



Digital twin of Cartesian Pick&Place XYZ

Developed in the VIRTUAL UNIVERSE Pro environment

Description

The digital twin of the XYZ Cartesian Pick&Place system is developed in the VIRTUAL UNIVERSE Pro environment

Solution highlights :

- ✓ 3D models can be created or modified from the software's library or imported from the main CAD programs: Solidworks, Inventor, Catia and also the main 3D file formats: 3DXML, 3DS, OBJ, etc...
- ✓ Real-time model simulation
- ✓ Control identical to the real system using the simulated console in TIA portal (a real console can also be used)
- ✓ PLC program execution identical to real system thanks to the use of a real PLC
- ✓ Program modification carried out as on the real machine using SIEMENS TIA portal PLC programming software.
- ✓ Connection to the PLC present reference VI26 (in addition to the machine PLC) operate the Digital Twin
- ✓ Possibility of creating faults on any sensor or actuator
- ✓ Use on PC or virtual reality headset
- ✓ Simulation completely open and modifiable (example: modification sensor position, adding an actuator or sensor)
- ✓ Create your own simulations
- ✓ Interactive simulations, with the user able to grasp and move 3D world objects

The main uses a digital twin are :

- ✓ Training production operators
- ✓ Pre-study / design of automated systems
- ✓ Machine programming before or during production
- ✓ Remote program editing and modification mechanical (without access to the actual machine)
- ✓ Program and mechanical modifications followed by functional testing of the modification while avoiding system degradation due to errors
- ✓ Program and mechanical modifications while limiting production downtime



References:

VI20 : Virtual UniversePro: System simulation in a 3D environment - 1 license (For use with VI06/VI07 virtual reality headsets or conventional PCs)

VI22 : Virtual UniversePro: System simulation in a 3D environment - Establishment license (Can be used on VI06/VI10 virtual reality headset or conventional PC)

VI26: Programmable 3D digital twin Cartesian Robot XYZ on Virtual Universe Pro, with Siemens S7-1200 PLC package and I/O board (VU Pro license to be purchased separately)