CASE STUDY

Wi-Fi Hits the High Notes at the Junior Eurovision Song Contest

Overview

The Junior Eurovision Song Contest is a spin-off of the iconic Eurovision Song Contest that promotes young musical talents. The 2025 Junior Eurovision final took place in Georgia's capital, Tbilisi, bringing together 18 young artists from all over Europe and millions of viewers watching live broadcast.

The "junior" label does not in any way reduce the technical challenges of staging such a large, live televised event.

This large-scale technical event, broadcast live, required efficient and reliable infrastructure to ensure smooth data flow for the event staff. A modern Wi-Fi network, purpose-built for the event, formed a key component of the technology backbone. The network had to meet stringent requirements for capacity, security, and reliability in an environment characterized by extremely high device density.

Technology Deployed:

- XE3-4 Indoor Tri-Band Wi-Fi 6E AP - 16 units
- XV3-8 Tri-Radio Wi-Fi 6 Indoor AP - 34 units
- XV2-2 Dual-Radio Wi-Fi 6 Outdoor AP - 10 units
- cnMaestro X

The Challenge

The main objective of the deployment was to provide fast and reliable wireless connectivity for both event staff and guests.
The top priority for the engineers was to ensure stable Wi-Fi connectivity for the event's key systems during the live broadcast, including live production servers and editing systems for the show directors, voting and results reporting systems from all participating countries, and software supporting production and event operations. The entire Wi-Fi network infrastructure had to be built and configured in close coordination with multiple teams responsible for stage design, visual effects, production, and broadcasting, all within an initially empty venue.

The team of designers and engineers worked under immense time pressure, having only six weeks to fully deliver the project, and an additional challenge arose when the venue was changed just four weeks before the final broadcast date.
Under these circumstances, there was no time for tests or experimentation, so they had to rely on a strong brand and proven solutions.
"The ability to design and implement complex, high availability projects in a very short time was the key factor in selecting Cambium Networks equipment," said Zviad Lanchava, Department Manager Network and Data Department at Digital Technologies.

> *"Delivering seamless, high-performance connectivity from fiber backbone to Wi-Fi for each user, mobile device, and critical on-site production staff, We've successfully met the challenges of tight deadlines and high device density. By implementing a resilient, fault-tolerant network that ensured flawless performance throughout the event, We've demonstrated our expertise in providing dependable Wi-Fi solutions in demanding, high-pressure environments, powered by Cambium Networks."*
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> Eduard Janoashvili, Deputy CEO at Skytel

The Solution

Two separate network infrastructures were built as part of the project. Networks for staff, divided according to user roles, with a requirement to provide 50 Mbps for each user. A network with public access, without a specified speed limit.
Sixty internal and external Wi-Fi 6 and 6E access points from Cambium Networks were used to build all elements of the wireless network infrastructure, in a 1+1 redundant configuration.
The entire system was centrally managed using cnMaestro On-Premises.

Two companies were responsible for the implementation of the project. Digital Technologies, acting as the distributor and project partner with a highly professional engineering team, was responsible for the planning, implementation, and operation of the system. SkyTel, one of Georgia's largest Internet service providers with extensive experience in servicing events and large projects, served as the main contractor.

The entire infrastructure included:

10 Outdoor Access Points:

- XV2-2 Dual-Radio Wi-Fi 6 AP

50 Indoor Access Points:

- 16 XE3-4 Tri-Band Wi-Fi 6E AP
- 34 XV3-8 Tri-Radio Wi-Fi 6 AP

cnMaestro X – network managment platform

The Results

In just six weeks, a network was designed and built from scratch to provide stable and uninterrupted access for directors, broadcast crews, and all event support teams, as well as reliable connectivity to critical live production systems.

Tests conducted before the event showed throughput exceeding 200 Mbps, and throughout the entire show there were no incidents related to network access or any concerns about signal quality. In addition, Internet access was provided for all event participants, along with public Wi-Fi coverage in designated areas.

Wi-Fi served as the primary communication medium for mobile devices and tablets used by editors, staff, and hosts during the live show. *“Any outage would have had a direct impact on the live production and overall event management, however, no connectivity issues were reported at any point during the event,”* notes Irakli Svanishvili, Business Development Specialist at Dtech, with satisfaction.

The solution based on Cambium Networks equipment proved its effectiveness in the demanding conditions of a large-scale live broadcast, providing a stable and secure platform for the entire event to be delivered to the highest standard.

About Cambium Networks

Cambium Networks enables service providers, enterprises, industrial organizations, and governments to deliver exceptional digital experiences, and device connectivity, with compelling economics. Our ONE Network platform simplifies management of Cambium Networks’ wired and wireless broadband and network edge technologies. Our customers can focus more resources on managing their business rather than the network. We make connectivity that just works.

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