

# Baden-Baden equips students for a digital future

There are 20 state schools in Baden-Baden, a town with a population of around 55,000. With a total of 6,800 students and 400 teachers, these schools need a powerful WLAN network in order to prepare the young people for the demands of working life by applying digital teaching methods.



**BADEN BADEN**

Customer  
Baden-Baden

Country  
Germany

## Requirements

- Implementing a digital syllabus and Smart Learning for the students of Baden-Baden via a reliable WLAN network for the best possible learning experience
- Developing a modular infrastructure in a total of 20 schools, which allows up to 7,000 users to have access to digital content and can be administered centrally
- Linking up classrooms with first-class Wi-Fi and Edge Switching-performances combined with uncomplicated and secure onboarding

## Solution

- 2 redundant Virtual SmartZone controllers
- 195 RUCKUS indoor access points
- Creation of a future-proof network solution which is easy to operate for all users and which meets the necessary security standards

## Advantages

- Happy students and teachers who can rely on the WLAN network thanks to the higher bandwidth, capacity and dependability of the RUCKUS solution

- Simple and cost-effective configuration and installation
- Easy access for students and teachers to interactive teaching material from all schools
- A broad and varied teaching framework and modern teaching methods become possible, thereby ensuring a more engaging transfer of knowledge
- A future-proof, modular infrastructure which makes smart learning possible for all pupils and students and provides them with digital skills, both today and in the future

## SMART Learning – now at schools in Baden-Baden thanks to high-performance WLAN

Education policy-makers in Germany have meanwhile come to realize that educational establishments should be teaching pupils how to handle the Internet and digital technologies at an early stage. In addition, reports from businesses complaining of a lack of IT skills among school-leavers have been becoming more and more frequent. The State of Baden-Württemberg has reacted to the continual digitization of society with its education plan. This specifies the content and skills which teachers should be imparting to the students at their various grade levels. However, in order to be able to provide students with IT competence in general, the educational establishments must themselves have the necessary technical equipment available and effectively provide the backbone for digital skills.

### Requirements

The city district of Baden-Baden, with a population of around 55,000 inhabitants, aims to prepare its students for their professional futures with Smart Learning according to the new education plan. The implementation of a digital syllabus and hence also access to digital teaching aids essentially depends on reliable connections to the school networks. In most schools, however, no WLAN solution at all existed until now. The municipal authorities were therefore in search of a solution which would mean that all interested schools could be connected up to a centralized, secure WLAN network which is data protection compliant. In addition, the

system should not incur any additional work on the part of the teachers. The isolated location of a few schools on the outskirts of the town was a further challenge. The Internet connection itself had already failed here. So what was sought was a standard modular solution to which the schools could be connected as and when the fibreoptic expansion programme progressed.

### Solution

For the implementation of a corresponding solution, the town's school authority turned to Häusler KG as its partner. Because of the regional proximity and the close cooperation of their own engineers and consultants, Häusler KG was able to support the entire process.

"Consultation in terms of reliable, future-oriented systems is important to us. Systems which are scalable and compatible with one another for different forms and types of schools. A business relationship built on cooperation as the basis of a seamless project development is a matter of course for us" says Elke Lankers, Head of the SAT/WLAN business division at Häusler KG.

In order to set up Smart Learning and classrooms of the future at the schools in Baden-Baden, Häusler KG needed a technology partner who, in addition to carrier-grade equipment, also offers well-founded expertise in implementation.

"We tested the transmission performance of the individual suppliers", explains Marco Eller, Media Development Planning Officer for the



"We needed a reliable system which is easy to manage but which nevertheless offers the necessary security. It must be able to grow along with our future requirements in a modular and scalable way."

**Marco Eller**  
Media Development Planning  
Officer for the town of Baden-  
Baden

town of Baden-Baden. "In addition we felt that it was important that there should be a central management function, which is clustered, to make it possible to continue working even in case of a fault. These requirements, in combination with a tight municipal budget, could only be met by RUCKUS. With the other suppliers, no redundancy was offered and the solutions were too expensive or did not meet our data protection specifications on account of Cloud hosting."

RUCKUS provides schools across the world with a unique WLAN experience. The RUCKUS platforms make complex management of each individual piece of equipment a thing of the past.

It was estimated by RUCKUS that only two thirds of the access points that the comparable competitive solutions would have required were in fact needed. In order to ensure that there is a central management interface from which all school can be reached, the use of a WLAN controller was indispensable. Two

RUCKUS Virtual SmartZone controllers are in use for managing the access points.

The crucial point when selecting the access points was having the highest possible available bandwidth so that up to 100 mobile devices per access point can connect. These access point benefit from the patented BeamFlex technology. This adaptive antenna technology automatically directs each signal on the most efficient path, thereby decreasing interference. This means that the best signal is consistently transmitted with as little interference as possible.

With 195 access points in use, in total an area of approximately 50,000 m<sup>2</sup> is covered. At its peak, the data volume is currently 2 GB/s and 150 GB traffic over the day. The solution is future-proof as it can be extended both with Hotspot 2.0, the transnational eduroam initiative and the existing Baden-Baden City-WLAN.

This means that the town of Baden-Baden has a WLAN network in all schools which offers a high degree of

security while simultaneously making working life easier for teachers. At these schools, new teaching methods and the use of digital learning platforms are now possible. This increases both the motivation of the students and the effectiveness of the teachers, who can methodically draw on abundant resources and incorporate innovative teaching elements. With the introduction of tablets, digital media are available in class on an ad-hoc basis. In this way, digital learning can be integrated into education with pinpoint precision. Whether students want to access the virtual classroom, check out the timetable or upload homework assignments on a digital platform, the WLAN network will stand up to the growing demands. Smart Learning is now no longer simply wishful thinking at these schools, it has become a reality. All this means that the students in the district of Baden-Baden are perfectly equipped for the digital future.

## About RUCKUS Networks

RUCKUS Networks builds and delivers purpose-driven networks that perform in the demanding environments of the industries we serve. Together with our network of trusted go-to-market partners, we empower our customers to deliver exceptional experiences to the guests, students, residents, citizens and employees who count on them.

[www.ruckusnetworks.com](http://www.ruckusnetworks.com)

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CS-114228.1-EN (12/22)

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