



## Case Study

ALSTO Präzisionsspannwerkzeuge GmbH

Industrial PCs increase productivity in turning and milling centers and are unaffected by flying chips, vibration, and water



noax industrial PC's acquire production data and supply information about manufacturing precision clamping tools

## 20 percent more performance

"When I say something can be done, I really show that it can be done. And I've actually proven it." This is the mission statement used by Alexander Alber, the company director of ALSTO Präzisionsspannwerkzeuge GmbH, when he founded his company in 2006.

"Before I had the noax IPCs set up here, I couldn't acquire any precise data. Now, that has all changed."

"The advantages I have over the competition are innovative manufacturing processes and intelligently structured methods of operation." With a concrete idea, courage, assertiveness, and self confidence, Alber succeeded in expanding his business so much over seven years that he now has 10 employees. The businessman has succeeded in always staying one step ahead of the competition thanks to innovative products, innovative manufacturing methods, and investment in state-of-the-art technology. noax industrial PC's play an important role in this success.

### Intelligent manufacturing

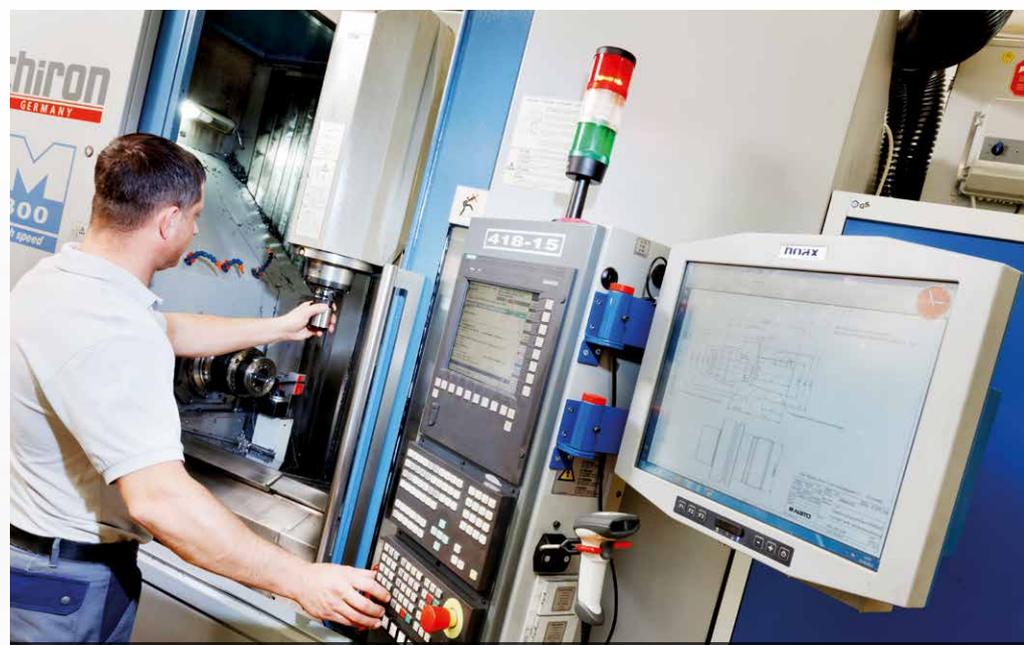
ALSTO Präzisionsspannwerkzeuge GmbH, from Burladingen in Baden-Württemberg, Germany, produces clamping tools and tool holding devices for machines which are used in wood-processing operations. The various tools are produced in several stages. First of all, the required parts are rough-turned and milled from cylinder-shaped steel blanks in the seven turning and milling centers. Alber also wants to carry out as many operations as possible in each clamping operation and emphasizes that "each time the parts are reclamped, there is a loss in quality and quantity." He adds: "As far as I'm concerned, it should only take two clamping operations to get each part ready for the hardening shop. This is what we mean by intelligent

manufacturing. Our know-how is the company's capital." The industrial PC's support him in these tasks. They provide the required data and CAD drawings for programming the machines. The industrial PC displays the CAD drawings clearly so that the employees can see even the smallest of details. After turning and milling, the parts are hardened. ALSTO outsources this process to other companies. Gas is used to embed carbon about one mm into the surface of the steel part. The parts are then sandblasted, covered with a dark protective coating, and returned to ALSTO, where they are polished to a high gloss finish in a special machine, which halves the roughness depth. The reason for this is simple: the lower the roughness depth, the better the part is protected against corrosion. After finishing, the tool's center of mass has changed and is corrected by balancing. Final processing takes place in a room at a constant temperature which is

kept separated by a climate cabinet. This helps ensure that high-quality and uniform products are produced at all times. Then it is time for the last production step: laser inscription. Following this, the tools and tool holding devices are ready for shipment.

