Sport-Club Freiburg use Perle PoE Managed Switches in Distributed Network Architecture
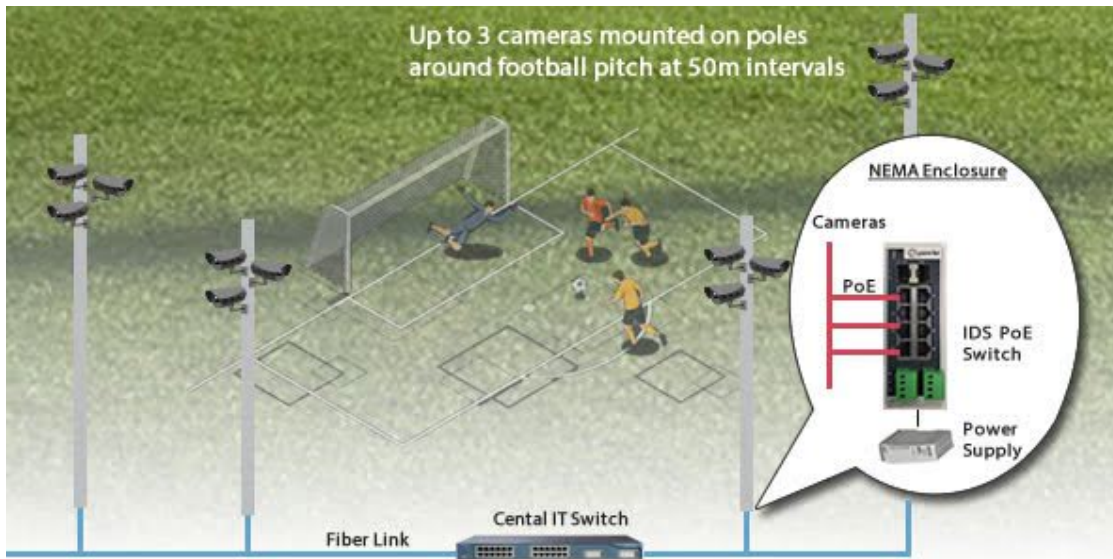
IDS-710HP-XT provides PoE and secure connectivity for Pan-Tilt-Zoom (PTZ) cameras and Wi-Fi Access Points (WAPs) at Europa-Park Stadium

As IT departments integrate more devices into their network architecture, sufficient bandwidth to transmit more data becomes a concern. The switches they choose to facilitate a seamless integration need to be flexible, reliable, and secure.

Franz Schätzle, ICT Lead at Sport-Club Freiburg e.V. is sharing how Perle **Industrial Ethernet Switches** enabled him to integrate new IP cameras and WAPs at the edge of his distributed IT network in the Europa-Park Stadium. Sport-Club Freiburg is a German football club that competes in the Fußball-Bundesliga, one of the top national leagues worldwide. The coaching staff needed the ability to record footage for in-depth video analysis. This is a powerful tool in their approach to improve team and individual performance techniques.
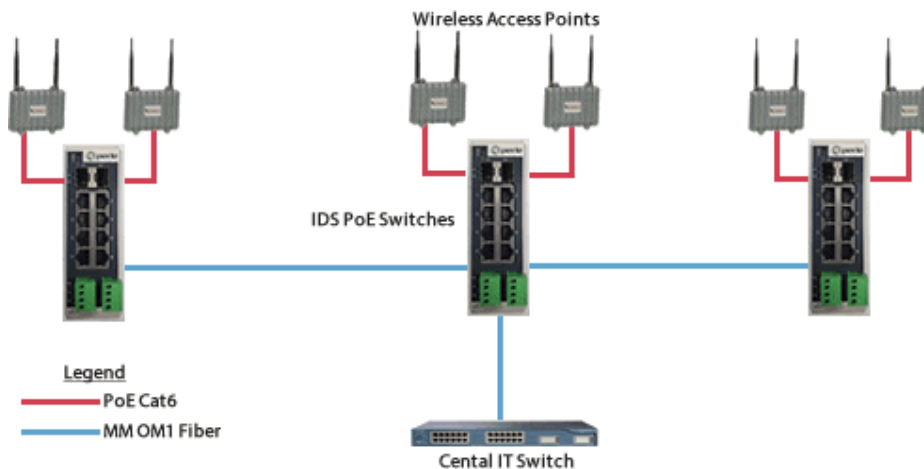
The first project was to install a state-of-the-art on-pitch video system to record players during all practices and live games. To ensure they could capture every angle of play, cameras were installed on eight poles at 50m intervals around the perimeter of the football pitch. Three PTZ cameras were mounted on each pole with the relevant networking equipment protected inside stainless steel enclosures.

