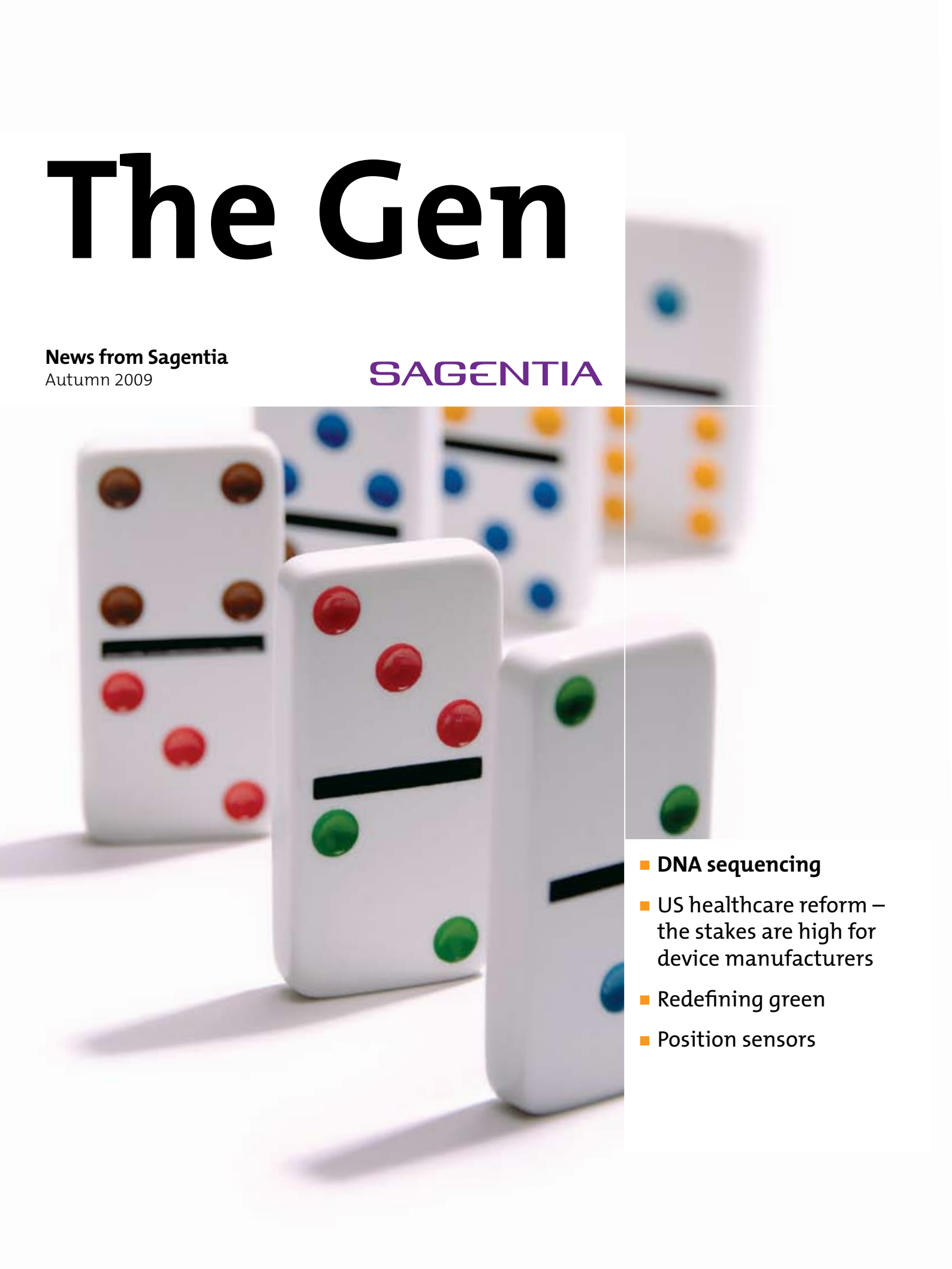


The Gen

News from Sagentia
Autumn 2009

SAGENTIA

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- **DNA sequencing**
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Introduction



While it has been a tough year around the world, we have been pleasantly surprised to see just how many companies have recognised the importance of continuing to invest in innovation and R&D for their long term success. It does seem as though the oft-repeated mantras concerning the folly of switching off investment during a downturn have been taken to heart. There is plenty of evidence to suggest that those businesses that continue to innovate and launch new products are best positioned to take advantage of the inevitable upswing in confidence.

