



ABB Turbo Systems: Faster production of high-quality flow profiles

## Turbine Blades in Record Time

ABB Turbo Systems, based in Baden, Switzerland, is one of the leading manufacturers of turbo chargers for Diesel and gas engines. These provide the necessary power to drive vehicles such as gigantic container ships and huge ferries – with reduced fuel consumption and lower pollutant emissions. ABB has managed to accelerate the production of the incorporated turbine blades by 40 percent, using two Liechti Turbomill machining centers. A CNC solution provided by Bosch Rexroth significantly contributes to the increased productivity.

The entire production of the flow profiles – even the engraving of the serial numbers – is realized with the new Liechti Turbomill machining centers. The enormous power of the Liechti machining centers is mainly due to the high computing performance of Bosch Rexroth's CNC system IndraMotion MTX with its decentralized drive and control intelligence. Electromechanical components, drives and motion control work together perfectly in order to ensure the extremely precise interaction of the five machine axes.

### From a metal cuboid to the finished flow profile

The Turbomill fully automatically produces turbine blades in various versions from metal cuboids. The smallest blade is ready to mount after 33 minutes. The high processing speed is facilitated by the powerful IndraMotion MTX in combination with the decentralized position control via IndraDrive Advanced servo controllers. The system does not yet exploit its full speed potential in order to minimize tool wear, leaving room for further productivity increase as tooling advances. The compromise between service life and production times helps to ensure maximum availability and productivity as well as the highest possible production quality and reduced tool costs. Despite its enormous performance spectrum, the Turbomill is easy to use – Bosch Rexroth's intuitive visualization and user interface do not require expensive training measures.

### Tough application

Reliable low-maintenance milling solution for the precise production of high-quality turbine blades

### Ingenious solution

Rexroth's drive and and CNC control system increases process reliability and productivity.

### Exactly

*„For us, productivity is critical because we manufacture large quantities.*

*That's why we have the Liechti system and that's why we use Bosch Rexroth for drive and control technology.“*

Cyrrill Arnet, ABB Turbo Systems



### Solved with

- ▶ IndraMotion MTX advanced CNC control system
- ▶ IndraDrive advanced drive system
- ▶ Rexroth process visualization and intuitive user interface