ECHORD++

The European Coordination Hub for Open Robotics Development

RadioRoSo: Radioactive Waste Robotic Sorter

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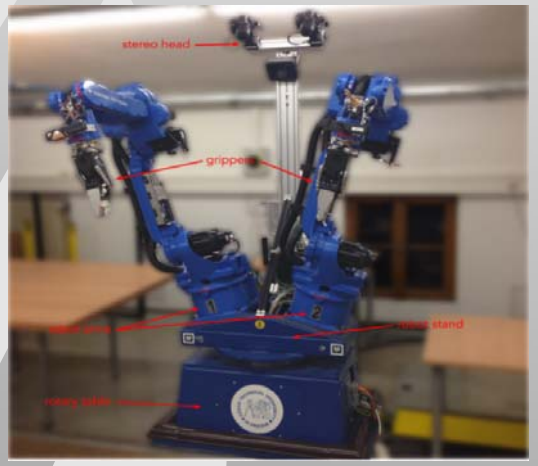
BLUE OCEAN ROBOTICS – for humans

RUROBOTS Cognitive Science at Work

SEVENTH FRAMEWORK PROGRAMME

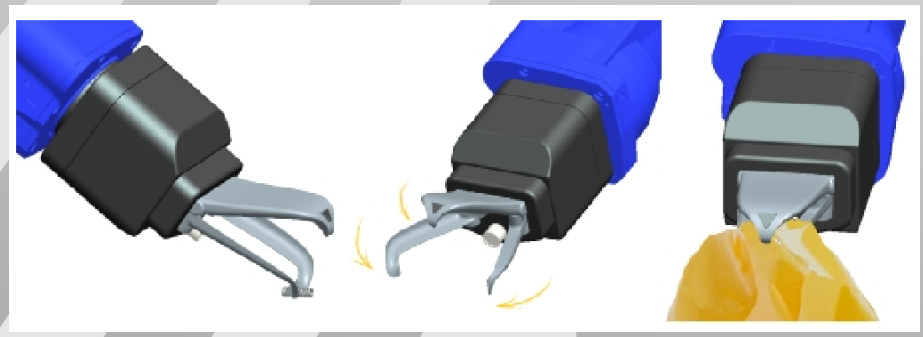
Brief Experiment Description

- The key objective of the RadioRoSo experiment is the demonstration of perception/manipulation skills of a bi-manual and semi-autonomous robot in the application of **sorting mixed compressible radioactive waste material**, for decommissioning or decontamination operations.
- The experiment will be guided by a pragmatic application scenario and end-user feedback.
- Based on experience gained in FP7 project CloPeMa in **manipulation of soft objects**. Experiments running on an existing dual-arm industrial robot testbed shared by 3 partners.



Novelty/Objectives

- Introduce robotic automation in a task traditionally performed by humans.
- Advanced perception and manipulation of deformable objects (garments, gloves, wires etc.)
- Active visual/tactile perception in a cluttered environment.
- Custom gripper design to address the diversity of objects and hostile environment.
- Target: Highly reliable solution in a fraction of the current cost.



Impact

- Contribution in the area of nuclear decommissioning with a considerable potential within Europe (financial and societal impact)
- Current approach very expensive and cumbersome for the workers.
- Proof of concept (TRL6) important for industrial take up of the technology.
- Upon successful completion NES will use the solution in an existing project (Magnox Swarf Storage Silos decommissioning programme: 2015-2022)