At Sagentia, we are seeing an increasing demand for breakthrough technology in the medical device space as consumers want to manage their own health better. The trend towards convergence in this market is accelerating, with traditional medical device manufacturers seeking consumer-led technologies and interfaces, and consumer equipment manufacturers, who have usability issues very well covered, seeking specific medical domain technology. Linked to this, our feature article on pages 4-5 considers the US healthcare reform and the shift towards operational efficiency in healthcare. We believe

this trend will have a discernable impact on device manufacturers and that they should approach it proactively.

Another area of opportunity for the healthcare sector lies in DNA sequencing. Although routine usage of DNA sequencing and genetic profiling are still some way off, it is likely to have a far reaching, disruptive impact on the healthcare system and technology providers and they need to start proactively planning now to fully understand and react to this. Read more on page 10.

Elsewhere in this issue of The Gen we look at developments in our position sensor technology on page 9 and on page 8 we highlight our work with Brandon Medical, where as a result of our work we are successfully helping the client increase sales and give it a platform for sustained growth.

Two months into my tenure at Sagentia I'm still learning about the challenges facing both us and our clients. However, I can already see that we and our clients are faced with many areas of opportunity; there are lots of exciting, groundbreaking developments happening.

Brent Hudson

CEO
Sagentia

News

Driving UK competitiveness in pharmaceutical manufacturing

Sagentia is part of a consortium led by GlaxoSmithKline delivering a step change improvement in advanced secondary pharmaceutical manufacturing in the UK.

The aim of the project is to substantially improve manufacturing efficiency within the UK pharmaceutical industry for the production of the largest proportion of dosage forms – tablets. The consortium will work to prove a new way of making tablets, which instead of using a batch-based process will use continuous processing.

This approach aims to dramatically reduce the cost of pharmaceutical manufacture, thereby enabling UK companies to compete more effectively with lower cost economies. The efficiency gains are targeted at improving manufacturing precision, productivity and mass yield, and will be deliverable at approximately 70 per cent of the capital cost of conventional technology.

The consortium is made up of partners from industry and academia and includes

GlaxoSmithKline, GEA Pharma Systems Ltd, Siemens Industrial Automation and Drives Technology, University of Warwick, Newcastle University and Sagentia.

The Technology Strategy Board, the government funded body that supports technological innovation in the UK, is funding the project as part of a £24 million investment in high value manufacturing projects. This fund was launched in January 2009 and businesses from a broad range of industries were invited to form consortia to compete for funding. Only 50 per cent of the projects that met the assessment criteria were successful in gaining funding.

Iain Gray, Chief Executive of the Technology Strategy Board, said: 'This investment is intended to maintain and develop the international competitiveness of UK manufacturing companies against a backdrop where manufacturing often gravitates to countries with lower overall costs. It's also important to ensure that companies continue to innovate during the downturn to ensure a successful

recovery for the UK economy. This is part of a concerted drive to help to unlock competitive potential in high value manufacturing.'



Continuous granulation and drying process line from GEA Pharma Systems

Sagentia concludes licensing deal with Novotechnik

Sagentia and Novotechnik have agreed a licensing deal involving Sagentia's inductive linear and rotary sensors. The non exclusive licence will provide Sagentia with a royalty payment for each of its sensors sold by Novotechnik.

