Patient Safety in Robotic Surgery

Fact Sheet

**Project Information**

<table>
<thead>
<tr>
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<th>SAFROS</th>
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<tr>
<td>Grant agreement ID</td>
<td>248960</td>
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<tr>
<td>Funded under</td>
<td>FP7-ICT</td>
</tr>
<tr>
<td>Overall budget</td>
<td>€ 5 002 368</td>
</tr>
<tr>
<td>EU contribution</td>
<td>€ 3 889 033</td>
</tr>
<tr>
<td>Coordinated by</td>
<td>UNIVERSITA DEGLI STUDI DI VERONA, Italy</td>
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**Start date** | 1 April 2010  **End date** | 31 March 2013

**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. Scope:
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.

**Fields of science**

- - -
- - -
- - -
- - -
- - -

**Programme(s)**

**Topic(s)**

**Call for proposal**

FP7-ICT-2009-4

**Funding Scheme**

CP - Collaborative project (generic)

**Coordinator**
<table>
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<tr>
<th>Organisation</th>
<th>Address</th>
<th>Activity type</th>
<th>EU contribution</th>
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<tr>
<td>UNIVERSITA DEGLI STUDI DI VERONA</td>
<td>Via Dell Artigliere 8, 37129 Verona, Italy</td>
<td>Higher or Secondary Education Establishments</td>
<td>€ 647 800</td>
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<td>ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE</td>
<td>Batiment Ce 3316 Station 1, 1015 Lausanne, Switzerland</td>
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<td>Force Dimension s.a.r.l.</td>
<td>Route Saint Cergue 295, 1260 Nyon, Switzerland</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
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<td>WORLD HEALTH ORGANIZATION</td>
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DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV

Germany
EU contribution
€ 741 181

Address
Linder Hohe
51147 Koln

Activity type
Research Organisations

Website
Contact the organisation

Administrative Contact
Nicole Laqua-Feller (Ms.)

KARLSRUHER INSTITUT FUER TECHNOLOGIE

Germany
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Activity type
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Website
Contact the organisation

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TALLINNA TEHNIKAÜLIKOOOL

Estonia
EU contribution
€ 355 200

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Ehitajate Tee 5
12616 Tallinn

Activity type
Higher or Secondary Education Establishments

Website
Contact the organisation
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<th>Organisation Name</th>
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<tr>
<td>ASPETE HIGHER SCHOOL OF PEDAGOGIC &amp; TECHNOLOGICAL EDUCATION</td>
<td>Greece</td>
<td>€ 143 400</td>
<td>Stathmos Eirinis Isap 14121 Marousi, Athens</td>
<td>Higher or Secondary Education Establishments</td>
<td><a href="#">Contact</a></td>
<td>Maarja Kruusmaa (Prof.)</td>
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<td>HOLOGRAFIKA HOLOGAMELOALLITO FEJLESZTO ES FORGALMAZO KFT</td>
<td>Hungary</td>
<td>€ 464 000</td>
<td>Ady Endre Utica 3/A 1192 Budapest</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
<td><a href="#">Contact</a></td>
<td>Dimitris Alimisis (Prof.)</td>
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<td>FONDAZIONE CENTRO SAN RAFFAELE DEL MONTE TABOR</td>
<td>Italy</td>
<td>€ 234 631</td>
<td>Via Olgettina 60 20132 Milano</td>
<td>Research Organisations</td>
<td><a href="#">Contact</a></td>
<td>Mario Valsecchi (Mr.)</td>
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FONDAZIONE CENTRO SAN RAFFAELE

Italy

EU contribution

€ 98 477

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Activity type

Research Organisations

Website Contact the organisation

Administrative Contact

Maria Rosa Pedrazzi (Dr.)

OSPEDALE SAN RAFFAELE SRL

Italy

EU contribution

€ 36 392

Address

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Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

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Maria Rosa Pedrazzi (Dr.)

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