

The Gen



News from Sagentia
Summer 2009

SAGENTIA

- **Bright outlook for energy harvesting**
- The converging face of healthcare
- UK pharma confronts its future
- Diversification in the chemicals industry

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Introduction



Listening to the BBC's flagship radio news programme Today just recently, I found myself agreeing with the points the UK's Royal Institution Director Susan Greenfield was making during an interview on inventiveness and innovation in a recessionary climate. While accepting that economic downturns often led to a culture of caution and risk aversion, she said that sometimes they acted like a catalyst, forcing people and companies to think harder and more creatively about innovation.

At Sagentia we have seen a real change in the way in which our clients are dealing with risk. Not surprisingly they are adopting a more cautious approach to how they spend their R&D budgets. However, what we find encouraging is the fact that unlike in previous recessions where budgets were cut, this time around companies recognise how important on-going innovation is to their competitive position, particularly as they come out of recession.

In our US and DACH overviews on pages 7 and 9, this is the view from both sides of the Atlantic. Businesses, while recognising that R&D budget trimming is inevitable as part of a more cautious approach, are still backing R&D projects that look like delivering value, and delivering it fast. In DACH, clients are also turning to us for help in programmes of technology diversification, away from their traditional markets and technologies. This is particularly so in the chemicals, materials and energy sector.

Elsewhere in this issue of The Gen we devote the feature to the subject of convergence of professional and consumer technologies in the healthcare sector. No one is under any doubt that the provision of healthcare in the US and across the developed world can be sustained in its present form. Smarter, more efficient ways of providing healthcare are urgently needed to counter an ageing population (in the US 38.7 million people are 65 or over – a figure that will rise to 88.5 million by 2050) and a consequent increase in chronic diseases. The convergence of professional and consumer technologies will go some way to solving the problem – and at the same time create a new \$ multi-billion market.

Action on how best to exploit renewable energy is finally having an impact. More recently, there has also been much talk about its younger brother – energy harvesting. On page 10 we take a look at this new technology-enabled market and consider where energy harvesting is a more viable solution than either battery or grid power.

I have no doubt that technology innovation will be one of the drivers that leads us out of the economic slowdown. At the end of this introduction I return to where I started – the UK's Royal Institution. Michael Faraday, on demonstrating the generation of electricity at the RI, was asked 'What ever is the use of that?'. The rest, as they say, is history.

Dan Flicos

**Interim CEO
Sagentia**

News

FreeHand laparoscopic camera receives FDA and CE approval

Over 400 surgical procedures have been undertaken using Prosurgics' FreeHand robotic camera controller since it achieved CE mark accreditation and FDA approval earlier this year.

Following its launch in 2008, FreeHand attracted much interest from surgeons worldwide and immediately went on to win two awards the same year: an Innovation of the Year from the US Society of Laparoendoscopic Surgeons; and the innovation category at ERBI's regional MedTech awards in the UK.

Achieving FDA and CE approval were important final steps in the commercial development

of FreeHand, which is now available to surgeons worldwide.

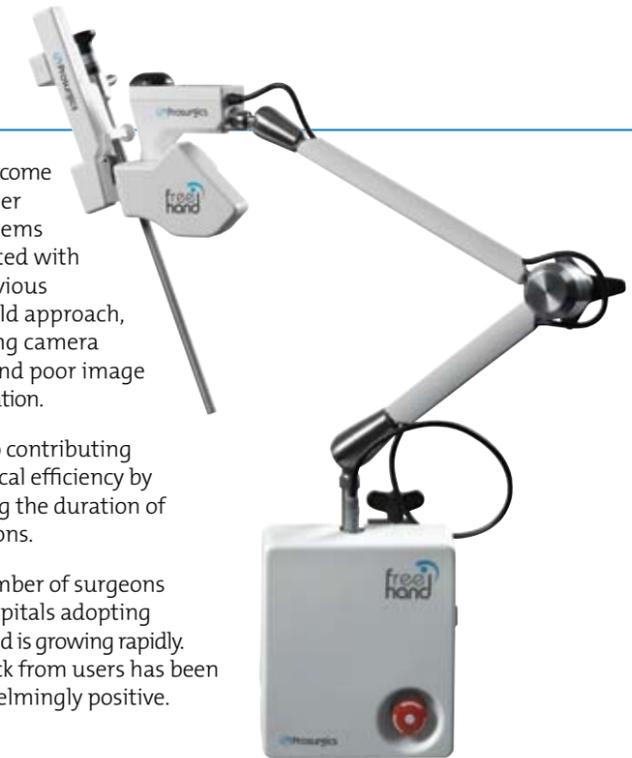
As Prosurgics' key development partner for FreeHand, Sagentia has been heavily involved throughout the design and development of the second generation device, to ensure that stringent specification requirements for performance, safety, size and ergonomics were all met. The unit is more compact, easier to set up and use and more affordable than Prosurgics' first generation product.

