



HIRSCHMANN

A **BELDEN** BRAND

Case Study

CS 201

Hirschmann® OpenRail RS20 Managed Switches Chosen to Network Automobile Parts Production Lines at American Axle Manufacturing.



Streamlining Automotive Production Lines with Hirschmann Managed Switches Ensures Optimal Performance.

Background

Ever-increasing demands for productivity are a reality in the automotive industry. Car makers and their supply base are constantly pushed to produce world class products better, faster and cheaper.

Improving manufacturing output is a key metric which all suppliers strive for. Central to this objective is to ensure that the production line and its infrastructure remain fully and optimally functional with minimal interruptions due to equipment malfunctions. Keeping the communications networks operational on these highly automated lines is an essential component in this strategy because an interruption in communications brings down a manufacturing line just as quickly as a PLC, conveyor or robot malfunction.

The Challenge

As American Axle Manufacturing (AAM) was planning a long term strategy for its production lines and their networks, it selected EtherNet/IP as the preferred protocol. EtherNet/IP best fit the company's criteria of high speeds, reliable performance, industry standard (non-proprietary) accessibility, and full capability of future expansion. As an added benefit, EtherNet/IP was compatible with the firm's existing IT infrastructure and networking standards. In order to get

the continuous operation and performance they required, industrial-grade networking components would be required for plant floor controls networks where interruptions and failures are not an option. With many choices of such hardware available in the market, AAM identified what it needed from its chosen partner:

- Hardened products designed to tolerate and thrive in the environments of modern manufacturing plants
- Broad portfolio to allow optimal component selection in changing applications
- Full featured management suite including VLAN's, IGMP Snooping at Layer 2, Rapid Spanning Tree, integrated DHCP server capabilities, SNMP management and multiple security options
- The ability to remotely reach, program and monitor the network to support overseas installations
- In the unlikely event of a component failure, an easy, fast and foolproof method of installing a replacement part to working order within minutes.
- Strong, global support from an established industry leader



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The Solution

AAM selected the Hirschmann OpenRail Series RS20 managed switches. This product platform is the most popular industrial Ethernet switch in the world, with tens of thousands of installations worldwide. Designed to operate in environments ranging from -40C to +70C and tolerate shock and vibration levels that would quickly destroy office grade switches, this configurable product line offers the full suite of management features that AAM requires and much, much more.

Available in standard configurations ranging from 4 to 26 ports, with both copper and fiber ports, Gigabit and 10/100 speeds and in managed and unmanaged configurations, the RS20's offer the ideal mix of flexibility, horsepower and value for this company's requirements.

The fact that Hirschmann uses a common firmware in the RS20's and other product lines was also advantageous. As the networks evolved, the need for a hardened 19" rack mount switch soon also emerged. Because the operating system and programming firmware in the Hirschmann Mach 100 products are the same as that in the RS20's, the addition of this rack mount switch into network SCADA panels was a non-event for the customer. There was no need for additional documentation, standard procedures, or operator training when SCADA panels and the associated switch were added in select locations.

The Result

AAM has successfully installed dozens of Hirschmann networks in manufacturing plants throughout North America, South America, Europe and Asia. By combining the Hirschmann switches with the Hirschmann patchcord products (available only with Belden's patented Bonded Pairs technology for improved cable performance), AAM was able to implement exactly the standard architecture and procedures they were looking for and have achieved the resulting network performance and reliability that they originally forecast and budgeted for. Eliminating the networking infrastructure as a cause of production downtime has proven to be good business.

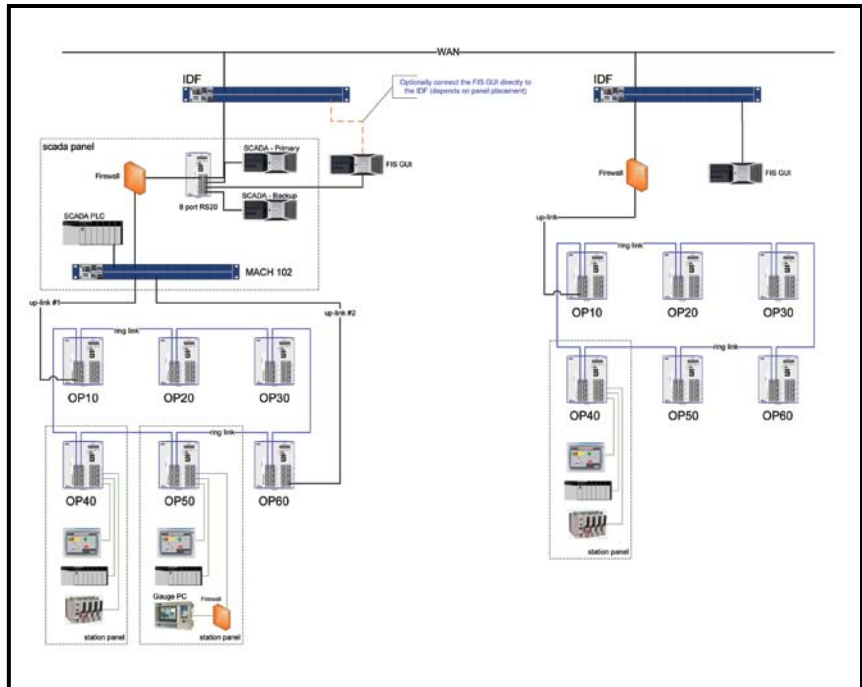


Figure 1: AAM automotive production line with Hirschmann MACH100 rack-mount and RS20 DIN rail-mount managed switches.



RS20-0800T1T1 (shown)



RS20-1600T1T1 (shown)



MACH102 8TP (shown)

Always the Right Solution

Belden is the world's leading supplier of signal transmission solutions including cable, connectivity and active components for mission-critical applications ranging from industrial automation and alternative power generation through to professional broadcasting. Belden offers an extensive portfolio of highly specialized products for steering, control and field level, which the company produces and markets under its proprietary Belden®, GarrettCom®, Hirschmann®, and Lumberg Automation™ brands. We would be glad to give you a more personal introduction to our integrated product palette for industrial applications and the worldwide Belden Service

You will find further information and technical details online at www.belden.com/hirschmann or contact our Inside Sales Team directly: **Tel. 717.217.2299.**