Health innovations generate welfare and growth in Halland
An increasing number of people are growing older, both in Sweden and in Europe. The EU framework programme Horizon 2020 highlights health, demographic changes and well-being as some of the major challenges of the future. In order to improve the health and welfare of people, and to cope with health and social care, new health technology solutions and work methods are required. At the same time this creates a large market for innovations – for new products and services.

For more than ten years health technology has been an area strongly gaining ground in Halland. Together with companies and public players, Halmstad University has worked to develop this as a growth area. And Halland is well on its way!

Through Health Technology Centre Halland, 120 projects have been under way in collaboration with some 90 companies, 40 new products and services have entered the market and 12 companies have been established in the county.

Between 2009 and 2013, Health Technology Centre Halland was a project-financed business operation, located in Halmstad University, with funds from EU Structural Funds and Region Halland. It was a strategic investment in health technology and growth, with a focus on supporting the region’s companies (but also individual entrepreneurs) in their work on developing new or improved health innovations.

The business operation, which also continued after the EU project duration, has been highly successful. The base comprises a project workshop, where we in collaboration have developed new ideas, products and services – all with the aim of increasing competitiveness and strengthening innovative capacity of the region’s health technology companies.

The work method of Health Technology Centre Halland is unique, as well as the creative environment. The key of the work method is diversity and multidisciplinarity. Based on identified needs and problems, different types of expert support and skills are provided. All with the user in focus.

Health Technology Centre Halland captures needs and creates innovations in interplay between research, industry and market.

“… Halland and Bike Around stand out and grab all attention …”

Lars Danielsson, Sweden’s Ambassador to South Korea about his impression when he inaugurated the innovation exhibition Innovative Sweden in Seoul in November 2013
Health Technology Centre Halland – HCH

Results 2009-2013

Health Technology Centre Halland in media
• “Bike Around should bring back memories – new technology helps the elderly with dementia problems”, GP on 5 January 2014
• “Androchair – gynaecologist chair for men”, TV4’s programme “Jenny Strömstedt” on 20 February 2013
• “The Androchair turns around the perspective,” SVT’s programme Kulturnytt on 7 March 2013
• “Bike Around …”, SVT’s news programme Rapport on 21 September 2013
• “Google buys Bike Around”, Computer Sweden on 9 November 2012

180 company visits 120 projects
93 company collaborations 40 new products and services 34 new jobs
12 newly-started companies 8 demonstrators 2 patents 40 degree projects
10 degree programmes with the “theme health innovation” 35 scientific articles
133 articles and features in press, on radio and TV.

National collaboration partners
New Tools for Health
MedTech West
Sahlgrenska Academy
University of Borås
Research institute Imego
SVID, Swedish Industrial Design Foundation
Kairos Future
Nano Connect Scandinavia
Swedish Association of Local Authorities and Regions (SALAR)
Smart Textiles

International collaboration partners
Techna Science in Copenhagen, Denmark
Research institute INRIA Bordeaux, France
University of Genova, Italy
Newcastle University, UK
University of Limoges, France
Oregon Health and Science University, USA

Bike Around among “Top100” innovations on the global market
Money Today Media Group in South Korea has voted the rehabilitation solution Bike Around as one of the 100 leading innovations on the global market. Sensational product innovations in both Europe and the U.S. have been selected and studied. The results were presented on K.E.Y. Platform in April 2014 in Seoul, South Korea.

Source: www.keyplatform.or.kr
Good examples of collaboration

In order to find relevant problems which can be converted to development projects, Health Technology Centre Halland – HCH – works closely with companies, users, health and social care organisations and researchers. The result of needs identification may be projects, which support market introduction of new products and services, or projects that further develop existing products and services. It may also involve pioneer projects where researchers in collaboration with organisations and companies contribute to finding genuine new solutions or foundations for an innovation procurement.

identify needs → pilot study → projects → new products and services → welfare and growth
in collaboration between companies, the University, municipalities and the region.

Demonstrators

One of HCH’s most successful activities is the demonstrators. Both the demonstrators and the work on developing them have been innovative in several respects. A demonstrator is a product or service which has not been completed yet, which is visualised through a prototype or concept. They allow you to practically test a product or service – and communicate about it. Demonstrators create opportunities to show how a new or existing technology can be used to support individuals and health and medical care systems, and how it could contribute to better health and life quality. The demonstrators have been highly appreciated. They have inspired both researchers and health and social care personnel as well as users and family members.

Bike Around

Bike Around is an exercise bike which the user can lead anywhere they prefer with the help of Google Street View. Bike Around encourages physical and social activity among people with dementia, with the aim of preventing the development of the illness by stimulating functions which work. People with dementia often find it difficult to perform different activities and easily become passive. Individually adapted physical activity can prevent this. However, new exercise tools which motivate and encourage commitment are required. With Bike Around you can, for example, take a bike tour in the areas you grew up in. Bike Around started as a collaboration between HCH and Techna Science in Copenhagen. The concept was developed through workshops with researchers, entrepreneurs and those operational within the fields of dementia care, physiotherapy, occupational therapy and IT development. Bike Around has attracted a lot of attention at exhibitions around the world, including exhibitions in Tokyo, Shanghai, Toronto and Berlin. Now Bike Around is a product on the market and has been named jDome Bikearound.

"... it's connection, it's meaning. It's the simple act of getting on-line, making all of our lives better ..." 