Up to 3 cameras mounted on poles around football pitch at 50m intervals

Schätzle comments, *"We needed rugged PoE Switches capable of powering the cameras and reliably transferring the recorded footage to the core network central analysis system. Because the switches would be installed within pole-mounted enclosures, they had to be very small and capable of withstanding temperature fluctuations without malfunctioning."*

The second application was to enable a WLAN network for all employees throughout the stadium. A series of WAPs were installed at the side of the pitch, in press conference rooms, and in offices. Similar to the camera application, PoE switches were needed to power the WAPs and provide reliable network access to staff as they roamed.

"Using PoE technology increases installation flexibility, lowers costs, and makes networks more efficient by eliminating the need to install multiple pieces of equipment, additional electrical wires, or outlets. However, the need to connect power-hungry IoT devices, like pan-tilt-zoom (PTZ) security cameras with heaters and 802.11ax/ac wireless access points is driving a need for PoE Switches that support higher wattage levels and more types of PDs."

— John Feeney Chief Operating Officer at Perle Systems

For both applications, the chosen PoE switches need to meet these five key requirements:

1. A minimum of six Ethernet ports
2. The ability to supply a minimum of 60W PoE cameras and WAPs
3. Two fiber ports for redundant data transfer into the core network
4. Small form factor to fit into space-constrained stainless-steel enclosures
5. A wide operating temperature range to ensure reliability during summer heat waves and sub-zero winters

According to Schätzle, *"Most people are not aware of the high bar IT equipment needs to meet in a stadium environment. Equipment at the edge of the network is regularly exposed to conditions you would find in industrial settings and we factor that into our product selection."*

Schätzle and his team had a six-week window to complete the installation. However, during his attempts to purchase PoE Switches that would meet his specification, he struggled to find a vendor that could deliver in a timely manner. Then he found the Perle **IDS-710HP Managed Industrial Ethernet Switches**.

Packed with features inside a tiny DIN Rail enclosure, the IDS-710HP is a fully compliant IEEE802.3bt PoE Switch. This 10-port Gigabit Switch comes with eight 100W PoE copper ports, and two SFP slots supporting 1G fiber, 2.5G fiber, or 10/100/1000Mbps copper. The operating temperature range of -40°C to 70°C would ensure consistent reliability in the exposed stadium environment. And, a PD power reset from the IDS-710HP will remotely reboot attached cameras and WAPs when necessary.

The IDS-710 Managed Switches have enterprise-grade features for environments where extensive security, QoS, and network integration functionality are required. They can be managed with an IPv6 address and support a comprehensive set of management functions including MRP (IEC62439-2), Ring protocol for < 10ms recovery time, PTP, PROFINET, Modbus TCP, management VLAN, Management Access Lists, Password Strength requirements, RMON, N:1 port mirroring, and local alert log.

According to Schätzle, *"The Perle IDS Industrial Switches comfortably meet the high availability, high reliability, high quality, and high-performance standards required for the products we use."*

About Sport-Club Freiburg e.V – **www.scfreiburg.com/**

Sport-Club Freiburg e.V., commonly known as SC Freiburg or just Freiburg, is a German football club, based in the city of Freiburg im Breisgau, Baden-Württemberg. Founded in 1904 it competes in the Fußball-Bundesliga, one of the top national leagues worldwide.