NEW STATE-OF-THE-ART PRODUCTION CENTER FOR SRF WITH VIRTUALIZED MULTIVIEWERS

The SRF production center in Zürich, Switzerland

At a glance

A revolutionary news and sports center for SRF is the most ambitious project that SRF and tpc have embarked on for decades. The facility is being built specifically to leverage an IP workflow for significantly streamlined and simplified operational processes. The cornerstones are digital first and mobile first with a tight focus on video and audio quality.

tpc Switzerland ag is responsible for all production systems and technologies throughout television, radio and multimedia operations at SRF.

Executive summary

► **Customer**: tpc Switzerland ag
► **Task**: To build a new state-of-the-art production center for SRF
► **Challenge**: By reinventing workflows, tpc will bring together many production islands that grew over years into one big new technical concept
► **Solution**: R&S®PRISMON UHD multiviewer
► **Key advantages of this solution**: Industry-leading low latency for SMPTE 2110/AMWA NMOS based studio/production/playout environments, multistream output of video mosaics, integration into production control via IP based tally and UMD, future-proof software defined solution ready for the cloud

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The customer

Schweizer Radio und Fernsehen (SRF) is a Swiss broadcasting company created in 2011 through the merger of radio broadcaster Schweizer Radio DRS and television broadcaster Schweizer Fernsehen. This new business unit of Swiss national broadcaster SSG SSR immediately became the largest electronic media house in German-speaking Switzerland. Around 2150 employees work for SRF in four main studios in Basel, Bern and Zürich.

tpc Switzerland ag is responsible for all production systems and technologies throughout television, radio and multimedia operations at SRF. It is a subsidiary of SRG SSR and Switzerland's leading broadcast service provider, with expertise in planning, creating and managing audio-visual projects. tpc's 1000 highly trained professionals also serve external clients. Its own state-of-the-art studios, post production and mobile resources provide the foundation for quality broadcast solutions that combine innovation with the best in technology. Where necessary, tpc works with external partners to provide clients with the optimum package of services they need. Visit www.tpcag.ch for further information.

New state-of-the-art production center for SRF

A revolutionary news and sports center for SRF is the most ambitious project that SRF and tpc have embarked on for decades. The facility – located in the Leutschenbach district of Zürich – is being built specifically to leverage an IP workflow for significantly streamlined and simplified operational processes. The cornerstones are digital first and mobile first with a tight focus on video and audio quality. The project sees a change away from program-oriented organization to a story and content-oriented focus. Within the new structure, journalists will be organized as expert teams and not on program structures.

A key strategic goal of the new building is to have more efficiency and flexibility in all directions. But it also means a big technical change. By reinventing workflows, tpc will bring together many production islands that grew over years into one big new technical concept. File based and live workflows are growing together, and national and regional operating teams work as one integrated unit.

"We are happy with the installation of the R&S®PRISMON application on COTS servers with the support of Rohde&Schwarz technicians. All open points are well addressed and professionally managed by Rohde&Schwarz."

Andreas Lattmann, Chief Technology Officer,

Planning&Projects tpc

There is just one audio/video/metadata backbone throughout the entire production process from ingest to playout based on full implementation of the SMPTE ST 2110 uncompressed IP standard.

tpc and SRF's goal is for their workflow to become format agnostic, future proof and efficient. This means a big change for the employees. There are new organizations, new working hours, new tools and systems, and new workflows.

The multiviewer challenge

From day one, tpc set out with the ambition of creating a new and radically different production solution that took into account its multiviewer system needs: from the beginning, tpc sought a fully virtualized multiviewer architecture. "With a completely virtualized platform, we get the flexibility that we always wanted from a multiviewer system," explains Andreas Lattmann, Chief Technology Officer, Planning&Projects at tpc. "Hardware agnostic, integrated into the network and able to display whatever, wherever needed."

The new tpc facility is home to a master switching room, central ingest, many studios and galleries with different multiviewer needs, as well as a new playout and post production system. "Within this environment, the demands for multiviewing are very high and mission critical," explains Lattmann. "Everybody in the building has different needs when it comes to seeing what's going on and where. With the Rohde&Schwarz R&S®PRISMON multiviewer system, we now have the chance to fulfill all these requirements and still have the flexibility to change whenever needed.

