

CUSTOMER SUCCESS STORY

Automated Drive Systems, LLC

A control panel manufacturing facility in the US reduces overall project time, including design and panel building, by 59% and reduces the burden of scaling its workforce when it implements a suite of EPLAN software to significantly improve its lean processes.



Customer Application Story



Founded in 2011, Automated Drive Systems, LLC (ADS) is a high-technology product distributor and control panel manufacturing facility. Based in Omaha, Nebraska, the company provides control panel manufacturing, process control solutions to support AC and DC drive systems and programmable logic controller (PLC) -based control systems. Automated Drive Systems employs approximately 18 people.

Business Need

Traditionally, panel builders have struggled to find, retain and grow personnel due to the need for a specific experience set. Skilled technicians are needed to design the panels, creating the production prints and bills of materials. Most often, their work is handed off to another group of technicians that build the panel. This can cause variations that affect lean processes and overall efficiency.

ADS experienced a shortage of skilled workers from the very beginning, in addition to several other challenges. The company wanted to optimize their processes to become more efficient and accommodating to new employees that were not steeped in the engineering and panel building processes so critical to success.

To resolve these issues, the company sought to standardize their engineering. With that standardization, the company could then automate two of the most time-intensive panel building processes by investing in a wire fabrication machine. This wire fabrication machine automates the cutting, stripping, terminating and marking of wires, while a CNC machine is used to automate the modification of their enclosures.

To feed these machines the necessary manufacturing intelligence and data, the company needed a software solution to standardize the creation of electrical schematics and panel layouts and provide a direct data link to the wire fabrication and CNC machine. Then, ADS found EPLAN software to meet its goals of becoming a leaner operation overall.

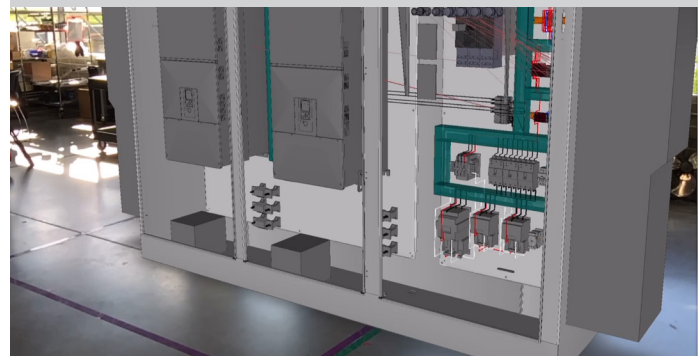
Solution Implementation

ADS implemented the EPLAN Pro Panel software to support electrical schematic and 3D panel design for their control cabinets and power distribution systems.

The Pro Panel software also features the capability to create circuit macros to quickly create entire circuits and design electrical control systems, along with features like 3D visualization, automated wiring diagram generation and data exchange with other software tools. The Pro Panel software resides on the EPLAN Data Portal, a cloud-based repository of data-rich parts, which is used to select the appropriate product data for their engineering projects and to create bills of materials.

ADS also uses EPLAN eVIEW software to collaborate and communicate digitally with coworkers, service providers and customers. The eVIEW software enables users to visualize the 3D digital twin with in-depth information.

A 3D digital twin is a virtual representation of a control panel or cabinet that is used to visualize the configuration and design before building or implementing the hardware in the real world.



Augmented Reality (AR) view

Solution Implementation (cont'd)

In addition, the software includes a function that enables users to send notes back to engineering so that documentation is always up to date. Utilizing the augmented reality (AR) module within the eVIEW software, they can project a 3D design from the Pro Panel software into a physical environment, review the design and use eVIEW software to navigate from the 3D representation of a device to its placement in the electrical schematic.

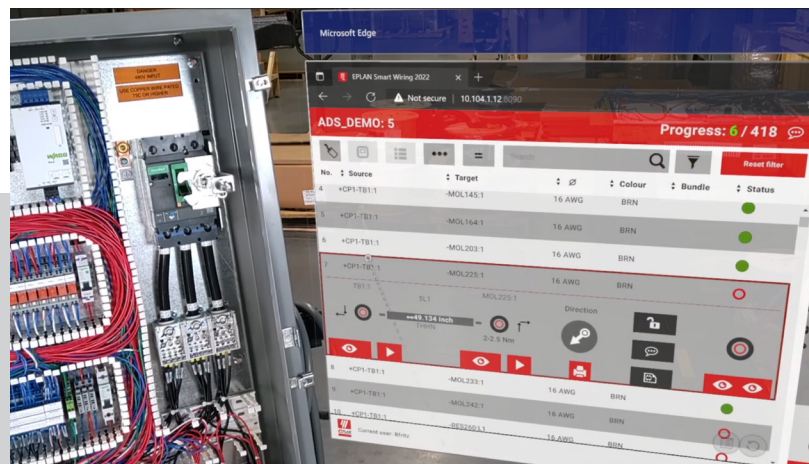
For active collaboration and data sharing across projects and locations, ADS uses EPLAN eMANAGE software to communicate with colleagues, partners and customers.

Using EPLAN cloud-based services such as eVIEW and eMANAGE software, the company can share drawings with their customers and obtain direct markup information imported back to the project file, along with change/comment status tracking.

Further, ADS installed EPLAN Smart Wiring software on the plant floor to guide the physical wiring of the panel to improve the consistency of the final product without the requirement for highly trained personnel. The company uses cells in its warehouse to perform tasks for each step of the process.

The EPLAN ecosystem enables the company to utilize a cell-based method for its production processes that split up tasks. This allows more products to be in production at one time. For example, a technician at one cell wires panel doors using EPLAN Smart Wiring software while wearing the AR headset. A technician at another cell tests the product to ensure power is applied.

Changes communicated through eVIEW software also push down to the Smart Wiring solution, including what needs to be removed or added during the build cycle and maintenance instructions after installation and start up.



EPLAN Smart Wiring

Benefits

By implementing EPLAN software, ADS reduced the overall project time, including design and panel building, by 59%. The company also experienced superior revision tracking when compared to other solutions the company has used in the past.

In addition, ADS significantly reduced the burden of scaling its workforce. In less than three years, the company went from five people to 18, which would not have been possible before EPLAN was implemented.

Using automation machines and tools like Smart Wiring software, ADS can effectively hire people with no direct experience and have them be productive members of their team in as little as two weeks.

Further, with EPLAN's ability to create accurate reports with a click of a button, the company improved the accuracy of bill of material creation, which is imported into an ERP system, along with increasing the number of terminations installed per hour.

Finally, ADS significantly improved its lean processes, along with enhancing the customer experience.



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EPLAN

efficient engineering.

- Process Consulting
- Engineering Software
- Implementation
- Global Support

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