

Nottingham Science City

Annual Report 2008

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what we decided ... what we've done ... where we're going ...

■ Nottingham is becoming increasingly well known as a city of science excellence. Allied to our education and business acumen, the science scene is creating greater prosperity for our residents and businesses.

Collectively, the six Science Cities form a strong national partnership of the public, private and research sectors, using science to generate prosperity and to improve quality of life. Individually, each work differently and uniquely, matching their activities to their key strengths. The other five Science Cities are Birmingham, Bristol, Manchester, Newcastle and York.

Nottingham's strengths, which demonstrate clearly the potential of our science sector, include:

- The large number and variety of science-related businesses within and close to the city
- The rapid growth of spin-out companies from universities and business
- Two universities that together attract over £100m in research funding a year (In 2007-08, The University of Nottingham attracted a record £130.1 million in research funding)
- The fact that one in every five jobs in Greater Nottingham is now in a science-related sector
- The science sector is predicted to grow by more than 15% and create 20,000 jobs over the next decade.

The city's scientific prowess follows a history of 'firsts' which inspire today's innovators to break new ground and take on the challenges of the future. For example, The University of Nottingham is world-famous for the development of Magnetic Resonance Imaging (MRI) with 22,000 now used in hospitals throughout the world. Professor Sir Peter Mansfield carried out this groundbreaking work in MRI, for which he was awarded the Nobel prize for Medicine in 2003. Boots – which grew out of a chemist shop in Nottingham – is famous for inventing and developing Ibuprofen, one of today's most popular and effective painkillers.

This year, Olympic gold medallist Rebecca Adlington of Mansfield swam to victory wearing Nottingham-based Speedo International's LZR racer swimsuit. The swimsuit was developed in collaboration with scientists at The University of Nottingham.

The Government named Nottingham a Science City in 2005 in recognition of the city's scientific assets and the importance of science and technology in helping to drive the local economy.

our vision

Nottingham Science City's vision is that by 2030 it will be recognised as an international location for scientific excellence, underpinning the economic prosperity of the city region and making a major contribution to a flourishing East Midlands.

Achieving this involves breaking down barriers between science, young people and the wider community. Making science exciting and relevant to all adds further power to Nottingham's 'engine for regeneration,' driving up the creation of opportunities and facilities.

Bringing together science, business, and economic and social development into one cohesive family will create all-round benefits. Integrated working will lead to greater opportunities, giving innovation and research crucial support and, ultimately, improving the quality of life for the people of Nottingham.

our aims:

nurture, stimulate and convert
Nottingham **nurtures** its role as an international leader in scientific discovery, teaching excellence and business innovation, helping the city region grow in stature and reputation.

Stimulation of community pride and interest in Nottingham's scientific heritage helps to inspire its citizens, businesses and educators, encouraging them to carry the baton of success into the future.

Nottingham aims to **convert** its science expertise into thriving businesses by offering the competitive

advantages of location and facilities to inward investors.

the partnership

Nottingham Science City is supported by a unique partnership of influential organisations which together stimulate growth and create a powerful catalyst for change.

Each partner recognises that being part of Nottingham Science City helps them to achieve a scale of ambition, policy alignment and impact that would not be possible if working alone. By uniting to achieve goals and targets, they present a formidable body of experience which helps to place Nottingham Science City at the forefront of scientific, business and educational excellence.

As Professor Neil Gorman, Vice-Chancellor of Nottingham Trent University and chair of the partnership, says: "The time is right for Nottingham to take forward its ambitions as an international location for science – and, with the Leadership of the Science Cities coming to Nottingham in 2008, promote the need for science advancement across the UK."

The Board of Partners consists of The University of Nottingham, Nottingham Trent University, Nottingham City Council, Greater Nottingham Partnership, East Midlands Development Agency, Nottinghamshire County Council, Nottingham Development Enterprise, the Learning and Skills Council and representatives of the private sector.



the challenges of today and tomorrow

■ Nottingham Science City is building on its reputation as a supportive place for business start-up or expansion through projects that benchmark Nottingham against other cities. Networking with other cities and signposting to European and international partnerships is helping to foster links, support and introductions in the science and business world.

As part of this, Nottingham is bringing science to its community and inspiration to its future scientists through science exhibitions, festivals and in-school events. These include hosting the international, interactive GameCity videogame festival in the city for the third year running; hosting the first East Midlands nanotechnology roadshow NanoWhat?, which attracted over 22,000 people including hundreds of local schoolchildren.

healthier, greener, creative Nottingham

These three priority themes underpin the core activities which criss-cross the city's strategy of business development, education and training, and infrastructure. Whilst Nottingham's two universities continue to astonish with their medical research, the city is also known globally for thriving healthcare businesses like Alliance Boots.

■ healthier Nottingham

Cutting edge research and commercial pioneers – such as the Anthony Nolan Trust Cord Blood Bank and research institute at Nottingham Trent University – are making amazing medical advances. Opened in 2008, it stores stem cells from the blood of new-born babies' umbilical cords for life-saving transplants and research.

Big names attracted to the city's excellent research facilities include Loughborough-based Astra Zeneca. One of the world's largest pharmaceutical companies, it conducts clinical studies in dedicated facilities at the Nottingham University Hospitals NHS Trust.

