Grass Valley

CASE STUDY

Grass Valley LDX 150 NativeIP Cameras

Empower Unprecedented Coverage at the COP28 Climate Conference in Dubai

The COP28 UN Climate Change Conference, a pivotal event on the global environmental calendar, presented unique broadcasting challenges and opportunities. Held in Dubai's expansive Expo City, the conference saw an unprecedented assembly of over 85,000 participants, including more than 150 heads of state and government, across 285 press conferences and 576 events. With the eyes of the world on this gathering, there was a critical necessity for seamless and comprehensive news coverage.

The logistics and planning involved in providing broadcast coverage for such a vast array of events were monumental. Identity, a global live events agency, was contracted to serve as overall producers. Identity then turned to NEP Bow Tie, a division of NEP Group, Inc. that's renowned for its expertise in managed video services for government organizations, to provide the technology solution.

The event's vast scale, spanning two distinct zones within Expo City, presented unique challenges. The Blue Zone, designated for official meetings, and the Green Zone, open to the public, required nuanced coverage strategies to comprehensively capture the essence of the discussions and the vibrancy of the community engagements.

According to Gareth Phillips, Head of Engineering and Technology for NEP Bow Tie, "It became quite clear early on, with the scale of the events, that coverage was going to be a connectivity challenge." The challenge was multifaceted, demanding high-capacity, reliable, and flexible connectivity solutions across this vast site.

Embracing NativeIP for unprecedented connectivity

In response, NEP Bow Tie turned to Grass Valley's LDX 150 cameras with NativeIP functionality, a pioneering solution offering direct IP network connections to the camera, removing the need for a traditional base station.

This innovation allowed for the distribution of camera heads across the venue without the need for the heavy infrastructure normally associated with traditional setups. The NativeIP LDX 150 incorporates support for both SMPTE ST 2110 and AMWA NMOS standards within the

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> Head of Engineering and Technology,
> NEP Bow Tie

camera head itself. This allows the camera to be connected to the 2110 network in a redundant fashion, removing the need for the traditional camera control unit (CCU).

By removing the CCU, significant reductions in shipping costs and CO_2 emissions were achieved. This strategic decision also resulted in a notable decrease in the rack space, power consumption and cooling required on-site, which aligned with the conference's environmental goals.

Ensuring a secure and reliable IP infrastructure

The cornerstone of the coverage strategy was reliability. The deployment of 52 Grass Valley® LDX® 150 cameras across the venue was underpinned by a meticulously planned network architecture. With full red and blue network resiliency, the architecture was designed to withstand a broad variety of unexpected events. There was a particular focus on security, guaranteeing uninterrupted coverage even in the face of potential disruptions.

The final destination of the camera signals was a master control room and nine production galleries, each with a Grass Valley Kahuna® switcher. In addition to the 52 LDX 150s, there were a number of PTZ and Grass Valley RF cameras.

Each of the LDX 150 cameras appeared on the network as a specific device and each was configured using NMOS. "Due to the scale of the event, we had some concerns at the outset," said Phillips. "Dubai is a tough environment due to temperature," he continued. "But once the cameras were configured, they were absolutely rock solid. By and large, the cameras made things very easy."

The robust network infrastructure, coupled with the advanced features of the LDX 150 cameras, provided a stable and reliable platform for live broadcast throughout the event.

A structured approach to cabling

To support the large-scale camera deployment, the implementation of over 140 km of broadcast cabling within the venue posed a significant challenge. With a strong emphasis on maintaining the venue's aesthetics, NEP Bow Tie opted for a structured cable approach rather than installing a temporary cable rig based on SMPTE Fibre.

In collaboration with the local telecommunications provider, Etisalat, NEP Bow Tie circumvented the logistical burdens associated with traditional SMPTE fibre cabling. They installed a 12-strand tactical single-mode fibre cable featuring LC connections. This method eliminated the need to ship heavy SMPTE fibre cable in and out of Dubai.

Improved picture control with Creative Grading

A critical component of the coverage's success was the use of Grass Valley's new Creative Grading solution. To support the central management of the cameras, all of the LDX 150 cameras were connected to a CCS One Camera Control Server, which in turn was connected to a suite of Creative Grading Panels, located in a central racking gallery.

Operated by a team of 25 vision engineers working in shifts, the Creative Grading Panels allowed for real-time remote adjustments to the camera settings and fine-tuning of the picture output throughout the weeks of production. The flexibility and control offered by the Creative Grading solution made it easy to paint the cameras and was very well received by the team of shaders, many of whom had not used the solution before.

Each position controlled multiple cameras, allowing the team to make real-time adjustments and seamlessly transition between different lighting conditions. According to Phillips, "The team picked it up very quickly and really liked the solution."

Daragh Bass, Director of Sales for Grass Valley Northern Europe, reflected on the event's success and its broader implications: "This remarkable blend of technology and environmental consciousness at COP28 not only set a new standard for live event broadcasting but also underscored the importance of sustainability in our industry. The collaboration between Grass Valley and NEP showcases both companies' commitment to innovation in overcoming challenges and paving the way for future events to leverage technology in service of both broadcasting excellence and environmental stewardship."

"The live broadcast of COP28 was an extremely complex project, with no room for error. The collaboration between Identity and NEP, with their innovative and technically advanced systems and equipment, coupled with an experienced and expert team, ensured this historic event was successfully transmitted into millions of homes around the world," said Mandy Keegan, Director of Media & Broadcast, Identity at COP28.

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