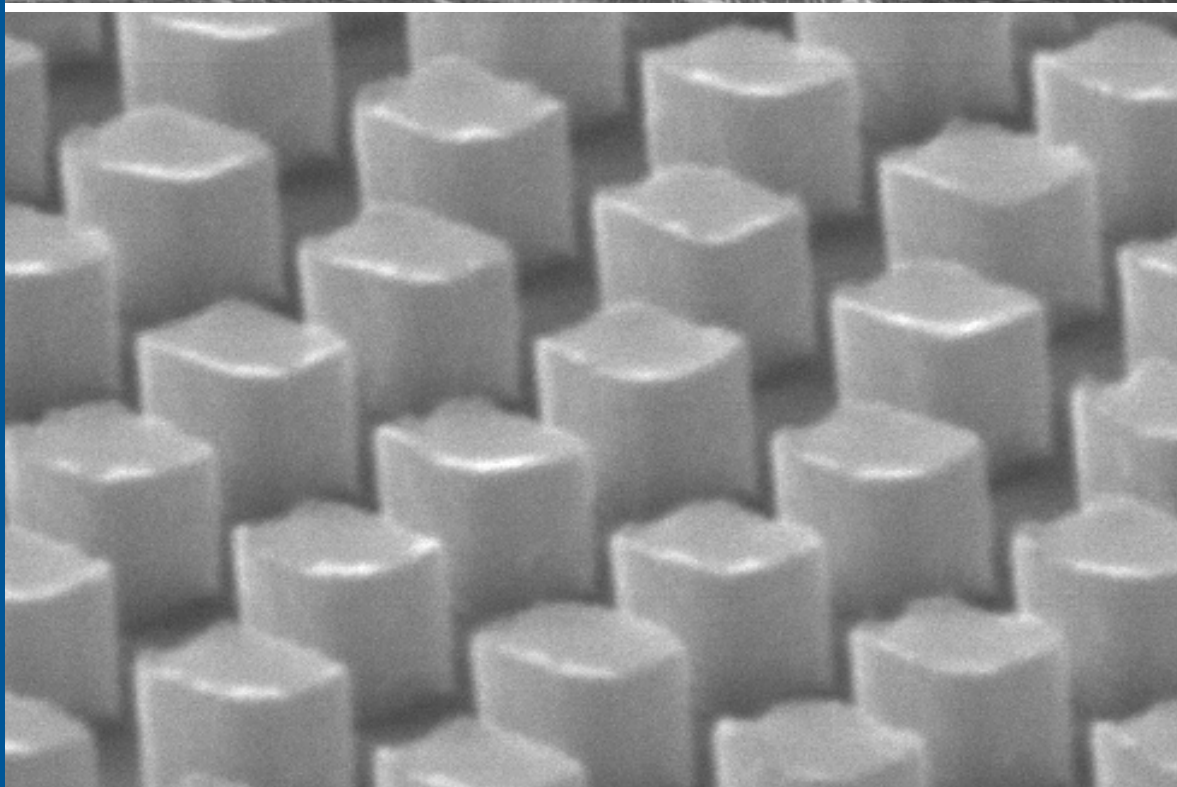
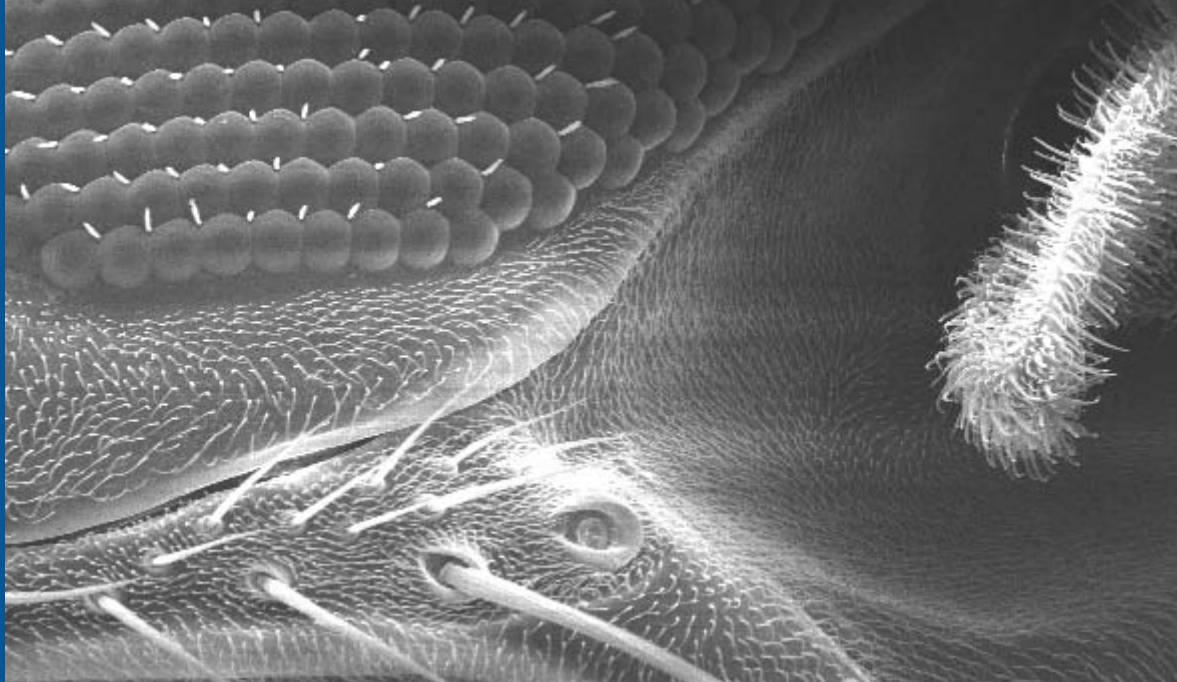




