

National Broadcaster Improves Satellite Broadcast Efficiency

NovelSat NS4, DUET CeC and Dual-Channel ASI+IP

“NovelSat has provided benefits to our fleet for large scale events where bandwidth demand is high, and cellular coverage or WIFI are often not sufficient.”

Tom Grenson, VRT System Engineer ICT Networking & Telecom



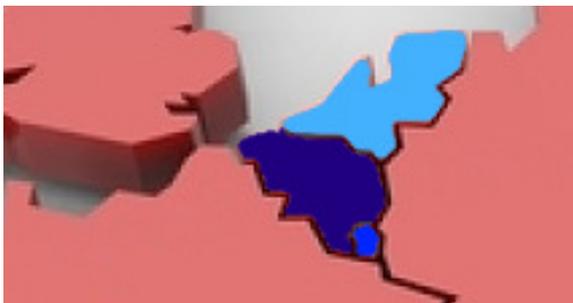
VRT

Challenge

VRT, the Flemish language Belgian national public-service broadcaster, had been transmitting via satellite using outdated DVB-S2 with 20-35% RoF (Roll-off Factor). In addition to the need to improve efficiency to keep up with higher demand for HD content, VRT also needed to comply with new regulations requiring CID insertion in satellite signals as of 2018.

Goal

Take advantage of a mandated regulatory upgrade to improve overall bandwidth and operation efficiency of the satellite broadcast solution.



Background

VRT (Vlaamse Radio- en Televisieomroeporganisatie) is the Belgium national public-service broadcaster for the Flemish region and community with 3 TV stations and 5 radio stations. VRT broadcast services include contribution, DTH channels, and radio, all via satellite and a fiber network, across Belgium and parts of The Netherlands and Luxembourg.

When covering large live events, VRT found it more and more challenging to deliver large amounts of satellite content in a cost-effective way. Demand for bandwidth is increasing with higher definition. But VRT was still transmitting using DVB-S2 with ROF up to 35%. What's more, communication and data transmission between remote staff and the studio was often hampered by poor cellular or WiFi coverage.

When the Belgian government implemented new regulations requiring CID (Carrier ID) insertion to help mitigate signal interference, VRT decided to upgrade their entire satellite broadcast system.

With all these factors in play, VRT approached NovelSat with a request to replace their ground station links and contribution SNG transmission equipment and software.

For more information, please contact NovelSat at info@novelsat.com

Solution

The broadcast solution provided by NovelSat includes NS3000 Professional High-Data Rate Satellite Modems, with configurations supporting Carrier in Carrier (Carrier Eco Cancellation) and Dual Channel (ASI+IP) on a single carrier, all with built-in TCP Acceleration. New modems were implemented at the VRT control center and in individual remotes and SNGs.

The NovelSat modem offers 5% RoF with the DVB-S2 and S2X standard, and as low as 2% RoF with the NovelSat NS4 satellite waveform. This is compared to the 20%-35% RoF previously employed by VRT. These and other features make the NovelSat NS3000 the most bandwidth-efficient modem in the satellite industry.

While other solutions need to be customized to enable features such as Carrier-in-Carrier support and dual channel IP+ASI transmission to work together, all of the software-based efficiency-enhancing features of the NovelSat NS3000 modem work together seamlessly out of the box.

Technology

The NovelSat satellite broadcast solution for VRT includes the following technologies:

NovelSat NS3000 Modem – Delivering data transmission rates of up to 425Mbps in each direction using 80Msps, enabling transmission of a single carrier over an entire 84MHz transponder, the NovelSat NS3000 Professional High-Data Rate Satellite Modem is the world's most bandwidth-efficient satellite modem. This translates into marked cost reduction for both point-to-point and point-to-multi point data, video and mixed data/video applications.

NovelSat NS4 – NovelSat solutions support all satellite transmission standards, including DVB-S/S2/S2X. In addition, NovelSat provides NovelSat NS4, the world's most bandwidth-efficient satellite transmission waveform. NovelSat NS4 delivers satellite bandwidth savings of up to 45% compared with DVB-S2 and up to 32% vs. DVB-S2X.

Dual channel ASI+IP – Dual channel ASI+IP support enables the mixture of both ASI and IP in a single carrier as well as simultaneous bi-directional transmission of video and IP data. With this capability, VRT's SNG trucks can cover major live events more efficiently, at lower cost, and using less satellite bandwidth.

NovelSat DUET CeC – NovelSat DUET CEC (carrier-echo-cancellation) software-based Band Reuse Technology doubles the effective data rate over the same transponder segment by enabling simultaneous full duplex video, data, and voice communication using the same bandwidth for both uplink and downlink.

Summary

The flexible NovelSat satellite broadcast solution – including NovelSat NS3000 modems using the NovelSat NS4 satellite waveform, Carrier-in-Carrier transmission, dual channel IP and ASI for video contribution feeds, and a return IP stream for data sharing with SNGs – has already proven itself a reliable and stable solution over challenging satellite links.

VRT has seen improved bandwidth efficiency and more efficient operation in day-to-day contribution scenarios and remote coverage of large-scale live international sporting events. The NovelSat solution meets the customer's growing needs for bandwidth usage, up-to-date features and compliance with new regulations.



NovelSat NS3000 Professional High-Data Rate Satellite Modem

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