Based near Stuttgart in Germany, Novotechnik is an international supplier of transducers, position sensors, potentiometers and other related products for motion control.

Sagentia's expertise in non-contact sensor technology stretches back twenty years. This latest licence follows on from similar

royalty-based deals agreed with other leading international companies including Fasco, Synaptics, Honeywell and TT Electronics. It is the first such deal between Sagentia and Novotechnik.

Commenting, John Golby, Business Development Manager for Sagentia's sensor technology, said: 'Novotechnik is keen to develop non-contact sensing technologies, particularly for industrial and automotive applications. Our patented sensor technology platform combines low cost, robustness and accuracy and will complement and

strengthen Novotechnik's current range of non-contact sensors.'

Ernst Halder, General Manager at Novotechnik, said: 'Novotechnik is market leader for potentiometric transducers. Implementing the Autopad and In-Track technology into a new contact-less sensor family will open up new opportunities especially for short stroke sensors and sensors with high up date rates. In combination with the existing Asic for Autopad, we will be able to launch the first product in the second quarter of 2010.'

US healthcare reform – the stakes are high for device manufacturers

By Paul Fearis

Healthcare reform is at the heart of President Obama's domestic change agenda. The political differences that emerged when Bill Clinton first tried to introduce healthcare reform in the 90s are back, this time deeper and seemingly more entrenched. Although defining and implementing a solution to the provision and management of healthcare could take years, there seems to be a general agreement that there will be a shift away from continual advancement in patient care (and treat, treat, treat) towards operational efficiency in healthcare. At Sagentia we believe that this trend will have a discernable impact upon device manufacturers, one which they should approach proactively.

Despite polarised political views, just about everybody agrees that the present healthcare system is unsustainable. There is an ever widening gulf between the spiralling cost of the nation's healthcare and the health of the nation. We are bombarded with statistics that bear this out: in 2007 the US spent approximately \$2.25 trillion on healthcare, double what it spent a decade before. The current cost of US healthcare is 16 per cent of GDP – considerably more than

the 11 per cent commonly associated with western European countries – and it's rising at a faster rate than elsewhere. As recently as 2000, the life expectancy of Americans and Cubans was much the same at 77 years. Yet Cuba spent just \$186 per head of population, 1/25th of that spent in the US.

The scale of the problem in the US, and the lengths to which the Obama administration seems willing to go in search of a solution,

were brought into sharp relief by the recently proposed \$4 billion tax on US medical device manufacturers, many of whom are our clients.

AdvaMed, the trade body representing med-tech companies, while acknowledging that health reform is needed, has unsurprisingly voiced its strong opposition to the tax. It argues that the levy will actually contribute to cost growth, stifle innovation, lead to a contraction of the industry and result in company failures. A counter argument however is that reform may actually result in an expanded pool of patients, which will drive demand for more products, which will obviously benefit device

manufacturers. The truth of the matter is that it is too early to say just yet what the long term impact of reform, however it manifests itself, will be on the med-tech sector.

The current reimbursement model, based upon payment per procedure, provides excellent healthcare for those able to pay and drives technical innovation, but also generates significant operational waste and escalating health insurance bills. These bills are not only costly for employers, but are now preventing a growing section of the US population from accessing regular healthcare as costs escalate beyond affordability for the average family; perhaps struck by unemployment.

Healthcare efficiency is inevitable, but will it mean a backward step for patient care? Efficiencies are already starting to emerge across the healthcare sector. Hospitals are now favouring more efficient equipment, or equipment which can combine procedures into a single process. Less invasive surgical procedures such as laparoscopic surgery – already preferred by patients and the combined growing trend toward patient driven Natural Orifice Transluminal Endoscopic Surgery (NOTES) – are reducing the time spent in hospital, and associated aftercare costs. Ambulatory surgical centres (ASC) – 'walk in, limp out' facilities sited in the community – are starting to swim upstream and take increasingly complex procedures away from the traditional, highly intensive (and expensive) hospital OR where hospitals have traditionally earned their money.

