

AUTOMATION WITHIN REACH

INDUSTRY: **ROBOTICS**

The Challenge

[Automation Within Reach](#) (AWR), a division of Gosiger, was created to support small- and medium-sized manufacturers by increasing access to turnkey CNC lathe and mill tending automation solutions. Designed primarily for high-mix, low-volume machine shops, AWR's machine-tending robots help manufacturers maximize productivity while maintaining high quality standards, performance, and reliability.

AWR's systems can handle a wide variety of parts and production runs without requiring a fully customized robotic cell. Operators can configure a job, load the system, press start, and walk away while the robot tends the CNC machine. That means production isn't limited to business hours and employees can reallocate time saved to other work. Those productivity gains can make a big impact on a smaller shop's bottom line.

To keep making its solutions more accessible, AWR had to accelerate its own product development. Its small engineering team needs to iterate quickly and share current product data with everyone involved in purchasing, building, and supporting its systems.

In their previous CAD system, SOLIDWORKS, crashes, lockups, slow load times, and unexpected restarts were AWR's daily reality. Simultaneous work depended on files stored in shared folders, often creating conflicting versions that engineers then had to identify and reconcile.

These limitations affected more than the core CAD users. Manufacturing, purchasing, robot programming, and external suppliers relied on engineers to export and distribute the right models and drawings. Sharing in-progress work created the risk that someone might mistake an unfinished concept for released data and order the wrong component.

One vendor visit made the cost of those limitations especially clear. When AWR engineers needed to review a complex weldment, their laptops repeatedly crashed while trying to open the model, resulting in roughly an hour of downtime.

"We made the jump to [Onshape](#), and as soon as we did, we didn't look back," says Tyler This, AWR Mechanical Product Design Engineer.

Results

- **\$40k saved annually**
by eliminating lost productivity from CAD downtime
- **40-50% faster product iteration**
through real-time collaboration
- **15+ employees connected**
to a single source of design truth across the product lifecycle
- **Expanded access to CAD**
without the infrastructure overhead



"Being able to have your CAD system in your pocket is game-changing,"

– **Tyler This, Mechanical Product Design Engineer, Automation Within Reach**

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Automation Within Reach Saved \$40,000 Annually & Accelerated Iteration by 50% with Onshape

The CNC robotics automation brand accelerated product development and expanded access to CAD data while reducing IT burdens with cloud-native Onshape.



An Onshape CAD render of AWR's CNC and lathe milling robot system, designed primarily for high-mix, low-volume machine shops.

Regaining \$40,000 in lost productivity, annually

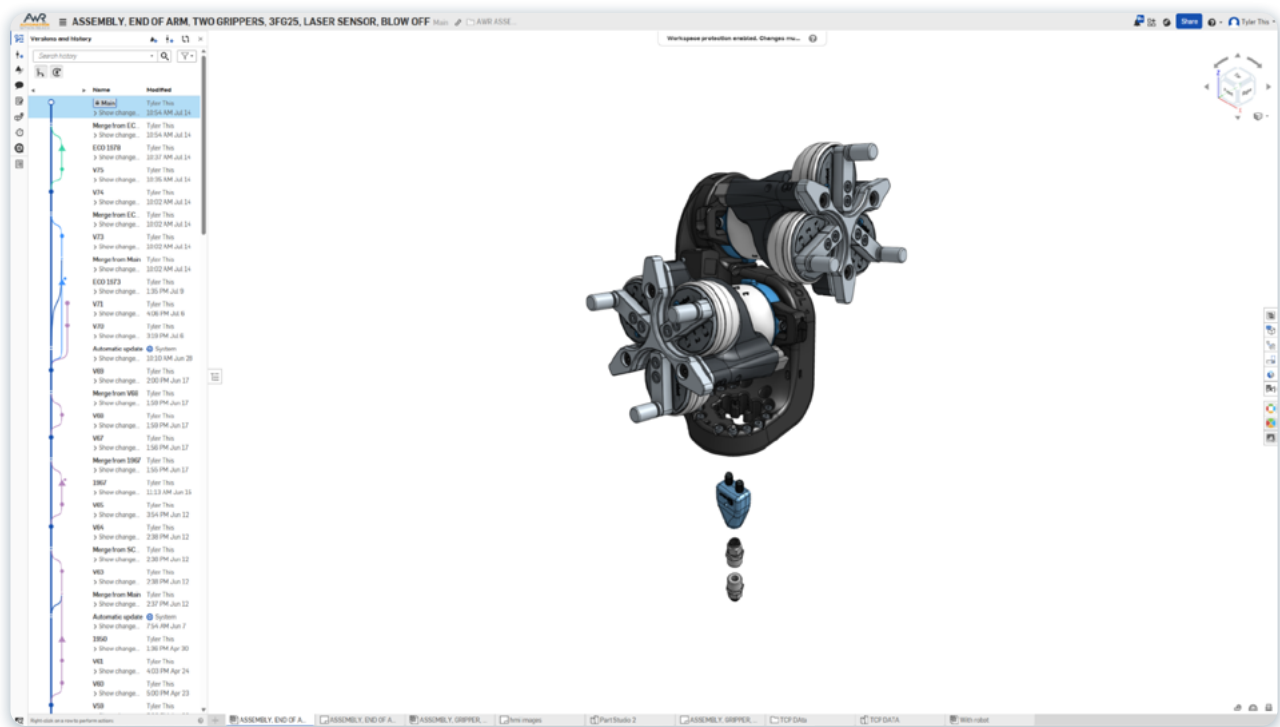
When evaluating the switch to Onshape [cloud-native CAD+PDM](#), AWR's engineers tracked every delay they experienced in SOLIDWORKS for two months (crashes, frozen computers, restarts, and time spent waiting for models to load). They found that each CAD user was experiencing about 40 minutes of unavoidable downtime per day, the equivalent of **five weeks, or \$40,000**, in lost productivity annually.

