ICOS-13

ON GOING PROJECT

The ICOS project aims to develop an intraoperative system neurosurgical of navigation through gesture recognition and auto-stereoscopic visualization of patients' data.

ICOS will have three major advantages:

- Undeformed 3D visualization without glasses, in high-definition, of preselected images,

- Real-time interactive navigation through gestures and voice guidance eliminating the need for handling interfaces,

- Calculation and back-up of remote images on high-performance servers to ensure smooth and safe navigation without transferring data from the patient record.

- Technological or scientific innovations

TECHNOLOGICAL OR SCIENTIFIC INNOVATIONS

Scientifically, the ICOS project aims to overcome many challenges and propose innovations relating to use in the:

- Definition of an ergonomic language gesture - voice, intuitive and compatible with robust and multi- user detection by available adapted technological component;

- Inclusion in software production of 3D content with controlled deformation of increased future HD autostereoscopic screens requirements;

- Technical implementation of the necessary deported HPC solutions to ensure in time constrained delivery of desired displays even in complex mode.

- Proposal of graphic 3D modes complementary to the usual modes of 3D visualization to access information specifically sought by neurosurgeons;

STATUS - MAIN PROJECT OUTCOMES

Although it initially concerns the validation of the concept in real conditions and thus qualifies for a prototype , one can imagine the impact that such a system will have in 5 years in terms of:

- public health and the fight against nosocomial infections

- Efficiency thanks to rapid intraoperative recontextualization of the current situation in the patient data as well as gesture previously planned gesture;

- Initial as well as long-term training.

CONTACT

Didier DEBONS
NEO TELECOMS (ZAYO FRANCE)
ddebons@neotelecoms.com
+33.770677293

PARTNERS

SMEs:
ANTYCIP SIMULATION, NEO TELECOMS

Research institutes, universities:
CHU DE REIMS, UNIVERSITÉ DE REIMS CHAMPAGNE-ARDENNE

PROJECT DATA

Coordinator:
NEO TELECOMS (ZAYO FRANCE)

Co-label(s):
Cap Digital Paris Region ;Medicen Paris Region

Call:
FUI 16

Start date:
January 2014

Duration:
36 months

Global budget (M€):
2.1

Funding (M€):
0.6

MammoNExT

MAMMONEXT

Integrating all the recent developments in terms of breast imaging and X-ray guided biopsy in a single piece of equipment would not only improve access to medical screening procedures, diagnosis and biopsy, but also improve the clinical performance of these exams.

The aim of our project is to demonstrate a new generation of digital tomosynthesis imaging of the breast detecting a larger number of early cancers, reducing the number of healthy women recalled for unnecessary diagnostic tests, and reducing the number of negative biopsies, while reducing the X-ray dose to the organ compared to a screening mammography in the same time as improving the experience of women during exams.

The highly original and innovative concept that will be studied and developed will provide flexibility to care centers in their organization, and will offer to women a greater access to a full diagnostic offering available on one site.

The technical obstacles to be addressed, are covering a diverse range of areas such as the reduction of ionizing dose in tomosynthesis, ergonomics and safety of robotic solutions for guiding the biopsy, the quality of kinematic and positioning accuracy in relation with tomosynthesis imaging modes, the immersion of patients in a virtual reality for enhanced experience of examination and a reduction in the perceived discomfort.

The objective of our project is to eliminate all of these risks in the next three years and to build a demonstrator of this new generation of tomosynthesis imaging and guided biopsy. The demonstrator will enable clinical trials, after which will be launched development programs and industrialization of products, during and beyond the MammoNExT project.

TECHNOLOGICAL OR SCIENTIFIC INNOVATIONS

Expected innovations:

- reduction of ionizing dose in tomosynthesis,
- ergonomics and safety of robotic solutions for guiding the biopsy,
- quality of kinematic and positioning accuracy in relation with tomosynthesis imaging modes,
- immersion of patients in a virtual reality for enhanced experience of examination and reduction in the perceived discomfort.

STATUS - MAIN PROJECT OUTCOMES

Expected outcomes:

- build a demonstrator of a new generation of tomosynthesis imaging and guided biopsy,
- run clinical trials to validate new applications,
- launch development programs and industrialization of products.

