ATHealth center
Development of sustainable capacity of the center for applied technology related to health

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Category: Project
Sub-objective: generation of innovation via addressing unmet needs identified by formal or informal providers of healthcare
Country: Bulgaria

Intro:
This project responds to the need for developing the capacity of faculty interdisciplinary center for applied research and innovative technologies related to health. As a result of project activities the previously missing environment for the deployment of virtual infrastructures, remote sensing and mobile applications was ensured in an university in cooperation with local business. The center became the basis for building a network of virtual laboratories for remote monitoring at national level. The use of mobile devices allows access to the information and equipment at the principle of availability 24/7, which is crucial for the effectiveness of continuous monitoring.

Problem:
Applied research centers in Bulgaria face serious limitations in their activities due to lack of funding to expand the extent of the research programs of applied nature. There are not enough funds for investments in modern equipment, or for upgrade existing infrastructure to optimize the technology to carry out research and development.
The need for technological equipment was the major constraint to the continued expansion of the innovation center in the direction of remote and mobile monitoring is.

Solution:
As a result of project activities the center provides opportunities for the realization of cloud services. Thanks to their base and applying virtual infrastructures it became the basis for building a network of virtual laboratories for remote monitoring. The use of mobile devices is allowing access to information and equipment to implement the principle 24/7, which is crucial for the effectiveness of continuous monitoring in home care. The project created capacity for continuing education nationally in the field of providing distance monitoring of health in home care.
The Center organizes annual scientific conferences «Innovation & Business», an event which brings together professionals from the academia, high-tech business, and organizations involved in healthcare services towards the creation of innovative tools, services, and solutions in support of healthcare activities, improving the quality of life of patients with

special needs, and facilitating the activities of organizations that provide support to patients in their homes as well as to their families.

Quadruple-helix cooperation roles:
The Center facilitates the process of pilot generation of new products, processes and services by cooperation of academia, clinics and SMEs as it became the focal point for regional innovation events attracting academia professionals and business. It ensures the equipment and professionals needed for deploying innovations in applied technologies in health.

- Clinics/hospitals – supply side of innovation ideas
- SMEs – demand side of innovation ideas, producers of solutions
- Research – "Innovation & Business" to generate ideas to be deployed
- Public institutions – part of "Innovation & Business" conferences to generate ideas to be deployed

Impact:
The Applied Technology in Health center carries out interdisciplinary research and technology development activities that consolidate knowledge accumulated in the areas of healthcare, telemedicine, information and communication technology. These activities aim to create high-tech tools and services in support of the prevention, diagnostics, and treatment of diseases with pronounced social significance. The main efforts are focused on the development of advanced methods for breast cancer diagnostics, technological support to the diagnostics of the Alzheimer's disease, the detection of negative emotional states and neurological disorders, stress level assessment etc. The Center coordinates and supports national and international projects, and organizes training courses, workshops, and scientific events. The project is important as an opportunity to create a center supporting the development of e-health within the structure of the University and in partnership with other universities and businesses that provide services in the field of non-hospital care. As a leading partner the Technical University Varna (the second in Bulgaria) links the three key factors needed to build a dynamic economic model, sustainable development and jobs - education, research and innovation, according to the National Roadmap for scientific infrastructure (in Bulgaria) and thus be part of the nationwide interests of the Republic of Bulgaria. The center offers open access of scientists, scientific groups and partners from universities, medical centers and the private sector with the aim of developing joint projects in the field of home care.

Transferability to home care:
The ATHealth center was set-up in order to create the technical and scientific environment for a cooperation between a research entity – university – and formal healthcare providers (clinics and social care providers) along with SME's operating in the field of ICT innovations identifying various cloud-type innovative solutions for remote services. Although the project was focused on applied health technologies segment, the practice could be used also to set up projects specifically in the home care segment, using the model cooperation between research entities and informal care providers, their associations and hospitals.