"That's a significant impact on a small team's budget when you look at the lost productivity that way," says Alex Pinkerton, AWR Mechanical Product Design Engineer. "The transition was really easy to justify on that metric alone of just the simple uptime and usability capabilities that Onshape was bringing to us."

Moving to a modern, cloud-native CAD and PDM system eliminated those daily slowdowns. The team estimates that switching to Onshape has **increased their productivity and efficiency by at least 30%.**

“Onshape allows us to get past that and to get more into design, more into our utilization, and be able to really feel the benefits from using that time elsewhere,” says Patrick Nuzzolese, General Manager of AWR Standard Operations.

Onshape’s [built-in PDM](#) eliminates another source of wasted time. Engineers no longer search through shared folders for the correct file, manage competing copies, or worry about losing unsaved work. The complete design history of each product is automatically captured in Onshape, while formal release workflows give downstream teams a clear view of approved product data.



| An Onshape assembly, including various design branches, of a two-gripper AWR robot arm end.

“The smoothness and the efficiency is almost indescribable,” This says. “We can really dig down right into the core of what’s going on and get to a solution as quickly as possible.”

[Branching and merging](#) lets engineers explore ideas freely without disrupting the primary design.

“Branching and merging might be my favorite feature of Onshape,” This explains. “I can make a quick branch, try a change, and, if it works, merge it back into the main branch and keep moving.” If a concept doesn’t work, the team can still preserve that idea for future reference.

Real-time collaboration accelerates development by 40–50%

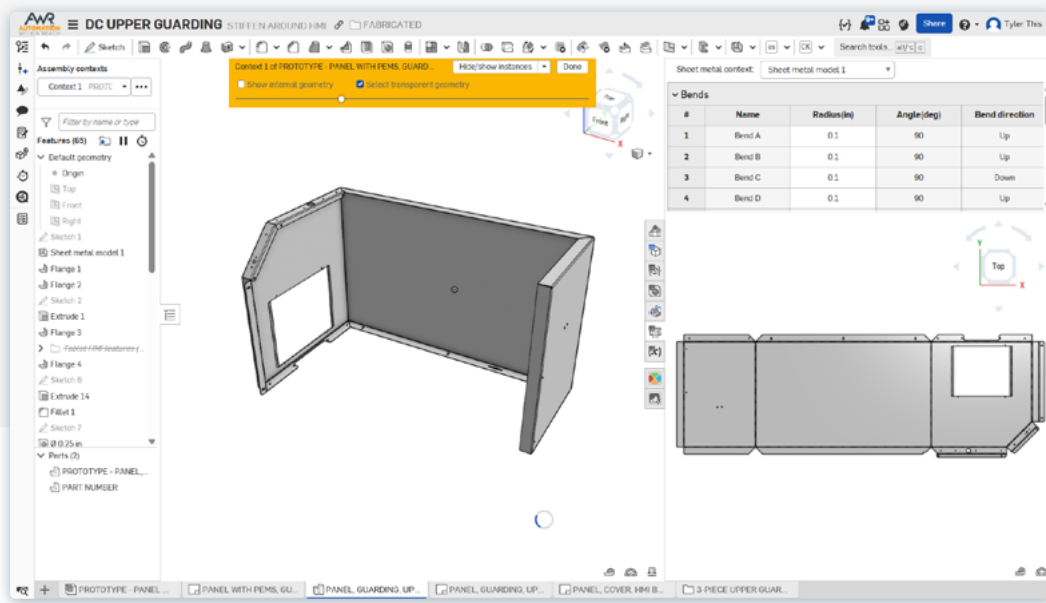
Increasing design efficiency isn't just an engineering metric for AWR. The company competes in a fast-moving automation industry where getting new machine tending solutions to customers quickly can mean the difference between leading the market and falling behind.

