

EPLAN and Rittal add value for the LCA Group

CASE STUDY

The Integrated Value Chain



Customer: LCA Group
Industry Sector: Control & Electrical Engineering
Founded: 1984
Headquarters: Hawarden, Wales, United Kingdom

The LCA Group was acquired in 2017 and right from the start the management team identified a need for furthering the company's manufacturing and assembly capabilities. The LCA Group then invested in new technologies and innovations that aimed to speed up the client approval processes and improve communication between departments. Since then, EPLAN and Rittal have worked closely with the Hawarden-based electrical engineering firm LCA Group, supporting the company's industry leading turnkey service

for electrical engineering projects.

Thanks to this excellent relationship, the LCA Group was chosen to trial the new EPLAN eVIEW solution, which is part of EPLAN's rapidly growing portfolio of ePULSE cloud-based services. To complement its EPLAN software, the LCA Group has also invested in Rittal's laser Perforex, Assemblex and Secarex machines.



THE PROJECT

The Challenge

- How to improve productivity, accuracy, timeliness, repeatability and quality.
- Delayed projects due to high error rate
- Manual working processes

The Solution

- EPLAN Pro Panel
- EPLAN Smart Wiring
- EPLAN eVIEW
- Rittal Perforex LC3015 laser machining centre
- Rittal Assemblex
- Rittal Secarex



The LCA Group is a leading engineering company and was recently named the most innovative business in North Wales. From this facility, the Group provides electrical services to businesses across the country, including project design, manufacturing, installation, commissioning and maintenance. It also operates the UK's first Rittal Automation Systems 3D laser machining centre, which makes it possible for the LCA Group to provide class-leading 3D design and manufacturing capabilities for its customers.

Versatile Software

Underpinning LCA's engineering and manufacturing operations is EPLAN Pro Panel, which provides all necessary data for manufacturing like BOMs, drawings and flat projection drawings, and integrates automation technologies perfectly in the processes of product development and manufacturing. This applies to the mechanical processing of the cabinet housing components and copper busbars, as well as for the control of machines in the cable and wire assembly. Even future-orientated automation technologies such as automated assembly of terminal strips or the robotic wiring of equipment are supported with the EPLAN Pro Panel package.

The LCA Group also uses EPLAN Smart Wiring, a system which visualises the wiring and makes all wiring data 100% digitally available. Users benefit from a significant drop in error rate and substantial time savings. This applies to last-minute changes in particular, as the software handles the

sometimes complex task of comparing a project's new state with its previous baseline. EPLAN Smart Wiring's digital representation refers to the virtual model's 3D layout in EPLAN Pro Panel.

Efficient processes and smart machines

At the LCA Group, the EPLAN software interfaces directly with Rittal's advanced manufacturing systems. These include the Rittal Perforex LC 3015 3D laser machining centre, a revolutionary system for the construction of sheet steel panels which automates processes previously done by hand. Using the facilities provided by EPLAN Pro Panel, which has integrated 3D modelling, the Perforex LC 3015 can be programmed to perform measuring and machining to an extremely high degree of accuracy while processing panels in a fraction of the time previously required for these operations.

A Rittal Secarex cutting centre to cut DIN mounting rails, C rails and cable ducts is also used in the LCA production facility. This machine offers considerable cost savings thanks to improved quality and reduced waste rates and is far more efficient than manual cutting. The Secarex centre includes a state-of-the-art operating station with an industrial PC, an 18.5 inch monitor and a keyboard with trackball. It features pre-defined templates for various sizes of DIN rail and has an integrated label printer for project-related labelling of support rails and cable ducts.





LCA also uses the Rittal Averex system, which is the world's first robotic wiring centre. This is an automated solution for machinery, control enclosure and switchgear manufacturers that saves time and money by eliminating the need to wire mounting plates manually. The Averex system cuts the wires to the correct length, before stripping them and crimping them with wire ferrules. Then it feeds the wire through the cable duct and attaches them to components such as terminal blocks, contactors and motor circuit breakers.

On average, it takes around 180 seconds to complete this wiring process manually - but Averex finishes the same task in approximately 40 seconds. What's more, it is exceptionally reliable, using lasers to identify the parts and check their dimensions against the assembly tolerances. Automation reduces the number of required working hours by around 15 per enclosure compared to manual wiring, based on a panel with 300 wires.

The combination of EPLAN and Rittal systems currently being used by LCA significantly accelerates the company's design and production processes, providing efficiency and productivity that are close to those achieved in mass production environments - even in batch sizes of one!

Cloud-based solutions

To gain even more benefits from the innovation design and manufacturing solutions it has adopted, the LCA Group was recently invited to trial EPLAN's latest cloud-based products. The new cloud-based collaboration tool, EPLAN eVIEW, makes it easy for designers and customers to work closely together on projects, helping to speed up the design and