FreeHand allows surgeons to directly control the movement of the endoscopic camera during laparoscopic (key-hole) procedures. Its introduction

has overcome a number of problems associated with the previous handheld approach, including camera shake and poor image visualisation.

It is also contributing to surgical efficiency by reducing the duration of operations.

The number of surgeons and hospitals adopting FreeHand is growing rapidly. Feedback from users has been overwhelmingly positive.



Design excellence celebrated by Loughborough University and Sagentia

At a special design project judging ceremony at Loughborough University in May, second year undergraduates were praised for the innovative quality of their work, which was recognised with a £250 prize donated by Sagentia.

The product design project is an integral part of the second year Product Design and Manufacture course. This year, for the first time, the university's Wolfson School of Mechanical and Manufacturing Engineering joined with Sagentia as an external industry partner.

Six teams worked on one of two design briefs: a travel three pin mains plug, and a product to help health visitors achieve better patient drug compliance. Sagentia set the design briefs, each of them calling for a solution that was innovative, aesthetically pleasing, technically feasible, contained electronic, mechanical or electro-mechanical elements and satisfied the needs of the intended market.

During the judging session the teams presented their work, including the rationale behind their design and a worked up prototype, to judges from



the university and Sagentia. After much deliberation they awarded first prize to Chester Curtis, Ekachai Field, Ben Kirby, Maximilian Kustermann and Alexander James Symonds, for their simple yet effective 'pebble plug'. Based on a folding mechanism, the pins of the electrical plug are concealed during travel and by simply unfolding the plug the pins are exposed and ready for use.

Bob Young, Programme Director for the Product Design and

Manufacture course, said: 'It's always good to have industrial involvement in our teaching programmes as it enhances the real world dimension of the learning experiences of our students. The combination of Sagentia setting design briefs, offering advice to our students at key stages in the design process and being involved in the final project evaluation process has really encouraged our students to rise to the challenge.'

The converging face of healthcare

By Dan Edwards

Over the next ten years, across the developed world, there will be dramatic changes in the way national healthcare systems operate. During the same period we will also see the relationship between patient and healthcare professional redefined.

At the very centre of this healthcare 'revolution' lies the convergence of medical and consumer technologies. Healthcare technology convergence will be as fundamental and far reaching as the convergence we are witnessing in the telecommunications area, where the mobile handset is playing such a pivotal role.

While lay people have always had access to basic medical devices – for instance thermometers, stethoscopes and blood pressure units – it is only very recently that more advanced technologies such as glucose monitors, insulin pumps and home diagnostic kits have become available. As convergence between professional and consumer technology gathers pace, a multi-billion dollar market will present itself. What we have seen so far is the merest tip of the iceberg.

Factors driving convergence

Convergence of professional and consumer medical technology is being driven by a variety of factors, the most important being the consumer population itself:

• Demographics

The baby boomer generation – those born between 1946 and

1964 – are more knowledgeable and more interested in their own health than previous generations. Baby boomers are also more mobile, more affluent, better educated and better insured, and they were the first generation to feel at home with technology.

• Better paid, better educated

In the US between 1970 and 1998 the percentage of the 65+ population to complete high school rose from 28 to 67 per cent. Improved education has led to increased affluence. This, in conjunction with increased life expectancy, has in turn led to a greater interest in the benefits of medical technology.

