

Made in Sheffield

MADE IN SHEFFIELD

A look at this year's choice

Invention the mother of success



Pioneering: Mark Viney with a needle free injector (left) and machinist Paul Oliver makes a handle

Pioneering medical products group The Medical House has been chosen as this year's winner of the Made in Sheffield Award.

The Attercliffe firm shot to prominence thanks to its development of a needle-free injection system, but that is only one of a host of cutting edge developments which the Medical House has been involved in.

Since it was launched in 1988, the Newhall Road business, led by Ian Townsend, reckons to have created more than a thousand different medical devices for many of the world's major medical companies.

Its latest invention, the AutoSafety Injector, has been designed to allow people with no medical training to inject a range of drugs.

The disposable injector uses a needle that is completely concealed until the instant it is used - avoiding the risk of needle stick injuries and disposal risks - and automatically delivers the right dose to the right depth in the skin.

The device works with standard pre-filled syringes, which are primarily used for vaccinations and to deliver drugs to treat conditions such as rheumatoid arthritis and multiple sclerosis.

Applications for the AutoSafety Injector include situations where there is a sudden need for rapid, mass immunisation, such as a nat-



Leader: Ian Townsend

ural disaster or biological attack, or for patients to inject themselves with anti-blood clotting agents after surgery.

The UK subsidiary of a major global healthcare products group has already signed a binding agreement worth £3 million to use the injector for an, as yet, undisclosed drug.

With more than a billion pre-filled syringes currently being used worldwide each year and the market growing by more than five per cent a year, opportunities are enormous.

One of the major applications for the Medical House's needle free injection technology has been to ease the pain of living with diabetes. The technology was developed with help from a Centre of Industrial Collaboration at Sheffield Hallam University, set up thanks to regional development agency Yorkshire Forward, and generates a fine stream of insulin that is

deposited beneath the skin in less than 300 milliseconds.

Among those with reason to thank the Medical House is 11 year old Morgana Harper, who found using needles to inject insulin a traumatic experience.

"I hated using needles because they gave me big bruises and painful purple lumps. I used to cry when injecting," she recalls. Now, she says "Often I don't feel anything," when she uses Medical House's technology.

Drug delivery systems are only part of the Medical House success story, however.

The company has developed a breath test which can detect the bacteria responsible for some gastric complaints, including ulcers.

Meanwhile, its orthopaedic implants and instruments business Eurocut is continually developing new concepts and technologies and recently developed a process for permanently embedding coloured polymers into surgical instruments to make it simpler for surgeons and theatre staff to select the right sized instruments.

The Medical House's Creative Medical Design subsidiary uses some of the most technologically advanced design equipment and software currently available to provide design services for the medical industry in addition to fuelling innovation at the company, which announced its maiden AIM profit last year.

Sheffield has bounced back from the decline, which saw unemployment spiral from below to above the national average in the last 20 years of the 20th century, thanks to European Union and regional development agency-funded investment and a combination of traditional strengths, innovation, investment and a focus on the industries of the future.

The major benefits of the Objective 1 regeneration programme are now beginning to be seen more clearly, particularly in the key clusters of expertise, identified as offering significant growth opportunities - advanced manufacturing and metals, the medical and biosciences sector, the creative and digital industries, environmental and energy technologies and the professional services sector.

MANUFACTURING

The city has become a boom town for hi-tech advanced manufacturing, following a surge in the number of advanced manufacturing and technology firms investing in or relocating to the city.

More than a third of the major investment successes notched up in 2005 by Sheffield First For Investment, the city's inward investment agency, were in the manufacturing and technology sectors.

While manufacturing accounts for less than 13 per cent of UK employment, in Sheffield, the figure is closer to 15 per cent and advanced manufacturing accounted for more than 35 per cent of the city's major investment in the past 12 months, prompting Sheffield First for Investment to set up a special unit to assist companies from the sector wishing to invest in the city.

Companies manufacturing for the aerospace, performance automotive, energy and medical industries tend to be doing well, but the general picture for manufacturing is more mixed, with the

Sheffield is bouncing back in style

Engineering Employers Federation locally reporting a tougher year due to rising energy prices, increased legislative burdens and competition from the low wage economies.

Manufacturing also suffers from shortages of skilled employees, with some firms that are shedding unskilled jobs unable to recruit anyone for the technician and other skilled posts they have available.

