

OSLO BIO UPDATE

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

eHEALTH FOR A SUSTAINABLE GROWTH

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The views presented are those of the authors and do not necessarily represent the official view of the European Commission on the subject.

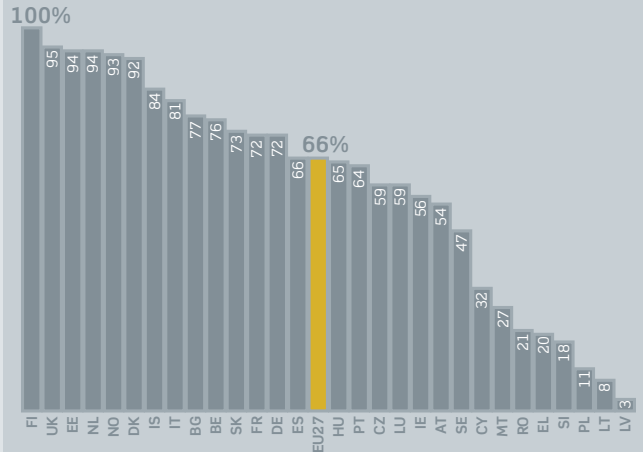
Why is the eHealth sector so important?

eHealth is one of the major tools that will enable us to make health delivery systems sustainable in the near future, when patients will be even more demanding and the ratio of workers to pensioners will change from 4 to 1 as of today to 2 to 1 in only few decades.

eHealth will not achieve this ambitious goal only by focusing on health delivery systems, but mainly by providing tools for individuals to manage healthier lifestyles as well as tools in the hands of patients and their relatives to have a better 'response-ability' to their health conditions (as opposed to just having responsibilities on what they eat, drink, smoke etc).

If we assume that there are three major factors determining our health, namely nature (also referred to as 'endogenous determinants', such as genetic predisposition), nurture (also referred to as 'exogenous determinants', such as physical/social environment and lifestyle) and quality & capacity of health delivery systems, then eHealth has the potential to bring advances on all three factors (not only on the third) by interlinking them and bringing added value to individuals, society and economy.

EU GPS USING A COMPUTER DURING CONSULTATION, IN % (EC STUDY 2007)
 Random samples of 6,789 GPs in 29 countries



Source: empirica: ICT and eHealth use among GPs in Europe 2007, Bonn April 2008

In terms of market size, the European eHealth industry has leading positions in emerging fields such as personalised health systems, medical equipment and in several sectors of integrated eHealth solutions. The focus is on two main areas, telemedicine/homecare and clinical information systems in the primary healthcare sector.

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Photo: Nye Ahus



Ahus matches the highest standards of patient care and hygiene with a friendly welcoming feel.

EUROPE'S MOST MODERN HOSPITAL OPEN FOR BUSINESS

It's not only the new Opera House in Oslo that is attracting admiration worldwide. Visitors to pHealth 2009 will also see the "Ahus" Akershus university hospital, which is already being recognised as setting new standards in hospital design. One of two hospitals at the Oslo Medical School, Ahus will be the biggest acute hospital in Norway providing its catchment area (approx 500 000 inhabitant in 2015) 80 to 90 % of all specialised health care services.

However according to Stein Vaaler, Deputy Managing Director, Ahus is not just a stunning design: "We aim to be the most patient focused and friendly hospital in Norway and to be Europe's most hi-tech, innovative and effective university hospital. This will be achieved by innovation focused on improving clinical pathways in cooperation with all stakeholders - users, public and private interests."

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Operating theatres feature the latest equipment.



The hospital design allows for ample open space and relaxation areas.

Photo: Nye Ahus

LEADING TECHNOLOGY

The list of innovations already implemented is impressive:

- Smart cards
- Electronic medical prescription
- Tube transport
- Bedside patient identification
- Automatic guided vehicles
- High resolution radiology
- Complete electronic journals with speech recognition

Along with St. Olav's Hospital in Trondheim, Ahus is also one of the first fully digitalized hospitals in Norway through a collaboration with HP and Telenor.

