

CEA: List of equipment

- One HAPTION haptic device usable as a master arm for teleoperation
- VR platform for virtual prototyping and training for industrial applications
- One 3D TV equipped with a real time simulation environment for physical interactions.
- STAUBLI RX90L and RX90XL 6-axis industrial robot for tele-operation or hybrid command (force and position control)
- One ISYBOT 6 DOF robots usable as collaborative robots or telerobotic slave robots
- One ISYBOT 4 DOF usable as collaborative robots for sending or polishing
- One COBOMANIP from SARAZIN technology - collaborative robot for assistance to load handling
- One Artemis AGV (automated driverless vehicles) from BA system for intra logistics
- One 3 meters conveyor
- Two ten meters conveyors
- Four Basler cameras
- One Force measuring instrument KMG 500 is the
- Three KUKA [IIWA 14](#) arm
- one KUKA [IIWA 7](#) arm
- One [YUMI](#) from ABB
- 2 [UR10](#) from Universal Robotics
- 3 AGV Omnibot from ASTI
- 1 [Sawyer](#) from Rethink robotics
- 3 Safety laser scanner [S300](#) mini from SICK
- PLC Siemens ([S7-1515](#), [S7-1215](#)) and Schneider ([M251](#)), Beckhoff PLC
- Industrial Shop
- OsiSence Pick-to-light sensors form Telemecanique
- [LEICA tracker Laser LT600](#)
- [Dynamic Force Measurement sensor KMG-500](#) from GTE IndustriElektronik

List of software

- Solidworks
- Matlab
- TIA Portal
- So Machine
- Halcon library
- TAO (Computer Assisted Telerobotics) runtime licences. TAO is a telerobotics controller developed at CEA since more than 20 years and featuring force feedback master/slave control, robotics trajectory control, Cartesian/joint position control, virtual Mechanisms, position/force homothetic setting, gripper pursuit with camera, 3D graphical supervisor.
- SCORE 3D supervisor runtime licences
- AVISO assistive robotics programming environment Entail
- HORSE framework
- TANGO Framework
- ROS Framework

List of services

- Consultancy
- Technological expertise
- Advices on the management of intellectual property rights
- Assistance to technology transfer
- Advices on how to deal with ethical, legal and societal issues in robotics
- Knowledge exchange workshops on robotics related issues
- Robotics experimenting, testing and proof of concept
- Training on various types of robots