

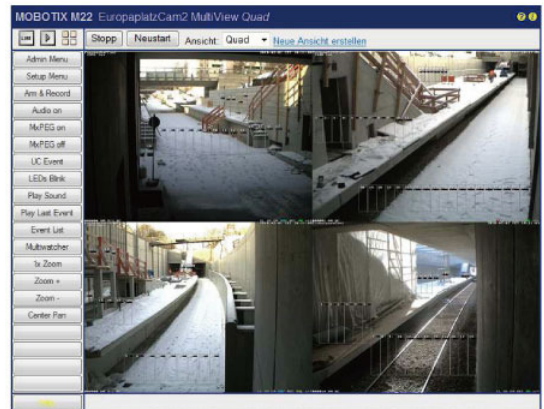
# Lantech Industrial Switches and PoE Injectors Help to Construct a Tunnel Video Surveillance System of Stuttgart Tram System

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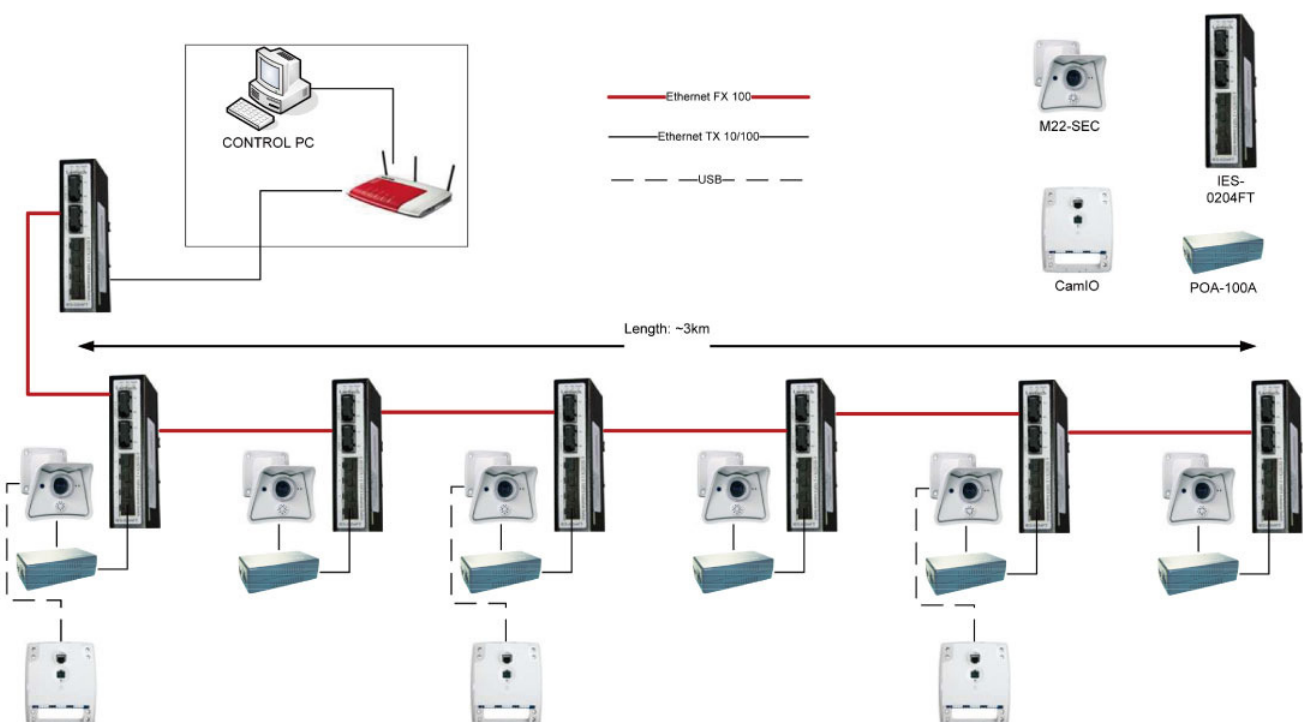
Case Study

In Stuttgart, the capital of the state of Baden-Württemberg in southern Germany, there's an extension plan for their U6 city tram system. U6 city tram is run by Stuttgarter Straßenbahnen AG (SSB), the transportation company which operates light rail lines, bus lines, a rack railway, and a funicular railway in Stuttgart region. The 3-km-long underground tunnel construction site of U6 city tram needs a video surveillance system with alarm message, which are able to be managed by control room via Ethernet connection.

The project adopts Lantech's industrial switch IES-0204FT and PoE injector POA-100A to integrate with MOBOTIX's IP camera "M22-SEC" for the video surveillance system. Since M22-SEC is a high resolution IP camera, the bandwidth requirement is huge to transmit the high quality video data. This is one of the reasons that Lantech IES-0204FT was chosen: this model provides two fiber optic ports, which can cover the demand of huge bandwidth of video data transmission in this surveillance system. The harsh operating environment is another main reason to choose Lantech IES-0204FT. The average highest/lowest temperature in Stuttgart is  $-3^{\circ}\text{C}$  /  $24^{\circ}\text{C}$ , which means the temperature range in a tunnel could be wider. What's more, the construction process may result in severe vibration and large amount of dust. Lantech IES-0204FT is not only able to operate normally in the range from  $-20^{\circ}\text{C}$  to  $60^{\circ}\text{C}$  but also passed several stability and safety test including vibration, free fall, shock, EMI and EMC, providing the highest standard for industrial environment. Lantech POA-100A PoE injector is able to provide both power supply and data transmission in one network cable and connect to the IP cameras.



The video stream data are transmitted to the control PC via several Lantech IES-0204FT, which are connected to each other with fiber optic cables. Managers can access from the Internet to control and monitor each camera in tunnel easily. Lantech products help to construct a highly reliable network connection, which is the most important factor for an efficient video surveillance system, under the harsh environment in tunnel.



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