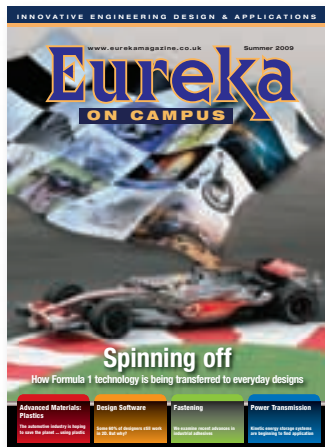
*"An excellent capability, high growth consultancy with a low, commercially inspired cost base that has used its communications technology to crash into the military and paramilitary markets as well as achieving civil expansion. This is the right year to recognise the company's achievements."*

*"There should be strength within this category as the UK is the design centre of the world."*

## Sponsored by



# Inspired by innovation



[www.findlay.co.uk](http://www.findlay.co.uk)



# Passionate about engineering

# Wavelets work wonders

**E**lectronics is a pervasive technology, underpinning developments in a wide range of markets. The UK's electronics sector is worth £23 billion a year – number 5 in the world – and employs 250,000 directly and indirectly. The UK is also home to more than 30% of Europe's fabless and ic design houses and is Europe's second largest producer of electronic equipment behind Germany.

Competing in this global market is a challenge; even for big companies. It's even more challenging for the UK's predominantly SME based sector, where identifying a solution and executing upon a strategy is critical.

This was the toughest category and the Judges had to debate for sometime before finally falling on a single winner. All the shortlisted entries could have won on another day.

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. The procurement of the product was also considered, with factors such as reducing cost of manufacture, improving upon a prototype design and getting the product into the market considered. Evidence of how the product was received and its performance in 'the real world' was also taken in to consideration.

Highly commended  
Congratulations to Atlantic Inertial Systems and Cambridge Semiconductor, whose entries were highly commended by the Judges.



With internet traffic doubling every two years, organisations looking to distribute and collaborate with very high bandwidth image content face a logistical challenge.

VN-Matrix is said to solve a three way performance paradox inherent in image distribution by maintaining image fidelity, low bandwidth and low latency.

A patent application has been made for this innovation, which is based on an absolute imaging principle using wavelet-transforms and wavelet-signatures.

Electrosonic says VN Matrix is an important development: it is not only a significant investment in a technology for which it had no previous track record, it also forms the basis of a new product platform.

#### What the Judges said:

**“Electrosonic is addressing a real need. The amount of traffic on the internet is doubling every two years, simply because of video. Anything that can be done to reduce that figure is good. However, the key factor in Electrosonic’s entry is that it overcomes problems associated with latency and maintains sufficient quality in the transmitted video.”**

Sponsored by

**newelectronics**

# Analysis of the system solves dynamic problem

**E**ngineering products are an integral part of many systems. Whether it's a component design or an overall system, the degree of innovation of entries was impressive.

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. They also considered how the company assessed the need for such a product. Another important element was improving upon a prototype design and getting the product into the market quickly. Evidence of how the product was received and its performance in 'the real world' was also taken in to consideration.

Judges were particularly impressed by the use of digital prototyping in the case of MCT, whose V12 engine was taken from a CAD design to market in six months. The engine has since demonstrated extraordinary reliability. Oxford Instruments was also an impressive entry that deserved commendation.

But, it was Blatchford that won the Judges votes due to its innovative system approach to design and its ability to replicate the dynamic behaviour of the foot.

Echelon is an artificial ankle joint that uses an adjustable hydraulic damping device to restore much of the lower limb's natural movements. This is based on the analysis of the combined leg-ankle-foot system, rather than the requirement of each individual component part which then need to be integrated.

The ankle joint includes a very short hydraulic piston and adjustable restrictions to damp limited movement in both directions. It works in conjunction with a carbon fibre sprung foot to constitute a classic 'spring and two dashpots' configuration. In its present form, it facilitates the user to adapt to using it, but future versions may feature electronics to make it adaptive within itself. It demonstrates the benefits that complete mechanical system analysis can bring to a design.



## What the Judges said:

**"It's an excellent example of mechanical engineering in the service of society."**

**"Good careful systems engineering followed by appropriate specification and execution."**

**"No other prosthetic uses this approach and the fact that Echelon can adjust dynamically to different terrains is significant."**

Sponsored by

# EUREKA

# Automotive expertise drives developments

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

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

The Judges looked at recent projects that had been undertaken and assessed how that company has been able to diversify its knowledge base and to deliver world class engineering solutions.

Given Lotus's prestige over the years and its high level of automotive engineering, the Judges were impressed that the company had continued to deliver world leading performance, despite the economic problems experienced by the sector in the last 18 months.

More than 70% of Lotus

Engineering's activity is undertaken for third party clients on some of the most significant projects in the automotive industry and engineering world.