INSIGHT

No 1/10



CAMSCAN – MASTERING E-BEAM TECH

OBDUCAT'S ENGLISH BRANCH
KEEPS ALL DETAILS IN CHECK

CHINA OPENS UP

A MARKET WITH UNLIMITED
POTENTIAL GROWS

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 Lund University is about to get one hefty on-campus addition. The [LM:s ESS-titel] speaks his point of view on the subject.

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LOOKING AHEAD

2010 is an exciting year for Obducat, with a lot of things happening in our business field. Market development is extremely interesting and intense, new market opportunities arise together with new competitors, making Obducat's solid patent portfolio an increasingly valuable asset. LEDs are on everybody's lips right now, especially patterned high efficiency LEDs (e.g. PSS) triggered by e.g. the EU drive for sustainable energy conversion (ban on conventional light bulbs from 2012, etc), and the shift of display backlighting from fluorescent lamps to LEDs. Obducat's NIL technology is very well suited for creating the nano-sized structures needed for improving light output efficiencies for LED components. Other application areas, such as displays and EBL, are areas where we note an increased market interest near term.

CONTINUED FOCUS ON LED

Obducat continues to focus on the rapidly moving LED market, as well as opportunities showing up in the display area. We naturally aim to capitalise on assets like our EBR system – with its cutting-edge resolution, exposure time, flexibility and data handling – and on substrate patterning; two existing business opportunities addressable with current products and offerings. Among applications for substrate patterning are epitaxial lateral overgrowth (ELO) used for blue ray lasers for DVD and game consoles, but also proposed for high temperature electronics using silicon carbide

(SiC) for automotive industry, e.g. needed for power control and dynamic loading in hybrid cars.

Obducat also plans to bring more complete business offerings to the market in terms of customer financing, stamp production service and small scale production together with consumables as a separate business area. The synergies with Obducat's SEM branch will also be emphasised. Other plans for 2010 include a renewed communication strategy and a web site upgrade in order to fit its role as Obducat's principal communication channel.

INTERESTING CUSTOMER DEVELOPMENT

Aside from established, multinational customers such as UniLite, Hamamatsu and STMicroelectronics, with whom Obducat has very good relations, new customers and markets keep adding to the tally. With Canon Marketing Japan bringing several large Japanese customers to the lab and with France and Russia on the map together with several Chinese customers, hopes for a rapidly growing number of customers are justified.