MEDICAL INDUSTRIES

On the medical front, Sheffield's two universities have 7,300 biosciences and medical researchers between them and turn out 200 biosciences graduates a year.

The city's potential for spinning out an increasing number of leading biosciences businesses has been enhanced by the completion of Sheffield University's new bio-incubator and its launch of Biofusion, a business set up to commercialise university inventions, which raised £8.2 million when it was listed on the Alternative Investment Market in 2005.

Areas of expertise include treatments for cancer and inflammation - which accounts for nearly half of NHS spending and has links to heart disease, strokes and degenerative diseases - treatments for skin problems, ways of growing new skin from cells taken from burns victims and products for promoting successful bone grafts.

Sheffield companies continue to be at the leading edge when it comes to the development and manufacture of orthopaedic implants, surgical instruments and medical devices and one firm is playing a leading role in combating MRSA and other resistant sources of infection.

CREATIVE AND DIGITAL

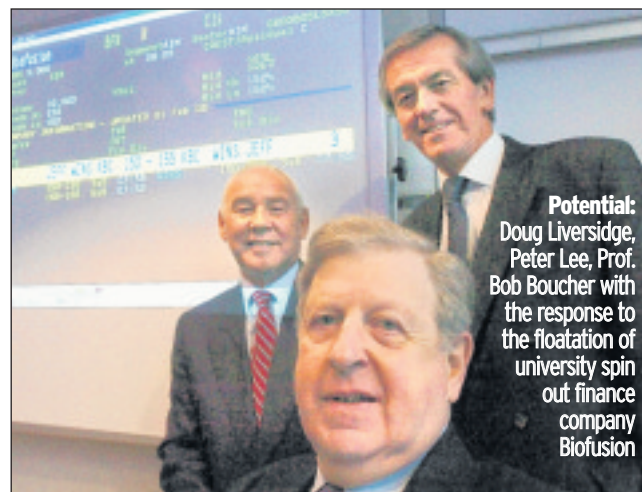
The creative and digital industries sector has taken off in Sheffield in recent years and the city is now home to a number of companies at the leading edge of the development of DVD publishing software, computer games, internet and digital promotions technology, conference software and multimedia mobile 'phone technology, as well as music, performance and film production and educational, training and assessment software.

Although some of these activities appear far apart from each other, the "convergence" occurring within digital technology has confirmed the wisdom of bringing them together in Sheffield and the sector will get a further boost from the creation of a multimillion pound e-campus on the site of the former bus interchange near Sheaf Square, with backing from Objective One and Yorkshire Forward.

ENVIRONMENTAL AND ENERGY TECHNOLOGIES

The need to clean up years of pollution from South Yorkshire's heavy industries and its history of coal mining was the starting point for the growth of the environmental and energy technologies sector.

Increasingly, companies at the forefront of alternative energy technologies are joining the bioremediation businesses - using biological methods to remove pollution - and recycling



Potential: Doug Liversidge, Peter Lee, Prof. Bob Boucher with the response to the floatation of university spin out finance company Biofusion

specialists - doing everything up to and including extracting raw materials for ink jet inks from old tyres.

Again, the sector will get a significant boost from plans to create a special incubator for new and incoming businesses, which is intended to be energy neutral, recycling the "waste" energy it generates and extracting heat from the ground to reduce its fuel demands.

PROFESSIONAL SERVICES

The city's professional services firms are gearing up to provide both the specialist expertise and finance to enable emergent sectors to grow and to promote themselves to a wider market.

Although Sheffield has yet to establish a wider reputation as a business services centre, it is already not unusual to find corporate finance, legal, commercial and property specialists from the city working together on deals involving businesses across the UK.

cycling and Formula 1 motor racing. The city's reputation is also enhanced by the SportsPulse initiative encouraging the growth of sports based business, the English Institute of Sport, which provides a range of services to improve the performance of sports men and women as well as its sports medicine and physiotherapy services.

DEVELOPMENT

In addition to major renewal of Sheffield's city centre with the creation of the new Peace Gardens, Winter Gardens and Millennium Galleries, as well as significant city centre living facilities and offices with the latest services, conferencing and energy conservation facilities, the city is about to benefit from a major programme of retail renewal.

The Heart of the City project will create the sort of retail properties which leading store groups require and is set to attract big names who have had no presence in the city in the past, purely because of the lack of the right premises for their style of retail offering.



Boost: The Bioincubator