ADLINK TECHNOLOGY INC.



Meat Packing Plant Operations Enhanced by IP69K Panel PCs

Ulmer Fleisch relies on PENTA ADLINK Panel PCs

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- **Customer Profile**
  Ulmer Fleisch, Germany
- **Industry**
  Food Processing
- **Benefits**
  - Simplified daily cleaning procedure with IP69K protection and gap-free enclosure
  - Easy installation with IP69K connectors and light weight design
  - Reduced maintenance cost with high MTBF

Ulmer Fleisch, part of the Müller Group, is one of the leading companies in the southern German meat processing industry. With 180 employees and a strategic location in the main meat processing areas of Baden-Württemberg and Bavaria, Ulmer Fleisch has consistently emphasized the highest quality processing standards, making the company a trusted partner to major clients in the food retail sector, to local butchers and to meat processing companies at home and abroad.



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The Challenge

■ Real-time, seamless operation management in harsh meat processing environment

"One of the key aspects of food safety is seamless proof of origin for the consumer," explained Michael Palz, IT Head of Ulmer Fleisch.

Therefore, seamless tracking of products from initial delivery to meat counter is at the forefront of the company's activities. To maintain high slaughter quality, computer-based documentation of the production process is required. To control its various divisions, Ulmer Fleisch utilizes industry software solutions provided by IMWT, CSB, and SLA. In addition to normal ERP functions, these offerings provide a fully integrated solution for efficient process control, from quality assurance to logistics to complete traceability along the entire value chain.

This online process control solution is accessed via panel PCs by employees from numerous divisions located throughout the company's offices and processing factory. The panel PCs used in the meat processing plant are subjected to harsh treatment, including daily cleaning with high pressure water jets. Ulmer Fleisch had installed panel PC systems from a number of different producers, but the failure rate of these systems and the accompanying costs proved to be too high. So the company set out in search of a new panel PC supplier and began developing a plan for a unified maintenance strategy.

The panel PC systems previously in use failed regularly due to moisture and water ingress. In lieu of this situation, Palz wanted to completely change the systems, as neither the wide range of manufacturers that had evolved over the years nor the costs of storage of replacements systems and repairs were sustainable.

The Solution

■ IP69K-rated high reliability Panel PC

During their three month evaluation process, Palz and his IT team found that most available systems only provide an IP65 degree of protection, and they can only withstand low pressure water streams.

"In practice, many companies have resorted to shielding their non-high-pressure-resistant PCs with extra protection panels or they are cleaning them separately," said Nick Gutsmann, a member of Ulmer Fleisch's IT division.

Panel PCs fulfill a challenging role, as they need to operate properly around-the-clock. Modifications with additional "windows" would be cumbersome and expensive, and research by the IT team showed that the cost for a fairly recent alternative to IP65, namely IP69K rated systems, was comparatively low. Therefore, the company opted for a unified IT landscape with IP69K protected systems.

PENTA ADLINK's IP69K food panel PC can be installed on the production floor as delivered. A particular challenge of this food panel PC is the layout and installation of the display, as well as the implementation of interfaces, as these areas are vulnerable to water ingress into the system. This must not happen, even under high pressure, as it is necessary to conduct cleaning procedures at least once a day at Ulmer Fleisch.

In order to achieve this highest level of protection, this food panel PC is able to withstand a jet of water that impacts the casing from a distance of 10 cm with 100 bar of pressure, a water flow of 15 L/min and a water temperature of 80°C.



PENTA ADLINK IP69K rated panel PCs chosen for high level of protection and reliability

The Benefits

■ Easy cleaning with fully-sealed IP69K enclosure

After a three-month evaluation of multiple alternative systems under production conditions, Ulmer Fleisch selected the new PENTA ADLINK Food IP69K Panel PCs to use throughout the production facility. All interfaces of these panel PCs (USB, Ethernet, and serial interfaces) face downwards, are IP69 rated and feature firmly integrated screw connectors uniquely matched to each cable. These connectors are extremely robust and can be rapidly attached thanks to the innovative locking mechanism.

