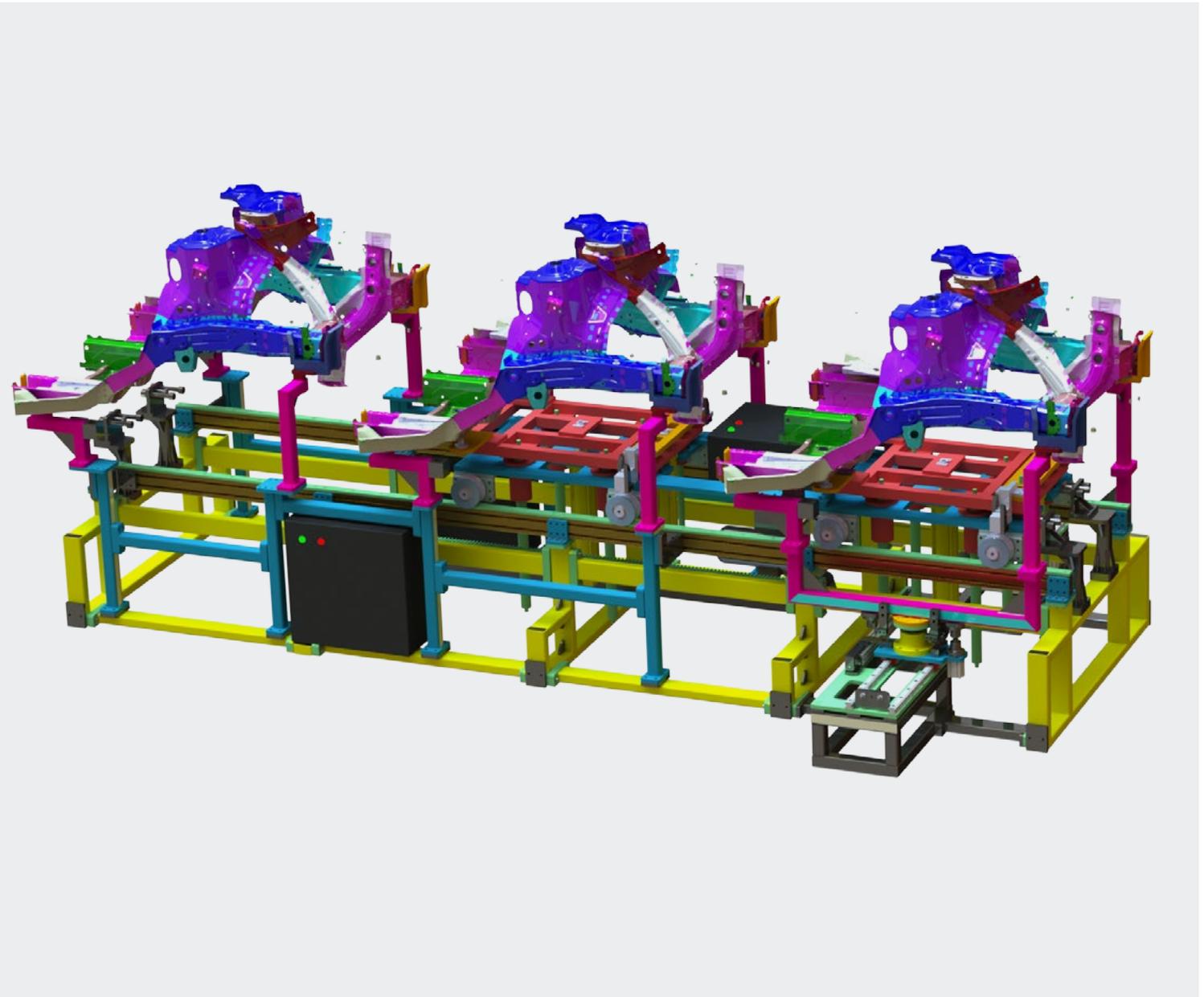


# ADEPT ENGINEERS

## ACCELERATING MACHINE DESIGN, BOOSTING THROUGHPUT WITH SOLIDWORKS ELECTRICAL SCHEMATICS



By adding SOLIDWORKS Electrical Schematics design software to its SOLIDWORKS Professional mechanical design implementation, Adept Engineers has realized important advantages in the development of its automation machines, including design cycle reductions, improved quality, and increased customer satisfaction.

### Challenge:

Shorten the machine development cycle to expand throughput by developing electrical and mechanical designs in tandem.

### Solution:

Add SOLIDWORKS Electrical Schematics design software to its SOLIDWORKS Professional mechanical design installation.

### Benefits:

- Cut design time by 30 to 40 percent
- Boosted design accuracy by 20 percent
- Improved quality of electrical system documentation
- Expanded throughput with concurrent design

Adept Engineers is a dynamic and fast-growing Indian company that designs and manufactures factory automation systems. With core competencies in machine design, engineering, and project execution, Adept Engineers develops a range of manufacturing solutions, including industrial automation, material handling and transfer, assembly line, and validation/test systems, as well as jigs, fixtures, and special-purpose machinery. The company specializes in providing automation solutions to original equipment manufacturers (OEMs) in the automotive market—such as Honda and Delphi Automotive Systems—and also services customers in the pharmaceutical processing industry.

