

Magnum Switches Network ThyssenKrupp Steel's Alabama Plant Process Vision System

An Industrial Networking Application

ABOUT THE THYSSENKRUPP STAINLESS STEEL PLANT IN ALABAMA

ThyssenKrupp is constructing a \$3.7 billion world class, state-of-the-art steel and stainless steel processing facility in Calvert, Alabama. The facility will be a cooperative effort between two ThyssenKrupp segments - Steel and Stainless. The plant is scheduled to begin operation in 2010, and when fully operational, creates 2,700 jobs. The facility will manufacture and process carbon steel and stainless steel for high-value applications by manufacturers in the United States and throughout North America. The plant will serve industries, including automotive, packaging, construction, and electric utilities.

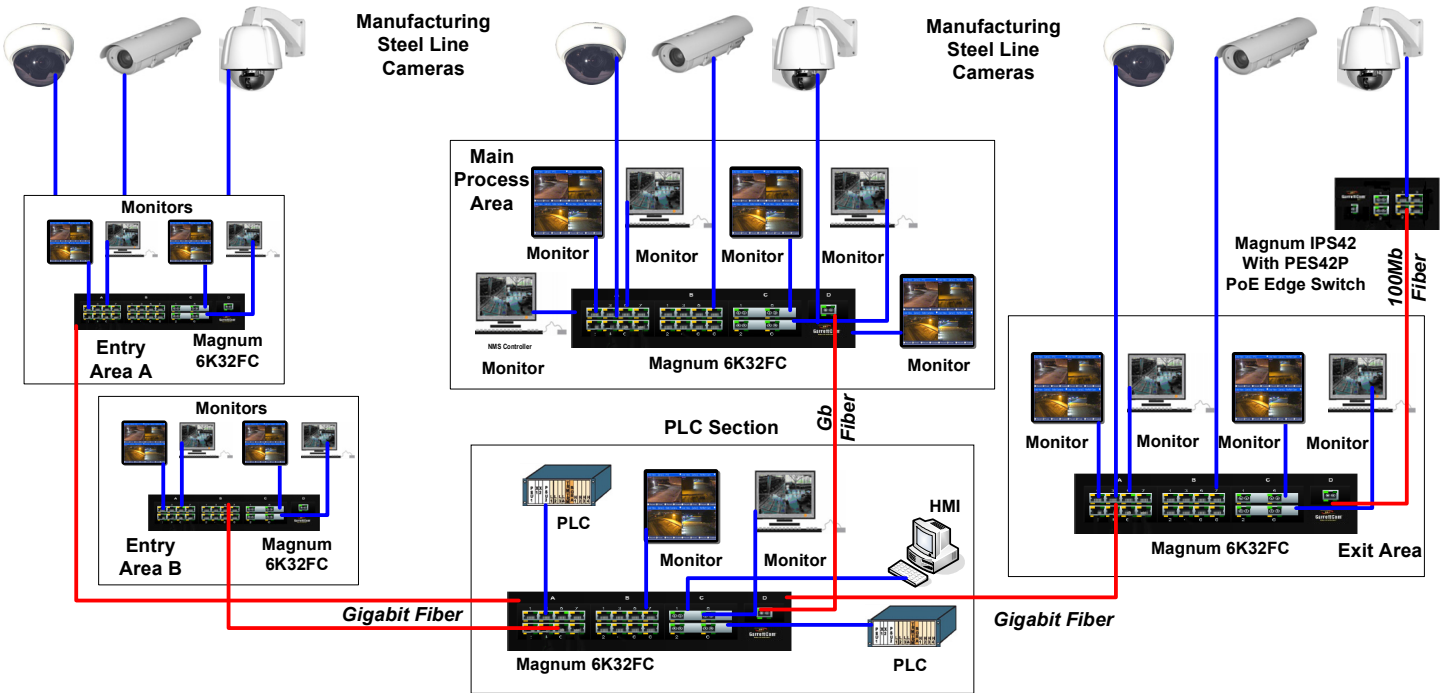
Treehaven Technologies was charged with designing and developing a video monitoring system for the plant manufacturing line. Treehaven is known for its expertise in providing network-based video products and systems for commercial, industrial and government markets. Often these solutions take place in the most extreme environments--with high temperature and in very dirty/dusty conditions.