"When you're working in the automation field like we are, the faster you can adapt and design and get new products out the door, that function is going to lead your business to more success," Pinkerton says. "The technology sector is so quickly moving that if you're not staying ahead of the curve, you're falling behind at a rapid pace."

To keep up, AWR relies on Onshape's cloud-native architecture for [real-time collaboration](#), which allows multiple engineers to work simultaneously in the same Document. The team saw the benefits almost immediately after adopting the platform. During an early evaluation, This and Pinkerton used Onshape to rebuild one of the company's robotic cells while working from different locations. They were surprised by how smoothly the project progressed. In roughly 16 hours, they had rebuilt nearly the entire system in Onshape, despite it being their first major project on the platform.

The ability to work in the same Document and build around one another's work without managing files, checking models in and out, or waiting for handoffs revealed a dramatically more efficient development process. Engineers can divide and conquer within a shared model, review changes as they happen, and iterate continuously without disrupting the rest of the work.

AN AWR gripper tending a CNC lathe in production.



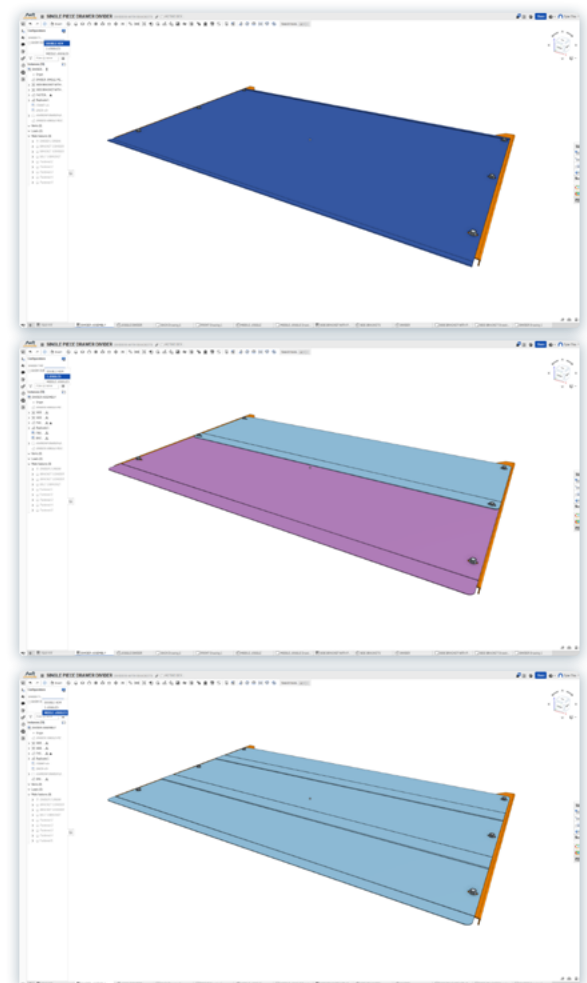
An assembly of AWR's upper guarding sheet metal design in Onshape cloud-native CAD & PDM.

The impact is measurable. According to Pinkerton, AWR's **iteration cycles are now approximately 40-50% faster** than their file-based CAD workflows. With Onshape, they now target development cycles of six to eight months for products that previously required 12 to 24.

"We can move that much quicker and make changes faster," he says. "We're not ever waiting on the software to catch up. Everything just functions the way we need it to in order to move quickly."

AWR's products are built around [sheet metal](#) designs. Engineers use Onshape [configurations](#) to manage multiple robot sizes, product variations, branding requirements, and component options from a common design framework rather than maintaining separate models for every variation. The result is a development process that is both faster and easier to scale as products evolve.

Those engineering efficiencies ultimately translate into customer value. Faster iteration means new automation solutions reach the market sooner, allowing manufacturers to deploy automation earlier, increase spindle utilization faster, and begin realizing their own productivity gains sooner.