ON A FINANCIAL NOTE

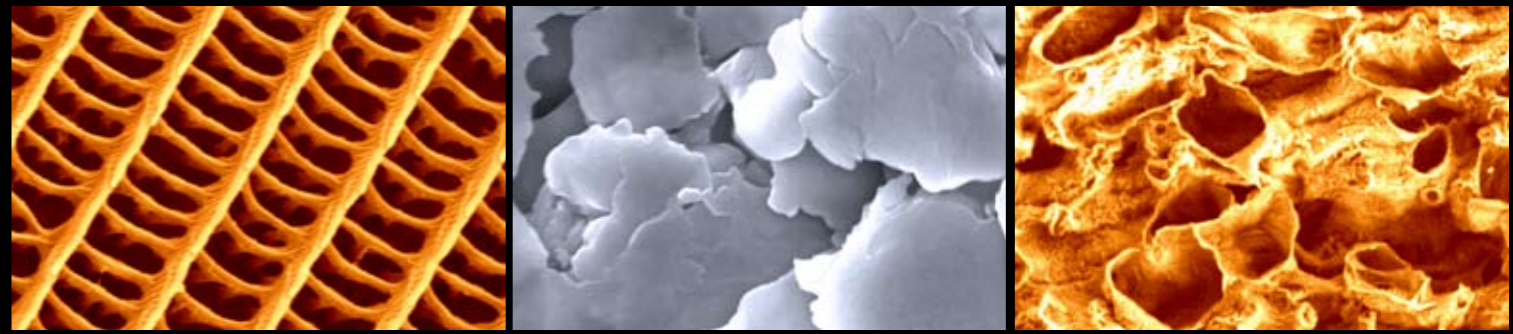
Obducat's debenture loan, amounting to 55 MSEK and issued in 2008, will be due for refunding in March 2011 unless converted to stocks before that. Compared to the liquid funds of 52 MSEK brought into the year 2010, the debenture loan constitutes a significant depth. Consequently, there is a financial risk connected to the debenture loan. In order to remedy that risk and maintain the ability to capitalise on the increasing demand we are now seeing in several application areas, the company is offering the holders of the loan to convert to a more favourable price of 0,27 SEK instead of 1,65 SEK during the time period of 19–30 April. A high degree of conversion would contribute to strengthen our ability to compete.

THIS ISSUE

Obducat InSight finally takes a closer look, pun intended, on Obducat CamScan, our English branch specialising in highly advanced electron microscopy and, not least, columns for electron beam recorders, an integral part of Obducat's total offering to the industry. InSight also reports on our expanding Chinese market.

Lars Tilly | CEO





CAMSCAN PRODUCTS (SELECTION)

SEM

Apollo 300

SEM with TFE technique (thermal field emission), designed to cover a wide range of applications that require ultra high-resolution.

CS 3000 range

Microscope used for forensic analysis (so-called GSR, gunshot residue), as well as the unique low-vacuum technique, ideal for working with biological specimens.

X500 Crystal Probe

Used for metallurgy, geosciences and several other applications. Equipped with the unique EBSD technique, electron backscatter diffraction.

EBR

CS3500FE

Electron Beam Recorder using the techniques EBL (electron beam lithography) and FIB (focused ion beam).

CAMSCAN – IN FINE DETAIL

At first glance, CamScan and Obducat are an unlikely couple. A Cambridge firm renowned for making robust, state-of-the-art Scanning Electron Microscopes and a Swedish nanotech venture; two companies with seemingly little in common. But instead, since joining forces Obducat and its England-based subsidiary have complemented each other by combining strengths. Together, they offer the market an unbroken chain from original patterning to replication and analysis, all from a single supplier. Much of the secret lies in the versatile electron beam technology, a field mastered by CamScan.

Obducat CamScan, as the full name reads today, has been a leading manufacturer of scanning electron microscopes, often abbreviated SEM, for nearly 40 years, and has established a reputation for providing robust solutions for a variety of applications.

