

OSLO BIO UPDATE

A newsletter from Oslo Teknopol covering activities in the life science cluster in the Oslo region.



Olav Hellebø, CEO of Clavis Pharma has good reason to be cheerful as the cancer company rounds off the year with a healthy injection of new funds to complete its ongoing clinical trials programme.

Photo: Andreas L. Farberg

CLAVIS DOES THE DOUBLE IN NOVEMBER

November was a very successful month for Clavis Pharma. The Oslo-based cancer company signed a new USD 205 million deal for CP-4126, its novel pancreatic cancer drug candidate, with the US firm Clovis Oncology and raised NOK 154 million (USD 23,6 million) from investors in an oversubscribed placing. The injection of over NOK 200 million (USD 30,7 million) from

these events, which includes a further USD 10 million from Clovis, puts the company on a solid financial footing. Clavis Pharma now has funding until after read out of its key phase III clinical trial for elacytarabine in acute myeloid leukaemia and its phase II trial CP-4126 in pancreatic cancer in 2012.

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NEORAD LAUNCHES GUIDE TO SUCCESS AT MEDICA

Improving image-guided intervention continues to be one of the hot topics in Medtech. NeoRad's SimpliCT laser guided needle positioning system offers a faster and more accurate alternative to freehand methods in image-guided interventions. And now a new global distribution agreement announced at Medica 2010 in November with MAVIG, world leaders in suspension arms for imaging theatres, opens up the world market for SimpliCT.

CEO Nicolay Bérard-Andersen says the interest has been overwhelming: "By fitting our laser unit to the MAVIG Portegra

2 arm, SimpliCT can now be more widely used with both CT scanners and in advanced 3D angio labs for non vascular interventions such as biopsies, ablations, drainages, infiltrations etc. In all situations, the time – and thus cost – savings are substantial. One hospital in Norway reports 50% on CT scanning prep times for example. Furthermore, improved accuracy and reduced placement times reduces overall exposure to radiation which is a growing concern for both staff and patients."

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Photo: Private

With a highly successful career in medtech spanning both Europe and the US, Sander Tufte of Tufte BioConsulting is well placed to judge Norway's potential in the sector.

AN EMERGING NORWEGIAN ECOSYSTEM FOR INNOVATION IN MEDTECH

By Sander J. Tufte, Tufte BioConsulting Ltd

The Ernst and Young annual medtech report Pulse of the Industry is as always both interesting and enlightening reading. The 2010 report just out reports on 2009 industry performance and about the many obstacles and opportunities for start ups and emerging medtechs as well as medtech blue chip companies. The industry is facing stagnation in terms of sales growth with total revenue of USD294bn, representing 0.1% decline in the US and 1.1% growth in Europe. Disappointing for an industry used to double-digit growth, but not surprising after the economic turbulence of recent years. There is thus serious stress on the ecosystem for innovation in medtech, not least in the highly valuable US market, where traditionally product commercialization has taken place and where the ecosystem is very well developed in terms of access to capital, science and industry partnering. The E&Y report laments the pending scrutiny of the 510(k) notification process and the likely shift towards requiring more clinical data on health outcomes and measuring comparative effectiveness of devices. The scarcity of venture capital funding as a function of decreased funding from limited partners is another spanner in the works.

COST CONTAINMENT STARTING TO BITE

However, these factors are secondary to the biggest change in the ecosystem: that of payers' focus on cost containment. It is coming into effect in the US through the Obama healthcare reforms and in Europe through government cuts in public spending. A shift towards 'higher risk-lower reward' is detrimental to innovation in biopharma, but especially in medtech where market exclusivity and the pay offs are smaller. Nevertheless, these threats to the ecosystem should not be seen as heralding the demise of the industry and the need for products and services. Instead, the need according to Jason Hillenbach

the author of the E&Y report is now for 'Innovating innovation'. He believes the current business model for innovation in medtech is not sustainable under the prevailing and future business conditions. What then will constitute tomorrow's successful innovation? What are the premises and how well positioned is Norway to leverage the emerging opportunities?

INNOVATING INNOVATION THE NEW CHALLENGE

According to the E&Y report, key words for 'innovating innovation' is lowering risk through risk diversification; Incremental innovation by offering scaled down or scaled up versions of your offering; Vertical integration by adding or offering services and solutions that are complementary to your portfolio of hardware devices or; Innovating through technological convergence. A good example of a whittled down product strategy is Axis-Shield and their successful deployment of their first generation point of care diagnostic Nycocard Reader and its Nycocard tests. This semi-manual system is marketed alongside the second-generation highly automated Afinion products with all its bells and whistles. Nycocard has enjoyed much success in emerging markets with lack of public spending and health insurance. There are many examples of Norwegian companies innovating through converging IT and health science. Two such companies are Changetech and Fimreite Software. The Changetech team from Oslo consists of psychologists and IT specialists and programmers that develop proprietary behavior change programs delivered by PC and mobile phones direct to consumers, patients and employees at corporations. Their wellness and prevention programs provide interactive, tailored, and personalized interventions and support during lifestyle changes related to e.g., weight loss, smoking cessation, alcohol reduction, depression and stress. Fimreite from Horten have

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CLAVIS DOES THE DOUBLE IN NOVEMBER

The deal with Clovis Oncology covers the development and commercialisation of CP-4126 in Asia and the rest of the world, and extends a 2009 agreement between the companies covering the Americas and Europe. As well as receiving the USD 10 million upfront, Clavis Pharma could receive up to USD 30 million in development and regulatory milestones in Asia, up to USD 165 in sales milestones and tiered double-digit royalties on all product sales globally. Clavis still retains its option to co-promote the product in Europe. The total size of the extended global deal for CP-4126 is USD 585 million.