As the city's medical technology and life sciences industries continue to grow so do its purpose-built premises, giving both incubator and fully established companies the opportunity to expand.

■ greener Nottingham

Over the decades Nottingham has been at the forefront of energy generation in the UK, an industry

bringing nearly £3.5 billion to the East Midlands economy. Today, science and business seek new energy solutions in response to environmental concerns – and Nottingham City Council, as the third largest purchaser of green energy in Europe, leads the way in helping innovative ideas to thrive. Meantime, the two universities are helping to advance commercially focused, world-class environmental technology research. For example, The University of Nottingham's Energy Technologies Research Institute is working in collaboration with companies such as E.ON, Rolls-Royce and Ford.

Pioneering sustainable developments in Nottingham range from the LaceMakers' House - an eco-home in the city – and the new Nottingham Science Park, which earned its regeneration developer Blueprint a regional award for its design as well as a place in the 'Green Award' finals.

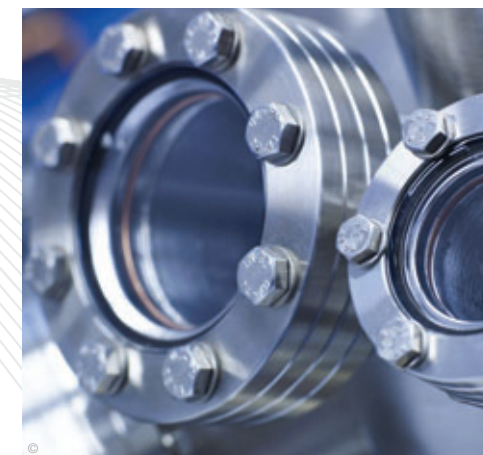
■ creative Nottingham

The dynamic marriage of creativity and science is taking the city into an amazing era of fast-moving advances linking, for example, design and technology with the digital media. A fine demonstration of this is GameCity's celebration of spectacular videogames and interactive entertainment in Nottingham.

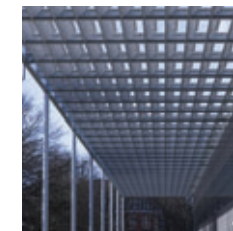
Nottingham is famed for innovation in areas ranging from art, design and music to architecture, fashion and computer games. It has been ranked as the UK's second most creative city in a poll by the TV channel Artsworld. Famous names associated with our creative city include design guru Sir Paul Smith and film director Shane Meadows.

In Hockley, the Broadway Media Centre provides inspirational space for film and digital media production. Its Broadway Cinema was voted one of the world's best cinemas by industry experts in Total Film Magazine. The magazine also named it the 'world's smartest cinema' following a £5.7m makeover including an auditorium designed by Paul Smith. Broadway has also been recognised as one of only ten cinemas in the world that provides a unique cinema going experience.

In the Lace Market, its long history of creativity makes it a particularly fitting home for the new £13m Centre for Contemporary Art Nottingham, one of the most important developments ever to grace the city.



The strong message is that Nottingham is a great place to be - not only for business but also for families, offering quality facilities for work, play and education. To promote this further, Nottingham Science City is focused on creating a more skilled workforce which, through its people and talents, will help the area flourish.



science and healthcare go hand in hand

■ Science plays a vital role in the promotion of healthy lives – and nowhere is this more evident than in Nottingham where brilliant scientists are taking healthcare beyond exciting new frontiers.

In this city, cutting-edge research by our commercial pioneers and our two world-class universities continues to lead the way towards medical discoveries that save lives and improve health both here and around the world.

Their work follows an impressive tradition of groundbreaking healthcare that long ago put Nottingham on the map. Today, still based in Nottingham, Alliance Boots is one of the biggest community pharmacists in the world, employing more than 100,000 people in 15 countries.

Over the years, healthcare companies large and small have made Nottingham their home. Across the East Midlands, medical technology industries now employ 19,000 people. A further 12,000 are employed in the life sciences.

Some of these companies are long established; others are just starting out. Whatever their size, each needs a supportive environment to nurture their ideas. That is why the region has developed more than 40 incubation, innovation and science park facilities, offering companies the ideal premises, whatever their size.

Such support can help move mountains. In Nottingham, proof of that can be seen at BioCity, the UK's largest bioscience innovation and incubation centre. Around 60 bioscience and healthcare companies are now based there, including Monica Healthcare, the inventors of non-intrusive foetal heart monitoring; Regentec which is making exciting advances in tissue engineering and regenerative medicine; and PetScreen which developed the first ever cancer screen for lymphoma in dogs and is dedicated to fighting cancer in pets.

BioCity results from partnership between Nottingham's two universities and the East Midlands Development Agency. The success of that collaborative working is now seen every day, with university spin-out companies, new start-ups and established small and medium-sized enterprises benefiting from the high-quality facilities and supportive



networks that are the lifeblood of expansion.

Similarly, Nottingham Science Park has offered premises to incubator size or fully established companies since the summer of 2008, opening the doors of opportunity to companies who live, breathe and develop ideas for a healthier future.

The University of Nottingham is a clear leader in the fight to overcome disease and improve quality of life – for both people and animals. It boasts one of the UK's largest and most respected medical schools - the Queen's Medical Centre – and in 2006 established the first new School of Veterinary Medicine and Science in the UK for 50 years.

