Patient Safety in Robotic Surgery

Fact Sheet

Project Information

SAFROS
Grant agreement ID: 248960

Status
Closed project

Funded under
FP7-ICT

Start date
1 April 2010

End date
31 March 2013

Overall budget
€ 5 002 368

EU contribution
€ 3 889 033

Coordinated by
UNIVERSITA DEGLI STUDI DI VERONA
Italy

Project description

ICT for Patient Safety

This proposal addresses the development of technologies for patient safety in robotic surgery. We define patient safety metrics for surgical procedures and then develop methods that abide by safety requirements, formulated in terms of our metrics. We aim at demonstrating that a properly controlled robotic surgery carried out in accordance to our safety criteria can improve the level of patient safety currently achievable by traditional surgery. The main innovative aspects of this project are: 1- Research driven by patient-safety requirements 2- Emphasis on methodological rigor: development of a methodology founded in evidence-based medicine 3-
the entire surgical workflow is considered for development and validation. SAFROS focuses on innovative development of methods for the following technologies: Soft organ modeling and calibration, considering patient pathologies and anatomical variants Simulation planning in deformable environments Intra-operative registration and workflow monitoring Robot modeling and performance monitoring Surgeon training Operator interface with integrated stereovision and haptics New methods are integrated and validated on two distinct surgical robots (MIRO and RAMS), with respect to two inherently different contexts (pancreatic and vascular surgery). We quantitatively validate the adherence of our methods to the safety criteria, using surgical phantoms and animals. By comparing across robots and surgical contexts we draw conclusions about the generality of our approach. The SAFROS consortium comprises: Hospitals with worldwide reputation, which provide medical knowledge and can validate our approach Europe's leading research groups in telerobotics and surgical robotics Innovative companies, to develop new technologies for surgical simulators World Health Organization, with global expertise in patient safety surgical safety guidelines Renowned educational organizations, to innovate surgeon training

Field of science

/medical and health sciences/clinical medicine/surgery/surgical procedure
/medical and health sciences/clinical medicine/surgery/robotic surgery
/engineering and technology/electrical engineering, electronic engineering, information engineering/electronic engineering/robotics
/medical and health sciences/clinical medicine/surgery/surgical specialties

Programme(s)

Topic(s)

Call for proposal

FP7-ICT-2009-4

Funding Scheme

CP - Collaborative project (generic)

Coordinator
UNIVERSITA DEGLI STUDI DI VERONA

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Via Dell Artigliere 8
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Activity type
Higher or Secondary Education Establishments

EU contribution
€ 647 800

Website
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Participants (11)

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EU contribution
€ 448 960

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Activity type
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EU contribution
€ 145 500

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Administrative Contact
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WORLD HEALTH ORGANIZATION

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EU contribution

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DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV
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- **Country**: Greece
- **EU contribution**: €143,400
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- **Activity type**: Higher or Secondary Education Establishments

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**HOLOGRAFIKA HOLOGRAMEOALLITO FEJLESZTO ES FORGALMAZO KFT**

- **Country**: Hungary
- **EU contribution**: €464,000
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**FONDAZIONE CENTRO SAN RAFFAELE DEL MONTE TABOR**

- **Country**: Italy
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- **Activity type**: Research Organisations

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