The use of innovative control and drive technologies is essential for increased productivity. There are three aspects of integration behind IDS, which offers numerous advantages: First is the horizontal integration of the drivetrain along the energy flow. The frequency converter, motor, coupling, and gear unit are from a single source and interact perfectly, which can increase plant availability. The second advantage is the vertical integration of the drivetrain and control system along the information flow – all the way to the enterprise level. Because of the seamless integration of the drive systems into the TIA Portal engineering platform, engineering time can be reduced by up to 30%. And, last but not least, the equipment is complemented by service and software that support the entire lifecycle of the drive systems. The optimal interaction, as well as the long-term compatibility of all elements, ensures improved performance and an up to 15% reduction in maintenance costs. These three integration dimensions offer immeasurable added value to machine manufacturers, system planners, and end users because in addition to greater efficiency, reliability, and productivity in planning, constructing, commissioning, and operating production plants, both time to market and time to profit are reduced.

**Servo technology makes production of container glass easier**

The Sklostroj company, based in Turnov in the Czech Republic, also benefits from this integrative portfolio. The manufacturer of container glass machines implemented a complete solution featuring servo technology from Siemens for its new ISS glass machine series. “Industrial know-how and industry services that are available worldwide are important criteria for us,” explains Rolf Themann, technical director at Sklostroj. “This is why we designed an integrated drive system for our ISS machines together with Siemens, with both hardware and software from a single source. This way, we only need one contact for everything.” During the manufacture of container glass, special attention is paid to mold cooling, which is performed in Turnov in a sophisticated manner using Simotics ser-
vo-axes. Previously, mold cooling was controlled via pneumatic axes; however, the highest degree of precision and repeat accuracy, as well as consistent product quality, could be achieved only with the use of the Simotics servo-axes. Because machines of this complexity also require highly precise motion control, the machine was automated at the motion control level using Simotion and the Sinamics S120. The axes are controlled by the Simotion D445 motion control system. This solution ensures highly precise motion control and synchronization even under extreme production conditions at the hot end. Sinamics S120 line modules guarantee high grid compatibility and thus maximum availability. In a completely new development, the energy-efficient motors were moved into the basement. Themann is delighted: “This idea came about during the collaboration with Siemens. Now the technicians can easily access the motors from below using a service platform, which will save us a lot of time during maintenance and modernization measures.”

**Increase in efficiency thanks to threefold integration**

The IDS concept impressed the project team at Sklostroj. “The approach with threefold integration gave us increased efficiency, greater reliability, and higher productivity,” summarizes Themann. For example, it was possible to increase availability by up to 15% and reduce energy costs by up to 40%. Everyone involved with the project was completely satisfied: “We rely on safe solutions – solutions from a single source. That’s why we chose Siemens for the integration of the drive system,” explains Themann. “Here we find a reliable partner with the necessary technical expertise relating to integrated drivetrains.” Karel Dockal from Siemens, who has supported the customer Sklostroj for many years, confirms this: “We always look at machines or plants as a complete system so we can advise and support our customers with targeted solutions.”

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Savings at Sklostroj:

+15% increase in plant availability

−40% reduction in energy costs

“**The approach with threefold integration gave us increased efficiency, greater reliability, and higher productivity.**”

Rolf Themann, Technical Director, Sklostroj Turnov CZ, s.r.o.

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