CONTACT

Serge MULLER
GE MEDICAL SYSTEMS SCS
serge.muller@med.ge.com
+33 (0)1 30 70 48 62

PARTNERS

Large companies:
GE MEDICAL SYSTEMS SCS

Intermediate size companies:
AXE GROUP

SMEs:
SILKAN

Research institutes, universities:
CEA LIST, INSTITUT GUSTAVE ROUSSY, UNIVERSITE DE NANTES

PROJECT DATA

Coordinator:
GE MEDICAL SYSTEMS SCS

Call:
INVESTISSEMENT_DAVENIR PSPC

Start date:
February 2014

Duration:
36 months

Global budget (M€):
14.1

Funding (M€):
5.4

MelanOpTIC Plus

The MelanOptic Plus project aims at developing diagnostic assistance hardware and software for dermatologists. The system will outperform state-of-the-art approaches in terms of efficiency and ergonomy. Its relatively low cost will make it affordable for a large market share. The following services will be proposed by the MelanOptic system:

- mapping the patients body for skin lesions follow-up;
- help the practitioner to diagnose skin cancers, including melanoma, using medical image devices and software, in an open approach to accommodate external solutions;
- bring to the specialist additional diagnostic information, concerning lesion nature and thickness, using bioimpedancemetry.

TECHNOLOGICAL OR SCIENTIFIC INNOVATIONS

- Image acquisition chain for delivering professional quality images from a low-cost optical adapter, a consumer device type smartphone for shooting and image transmission and correction algorithms images running on remote servers.

- SaaS implementation of image analysis algorithms to recognize melanoma and for improving sensitivity of existing algorithms.

- Improving specificity of recognition through innovative solutions for lighting and multispectral analysis.

- Algorithms for automatically combining a plurality of images to achieve a mapping of the body without the use of body scanners but light and inexpensive means, typically with a Smartphone, the algorithms being processed in remote servers.

- Ability to discriminate cancerous lesions like carcinoma of melanoma with a sufficient sensitivity and specificity for clinical use by the technique of micro-bioimpedancemetry.

- Ability to reliably determine, accurate and reproducible value of the Breslow thickness by using micro-bioimpedancemetry.
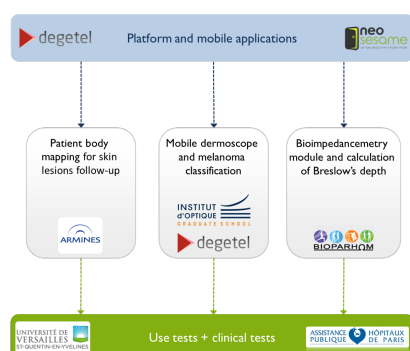
STATUS - MAIN PROJECT OUTCOMES

The kickoff meeting is dated October 24, 2012

CONTACT

David DOOZE
DEGETEL
ddooze@degetel.com
+33 (0)1 41 86 11 59

PARTNERS

Intermediate size companies:
DEGETEL

SMEs:
BIOPARHOM, NEOSESAME

Research institutes, universities:
ARMINES FONTAINEBLEAU, ASSISTANCE PUBLIQUE HÔPITAUX DE PARIS, INSTITUT D'OPTIQUE, UNIVERSITE DE VERSAILLES SAINT-QUENTIN-EN-YVELINES

PROJECT DATA

Coordinator:
DEGETEL

Co-label(s):
Medicen Paris Region

Call:
FUI 14

Start date:
September 2012

Duration:
30 months

Global budget (M€):
5.1

Funding (M€):
1.8

NEXPERTSANTE

ON GOING PROJECT

CONTACT

Anne-Dominique BONTE
META COACHING
adbonte@linecoaching.com
+33 (0)1 57 05 82 88

PARTNERS

SMEs:
META COACHING, SEN.SE, YSEOP

Research institutes, universities:
CHU DE MONTPELLIER, SUPELEC

PROJECT DATA

Coordinator:
META COACHING

Co-label(s):
Cap Digital Paris Region
;Medicen Paris Region

Call:
FUI 16

Start date:
October 2013

Duration:
24 months

Global budget (M€):
2.3

Funding (M€):
1.1

SMART-EEG

ON GOING PROJECT

Neurological diseases affect over 70 million people world-wide. In France only, 500 000 people suffer from epilepsy. According to WHO only an electroencephalograph (EEG) is effective for diagnosing diseases such as epilepsy, trauma, sleeping apnea. Moreover, in 90% of organ transplantation cases, an EEG exam is required to check that the donor is dead. Aging population is also pushing the demand. In the same time the number of specialists is decreasing. Therefore providing a tele-EEG solution appears to be the sole issue to maintain the medical support level needed. Smart-EEG has for goal to provide the medical device, hardware and software, including video sync of the signal, enabling EEG tele- diagnosis.

TECHNOLOGICAL OR SCIENTIFIC INNOVATIONS

This project will bring some breakthrough regarding tracings to image conversion solution, synchronization mechanism and semantic interoperability

STATUS - MAIN PROJECT OUTCOMES

The three year project started in Fall 2013. It will provide the first Tele-EEG solution allowing a better monitoring of people at risk regardless their location.