THE WONDER OF THE E-BEAM

The foundation of electron beam technology, EB for short, is to produce just that – a beam of electrons. Depending on how this beam, or column, is used, it can either create patterns or detect the outline of a surface. Because the e-beam focus is extremely small, it does so with unparalleled precision. Since the e-beam is considerably smaller than the wavelength of visible light, it also outperforms all laser techniques by far. In fact, EB is considered one of very few technologies that can offer the nanometre precision that future scientific development will require.

FROM NANOMETRE ETCHING TO FORENSIC ANALYSIS

CamScan uses a number of different technologies to suit a wide range of applications. The product portfolio comprises a selection of highly advanced microscopes (see the unique X500 crystal probe for studies of high-temperature electron back-scattered diffraction (EBSD) in earth sciences, ceramics and metallurgy. For high-resolution studies field emission, scanning electron microscopes are first choice. The Apollo 300 FEG system provides a versatile solution for a variety of samples, allowing for operation from very short to very long working distances. The CS series is e.g. used for forensic analysis and in working with biological specimens.

A GLOBAL NETWORK FOR SALES AND SUPPORT

In recent years, CamScan has put emphasis on heightening the company's market presence. By increasing the number

of dealers, many new markets and customers have appeared. As a result, the organisation is better equipped than ever to meet the demands of a global market.

CLOSETIES CREATE ADVANTAGES

The co-operation between CamScan and Obducat creates natural synergies; the possibility to co-ordinate service and support organisations is just one of many. Furthermore, the customer can via a sole supplier acquire the tools to both create and replicate nanometre-scale patterns – a big advantage compared to having two or more separate suppliers. By staying highly active within R&D in their respective fields, the companies continually find ways to interact in order to find technical solutions and meet new and coming customer demands.

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OBDUCAT SAVES PAPER

Obducat keeps pushing the envelope concerning the company's annual report. Last year, the report was picked as one of best on NGM, Nordic Growth Market, by the Swedish Shareholders' Association. For 2009's report, Obducat takes the next step, and makes it disappear altogether – at least its physical version. Aside from saving quite a bit of paper, Obducat's CFO Jonas Hansson sees several benefits with going digital.

– This is a logical step, and something we've wanted to do for some time. The digital format allows for easy access and quick navigation, and the presentation is sharpened by e.g. animated graphics. All in all, it will be much less static than our previous reports in PDF format. That said; this being our first year, we have still to learn how to put the interactive possibilities to their full use.

AN ADDENDUM TO OBDUCAT'S WEBSITE
The annual report for 2009 was recently published on

www.obducat.com as a separate, locked and printable document. Pending a complete makeover of Obducat's website, the annual report is also a first effort in making the Obducat website a more pronounced hub for the company's communication. Though all-digital annual reports haven't been around for long, Jonas Hansson is clear on the subject.

– My prediction is that printed annual reports in general will all but disappear within a few years' time. Digital reports are better in just about every aspect.

CHINA OPENS UP

New markets are frequently added to Obducat's world map, and each opens interesting prospects. Few are followed closer than the Chinese market. Although Obducat has had Chinese customers for some years now, a recent order may pave the way for a broader breakthrough. As a country with the resources and ambition to be at the forefront of scientific development, gaining further access to the Chinese market is a self-evident ambition. What the long-term effects of this new order will lead to is too early to tell, but it's an important step.

Like the Russian orders in late 2009, the latest Chinese purchase establishes Obducat in a market with a huge potential. Both countries have realized the growing importance of the nanotech sector, and seem intent on increasing their respective stake in the market. The mutual interest in Obducat is a clear indication of the competitive edge held by the company's NIL technology.

REDEFINING THE NANOTECH MAP

Fredric Håkansson, Obducat's Sales & Marketing Director, believes the nanotech landscape will go through some big changes within the next couple of years.

– Japan is facing some serious competition. It will likely remain ahead of the rest, but the overall market will be much more diverse. Several very powerful players are joining the race, and huge resources go into nanotech research and development. Russia and, in particular, China will make

the nanotech industry even more dynamic. It will definitely be exciting to follow developments first-hand.