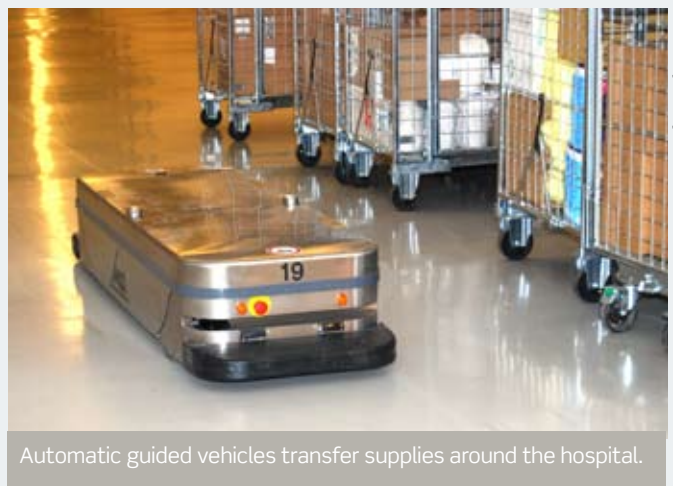
Ahus thus represents the latest highly attractive tested the Norwegian health infrastructure offers medtech companies looking to trial the kind of innovations showcased at pHealth and will be a key member in a planned new medtech cluster initiative Oslo Medtech Network.

WIRELESS BUT PERFECTLY TUNED IN - THE OSLO MEDTECH NETWORK

The Oslo Region is home for a diverse group of medtech companies. It dates back to 2007 when Innovation Norway took the initiative to form a network for the medtech industry sector. This was met with enthusiasm from regional companies as well as other NGO agencies supporting SMEs in their innovation and business development. The informal network soon proved itself able to address the issues found as common challenges for small and medium large medtech companies.

CURRENTLY NETWORKING FOCUSES ON THE FOLLOWING ISSUES

- Improving access for supplier companies to the hospital sector and develop better customer relationship within the medical technologies market in the Oslo Region.
- Stimulating cooperation and coordination between the hospital sector, R&D institutions and medtech companies in the health care area to boost innovation.
- Facilitating access to the hospital sector for clinical testing of new products
- Collaborate on regulatory and QA issues connected to international approval processes
- Cooperating on common challenges in international marketing, reimbursement and adopting to new markets to improve market achievements
- Sharing and diversify R&D costs to improve profits



Automatic guided vehicles transfer supplies around the hospital.

Photo:bjørn Dyfseth

WIDE-RANGING ACTIVITIES

Today Oslo Medtech Network members (today app. 40) represent various market segments and technology levels. These networking companies meet in different settings:

- Market study tours and joint ventures at fairs and exhibitions abroad
- Seed capital and "meet the investors" events
- Meeting places discussing best practice and hands on experiences in managing IPR
- Subgroups exchanging experiences within "QA and Regulatory"
- A forum where network members meet representatives of the hospital sector learning about their future needs and expectations in med-tech area.



I. Iakovidis, European Commission, Information Society and Media Directorate-General, ICT for Health Unit.

The eHealth sector has a number of large European-based companies of specialised eHealth solutions that are world leaders in their fields as well as an estimated 5,000 European small- and medium-sized enterprises (SMEs) that operate in various sub-sectors of eHealth.

The health sector in the European Union (EU) employs

almost 10% of the total workforce and corresponds to almost 9% of gross domestic product (GDP). Health spending is rising faster than GDP and it is estimated to reach 16% of GDP by 2020 in OECD countries. Taking into consideration that, on one hand, over the last 25 years healthcare has fallen progressively behind other service sectors in terms of relative levels of ICT investment and, on the other, ICT investment has been a main driver of productivity gain in other sectors, the societal interest of this lead market area becomes obvious, all the more so, as the ageing population will increase the strain on health systems.

In an ageing Europe, where more and more citizens live with chronic diseases, eHealth and telemedicine in particular can help to make the difference in facing the global challenge posed to health systems by an increasingly heavy burden of demand for service. The European Commission realises this potential and intends to exercise leadership in fostering the deployment of eHealth applications on a large scale.

How is the eHealth sector going to develop over the next few years?

As mentioned before, emphasis will slowly shift from automating health delivery systems to provision of specific tools, such as the 'Personal Health Systems' (PHS) and the corresponding services, to health professionals (who are not involved yet) and patients.

European eHealth market size in 2008 was EUR 17.4 b and is projected to reach EUR 20.9 b in 2012, corresponding to an annual growth rate of 4.7 %. This is an estimate based upon several sources about the EU eHealth market size.

