



Case Study

MEYER WERFT GmbH

Industrial PCs lower costs, reduce the rate of error and increase employee satisfaction in the construction of cruise ships



noax industrial PCs in the construction of cruise ships at MEYER WERFT GmbH

Dream vacations are made in the world's largest building dock hall

It would take Michael Welp almost ten minutes to simply cross the new building dock hall at MEYER WERFT in Papenburg. At more than 500 meters long, the hall is the largest in the world. This is where the company manufactures luxury cruise

"Since 2005, when we purchased the first noax IPCs, we have never had to make a service call."

ships. Groups of men can be seen working with welding equipment throughout the hall, clearly visible from the

hissing and crackling, blue light and continuous sprinkling of yellow sparks wherever they stand.

Reducing costs through better work planning

As head of IT production planning and control, work scheduling and quality assurance, coordination of operations falls within the remit of Welp. With one of the groups, he points to a type of infoboard where a noax industrial computer is integrated. "This is where the employees log-in using their company IDs. We need the noax IPCs for employee time recording and for managing and coordinating the individual work stages." Shipbuilding is like a puzzle with building blocks in which a tower, a house or a model ship can be built from many individual elements. A number of different sized steel plates are first cut using a laser cutting machine. At the numerous work stations, employees weld the plates together into sections, and each steel plate is given a barcode and a number so that the men at the stations know precisely how the individual parts are to connect together. In technical jargon, a section is the basic element, in other words the building block from which the hull is assembled. A number of sections combine to form a block. In turn, the complete

hull is then created from several blocks. The data for assembling the individual parts is supplied by numerous noax industrial PCs at the work stations. "The industrial PC's basically have two functions," explains Welp, "the employees on the ground use them to retrieve all work instructions. In addition, the industrial PC's provide the operating data for work planning in the control room."

Reliable data for the control room

The assembly of the sections and blocks is coordinated from the control room. Supervisors can monitor employees here to see who is working at a particular station at a particular time, which activities have to be performed, which work stages have already been completed and how long the individual employee has been working at the station. Accurate information on the

production progress is critically important, especially in such a gigantic project like the construction of a cruise ship. Every employee has a company ID with an integrated transponder chip that they use to log in at the station. The operating data is sent to the control room over a wireless LAN connection, where it is collected and evaluated. The employees in the control room are therefore always up to speed with respect to the current production status.

Electronic data transfer reduces the rate of error

Before the company switched to electronic time recording, the individual work stages were manually entered on forms and these forms then filed in the foreman's office. "This method was not only time consuming but also meant that mistakes continuously occurred,"



The 19-inch noax IPCs are the central communication medium between the control room and the employees

MEYER WERFT has acquired an excellent reputation for developing and building ships for special applications and is among the market leaders worldwide, especially in the cruise ship segment. The company from Papenburg in Lower Saxony relies on industrial PCs from noax for coordinating the complex process of manufacturing ships and for supporting employees during construction.

Work more productively thanks to transparent processes and reliable hardware from noax



concedes Welp. "The error rate has reduced significantly since using the IPCs for accounting purposes. Moreover, the transparency given to us by the industrial PCs is clearly an argument in favor of noax. The IPCs represent the data communication backbone of the shipyard halls. Their reliability ensures that we can meet our deadlines and above all, produce efficiently. Compared with before, operational safety has improved and the error rate has decreased, thanks to the IPCs. Both of these factors save us time and money." The comfort and ease of operating the industrial PC is emphasized in particular by Welp: "The noax touchscreen industrial PC's and their function keys offer our employees a concrete advantage since they can focus on their own tasks and are not hindered by complicated operation. That's also why we selected the 19-inch screen. Ultimately, plans and CAD models should be clearly recognizable." 50 noax IPCs, both steel and compact are being used by MEYER WERFT at the individual stations. MES software comprising: BDA, control room and administration components are installed on the industrial PCs for documenting and coordinating the work stages. The industrial PCs from noax play a critical role, not only in assembling the steel construction, but also when it comes to installing the interior fittings. The piping represents the basic interior framework, since this is where the electricity cables, ventilation, heating and air conditioning systems, water supply and sanitation as well as communication cables can be found. In order to differentiate themselves from competitors, shipping companies place a high value on having their own individual profile, which is reflected in the interior work and fittings. The piping

