

INTELLIAN EMPOWERS ANTARCTIC EXPLORATION FOR BULGARIAN NAVAL ACADEMY THROUGH 'ALWAYS-ON' CONNECTIVITY



CUSTOMER

VAPTSAROV NAVAL ACADEMY
IN VARNA, BULGARIA

PARTNER

ORBITAL CONNECT

MARKET SECTOR

RESEARCH VESSEL

REQUIRED FEATURES

'ALWAYS-ON' COMMUNICATIONS
INFRASTRUCTURE

CHALLENGES

- Provide 100% network coverage during the expedition to Antarctica and Livingston Island
- Enable voice and internet services throughout the entire journey and on Livingston Island
- Provide reliable connectivity solutions, even during inclement atmospheric conditions

When Bulgaria's Vaptsarov Naval Academy and Bulgarian Antarctic Institute set out their plans for an ambitious voyage, across the Southern Ocean to Antarctica and Livingston Island, the key challenge was to remain completely connected when in some of the remotest areas on earth. 'Sts. Cyril and Methodius' is the first Bulgarian military research vessel. The team on board will explore the flora and fauna in the seabed, while on land, Bulgarian polar researchers will continue to study potential deposits of minerals around the Bulgarian base on Livingston Island.

Intellian's Partner, Orbital Connect needed a satellite communications solution that would work even in the harshest and most adverse environments where connectivity is mission critical for an expedition of this kind. As such, the team needed the ability to connect for regular e-meetings, to send and provide necessary finds and reporting, as well as maintain contact with family and friends via social media.

SOLUTIONS

- v100NX
- C700

Orbital Connect's solution was to implement SES coverage for all high-bandwidth VSAT requirements and Iridium's Certus L-band network as a VSAT companion and for Global Maritime Distress Safety Services (GMDSS). This provided the vessel's communications needs with satellite coverage throughout their entire journey from Bulgaria to Livingston Island in Antarctica.

Given the extreme environmental conditions that the vessel had to endure, Orbital Connect needed highly reliable antennas to provide the necessary connectivity. They selected to install Intellian's popular v100NX to deliver the SES connectivity and a C700 for the Iridium Certus service.

Intellian's NX Series are maritime antennas, that can operate in either Ku-band or Ka-band thanks to their tuned radome and reflector. Commercial 2.5GHz Ka-Wideband ready provides access to future high bandwidth networks, enabling access to the highest bandwidth packages. With most major operators having type approved the NX Series including SES, having the v100NX onboard was an easy decision.

As a VSAT companion, Intellian's C700 has been designed to

perfectly complement the v100NX and provide essential L-band back up and safety services. With an operating temperature for above deck unit of -25°C to +55°C, the chills of the Antarctic weren't an issue. The C700 also has a winterized version with a heating element that allows for operating temperatures of up to -50°C~+55°C.

BENEFITS

- 100% coverage provided throughout the duration of the trip
- Reliable connectivity to be able to host video and voice meetings at any given time
- Connectivity even under the worst atmospheric conditions

The key benefit to this installation is the 'always on' coverage that is available to both ship and crew. This allows the crew to conduct their research and keep them connected to their colleagues in Varna and at the Bulgarian base on Livingston Island.

The solutions also allowed them perform the everyday tasks that many of us take for granted, such as remaining in contact with loved ones, streaming music or our favourite TV shows, or catching up on daily news. Being able to complete these 'home comfort' tasks make the life on board the ship and on Livingston Island much easier for the expedition crew.

Krasimir Terziev, Director of Business Development at Orbital Connect, said: "With our solution, scientists will access all the results and research they conduct at the South Pole, which is crucial to their mission. We are proud that we have successfully completed this assignment. Our client is very happy with the result. It is a global, reliable, uninterrupted, and high-speed satellite service available due to the latest technologies and equipment, including Intellian's v100NX and C700 antennas."

"We expect to provide similar communication solutions for other Antarctic missions. The adaptation of satellite technologies and networks is a considerable challenge. Implementation of this project takes in-depth knowledge and expertise."

Solution Partner: Orbital Connect

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