AWR manages multiple configurations for sizes, variations, branding requirements, and components from a common design, like this sheet metal drawer, to scale new projects faster with less rework.

24/7 design visibility connects the entire team

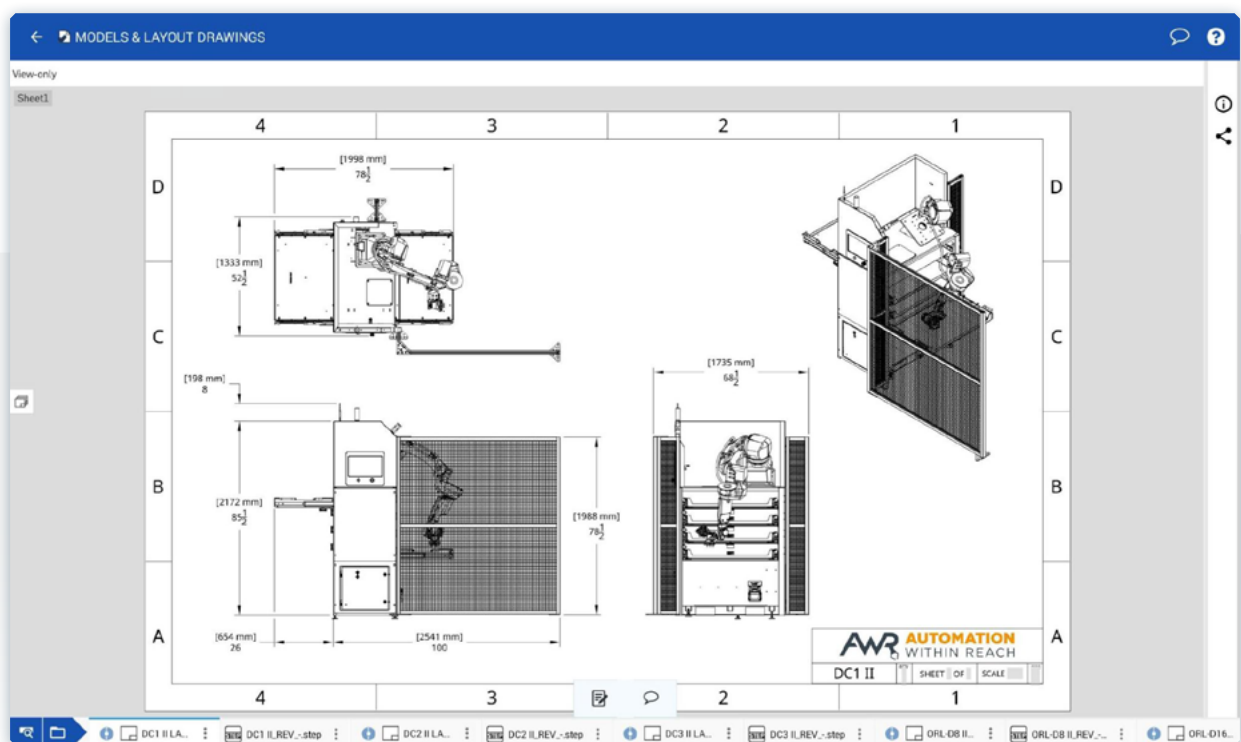
Only a handful of AWR employees create CAD models every day, but the value of Onshape extends far beyond the engineering team. Today, stakeholders across the organization have access to AWR's Onshape environment, including purchasing, manufacturing, management, robot programmers, and members of Gosiger's custom automation team.

Because Onshape runs entirely in a web browser, employees throughout the company can access the latest product information directly via a sharable link instead of relying on engineers to export files, send screenshots, or verify whether a model is current.

"The [real-time visibility](#) is one of the biggest benefits to Onshape," This says. "Our robot programmers don't need to ask us for models all the time. We can just share them a link."

During design reviews, participants can inspect the model from their own screens rather than relying on one engineer to navigate an assembly for the entire group. When a colleague has a question, the engineering team can open the same Document, follow their view, and address the exact geometry involved instead of decoding screenshots or lengthy email descriptions.

The same link-sharing ability improves communication with suppliers. Vendors can view a component in its full assembly context, take measurements, and download the format they need rather than receiving only a preselected STEP file or 2D drawing.



| An Onshape drawing of an AWR CNC mill and lathe tending robot system.