• Patient empowerment

Rapid access to detailed health information on the internet, coupled to the emergence of online medical message boards, self-help groups and chat rooms, allows consumers to learn about their health and the treatments and/or technologies available to treat specific conditions. Healthcare specialists are no longer the only source of medical information. The availability of information has its pros and cons but undoubtedly has led to a change in the doctor/patient relationship. Healthcare professionals will, in the future, be viewed more as

experts who can help people manage their own health and less as authoritative and unquestioned decision makers.

• Shift away from acute care facilities

Over the past 20 years there has been a marked shift away from hospitals to long term care facilities, outpatient clinics and the home. The primary reason has been the imperative to reduce costs but the desire to improve patient comfort and convenience has also played a part, supported by improvements in medication and technology. In less than 30 years the percentage of outpatient procedures in the US has risen from 31 to 70 per cent, according to a recent American Hospital Association survey.

Convergence opportunities

The prevention and management of chronic disease and conditions is the primary target area for convergence. In the US, statistics paint a sombre picture for the nation's finances. It is estimated that 125 million Americans have chronic health conditions such as cardiovascular disease, diabetes, asthma and Parkinson's disease.

The care of these patients costs in the region of \$510 billion. This number will likely grow

to about 175 million patients by 2020 with a corresponding increase in costs beyond \$1 trillion. Through technology convergence, there is a corresponding opportunity for industry and service providers to respond with a variety of solutions including, but not restricted to, areas noted above.

One area of considerable interest is the electronic transmission of health information for remote patient monitoring (RPM). Here, convergence includes the sensors of regulated medical devices, the user-friendliness and ease of use of consumer electronics, secure and flexible telecommunications connections, and a support service to monitor the data transmitted. Publicly funded pilot studies are already being undertaken in the US. Considerable commercial interest is also being shown and, despite still being in its infancy, some estimates forecast that RPM will have grown to \$260 million by next year.

The field of diagnostics is also a vast market for convergence – and with blood glucose monitoring for diabetics already an established market in the US and elsewhere, the opportunities for future growth are evident. Firstly diagnostics can lay the path for therapy – interpreting symptoms in an unambiguous way (personalised medicine being the holy grail). Diagnostics also play a significant role in reinforcing patient compliance with either a therapy or a behaviour change. By offering immediate and personal feedback they motivate consumers to 'stick with the plan'. Compared to therapeutic devices, diagnostic technology is often simpler to develop and get approved by the US FDA (Food and Drugs Administration). Additionally, there is broad acceptance that diagnostic devices are easier for consumers to understand compared to therapeutic devices.

Opportunities for technology convergence are almost unlimited. While we have noted some of the 'front runners' above, there are equally big markets to be developed in the

areas of wellness, nutrition, weight loss, medication compliance and pain management.

Challenges to overcome

While the opportunity for technology convergence is real and growing, there are challenges still to be overcome. Significant among these include a thorough understanding of consumer psychology by manufacturers. Whereas clinicians adopt a utilitarian and functional view of medical technology, consumers' buying decisions will be based on a wider range of criteria many of which will be distinctly non-medical!

In the US reimbursement for medical technology continues to remain a significant barrier to adoption. Doctors' notes are required for insurance company reimbursement and where these do not exist, the consumer will have to pay out of pocket. The value of the device will need to be clearly demonstrated and understood before wide scale take up occurs. The move towards remote monitoring raises a number of payment issues that the US reimbursement model (for instance) is not yet set to deal with.

The role of regulatory bodies will also come under the spotlight as convergence gathers pace. In the US for example, the FDA is responsible for the approval of professional and consumer medical devices. Allowing patient populations to self diagnose for life-threatening viruses such as HIV, without appropriate back up counselling services, raises a number of ethical issues.

And finally, there will be understandable deep rooted resistance from healthcare professionals who have been trained to be cautious in the adoption of new technology and will have genuine concerns about the consequences of putting more knowledge and empowerment at the door of the patient.

In conclusion

Notwithstanding the challenges yet to be overcome, there is growing recognition that convergence involving professional and consumer technology will grow dramatically over the next ten years.