Developed by 5 SMEs located in Paris Region, it will create the foundation of a set of new generation of medical devices suitable for the EC market.

CONTACT

Sylvain HOCHBERG
CIRA (SOCIETE DE COMPRESSION D'IMAGES EN RESEAUX ET APPLICATIONS)
sylvain.hochberg@waaves.com
+33 (0)9 82 42 35 66

PARTNERS

SMEs:
2CSI, ACACIA FRANCE, CIRA, MEDISSIMO, PARTELEC

Research institutes, universities:
ASSISTANCE PUBLIQUE HÔPITAUX DE PARIS, EPSCP, UNIVERSITE PIERRE ET MARIE CURIE PARIS 6

PROJECT DATA

Coordinator:
CIRA (SOCIETE DE COMPRESSION D'IMAGES EN RESEAUX ET APPLICATIONS)

Call:
FUI 15

Start date:
September 2013

Duration:
36 months

Global budget (M€):
5.6

Funding (M€):
2.4

Related Systematic project(s):
WAAVES GP, WARM

Veadista

Veille à distance et alerte intelligente

ON GOING PROJECT

VEADISTA (Remote monitoring of vital parameters and smart alerts) objective is to provide technological components including electronic devices and softwares designed for monitoring human vital parameters and for sending alerts to a rescue center. The main stakes are to produce hardware highly acceptable by patients and low-cost enough for a large-scale deployment and to develop free software for infering diagnosis and for the secure sending of alerts.

TECHNOLOGICAL OR SCIENTIFIC INNOVATIONS

- Confidential

STATUS - MAIN PROJECT OUTCOMES

- Confidential

CONTACT

Mikaël ATES
ENTR'OUVERT
mates@entrouvert.com
+33 (0)1 43 35 01 35

www.veadista.fr

PARTNERS

Large companies:
OBERTHUR TECHNOLOGIES

SMEs:
ENTR'OUVERT, INVIA, STID

Research institutes, universities:
CENTRE HOSPITALIER REGIONAL DE NICE, CNRS MARSEILLE

PROJECT DATA

Coordinator:
ENTR'OUVERT

Co-label(s):
SCS

Call:
FUI 13

Start date:
October 2012

Duration:
36 months

Global budget (M€):
3.4

Funding (M€):
1.8

VHP inter@ctive

ON GOING PROJECT

The objective of this project is to model a new organization of the patient management in his living environment (home, nursing home or residences for elderly people) by using information and communication technologies while demonstrating the economic viability of a new class of telemedical and social-health tools based on a shared platform that can offer "a la carte" services in answer to a variety of needs. The idea is to set up a new organization for the treatment of chronic diseases by first developing a model for "type 2" diabetes. The project involves remote monitoring of diabetic patients in their living environment in connection with a personalized medical report, and also the remote therapeutic assistance of these patients, overall aiming at preventing complications.

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TECHNOLOGICAL OR SCIENTIFIC INNOVATIONS

- Distance services (assistance, patient education, monitoring), with video conference, bio medical devices connected

- Serious games
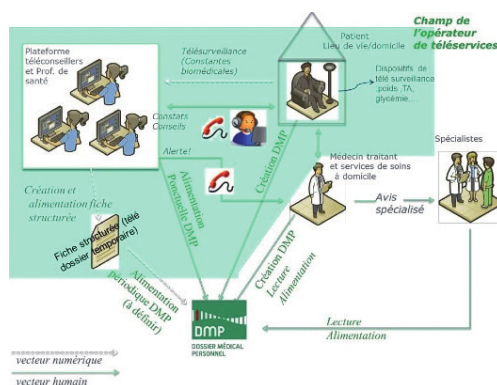
STATUS - MAIN PROJECT OUTCOMES

- Current specifications, plateform development on going

- On longer term, Proof of the economic viability of a new class of telemedical and social-health tools based on a shared platform to improve the management of "type 2" diabetic patients in their living environment, ensuring better quality of life, fewer complications and delay in the progression of the disease for recent diabetic patients.

CONTACT

Geneviève BODET
SPIE
g.bodet@spie.com
+33 (0)4 72 81 10 98

PARTNERS

Large companies:
SPIE

SMEs:
COMEARTH, ENOVING, INOVELAN

Research institutes, universities:
CNRS, INSTITUT MINES-TELECOM

PROJECT DATA

Coordinator:
SPIE

Call:
FSN E-SANTE 2

Start date:
September 2012

Duration:
45 months

Global budget (M€):
7.0

Funding (M€):
3.4

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