Its School of Pharmacy, which is regularly ranked as among the best in the UK, has strong links with all the major pharmaceutical companies. Scientists from the school also work with clinicians, biochemists, biologists, chemists, mathematicians and engineers in the university's multidisciplinary £25m Centre for Biomolecular Sciences.

Nottingham Trent University has an awe-inspiring record in health-related research. The university is particularly well known for its work in cancer research and has a new £multimillion centre planned for 2008.

As one of the UK's leaders in sports science, exercise and health, its expertise has benefited people from all walks of life – from children to British Olympic teams. Its work includes the use of its unique environmental chamber to help athletes to acclimatise to any type of environment from Egypt to Everest.

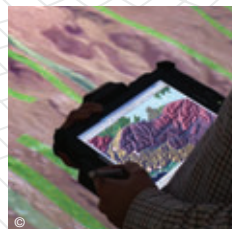


When Jesse Boot opened his first chemist's shop more than 100 years ago he could not have envisaged that the company he founded would, a lifetime later, be associated with the invention of Ibuprofen.

developing greener energy



With sustainable development a major part of the energy jigsaw, Nottingham is proud of the award-winning work going on in the city. From futuristic designs to blending buildings with history into the 21st century, successful sustainability is here – and breaking new ground.



■ **Around the world the focus is growing on the need for cleaner and greener energy production – and Nottingham is rising to the challenge. New technologies are not only being developed by our scientists and entrepreneurs but many are already up and running in our homes and places of work.**

Among the latest environmentally sustainable developments is the much-applauded, superbly innovative Nottingham Science Park. Designed for progressive companies involved in science, technology or research and development, it includes a ‘brown roof’ for insulation and promotion of biodiversity, a biomass heating system, natural ventilation, optimised use of natural light internally, recycled and sustainable building materials, and high energy efficiency standards. Housing managed by Nottingham City Council is increasingly flying the sustainable flag with solar thermal panels and ground source heat pumps. Schools have biomass boilers replacing oil and coal-fired heating systems, reflecting the council’s desire to back the scientists and their commercially led partners in their development of green technology. With 60 per cent of its energy requirements already coming from renewable sources, the council has also made a commitment to a 30 per cent reduction in CO2 by 2020 and to being carbon neutral by 2100.

Meantime, Nottingham is also working in partnership with other countries in tackling the universal challenges of climate change. A fine example of this is The University of Nottingham’s work in China. The first foreign university to establish an independent campus in China, its new Centre for Sustainable Energy Technologies (CSET) in Ningbo is a landmark collaborative project focusing on the new and renewable energy systems that will play a key part in sustainable development.

Officially opened in September 2008, CSET is part of the School of the Built Environment at The University of Nottingham and aims to translate cutting-edge research into practical, energy-efficient affordable solutions for sustainable construction throughout the world.

Nottingham has been a major player in UK energy generation for decades. But with the threat of global warming

now creating the need for alternative resources the area is looking to its science and business experts to find new solutions and turn their revolutionary ideas into commercial reality.

This quest is resulting in business and academia working in close partnerships with a view to both finding the answers and making them work. A prime example of this is the Energy Technologies Research Institute founded by The University of Nottingham to draw research together and work in collaboration with organisations like the energy company E.ON, Rolls-Royce and Ford.

Collaborative work like this has helped the Midland Consortium of the Universities of Nottingham, Birmingham and Loughborough be chosen to host a new £1 billion national institute in the region to develop cleaner energies. The Energy Technologies Institute (ETI) will be co-ordinated from its East Midlands hub. It launched its first programmes in 2008.

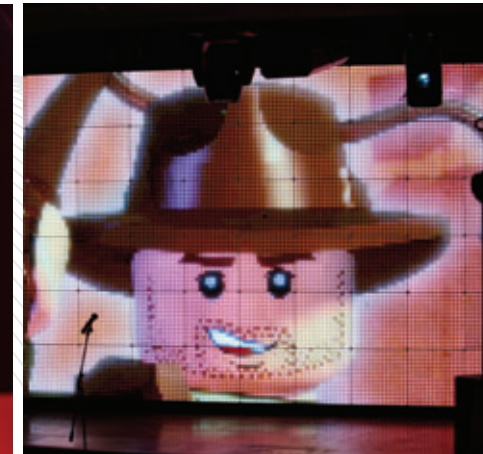
Every day, our scientists, chemists, physicists and engineers work with their partners in the business world to find alternative, sustainable energy at affordable prices and provide technologies which will mitigate global warming. Areas of research include carbon capture and storage, sustainable buildings, wind energy, biofuels and solar technology.

At Nottingham Trent University, the Applied Energy and Environmental Engineering Research Group aims to solve problems arising from sustainability issues and support efforts to improve the ecology and the environment. Their work includes researching thermal energy storage; refrigeration and air-conditioning; water, waste and material management; air filtration; and sustainable technologies.

This group also includes the Micro Hydro Centre, which is researching low-cost equipment for small-scale water-powered electricity. The main aim is to develop affordable generators for villagers in developing countries – an aim which says it all. We’re working towards a greener Nottingham and a greener world.

creative Nottingham

Here, entrepreneurs engaged in digital arts and technology work together with science to take the creative industry into exciting new territories. Together, they push the boundaries to ensure a pioneering, fast-forward ride into the future.