Eric Schmidt, Google’s Chairman of the board of directors about Bike Around at Zeitgeist Europe 2013, the gatherings of top global thinkers and leaders.
Collaborations

Androchair
Since the onset, HCH has worked to integrate the gender perspective in the business operations. The Androchair is a demonstrator which highlights the gender perspective within the area of health technology, problematises and highlights needs, and contributes to showing how the gender perspective can benefit innovation processes. The concept for the Androchair originated in the project Hälsoformer & tekniknormer (Forms of Health & Technological Norms), where questions such as “whose needs are prioritised,” “where are the neglected needs,” and “how can perspectives and designs critical to norms jointly highlight these needs,” were asked. Now the work on the research project “Origo – design as an actor for gender conscious change and innovation” is continuing.

Home help service 3.0
Home help service 3.0 is a concept in the form of an IT based service platform with applications for elderly care, which aim to increase the efficiency and flexibility in the business operations and facilitate the introduction of new technology. It is developed for home help service personnel by home help service personnel. The home help service is a complex business operation, where a range of different IT systems for documentation, planning, scheduling, reporting, invoicing etc. are used. There is a need for integrated administrative systems for the entire process of home help service, which can also serve as memory and communication aid for staff in the daily work with, for example, calling nurses or family members, ordering food, collecting and delivering keys and monitoring telephone times. Through the demonstrator Home help service 3.0, decision-makers have gained insight into the possibilities of technology to create new, innovative and supportive communication and information handling for personnel within the home help service. Collaboration has taken place with several municipalities in Halland, where Laholm municipality has been a driving force.

The intelligent bed
The intelligent bed visualises what is possible to measure in the bed environment with the aid of “invisible” technology in order to, for example, support night patrol operations within elderly care. The bed has sensors and can measure, among other things, heart frequency, breathing frequency, weight and centre of gravity in the bed.
Products and services

CYTO365 – a fail-safe valve for cancer treatment
Most cancer treatments involve infusion of several cytotoxic medicines which should be given in the right order and that must not be mixed. In addition, salt solution should be given before, after and in between. Cytotoxic medicines must be separated as they can otherwise strengthen or weaken and salt crystals may form in the circulatory system, which may lead to blood clots. CYTO365 is fail-safe and prevents blood clots and air embolism in patients receiving treatment with cytotoxic medicines. CYTO365 won the regional finale in Venture Cup West 2011 and the inventor Micael Törnblom was awarded SEK 200,000 and a place in the national finale of Venture Cup in the same year. Micael Törnblom got the idea for CYTO365 when his girlfriend was undergoing treatment at the hospital.

Safe at night – technology for greater safety
The bed project (see page 5) resulted in the project “Safe at night.” Many elderly who live at home have night supervision, which means that night personnel visit the person, ensure that they sleep and that nothing has happened. Night supervision is an important activity which creates safety for both customers and family members. Together with the municipalities of Falkenberg and Halmstad and the company Neat Electronics AB, HCH has investigated how technical solutions can supplement night supervision and offer greater security and integrity, both for customers and family members. In one year, approximately 15 home help service customers of Falkenberg municipality had technical equipment at home. Data concerning activity patterns was collected and analysed. The study also included interviews with people who have night supervision, family members and staff in order to find out how technology affects everyday activities and work. The premise was that technology may not interfere, but should intrude upon personal integrity as little as possible. Cameras have not been used. “Safe at night” has been developed further to a research project funded by the Knowledge Foundation.

ActiveMeter
Together with HCH and Halmstad University, the company Tappa has developed a completely new type of pedometer which measures and registers both activity and the intensity level at which it is performed.

transboundary | user
Food service for the elderly

Studies show that the elderly prefer to shop in stores, and preferably themselves, rather than doing their purchases over the internet. HCH conducted a questionnaire survey among 265 elderly in Varberg municipality: how they do their purchases, when they want to shop, how they come to the shop? At the same time, interest in a service where you get a lift to and from the shop was investigated. The response was very positive. Then Maria Karlsson, who is the Shop manager of Hemköp in Veddige, decided to start such a business operation. She purchased a car with five seats and large space for bags, walkers etc. Since December 2011, Hemköp in Veddige offers to drive their elderly customers to and from the shop in the store’s car once a week. The elderly can also receive help with packing the goods and carrying the bags to the door. Maria Karlsson has been given the award “initiative of the year” by Hemköp.

Swing Ping Pong

The exercise equipment Swing Ping Pong is a new Swedish innovation for children with and without a disability, people with acquired brain injury and for the elderly. Repetitive exercise strengthens and creates new connections between nerve synapses. Swing Ping Pong has patent, pattern and trademark protection. The inventor, Marie Paulson, was nominated for the innovation prize EUWINN Award for Swing Ping Pong in 2013, which she developed in collaboration with HCH, and received the “Special Recognition Award.”

Virtual Trainer

Virtual Trainer is used at gyms and contains instructional videos for several hundred different exercises which inspire and develop exercisers and their exercise. Together with physiotherapists and the innovators behind Virtual Trainer, HCH developed a requirement specification for how the product could be developed and function within rehabilitation and physiotherapy. The possibility of using Virtual Trainer as a supplement for rehabilitation for both patients and physiotherapists was seen. Now the company works with the development of Virtual Trainer and is aiming at more and new markets.
Now, we are taking **Halland** further!

During the project duration a lot has happened at and through Health Technology Centre Halland. We are now expanding the concept health technology to **HEALTH INNOVATION** – because the area is so much more than just technology. The health innovations of the future require a combination of skills from different areas.

Health Technology Centre Halland offers a unique collaboration arena – a physical site – for industry, academia and public organisations. Here, we make ideas come true and promote growth of companies by developing innovations together which improve the life quality of people. Our vision is that **Halland should be a world-class regional centre for health innovation** with multi-disciplinary research and development – based on people’s need for good health. Health innovations which generate welfare and growth.

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**You are a part of it, right?**

Please contact us for more information and dialogue!

Health Technology Centre Halland | Halmstad University

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