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"In this way, cleaning teams can start working without lengthy instructions and also use efficient high pressure or steam cleaning without running the risk of damaging the panel PC systems due to improper cleaning," explained Gutsmann. "Should there be any malfunction, a PENTA ADLINK panel PC can be replaced in less than 5 minutes by just one employee, thanks to the light weight of the panel PC and the screw connectors that cannot be mixed up during replacement."



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Easy operation via touchscreen

"Particularly convincing for me was the installation of the resistive touch display at such a high level of protection and high detergent resistance," said IT administrator Paul Madzia.

Capacitive glass touchscreens cannot be used in the food industry for several reasons. In humid environments, liquid production residues and condensation can accumulate on the display. While resistive touchscreens can operate without problems even under these conditions, the usability of capacitive touchscreens would be severely limited. In addition, resistive touch panels can be operated even while wearing gloves, which isn't the case with capacitive displays. Finally, a glass display is something of a taboo for the food industry; should a glass display break, an entire batch of product can no longer be sold due to the possibility of glass fragment contamination. In this respect, the use of an IP69K protected resistive touch display is currently the best solution for the food industry.



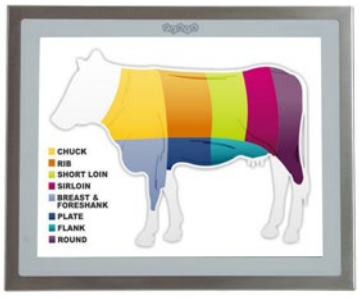
IP69K rated panel PCs with resistive displays combine both an easily high-pressure cleanable front panel and unrestricted usability with one hand, even while wearing gloves.

Reduce maintenance cost with high MTBF

The IT team takes the manufacturer's specified Mean Time Between Failure (MTBF) as the relevant measure of availability of the new systems. Panel PCs from PENTA ADLINK offer an MTBF of over 50,000 hours.

"This means that even under continuous operation, the panel PCs will work continuously and stay maintenance free for at least 5 years in spite of the adverse environmental conditions that prevail in the industrial environment," said IT team member Joel Andrade.

Quality control is crucial for Ulmer Fleisch, and PENTA Panel PCs enable the company to achieve the high standards it set for itself and demanded by its customers.





Feature Set In Details

The PENTA ADLINK Food Panel PC is based on the Intel® Atom™ D525 dual-core processor at 1.8 GHz. The Intel® GMA 3150 graphics chip integrated into the chipset offers 224 MB of graphics memory.

In addition, the PENTA ADLINK Food is equipped with up to 4GB of DDR3 RAM. Failsafe automotive HDDs, SSDs or industry-standard CompactFlash cards serve as bootable storage media, which increases data security and reliability of the system. The abrasion-resistant resistive touch display offers a maximum resolution of 1280 x 1024 pixels and is available in sizes of 15, 17 and 19 inches.

To connect additional peripherals such as barcode and 2D/3D scanners, the PENTA ADLINK Food features an extensive range of interfaces: 2x USB 2.0, 1x PS/2, Ethernet, four serial ports, two free PCIe slots (x1 and Mini PCIe) and one PCI slot. Operating system support is offered for Windows 7, Windows XP and XP Embedded .

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About ADLINK Technology

ADLINK Technology is enabling the Internet of Things (IoT) with innovative embedded computing solutions for edge devices, intelligent gateways and cloud services. ADLINK's products are application-ready for industrial automation, communications, medical, defense, transportation, and infotainment industries. Our product range includes motherboards, blades, chassis, modules, and systems based on industry standard form factors, as well as an extensive line of test & measurement products and smart touch computers, displays and handhelds that support the global transition to always connected systems. Many products are Extreme Rugged™, supporting extended temperature ranges, shock and vibration.

ADLINK is a Premier Member of the Intel® Internet of Things Solutions Alliance and is active in several standards organizations, including PCI Industrial Computer Manufacturers Group (PICMG), PXI Systems Alliance (PXISA), and Standardization Group for Embedded Technologies (SGeT).

ADLINK is a global company with headquarters in Taiwan and manufacturing in Taiwan and China; R&D and integration in Taiwan, China, the US, and Germany; and an extensive network of worldwide sales and support offices. ADLINK is ISO-9001, ISO-14001, ISO-13485 and TL9000 certified and is publicly traded on the TAIEX Taiwan Stock Exchange (stock code: 6166).



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