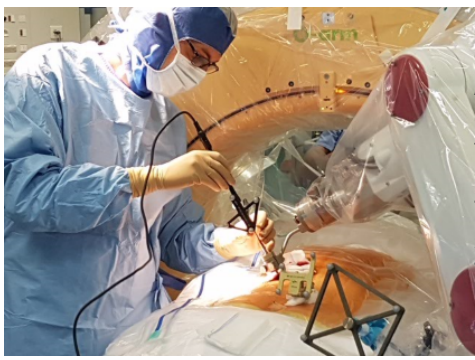
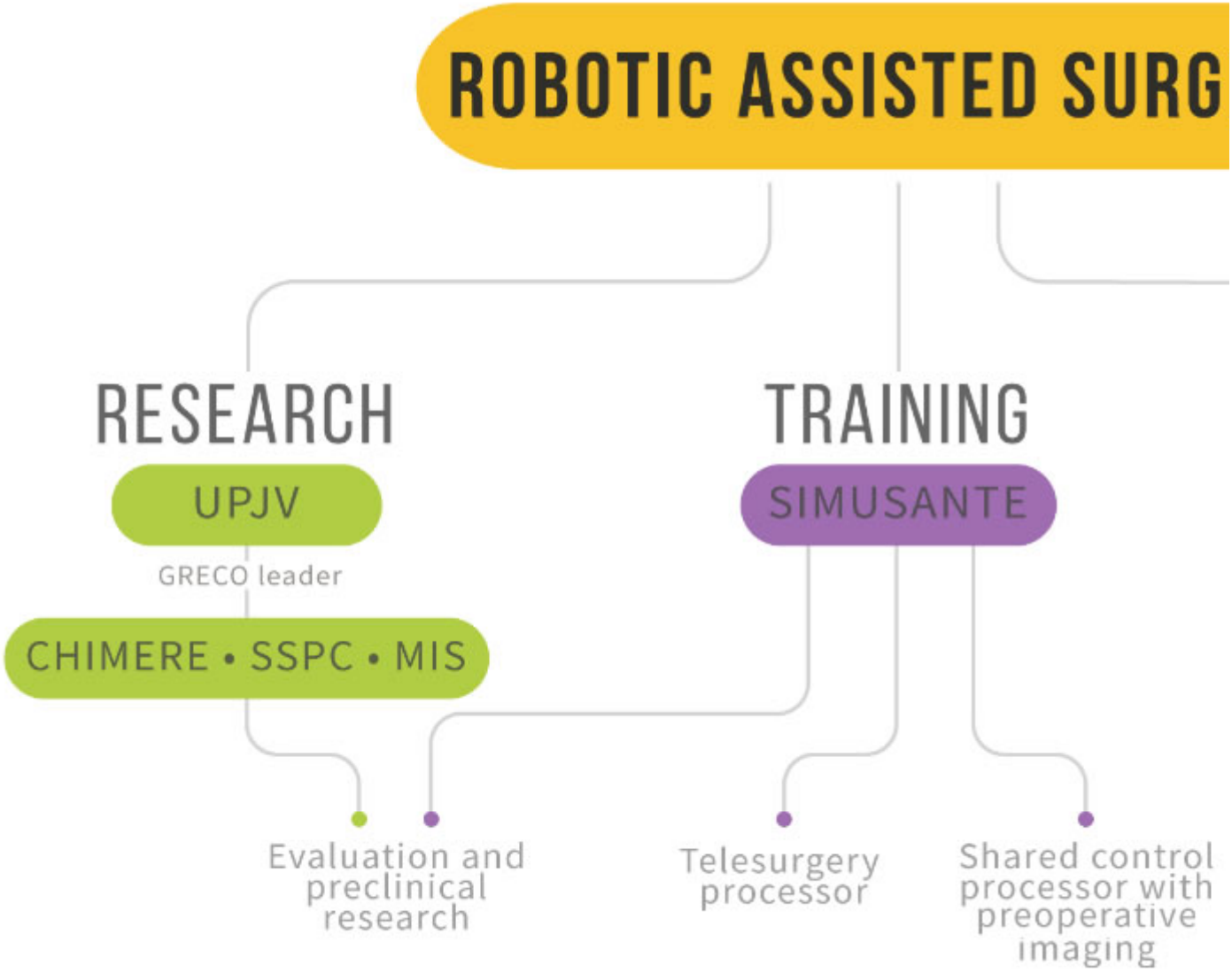
GRECO : Robotic assisted surgery

Statements



Standard surgical procedures are to be adjusted to new expectations of our connected and mobile society in order to be a tool for its health.
As an answer to these expectations, surgery is evolving. Procedures are changing, becoming less and less invasive. These changes must allow for the optimisation of patients' physical recovery and reduce post-operative pain.
The development of new technologies and the use of robotic assisted surgery in operating rooms seem to be a solution to this issue.
These practices require strong interactions between hospital physicians, robotics developers, computer programming and artificial intelligence.
Physicians (doctors) also have their own key role concerning the creation of new health care tools, assisting patients and supporting their choice. Their role is also essential in surgical procedures.
Health professionals must furthermore be a guide to technological progress in enabling health needs, offering a safe surgery and improving care service provided to patients (reducing hospitalizations rate, improving early rehabilitation and outpatient surgery).

Purposes



GRECO as a unique federative research institute seeks the structuration and the development of a transversal science and health pole. This pole of excellence will be devoted to involving fundamental expertise (engineers from different areas of specialities) and clinical expertise (surgeons specialised in different medical topics).

GRECO relies on innovative surgery methodology based on healthcare simulation. Robotic tools are considered as multiple competence support platforms. New clinical applications remain to be discovered and developed in order to meet the needs of patients.

GRECO's key objectives:

1 - Developingrobotic surgery in order to :

Improve the security and reliability of surgical procedures with the aim of duplicating them
Use mini-invasive surgery to enhance early recovery
Rely on artificial intelligence tools, on algorithms and on e-health for predictive surgery in order to improve surgery work plans, to reduce invasive procedures, to enhance the performance of medical acts and of the complete care pathway.

2 - Training(initial training and continuing education) of surgeons (all specialities included) for medical acts under robotic assistance.

3 -Spreading inputs of robotic assisted surgeryamong local, national and international scientific and medical communities.

Actions

4 actions plans are set to achieve GRECO's objectives: :

1 - **Strengthening the cross-disciplinary organisation "Science and Health" which started with first projects within the University Hospital** (CHU), together with university's health research units and with other labs, especially from the department of Sciences.
2 - **Effective use of Simusanté®** (biggest European health care simulation centre of the University (UPJV) and the University Hospital (CHU) in validation and development of new surgical processes).
3 - **Expansion, valorisation and strengthening of industrial partnerships**
4 - **Creation of simulated operating rooms with a high level of performance** (simulation operating rooms identical to real operating theatre), allowing for the fast use of health tools and procedures and acceleration of technology transfer.