





The Sinumerik 840D enables Wincor Nixdorf to carry out demanding jobs at low cost

■ **Wincor Nixdorf GmbH, Germany**

Profitable Investment

Sinumerik's integrated control technology ensures cost benefits in tool and mold making.

Tool and mold making in manufacturing companies is a labor-intensive, machine-intensive and time-consuming step in the production chain. Therefore, it makes commercial sense for many companies to consider outsourcing this particular cost factor. Or does it? Tool design, modeling and transportation – and in most cases necessary reworking – often add significantly to costs.

Income over costs

With production facilities in Paderborn (Germany), Singapore, Shanghai and São Paulo, Wincor Nixdorf GmbH is one of Europe's leading manufacturers of ATMs and cash deposit, reverse vending and POS systems. The company has made tool and mold making a profitable division of its business which, with its own income, makes an active contribution to group profit. Since receiving an international "best in class" ranking in 2000, it has significantly improved its position both in the market and within the company.

Michael Schönbeck, Head of Mechanical Production at Wincor Nixdorf's main plant in Paderborn, ►►



The milling centers are equipped with Sinumerik for practical operation and simple data handling

» has his own explanation for the successful concept: “We offer tool and mold making as a service. Incoming orders are channeled into a network of hand-picked mold builders. A production order is placed with the supplier who is best able to meet our individual quality and deadline targets at the right price.”

evaluation may consider, for example, whether a partner can produce certain sample parts under production conditions, and what control technology they employ.

In order to ensure high quality levels, an order is ideally placed with suppliers in the same category, and in the event of capacity shortages, would only ever be

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Michael Schönbeck, Head of Mechanical Production

Tool making in house really comes into its own with demanding projects. This is because, unlike many other tool and mold builders, the “mold and die” technologists at Wincor Nixdorf have sound practical experience in injection molding and forming technologies.

Standard evaluation criteria for high quality

In order to estimate the technological requirements of a production order, Purchasing requires an instrument that is simple to use for the tendering process. To this extent, at the preliminary discussion stage, which is attended by all parties involved, each tool making project at Wincor Nixdorf is allocated to a particular category. The experts in Schönbeck’s team also applied the same criteria that are used to categorize a tool or mold making project to the tool and mold builders who form part of the network controlled by Wincor Nixdorf. The

awarded to higher classified suppliers. The advantage of this method is that suppliers can deliver within set deadlines at the most favorable price, while healthy competition exists between the network partners, as well.

Standard control system

Tool and mold making is also subject to such competition at Wincor Nixdorf itself. One of the first steps along the road from cost to profit involved eliminating diversity within the control process. There are currently twelve production centers operating in three shifts, most of them at DMG or Huron. As Schönbeck explains: “All machines need standard control systems if we are to be flexible in terms of our division of labor. We use Sinumerik 840D control systems for all our tool making requirements because of their highly practical user interface.”



Pictures: Wincor Nixdorf

In this respect, tool and mold making personnel working on 3+2-axis applications ideally use Traori transformation and Cycle 800, not because by doing so, it is very easy to track what the control system is doing, but also because transformations are very simple. Moreover, during true five-axis working the Cycle 832 “high speed setting” is regularly used, which enables the performance and dynamics of the machine to focus on roughing-down work, precision and surface quality.

The chosen route for standardization of the machine control system in tool making is the right one, as Head of Resource Planning, Jürgen Schlüter, confirms: “In contrast to other solutions, using the Sinumerik 840D affords us great savings potential. Our employees have built up expertise over many years based on the Sinumerik control system so, as far as the operator is concerned, a change of machine does not mean a change in the fundamental operating philosophy.” Another small, but useful, benefit is that large NC programs can be invoked directly via the network using ‘EXTCALL’.

Innovation promoted

The homogenous automation environment employed by Schönbeck and Schlüter in their own production facilities – and which they reward and promote in those of their partners – means that innovation is given a free rein at Wincor Nixdorf. All parties benefit from an environment in which there is competition for, and mutual exchange of, technological advances. For example, Wincor Nixdorf used aluminum molds from an early stage. With the right materials, it is possible to produce several hundred parts; with electroless hard nickel plating, the figure can be as high as 500,000. As aluminum can be machined very quickly, the time savings are so great that rapid

prototyping becomes superfluous in many cases. Once again, both time and money are saved. Moreover, heat flow over the mold during the production process is far more efficient than when steel is used, and, therefore, the number of cycles achieved is also higher.

Future-safe tool and mold making

Standardization of its automation systems affords Wincor Nixdorf competitive advantages, as the company can develop synergies along a complex process chain and make progress with technological competence more quickly than its competitors. This is particularly true of tool and mold making, where there is direct interaction with product development, production technology and parts production, as well as pressure on costs in a global market.

Production Manager Schönbeck is convinced that, particularly in Germany, vertical integration is the key to long-term success: “It is the only means by which quality parameters, cost structures and synergy effects, from the initial concept through to series production and delivery of the product, can be fully controlled, optimized and utilized to increase income.” It also prevents important technological expertise ending up in the hands of competitors. Schönbeck believes that delegation to third parties is only appropriate in the case of production of simple tools, tedious data handling or laborious machine operation. ■

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