



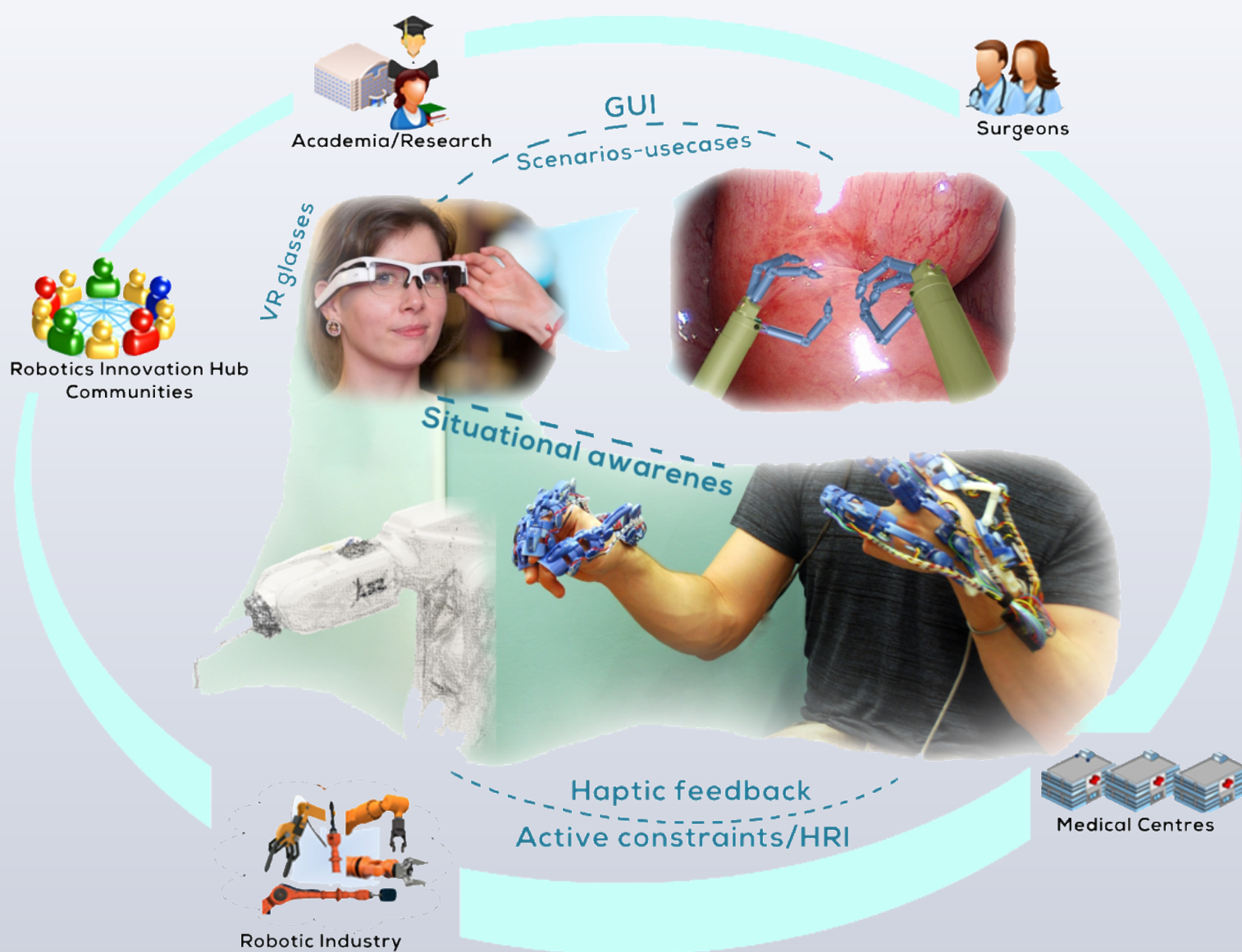
# SMart weAvable Robotic Teleoperated surgery

## Objectives

- Develop a dexterous, adaptable, anthropomorphic surgical instrument
- Build a framework for providing haptic feedback from the surgical instrument to the surgeon
- Deploy strategies for dynamic active constraints construction and their guaranteed satisfaction
- Develop advanced cognition and perception abilities to achieve the real-time and on-the-fly reconstruction of the operation area
- Validate SMARTsurg project results in realistic scenarios involving procedures on different surgical domains

## Expected Impact

- Address healthcare issues that have a widespread applicability and at the same time reduce high cost on national healthcare systems
- Improve patient outcomes through a much wider offer of MIS
- Reduce surgeons' effort by improving their ergonomics and information flow between them and the surgical field (through visualisation, haptics and novel controllers)
- Propose a cost-effective system that is built on top of commercial 6DOF robotic manipulators
- Provide a more dexterous, natural to use system with:
  - Improved interfaces that would render fast learning and acceptance by surgeons
  - Increased cognition abilities and dependability



## Project partners



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