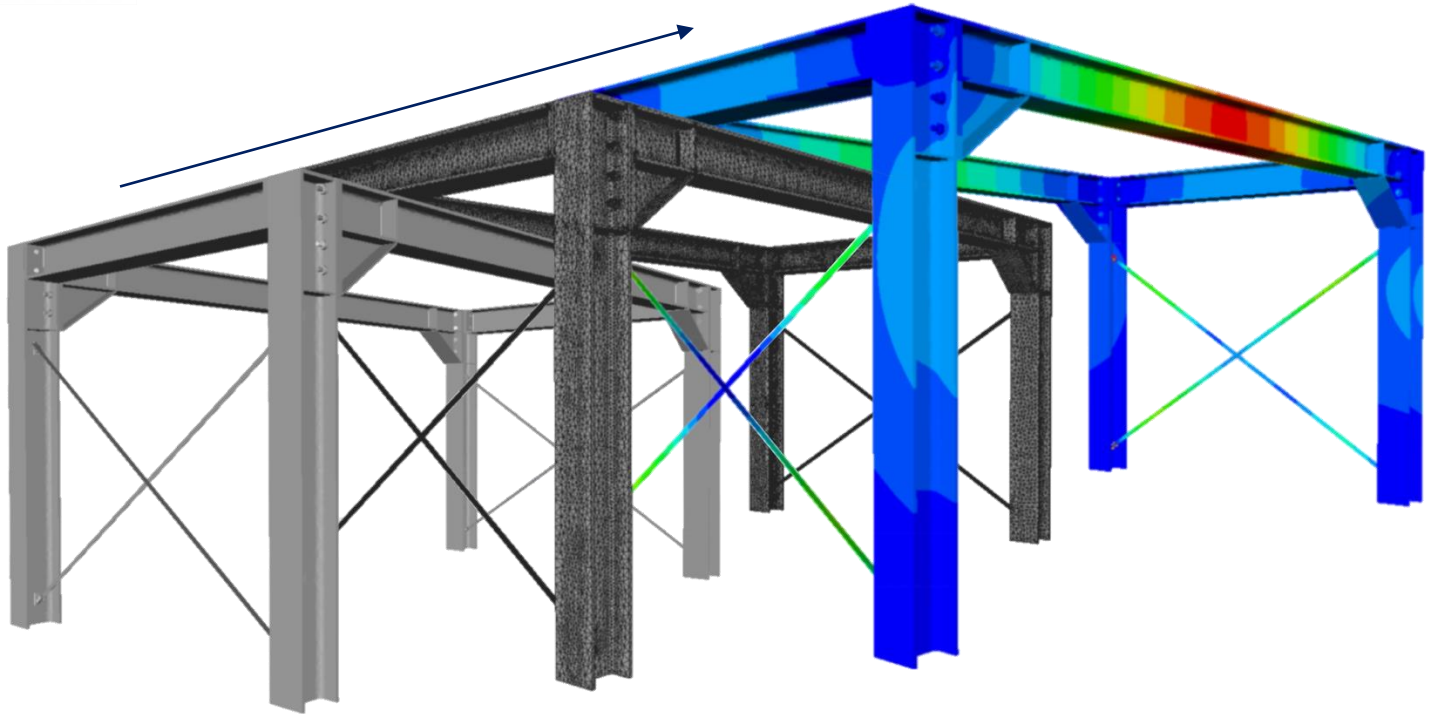




Uncover Simulation Automation ROI

Novus Nexus' CAENexus Automation Processor Provides Fortune 500 Industrial Machinery OEM with On-ramp to More Quality Simulations in Less Time

About the Customer, Project Background, and Challenge

As an international juggernaut in Industrial, Mining, and Construction Equipment Manufacturing, the prospective Customer has a vested interest in tools and methodology for improving simulation efficiency and trustworthiness. We share this goal and passion, and began work under a mutual NDA on a collaborative, No-Risk Pilot Project to demonstrate how versatile, reliable simulation automation can address their pain points.

Like many other Product Development and Engineering teams, the Customer faces increased demand for simulation throughput, as well as cost-effective strategies to leverage virtual insights for various builds, all without increasing human resources and considering corporate cultural inertia due to established practices. Let's see what they can do with us.

240% and up
Simulation
Efficiency
Improvement
with the use of
CAENexus
SimAgents™

Our Solution

Novus Nexus' suite of technology tools has its heart in Abstract Modeling — the ability to assign all CAE features and Report parameters to abstract placeholders stored in reusable, modular data models and sophisticated knowledge graphs.

CAENexus Automation Processor, the keystone to no-code **SimAgents**, assigns those CAE attributes to real product geometry instances, even highly varying and complex assemblies with hundreds of parts.