### 20 percent more performance

noax IPCs primarily support the businessman during the first production step, i.e., when the parts are being processed in the turning and milling centers. They display the design drawing in the form of 2D CAD data and specify the parameters which are used for programming the machines. For Alber, innovations principally mean efficient processes. State-of-the-art production data acquisition (PDA) performed by the noax industrial PC's also contributes to this in his opinion. He is able to increase the performance



Clear: Even the smallest details of a CAD drawing can be seen easily on the 19" screen

*Products of the highest quality, strong customer focus, and intelligent manufacturing methods – this is the recipe for success which businessman Alexander Alber used to establish himself as a reliable supplier in the engineering industry and the spare parts trade. The company relies on industrial PC's from noax to keep its operative processes streamlined, reliable, and reproducible. The noax IPCs and the turning and milling centers work together in a way which allows the company to increase its production performance considerably and to successfully hold its ground in a difficult market environment.*

*Economical: By using noax IPCs, ALSTO can further improve product quality and performance*



of his production by 20 percent simply by using PDA. "I only invest when it provides a return," he says of his decision to use industrial PC's for PDA. The seven turning and milling centers in his production process did not originally have any display option for CAD visualization or PDA. Alber therefore began to look for a solution to automate as many processes as possible. Because the hardware was to be used in combination with his turning and milling centers, he focused primarily on robust, completely sealed computers which were suitable for industrial environments and which represented a safe, long-term investment. His aim was to ensure that users found the systems as easy to operate as possible so that they could access the required information in just a few keystrokes. The industrial PC's were also to be manufactured in Germany because the "Made in Germany" label represents solid design and reliability. He discovered the hardware which met his requirements on the noax website ([www.noax.com](http://www.noax.com)). Alber decided on the 19" design from the noax Compact series because he first and foremost wanted a large display which could show the design drawings clearly and which would reproduce the DIN A4 PDF files in 1:1 format. The large touchscreen is also very easy to operate.

## Information for all employees

In addition to effective PDA, Alber wanted to make his expertise available to his employees. "I have all the data for production stored in my head, but my business should be able to keep running even when I'm not there," he explains. The employees simply have to press a key on the IPC or touch the touchscreen a maximum of two times to retrieve the required information. "It should be as easy as possible for my

employees so that they can concentrate fully on their own tasks." Before Alber introduced the industrial computers from Bavaria to his business, he had all the information required for production on pieces of paper which were kept loose near to the turning and milling



*Robust: The well-thought-out design of the noax IPCs guarantees reliability and a long service life, despite constant load from the machines*

centers. "That was no good," he admits. "If a piece of paper was torn or became dirty, it had to be printed out again and that just held up production. Now, with the industrial PC's, all the design data is available at any time, you can't lose it, and it does not become illegible due to oil, water, or fingerprints the way paper does." As well as the PDF viewer for design data and a program written in-house, ALSTO also has software for PDA installed on

the IPCs. PDA provides him with precise feedback on the productivity of his company. "Before I had the noax IPCs set up here, I could not acquire any precise data, so my employees or I had to note down the information by hand on a slip of paper, which constantly interrupted the work processes. If I couldn't determine exact figures, I had to make estimates. Now, that has all changed. As I have previously mentioned, PDA alone has brought about a 20 percent increase in performance."

*"I also really liked the fact that the noax IPCs didn't have external fans."*

## More intelligent manufacturing

Alber values the noax industrial PC's not only for the wide range of functions they offer but also because they are based on a fundamentally solid design. Because they are used directly on the turning and milling centers, they are exposed to the vibrations of the machines. There are also steel chips flying, water and water vapor, which often occurs in the turning and milling centers during processing. The completely sealed construction of the industrial PC's prevents chips, water, or cooling lubricant from damaging the computer. "I also really liked the fact that the noax IPCs do not have external fans," Mr. Alber explains, "because they break very easily and then the processor is virtually useless." The company director places his full trust in the robustness of the industrial PC's. "I made inquiries with reference customers, of course, and heard nothing but positive comments. I think that in the long run, the noax IPCs will also contribute to maintaining the intelligent nature of my company and help me to expand further."



## ALSTO Präzisionsspannwerkzeuge GmbH

### Company Profile:

ALSTO Präzisionsspannwerkzeuge GmbH has been producing precision-made clamping tools and tool holding devices for machines which are used in wood-processing operations since it was founded in 2006. The medium-sized company from Burladingen, in the Zollernalbkreis district in Germany, currently has ten employees.

For more information, please visit:  
[www.alsto.de](http://www.alsto.de)

## Specifications and Application

### Objectives:

- ✓ Using industrial PC's on turning and milling centers
- ✓ User-friendly visualization of design drawings
- ✓ Issuing tool parts lists
- ✓ Exploiting the potential for efficiency using PDA
- ✓ Communication with the company servers via WLAN

### IPC Requirements:

- ✓ Use on turning and milling centers
- ✓ Robust design
- ✓ Shock and vibration resistant
- ✓ Completely sealed construction in accordance with protection class IP65
- ✓ Protection against metal chips, cooling lubricant, and water vapor
- ✓ Clear, high resolution display with touchscreen
- ✓ Easy, intuitive operation by employees
- ✓ Easy maintenance and fast service
- ✓ Maximized operational stability and availability under extremely demanding conditions
- ✓ Connection to WLAN

## Overview of Components

### Hardware:

- Industrial PC Compact C19
- In-house developed noax All-in-one motherboard
- Input: particularly robust touch panels
- Bright, high-contrast TFT display
- Protection class IP65
- Completely sealed, without external fan

### Software:

- Operating system: Windows 7 Professional (64-Bit)
- Application programs: Adobe PDF viewer, Software developed in-house, PDA software

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