

German Broadcaster WELT Builds State-of-the-Art Studios on Black Box Emerald KVM over IP Platform

- **Industry:** Broadcast
- **Client:** Welt N24
- **Region:** Germany
- **Solution:** KVM over IP
- **Product:** Emerald®



THE BACKGROUND

WELT (formerly N24) is a German private broadcaster of the Axel Springer Group for news and current affairs based in Berlin. News programs, documentaries, and infotainment programs, as well as reports and informational programs from the areas of finance and lifestyle, are all produced by the broadcaster.¹

Change in the IT field is ongoing and often unpredictable. Global systems integrator Qvest GmbH, with a presence in Germany and other world markets, states that companies face key challenges of digitalizing business models and processes and being able to change and evolve quickly without having to make complex technical adjustments for each step.² This boils down to meaning systems must be fluid and flexible enough to easily, economically, and quickly evolve as requirements change.

THE CHALLENGE

WELT planned to build a brand new building with 52,000 square meters of space for 3,000 employees. The new building would host one large real studio including large moveable video walls and an adaptable moderation table, a second hybrid studio with a green screen cove construction and a real set, three control rooms, and playout places.

Their desire was to operate a broadcast center that is as flexible as possible with a high degree of automation putting people and news at the center. WELT wanted to be able to react quickly to a wide

variety of situations in the new studio: breaking news, relevant political developments, and much more.

For the planning and realization of the new studios, WELT commissioned their master systems integrator Qvest GmbH. After making the decision to transform from SDI to an IP-based infrastructure, Qvest reached out to Black Box because they had a long-term trusted relationship with us with multiple successful implementations of KVM solutions in the Media and Entertainment sector.

The desired solution would enable reliable, flexible IP-based signal switching and extension for the two broadcast studios operated from three control rooms, all of which rely entirely on remotely-operated automation systems. An important requirement was to freely assign and operate the two studios from any of the three affiliated control rooms. The system had to be fluid, easy manageable, and adaptable to seamlessly change as requirements change.

Interoperability between 4K and HD video, and remote access for users without a physical receiver in their workspace were essential. The futureproof system needed to consume extremely low bandwidth and easily expand as requirements evolve. High availability and scalability were both very important to WELT.

To comply with best practices, complex technical behind-the-scenes operations must be transparent to the end user. Seamless, flexible, automatic, and scalable operations were paramount stipulations for the deployed solution.

SOLUTION

The rollout of the new technical building was managed and installed by Qvest GmbH as general contractor. Black Box was in close contact with the GC at all times to ensure a smooth process and to support our partner.

After intense testing, the Black Box Emerald Unified KVM over IP solution became the favored choice to enable reliable, flexible IP-based signal switching and extension for two large and one small remotely-



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controlled robotic broadcast studios. Depending on the location, different Emerald models were installed, which are fully interoperable with each other and with the external control systems:

- Emerald Zero U transmitters consuming no space in their high-density equipment rooms
- Emerald 4K, HD Emerald SE and HD Emerald PE extender units
- Emerald Remote App connecting remote Windows 10 laptop users
- A fully redundant Emerald network system of 100G, 10G, 1G copper and fiber EMS switches
- Redundant Boxilla KVM Managers offering easy-to-understand management of the whole Emerald KVM over IP platform

The system created an efficient workflow in which the complex interaction of various high-tech applications are all transparent to the end user. Editorial spaces, broadcasting studios, play-out, direction, cameras, mixing consoles, video editing, video walls, and more synergistically function together to bring the end-user a seamless user experience. The KVM system supports the entire process in which many systems for the most diverse users converge and are controlled – but the end users do not notice that sophisticated technical systems are present and the users experience instant access to the computer systems they need to do their jobs every day.

RESULTS

A highly modern and easily expandable KVM system is available in the new building. The remote app also facilitates the administration of critical systems from the home office. The installed system met each and every one of WELT's initial requirements. The complete Emerald solution delivered high availability and scalability, interoperability between 4K and HD, remote app, and a market-leading low bandwidth consumption for maximum expandability and flexibility.

The customer was very pleased with the end result and commented favorably about the new system. The integrator and Black Box salesperson also remarked positively about the success of the deployment.

"The Emerald KVM platform is unique in supporting both virtual and physical machines, and this capability — along with anytime, anywhere access via the Remote App software receiver — has opened up a whole new way of approaching our studio infrastructure," said Thorsten Prohm, chief technical officer at WELT. "The Black Box system's ability to support both HD and 4K likewise gives us valuable flexibility in managing signals and format types as we deliver news broadcasts with an innovative look and feel."

WELT produces live for 14 hours every weekday from the new facility.

With Emerald transmitters and receivers connecting operator consoles to the systems in the facility's equipment rooms — and eventually to virtual machines — users working anywhere enjoy fast access to any sources they need to do their jobs. The Remote App securely extends access to the KVM network so that authorized users can connect to the studio or other broadcast facilities and remotely perform the same jobs they do when working on-site. Thanks to the API-based cross-functionality of the Emerald KVM platform with other platforms, including the studio management system, operators can completely reconfigure all workstations' functionality with the touch of a button.

"We're thrilled to be working with WELT on their exciting new facility build to redefine live news broadcasting — from an overhaul of the conventional studio model to the integration of user-generated content and modern news production," said Norman Tettenborn, principal at Qvest. "The Emerald KVM platform is designed to support this type of innovation, and we look forward to a successful launch."

"It's exciting to see WELT and Qvest take full advantage of our Emerald KVM platform to provide greater efficiency and creativity in taking studio programming to air," added Frank Nölken, Director, KVM Business Development at Black Box EMEA.

Emerald KVM has earned its place in the modern broadcasting industry. The future outlook for this type of solution is ripe with opportunity. Its complex high-performing, but easy-to-use technology stays in the background serving perfectly the journalistic work and putting the content at the forefront. Just recently, Axel Springer has expanded the KVM system with another broadcasting studio in a neighboring building, and a similar, complete Emerald solution may be considered for this project.



Emerald KVM over IP

¹ [https://en.wikipedia.org/wiki/Welt_\(German_TV_channel\)](https://en.wikipedia.org/wiki/Welt_(German_TV_channel))

² <https://www.qvest.com/en/services-products/software-development>

