

APPLIED ROBOTICS, INC.

IMPROVING TOOLING CONNECTIVITY DESIGN AND
COLLABORATION WITH SOLIDWORKS SOLUTIONS



Applied Robotics relies on SOLIDWORKS mechanical and electrical design solutions to partner with other leading robotic manufacturers in providing customers with the latest automation technologies and solutions to satisfy complex automation needs.

Challenge:

Improve the handling of the mechanical and electrical aspects of end-of-arm tooling and connectivity solutions development.

Solution:

Implement SOLIDWORKS Premium mechanical design and analysis software, and SOLIDWORKS Electrical Schematic design software solutions.

Benefits:

- Enhanced quality of electrical schematics
- Improved recruitment of trained designers to support growth
- Realized more cost-effective electrical schematics solution
- Facilitated system assembly

Applied Robotics, Inc. is a leading global provider of specialized end-of-arm tooling and connectivity solutions for the automation and robotics industries. Founded in 1983, the ISO-9001-registered company has focused on boosting efficiencies and improving manufacturing processes since its inception. Applied Robotics works with other leading robotic manufacturers to provide customers with the latest automation technologies and solutions to satisfy complex automation needs. The company then designs and manufactures innovative automation service solutions, including tool change systems, collision sensors, grippers, and connection systems.

With customers ranging from large Fortune 500 companies to small privately held businesses, Applied Robotics provides solutions that support automotive, manufacturing, welding, assembly, palletizing, material removal, material handling, laboratory, and food-handling applications worldwide. An employee-owned company, Applied Robotics holds more than 40 national and international patents for such inventions as the integrated stud-welding robotics tool changing system, the single-axis robot force sensor assembly, and robot overload detection.

Until 2008, Applied Robotics used the Solid Edge® mechanical design and E3® electrical design packages to develop, manufacture, and assemble the mechanical and electrical design aspects of its robotic automation solutions. However, according to VP, Director of Engineering Stefan Casey, difficulties related to using the electrical schematics application and recruiting engineers who were trained in the mechanical package prompted the company to re-evaluate its 3D design solution.

"We couldn't get local support for the electrical schematics software and few of the companies and designers in our area were familiar with or trained in Solid Edge," Casey recalls. "When we looked around at similar companies in our area and recruited designers and engineers, we kept encountering SOLIDWORKS® software. So, we decided to purchase a copy and try it out. That experience resulted in our full transition to SOLIDWORKS in 2013."

Applied Robotics standardized on SOLIDWORKS solutions—implementing SOLIDWORKS Premium mechanical design and analysis software, and SOLIDWORKS Electrical Schematic design software—because they are easy to use, are well known among the engineering professionals that the company wants to recruit, and provide a cleaner, more integrated approach to mechanical and electrical schematics design.

"Since we implemented SOLIDWORKS, we were able to easily find personnel that doubled the size of our Engineering Department to meet the needs of our growing business," notes Solutions Manager Tom Marcella. "My colleagues thought that SOLIDWORKS was the better package, and they've convinced me that that's the case. It's certainly made it easier to recruit strong, qualified people, and our training requirements have been reduced."



"We're collaborating more effectively since we switched to SOLIDWORKS because the combined solution simplifies things."

— Tom Marcella, Solutions Manager

MAKING A GOOD FIRST IMPRESSION WITH DRAWINGS AND SCHEMATICS

Although the electrical and pneumatics schematics that Applied Robotics creates are not overly complex or sophisticated, improving the function is important for the automation company because schematics are shared with customers, contribute to collaboration with mechanical designers, and support system assembly. "The quality of the schematics and drawings is what the customer sees first," Marcella stresses. "If you have lousy-looking, unprofessional drawings, you're certainly not starting the project well."

"Our schematics layouts definitely look nicer and make a better impression with customers," affirms Electrical and Controls Engineer Michael Spiesbach. "We've added a good number of new symbols to our SOLIDWORKS Electrical Schematic database, which enables me not only to create more aesthetically pleasing schematics but also to complete them more efficiently and cost-effectively."

BETTER COLLABORATION AND ASSEMBLY

With the combination of SOLIDWORKS Premium mechanical design and SOLIDWORKS Electrical Schematic design software, Applied Robotics has realized better collaboration and documentation, resulting in productivity improvements during both design and assembly. "We're collaborating more effectively since we switched to SOLIDWORKS because the combined solution simplifies things," Marcella says.

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"In terms of collaboration, the electrical design schematics need to be completed first so our mechanical designers know what needs to be connected and what the space parameters are, such as does the current limiter need to fit in a space that's the size of a shoebox or a quarter," Marcella adds. "Electrical schematics development goes much faster with SOLIDWORKS Electrical Schematic software because it's more simplified, allowing us to collaborate more effectively."

MAINTAINING AN INTEGRATED SOLUTION

Applied Robotics invests in SOLIDWORKS Subscription Services because the company places a high value on fast, accessible local support through CADimensions, its SOLIDWORKS reseller. "Buying maintenance on our SOLIDWORKS licenses is nice because it keeps us current with the latest features and capabilities," Marcella says.

"However, the greater benefit is being able to call someone who knows the software and can provide a quick solution on the problem that you're facing," Marcella continues. "Fast, local support, which we didn't have with our previous solution, helps us resolve any issues that we may encounter, so we can keep working and contribute to our improvements in productivity."

Using SOLIDWORKS Electrical Schematic software, Applied Robotics has not only improved the quality of its electrical schematics, it has also realized better collaboration and documentation, resulting in productivity improvements during both design and assembly of its innovative automation solutions.

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