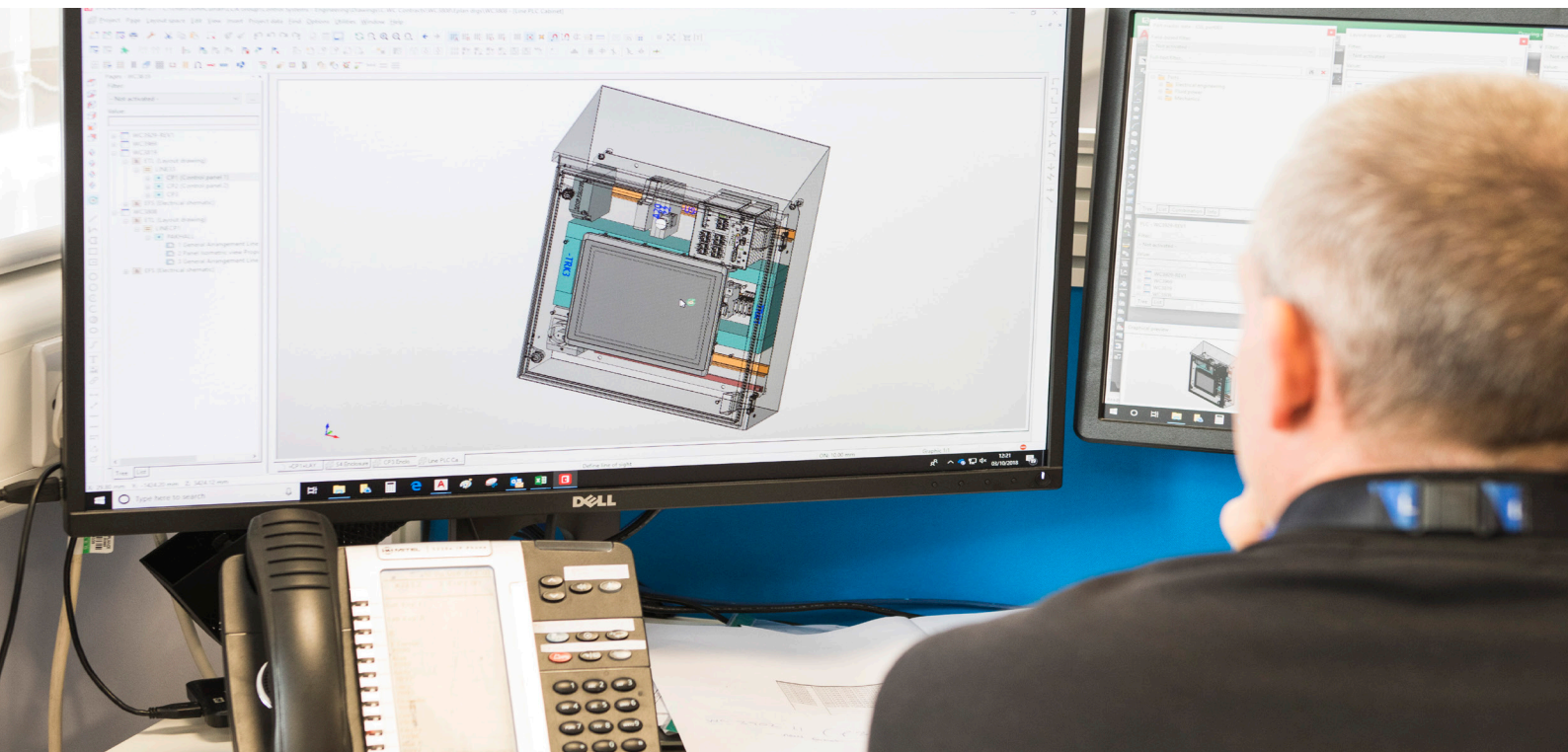
review procedure as well as reducing the need for design revision and reworking, resulting in substantial cost savings.

With EPLAN eVIEW, engineering projects generated using the EPLAN Platform can be accessed directly via the cloud. This means that the project data can be viewed anytime, anywhere, by anyone who has been granted access. One of the key features is a red-lining function which lets customers, employees on the shop floor and maintenance engineers add their suggestions for changes. These changes are then instantly accessible to the design engineers.

For the LCA Group, EPLAN eVIEW is already making lengthy design reviews a thing of the past. Unlike most of its competitors, the company's customers can mark-up drawings online and send their comments back to LCA Group within minutes rather than hours... or days. In addition, using eVIEW means that there is no need to print any of the documentation, which saves money and helps to protect the environment as the need for paper is greatly reduced. Another benefit is that it provides a full audit trail showing previous versions, and a full history of change requests including who initiated, approved and made them.

The LCA Group has benefitted greatly from using the new EPLAN ePULSE cloud-based services, as a result, it has purchased two additional EPLAN Pro Panel licenses, along with company design standardisation, onsite consultancy and training services from EPLAN. In the future LCA is planning to also purchase EPLAN Cognition and EPLAN Preplanning.





The LCA Group has also joined the EPLAN ePULSE customer advisory board. This is made up of carefully selected customers who help to guide EPLAN in the future development of cloud-based solutions, in support of the company's commitment to providing solutions that are driven by customer input.

New Opportunities

"Working with EPLAN has created new opportunities for our business and the company's innovative tools fit in well with our efforts to constantly innovate and lead in the markets in which we operate," said LCA Group Managing Director, Alan Sheppard. "EPLAN's technologies help us maintain our competitive edge and grow, and they also bring important benefits for our customers, which is always a prime consideration for us."

Your strong partners for future-orientated control and switchgear manufacturing:

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Rittal, will help our company achieve even greater success in the coming years, especially as the cloud-based ePULSE services continue to develop and expand."

For more information, please click the below links which will take you to a number of videos developed by EPLAN, Rittal and LCA Group:

[Video case study](#)

[LCA Man V's Machine 1](#)

[LCA Man V's Machine 2](#)