CP-4126 is an exciting new drug candidate developed by Clavis and is an improved version of the blockbuster anti-cancer drug gemcitabine that offers the potential of a much-needed therapy for at least 50% patients who respond poorly to gemcitabine. The key to CP-4126 is that it is expected to be effective against cancer cells that cannot take up gemcitabine through their cell walls owing to a lack of or low incidence of a transporter protein called hENT1.

hENT1 is believed to be required by a number of first-line cancer treatments to be effective, such as gemcitabine (Gemzar), cytarabine (ara-C) and azacytidine (Vidaza). The absence or low incidence of hENT1 on tumour cells therefore presents a huge opportunity for Clavis' novel drug candidates across several major solid cancers and haematologic malignancies.

In parallel, Clavis and its partners are developing companion diagnostics that will identify patients who are likely to be poor responders to these and other hENT1-dependent treatments, and who might benefit most from Clavis' LVT drugs.

Olav Hellebø, CEO of Clavis Pharma, said, "We are very pleased to have concluded the fundraising, closely following the signing of an extended partnership deal with Clovis Oncology for CP-4126. Both events demonstrate the confidence investors and partners have in our pipeline and our LVT technology for creating new and improved cancer therapies from existing gold-standard drugs. We believe Clavis Pharma is very well-positioned going into 2011 to generate significant value for shareholders as we deliver a number of key development milestones."

The new funds will also enable Clavis to prepare for filing and commercialisation of elacytarabine pending positive Phase III results; and to achieve pre-clinical proof of concept for CP-4200 for myelodysplastic syndrome (MDS), a disease that is often a precursor to leukaemia, and to start a clinical program.

www.clavispharma.com

developed proprietary SW for distributing MR and X-ray images enabling seamless and highly secured uploading and downloading of images and thus distribution 'anywhere -anytime' using internet technology. Their technology and solutions facilitate more decentralized healthcare and better interaction between radiology labs, secondary and specialist healthcare. This is especially valuable where the entities are not linked through dedicated radiology information systems and have instead to rely on burning images on to DVDs and then distributing them physically. These innovations may be incremental in nature, but stand a very good chance be accepted and endorsed by healthcare givers and payers because they meet the needs of healthcare providers and payers in a simple, yet very effective manner.

DO WE KNOW OUR KNOW-HOW?

Norway has a 95% penetration rate of mobile phones use and internet connectivity. The penetration rate for Facebook use is 50%. This IT interconnectivity both in the public and private sector, and in people's private lives, combined with a centralized and transparent healthcare system, really represents an important and unique infrastructure for spurring 'innovating innovation'. Combining this infrastructure with a culture of 'curious minds' and needs-based idea generation can give Norway every opportunity to be in the forefront of developing systems for treating, diagnosing, monitoring and preventing disease improving health outcomes. A Norwegian ecosystem for medtech innovation, however, is not complete without entrepreneurs that can take an idea and a science project and commercialize and internationalize it. This is paramount, as a product or application in the healthcare space at the end of the day has to meet a return on its investments through profits and dividends. Taking an idea across the industrialization chasm has been a Norwegian weak point due to a limited talent pool of entrepreneurs and industrialists from successful, integrated and international medtech. We face a similar shortage of competent and willing risk capital for medtech innovations. However I believe both these issues can to a certain extent be remedied through promoting Norway as a test bed for developing and trying out innovative ideas and products.

THE PERFECT TESTBED

For a foreign medtech needing to develop a proof of concept or proof of clinical utility for its product, the Norwegian healthcare system can for the reasons explained above be a useful outlet and both support an FDA application and also pave the way for obtaining the European CE mark and access to European markets. Increasingly US and foreign medtechs are looking to the European market to validate and try out their products in this way. Norway can provide the infrastructure and means to facilitate such a strategy. In addition, this kind of strategy may provide competitive advantages not only for a foreign medtechs, but also for Norwegian medtechs as a 'look to Norway' strategy might very well introduce Norway to more medtech specific human capital and venture capital from abroad.

CELLCURA FLOATS ON AXESS

CellCura ASA is the latest medtech company to list on the Oslo Axess market. The company designs, manufactures and distributes novel equipment and products for use in ART and stem cell research throughout the world. There are two main product lines; a new generation of integrated laboratory workstations that secures a safe, ergonomic and controlled environment for performing cellular treatment, and a new and unique protein-free cell culture medium (PFM-11) that eliminates the risk of transmission of blood borne diseases. www.cellcura.com



CellCura develops advanced workstations for IVF and cell biology applications.

