

Königswinter invests in digital schools

State-of-the-art network for the Oberpleis school complex



“A groundbreaking project for education in Königswinter.”

Peter Wirtz, Mayor of Königswinter

The digitalization of schools is more than just a buzzword. Many schools are already pursuing projects and introducing new concepts for the transfer of knowledge. Digital media play a key role in these new, interactive formats. In addition to discovering multimedia learning tools, students also need to be taught how to navigate the digital world safely and confidently. But digitalization goes even further: school administrators and teachers – as well as external groups such as clubs that meet at the school complex – also benefit from the opportunities digitalization presents. The town of Königswinter wanted to open the door to a digital future for the students, teachers, and administrators at the Oberpleis school complex. To do so, they needed a future-capable network infrastructure.

The project at a glance

The town of Königswinter needed a new network infrastructure for its school complex in Oberpleis, to replace the wide variety of different standalone networks that had grown over time and was now costly to administer. Together with T-Systems, a modern, future-capable network was created, opening up a wealth of new teaching opportunities for the schools.

- Harmonized network infrastructure with simple administration
- Comprehensive coverage on the school campus
- Modern PABX with enhanced options

The reference in detail

The challenge

Education and training are among the most important responsibilities of the public sector. A good education is essential for enabling today's students to tackle the challenges of tomorrow. At the same time, however, only very few school boards have had – and continue to have – the funds to develop and implement a far-reaching digital strategy, despite the fact that digitalization, in particular, is one of the key factors for modern, contemporary learning.

The reality at many schools is quite different, as was the case for the Oberpleis school complex in Königswinter, with over 2,000 students: a series of initiatives, some by school officials and others by volunteer groups, had created a patchwork of standalone solutions. Different technologies, a mix of different hardware with different release levels, and widely differing performance resulted in a complex landscape of underperforming systems that was difficult or impossible to upgrade and had heavy demands in terms of network management. This was in addition to a PABX that was getting long in the tooth and no longer eligible for vendor support. It was not a foundation upon which the school could deliver on its educational mandate or achieve lean administration.

The solution

The town of Königswinter took the equipping of its schools seriously and decided to get the network infrastructure at its school complex in Oberpleis in shape to meet the latest demands. However, this could not be done through simple modernization alone. The network landscape was too varied; standardized, efficient management was not possible with the available hardware and the non-uniform architecture. A “big” solution was needed: a completely new, contemporary network infrastructure that reflected the state of the art in technology.

Based on new components, T-Systems set up four subnetworks within the school network, each strictly separated from one another logically. One for school administration, one for the educational domain, and one for the new software-based VoIP PABX. The fourth subnetwork is used for network management. The heart of the system is a network access controller that segments the physical network. It accesses an active directory that makes it easily possible to add and remove new components – such as new extensions, users, and (WiFi) access points.

A firewall and an anti-virus server protect the school network, with its 180 access points and 90 phones, against outside threats. A high-performance router connects the solution with the internet through a powerful 1 Gbit/s line from Deutsche Telekom. This large bandwidth is an excellent foundation for even high-volume data traffic. A smart, high-availability data store centrally saves all the data in the network.

Customer benefits

Königswinter's mayor Peter Wirtz speaks of a “trailblazing project”. The new network is a future-capable foundation for the introduction of further digital offerings that will open up entirely new teaching possibilities for the school. In the future, new media like whiteboards and touch panels can be used in classes and for school organization.

The expandable VoIP PABX also offers its users a wide variety of potential add-on functions. What's more, the PABX is now eligible for vendor support once again. Remote maintenance means any problems that arise can be corrected faster. Travel times for technicians have been greatly reduced.

The harmonized infrastructure built upon the new technical foundation now requires significantly less effort to administer – the console provides clear information about the individual components: faulty components can be identified and replaced faster.

The new school network also offers a wealth of further options for the future development of services on the school campus. For instance, associations that use the location can also use the network capacities easily and securely. The simplified administration makes this possible. And that's not all: “With this network, we have established a new standard that can be scaled effortlessly as the number of devices and users grows,” says Frank Laska, Project Manager at T-Systems. Sales Manager Gerald Renner adds: “There are concrete plans to roll out the solution at other schools in Königswinter. They also deserve to have a chance to use the new digitalization opportunities for education.” The central server room and the new, contemporary security architecture provide the basis for this: the nine other school locations will be gradually connected to this central platform to take advantage of what has been achieved.

The benefits at a glance:

- Simple, elegant administration of all components
- System scalability
- Blueprint for other schools
- Modern telephony
- Improved security
- Future-capable platform

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