The newness and nature of the opportunity means that very few companies – even those acknowledged as 'leaders' in their particular fields of operation – will have the in-house expertise across the board to undertake opportunity discovery, market and voice of the customer research, patent landscaping, technology innovation and product development.

At Sagentia, we are well placed to work with customers in this field. We have experience in both consumer product and medical device development over many years, including remote monitoring in cardiology, through to consumer products such as a mobile child monitoring unit for parents and carers. Through our work in both areas, we are able to bridge the gap between consumer aspiration and real medical technology.

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A comprehensive report *Life Science meets Lifestyle* by Frost & Sullivan on the convergence of professional and consumer health technologies can be downloaded from our website www.sagentia.com

UK pharma at the crossroads

By Adrian Howson

The UK pharmaceutical industry is soon to experience a significant slowdown as some of the world's best known 'blockbuster' drugs come off patent, enabling generic drug manufacturers to produce equivalent products at a fraction of the price. Although this phenomena is nothing new – and clearly expected – the scale of the change is causing concern.

Up to 60 per cent of the industry's most profitable drugs will be reaching the end of their patented life within the next two years, with an expected drop in sales of up to 90 per cent when generic equivalents enter the market.

This rapid decline is a direct consequence of the wealth of pharmaceutical discoveries made during the 1990s. Research during this time led to the development of widely prescribed drugs such as Pfizer's Lipitor, a cholesterol-lowering statin, and GlaxoSmithKline's Seretide Advair asthma inhaler. These drugs have generated annual sales in excess of \$12 billion (Lipitor) and \$6 billion (Advair).

Drug discovery during the 1990s focused primarily on the synthesis of plant-based molecules, and the success of this approach led to the identification of most naturally occurring molecules with the potential to underpin drug development. However, with new discoveries diminishing, the pharmaceutical industry shifted focus to biological therapies, including vaccines, but these are more costly to develop, harder to manufacture, and are less profitable. The net result is a rapidly dwindling pipeline, and an industry facing significant challenges.

To make matters worse, the industry is under threat from lower cost competition from economies such as India and China. This is because the traditional tablet manufacturing process has evolved over several generations into one that is easy to regulate but is very manual and therefore expensive to operate in western economies. As a result, manufacturing capacity is being exported to Asia Pacific, where labour costs are lower.

All this paints a gloomy picture for the UK pharmaceutical industry, and already manufacturing plants are starting to close. However, alternative strategies do exist and could lead the way to a redefined pharmaceutical sector, able to retain the

valuable intellectual capital the UK has amassed, and even provide a route back to local manufacture.

For example, given that newer drugs are made in much smaller volumes – especially as they often treat less widespread conditions – the traditional manufacturing techniques are often inappropriate. We are currently working with a pharmaceutical client to develop a faster method of tablet manufacture, based on techniques used in the confectionary industry where key practical issues (such as production line microdosing) have already been addressed. Significantly, our techniques (which have gained regulatory approval), use far less labour, and are therefore well suited to economies where manpower is expensive.

Biological therapies also often require tailored delivery devices, such as needle-free injectors or time release technologies. Device design is a specialised area requiring real innovative skill, and often the delivery mechanism can determine the market success of the drug. Innovation expertise, easily found in the UK, can be used to design a delivery device which will lead to commercial success, and which, if manufacture is designed alongside, can help keep production in the UK.

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Run fast, stay focused

By Paul Fearis

Without wishing to tempt fate, it looks like we may have turned the corner. I'm talking of course about the current recession – the ferocity of which will leave an indelible mark in the collective mind of industry for years to come. The stock market is up 20 per cent since January and the vast financial stimulus packages approved by the White House are beginning to have an impact. The unemployment rate is still rising but encouragingly at a slower rate than six months ago. Fingers crossed.

In the healthcare sector, where we have a strong track record, there has been cost cutting to ensure survival. But in contrast to the last substantial downturn in the US, which saw many R&D budgets slashed, this time around R&D has weathered the storm. There is recognition from management that too deep a cut in R&D simply leads to an empty pipeline. That is not a good place to be when the economy picks up.