PHOTOCURE SIGNS WITH SALIX

Photocure (OSE: PHO), has signed a strategic global agreement with Salix Pharmaceuticals Inc. the US specialty pharmaceutical company focused on gastrointestinal diseases, for the development and commercialisation of Lumacan. Lumacan is a photodynamic colorectal diagnostic intended to significantly improve the detection of precancerous and cancerous lesions in the colon through fluorescence diagnosis. Under the agreement, Salix will obtain an exclusive worldwide license to Lumacan excluding the Nordic region. Photocure will receive a signing fee of USD 4 million and is entitled to receive additional milestone payments totaling up to USD 126.5 million, if certain conditions are satisfied. www.photocure.com

LYTIX COMMENCES LYTIXAR TRIALS

Lytix Biopharma AS has commenced a Phase IIa clinical trial with Lytixar™ (LTX-109) treatment of skin infections caused by Gram-positive bacteria in Hungary. According to Lytix Biopharma CEO Gunnar Sælid, "This is an ideal patient group in which to test our antimicrobial drug. Standard of care for these types of infections is generally topical drugs, representing a significant market. Since bacteria such as Staphylococcus aureus are often resistant to the existing drugs including methicillin-resistance (methicillin-resistant Staphylococcus aureus - MRSA), there is a clear need for a novel drug such as Lytixar™." www.lytixbiopharma.com

Photo: CellCura



Photo: Algeta

Lars Abrahmsen takes over responsibility for commercializing Algeta's Thorium oncology therapeutics platform

ABRAHMSEN JOINS ALGETA FROM AFFIBODY

Dr. Lars Abrahmsén has joined Algeta from Swedish company Affibody and will be responsible for the development of Algeta's Thorium platform. Abrahmsén commented: "There is a strong and growing interest in arming tumor-targeting molecules, such as antibodies, with active payloads to maximize the effectiveness of cancer therapy. Algeta's approach using thorium-227 conjugated to tumor-targeting molecules offers great promise in this area."

www.algeta.com

EDAP TO AND EPITARGET EXTEND HIFU CANCER TREATMENT COLLABORATION

EDAP TMS SA, the global leader in therapeutic ultrasound, has announced the successful completion of feasibility studies aimed at improving delivery of cancer drugs using a combination of ultrasound sensitive liposomes from Norwegian company Epitarget and High Intensity Focused Ultrasound (HIFU).

Esben A. Nilssen PhD, Epitarget's Chief Executive Officer, said, "Therapeutic ultrasound is gradually gaining ground in cancer treatment and we are delighted in these results showing that Epitarget's ultrasound sensitive liposomes in combination with EDAP's HIFU enhanced the efficacy of established cancer drugs." www.epitarget.com

AXIS-SHIELD WINS US "VENDOR OF THE YEAR"

Axis-Shield has been named "Vendor of the Year" for Afinion™, its Point-of-Care diagnostic analyzer system by Physician Sales & Service, Inc. (PSS), the largest distributor of medical supplies and services to office-based physicians in the United States, for a second consecutive year. www.axis-shield.com

OPTINOSE RECEIVES USD 489,000 GRANT

OptiNose has been awarded USD 488,958 in grants under the U.S. government's Qualifying Therapeutic Discovery Project ("QTDP") program in support of the Company's novel bi-directional nasal drug delivery technology.

"We will use these grants to structure a Phase III program that will conclusively demonstrate better efficacy of OptiNose's products for the treatment of nasal polyps and for migraines by taking proven drugs and improving the delivery process, ultimately providing significant benefit for patients," said OptiNose CEO Helena Djupesland.

www.optinose.no.



Balter's OTD Melanoma scanner is in advanced trials in both the UK and US.

Photo: Balter Medical

NEW COLLABORATION STREAMLINES INNOVATION PIPELINE

Bio-Medisinsk Innovasjon AS (BMI) and Inven2 AS have signed the "Inven2 Partner Forum Agreement". BMI operates as an early stage investor with active involvement in its main portfolio companies and through the Inven2 Partner Forum, IPF, will have access to information regarding significant research, development and commercialization activities, as well as investment opportunities originating from Oslo University Hospital and the University of Oslo." We are very pleased with signing this agreement", says Ingrid Alfheim, CEO of BMI. "Excellent research performed at Oslo University Hospital and the University of Oslo leads to excellent inventions, and comprises one of our most important sources for new projects. BMI and its team has a commercial market focus, and can give additional momentum and direction to development of new therapies and diagnostics."

www.bmioslo.no and www.inven2.com

BALTER CONTINUES TO SHINE

Balter Medical has made significant progress over the autumn with its OTD Melanoma scanner. Clinical trials at Mayo Clinic Arizona continue, with a new all comer reader study due to begin in Q1 2011. Dr David Swanson from the Mayo comments: "With my colleagues I've had the opportunity to work with the scientists and engineers at Balter for several years. We have participated in a study involving the automated, noninvasive analysis of high-risk pigmented lesions with their technology. We have been consistently impressed by our preliminary findings. I think it is highly probable that this system will successfully screen for melanoma skin cancer and at the same time be affordable and simple to use. Ultimately, that is the goal of a number of evolving technologies, but their optical transfer diagnosis system really has the promise to become the technological leader."

In addition, clinical trials under the auspices of the UK's NHS Innovation Unit at Norwich University Hospital have been extended by a further 6 months.

www.baltermedical.com

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NEORAD LAUNCHES GUIDE TO SUCCESS AT MEDICA

NeoRad is now looking for partners for several other projects including ultrasound monitoring of contrast media injections and a respiratory monitor that monitors actual diaphragm movement, which is more closely connected to the movement of the internal organs.

Case

Dr. Trond Hagtvedt and Ulf Madsbu of the Dept. of Radiology, Oslo University Hospital are convinced of the benefits of NeoRad's SimpliCT:

"After using the SimpliCT routinely in chest biopsies for 3 years we've lately done several RF ablations of lung tumors with very good results. In these technically demanding procedures the SimpliCT has been an indispensable tool leading to a high degree of precision and accuracy in the needle placement"

www.neorad.com



Photo: IVS

The Interventional Centre in Oslo University Hospital is about to expand with three new hybrid operating rooms (OR's).