What are the most exciting developments in your opinion at the moment?

ICT for Predictive Medicine (also referred to as "Virtual Physiological Human", VPH) is a research area focused on disease simulators and "in silico environments" for prediction and early diagnosis of diseases, developments of new treatments and new medical devices. It has the potential to strengthen the innovation of the pharmaceutical and medical devices industries – traditionally strong in the EU.

Huge amounts of data are generated by the pharmaceutical and medical devices industries in development and trials of their products, and by medical professionals recording treatments of individual patients and their outcomes. Only a small fraction of this wealth of data is used to contribute to the development of safer treatment options applicable to individual patients. That is because potential users only have access to a small proportion of the data available and because they do not have appropriate tools to process it.

ICT tools are essential both to gather such data and to analyse it. The concept of a Virtual Physiological Human is a sophisticated computer modelling framework, which compares observations of an individual patient and relates them to a vast dataset of observations of others with similar symptoms and known conditions. By processing all this information, the model can simulate the likely reaction of the individual patient to possible treatments or interventions. Such tools will not only improve the quality of treatment offered to patients who are already ill or injured, but could also be used in preventive medicine, to predict occurrence or worsening of specific diseases in people at risk, for example through family history.

What is the EU's interest?

For twenty years the European Commission has funded research on eHealth systems and tools, including telemedicine. Since the adoption of the eHealth Action Plan in 2004, the Commission's role has broadened to include policy support to the deployment of eHealth, recognized as key factor towards better quality, safer and more efficient health systems.

The European Commission intends to exercise leadership in providing Member States with guidance on eHealth-related matters, encouraging coordination of efforts and addressing legal and other problems of cross-border care. The European Commission recognises that eHealth can help Member States manage the cost of care, extend healthcare to more patients and improve the quality of care, especially for chronically ill patients.

The European Commission also recognises the business opportunities that eHealth offers to European companies, the sector having been recognised as one of the 'lead markets' in the EU, potentially capable of catalysing the need for innovation felt by health systems into large scale deployment of new business models.

What actions are you taking to develop the sector?

Acting in the structured framework of several policy initiatives started in 2004 with the eHealth Action Plan (COM 356), the European Commission has recently addressed in its Communication on Telemedicine (2008, COM 689) the main barriers that need to be overcome in order to facilitate greater deployment of telemedicine in particular, focusing the EU agenda on three key issues:



Photo: NST

Photo: Sinterf

Photo: NST

The pace of innovation in medical diagnostics and devices is accelerating with more and more emphasis on “personal” applications that can be used outside the traditional hospital setting in for example doctors offices and the home. Norway has a number of innovative companies in this field on display at pHealth.

Actions to develop the sector

1 Increasing confidence and acceptance of telemedicine services – Awareness by the users –health professionals in the lead– of the benefits of telemedicine is a crucial success factor. Only the buy-in of users will allow a seamless integration of telemedicine into the mainstream of health care delivery.

2 Gaining legal clarity – Right of establishment, accreditation and authorisation schemes for the provision of telemedicine services, as well as issues regarding liability, recognition of professional qualifications and health data protection, are among the areas which require legal clarity, both at EU and at national level.

3 Overcoming technical issues and supporting market development – Although technical obstacles to telemedicine are diminishing fast, some major challenges remain, such as ensuring interoperability between devices and other clinical systems, as well as enabling full connectivity in all areas, ranging from urban, densely populated communities to remote, rural, sparsely populated areas. Funding a large scale pilot on telemedicine to be carried out as a multi-centre clinical trial throughout Europe is a main ongoing step.

What are your impressions of the Scandinavian eHealth scene - and what role do you see Norway playing?

Scandinavian countries are leading the world in deployment of IT especially in the primary care sectors. They need to get more confident in telling (selling) the story to the world especially the biotech sector. On the other hand they should realise that the achievements so far are just a small step in more important target – to bring people in this networked systems and to provide ‘response-ability’ services to individual and groups of patients (e.g. chronic disease patients) by making PHS tools and services available throughout health and societal care structures. The ultimate goal will be to turn the goldmine of health related data currently collected into a powerful tool for public health and research capable of giving “evidence” a new meaning in the health arena.

The biotech sector of Norway should be more aggressive in the EU and the global scene and promote the label of “experienced” that not so many emerging competitors can exhibit.

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