Further complicating the picture is the noted decrease in US surgical graduates, resulting in a growing demand for easier, or less technical (but also more efficient), surgical procedures. Although many Americans remain passionately opposed to 'socialised' medicine (the

so called 'public' option), the drivers for change are now so strong that the current reimbursement model – which actively encourages complex procedures, multiple tests, and many expensive drug and other therapies – is unsustainable.

Our medical device clients are already feeling the impact of a changing healthcare landscape, and they need innovation strategies capable of meeting the new demands that will emerge. This is particularly relevant for those clients manufacturing large items of capital equipment, such as scanners, who face the combined force of reduced hospital capital-equipment budgets, higher utilisation targets, the recession, rising healthcare costs and, at present, falling hospital patient numbers (as a direct result of ASC competition).

With potential future reimbursement models uncertain but almost inevitably tighter, many hospitals question the need to make major purchases unless they can improve efficiency; but if they can also improve patient outcomes (perhaps in less skilled hands) then the purchasing decision may become easier. Although change is inevitable, we

believe new opportunities will emerge, especially as hospitals take on increased responsibility for issues such as hospital borne infections, and post-operative complications such as DVT. There will also be greater emphasis on prophylactic treatments, risk mitigation and improved screening. A more efficient system should lead to more equitable healthcare provision, which should, in turn, encourage patients to present their symptoms earlier, enabling swifter identification, treatment, and management of many conditions.

Now our ultimate goal is to enable our clients to fully understand the changes they face and the new opportunities emerging across a broader spectrum of healthcare provision, and enable them to use their considerable expertise to develop equipment that meets new needs, delivers efficiency, and continues to improve patient outcomes.

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Case study

Sagentia led a product development programme for Prosurge for the FreeHand robotic camera controller. We coordinated the project and developed and maintained the DHF (Design History File), fully supporting the approval process. This is an excellent example of the kind of medical device that will become prevalent in the US as healthcare reform gets underway. The innovative solution has overcome many of the problems associated with hand held endoscopes used in the operating theatre. Controlled directly by the surgeon, FreeHand is inexpensive, simple to use and contributes to a significant increase in surgical efficiency. Having gained FDA approval earlier this year, the device has been adopted by prestigious university hospitals for teaching purposes and by community level hospitals where it has helped counter the lack of suitably qualified assistant surgeons. It has attracted interest across a range of surgical disciplines including gynaecology, urology and general surgery.

Redefining green

By Matthew White

For many years, Europe has led the world in sustainability, moving the debate from social conscience to legislation and national targets, setting parameters for much of Europe's current business activity. But despite having helped pioneer a 'green revolution', many European companies are finding that being more sustainable is both complex and challenging.

For many organisations the first step is to 'just find renewable raw materials' that can replace existing materials, or reduce materials use. Whilst this is part of the approach, it takes a narrow view of what sustainability can mean and also assumes that current materials can be replaced through a simple swap. Having been active in this area for many years, we have found that a more holistic approach to sustainability – considering design, technology, the consumer and the brand – can open up numerous opportunities.

Minimising environmental impact is an obvious starting point, but not just through

using less, or different raw materials. Areas often overlooked include changing manufacturing processes and reducing water usage. With water availability likely to become a headline global concern in the medium term, making better use of this resource could be particularly important.

For some brands social sustainability is a key element of the message to consumers, Fairtrade products are a good example. Protecting endangered flora and fauna that have relevance to the brand and the consumer may also allow consumers to 'do their bit' while buying products.

Sustainable initiatives face multiple challenges; although many consumers do value green credentials, they are often unwilling to sacrifice product quality or performance, or pay a premium, to go 'green'. Existing products have been developed to address all of these criteria and sustainable alternatives are often focused on cost or performance but not on combining multiple technologies to deliver complex functionality.

