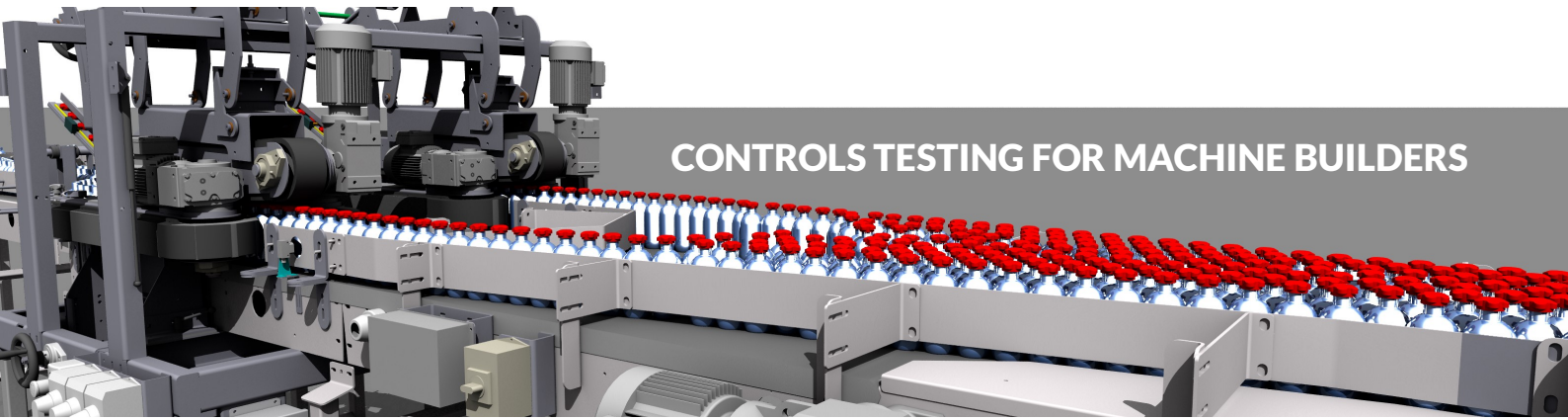




# EMULATE3D

by ROCKWELL AUTOMATION



## CONTROLS TESTING FOR MACHINE BUILDERS

## Develop and Test Your Machine Controls in Emulate3D

Emulate3D CAD Add-in simplifies and automates virtual controls testing

Emulate3D Controls Testing for Machine Builders software enables you to test out and debug your machine controls before the machine is built, by automatically connecting the PLC to your CAD model. Reduce your time to market and cut development costs by running logic tests and by carrying out design changes on your machine's Dynamic Digital Twin in a safe virtual environment before building a physical prototype.

View, control, and demonstrate your machine within a virtual reality (VR) environment for maximum impact. Invite your clients to participate in the VR experience by logging in to your model remotely, so you can discuss the latest project changes. With Emulate3D technology, meetings can be spontaneous, more frequent, and with practically no carbon footprint.

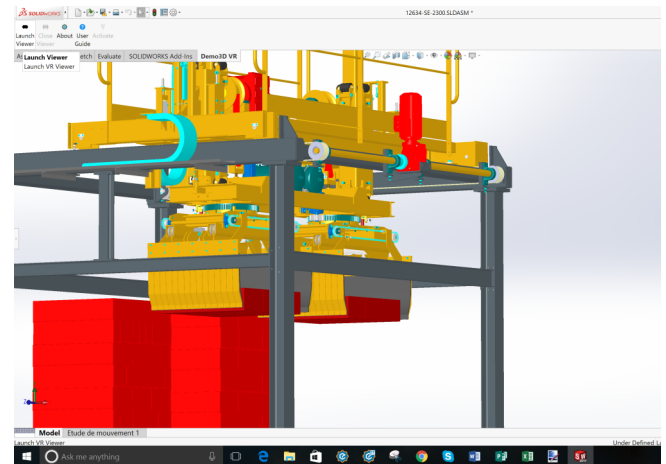
### The main benefits of using Emulate3D for Machine Builders:

- **Straightforward CAD system model build using the Emulate3D Add-in**
- **Reduced time to market with rapid virtual development and testing**
- **Robust and fully tested controls and reduced costs with fewer prototypes**
- **Standard naming conventions enable automatic IO connection to all controls**

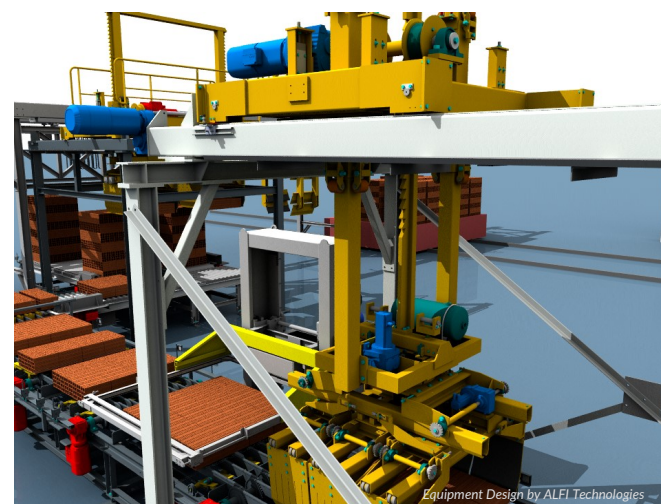
### CAD is The Model

Emulation for Machine Builders technology is based on the "CAD is the model" concept which enables you to design your machine within your familiar CAD system. Emulate3D's Add-in makes it straightforward to create a running controls testing model with your standard CAD control elements such as sensors, conveyors, pushers, and other mechanisms.

