

R-STRIFE: a Robotic Retrofit System for Building Deep Energy Retrofits



STRIFE™ Insulated Panel

- Off-site fabrication
- Custom designed and built to exact building dimensions
- Insulation values from R-20 to R-80
- Unique structural load-bearing capacity
- Built-in window and door assemblies
- Pre-installed conduits for wiring and HVAC linesets



Robotic Retrofit

- Drone-enabled site mapping
- 3D site & building modeling & retrofit simulation
- Robotic removal of building exterior cladding and trim
- Robotic installation of air and water barriers
- Robotic microfactory for panel, cladding & trim fabrication
- Reduced worker injuries from ladder and roof falls

The R-STRIFE Value Proposition:

A Deep Energy Retrofit for the same cost as a conventional exterior refresh

The R-STRIFE system cuts the time, cost and disruption to the building occupants of a typical energy retrofit by reengineering the value chain from initial project scoping to final completion. Overall retrofit time is cut by 80% by moving many work steps to an automated microfactory and employing new robotics systems to strip and prepare the building exterior and install the new panelized and prefabricated exterior components.

The R-STRIFE Team is co-led by Peter Harding and Joel Edelstein. Peter is an expert in high-performance buildings, building science, energy auditing and energy conservation and holds a patent on the STRIFE™ panel system. Joel is an expert in robotics, digital imaging and CNC automation. The Advisory Team includes experts in construction estimating, project management, electrical engineering and software development.