By using standardized electrical equipment, AP&T, a Swedish workflow automation specialist, has housed all the automation in one control cabinet and as a result has greatly reduced costs.

Automatic, Press and Tooling (AP&T) develops, produces, and markets automation systems, presses, tools, and complete production lines for the metal-forming industry. One of AP&T’s core competencies is in the area of workflow automation. The company supplies complete solutions and considers itself responsible for all subareas. AP&T has now succeeded in standardizing the automation to such a degree that the required technology can be housed in just a single preassembled control cabinet. This is sufficient to operate robots and other automation units.

Use of Simotion provides freedom
Christer Bäckdahl, development manager at AP&T, reports, “We concentrated very early on consistent modularization while pursuing the strict standardization of these modules. Our automation has now been based on the Simotion motion control system since 2006. In particular, Simotion allows the standardized modularity that we have established in the mechanical system to be transferred to the electro-technical equipment and ultimately to be mapped in the software as well.” Summing up, he says, “The use of Simotion has greatly reduced our engineering costs.” Modularization and standardization also provided AP&T with freedom to become involved in other aspects of the process. The Simotion motion control system is now considered to be a basic requirement for modularization and standardization – and therefore also for the development of complete solutions in the area of workflow automation and the manufacture of customized control cabinet solutions.

Fast commissioning and high level of customer acceptance
Together with Siemens Sweden, AP&T was able to automate all units using a single control cabinet variant. For this purpose, the signal routings and designations were standardized, conflict-free identifiers for addresses and variables assigned, the power requirement and the connection values matched for all appropriate machine modules, and fail-safe Simatic ET 200S modules configured for all safety equipment. Siemens System Engineering Plant Chemnitz optimized the control cabinet layout based on these specifications. In this case, both IEC- and UL-certified variants were created, and both can be ordered in either the electrically cooled or water-cooled version.

»End users particularly appreciate the guaranteed high quality of the products manufactured by Siemens.«
Christer Bäckdahl, Development Manager, AP&T AB
Consistent modularization permits the use of uniform, standardized control cabinets for the feeder, press, and stacker

cooled variant. The control cabinets are brought fully pretested from the warehouse shortly before starting commissioning and are connected to the machine via Profinet and the motor cables. The service technician then installs the standard software and sets the customer-specific machine parameters on the CPU – then commissioning can begin immediately. Bäckdahl observes, “The standardized control cabinets not only result in reduced costs in terms of design engineering, installation, and commissioning, but the lead time is now shorter too. We profit from this on every single job.” The control cabinets are very compact, which is also beneficial for transport and storage. The development manager sums up: “The compactness also contributes to a high level of acceptance by end users; they particularly appreciate the guaranteed high quality of the products manufactured by Siemens.”

The modularization and standardization of the control and drive technology provided by the control cabinets are also opening up new prospects. Now, depending on the production job, it is also possible to use recipe-controlled configurations with other stations to form press groups that process the current job over a specific period after the individual systems have been synchronized and coordinated with each other. When required by the next production job, the operator can activate another recipe and then use the press, including the feeder and stacker, as a stand-alone station or in a different line configuration.

New quality for standardized control cabinets

Once again, AP&T has proved its competence in this area thanks to modules and standards that are easy to understand and that can be used flexibly. Standardization of the electrical equipment for the modular machines of the metal-forming specialist has resulted in a new level of quality in the control cabinets. In addition to easier and faster completion of customer jobs, they enable even more flexible, recipe-controlled configuration of machine modules for the construction of complete manufacturing lines. 

info contact

www.siemens.com/metalforming
andreas.michalik@siemens.com