■ **In Nottingham, a strong synergy between the creative and the design and technology industries plays a potent part in the city’s vibrant personality.**

This merging of minds has already brought the focus of top media and filmmakers on Nottingham. It has introduced the magical world of video gaming to the previously unaware. It has attracted film-lovers and the producers of media projects to “one of the world’s best cinemas.” It has led to digital media services promoting the work of the city’s pharmaceutical and technology industries through innovative advertising techniques.

GameCity’s annual festival of computer and video-gaming - brought to Nottingham for the third year running - has not only delighted committed enthusiasts but also opened up a world of imaginative thrills ‘n’ spills, education and the wonders of science. The University of Nottingham’s Visual Learning Lab (VLL) and Budgie the helicopter – a version of the child’s slot ride – have each in their different ways successfully shown how interactive computer games can attract students to science courses and help teach them at the same time.

On the business front, Nottingham’s digital media services are tapping into advertising contracts with big name companies. The moving image production company Hot Knife, for example, provides 3D animation, motion graphics and character rendering for companies like Canon and Panasonic.

In Hockley, the superb Broadway Media Centre and Cinema has helped to inspire and develop the talents of film directors and digital media producers over the years, including Shane Meadows, Nottingham’s adopted son, whose award-winning films have included *This is England*, *Dead Man’s Shoes* and *Twenty Four Seven*. Internationally released features, TV shows and commercials have all been created and shot here. The Centre, which also provides space for exhibitions and training, produces a continuing stream of successes and innovative flair.

Among Broadway’s regular cinema-goers is Sir Paul Smith who designed its new auditorium as part of its £multi-million makeover in 2006. Since then, the cinema has been recognised as one of only ten cinemas in the world that provides a unique cinema-going experience, alongside prestigious contenders such as La Pagode in Paris and Mann’s Chinese Theatre, Los Angeles.

But Broadway is about promoting enterprise as well as entertainment. It has proved to be a vital incubation hub for many new, creative businesses – like the digital arts company Active Ingredient which finds ways to link the virtual world with the physical. The company’s projects include an activity-driven handheld computer game that monitors the player’s heartbeat and has attracted interest around the world. Another creative business based at the media centre is Trampoline whose Radiator Festival in Nottingham involves partners from

throughout the East Midlands. The festival showcases a wide variety of artworks and events, networking opportunities and technical workshops, celebrating “the unification of two boundaries of the human creative spirit – performance and technology.”

Mixing art with technology undoubtedly leads the creative industries into exciting new ventures. City-based company Click2touch, for example, is able to simulate the experience of touching fabrics on a computer screen. By using this tactile technology, online shoppers can view 3D images of a product, scrunch the fabric and see how it creases or reacts to their touch. And the benefits for the fashion and textile industry are huge in terms of reducing returns and improving competitiveness.

Revolutionary, innovative ideas like these, along with inspirational courses provided for thousands of students each year in the city’s colleges and two world-class universities, have helped build Nottingham’s enviable reputation in art, design and technology. They have enabled the city to develop some exceptional talent – and celebrate that in the annual Nottingham Creative Business Awards.

All over the city, yet more creative industries – like the New Art Exchange in Hyson Green – continue to emerge, adding value and verve to communities in the area, enlivening the city and energising businesses.

what Nottingham citizens think of their Science City...

■ “As a lawyer in corporate finance I’m delighted to be involved in Berryman’s Angel Insight support events. Schemes like these in Nottingham make a huge difference to science-based entrepreneurs with vision and inspiration but lack of finance and business experience. By teaming up with the not-for-profit Growth Investment Network East Midlands, sponsored by emda, and putting entrepreneurs in touch with business angels - local business people and potential private investors - we are helping the science and biomedical pioneers take their ideas to the next stage.”

Katie Botham

Lawyer with Berryman’s corporate finance team



■ “Video gaming has become part of our culture and a fun, creative part of the life of a university in a city. So Nottingham is a great choice for our GameCity festival. Not only have we been very lucky to have the full support of Nottingham Trent University, but Nottingham City has also been extraordinary in how it has taken the event to heart. Here’s a city which views video games as an important part of cultural tourism and is investing real money in its future.”

Iain Simons

GameCity Director



■ “As a parent I feel a real responsibility for the next generation, so my rainwater recovery company is more than just a business to me. Since I first designed and developed my system as a student at the Nottingham Trent University, rainwater harvesting has become increasingly important in adapting to climate change. Today, Stormsaver has commercial and corporate clients throughout the UK. We now have ten employees, and every one of us is proud to be making good use of science in the dynamic centre of England.”

Michael Farnsworth

MD of Stormsaver, near Newark



■ “The Speedo LZR Racer swimsuit is a fantastic example of the amazing science that goes on in Nottingham. Put under the global spotlight by international swimming sensation Michael Phelps as well as Nottinghamshire’s own Olympic gold medallist Rebecca Adlington, researchers and academics at the University of Nottingham contributed to the physics behind the swimsuit’s design. The suit, which was tested and designed with a number of international research institutes such as NASA and the Australian Institute of Sport (AIS), is more than another success for Speedo. It brings further proof that here, in this city, business and science work hand in hand to achieve success.”

