OPRETO

CASE STUDY

FROM CAD TO CODE: HOW REKO AND OPRETO REDEFINED PREFAB AUTOMATION

REKO INTERNATIONAL GROUP INC.

OPRETO.COM

WEEKS → HOURS

ParaPro generated robot code from a CAD model — no human touch.

SMALL TEAMS, BIG IMPACT

ParaPro has enabled smaller integrator teams to do the work of full programming departments.

BUILT TO SCALE

Version one is already being explored for prefab housing, automotive, and mining.

> **We’re developing this software because it enables us to do the things that need to be done — automate the production of places for people to live. To build them faster, better, at a lower cost. This is the only way we’ll get there. There isn’t really an alternative**
>
> — Michael Mendonca, REKO

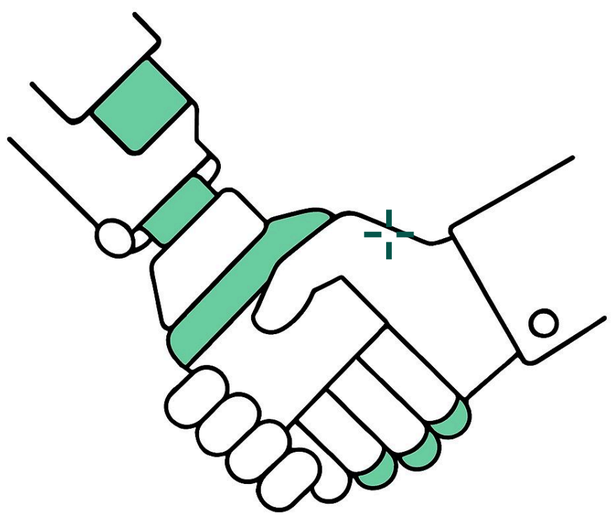
The pre-fab, modular construction industry has attempted to automate with varying levels of success for years. Its biggest struggle? The products are always changing! Not an ideal situation for automation. REKO set out to address this problem with custom software—and joined forces with Opreto to make it happen.

DEFINING THE PROBLEM

When Reko Automation Group decided to automate production in modular construction, they ran into a familiar wall: variability. Every prefab component—whether it’s a partition, floor, or structural panel—is a little different. That kind of customization is great for builders, but it’s a nightmare for automation. Traditional robot programming is slow, manual, and often not worth the effort for one-off parts.

To make automation viable, Reko needed software that could keep up with constant change. They partnered with Opreto on a solution that could take CAD files for custom parts and instantly generate robot-ready code—no manual intervention, no robotics expertise required.

NOT JUST DEVS – DOMAIN EXPERTS



Reko wasn't just looking for a vendor. They needed a partner that could handle the technical depth of robotics and still deliver clean, scalable code. That's a rare combination—and it's where Opreto shines.

"There are lots of firms that write great software," said Michael Mendonca, technical program manager at Reko. "But most of them don't understand the nuance of automation. With Opreto, we didn't have to explain every constraint or walk them through how robotics works. They already got it."

The teams collaborated to co-develop ParaPro: a platform that translates CAD inputs into machine-ready outputs, automatically and offline. They worked in an Agile, sprint-based model that allowed for constant adjustment and validation, something critical for a project where many of the requirements evolved mid-flight.

"We didn't know what we didn't know," Mendonca said. "Agile gave us the flexibility to shift focus quickly, test often, and keep momentum without wasting effort."

OFFLINE PROGRAMMING MEETS REAL-TIME DEPLOYMENT

ParaPro isn't just automating a task. It's flipping the entire approach to how these systems are commissioned. Instead of manually programming each change in a production line, users can now work in a virtual environment, test everything digitally, and push updates to the floor with confidence.

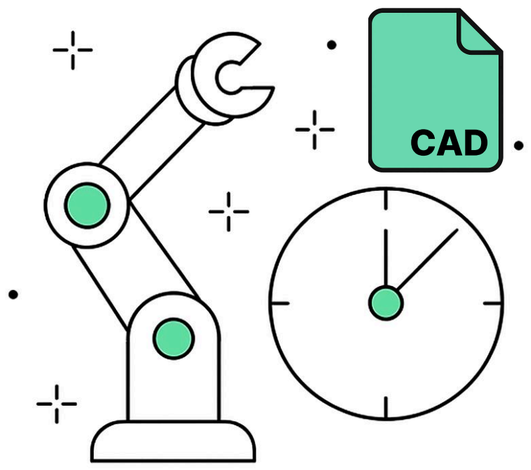
> **"Our goal was to make automation accessible. We're empowering teams that don't have automation experience to program machines. And they can do it entirely offline — no downtime, no retooling delays."**
>
> Michael Mendonca, REKO

Opreto's team made key architectural decisions early, like integrating RoboDK to provide a robust simulation engine. That foresight helped accelerate development and simplify what could've become a much heavier lift.

"That was something Opreto brought to the table," said Mendonca. "We didn't ask for it. They saw the opportunity and ran with it. That's the kind of partner you want on a project like this."

The collaboration didn't stop at technical strategy. Opreto embedded deeply with Reko's development team, building what felt less like a contractor relationship and more like a single, blended unit.

FROM PROTOTYPE TO PRODUCTION, WEEKS AHEAD OF SCHEDULE



The first real breakthrough came fast: ParaPro generated robot code from a CAD model, pushed it to the machine over Ethernet, and executed it—all without a human touching the robot.

“That was our aha moment,” Mendonca said. “Seeing the robot run a completely virtual program with real-world accuracy—that told us we were on the right path.” As they continue to develop, programming time has gone from weeks to hours. The team is tracking under budget and ahead of schedule. From a functionality standpoint, the project has already exceeded expectations.

Behind the scenes, the impact is just as powerful. ParaPro has enabled smaller integrator teams to do the work of full programming departments—and helped companies struggling to hire automation talent get more done with less.

“We’re effectively replacing a skillset that’s getting harder to hire for,” said Mendonca. “Now, someone without robotics training can do what used to take a full engineering team.”

BUILT TO SCALE BEYOND THE PROJECT

As version one nears completion, Reko is already exploring new markets for ParaPro, from prefab housing to automotive, mining, and other sectors with variable product builds. The platform’s flexible architecture, built from day one to adapt and evolve, makes that kind of expansion seamless.

“This isn’t a niche tool,” said Mendonca. “Prefab is already massive, and the same need exists in other sectors where change is constant.”

Beyond the market opportunity, the partnership has redefined what’s possible when deep domain expertise meets agile software execution.

“Our goal is to change the way automation is done,” Mendonca said. “We’re not just improving efficiency—we’re enabling a shift.”

> **“As someone who started my career programming robots, this feels like going to the moon. It’s a completely new way to think about automation.”**
>
> Michael Mendonca, REKO