HYBRID THEATRE PIONEERS EXPAND

The desire of neuro and cardiovascular surgeons in particular to use image guided and minimally invasive surgical techniques has led to increased interest in so-called hybrid operating theatres. The idea is to be able to move patients safely and swiftly between operating area and the MRI or other scanners, which traditionally have been kept in separate areas. The Interventional Centre in Oslo University Hospital (IVS) has been a pioneer in these developments since it was established in 1996 and gained an international reputation as a testbed. Such has been the demand for its services that an additional 3 hybrid theatres are due to be commissioned in early 2011. Per Kristian Holm in charge of radiology research gives some insights into the reasons behind the Centre's success and its latest areas of discovery.

"Currently we have a team of 47 and are a separate department of the hospital with our own budget which immediately gives us a double advantage since we both own patients and do research at no cost to other departments. We work in two main ways: firstly we test new methods in a scientific way, establishing protocols, publishing in peer review journals and producing health-economic impact studies. Secondly we work with the main industrial players, as well as helping spin-out university companies."

IVS's industrial cooperation track record is highly impressive starting with trialing a GE Double-Doughnut MRI back in the late 90s. "Philips then chose IVS as their sole test site in Europe for their MRI-guided HIFU system. Siemens also came to us to help develop a robotic angiosystem combining an OR and angiotable, continues Holm. "Although there is a lot of

innovation, this is basically a conservative sector and we believe testbeds such as ourselves are essential to encourage adoption."

Currently, Holm reveals, IVS has five main areas of interest:

- Optimising ORs for minimally invasive image-guided surgery – focusing on MRI-guided techniques, and particularly installing MRI scanners in theatres for neurosurgery.
- Other image guided surgical techniques – including HIFU and microwave ablation.
- Stemcells and targeted drug delivery - from stemcell therapies to working with companies such as EpiTarget on ultrasound mediated therapeutics.
- Biosensors and wireless medicine – concentrating on how to capture more biomedical signals and measurements during operations.
- Basic research – particularly into neuro and cardio imaging. A major advantage being that both animal and human research can be conducted in the hybrid theatres, accelerating translational research.

"We are all also very excited about a new project looking at ultrasound guided neurosurgery. And that is perhaps the secret of the IVS's success. We provide a neutral ground with no pre-conceptions and thus a true testbed. With our new theatres coming in use next year we look forward to more boundary pushing collaborations," enthuses Holm.

For more information www.ivs.no



3D NEUROSURGERY COMES ALIVE

Deciding on the best treatment for a patient suffering from a complex condition is difficult at the best of times, especially when having to plan operations using the current imaging systems that can only produce 2D images. Setred aims to change this with their revolutionary MD20-3D imaging system that can be viewed by multiple observers, simultaneously, without the need of special glasses or other devices. In recent clinical trials, Interventional Neuroradiologist (brain imaging specialists) have been able to refer to a 3D image on a special monitor placed alongside them in the Operating Room while performing surgical interventions on patients.

According to Doug Patterson, a Setred Director, who developed the system along with the Norwegian inventor of the system, Christian Møller, and a Swedish fellow student at Cambridge, this has already proved invaluable: "In a recent case at a university hospital in the UK, the surgeon was planning both an intervention procedure and an open skull operation to remove two aneurysms from a patient. However, the hospital had Setred's 3D system for trial. Having looked at our 3D image of the patient's brain, which clearly revealed the true extent and complexity of the anatomy, the surgeon saw he could in fact remove both aneurysms in one minimally invasive operation, avoiding the need for prolonged and dangerous open brain surgery. This was a great success saving the patient stress and reducing recovery time."

Setred displays are currently being trialed in hospitals and the first systems have been installed in Norway, Sweden and Germany.

"We are also seeing some exciting images from ENT surgeons in AHUS in Oslo – including the first ever 3D images we believe of the semicircular canals. Other applications could of course include cardiovascular imaging."

In a completely different field, Setred sees immense potential for oil reservoir mapping to enable cost-effective extraction. www.setred.com



Coremine's Medical portal opens up the world of medical research to everyone.

COREMINE MEDICAL

- the richest vein of medical information ever

A revolution in medical information is about to occur with the launch of the Coremine Medical portal. Devised by the same team that were the pioneers to analyze Medline articles and put the results on-line, Coremine Medical offers free intelligent searching of medical information, and generating associations between medical terms to provide unique "wheels of information".

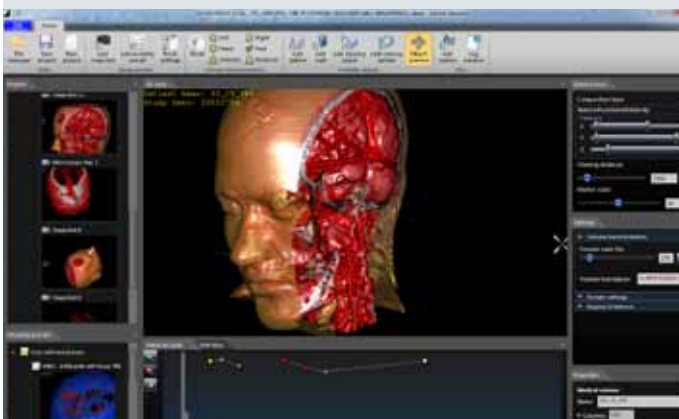
According to CEO Eirik Næss Ulseth, Coremine Medical should prove to be a goldmine of information for patients and their relatives, researchers and physicians alike: "Coremine Medical provides data from the widest possible range of sources in all formats from publications to videos. You could take a disease and find all associated conditions, genes involved, drugs and treatments available, establish user groups, or perhaps take an author and "get into his soul" by seeing all his medical interests, peers and even rivals! Access is possible now, with the official launch due in February.

