VIRTUAL COMMISSIONING EXPERT
SIMULATE AND VALIDATE ROBOT AND WORKCELL BEHAVIOR

Virtual Commissioning Expert enables virtual 3D validation of the robot and controls programs in the factory context. It provides a 3D environment for industrial robot validation with PLC programs managed in CATIA Control Build. The tight integration between the PLC emulator Control Build and Virtual Commissioning Expert provides high performance communication for virtual validation of the workcell controls system. Engineers can also virtually validate native language robot programs using the robot vendor’s Virtual Robot Controller (VRC) software, which implements the Realistic Robot Simulation II (RRS-II) interface standard. RRS-II provides an extremely accurate robot simulation to the user.
VIRTUALLY VALIDATE CONTROLS PROGRAMS

Virtual Commissioning Expert allows controls engineers to validate controls programming in the 3D virtual environment. They can easily create the input and output connections and run the robot simulation using control code running in a controls emulator like CATIA Control Build, or in a PLC via OPC communication. For ultimate realism and accuracy, Virtual Commissioning Expert supports hardware-in-the-loop workcell simulation, in which actual hardware components (robot controller or PLC/PLC emulator) are connected to the simulation. Engineers can test what-if scenarios to reduce time debugging programs on the shop floor during system start up.

LEVERAGE CATIA CONTROL BUILD

Users of CATIA Systems roles such as Control Build can leverage their automation control system design by connecting it to the robot simulation using DELMIA Virtual Validation Expert. Users can model sensors, machine and/or robot interlocks in RCV and establish I/O communication with Control Build. Users can simulate the operation of the workcell with PLC programs and HMI interfaces emulated by CATIA Control Build.

VIRTUAL VALIDATION OF ROBOT PROGRAMS

Programmers can validate advanced robot programs with robot-controller technology RRS-II. Users can examine the robot’s nominal behavior as it would operate in the physical workcell, providing unsurpassed accuracy. They can also program and simulate the robot using a virtual teach pendant, which mimics the teach pendant used on the physical robot. This allows programmers familiar with the robot-specific language to quickly and easily program robot instructions.

SENSORS MODELING

Engineers can model sensors in DELMIA Virtual Commissioning Expert. These sensor models provide capabilities such as part detection to trigger signals that can be exchanged between other resources in the simulation or an external system.

OPC CONNECTION

Virtual Commissioning Expert can exchange signals with external systems through an OPC connection. Depending on the scenario, the OPC connection allows DELMIA RCV to interact by exchanging IO signals with others systems.

PROCESS HIGHLIGHTS

- Groundbreaking 3DEXPERIENCE® platform
- Closely integrated with CATIA Control Build
- Sensor Modeling
- OPC Connectivity
- Validate controls programming
- Validate Native Language Programs using RRS II

Our 3DEXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the 3DEXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes’ collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 220,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.