THE CHALLENGE

Treehaven's solution is known as the Process Vision System that monitors all parts of the steel plant manufacturing line as well as the manual processes used to move steel. This system would help ensure the quality and efficiency of the plant manufacturing areas. All of the video cameras in the system support Power over Ethernet (PoE). These IP cameras have the additional benefit of not requiring additional electrical wiring. The PoE benefit significantly lowers costs, particularly in areas where it was difficult to install the electrical wiring.

Treehaven needed a series of Ethernet switches for the Process Vision System. In addition to supporting PoE, the set of switches would have to include both managed and unmanaged switches and be built to operate in dirty/dusty conditions and at high temperatures. Treehaven turned to GarrettCom for the industrial Ethernet switches. Having worked with GarrettCom before on industrial applications, Treehaven was confident in GarrettCom's Magnum line of hardened networking products.

Magnum PoE Switches Network ThyssenKrupp Steel's Process Vision System in Alabama Stainless Steel Plant



PoE Switches Network ThyssenKrupp Steel's Alabama Plant Process Vision System (cont.)

THE SOLUTION

Treehaven chose a series of hardened Magnum 6K32FC Convection-Cooled Ethernet switches (with PoE) and Magnum PES42P PoE Edge Switches enclosed in Magnum IPS42 Power Supply Chassis to provide the Process Vision System Network. A series of 6K32FC switches throughout the network interconnect IP cameras, monitors, and Programmable Logic Computers (PLCs) (see diagram, previous page). The 6K32FCs include a mix of Gigabit fiber ports for much of the backbone, as well as 100Mb fiber ports. These fiber ports connect the different plant manufacturing areas. The switches also have a series of 10/100 PoE copper ports to connect to the IP cameras as well as to the various monitors and PLCs. The Magnum 6K32FC is convection-cooled (no fans) and was fitted with conformal coating for protection against dust and dirt.

The Magnum 6K32FC Switches were also loaded with MNS-6K-SECURE Management Software. MNS-6K-SECURE offers a GUI-based interface and provides all of the latest security features, redundancy functionality, and monitoring options to better manage an industrial network.

To connect a series of IP cameras at the various edges of the network, a series of Magnum PES42P PoE Edge Switches were selected. The PES42P units were equipped with both 100Mb fiber to link to the backbone as well as 10/100 copper for networking the PoE cameras. Each PES42P switch was configured with a Magnum IPS42 chassis. The IPS42 provides PoE Power Source support in an industrial package.

ABOUT MAGNUM PRODUCTS

Magnum 6K Managed Switches are highly configurable switches, providing modular slots for user selection of 100Mb, 10Mb, or Gigabit Ethernet fiber or copper ports (including PoE), and are "steel-mill" hardened with convection (such as the Magnum 6K32FC used by ThyssenKrupp in its steel mill) or fan-based cooling. Power input choices include AC, -48VDC, 24VDC, 125VDC, and Dual Source DC input for power redundancy.

MNS-6K Managed Network Software provides the latest technology for switch management, network management and security. Based on network standards, it is easily integrated into existing networks, and features standards-based redundancy functionality and Secure Web Management (SWM) GUI. MNS-6K-SECURE is available for those customers demanding extra security in their networks. It includes SNMP client and SNMP server that provides synchronized time services for networks. Both MNS-6K and MNS-6K-SECURE now feature industry standard RSTP-2004 to support large rings and meshes.

ABOUT GARRETTCOM

GarrettCom, Inc. is the leading manufacturer of industrial and power utility networking products. GarrettCom offers a comprehensive line of IEC 61850, NEBS and ETSI-certified switches for use in factory floor, power utility, telecommunications, and outdoor environments such as video surveillance and transportation. The company's management software supports redundant rings and secure web-based access to local and remote networks. GarrettCom offers a full solution of cyber and physical security solutions design to protect power utilities and other critical industries as well as insure NERC CIP compliance. GarrettCom is also well-known for having the widest breadth of PoE products in the industry. GarrettCom markets its products through a network of resellers, OEMs, system integrators, and distributors worldwide. For more information on GarrettCom and its products, visit www.GarrettCom.com.



GarrettCom[®]

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