Lotus is renowned for innovation, outstanding driving dynamics, exciting niche vehicles and efficient performance engineering. Its clients – major global car manufacturers, new entrants to the industry and everything in between – value its understanding of the automotive

business, its engineering expertise and its talented staff.

Lotus Engineering is committed to driving forward with green technology for both Lotus Cars and its clients. Its developments in alternative power sources and technology lead the industry, with some of the most advanced engineering solutions – such as hybrid and electric vehicles, renewable fuels, compressed natural gas and use of alternative recyclable materials – firmly placing it as one of the leading green automotive consultancies.

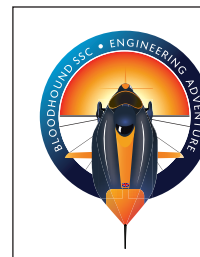
## What the Judges said:

**“Most of its business is derived from engineering services and it's even more impressive when you think about the size of some of the companies that have gone to Lotus for its help.”**

**“Lotus is a truly excellent organisation and an obvious flag bearer for all that is good in UK engineering.”**



## Sponsored by





**Harry Tee CBE. Chairman**  
Working across the electronics industry for more than 35 years, Harry trained as a design engineer, becoming a highly successful entrepreneur



**Professor John Roulston**  
John spent 34 years in the European defence industry, becoming a chief engineer and technical director. He is a Fellow of the Royal Academy of Engineering



**Andrew Sleigh**  
Appointed group chief technology officer in 2007, Andrew is responsible for leading QinetiQ's technology strategy and is custodian of its investment processes



**Richard Noble OBE**  
Famous for breaking the land speed record with Thrust SSC, Richard is a renowned campaigner on behalf of UK engineering innovation



**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



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



**Eric Wilkinson**  
As head of product development for Cambridge Consultants, Eric handles some of his company's larger and most innovative projects across a range of industries



**Nick Appleyard**  
Nick joined the Technology Strategy Board in 2007 as lead technologist for electronics, photonics and electrical systems. His role involves formulating strategy for Government



**Justin Cunningham**  
A qualified aerospace engineer, Justin entered journalism with the Institute of Mechanical Engineers. He is now responsible for Eureka, the magazine for engineering design

### **Cambridge Consultants**

Cambridge Consultants is a leading technology and innovation company, renowned for its ability to solve technical problems and to provide creative, practical solutions to business issues. A results driven company, dedicated to delivering competitive advantage through the innovative use of technology, the company maintains offices in the UK and the US

[www.cambridgeconsultants.com](http://www.cambridgeconsultants.com)

### **Centre for Remanufacture & Reuse**

The Centre for Remanufacture and Reuse delivers technical and economic insights for clients concerned with: funding innovation in clean technologies; managing waste; strategy, policy, R&D and business development projects in remanufacturing; and evaluating investment in clean technology ventures.

[www.remanufacturing.org.uk](http://www.remanufacturing.org.uk)

### **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.electronicleadershipcouncil.org.uk](http://www.electronicleadershipcouncil.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](http://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](http://www.findlay.co.uk)

### **Project Bloodhound**

Bloodhound SSC will be the catalyst for cutting edge research in fields such as aerodynamics, materials technology, computational fluid dynamics and electronics. Showcased in the most exciting way possible, and with an accompanying education programme for primary to undergraduate level learners, the project aims to motivate future generations to pursue science, technology, engineering and maths based study.

[www.bloodhoundssc.com](http://www.bloodhoundssc.com)

### **Prototype Projects**

Prototype Projects is expert in providing rapid prototyping and model making services to product designers, engineers and manufacturers throughout the UK and Europe. Established for more than 25 years and with a long standing reputation, Prototype Projects employs the latest technology and skills to answer the most demanding prototyping and modelling requirements.

[www.prototypeprojects.com](http://www.prototypeprojects.com)

### **RS Components**

Europe's leading distributor of electronic, electrical and industrial components. With a range of more than 450,000 electronic components and industrial products, the company supports more than 1.6 million customers worldwide, supply components to R&D or maintenance engineers. Its product range includes semiconductors, connectors, passives and power supplies.

[rswww.com](http://rswww.com)

### **Technology Strategy Board**

The Technology Strategy Board has a wide remit: to stimulate innovation in those areas which offer the greatest scope for boosting UK growth and productivity. Together with business, the Technology Strategy Board will have invested almost £2 billion towards this goal by the end of 2011.

[www.innovateuk.org](http://www.innovateuk.org)



In association with:



Headline sponsor:



Sponsors:



Technology Strategy Board  
Driving Innovation

Organised by:



Supporters of:



**Findlay Media**  
Hawley Mill, Hawley Road,  
Dartford, Kent DA2 7TJ  
T: 01322 221144  
F: 01322 221188  
[www.findlay.co.uk](http://www.findlay.co.uk)