R&D didn't get away scot-free. What management did was rationalise what it was prepared to spend money and resources on. The sure-fire bankers remained, whereas the speculative 'blue sky' projects had to fight hard to justify their existence.

In the last issue of The Gen I talked about how many of our US clients are actively working toward capitalising upon the end of the recession; their driver being a return to healthy growth and a chance to leapfrog the competition. The article prompted the obvious question: 'so what are people doing?'. While I can't be too specific, I can highlight the type of activities occupying our time in the US at the moment, as a pointer to industry activity.

There is considerable activity around the definition of target opportunities: 'what do our customers want... exactly', is the new mantra. Ethnographic and voice of

the customer studies have both featured significantly. The inevitable consequence of a reduced R&D budget is the emergence of risk aversion and greater due diligence. Our clients want to understand absolutely what the unmet need is before proceeding.

Structured technology scouting is an excellent example of how the risk embedded within an R&D programme can be better managed. By casting the net wide we are advising clients on whether new technology should be invented, licensed or bought. It also answers the question as to whether competitors can be disrupted with technology. Clients now want to be sure they have found the best solution to a problem, not just the nearest.

Identification of the right technology, from a range of possibilities, with an emphasis on risk reducing the unknowns quickly, is the new way. The old adage 'fail fast, fail early' is back with us and has been joined by 'if you pass the test, run fast and stay focused'.

As a final pointer, I would mention the early embodiment and visualisation of prototypes. There has been a significant and sustained increase in the volume of work our industrial designers have taken on that has involved taking 'raw' technology solutions and presenting them back in a marketable form for early client (and market) assessment.

This fits with the previous point 'run fast and stay focused'. Increasingly we are being asked to fast track prototypes that can be put in front of C level managers and client marketing departments.

This time around, the importance of R&D has been recognised and tempered with due diligence and risk management. I would argue this position is fuelled by leaders that stormed out of previous recessions. It would be wise to remember also that there are young, currently unknown companies that will have had the audacity to start-up in this recession! Who would be that crazy? Well, there was Microsoft, FedEx, Burger King, MTV, Hewlett Packard and General Electric. And my favourite, Jim Henson; which just goes to show that even a Muppet could figure it out...

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Unravelling the globalisation conundrum

By Scott Grubb

Many experts predict that one outcome of the current recession will be greater deglobalisation – one feature of which will be a return to local manufacture in order to better control the supply chain. The argument, put simply, is that better supply of the supply chain leads to reduced risk, at the same time saving time and money. Support for the deglobalisation view often cites China, where transport, materials and labour costs are rising significantly. But is such a retreat advisable, or even feasible?

Any business planning to deglobalise needs to assess all factors, not just immediate costs. Local manufacture demands local expertise. After 20 years of offshoring high volume, low cost products, the 'traditional' roles of design and manufacturing engineers have changed, as have the way in which they are sourced and organised. Those responsible for the reintroduction of local manufacture will need to be aware of the way in which engineering talent is now deployed and where best to find it. This can take time, and while this is taking place production will have to continue.

With its fast growing population of newly affluent consumers, China also represents a huge

potential market for new products. Presently and for some time yet, this emerging middle class remains distinctly biased against Chinese brands. Retaining a manufacturing presence in the region enables a Western company to access this market directly, and with products designed to meet local needs. Predicted international currency fluctuations will only make exporting to China even more lucrative.

Underpinning all this, however, is the fact that Chinese manufacturing infrastructure offers unrivalled efficiency in terms of cost and speed, key advantages for a whole range of products, from telephones, to toasters, to medical devices.

In the five years since we set up our office in Hong Kong, the context and environment in which we operate has changed. Our offer to our clients, however, has remained the same and is as valid now as it was when we established Sagentia SGAI. We act as a bridge between West and East, providing both direct access to reputable Chinese partners, and a continual, culturally-sensitive presence on the ground. We significantly reduce travel and management time for our clients, while providing the level of micromanagement required to guarantee a successful outcome. Setting up in China is getting more expensive: our facilities are an attractive alternative to a local

office, and are also available only when needed.