Dr Herve Morvan

Lecturer in Fluid Mechanics at The University of Nottingham



■ “After launching our cancer screening system for dogs in 2006 from our BioCity base in Nottingham, we started exporting to the USA where we are looking to open a new laboratory. From the very beginning we’ve had invaluable support from organisations like emda. Through mechanisms such as R&D grants, it has enabled us to accelerate our product development. We have made good use of the city’s excellent networking support both nationally and internationally. With its strong commitment to commercialisation Nottingham Science City will become a powerful enabler for up and coming businesses and therefore provide the best opportunity for a company to succeed in a competitive market environment.”

Dr Shahid Mian PhD

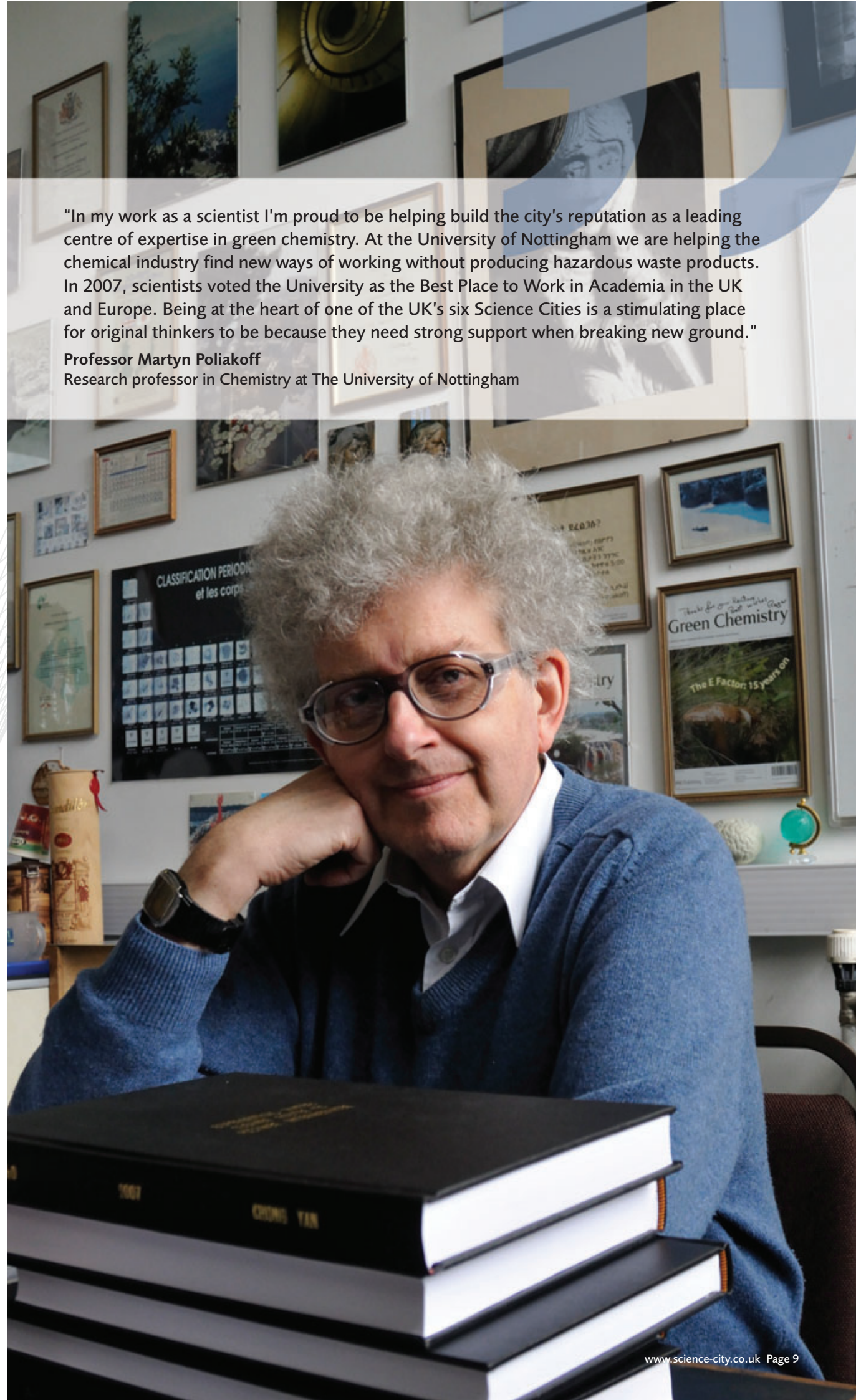
Technical Director, Petscreen



“In my work as a scientist I’m proud to be helping build the city’s reputation as a leading centre of expertise in green chemistry. At the University of Nottingham we are helping the chemical industry find new ways of working without producing hazardous waste products. In 2007, scientists voted the University as the Best Place to Work in Academia in the UK and Europe. Being at the heart of one of the UK’s six Science Cities is a stimulating place for original thinkers to be because they need strong support when breaking new ground.”

Professor Martyn Poliakoff

Research professor in Chemistry at The University of Nottingham



our achievements

Nottingham Science City is all about growth.

It's about building on its already impressive achievements and strengths in science.

It's about putting science and technology to work.