Problems also occur when you start looking at whole life sustainability as many renewable materials are not recyclable and indeed can disrupt existing recycling

streams. Rigorous assessment of the impact of potential changes is required to prevent accusations of greenwashing. We are aware of numerous examples of lifecycle analysis demonstrating that existing practices are actually more sustainable than an apparently 'greener' alternative – perhaps because it requires more transport or more material to achieve the desired functionality. In these situations the realisation that other approaches to sustainability have real value to the consumer, for example through protection of natural resources or some other socially sustainable approach, may enable a brand to still build green credentials.

Whilst the consumer sector is definitely leading the way, other industries are also adopting a more holistic approach to sustainability, driven by legislation, potential efficiency savings, or the product differentiation that sustainability can provide. Medical companies, for example, are currently responding to government-led carbon reduction programmes which focus on public sector facilities such as hospitals. As a result, future sales of mature medical products may depend less on incrementally better performance, and more on reducing packaging, recyclability or the manufacturing process' carbon footprint.

Society now expects widespread commitment to green values. Many businesses however are finding sustainability not as straightforward as it first appeared. They are now discovering that it is possible to develop realistic, meaningful sustainability strategies that do not compromise market share, or product performance, and which make a real contribution to the environment and to the bottom line.

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Regulation and reimbursement in the US healthcare sector

By Dan Edwards

Any company developing new products for the US medical market is well aware that a primary task is to define a regulatory approval pathway and reimbursement strategy. Major players in the healthcare field devote considerable resources to negotiating this complex and challenging system. However smaller or start-up companies often underestimate the level of expertise required, or fail to appreciate the full implications of a particular innovation strategy, especially for income generation.

In the US, new medical devices have to gain mandates both from the Food and Drug Administration (FDA), and from the CMS (Centers for Medicare and Medicaid Services) – the US Federal Agency which oversees Medicare (65+) and therefore approves the reimbursement of a good fraction of healthcare costs.

The FDA, with a remit to safeguard the nation's health, is understandably cautious when considering new products that claim innovation. For new devices, it demands substantial evidence to prove safety and effectiveness.

The two most used pathways for FDA approval of devices are the 510(k) route, for devices that can show 'substantial equivalence' to previously approved 'predicate' devices, and the PMA route, where long term clinical data is required. PMA can take much longer (potentially years longer) than 510(k). Consequently manufacturers have to decide at the outset whether to innovate incrementally, and generate moderate income faster, or to go for a breakthrough product with a greater investment of time and resources, but with the potential to generate significant income, only much further down the line.

Predicted income is further impacted by the CMS. If the mantra of the FDA is 'safety and effectiveness', the mantra of the CMS is 'reasonable and necessary'. The CMS wants to see both clinical effectiveness and value for money. It grants approval in the form of a code which caps the reimbursement given to the healthcare provider for a procedure. The device is allocated a proportion of the reimbursement and the provider can choose from a number of devices offering the same benefits. CMS codes are typically the same as those for equipment already in use, which also caps potential income for the new device.

An effective reimbursement and regulation strategy is therefore an essential part of a business strategy for healthcare players. Major companies can afford to support the development of PMA products, perhaps with a steady flow of 510(k) devices to underpin income streams. Smaller organisations, with more limited resources, need to determine their commitment from the outset, especially if they know they can deliver truly breakthrough technology. Expertise is required, not only to manage the detail of the approval process, but also to develop the longer term business plan – the 40,000ft

strategy – and to identify smart strategies which could accelerate progress. For example, in rare cases it may be possible to persuade the CMS to recode a procedure or the device within that procedure, which, although substantially equivalent to existing technologies from a regulatory perspective, delivers such significantly greater clinical benefits that comparison is irrelevant. Local, State-level approval is another route to consider, especially by companies already working in partnership with State-owned or funded organisations such as medical institutions.