In addition to developing mechanical machine designs, Adept Engineers designs and manufactures power distribution systems and electrical LT panels for factory automation machinery. While the company has enjoyed significant productivity gains in mechanical design as a result of its transition from AutoCAD® 2D design tools to SOLIDWORKS® Professional design software, Adept Engineers sought to realize similar efficiency benefits in the design of electrical panels and systems for its automation machinery, according to Managing Partner Saugat Mitra.

“Designing electrical systems and panels for our automation systems generally lagged behind mechanical design,” Mitra says. “Instead of developing electrical designs after mechanical machine design is complete, which adds time to the process, we wanted to develop both aspects of the design together. Another goal was to improve the quality of our electrical schematics, which are used in both assembly and user documentation materials.”

Adept Engineers chose SOLIDWORKS Electrical Schematics software to develop electrical system designs and schematics because it is easy to use, is fully integrated with SOLIDWORKS mechanical design software, and is backed by the strong local support of SOLIDWORKS reseller IRIS Hightech Pvt. Ltd. “SOLIDWORKS Electrical Schematics software not only met all of our electrical design requirements, it gave us the opportunity to obtain quality support for both the electrical and mechanical applications from the same local team,” Mitra explains.

### FASTER, MORE ACCURATE ELECTRICAL DESIGN

Since adding SOLIDWORKS Electrical Schematics design software to its SOLIDWORKS Professional mechanical design installation, Adept Engineers has realized design cycle reductions and quality improvements. Mitra says that by using SOLIDWORKS mechanical and electrical design solutions, the company has cut design cycles by 30 to 40 percent, has improved the accuracy of designs by 20 percent, and has experienced an increase in customer satisfaction.

“When developing custom machinery for top OEMs, delivering quality solutions on time and on budget is critical to growing our business,” Mitra stresses. “With SOLIDWORKS electrical and mechanical design tools, we are much faster and more accurate during development, resulting in shorter lead-times, reduced development costs, and better customer satisfaction. Improving our design performance has allowed us to maintain good relationships with our customers and continue to grow our business.”



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— Saugat Mitra, Managing Partner

### MECHANICAL, ELECTRICAL TEAMS WORKING IN TANDEM

The greater efficiency and consistent quality benefits that Adept Engineers has realized stem from the company’s concurrent, collaborative approach to the electrical and mechanical aspects of industrial machine design, which is facilitated by the integration between SOLIDWORKS Professional and SOLIDWORKS Electrical Schematics design software. By simultaneously developing electrical and mechanical system designs, working in tandem, electrical and mechanical design teams save time and reduce errors, enabling Adept Engineers to expand throughput without increasing resources.

“The first major project for which we employed concurrent electrical and mechanical design was a test system for measuring the noise level generated by power-window motors for an automotive OEM,” Mitra notes. “Because the two design teams worked together closely, they were able to reduce

## Focus on Adept Engineers

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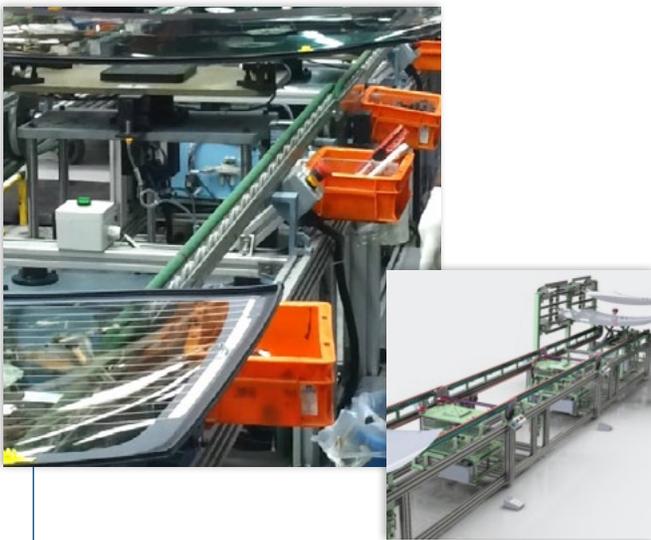
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**For more information**

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The combination of SOLIDWORKS electrical and mechanical design solutions allows electrical and mechanical engineers at Adept Engineers to work more closely in tandem, as they did during the development of this automotive windshield assembly machine, saving time and reducing errors in the process.

solution times as well as optimize space utilization. Everybody wants a smaller machine to reduce factory footprints. With an integrated electrical-mechanical design solution, we're able to work with smaller panels and approach machine design in an automated, straightforward, and efficient manner."

## IMPROVING ELECTRICAL SYSTEM DOCUMENTATION

Adept Engineers also benefits from using SOLIDWORKS Electrical Schematics software through the improved appearance and accuracy of its electrical design schematics, which it uses to produce both assembly instructions and customer documentation, maintenance, and service documentation. "Because our schematic layouts are more accurate and of higher quality, we've been able to use them to significantly improve the quality of our electrical system manuals," Mitra says.

"While the combination of SOLIDWORKS Electrical Schematics and SOLIDWORKS Professional design software has enabled us to integrate electrical and mechanical design—producing better designs in less time and expanding throughput—we view these achievements as only the beginning," Mitra continues. "The next step is to leverage the closer collaboration between electrical and mechanical design teams to develop innovative automation approaches and better-performing solutions for our customers."

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