■ Increasingly, Nottingham is seen as the city that gives science the 'wow' factor. This reputation is growing not just because of the city's expertise in science but also as a result of its business abilities, infrastructure, and education and skills.

infrastructure: building for success

The city's wide range of start-up and move-on space in exciting locations is a magnet to science and technology and biomedical businesses. Ambitious companies are drawn to this superior ladder of accommodation which is designed to help them grow.

This vibrant and continually developing property portfolio supports local business and attracts inward investment from around the UK and abroad. In early 2008, the city launched itself as the prime emerging UK home for science-based business location and investment at a global property fair in France. International investors, developers and intermediaries were told that since 2005 science jobs in Nottingham had risen to 62,000 and partners hope that a further 20,000 science sector jobs will be created over the next 10 years.

All this will support the existing ladder of accommodation which offers businesses incubation and grow-on space all the way up to corporate headquarters. Nottingham's built assets offer academic research units, laboratory space, commercial space and business support that contribute to the expansion of the knowledge-intensive industry in the city where, currently, £70m worth of infrastructure development is underway.

examples of Nottingham's buildings and space include:

BioCity, the UK's biggest biomedical business incubator, has been described as the key to recent science growth. Today, this thriving centre offers over 12,000 sq m of laboratory and office space to around 60 companies within four buildings. Donated by BASF in 2001, its benefits include business and tactical support. Led as a joint venture between Nottingham Trent University, The University of Nottingham and emda, BioCity would cost over £30m to build today.

Nottingham Science Park is a £50m extension to the original Nottingham Science & Technology Park. It offers a range of new and expanded science development sites in the city, and was specially created to meet the demands of progressive companies involved in science, technology or R&D. The first phase, now completed, includes a Toyota Training Academy for a joint venture between Castle College and Toyota. No1 Nottingham Science Park was officially opened in 2008 providing high quality office space for companies involved in science and technology.

The University of Nottingham Innovation Park at the University's Jubilee Campus features a first iconic building designed by Ken Shuttleworth: the Gateway Building. This striking building, opened in 2008, forms an innovation centre which offers business incubation space, business support services and spaces for events and networking.

The Hive is Nottingham Trent University's enterprise development centre specially designed to create and support new businesses. This centre for entrepreneurs, start-ups and spin-out from University research provides a service to people with good business ideas that would benefit from association with the University.

Alliance Boots has announced that it will make 100 acres of land, property and lab space available for development as an exciting mixed-use site. Located within its historic headquarters, it will open up significant opportunities for local and inward investment. Plans include creating a link to The University of Nottingham.

Nottingham MediPark. A site close to the Queen's Medical Centre has been identified as a potential specialist Clinical Sciences and Medical Technologies Park. This scheme will focus on activities with direct clinical links to the QMC and University of Nottingham Medical School. It will provide space for medical engineering/technology and clinical research uses which would benefit from co-location with a major teaching hospital.

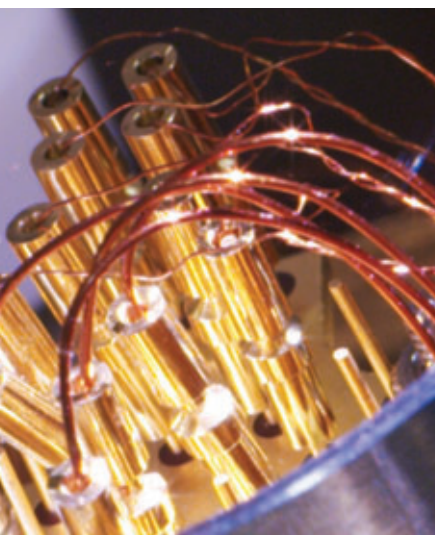
Rolls-Royce is looking at the possibility of releasing surplus land at its Hucknall site. A feasibility study commissioned in 2007 explored the potential to create a specialist advanced engineering science park.

Beeston Business Park. A masterplan has been prepared for the park which already has a number of leading technology companies including Ericsson, Siemens and Atos Origin. It offers existing space and the opportunity for new development through a range of accommodation from light industrial space to grade A office space.

To accommodate this growth, Nottingham Science City and its partners are backing the further development of property in the city. The NSC Board also keeps a watchful eye on space available in the long term, helping to safeguard strategic sites for future business use.

business in Nottingham: a great place to be

Support like this, and the creation of stronger partnerships between businesses, universities and government at the city and regional level, helps Nottingham Science City's continuing progress in economic growth.



■ Since its designation as a Science City, Nottingham has built on the strengths of its leading university research base and more than 100 years of pharmaceutical and bioscience innovation to make the city the place to be.

Today, NSC is employing the city's wealth of talents in other fields to further expand its science businesses and provide backing such as communications and marketing support, assistance with fundraising and grants, and networking opportunities.

An excellent example of support is the three-day QED Consulting Bio-Entrepreneur School planned for March 2009. It is open to anyone interested in commercialisation and

starting and growing a business in the lifescience, bioscience and biotechnology sector. Hosted by BioCity and funded by emda and the Greater Nottingham Partnership, the programme aims to develop business skills and confidence in capitalising on entrepreneurial talent alongside opportunities for networking with sector-related investors, specialist accountants and lawyers.

