

EPLAN

efficient engineering.

Automating company processes

Opportunities in control cabinet and switchgear engineering

40 REASONS WHY

PROCESS CONSULTING

ENGINEERING SOFTWARE

IMPLEMENTATION

GLOBAL SUPPORT



Automation in control cabinet and switchgear engineering

Automated processes. Stored intelligence. Automatism. These are the surest pathway to greater agility and corporate freedom. Automation is the surest response in the struggle for profit margins and market share. Control cabinet and switchgear engineering companies that have placed automation at their core have already taken the most vital step. Instead of constantly processing raw data anew, pre-processed information can be converted in microseconds into highly profitable workflows.

1 The new normal: Automation to overcome skilled worker shortages.

Mr. Miller is away on vacation. Ms. Sweep is considering emigrating. Bowman is the keeper of knowledge. When corporate know-how is concentrated in its personnel, a key building block of any digitalization strategy needs to be put in place: automated work steps based on a data pool and standardized rules. These are already making companies more productive and independent in product development processes.

2 Worth their weight in gold: New business models instead of old ways of processing.

Some businesses have already shifted from being pure control cabinet manufacturers to becoming providers of engineering services. But how can this be achieved when the amount of engineering effort in the traditional business segment is increasing rather than decreasing? If you spend 75% less time in electrical design by using automated processes, then you will free up time and minds to create innovative new business models.

3 How do you go about it: standardized, partially automated, fully automated?

What is the automation optimum? The "Engineering 4.0" study examines partial automation in creating schematics and reports.¹ In many cases, partial automation brings the best return on investment. Shifting from partial standardization (parts list) to full standardization (templates) in 3D control cabinet layouts already leads to 50% savings.

4 Automation potential? Five indicators in the engineering process.

There are five indicators of automation potential in engineering which can be applied to both basic tasks and complex set-ups: 1. Medium to high volumes of recurring tasks; 2. Processes can be expressed in clear rules; 3. Quality and time are critical for the process; 4. Multiple project participants; and 5. Project history to date lacks transparency.

¹ <https://www.gartner.com/en/newsroom/press-releases/2019-02-20-gartner-survey-reveals-digital-twins-are-entering-mai>

5

External expertise: A systematic approach or hoping to be lucky?

Processes are the backbone in business operations. Can these be entrusted to somebody from outside? They should because efficiency gains are the main purpose of automation solutions, and external expertise has neither a past nor a future in the company. External service providers ideally have years of experience, have successfully implemented reference projects, and are strong communicators.

6

Guarantor for success: Top services – Top products.

Smart products require smart engineering with a high degree of automation because error-free repetition of dedicated processes, especially in product development, has a direct effect on the quality of a digital twin. On-time delivery, time-to-market and reputation is taken to new levels because automation brings about high-quality products/services. It also enables cooperation to take place.

7

Doing things differently: Automation for job satisfaction.

Automation means highly qualified engineers and technicians no longer need to perform routine tasks. Their skills can then be used to achieve specific targets such as developing new products and services. In this way, automation enriches work and increases job satisfaction.

8

Design made easy: Transparent processes.

Automation means error-free design, no writing of reports, and shorter workflow cycles. Just as important is automation's transparency which enables analysis and improvements to be performed. Automated processes mean being able to predict and identify the engineering required as well as potential problems and bottlenecks.

9

Industry-proven: The right pathway to automation.

For information to become independent processes, automation needs to be based on unique standardization. Creating high-quality parts data is a prerequisite for design and engineering. If approx. 3,000 active parts are available, approx. 1,500 device-based parts need to be created. New design methodologies are paving the way from standardization to automation.

10

User-friendliness functions better: Being agile to achieve goals.

The shift from detailed drawings to intelligent automation in control cabinet and switchgear engineering is generally not a big bang event. Tactically selected pilot projects in engineering and an agile approach give users space to adapt and accept change. To achieve success quickly requires meticulous process analysis, appropriate software and an adequate IT infrastructure.

Engineering 4.0 meets automation

The milestones in any strategic digitalization roadmap have been summed up in the “Engineering 4.0” study. Standardization and automation are the prerequisites for optimized engineering processes in control cabinet and switchgear engineering. Benefit now from the many advantages of creating schematics and 3D control cabinet layouts.

- The key to greater engineering efficiency lies in the systematic apportioning of tasks, beginning with data creation and standardization and continuing through to the processing of orders.
- As a rule, double the amount of standardization effort is required for a partially automated to automated configuration.
- Based on five efficiency levels in engineering (classic, partially standardized, partially automated, automated), an approx. 20% increase in efficiency can be achieved at each level.
- In many cases, partial automation brings the best return on investment.
- A 25% reduction in time for creating schematics can be achieved by using a device-based approach. Partial standardization is when schematics can be created from parts in a device-based approach, i.e. using drag & drop.
- A 50% reduction in time for creating schematics can be achieved by using a schematics library for (standardized) production functions.
- A further 25% reduction in time for creating schematics can be achieved by implementing partial automation. A modular kit of design templates, based on product structures, then needs to be provided with rule sets.

Do you want to explore a pathway to an automated future?

We will be happy to help you at info@eplanusa.com.

Benefit from the expertise we have gained from over 35 years of engineering experience!

info.eplanusa.com/electric

EPLAN Software & Service LLC
425 N. Martingale Road, Suite 470, Schaumburg, IL 60173
TEL: +1-847-240-4667 · Fax: +1-847-240-4633
info@eplanusa.com · info.eplanusa.com/electric



PROCESS CONSULTING

ENGINEERING SOFTWARE

IMPLEMENTATION

GLOBAL SUPPORT