Although many medical device developers want to revolutionise healthcare provision they need to appreciate the seriously lengthy timelines and investment involved, which can eventually sap the strength of even the most ambitious innovation team. By establishing a realistic strategy right from the outset, both incremental and breakthrough innovation can be planned for successfully, and healthy income streams maintained in the short and longer term.

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Brandon Medical

Breakthrough high definition LED medical lighting

By Euan Morrison



By alerting long standing client Brandon Medical to recent advances in high definition LED technology, Sagentia gave the company a platform for sustained long term growth and helped increase sales.

Brandon Medical's range of high definition HD-LED® medical lighting products represented a real breakthrough when it was launched. Conventional lights required complex filters to manage the heat produced, were expensive to maintain, and produced light which could not be controlled. The HD-LED® technology delivers excellent light quality and is also fully adjustable. This enables medical staff to change colour balance, focus, intensity and red balance – enhancing the red contrast, for example, to improve the surgical observation of body tissue. In addition, because the lights use solid-state technology they generate no heat, producing only visible light (therefore no UV or infrared), and the sealed units are easy to clean and maintain, with no bulbs to replace. Efficiency is also exceptional, with HD-LED® lights using up to 70 per cent less energy than conventional medical lighting using tungsten halogen bulbs.

Brandon Medical's lighting range was a direct result of our research into LED technology which, at the time, was considered appropriate only for less demanding applications such as signage and low level lighting; it was certainly unable to deliver the high intensity and colour performance demanded by the medical profession. At Sagentia, however, we recognised the hidden potential of LED, and brought our findings to Brandon Medical who seized the opportunity. Together we developed a highly innovative lighting range, fully compliant with all standards and regulations, and which delivers comprehensively superior performance over existing systems.

Since launch, the lighting range – and Brandon Medical – have gone from strength to strength, winning awards, expanding markets, and maintaining their undisputed position as owners of the leading technology in the field, despite increasing (and not

unexpected) competition. 'Although other LED lighting systems are now available, we continue to offer higher performance at a lower price, enabling us – a relatively small company – to actively compete against much bigger organisations,' comments Brandon Medical Managing Director Graeme Hall. 'Our success can be seen in our sales, which have risen by 60 per cent since the new technology was launched, a level of growth which we aim to maintain, especially as we continue to expand our markets by moving into new regions such as South Korea.'

The energy efficiency offered by HD-LED® lighting is further strengthening the company's reputation, as potential buyers consider not only their hospital's needs but also their energy bills and carbon footprint. The lighting range has consistently exceeded the standards laid down in environmental legislation, significantly contributing towards a low carbon environment by offering an estimated CO₂ reduction of 1.25 tonnes per year per operating theatre.

We continue to work with Brandon Medical to both improve the core product range, and to develop new lights for new application areas (such as examination) or for highly specialist arenas such as IVF theatres. In addition, because Brandon Medical owns the technology, the company will benefit financially from any further product development beyond the medical sector. For example, the lights show great potential for use in retail display, an area currently being explored by Sagentia.

As a result, our work with Brandon Medical shows how specialist technology and innovation expertise – provided by a trusted partner – can be translated into a highly profitable product line, paving the way both for better medical lighting (and therefore better patient care), while also providing a platform on which to build significant long term growth.

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Position sensors

By John Golby & Victor Zhitomirsky

Position sensors are an essential component in almost every product and industrial manufacturing process and, as they can enable significant improvements in performance and efficiency, new developments in sensor technology can help to differentiate otherwise commoditised products. With more than a decade's experience in sensor development, we have invented several position sensor technologies which combine the benefits of non-contact operation with outstanding price/performance ratio.

Our position sensors comprise three elements: a 'scale', (made from low cost printed circuit board, or PCB) which measures position; a 'target', placed on the moving part; and the signal processing electronics. To date, optimum sensor performance is obtained by combining the scale with a 'resonant' target; this target (a small piece of PCB with a printed coil and a capacitor) provides a larger signal which simplifies subsequent signal processing.

