

Level 3
Process
Control

Process Execution Controller with GUI for the operator. Implemented in Python within the Rhino-Grasshopper environment running on a PC.

Level 2
Supervisory
Control

Clamp Controller with GUI for command and control of all clamps. Implemented in Python, running on a laptop.

ROS-RRC Driver * provided by compas_rrc running on a laptop

Level 1
Direct Control

Clamp Firmware running on the microcontroller located on the clamp's electronics pack.

RRC Server * provided by compas_rrc; implemented in RAPID within the RobotWare environment, running on ABB IRC5 Robot Controller.

Level 0
Hardware

Clamp Hardware

RFL Robot
(Arm + Gantry)

4x Clamp with
embedded firmware

