



LAPAROSCOPIC SURGERY ASSISTANT ROBOT

MATERIAL PART :

Assembly mounted on a test bench with endoscopic simulator

- **energy chain consisting of :** two servo-controlled gearmotors, differentials, transformation of movement to structure with parallelograms and a spring for static balancing.
- **information chain consisting of :** control joystick, on-board camera used for vision and position control, electronic control card.

ACCOMPANYING DIGITAL DOCUMENTS :

- **technical file** with the description of the system in SysML, 3D modeling in SolidWork format.
- **educational file** with practical activities and answers.
- **resource folder** with educational and technological resources.

10 activities developed

MAIN SKILLS ADDRESSED

- ✓ Characterize the deviations
- ✓ Proceed with the implementation of an analytical & numerical resolution approach
- ✓ Propose a model of knowledge & behavior
- ✓ Design algorithmic structures
- ✓ Make a program in Python

The **EVOLAP robot** is a laparoscopic surgery assistance robot. It makes it possible to maintain and control a rigid endoscope surmounted by a camera and a source of cold light for a diagnosis or an abdominal intervention. The purpose of the EVOLAP robot is to automate an operating task of image maintenance and tracking that was traditionally done by hand by assistants who reported.

Working platform teaching!

