Door factory in Entlebuch invested

The high-tech CNC-machining center is been developed in partnership between the Reichenbacher Hamuel GmbH and the Entla AG (Switzerland).

Quick high performance and quality

The project started in January 2008. After three months of intensive cooperation, a concept resulted, which exceeded expectations concerning the efficiency and milling quality.

VISION II U T-Sprint

Door production plant with the machining center VISION II U T-Sprint, two automatic portal loaders and a through-flow machining table.

Interdisciplinary cooperation

The realization of the project is been supported by this companies:
- RWG (handling-systems)
- Direkt CNC-Systeme GmbH (software)
- Siemens AG (controlling)
High performance door production plant VISION II U T-Sprint

The machine

Core of the production cell is a CNC-machining center Vision II U T-Sprint with two 5-axes working heads, which can swivel in negative range by up to 8°. These working units are equipped with 15 kW milling spindles (Speed range up to 24,000 rpm). An automatic chain changer puts 60 tools at the disposal. The work pieces are processed on double channels on the through-flow machining table, this means that during one of the working units works on the work piece, the second unit can at the same time accomplish e.g. a tool change. The table is specified for door leaves with a length from 800 up to 3,000 mm, a width from 650 up to 1,600 mm and thicknesses from 38 up to 100 mm. A Siemens SINUMERIK 840D for multi-channel technology is used for the controlling of the production cell. The flexible software package NC-Hops 5.0 Professional provides optimal solutions for a complete door construction.

Production sequence

The unfinished door leaves are fed with the portal loaders and afterwards they are targeted on the roller conveyor. After scanning the parts-barcodes, the NC-parts-program is loaded and automatically started. This is followed by setting-up the table, the infeed transport and the clamping of the raw part as well as the outgoing transport of the finished parts. Waste material from the vision panels is removed by the lowerable roller conveyor while the machine continues working on the work piece. The portal loader on the outfeed side stacks the finish doors again on trolleys.

Result

The facility has been put into operation at the end of May 2009 at the customers' in Switzerland in a new production hall. There it demonstrates since then high performance with very little need for space, excellent milling quality and fast throughput times as well as small batch sizes.

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