Additionally, we are able to provide essential services that Chinese industry cannot supply. Although unparalleled in terms of manufacture, China does not have the infrastructure or expertise to deliver turn-key product development – prototyping, for example, can be difficult. By managing this phase in the UK – informed by a true understanding of Chinese manufacturing capabilities – Sagentia SGAI enables our clients to get the best of both worlds.

Deglobalisation is inevitable in a post-recession economy, where the safeguarding of domestic jobs becomes both an economic and political imperative. It also addresses environmental issues, increasingly important to consumers, and reduces travel and shipping budgets. But it is unrealistic to expect a national manufacturing sector to resurrect itself overnight, or that in-country manufacture alone is capable of exploiting the huge markets opening up in the Asia Pacific region. Sagentia SGAI's flexible, tailored approach allows our clients to access Chinese manufacturing excellence only when appropriate to their business, and to use the expertise of both the West and China to make product development a success.

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Diversify and prosper

By Frank Küber

The DACH region, like other developed Western economies, has not been immune from the economic slowdown. However, even though we've seen GDP drop by 6 per cent, the prevalent view currently is that we've probably hit bottom and by 2010 should see a modest return to growth.

DACH's hugely important chemical, materials and energy (CME) sector – an area in which Sagentia GmbH has been traditionally strong – has had mixed fortunes. Overall, sector sales are down 30 per cent. But this top line figure hides a story of mixed fortunes.

The dramatic reduction in output by the German automotive industry – 50 per cent in 2008 – has had a direct knock-on effect on CME

suppliers, 20 per cent of whose output has traditionally been used by car makers. The auto sector is suffering so badly partly because of inherent overcapacity, but also because many German marques are considered luxury brands, representing the type of discretionary spend few can now afford.

In contrast, agricultural products and crop protection are experiencing increased demand, as are health and personal care products, and food additives such as vitamins. Many CME companies who supply into the 'alternative' energy market are also buoyed presently through demand for silicon for photovoltaic cells and glass and carbon fibre composites for wind turbines.

Diversification is a must

The current economic situation has simply focused a previously held view within the CME sector, namely that as a predominantly 'mature' industrial sector, the only sure guarantee of long term prosperity is through innovation and diversification.

In the chemicals industry especially, the need for diversification was recognised several years ago with leading world class companies like BASF, Bayer and Solvay setting up organisations whose specific remit was diversification.

In the current climate that need is even more keenly felt. Put simply, CME management is under pressure to identify the product and service needs of new markets, establish how those needs fit with their existing capabilities, determine the gap between need and capability and develop a strategic plan to close the gap. A successful outcome to this process is regarded as a given. What has changed is that the time frame has shrunk. Companies are under real pressure to diversify and do it quickly.

Companies which previously focused on core expertise are now actively seeking new markets in which to sell their capabilities, or develop new products in order to exploit new market opportunities. Many of these new opportunities lie within the alternative energy sector, and we are seeing development work focused on battery technology, photovoltaics, thermal, solar and wind energy, biofuels, and new, energy saving construction materials.

It's not easy to move beyond core expertise. However there are many examples in the DACH region of companies that have done just that. Evonik's development of a ceramic membrane technology and its subsequent successful joint venture development of a lithium ion battery with

Daimler is just one well known example.

When it comes to diversification, we are finding that companies are coming to us because they want an independent assessment of potential new markets, especially those of which they have no direct experience.

We have used our technology scouting service to find existing technologies that can be used to catalyse clients own developments. Of equal interest has been functional analysis where we start with a specific technology capability or capabilities and look to apply these for new applications in new markets. Finally, in the alternative energy sector especially, we have seen a marked increase in the use of market need driven opportunity discovery where we translate a specific market need into a technology solution delivered by CME.

Across all these service offers, the watch word from clients is focus. The economic climate forces us all to identify and back technology winners only. It also demands that value can be extracted swiftly.

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Energy harvesting

By Jeremy Bickerstaffe

Energy harvesting – the use of local energy sources such as wind, sun or vibration to power devices to operate in environments previously thought ‘out of bounds’ – is growing up fast and making news.

