



Case Study

HMI Operator Station for Production Line Monitoring

Optimizing Production Line Monitoring with HMI for Harsh Manufacturing Settings

In modern manufacturing, efficiency, precision, and real-time monitoring are paramount. The HMI (Human Machine Interface) operator station is an indispensable tool in modern production environments, enabling operators to interact with machines, processes, or entire production lines. With its clear, interactive interface, the HMI operator station allows for seamless monitoring, control, and optimization of production processes in real time.

Challenges

The customer, based in Turkey, has been delivering turnkey solutions and innovative machinery for the aluminum and copper industries worldwide since 1991. They have been looking for a 15-inch industrial touch panel PC for use as an HMI operator station to monitor production lines in copper and aluminum manufacturing plants. The system needed to withstand the tough conditions typical of these environments, offering a robust combination of durability, high performance, and intuitive, user-friendly features specifically designed for industrial applications.

Main Requirements

- Robust IP65 aluminum front bezel
- 15" display with PCAP touchscreen
- High-performance Intel® Core™ processor
- Less screw design for easy installation
- One PCIe x4 slot
- Cost-effectiveness

Axiomtek Robust 15-inch Industrial Touch Panel PC

Axiomtek has proposed its **P1157E-500**, a 15" XGA TFT LCD display, featuring an IP65-rated front bezel and 5-wire resistive touchscreen with 250 nits of brightness – making it perfectly suited for human machine interface (HMI) applications in factory automation. Featuring a PCAP touchscreen, the P1157E-500 ensures a responsive and intuitive user experience, even in challenging industrial environments.



The P1157E-500 features one PCIe x4 slot for flexible integration of various add-on cards. Rich I/O interfaces include three RS-232 ports, one RS-232/422/485 port, four USB 3.0 ports, two USB 2.0 ports, two Gigabit Ethernet ports, one audio (Mic-in/Line-out), one VGA, one HDMI and one DisplayPort. For extensive storage options, the P1157E-500 supports one 2.5"/3.5" SATA HDD or two 2.5" SATA HDD upon request.

Application

Boosting Productivity and Quality with HMI Operator Stations

The customer has applied Axiomtek's P1157E-500 as their HMI operator station for monitoring and controlling production lines in copper and aluminum manufacturing plants. The P1157E-500 offers a durable, high-performance solution tailored to the unique needs of copper and aluminum manufacturing operations, ensuring efficient and reliable production line monitoring. Industrial environments can be demanding, not only in terms of performance but also when it comes to ease of deployment. The P1157E-500 features a less screw design, which simplifies installation and reduces setup time.



**HMI Operator Station for
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P1157E-500 ▶
The robust IP65 aluminum
bezel ensures durability,
protecting against dust and
water ingress.

15-in

The image shows a 15-inch industrial HMI monitor with a white bezel, mounted on a dark surface. The monitor displays a simple interface with a white background and a black border. The text '15-in' is written in orange on the screen, with two black arrows pointing to the top and bottom edges of the display area. The background of the entire graphic is a blurred industrial setting with machinery and a robotic arm.

With a 15" XGA TFT LCD display, Intel® processors, robust connectivity options, and an industrial-grade IP65-rated design, this system is built to deliver optimal performance in even the most demanding industrial environments. Its easy installation, expansion capabilities, and versatility ensure that it is an ideal solution for manufacturers, machine builders, and system integrators looking to enhance productivity, streamline processes, and improve operational efficiency.

System Configurations of the P1157E-500

- 15" XGA TFT LCD display with PCAP touchscreen
- Intel® Core™ i7/i5/i3, Celeron® & Pentium® processors
- 4 USB 3.0, 2 USB 2.0, and 4 COM
- One PCIe x4 slot
- Robust IP65 aluminum front bezel
- Supports panel mount

Why Axiomtek

For an industrial touch panel PC that can serve as an HMI operator station in demanding environments such as copper and aluminum manufacturing plants, you'll need a rugged, high-performance system designed to withstand harsh conditions, including durability against dust, moisture, temperature extremes, and potential vibrations from heavy machinery. Axiomtek's industrial panel computers provide excellent solutions that meet these requirements, offering a balance of ruggedness, performance, and user-friendly features tailored for industrial use.

"We extend our sincere gratitude to Axiomtek and local partner for their exceptional service. Their timely delivery of high-quality products was instrumental in the success of our project. The outstanding technical support and customer service have surpassed our expectations, reinforcing our confidence in Axiomtek as a trusted partner," said the IT Manager of the customer.

About Axiomtek Co., Ltd.

Axiomtek has experienced extraordinary growth in the past 30 years because of our people, our years of learning which resulted in our tremendous industry experience, and our desire to deliver well-

rounded, easy-to-integrate solutions to our customers. These factors have influenced us to invest in a growing team of engineers including software, hardware, firmware, and application engineers. For the next few decades, our success will be determined by our ability to lead with unique technologies for AIoT and serve our key markets with innovatively-designed solution packages of hardware and software – coupled with unmatched engineering and value-added services that will help lessen the challenges faced by our systems integrator, OEM and ODM customers and prospects alike. We will continue to enlist more technology partners and increase collaborations with our growing ecosystem who are leaders in their fields. With such alliances, we will create synergy and better deliver solutions, value, and the expertise our customers need.

Axiomtek is a Member of the Intel IoT® Solutions Alliance. A global ecosystem of more than 800 industry leaders, the Alliance offers its members unique access to Intel technology, expertise, and go-to-market support—accelerating the deployment of best-in-class solutions.