www.coremine.com

CANARY SOUNDS RADON ALARM

Radon gas is a major health problem worldwide particularly in homes, factories, and buildings such as schools and hospitals. The films used currently to monitor levels only give average readings and do not provide continuous monitoring showing peaks. Corentium now provide a cheap easy to use alternative with their handheld Canary monitor. The first 25 production units are about to be trialed in schools in Norway and Sweden. Developed by former CERN researchers, the Canary incorporates their expertise in measuring alpha emitters, also taking into account temperature and humidity. Battery-operated, the Canary can also transmit data to a base station enabling viewing the measurements on your computer. Also radon "maps" of geographic areas can be constructed.

www.corentium.com



Setred's 3D imaging enables neurosurgeons to plan complex operations with far greater certainty.



Abilia recently won the Norwegian Research Council's coveted Most Innovative Company award for their communication and cognition products for the disabled.

Photo: Abilia

HOME CARE LESSONS FROM DISABILITY EXPERTS ABILIA

With a growing interest in home care enabling technologies, it could be worth looking at the advances made by disability care pioneers Abilia. Recent winners of the Norwegian Research Council's 2010 Award for Most Innovative Company, Abilia has developed a wide range of innovative communication, cognition and environmental control and alarm products.

This potential was already noted in the award speech by Eirik Normann, acting Executive Director of the Research Council's Division for Innovation: "Abilia's innovation is extremely user-driven," notes Normann. "This kind of innovation will become more and more important in the years ahead as we face the increasing challenges of an ageing population."

The company has produced among other things the world's first eye-operated driving system for wheelchairs. It also helped to develop the world's first thought-operated driving system for wheelchairs in collaboration with Brown University and Massachusetts General Hospital in Boston in the USA. The company's two most important products are its Rolltalk voice devices and its MEMO series of planning tools for persons with cognitive problems. In 2004, when Microsoft founder Bill Gates viewed a demonstration of Rolltalk software, he exclaimed, "This is the best example of the magic of software I have ever seen."

Key to Abilia's success is placing end users at the centre of product development emphasizes Creative Director Øystein

Johnsen: "We include user groups who traditionally have been difficult to involve in the development process, so we can customize the products for them. And, as we succeed in enabling these groups to communicate better, they give us more precise feedback on their needs."

Abilia is carrying on with its intense development efforts – both to improve the lives of persons with reduced functionality or mobility and to meet the societal challenge of an increasing proportion of elderly people.

"We aim to lead the world in technical aids for cognition, communication and control of the surroundings," asserts CEO Bjørn Arntzen. The company is already the largest in IT aids for disabled persons in the Nordic region and is well on its way to being number one in Europe as well. But we are also looking at applying our experience to improving home care for the general elderly population. Thus we are developing fall sensors and automatic lighting systems as further aids which we hope will make a major contribution to tackling this growing challenge."



Photo: Abilia

8-year-old cerebral palsy sufferer Synne shows the difference Abilia's Rolltalk has made to her life.

ROLLTRAK TRANSFORMS SYNNE'S LIFE

Synne is eight years old and lives with cerebral palsy. She can move only her arms, and speaking is a struggle – making it difficult to express her thoughts. Thanks to the Abilia product Rolltalk, however, she can express herself verbally and participate independently in school and recreational activities.

Rolltalk has a touchscreen that Synne can control. By touching different zones on the screen, Synne tells the de-

vice what to say for her. Rolltalk acts as her voice. It also allows her to adjust and drive her wheelchair, send text messages and e-mail, and operate her TV, games and other devices.

2 000 people are already using Rolltalk, many of them Norwegian children with reduced mobility.

Thanks to the Abilia product Rolltalk, however, she can express herself verbally and participate independently in school and recreational activities

MEMOPLANNER GIVES INDEPENDENCE

The MEMOplanner product series features a simple user interface to enable people with mnemonic disorders to plan their day independently or in cooperation with others. The aim of the aids is to enable the elderly to remain living at home longer if they wish to do so.

www.abilia.no





Photo: Nye Ahus

The MIE2011 Medical Informatics conference will be held in the stunning Ahus Hospital, one of the most modern in Europe.

MIE2011 VILLAGE COMING TO TOWN

More proof of the growing international recognition of Norwegian medtech expertise comes with the announcement that MIE2011, the 23rd International Conference of the European Federation for Medical Informatics, will take place in Oslo on August 28th – 31st 2011.

One particular aim of the MIE2011, which attracts 400+ delegates is to ensure that the potential of eHealth applications are fully explored through the “MIE village” initiative, which is being organized with input from medical technology clusters

in Norway, Scandinavia and Europe. Under the Village Initiative, presentations of prototypes, innovative products and project results from smaller Nordic companies are being encouraged together with ongoing academic R&D projects with commercialization potential. EU-funded R&D eHealth successes will also be presented. Larger established companies, while excluded from the village initiative will still be able to participate in the commercial Exhibition.

Further details at the website: www.mie2011.org

CHINA ON OSLO MEDTECH'S MIND

Oslo Medtech hopes to build on the success of a recent mission to Shanghai during the World Expo. Some 8 companies and St Olav's Hospital from Trondheim took part. All reported important new contacts had been made for follow-up, with two companies signing actual contracts. "This was the first step in a China strategy," says Oslo Medtech's director Kathrine Myhre. "We are now putting together a Navigator project with Innovation Norway which will look more deeply into the needs of some 8-10 Norwegian Medtech companies. Also we are building links with the Nordic Industrial Park in Ningbo, south of Shanghai, which offers an ideal gateway for companies looking to establish themselves in China."