Science and businesses in Nottingham also pursue optimum progress by sharing expertise. The LZR Racer Swimsuit, destined for Olympian fame, was designed by Speedo AQUALAB in the city's suburbs. Subsequent involvement with experts near and far helped ensure phenomenal success.

education and skills: opening doors



■ The growth of Nottingham is not just about workforce development. It's also about fostering public engagement in science and nurturing the interest and talents of young people – the scientists of the future.

Better communication between academics and the public is aimed at igniting a deeper sense of involvement and curiosity in science and research. The wider community in Nottingham have already shown they want to know the answers at events like the Nano What? 'totally tiny technology' roadshow.

Projects designed to encourage youngsters to study more science subjects include emda-funded outreach and interactive teaching materials like Come Alive With Science. The Centre for Effective Learning in Science (CELS), based at Nottingham Trent University, takes valuable resources into schools such as the Kit in a Kase. Other exciting

approaches developed for schools, colleges and universities put science and technology into real world contexts for students.

Attracting audiences of all ages is the award-winning multimedia project Test Tube, celebrating initiatives such as Lab in a Lorry. The Lab had already visited seven Nottingham schools by July 2008, with scientists and engineers introducing students to scientific principles whilst defusing the stereotypical 'boffin' image. Providing 'behind the scenes' insights into the world of scientists, the Test Tube site is run by the two universities with BBC video journalist Brady Haran as NSC film-maker in residence.

Other projects aimed at inspiring youngsters in 2008 included the launch of the BA (British Association for the Advancement of Science) Crest Star Investigators in 13 city primary schools. This scheme gives pupils the chance to do creative problem-solving by taking part in science-focused

mini projects.

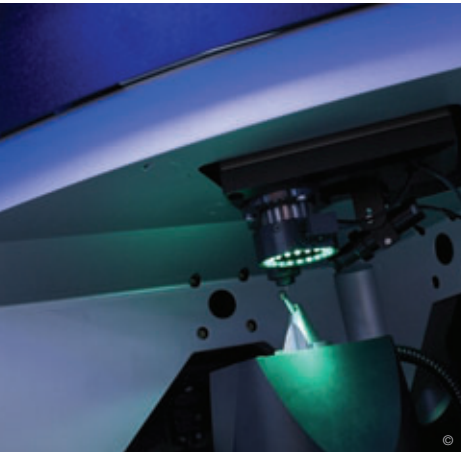
AimHigher arranged for Castle College's science taster sessions to go into three city schools, providing hands-on experience with specialist equipment and an insight into health science careers. NCN has introduced the BTEC First Diploma in Applied Science preparing students for advanced study.

Meantime, careers materials are made available for Connexions, STEMNet, AimHigher and universities; STEM specialisms are developing alongside generalist knowledge within careers adviser teams; and employers are being consulted about getting the right people in the right jobs. Teachers, who now have greater access to subject-related, continuing professional development, were invited to the Nottinghamshire Science Teachers Conference organised by AimHigher with the involvement of many city partners.



Schoolchildren and students are being shown how to develop the right skills for a career in science, and FE colleges are developing pathways to employment which go beyond the traditional 'men in white coats' image.

moving forward into an exciting future



■ The following is a flavour of how Nottingham Science City is helping to shape the achievements of tomorrow.

champions

Nottingham's BioChampions are spreading the word about the city's achievements and vast potential. They support local businesses as they grow and establish themselves, and encourage inward investment by highlighting the exciting advantages of moving into the city.

property

Alliance Boots' current consultations with its professional advisers on how best to take forward development of its surplus land and D6 listed building is one example of how the future looks. Another is the vision of a MediPark bringing together biomedical companies on one 3.7 hectare site, making Nottingham the first in England to build a world-class medical science research facility co-located with a leading teaching hospital.

BioCity sits at the heart of the Eastside Development Zone which is being targeted as a key site for further expansion of BioCity and other companies in the bioscience sector. Feasibility studies that have already begun will review labs and other space against the opportunities that will emerge, and also the demand.

When fully developed, The University of Nottingham Innovation Park will offer opportunities for dedicated R&D facilities and both multi-occupancy and single occupancy buildings – ideal for high-growth businesses and Nottingham's brilliant research teams.

With its eye firmly on the future Nottingham Science City is introducing children to the exciting, real-life world of science. It is further developing its property portfolio of business incubation centres and science parks, and expanding its provision of high quality business support to growing companies.

Castle College and New College Nottingham have extensive plans for a major rebuild and revamping of their science-related activities. Castle plans to open four new state of the art labs for A Level and International Foundation provision in 2009.

inspiring future scientists

Coming soon is Maths Inspiration, one of the largest maths enrichment programmes for teenagers in the UK. It will enable older pupils to experience mathematics presented in real-world contexts by inspiring maths speakers. Similarly, Creative Sparks is an awards scheme planned to enthuse exceptionally creative young people in science, technology, engineering and maths.

Emda's STEM (Science Technology Engineering and Maths) programme marks a £6m investment in three years of projects to support the development of STEM skills in the region. It includes providing stimulation, skills and support for STEM teachers and mentors, working on solutions for gaps in provision and promoting opportunities and programmes to the STEM education and business audiences.

marketing

A proactive marketing campaign and seeking positive media coverage aims to highlight Nottingham's science offer today and tomorrow. Nottingham Science City website, relaunched in 2008, is lively, engaging and informative, celebrating the city's achievements, developments and ambitions. Good news, and globally accessible.