PROMISES OF THINGS TO COME

The Chinese Academy of Science in Beijing has purchased an Eitre system, which will be used in high end development work of nano- and microelectronics. Fredric stresses the importance of this order.

– This order gives Obducat additional strength in the Chinese market and opens up networking possibilities and will probably spur a heightened interest from the rest of the market. This is our fifth order in China and I'm very optimistic about the continued opportunities in China. A recently conducted road show is expected to generate additional orders already in 2010. Obducat has learned a lot from our presence on other Asian markets – knowledge that definitely will come in handy for this challenge as well.

OBDUCAT CHOSEN FOR EU RESEARCH PROJECT

There is an increasing demand in Europe for Obducat's competence within nanoimprint lithography technology. Recently Obducat was invited to participate in the EU project POLARIC. The aim is to find new technologies for the production of organic integrated circuits for large area flexible substrates, such as displays using so-called OLEDs (organic light emitting diodes).

POLARIC is financed through EU's 7th Framework Programme (FP7) and co-ordinated by the VTT Technical Research Centre in Finland. Thirteen partners, with expertise from all over Europe and representing the industry, SMEs, research institutions and universities, will participate in the project.

– This is the 4th EU project Obducat participates in. To co-operate with other players in this format is very valuable. We improve our competence, strengthen our network and contribute to the development of possibilities on nanoimprint lithography", says Lars Tilly, CEO of Obducat.



ESS COMES TO ÖRESUND

Lars Montelius, professor in Nanotechnology at Lund University, Chief Executive Director for Øresund Org, the common brand for networks and projects run by Øresund University and Øresund Science Region, and also a member of the Obducat Board of Directors.

1. IN YOUR MIND, WHAT ARE THE FOREMOST REASONS FOR ESS ENDING UP IN THE ÖRESUND REGION?

The Öresund region is considered to be the perfect central location in Europe, with large accessibility in combination with a highly skilled work force. Also, the Scandinavian track record and reputation for excellent craftsmanship in combination with a high sustainability awareness were important pieces in the decision puzzle. With its 7 science parks, 10 universities, 14 000 University researchers and some 160 000 students, the Öresund Region is a knowledge intensive hot-spot.

2. WHAT WILL BE THE MOST NOTABLE EFFECTS ON ACADEMIA AND BUSINESS LIFE THAT THIS PROJECT WILL BRING TO THE REGION?

The establishment of this large piece of research infrastructure brings a totally new "big science" dimension to the region. It gives the region a possibility to already now start to create a material science innovation community. This is a strategic work that may result in the Öresund Region becoming the leading material science region not only in Europe, but in the world.

3. SOME SAY A TRIANGLE FORMED BY BERLIN, HAMBURG AND THE ÖRESUND REGION WILL BECOME A RESEARCH POWERHOUSE IN THE COMING YEARS. WHAT IS YOUR OPINION?

The concentration of research infrastructure in this triangle is beyond anything else in Europe. Europe has a great chance to develop a unique environment for science based innovation and growth. If successfully and fully developed, such a concentration may lead to big industrial players establishing their R&D divisions in this region. This will make it possible to further strengthen the regional potential for becoming a highly attractive region - and to become the most innovative region in Europe.

4. HOW WILL IT AFFECT YOUR OWN PROFESSIONAL LIFE?

Right now, the Øresund Org is deeply involved in making the vision above reality. We will work very focussed with this for the coming years in order to foster the development of this region.

5. WHAT WILL ESS MEAN TO OBDUCAT?

ESS will deal with modern material science, which to a large extent deals with nanomaterials. Obducat provides the needed tools in order to make the materials useful for applications. The sector of industries working within the nanomaterials area will not only compliment Obducat but also provide large business opportunities. Also, the collection of competence and infrastructure provides Obducat with a competitive edge that will be of great value for customers to utilize in e.g. collaborative projects. This will enhance Obducat's possibilities to become a preferred partner in industrial development projects.

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