I wish I had

One of the innovations of Oslo Innovation Center was an open forum organized by Oslo Medtech where local health authority leaders shared their wish lists with medtech specialists. Top of the agenda was how to cope with the ageing population and in particular increase home care. Several project ideas come out of the meeting. One project example, brought forward by Abilia, involves devising sensors for typical Norwegian homes and small apartments to monitor, for example, falls and alert a call centre. Oslo Medtech now plans to hold these "I wish I had-forums" on a regular basis.



The Nordic Industrial Park in Ningbo provides the ideal launchpad for Norwegian medtech into China.



"We are now putting together a Navigator project with Innovation Norway which will look more deeply into the needs of some 8-10 Norwegian Medtech companies."

SWISS AND NORWEGIAN MEDTECH CLICK

The Swiss and Norwegian medtech sectors found they had so much in common following a recent state visit to Norway that a new joint seminar to be held in both Norway and Switzerland next spring has already been agreed. Representatives of the Swiss medtech sector which numbers over 700 companies, heard presentations by Laerdal Medical, GE Vingmed Ultrasound and Dynal as well as visiting the Interventional Centre (IVS).

Follow Oslo Medtech on their website: www.oslomedtech.no



The Swiss president recently led a highly successful visit of Swiss Medtech companies to Norway.



Photo: Smartfish

Two firm believers in the merits of Smartfish are Magnus Carlsen, world chess No 1 and snowboarding legend Terje Håkonsen.

DIVING DEEPER INTO MARINE OIL HEALTH CLAIMS

From ADHD and autism to dementia and Alzheimer's, marine oils and their claimed health benefits are rarely out of the news these days. However, many of these claims are red herrings, driven by marketing needs rather than based on solid medical research. Smartfish is a Norwegian biotech company developing synergistic omega 3 based emulsions that aims to back its products with more substance.

Founder Janne Mathisen, believes the evidence is there but needs to be harvested through proper clinical studies: "Before we even start doing trials the issue of oxidation needs to be addressed. Marine oils are notoriously difficult to incorporate into formulations for nutritional purposes since they are highly susceptible to oxidation, or rancidification, which severely affects their nutritional value. Industry has sought to deliver omega-3 products that are unaffected by sensory issues, primarily by way of encapsulation or in the form of premade emulsions and powder but to date none of these techniques have resulted in solutions containing even minimal daily requirements of fresh omega-3."

According to Mathisen, the solution is to create high EPA & DHA-content juice-based cocktails of not just Omega 3 but also other specific nutrients: "Not only does this prevent oxidation, but our studies also show that there is a synergistic effect and the cocktail matrix provides more health benefits than if its individual components are taken separately."

The company already has had success in Norway with consumer drinks and is now aiming to expand through the clinical nutritional market. "To do this we have just launched the first products in our NutriFriend range. Smartfish NutriFriend 1100 especially developed for cancer cachexia patients, and NutriFriend 600 for general malnutrition."

Meanwhile Smartfish, is awaiting results from 3 major trials on different areas of interest and commencing 2 others:

The Mauritius Trial – due December 2010, run by world leading behavioral studies expert Professor Adrian Reine of the Department of Criminology, University of Pennsylvania, looking at the effects of nutrition on cognition and behaviour in 200 children with 100 taking one cocktail per day.

The Philadelphia Trial – again run by Adrian Reine and this time looking at the effects of nutrition supplements on moderating aggression in young people in the US.

The Athletes Study – studying the effects of Smartfish on performance, endurance and recovery in elite Norwegian athletes. Run by the Norwegian University of Sports Science with the results due by the end of 2010

The Alzheimer Trial - run by Professor Tormud Fladebo, Head of Neuroscience in Ahus hospital, Oslo looking at the ability of Smartfish cocktails to strengthen the immune systems of early Alzheimer's (MCI) patients. The first results are highly encouraging showing clearance of beta amyloid was improved and a larger trial aiming to prove the value of an early AD screening and medical nutrition programme is being planned.

"In addition we are very excited about a new pilot study in the US and Norway being planned by leading expert Professor Marthe Herbert at Harvard on the effects of our products on treating autism. We have actually been approached by many parents with autistic children with anecdotal reports on the beneficial effects on our original Smartfish consumer drinks and decided to follow this up properly," continues Mathisen. "The first scans of patients are already showing improvement in brain patterns and our hypotheses is that there the nutrients are clearing out some environmental toxins."

As these studies report, Smartfish is in the position to immediately respond to demand. Drink production is easily scalable, and only limited modifications to standard high volume production lines are needed.

More information at www.smartfish.no



Photo: Aleck Jonsaas

The Smartfish founding team: Jens Nordahl, Janne and Henrik Mathisen.



Photo: Richard Hayhurst

Bjarte Frøyland sees smartphone applications as one of the keys to introducing cost-effective home care.

OSLO ICT NETWORK TACKLES HOME CARE CHALLENGES

Just as in other countries Norway is facing the challenge of an ageing population. A political consensus is now emerging in Norway, on how to deal with this explains Bjarte Frøyland of the Oslo ICT Network. "It is estimated that we will soon need one in three of new people entering the workforce working for the elderly, which is clearly untenable. Furthermore, we are going to run out of beds in existing hospitals in as little as 5 years. So the government has decided that we will need to prioritize accelerating and expanding home-based care. This will only be provided through a public-private partnership, with independent players included in the game. They will provide the new ideas and solutions needed, not only technically, but also the political and social innovations. Oslo ICT meet these requirements, with a broad scope on technologies that will enable and ensure delivery of at least the minimum acceptable standards of nursing care to patients at home.