That visibility follows the team beyond their desks. Engineers can open a model on a [phone or tablet](#) while standing beside equipment on the production floor or meeting with a vendor. AWR has also used Onshape's AR View to visualize how a robotic cell will fit in front of a customer's machine tool.

"Being able to have your CAD system in your pocket is game-changing," This says.

AWR plans to extend this connected product-development process through a future integration between Onshape and its NetSuite ERP system, as well as broader access on the production floor.

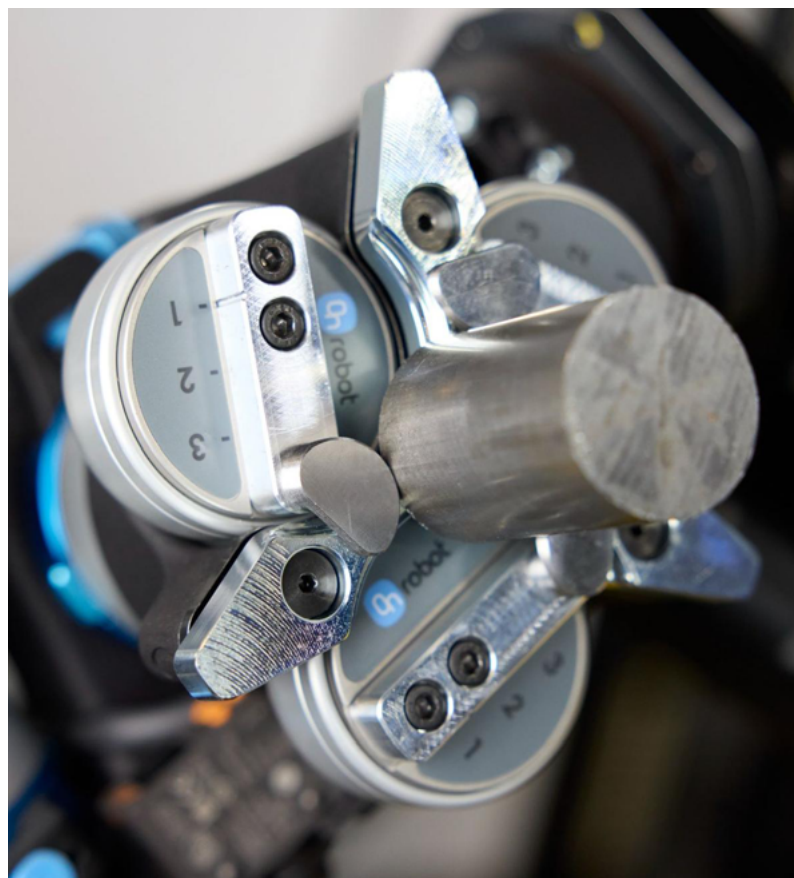
Expanding CAD access while reducing total cost of ownership

Moving to Onshape allowed AWR to expand access to CAD data internally while reducing total cost of CAD ownership and the IT infrastructure required to support it. Employees don't need high-end CAD workstations to work on designs because Onshape runs on the standard laptops already used throughout the company.

That creates a hardware savings of several thousand dollars per user compared with the engineering-grade machines previously required for desktop CAD. It also removes the need for a dedicated IT team to manage local installations, updates, specialized hardware, or CAD servers. [New features and improvements](#) are delivered automatically every three weeks, without engineers setting aside hours for software upgrades.

"The constant feature updates, the great [customer service](#), all of that has been very impressive," This says. "Seeing a CAD software that does that is very encouraging."

Onshape's transparent [licensing](#) provides an additional cost benefit. With full- and light-user options, AWR is giving more people the appropriate level of access for less.



| AN AWR gripper holding a CNC lathe during production.

AN AWR CNC and lathe milling robot arm, designed entirely in cloud-native Onshape CAD.



“For the price that I was paying for a single license with SOLIDWORKS, I’ve got multiple users, both light and full, in Onshape,” Pinkerton says. “We’re saving tens of thousands of dollars a year, plus having more capability and flexibility within our team to be able to access Onshape and do valuable work in it.”

For AWR, lowering total cost of CAD ownership helps the company deliver practical automation solutions at a price point more CNC manufacturers can afford. By eliminating time spent waiting on software, managing files, and maintaining IT infrastructure, Onshape enables AWR to focus more of its effort on product development and innovation.

“The value of Onshape for us is speed,” Nuzzolese says. “Our customers have high demands from their customers. We need that time to rapidly iterate so that we can develop products that meet their needs.”

The Onshape Discovery Program

Learn how qualified CAD professionals can get Onshape Professional for up to 6 months - at no cost!

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