Now, using full 3D electromagnetic simulation of the scale and target, we have designed non-contact sensors capable of using metal only as the target. This allows us to measure the moving part directly rather than an additional target, which may be awkward to fix to the moving part and is always at risk of falling off or becoming damaged. In a further development, we have adapted

our sensors to use magnets as targets, allowing the sensors to 'see through' metal walls.

Our improved sensor design process has also led to the development of longer 'multi-period' position sensors. Currently, the shorter the sensor the greater the accuracy, but certain applications – such as hydraulic cylinders – need accurate position sensors of several hundreds of millimetres in length. We have designed such sensors with absolute accuracies of <50um and resolutions of <10um. The compact design of these sensors, and their minimal 'dead zone' delivers additional cost savings when compared to technologies such as magnetostrictive time of flight sensors.

Signal processing algorithms have also been enhanced and we have incorporated them within a low cost Programmable System on Chip (PSoC) device. Since all the control signals are directly referenced to the PSoC master clock, the sensor can operate over a temperature range of -40°C to +150°C with an impressive stability of 2-3 parts in 12,000, making it ideal for automotive applications. The sensor itself can operate at higher temperatures with remote electronics, and we are currently developing such a system for jet aircraft engine controls.

Our new position sensor technologies remain low cost while delivering significantly

improved performance, and have generated considerable interest from both sensor manufacturers and product developers. Current application areas include the aerospace industry, and medical products such as surgical robots, automatic operating equipment and injectors. In the automotive industry, licensing agreements are already in place with TT Automotive, with newer sensors available for accelerator pedals, transmissions and steering wheels. Utility meters also use our sensors, such as the Sensus ECRIII and Master Meter's AccuLinx water meters, and many more applications exist in industrial automation, where a licensing agreement with Novotechnik has recently been finalised (see p3).

John Golby, Business Development Manager, and Victor Zhitomirsky, expert in sensor technologies, are both based at our headquarters in Cambridge, UK. John.Golby@sagentia.com Victor.Zhitomirsky@sagentia.com

Our position sensors provide high performance at low cost because much of the sensor's 'intelligence' – its ability to convert position into an electronic signal – is embodied in the printed track pattern on the scale. These patterns are optimised to minimise the sensitivity of the sensor to unwanted effects: mechanical offsets, electronic component variations, etc.

Initial 'trial' designs for a specific application are tested using analytical modelling methods, ie mathematical solutions to the EM field equations. These methods allow designs to be evaluated rapidly, and also provide a more direct insight into the underlying physics. Once a design has been selected, it is optimised using numerical techniques.

We use similar mathematical techniques to optimise the design of a wide range of devices. Recent examples include: thermal design of a biochemical microreactor, structural design of hospital mattresses and the optical design of a photodynamic therapy system.

DNA sequencing

By Pari Datta and Susan Watson

The publicly funded human genome project in 1990 cost \$3bn and took a decade to produce a rough draft sequence. Since then, new technologies have reduced both the time and cost of sequencing dramatically. By the end of 2010, industry experts predict it will be possible to obtain an individual's entire sequence for as little as \$500, a point at which it could become part of routine care. There is little dispute over its prospective value, the question is not so much if or when, but how and where will DNA sequencing and analysis be integrated into the professional and consumer healthcare market.

DNA profiling has already caused considerable public debate, despite it simply being a means of identifying an individual and not containing any real personal information. The issues raised by DNA sequencing and analysis are deeper and more complex. DNA sequences contain information about our genetic potential, our IQ, genetically-determined illnesses and personality traits. Therefore determining policy regarding security, ethics and legality concerning the storage and control of that data are paramount.