Emulate3D combines CAD data, control element properties, and PLC IO connections within your CAD environment to generate your useful virtual machine with minimal effort. Get your machines running and ready to test faster with Emulate3D.



Build complete emulation models within the familiar environment of your CAD system



Build and test single machines or complete Automated Material Handling Systems



Call 801-923-3316 or email [info@demo3d.com](mailto:info@demo3d.com)

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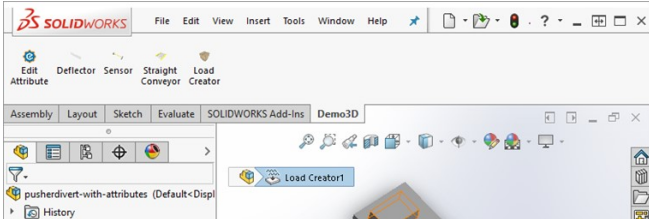
See more - search for Emulate3D



# EMULATE3D by ROCKWELL AUTOMATION

## Develop Full Virtual Commissioning Models Within Your CAD System

**Emulate3D for Machine Builders** simplifies the process of designing, developing, and testing the logical operation of your machines within your CAD system in several innovative steps. You can associate your own specific library of company-standard control elements and mechanisms to the Emulate3D Add-in, to make them appear as unique icons on the CAD system ribbon.



Emulate3D catalog items are read into the SOLIDWORKS Add-In and used to build the model

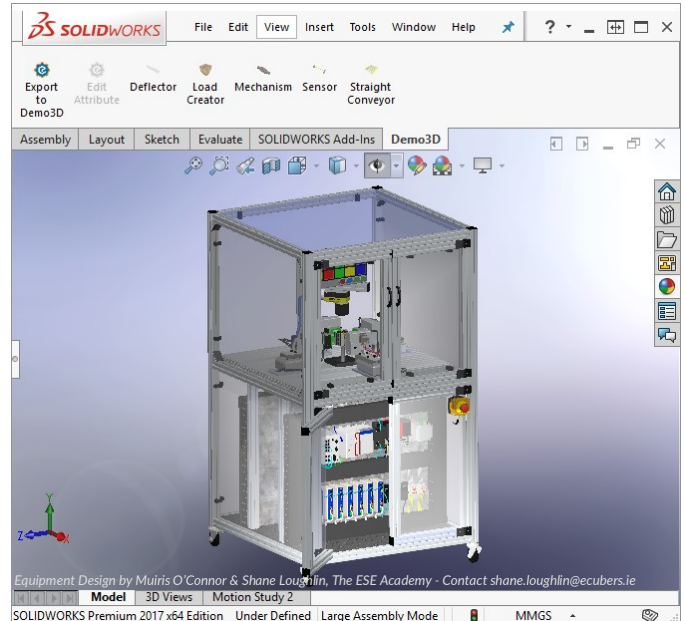
These library items contain default descriptions of how the elements operate, and their IO connections. This functional data is readable to the Emulate3D environment and is used to generate the dynamic physics-based model. Clicking on an icon on the ribbon and then a CAD element associates the library item's IO and behaviors to the element. The library includes a Load Creator which describes the stream of products processed within the machine being designed and tested.

### Building controls testing models in CAD is straightforward:

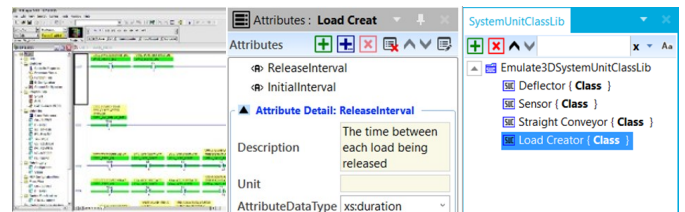
- Build the machine or system in CAD
- Associate company-standard control items to CAD model objects
- Generate controls testing model, connect the control system, run and test

When the model runs, each virtual load or product is detected by sensors and then processed, transported, pushed, or queued within the machine in response to the control outputs, just as it would be in the real machine. Emulate3D identifies and includes all functional rotation and translation joints within the model, and their dynamic properties and limits are provided by the library description. When the Run icon is clicked, these associations and joint information are used to generate the operational emulation model, complete with IO connections to the PLC or higher level control system.

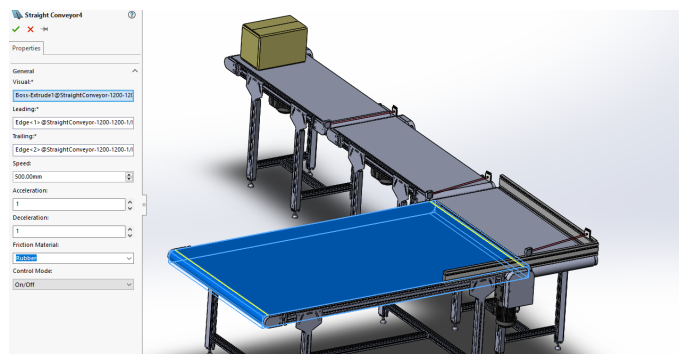
Within the Emulate3D runtime environment you can observe the behaviour of the running model, and carry out control logic changes if necessary, before running the model again to verify the effects of your modifications. Using the full Emulate3D Controls Testing product you can access and modify any aspect of your model.



Control element properties can be accessed and modified within the CAD environment



IO details and other object parameters are held in AutomationML format within model catalog items



Running emulation models are generated automatically, and can be edited in Emulate3D if required



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