

# Enhancing Project Safety & Efficiency with Innovative Technology

Technology serves as a catalyst for improvement in nearly every industry, and construction is no exception. In today's world, companies like Haskell are using innovative technology like Simulation, Emulation, Virtual Reality and Building Information Modeling (BIM) to improve safety and efficiency on all of our architecture, construction, and engineering projects.

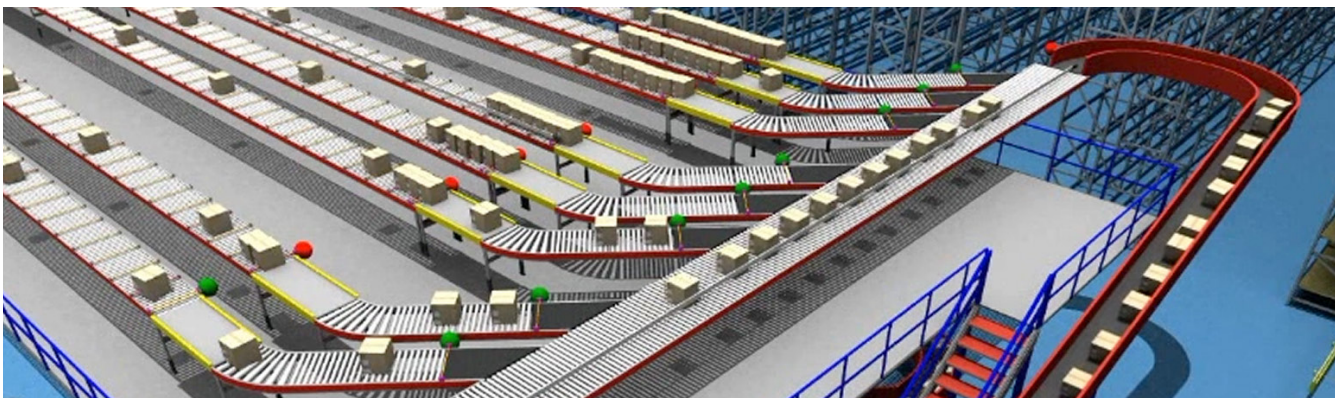
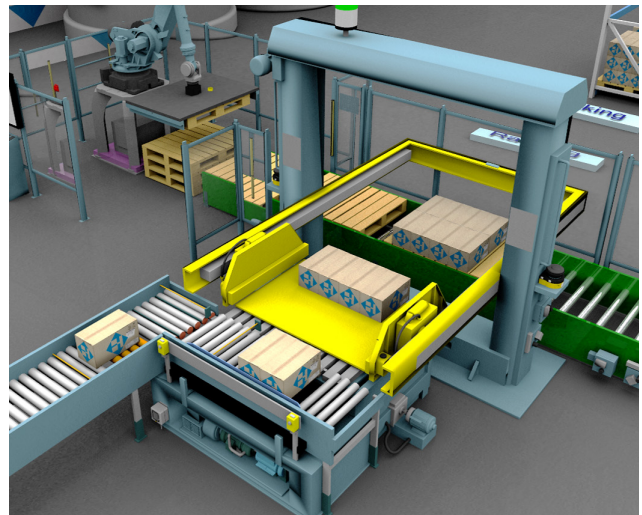
## System Analytics: Simulation, Emulation & Virtual Reality

Virtual Reality (VR) immerses the user into the 3D model with the capability of virtually touring a new or existing facility, interacting with real HMIs, and seeing the facility operations function long before startup.

A "Digital Twin" (or "emulation") is a virtual 3D model of a packaging system where everything is controlled by real PLCs and real HMIs. This PLC executes logic the same as it would in the factory, receiving input from photo eyes in the model and delivering instructions to the machines, conveyors, and other automated equipment.

VR technology has the capability to integrate with 3D BIM Models, render HMIs inside of the model, and thoroughly test the PLC program with extensive scenarios.

By foreseeing design faults and clashes, saving production time and resources, and training operators long before the first day of production, this innovative technology is a tremendous value-added opportunity for our clients.



## Building Information Modeling (BIM)

Where contractors and subcontractors previously relied on 2D diagrams to communicate the specifications for a project, now 3D models with precise specs for each design element can easily translate the engineering and architectural needs of a project to the subcontractors who are fulfilling those demands. These additional details reduce communication errors within a project scope, allowing subs to act more efficiently and effectively on the job site, which saves time and money for the overall project.

Additionally, BIM provides opportunities for subcontractors to enhance safety for their craftsmen and women. Safety is always a top priority for Haskell, which means we are always looking for new and innovative ways to protect our workers on the jobsite.

Because the 3D models generated through BIM provide subs with the precise specs ahead of time, they have the opportunity to pre-fabricate pieces within their own controlled work environments, versus the hub of a busy job site. This modular construction approach also allows production facilities to expand with minimal interruptions to existing operations.

### Advancing Your Project with the Latest Technology

Across the board, BIM, VR and other new pieces of technology are changing the landscape of the architecture, construction and engineering world. At Haskell, we are embracing these changes and the benefits they provide for our clients.