is accordingly individually designed. The noax industrial PCs supply the CNC data for cutting and bending the pipes and control the machines that carry out this work. MEYER WERFT uses the 15-inch noax for the control program for manufacturing the pipes. These devices have proven themselves thanks to their robustness, completely sealed design and their reliability. Downtimes due to hardware problems would very quickly drive up costs. For this reason alone, Welp and his colleagues placed great emphasis on stable hardware. The impact resistance of the noax IPCs impressed Michael Welp: "When it comes to piping especially, employees constantly knock forcefully against the computer with pieces of steel. But thus far, this has done nothing to the noax IPC. The devices continue to operate perfectly." Especially with regard to the reliability of the industrial PCs, Welp is extremely satisfied with the hardware from noax: "Since 2005, when we purchased the first IPCs, we have never had to make a service call, the IPCs have always worked flawlessly."

Rapid ROI through energy efficiency

Thanks to the use of noax IPCs in conjunction with MES software and the CNC program, MEYER WERFT can streamline its work processes and offer employees greater convenience. But this is not the only thing that counts as far as the department head is concerned. He repeatedly stresses the robustness of the noax industrial PCs: "When constructing the sections, the industrial PC's are especially exposed to chips and sparks. Moreover, a lot of lubricants are used when manufacturing the pipes. These could easily penetrate a normal PC through the ventilation and damage it. But the noax hardware is completely sealed and lets nothing in."

In fact, the robustness of the industrial PCs was the main reason why Welp and his colleagues decided in favor of noax, though there were other factors too. Welp also includes the extremely low energy consumption of the IPCs as one of the arguments in favor of noax: "The devices stand out clearly from the competition in this respect. This definitely impacts the ROI! Efficiency, robustness and operational reliability are all arguments that count for us. The quality of the noax IPCs is hard to beat. After all, we wouldn't keep ordering noax if we were not convinced."

"The noax IPCs stand out clearly from the competition, especially when it comes to power consumption. This definitely impacts the ROI!"



Robust hardware – Essential for constructing piping



MEYER WERFT GmbH

This Company:

MEYER WERFT was founded back in 1795. The company is owned by the sixth generation of the Meyer family. Over the past decades, MEYER WERFT has achieved an excellent reputation worldwide in the construction of special ships. The company is especially known for the construction of modern and sophisticated cruise ships and is now the market leader globally in this segment. The shipyard currently employs a staff of 2,500 and is consequently one of the key employers in the region.

For more information, please visit:
www.meyerwerft.com

Specifications and Application

Objectives:

- ✓ Data recording directly on site in the shipyard halls
- ✓ MES with BDA, control room and administration components
- ✓ Automated employee time recording
- ✓ Streamlining of work processes
- ✓ Precise documentation and better control of individual work stages

IPC Requirements:

- ✓ Use in shipyard halls where requirements with respect to robustness are extremely stringent
- ✓ Completely sealed construction in accordance with protection class IP67
- ✓ Protection against dust, lubricants, flying sparks and metal chips
- ✓ Easy for employees to use
- ✓ Easy-to-read touchscreen displays
- ✓ Maximum reliability under extreme conditions

Overview of Components

Hardware:

- Industrial PC Steel S19
- Industrial PC Compact C15
- In-house developed noax all-in-one motherboard
- Input: particularly robust touch panels
- Bright, high-contrast TFT display
- Protection class IP65 (NEMA 4)
- Completely sealed, without external fan

Software:

- Operating system: Windows 7
- Proprietary development of MES with BDA, control room and administration components
- System for employee time recording and staff deployment planning from ATOSS
- CNC programs for manufacturing the pipes
- Viewer for CAD programs

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 Case Study arranged 2013

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