The ICT Network drawing on a wide range of experts has devised a three-phase policy:

- Empowering home visit nurses by putting for example prescription and other information on smartphones
- Establishing home health observation and monitoring systems for the elderly
- Developing smart housing

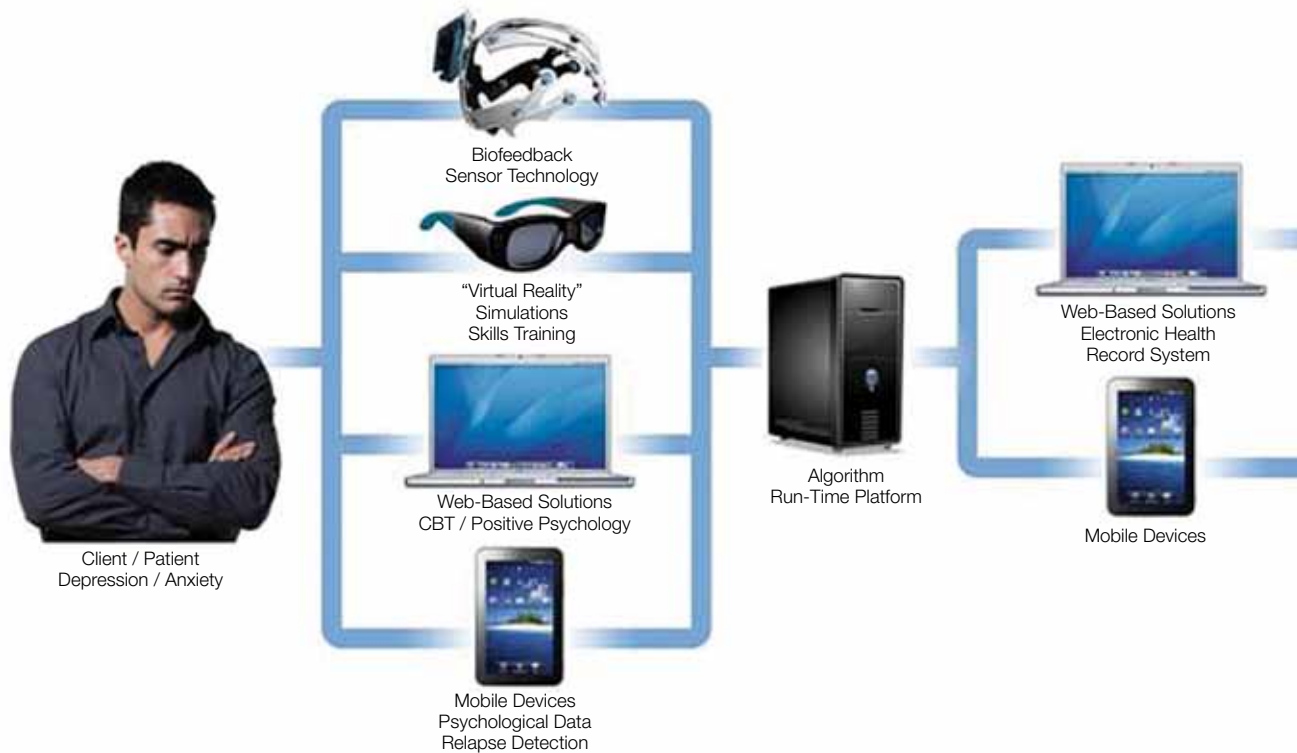
"Prescription information was a logical place to start since Norway was on the first countries to deregulate pharmacies. We are now initiating a pilot in Norway for early 2010 with a target to follow up in Sweden and the rest of the Nordic areas in 2011 and 2012. Following patient consent, nurses are able to receive up-to-date information on prescriptions to the smartphones. Till now this has been a major problem with at least 3 out of 10 home visits being wasted because of wrong information. If successful, we see opportunities to expand the idea to other soon-to-be deregulated markets such as Germany, France and Japan.

Another area, Oslo ICT is looking at is dementia care and discussions are underway with the Nansen Neuroscience Network on how to employ GPS tracking of patients.

"Current we have some 15-20 apps in mind that could by themselves have a considerable impact if you also consider that there are over 700,000 smart phones in use in Norway. As ICT rather than medical specialists, we see the key as being to introduce generic solutions that can be broadly adapted – for example the bank card system is not proprietary to a single bank and yet can be tailored to individual needs," continues Frøyland. "We thus hope to export our ideas abroad and welcome ideas for collaborations.

For more information visit www.oslo.teknopol.no

Total Wellness Monotoring and



Changotech's vision is use technology to give patients access to interactive cognitive behavioural therapy and treatment for a variety of conditions and diseases.

YOUR COMPUTER AND MOBILE CAN CHANGE YOUR LIFE



Photo: Richard Hayhurst

CEO Erik Rosen's personal favourite is the stress management programme which for some reason features a tiger!

The world of mobile apps has exploded recently with Oslo-based Changotech in the forefront of delivering interactive psychological therapy programmes via the internet to PCs and mobile phones. Primarily used to treat addictions, such as smoking, and depression, Changotech is also now exploring their use in new areas such as medication compliance, dieting, stress management and well-being. Oslo Bio Update caught up with CEO Erik Rosen on the eve of their stress management and well-being programmes being launched direct to the public by Telenor, the leading Norwegian mobile provider.