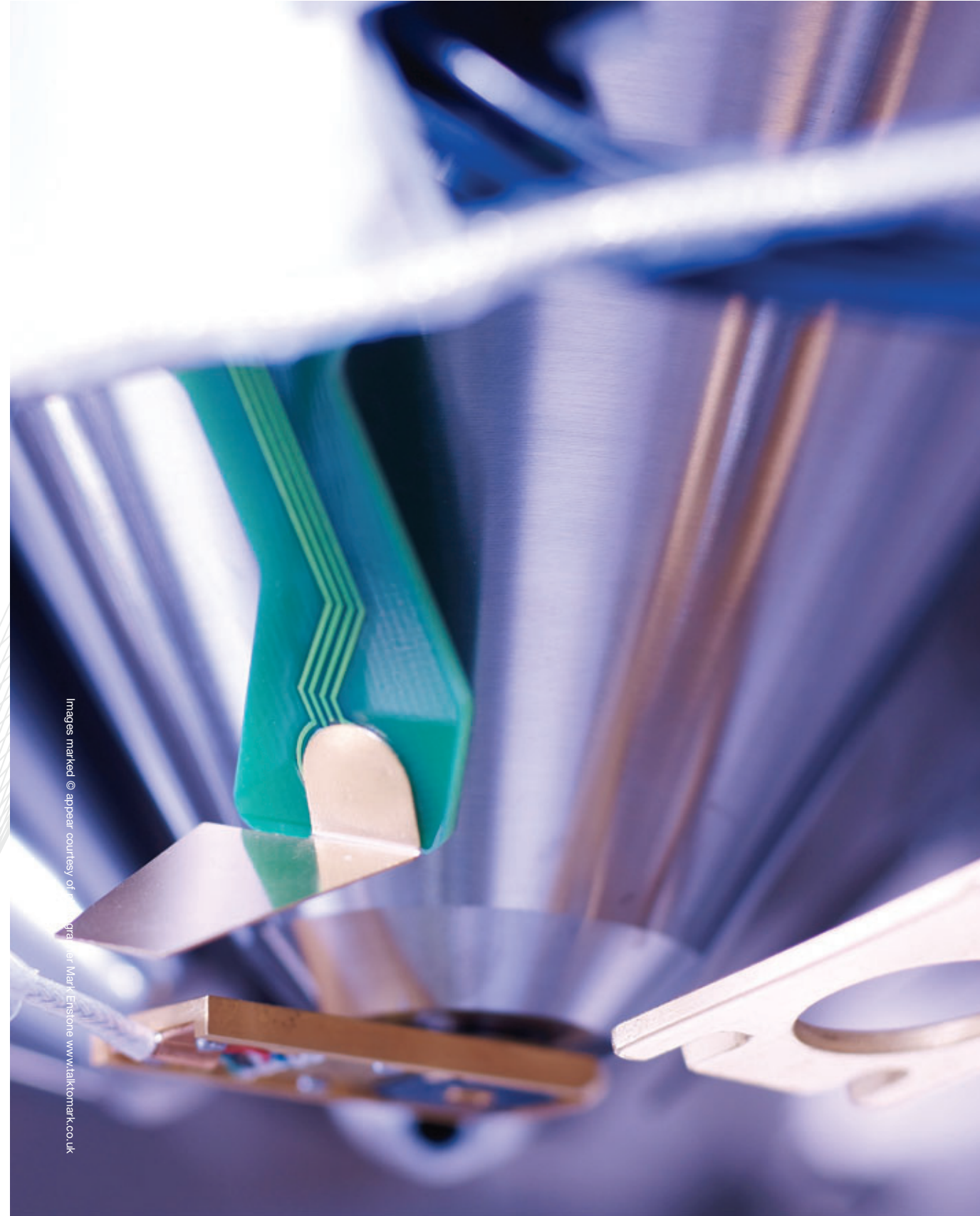
international presence

History has shown that Nottingham's greatest achievements spin out across the world. Today, they help to attract inward investment from companies in countries eager to become part of this forward-thinking Science City. Equally, the city is keen to encourage a growing international presence. A fine example of this is GameCity whose technological wonders attract droves of UK visitors as well as representatives from multi-national, national and regional videogames companies.

business support

In its promotion of ever-better support for growing and established businesses, the NSC Board welcomes regional collaboration between iNets to expand networking and seek co-branding opportunities. At the same time, the aim is to encourage the promotion of NSC and event marketing through business networks.

Emda has appointed a consortium led by Medilink East Midlands, and including BioCity, to run the healthcare and bioscience iNet. This brings together partnerships of regional businesses, universities, the public sector and innovative individuals to drive the successful exploitation of new ideas. Support also comes from Ingenuity, the umbrella brand for The University of Nottingham's extensive range of business-facing project activities – which adapt to changing local, regional, national and global demands. Businesses and academics are invited to contribute to the site and help shape more business-relevant engagements with Higher Educational Institutions.



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Measures like these help Nottingham look beyond its city and regional boundaries and towards wider national and international investment. They are part of Nottingham Science City's visionary approach to science, to growth and to continuing success.