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Full-IP OB Twins Usher in a New Era for Belgium's RTBF

In early April 2020, RTBF, Belgium's public broadcaster for the country's French-speaking community, took delivery of the first of two groundbreaking, full-IP OB trucks. Due to the covid-19 lockdown, the 12m long trailer had to be configured remotely using TeamViewer, a few web cameras and microphones for confirmation purposes as well as via VPN in order to be delivered on time. The second identical OB truck will arrive on 1 July.

Masterminded by Geert Thoelen of NEP Belgium and Dirk Sykora of Lawo, the vehicles built by Broadcast Solutions in Germany will be leased to RTBF for eight years.

The twins come equipped with a 100Gbps Arista-powered network core (audio, video and matrix) that revolves around Lawo's V__matrix C100 platform for SDI- and IP-based video and audio input/output as well as processing.

A Sony XVS-8000 IP vision mixer provides powerful video control for the 16 Sony cameras. The Sony Live System Manager provides the control interface to Lawo's VSM and NMOS-IS04/05 protocols as required. The LSM allowed Sony to remotely access the Switcher network to configure the IP routing and XVS setups from its engineer's home during the unfortunate events of covid-19 and pan European

lockdowns.

Each truck offers 36 vm_dmv heads delivered by V__matrix C100 blades for multiviewing purposes. Overarching control and orchestration is managed by Lawo's VSM IP control system.

Both OB trucks support all audio formats (analog, AES3, MADI with SRC, Dante with SRC and AES67/RAVENNA), which are mixed using a 48-channel-strip mc² 56 audio production console and 512 DSP channels provided by A__UHD Core. Audio and video signals can be sourced from six video stageboxes equipped with V__matrix Silent frames and A__mic8 audio I/O edge devices. In addition, there are eight audio stageboxes containing maxed-out Power Core units as well as two stageboxes with one DALLIS I/O frame each, providing 128dB microphone inputs for exacting audio quality requirements. All of the above run in ST2110.