"Thanks to the inherent flexibility of a virtualized multiviewer system, we can support the operational teams as well as the journalists by showing them the specific sources and destinations that are required for their work and nothing less and nothing more. Dynamic setups and the sheer number of signals that can be handled by R&S®PRISMON help us improve the efficiency of everyone."

A software/IP based system solution

Within the news and sports production center, hardware is still required, but not special built-for-purpose hardware. Instead tpc is using standard COTS servers to render the multiviewer signal, and the servers are directly integrated into its ST 2110 backbone. With this implementation, tpc achieves the full flexibility that an IP environment offers.

The project required extensive planning, and tpc and Rohde&Schwarz worked closely together. "Based on many tests and a proof of concept, we figured out that the crucial issues such as picture quality, latency and

functionality are fulfilled by a virtualized system such as R&S®PRISMON," explains Lattmann.

The two companies continue to work together on the deployment of R&S®PRISMON multiviewers, aiming to exploit all the advantages the new virtualized system offers. "Due to the fact that the product is still quite leading edge, enhancements and developments are being integrated into R&S®PRISMON on an ongoing basis. For instance, new functions and releases that enhance the use of the system," explains Andreas Lattmann.

This is one of the primary benefits of a software based, virtualizable platform. It can be updated as required by the deployment, when features are developed and as new standards become available.

Third-party integration based on ST 2110

Within the new center, R&S®PRISMON multiviewer is integrated alongside technology from Nevion. tpc is using Nevion's VideoIPath as the orchestration solution for its real-time network. This system enables signal management, bandwidth management, redundancy, address handling and much more. ST 2110 based VideoIPath is the brains of the entire IP system and multiviewing.

"ST 2110 is the future standard for handling live audio/video and additional data in a professional environment. It is an open standard that helps us migrate to a full COTS based, IT product based infrastructure. It fulfills all our real-time needs such as being predictable, stable, synchronized, scalable, format agnostic and future proof," states Lattmann. "With this once-in-a-lifetime chance to build a completely new infrastructure with a greenfield approach, it is important to use state-of-the-art concepts. So we committed very early to this standard, became a member of SMPTE and its standards group, AIMS and AMWA.

Based on these decisions, we needed partners that support the same standards – as Rohde & Schwarz does with its R&S®PRISMON multiviewer."

How does IP based operation enhance workflow efficiency within the new center? Thanks to tpc's end-to-end approach as opposed to its previous island based approach, all signals are available throughout the production infrastructure. The overall monitoring system has allowed tpc to enhance the reaction time if there are any failures in the system. With the R&S®PRISMON multiviewer system, tpc can ensure that the signals are available in the expected quality at any point in the process.

The results

Now that the R&S®PRISMON multiviewer system is installed and operational, Andreas Lattmann is able to assess the results of the project. "We are happy with the installation of the R&S®PRISMON application on COTS servers with the support of Rohde & Schwarz technicians," he explained. "All open points are well addressed and professionally managed by Rohde & Schwarz."

"Since the application is installed on COTS servers and a VM platform, we are able to quickly and easily expand or shrink the system's dimensions based on our needs. A central license management facility allows us to adapt the system to any workplace that needs specific features. The measurement function within R&S®PRISMON multiviewer helps us dramatically reduce the amount of expensive measurement equipment at many workplaces.

"It is very helpful that R&S®PRISMON is based on standardized interfaces. This makes it easy for us to achieve our goal (and perhaps that of any broadcaster) of integrating a best-of-breed solution based on third-party control systems," concludes Andreas Lattmann.

Rohde & Schwarz

The Rohde & Schwarz electronics group offers innovative solutions in the following business fields: test and measurement, broadcast and media, secure communications, cybersecurity, monitoring and network testing. Founded more than 80 years ago, the independent company which is headquartered in Munich, Germany, has an extensive sales and service network with locations in more than 70 countries.

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