“We offer a suite of interactive SW programs and algorithms that use Internet and cellphone technology to change behavior in patients thus supporting disease management, prevention and lifestyle change.

We see a global mental health challenge. Depression is one of the leading causes of global disease burden, and before the year 2030, it will affect more people globally than any other disease. This is a very exciting time for us. Changotech

Solutions



General Practitioner
Psychologist / Therapist

Illustration: Changetech

EVENT CALENDAR 2011

Meet representatives from the Oslo life science sector at the following events:

FEBRUARY

23 – 25 Bioprospect 2011, The 5th International Conference on Marine Bioprospecting, Tromsø, Norway
www.bioprospect.com

MARCH

1 Science: Basis for the 21st Century Marine Industries/NASF 2011, Oslo, Norway
www.nor-seafood.com

APRIL

13 - 14 BaSIC Oslo Road show, eHealth meeting, Oslo, Norway
www.basic-net.eu

JUNE

15 EPIC 8 European Partnering and Investment Conference
www.epicbiotech.com

27 – 30 BIO International Convention 2011, Scandinavia Pavilion, Washington, USA
<http://convention.bio.org>

started 4 years ago as a continuation of our previous company Happy Ending, which had developed a smoking cessation programme for Pfizer based on insights of leading psychologist Professor Pal Kraft from the University of Oslo. “We saw that the basic idea which involves helping patients successfully navigate yes/no points in decision pathways by remote interactive means and without the need for an actual therapist could be applied to other areas. Changetech has since its inception invested heavily in R&D with support from the Norwegian Research Council and in industrializing production and distribution by building SW infrastructure”.

To date these other areas have included the following programmes:

- Alcohol Reduction for the Norwegian Ministry of Occupational Health/AKAN
- Better Living with ADHD for Janssen-Cilag
- Healthy Heart for the Mills food company

Others in the pipeline include prostate cancer, MS, parenting ADHD children, asthma, HIV, rheumatic disease, post-natal depression and stress management.

“The possibilities are endless,” continues Rosen. “Furthermore, both patients and providers benefit. Patients have 24/7 confidential access to highly personalized programmes. Providers on the other hand are able to cost-effectively and safely reach, treat and monitor a vast number of patients/consumers – as the Total Wellness Monitoring diagram here shows.”

Following its recent success Changetech is now looking to expand its international operations. The programmes can easily be translated into different languages.

For more information visit www.changetech.com

SPERMATECH AS

Spermatech aims to make the male contraceptive pill a reality. Founded in 2002, after 8 years of research, the University of Oslo spin-out has now identified a clear compound lead which it now intends to optimize for pre-clinical and Phase I studies.

BUSINESS IDEA

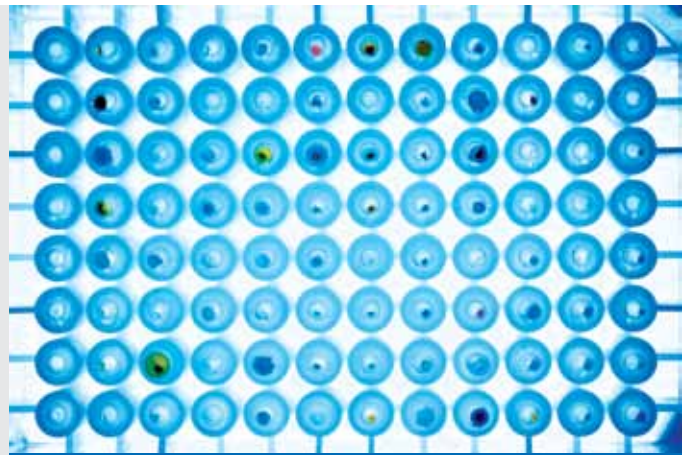
To develop reversible non-hormonal male contraceptives. Research has been focused around identifying the sperm-specific proteins, which are crucial for sperm motility, and developing chemical compounds, which inhibit their function. The potential market is estimated at several billion USD.

PROGRESS TO DATE

Spermatech has screened Evotec's library of over 300,000 chemical compounds and developed a lead compound. It appears to "stop the sperm tail wagging."

MANAGEMENT

Eirik Næss Ulseth, Chairman; Ken Rosendal, CEO; Professor Bjorn Skålhegg; Professor Tore Jahnsen; Tuva Hereng



Spermatech have identified a sperm motility blocking protein through HTS.

Photo: Spermatech

INVESTORS

Verdane Capital, private investors

PATENT POSITION

Patent applied for lead compound

NEXT MILESTONES

Lead optimization and IND to be completed by 2012

OPPORTUNITY

USD 10 million fundraising to finance lead optimization, IND and Phase I trials

www.spermatech.no

Oslo Teknopol

- your key to the Oslo region

Oslo Teknopol aims to stimulate innovation and attract foreign investments and talent to Norway's capital region. We offer free assistance and information about business conditions and opportunities within life sciences and other key knowledge-based clusters in the Oslo region:

- Maritime
- Energy and environmental technology
- Information and communication technology
- Life science
- Culture

Oslo Teknopol is a non-profit regional development agency, established by the City of Oslo and Akershus County Council.



Oslo Bio is a collaborative network of stakeholders from the life science cluster. Oslo Bio aims to strengthen the cluster and contribute to long term growth through marketing, initiating and facilitating development projects, and international collaboration. Oslo Teknopol act as the secretariat for Oslo Bio.

For more information contact:
Oslo Teknopol at info@oslo.teknopol.no