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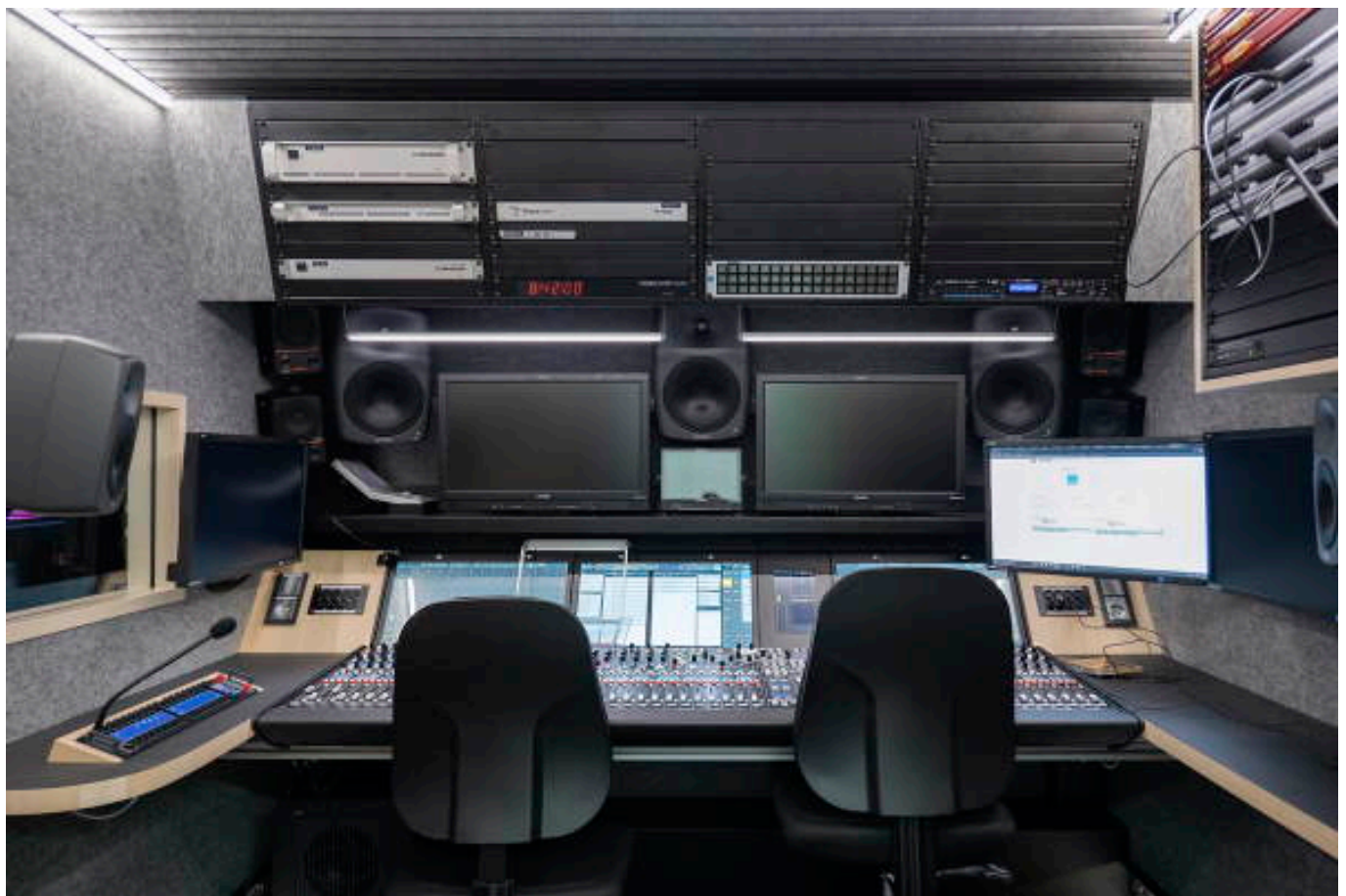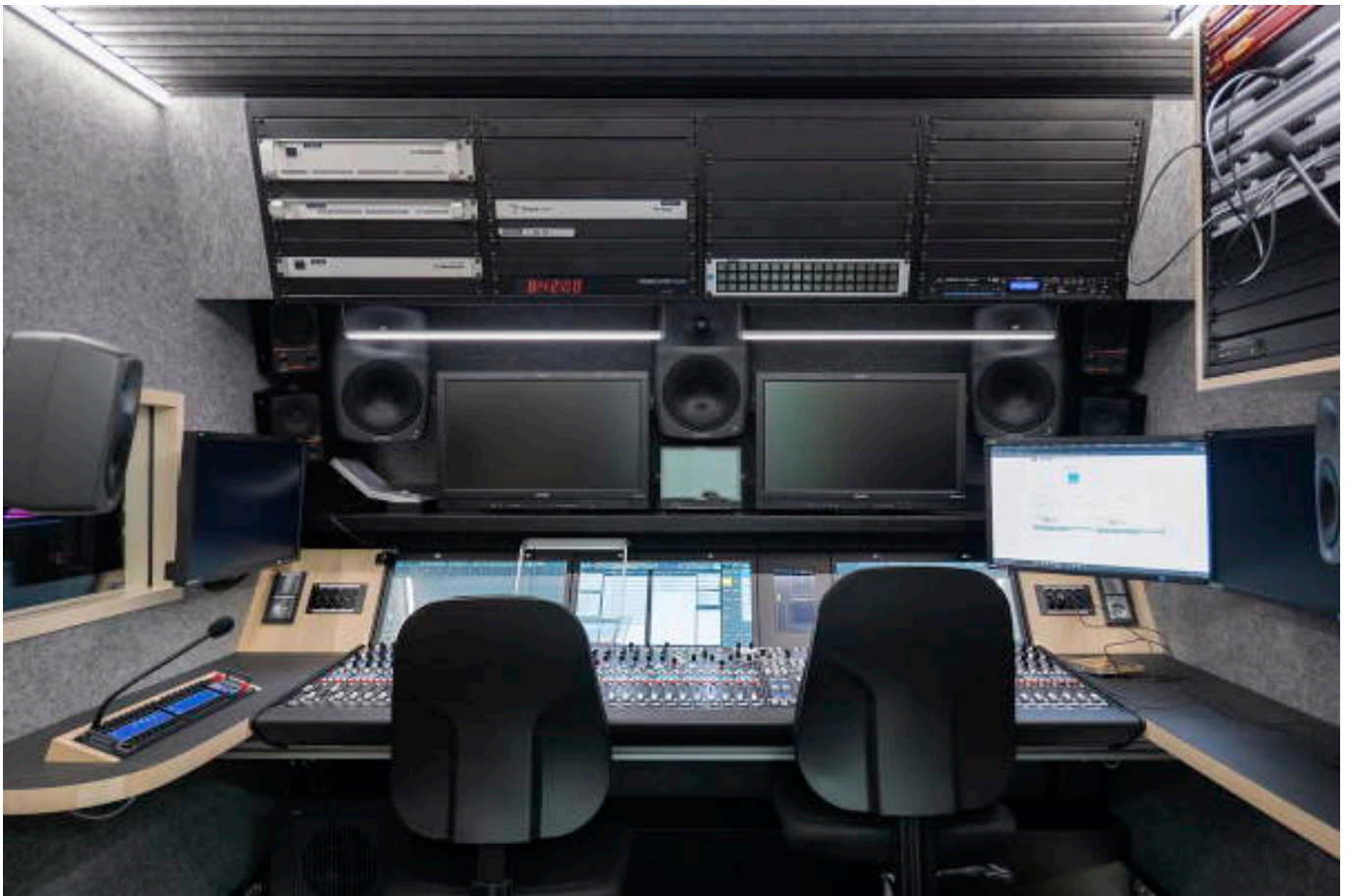
While reading through the tender documents, Geert Thoelen and Maxime Delobe of NEP Belgium realized that RTBF was expecting highly efficient and future-proof "dream trucks". Given that an IP backbone had been specified, Thoelen and Delobe suggested basing the two vehicles on ST2110-20 for video and ST2110-30 for audio. In response to a request for Dolby E signal compatibility, Lawo proposed to make all audio streams also available in the ST2110-31 format. "This way, the OB trucks cater to both 24-bit and 32-bit audio needs in any combination: the ST2110-30 or ST2110-31 audio stream versions can be selected at the press of a button on a VSM soft- or hardware panel," explains Lawo's Dirk Sykora. "This user-friendly approach eliminates time-consuming and costly system reconfigurations before an upcoming event," adds Geert Thoelen.

