

THE TWIN TRANSITION

CECIMO MEMBER COMPANIES TESTIMONIALS



Joël Duprat, Director General, Escofier

In Escofier, the twin transition started a decade ago with the creation of our “Green line” machine: full electric machine without hydraulic system. We finalised this year the development of the last application where hydraulic solution was required; all the machine we produce are now fully electric and connected. The next steps for us is to develop robotic solution for our machines and work with our AI PhD student to use the data collected by our IoT sensors in predictive maintenance and process control.

Today, the acceleration of the twin transition in the market is bringing us growth from two aspects. The increasing use of cold rolling process for existing products is one of them. With the need of reducing their footprint and cost, more and more manufacturers are moving to cold rolling process as it is a sustainable process with a low footprint: no chips, less energy consumption, very long tooling lifetime. We have several ongoing innovation projects with our customers to develop solutions to roll parts that are now produced with other machining process.

The second aspect is the emergence of totally new products or product with more stringent requirements coming from the twin transition on the market. For example, we observe an increasing demand for ball screw solutions to replace hydraulic cylinders. We are also working on innovation projects to push the limit of rolling process to reach stringent requirements on automotive components to reduce the noise in electrical vehicles. Twin transition is also generating new challenges such as manpower shortage for technical profiles and critical degradation of component cost and lead time. To sum up, it is a great opportunity but challenging for the company.

There is no doubt that the twin transitions play important role in composing business strategies and company's ability to keep and evolve its competitiveness and sustainability. The need to digitize business processes, data collection, processing and analysis is already a part of our daily work. The amount of this data that we are able to obtain is growing exponentially. It is therefore necessary to come up with effective tools for their processing and evaluation. This places demands not only on new technologies, but also on the knowledge and skills of our employees. At TOS VARNSDORF, we have been developing our own add-on system for several years called TOS Control. It ensures better communication between an operator and the machine through unified machine tool interface and allows to include special applications and also communication with external devices and other systems. The result is not only an improvement in the efficiency of the production process, but also the possibility of interconnecting several different machines into one production system, its monitoring and control, including connection to the ERP system of the company.



Jan Rydl, Member of the Board, TOS VARNSDORF



Vincent Affolter, Managing Director
Affolter Group

We have been manufacturing gear trains for the watch industry for over 100 years and have been developing and producing gear cutting machines for over 20 years. Originally, the engineers employed in the family business were exclusively concerned with improving the existing equipment. In the 1980s and 1990s, this meant integrating electronics and software into mechanical machines. It was essential to do things differently from the market, and so the company developed its first numerical controls. The performance of the production workshops quickly defied the competition, and the company grew. Now, Affolter Group integrates its 5th generation of numerical controls, Pegasus, which is installed on the Industrial PCs of the specialized company Beckhoff. In addition to Affolter, Esco SA's high-performance escomatic turning machines also work with Pegasus. The software solution, developed in-house, not only manages the axes and functions of the machines, but also makes all machine data available and usable. This data, which characterizes the physical machine, can be easily transferred to the Pegasus Simulator tool, which is installed on a conventional computer. Pegasus Simulator becomes the digital reproduction of the physical machine. From there, it is possible to analyse the machine's conditions, plan maintenance or updates, or even simulate an exact machining cycle to optimise its output without using a physical machine. Traceability, modularity and connectivity are now integral parts of our factory floor and machines.