

User-driven design of health-it

in a Danish-Chinese context

Background Information

This cooperation proposal describes a common project between partners in Shanghai, China and partners in Central Denmark Region, Denmark.

The project is established on the background of the scientific collaboration agreement between the two regions and is the first specific research and innovation (R&I) project within this agreement.

The project proposal is developed from the common activities that have been carried out between the two regions during the last 1½ years where representatives from industry, research and administration/government in the two regions have visited each other and participated in fruitful meetings, workshops and site visits.

Shanghai partners

The Chinese side will include Shanghai Tanrui Information Technologies Co Ltd as the major party, and Shanghai Jiaotong University Medical College Affiliated Renji Hospital as the demonstration unit.

With the fact that Shanghai is taking the lead on the establishment of the digitalized hospitals as well as the RHIN (Regional Healthcare Information Organizations) in China, some of the technologies and applications being adapted in certain projects are also setting the pace in the global marketplace. However, due to the influences from the domestic healthcare system and the relevant cultural aspects, Shanghai has paid less attention to the customers and end-users. As Shanghai is planning to be the globalized metropolis, and Expo 2010 is coming soon, the city has to apply the international standards for the high-end healthcare services. This requires the healthcare sector to set the customers in the center of the service activities, with which to build the digitized hospitals with optimized operating processes.

On May 25 2009, Shanghai Tanrui Information Technologies Co. Ltd. paid a visit to Horsens Hospital in Denmark, and recognized that this hospital had rich experiences in building Customer-Centric Healthcare Services Information System and relevant process reengineering.

The Chinese side of the project will apply, the Science and Technology Commission of Shanghai Municipality (STCSM) to support the project.

Central Denmark Region partners

The Danish side includes Center for Pervasive Healthcare (Prof Morten Kyng, Head of Centre), the Alexandra Institute, Ltd (Margit Kristensen, Head of Healthcare innovation), Cetrea Ltd (Hans Erik Henriksen, CEO), and InnovationLab (Thea Boje Windfeldt, anthropologist).

Center for Pervasive Healthcare has for 10 years been working with research and innovation (R&I) within the health-IT area. In the activities end-users and companies are involved in all parts of the R&I processes. The user-driven innovation method is the overall method that is applied and members of the centre have made a great deal of research contributions in the area of user driven innovation. Center for Pervasive Healthcare work both with development of future technologies and with further research and development of the methods.

Contents of Cooperation

General Framework

This project will be based on the leading basic technical advantages provided by Shanghai Tanrui Information Technologies Co Ltd in the area of the digitized hospitals, and on the Danish experiences on Customer-Centric process reengineering and application software design. Under such cooperation, Tanrui plan to build a hospital system similar in spirit to what they have seen in Horsens Hospital. This system has to be adapted to the Chinese working situations, healthcare culture etc. and initially be demonstrated used in the High-End Healthcare Services Department of Shanghai Renji Hospital.

The Chinese Hospital sector, with more than 20.000 hospitals and an expected growth of additional 2.000 hospitals before 2011, is the largest public Hospital market in the world. Furthermore, growth is driven by a healthcare reform, which was approved by China's State Council in 2009.

For Danish companies in Central Denmark Region, the Chinese public healthcare system – and the healthcare reform in progress – has some similarities with public healthcare systems in Europe. At the same time, Chinese healthcare is also very different from Danish healthcare when it comes to culture, working situations and healthcare practice.

Creating a new Chinese version of the Horsens solution in cooperation between the Chinese and the Danish partners, is expected to add new value and functionality to Danish healthcare IT products based on Chinese research. Furthermore it will also provide a greater insight into the Chinese market potential for healthcare IT products which companies in Central Denmark Region and Danish companies in general can benefit from.

The project is seen as a pilot project for Cetrea, Caretech and Central Denmark Region on how to facilitate a user-driven research and development cooperation between research institutions and companies in Denmark and Shanghai (China). Furthermore, the pilot project gives the Danish and Chinese partners some insight in how to establish private/public partnerships in an international context. Finally, given the huge market potential involved, the project is expected to provide essential contributions to further growth for the involved partners and companies as well as for the the general development of user-driven innovation in the health care sector in both Denmark and China.

Overall purpose and goals

The cooperation will thus build on a common overall purpose which is:

To increase IT based business in healthcare in both China/Shanghai and Denmark/Central Denmark Region.

And, the more specific goal is:

To develop a product, inspired by the system in Horsens, that will support the healthcare professional end-users in their daily work processes and the patients/citizens in their daily lives. As a part of this, organizational aspects of the work processes in focus have to be analyzed and probably redesigned.

Method of Cooperation

The development process will be build on the user-driven innovation method, Thus end-users (healthcare professionals and patients/citizens) will be involved in, and by that contribute to, development and continuous evaluation of the prototypes/product being developed.

The Chinese partners will:

- Be responsible for the technical development of the new technologies
- Find end-users that will participate in the process
- Be responsible for organizing and carrying out the activities involving the end-users based on the plans developed together with the Danish partners

The Danish partners will:

- Contribute with knowledge on the user-driven innovation processes
- Develop plans for the activities involving end-users together with the Chinese partners
- Participate in selected activities, including activities involving end-users
- Contribute with specific technical skills and knowledge regarding the existing technologies in the Central Denmark Region

- Further development of the user driven innovation methods

After the successful implementation of the project, the results could be promoted to Denmark.

Overall work plan

January - may 2010:

Further development of the Cooperation Proposal, including the common activity plan

June 2010:

Danish partners visit Shanghai, to:

- Carry out initial fieldstudies at the involved hospital, together with Tanrui,
- Have workshop with end-users and Tanrui,
- Have project meetings with the Shanghai partners.

September 2010:

Danish partners visit Shanghai to join first prototype evaluation

December 2010:

Danish partners visit Shanghai to join second prototype evaluation

Early 2011:

Danish partners visit Shanghai to join third prototype evaluation and to present results for interested Shanghai partners

Spring 2011:

Shanghai delegation visit DK to tell about their experiences and outcome of the collaboration project

Estimated costs and financing

Estimated costs		
Date	Activities	Budget (DKr.)
Januar - Maj 2010	Development of project description and organization of the overall workplan	30.000
Juni 2010	Shanghai: field research, project meetings initial	70.000
September 2010	Shanghai: Udvikling og evaluering af første prototype	50.000
December 2010	Shanghai: anden prototype evaluering	50.000
1. kv. 2011	Shanghai: tredje prototype evaluering samt præsentation af resultater	50.000
Sommeren 2011	Danmark: Afsluttende workshop med kinesisk delagation	75.000
Andre udgifter		75.000
Udgifter til den danske del		400.000

*Anslået udgifter til den kinesiske del	150.000
Brutto	550.000

Financing	
Vækstforum	400.000
*Intelray/the Science and Technology Commission of Shanghai Municipality	150.000
I alt	550.000

*Den kinesiske finansiering estimeres til ca. 1/3 af budgettet, da udgiftomkostninger i Kina fremstår som værende mindre