According to Olivier Malevez, Project Manager New IP Outside Broadcast at RTBF, the decision to order two identical OB trucks was partially based on the expected possibility to use them as one giant system for major events when necessary. Used as stand-alone trucks, they cover all applications ranging from compact six-camera assignments to big live concerts and sporting events. Both OB trucks can be docked to RTBF's broadcast building via SDI or IP: "We also wanted the option of using the two OB trucks as additional control rooms on our premises in peak situations," explains Jean Vanbraekel, RTBF's Head of Technology Operations and Distribution.

For Broadcast Solutions in Germany, planning and configuring the 100G Arista

network core as well as building and delivering the first full-IP OB truck posed two challenges: equipping it with an SMPTE 2110 fabric and meeting the deadline despite the worldwide covid-19 lockdown, while also carrying out all requested amendments. Matthias Hahn, Project Leader at Broadcast Solutions: "Building an IP- and ST2110-based OB truck is still the exception that confirms the rule. By laying a solid IP foundation, the Broadcast Solutions team proved that it was up to this challenging task."

The experience gained with the first OB truck is now being "copied and pasted" to the second vehicle. Dirk Sykora of Lawo: "Explaining the vast capabilities and flexibility of the V__matrix platform at the onset of the project was highly beneficial for a swift and effective configuration phase. Both HD trucks are 4K/UHD-ready, which—from Lawo's perspective—is a simple matter of retasking existing C100 blades."

Sony's Account Manager Daan Herreman: "Being recognized as a trusted and innovative technology partner for many years to RTBF and NEP Belgium, we were delighted Sony was the preferred choice for this unique IP project. We can fully support the SMPTE ST2110 & AMWA NMOS Series of open standards to provide necessary interoperability for our customers."

NEP Belgium's Geert Thoelen: "RTBF's two new OB trucks are among the most advanced on the planet and reflect the innovative ways in which NEP consistently implements the latest technologies. Building relationships on mutual trust and innovation has always been at the heart of NEP's activities. RTBF's ST2110-based approach has resulted in highly flexible tools for OB assignments of any scale."

Cécile Gonfroid, CIO at RTBF: "We obviously knew that an IP infrastructure was the answer to our current and future needs. NEP Belgium's guidance was invaluable, and their proposals were based on what ultimately provided the highest benefit for RTBF. We consider our two full-IP OB trucks the first building blocks of our future Media Square facility."

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