

Kanton Aargau

Civil Engineering department optimises network security and availability through gradual expansion.

“In 2013, we decided to go with the Alcatel-Lucent Enterprise network solutions. It was the right decision because our network has been highly available ever since: It just runs.”

Tobias Blaser, Section Leader Electrical Engineering

The Civil Engineering department is part of the Department of Construction, Transport and Environment of the Swiss canton of Aargau. It ensures the economically and ecologically balanced construction, maintenance and operation of the cantonal road network of approximately 1,200 kilometres as well as the cycle paths in Aargau. The electrical engineering section is responsible for all the road network electromechanical installations, such as operational and safety equipment in the tunnels, and the fibre optic network through which all systems communicate.

CHALLENGES

The canton of Aargau has relied on Alcatel-Lucent Enterprise solutions for its network since 2013, when the entire infrastructure was procured through a public tender. The basic deployment of the new network went live in 2014 and has been gradually expanded and optimised over the years.

ACTION

As a result of a comprehensive analysis of the network and its connected systems in 2019, further measures were planned and implemented through 2023. Individual components were replaced with newer models, network security was increased, and centralised management of all tasks, supported by an automation tool, was introduced.

Prepared by a core redesign in 2020, the Spanning Tree Protocol (STP) was replaced with Shortest Path Bridging (SPB) in the latest expansion stage. SPB finds the shortest paths between end devices and allows paths to be used in parallel. Since the backbone forms a triangle, SPB can keep all links active, to maximise bandwidth utilisation. Services can be switched on using zoning protocols, increasing the security of the data network and enabling additional services in the future. The project was completed in 2023.

PRODUCTS AND SERVICES

Alcatel-Lucent OmniSwitch® 6560 and 6860 Stackable LAN Switches
Alcatel-Lucent OmniSwitch® 6900 Core and Data Centre Network Switches
Alcatel-Lucent OmniSwitch® 6465 and 6865 Hardened Ethernet Switches
Alcatel-Lucent OmniAccess® Wireless Access Points
Alcatel-Lucent OmniVista® 2500 Network Management System

RESULTS

Technical benefits

- Powerful, reliable ALE switches for all areas, including hardened switches where required
- All switches use the same firmware version, simplifying configuration and operation
- With the service-oriented SPB technology, even large networks can easily be configured, efficiently operated and scaled with no problems
- Ethernet Ring Protection increases network stability and reliability
- High availability through redundant installation at most locations
- ALE network management OmniVista 2500 integrated seamlessly into the existing network management
- Smooth interaction with the third-party monitoring tool

Financial benefits

- “Good value for money”
- The network is built using (almost) exclusively ALE components, which simplifies contracting and sourcing

User experience benefits

- The network provides a reliable foundation for current and future services, completely transparent to the end users
- “It just works. And when it doesn't, you'll know right away.”

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Customer Story

MARKET: **TRANSPORTATION**

DEAL IMPLEMENTED: **2023**

COUNTRY: **SWITZERLAND**

NUMBER OF USERS: **300**

ORGANISATION:

KANTON AARGAU