

# Panel builders call upon Omron for greater efficiency

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What are the current business challenges facing panel builders? Lars de Bruin, European Marketing Manager for Omron Panel Solutions EMEA explains how the company is assisting panel builders respond to shorter process lead times, workforce skills gaps and reduced profit margins, without compromising on panel quality.

What are the main challenges panel builders face in the industry today?

Panel builders currently face three principal issues:

- Struggling with time and resource pressures, delivering products to very tight timescales.
- Dealing with multiple component suppliers, impacting procurement and delivery management.
- High levels of competition, which is driving business margins down.

Panel builders say that the competitive nature of the business is often exploited by OEMs, with tenders put out to two or three firms. Responses will be required within a day or so and there is a general desire to drive costs down. Despite end users knowing years in advance when a plant will be built, a common complaint among panel builders is they are often consulted very late on in the design and build phase. Dealing with sudden or frequent design changes is another common challenge. These factors mean that flexibility and ease of modification of the panel are highly desirable.

The skills gap is extremely concerning. The 'Baby Boomer' generation is reaching retirement age taking with them a



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treasure trove of knowledge. Meanwhile, recruitment and industry training schemes are not producing adequate replacements. Training programmes are not comparable with those of yesteryear - people now often have to self-learn. But panel building is not amenable to that approach because of the specific rules and standards that apply.



Push in Plus technology

### How can you simplify panel design while boosting functionality?

Moving to a smaller, standard component height across all of Omron's 'Value Design' family of factory automation (FA) components & control devices allows for standardised wiring duct and component placement to optimise space.

Components are divided into three height categories: **heavy-current components** (power supplies, power controllers, contactors, MCBs, MPCBs and circuit breakers); **control components** (safety relay units, PLCs and I/O terminals and products used for timing and monitoring); and **common I/O accessories** (such as relays, sockets and terminal blocks).

With slim, in-panel component designs that offer widths of as little as 3.5mm, as well as on-panel components with reduced depth, panels that use the new components can, in typical applications, be made up to 20% smaller than those with previous component designs. Side-by-side mounting is possible at an ambient temperature up to 55°C, which leaves additional space in the panel. Importantly, hot spots that can impact component reliability are greatly reduced due to the harmonised height.

### How can you reduce panel build timescales?

Typically, between 10% and 50% of orders may be under intense time pressure. Creating documentation to support complex equipment can also be a major challenge. Accurate product information – including 2D and 3D representations – is essential for efficient planning and speeds up the engineering process.

Omron makes the parts data for all major products available via an online library on the Omron Panel Assist Website. Users can select products and search for documents, find information about control panel building issues and manage bills-of-materials (BOM). No registration is required to use these tools. The portfolio is also available on industry-standard CAD parts databases, including Eplan and Zuken.

Omron makes the parts data of all major products available via an online library on the Omron Industrial Automation website. Users can select products, search for documents and find information about control panel building issues. Furthermore, based on the logic that new projects are typically based upon an existing project/ Bill of Material (BOM) adjusted to the new specification requirements, Omron is offering BOM optimization support (optimised panel with reduced effort

(part selection)). The portfolio is also available on industry-standard CAD parts databases, including Eplan and Zuken.

Wiring is almost always the most time and labour consuming operation when building a control panel. Push-InPlus is a patented advanced mechanism design; a spring allows low insertion force, while ensuring high pull-out force. This reduces the effort it takes to wire a panel. It is estimated to reduce wiring time by up to 60%. However, actual cost and resource savings can vary hugely for each customer. The Omron website provides useful guidance on how to calculate it in any specific circumstance.

#### What health and safety issues affect panel building?

Push-InPlus technology reduces the risk of repetitive strain injury (RSI) because it requires lower insertion force compared to conventional screw-type terminals. Push-InPlus technology will generally lead to a 50-60% saving in wiring time. Using standardised designs can also assist a less experienced panel builder to manage earthing, correctly install power cables, and avoid interference between power cables and signal cables, helping to mitigate operational safety risks.

#### How do you support the panel builder through the complete panel lifecycle?

Brand confidence and quality are naturally important to panel builders, who are reliant on repeat business. Panel builders typically provide a one-year guarantee. After a year, Omron deals directly with the OEM, many of whom take out an extended warranty.

It is important for an end-user to be able to find a replacement product nearby to minimise equipment downtime, Omron has a global network of emergency distribution bases in 35 countries. All devices have acquired necessary certifications, including UL (Listed), CE, and CSA to ensure conformity for companies exporting panels around the world.



*Push in Plus technology*

#### What does Industry 4.0 mean to a panel builder?

Industry 4.0 drives the exchange of digital information throughout a process. In some cases, panel building can be (partially) automated, providing the digital data is reliable and comprehensive. But while feasible in principle, the availability of reliable data often holds this back in practice.

Industry 4.0 also encourages monitoring components remotely as a means of preventive maintenance. Here, there is little incentive for the panel builder to be involved, because it simply increases cost in a world of low margins. On the other hand, for the end user, it is very important. A minute's downtime on an automotive plant or pharmaceutical process can cost immense amounts of money. Omron works extensively with end users in this area.

#### For more information

[industrial.omron.eu/panelbuilding](http://industrial.omron.eu/panelbuilding)