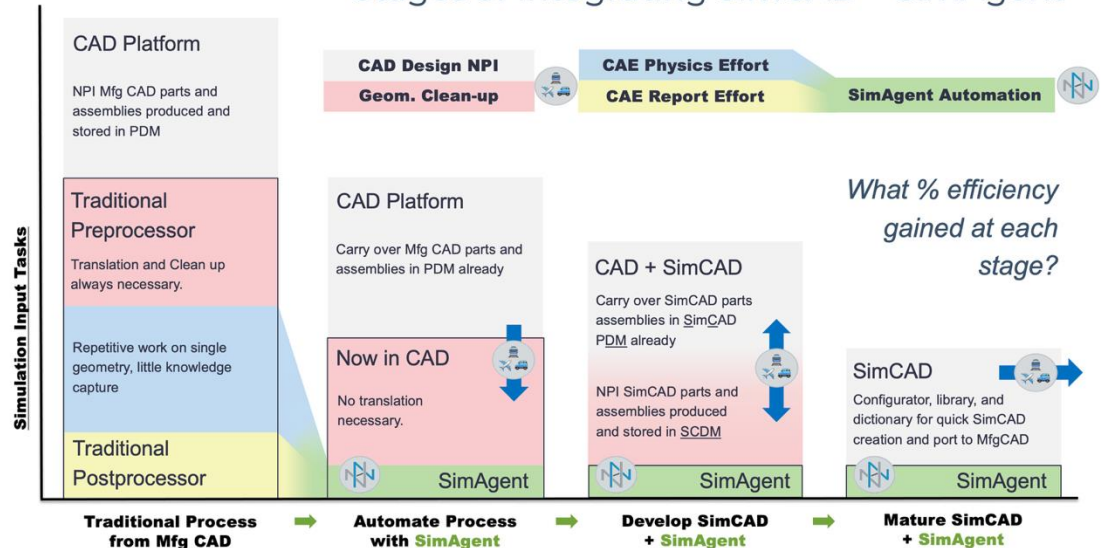
SimAgents have Abstract Models and CAE-ready CAD models, or **SimCAD**, as their inputs to produce scalable, versatile, and dependable simulation workflows for production, from CAD thru Report Generation.

Application & Results

We developed and implemented the first automated stage of this solution for several of the customer's Proprietary Frames, then recreated the process with a public domain, Simple Frame. We documented how both Public and Proprietary Frames scale to demonstrate ROI projected at subsequent stages of adoption.

The results seen in the charts speak volumes about the real opportunity to achieve much higher simulation throughput with far fewer human hours of effort, providing a path for the customer to reach their efficiency goals.

Stages of Integrating SimCAD + SimAgent



Documented Benefit of Integrating SimCAD + SimAgent

CAD and Sim Engineer's Effort in hours, **Simple Frame** (8 beams, 32 plates, 24 ribs)

Simulation Input Tasks →	CAD Creation	CAD Cleanup & Welds	Simulation Setup & Report Generation	SimAgent Orchestration	Total Effort: Simulation	Total Effort: Simulation & CAD
Traditional Process from MfgCAD →	16	4	7	n/a	11	27
Automate Process with SimAgent → <i>SimAgent Benefit:</i>	16	Now in CAD 4	0	0.5	4.5 244 %	20.5 132 %
Develop SimCAD + SimAgent → <i>SimCAD + SimAgent Benefit:</i>	14	0	0	0.5	0.5 2200 %	14.5 174 %
Mature SimCAD + SimAgent → <i>SimCAD + SimAgent Benefit:</i>	4	0	0	0.5	0.5 2200 %	4.5 600 %

Documented Benefit of Integrating SimCAD + SimAgent

CAD & Sim Engineer's effort in hours, **Proprietary Frame** (48 beams, 204 plates, 32 brackets)

Simulation Input Tasks →	CAD Creation	CAD Cleanup & Welds	Simulation Setup & Report Generation	SimAgent Orchestration	Total Effort: Simulation	Total Effort: Simulation & CAD
Traditional Process from MfgCAD →	62	12	27	n/a	39	101
Automate Process with SimAgent → <i>SimAgent Benefit:</i>	62	Now in CAD 12	0	0.5	12.5 312 %	74.5 136 %
Develop SimCAD + SimAgent → <i>SimCAD + SimAgent Benefit:</i>	52	0	0	0.5	0.5 7800 %	52.5 192 %
Mature SimCAD + SimAgent → <i>SimCAD + SimAgent Benefit:</i>	15	0	0	0.5	0.5 7800 %	15.5 652 %

More Simulations in Less Time