The technology, which is also known as energy scavenging, now has specialist publications and web forums devoted to it. Earlier this year I attended the Energy Harvesting and Storage conference and exhibition in Cambridge where new applications and technologies were showcased.

While the idea of energy harvesting is not new – think water wheels and windmills – its modern day use has focused on applications where it is impractical or too expensive to use batteries, or too remote (or the device too disparate) to access grid electricity.

Potentially, an almost limitless number of energy sources can be used and include radiation, machine vibration, thermal gradients, wind, sun, tides, and human movement. Unlike renewable energy technologies, which predominantly generate energy

remotely before transporting it through electrical cables to the end user, harvested energy is collected and used locally – no more than a few metres or even millimetres away from the source.

Many energy harvesting applications are already very familiar, most notably the solar powered calculator and kinetic watch. What is particularly exciting right now is that energy harvesting is moving beyond ‘gadgets’ and small devices and the rate at which it is being commercialised is accelerating. Improved product design, especially in power storage, means that the concept is now valid even for safety critical applications. Medical implants powered by blood flow for instance would have been unheard of ten years ago.

Now, industry is predicting that this application could be on the market within the next decade.

Energy harvesting can add real value to existing products, services and processes by cutting costs (especially ongoing running costs), extending operational time, and delivering greater convenience. For example, many bus stops now feature electronic information boards. In urban areas, these are easily powered by mains electricity, but in rural areas, where perhaps the information is even more valuable, connecting to the grid is too expensive and

batteries too costly to monitor and maintain. But by using the power harvested from a solar cell and wind turbine, an information panel can operate with very little maintenance.

In industry, production and processing operations are hugely reliant on sensors to monitor machine performance. An array of battery powered sensors is both expensive to buy and time consuming to maintain; the installation of additional wiring across a complex industrial plant, in order to access mains electricity, can be prohibitively expensive. A wireless sensor network powered by harvested energy from machine vibration is cheap to install and maintain, yet still delivers the level of accuracy, robustness and reliability required.

Of course, energy harvesting is not the best solution for every product. Expertise is required to match the energy needs of a device to the energy sources available, and the business case behind its use must be proven. In particular, power generation must not be confused with energy saving. For example, a ticket machine could be powered by the physical vibrations of commuter footfall, but the energy harvesters required would be expensive to install, and the energy collected would be trivial. If energy

savings are the objective, it would be better to improve the efficiency of the heating, lighting and ventilation systems in the ticket hall.

Energy harvesting, used appropriately, can lead the way to exciting new applications in almost every industry sector, and in almost any physical location. The key to successful energy harvesting is a thorough understanding of the science behind it and the environmental context in which it will operate, backed by a realistic business appraisal, in order to create practical and profitable solutions which really meet market needs.

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For further details of our news and events, please contact info@sagentia.com

Come and meet us at:

- **Drug Delivery to the Lungs**
We will be 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 in Edinburgh.
- **Technology World 2009**
Sagentia will be attending UK Trade & Investment's Technology World 2009 event, to be held 23-24 November in Coventry. Technology World is a platform for companies to identify and build new international business and partnership opportunities.

You may have seen us at:

- **2nd Africa Bank-to-Bank Forum**
Sagentia was a panellist at this year's 2nd Bank to Bank Forum: Sustaining Trade Finance through Challenging Times, 30 June – 1 July in Nairobi.
- **Investing in Healthcare 2009**
Sagentia presented at this year's Investing in Healthcare 2009, which explored the variety of investment routes in healthcare property and services and supplies. The event took place 24 June in London.
- **Medical Innovation Forum**
Sagentia exhibited at the Medical Innovation Forum, the premier UK networking event for all those with an interest in health technologies, 10 June in London.
- **ERBI's 11th Biopartnering Exchange**
Sagentia spoke at ERBI's annual conference, 10-12 June in Cambridge, UK.

Sagentia

Many minds make bright work

We create value from technology by developing richer solutions with our clients that enable them to realise better business opportunities.

We operate in five market sectors developing new technologies, products and services that change the basis of competition. We 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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