DESIGN SYSTEMS, INC.
Manufacturing Engineering & Consulting
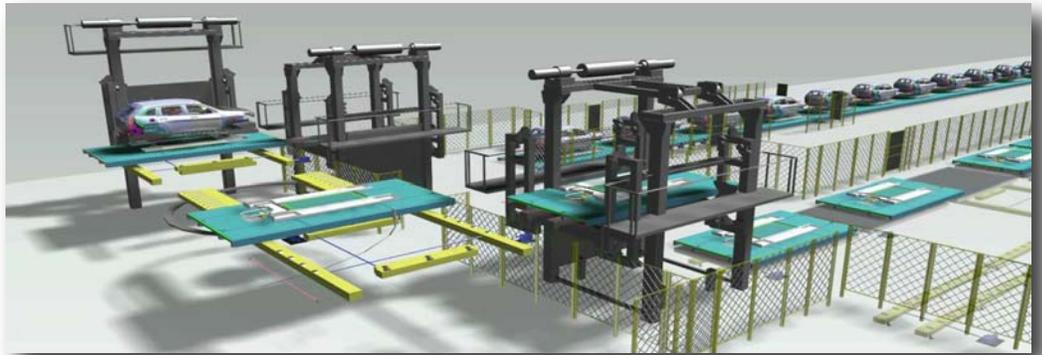
Electrical and Controls Engineering

Design Systems, Inc. provides customers with the unique ability to emulate and verify their controls logic for new or modified systems.

Capital Investment Savings by Improving Project Start-Ups

Emulation uses a Programmable Logic Controller (PLC) connected to the graphical features of a detailed simulation model, replicating the production environment. The PLC, responds to inputs received from the model just as it would on the production floor. Reciprocally, the model responds to the PLC outputs, as would the actual control devices present in the factory. All inputs and outputs of the system are validated using emulation, including manual operator stations and hardware interlocks.

The Design Systems, Inc. emulation process establishes a virtual environment for a material handling system with full functionality, feedback, and a 3D graphical view of the complete system. It also creates representations of control panels and allows the common field faults to be applied to the PLC logic. This environment allows an entire material handling system to be analysed in an office setting without impacting production. We also have the ability to easily stage test scenarios and run the system at full volume to verify capabilities.

Emulation provides a variety of checking mechanisms to allow the customer and the project partners to verify that the deliverables are in compliance with the scope of work, proper standards, and control methods. It also affords the ability to interconnect and effectively test associated control and diagnostic hardware prior to plant installation, further reducing start-up time and providing additional cost savings.

"BOTTOM-LINE" RESULTS

- Minimal debug and start-up times.
- Logic debug before construction.
- Test complex routing requirements.
- Operator and maintenance training.
- Start-up schedule and production risk mitigation.
- Substantial start-up cost savings.

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