These issues aside, the use of genetic information has the potential to provide medical professionals and eventually individuals with an arsenal of life-impacting information. An example of a clinical

application is using genetics to enable drug treatments to be individualised, so called 'pharmacogenomics'. The influence of genetic make-up on the metabolism of drugs enables patients to be categorised; those who will respond to treatment, and those who will not, or more importantly, could suffer a life-threatening reaction. This is the key to personalised medicine and a long term healthcare goal; it ensures treatment is precise and adverse side effects are minimised. In the world of consumer healthcare, DNA sequencing could eventually lead to the ultimate personalisation of lifestyles, from diet modification to highly specific product selection based on genetics. For some consumers, such as the 'worried well', this information will signal empowerment, for others confusion.

In the future, DNA sequencing and genetic profiling is likely to have a far reaching impact on the healthcare system and its technology providers. If technology experts are correct – that cost will no longer be a barrier to uptake and the clinical value can be proven – the biggest questions arising are those relating to the impact on disease management and the integration into the healthcare system. These questions need to be tackled by key stakeholders now, enabling the outcomes to inform strategic planning and investment.

Healthcare providers need to understand how the standard of care could be changed for a disease and the subsequent impact on resources and infrastructure. The providers of technology must understand the risk of being disrupted if a disease is effectively managed through predictive or preventative medicine. Whilst routine clinical use of DNA sequencing and genetic profiling is probably still more than a decade away, the winners will be those who embrace the post-genomic future through strategic analysis and planning now.

Currently, Sagentia is closely watching the development of new genome technologies and the emerging business opportunities they present across the healthcare spectrum.

We have developed specific processes to analyse disease care pathways to identify the impact and likelihood of technology change on the current standards of care. We are also helping clients understand how technology can change the future landscape. Our projects are enabling clients to proactively plan for the future, enabling inclusion rather than exclusion when technology adoption occurs.

Pari Datta is a life sciences technologist and Susan Watson is a senior consultant specialising in disruptive technology analysis in healthcare. Both are based at our headquarters in Cambridge, UK.
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For further details of our news and events, please contact info@sagentia.com

Come and meet us at:

- **Frost & Sullivan Medical Devices MindXchange**
We will be exhibiting and presenting at the Frost & Sullivan 15th Annual Medical Devices MindXchange, which offers a comprehensive perspective of the medical devices industry and an awareness of trends and market forces that will alter its landscape. The event will take place 14-16 March 2010 in San Francisco.
- **Drug Delivery to the Lungs**
Sagentia is exhibiting at this year's Drug Delivery to the Lungs event, Europe's premier conference and exhibition dedicated to pulmonary and nasal drug delivery. The event will take place 9-11 December 2009 in Edinburgh.

You may have seen us at:

- **Technology World**
We exhibited at UKTI's Technology World 2009, held in Coventry 23-24 November.
- **Winning Innovation Strategies**
We presented at the PDMA Winning Innovation Strategies Regional Conference, helping tune innovation portfolios and processes to the realities of the current economy, 15 October in Erlanger.
- **AdvaMed 2009**
Sagentia exhibited at this year's AdvaMed, the premier MedTech conference, 12-14 October in Washington DC.
- **HBA Global Expo**
We chaired a panel at the HBA Global Expo – the largest product development event and educational conference for personal care, fragrance, wellness and cosmetic industries. The event took place 15-17 September in New York.



Sagentia

Many minds make bright work

We create, develop and deliver business opportunities, products and services with our clients.

We operate in the medical, industrial products and consumer products sectors worldwide, developing new technologies, products and services that change the basis of competition. We also assist business leaders and policy makers to create strategies for technology, innovation and growth.

Our *Collective Technology Wisdom*[®] – the unique characteristic of our company – guides how we work. We form highly creative teams that draw on individuality and collective experience. And we take a multi-dimensional approach to opportunity discovery and problem solving, drawing on our combined technical expertise, business acumen and industry experience.

We can work with you wherever you are in the world. Our teams are situated in state-of-the-art facilities in Europe, the USA and China.

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