

# STN Plays Out With Miranda

Eastern Europe's largest playout facility expands. By TOMAZ LOVSIN

Since the re-launch of Satellite Telecommunications Network (STN) in May 2009, with a brand new 5,000m<sup>2</sup>, state-of-the-art playout/transmission facility in Ljubljana, Slovenia, the company's client base has grown rapidly. The facility's distribution capacity has now increased from 100 turnaround channels to more than 180, along with 15 playout and 50 radio channels.

Our aim was to develop a highly flexible infrastructure and a responsive organisation to offer expansion for new channels and projects at short notice to regional and international commercial customers.

Before starting the design and building of our new facility, we were very aware that our customers needed to reach wider geographical audiences, and offer a broader range of channels via a multi-format delivery platform. To address this, we designed the new STN facility to offer highly flexible, multi-format signal processing, with many advanced monitoring capabilities.

It is the largest system of its kind in Eastern Europe, and it's based on Miranda's Densite signal processing, and its iControl and Kaleido monitoring systems.

The ability to deliver HDTV services to all of our existing and potential clients was key to our business plan. One of the crucial elements in fulfilling this goal was to ensure that all of the equipment, wherever possible, could accommodate programme delivery in both high and standard definition formats (as well as simulcasts), using either MPEG-2 or MPEG-4. We also needed to cater for our existing and still buoyant PAL-based clients, as well as analogue and DAB radio-broadcasters.

One of the most challenging aspects of this project was to handle such a wide range of signal formats and processes, without adding enormous complexity or a requirement for significant manual intervention in the key playout processes.

The signal-processing infrastructure, based on Densité interfacing modules, has met this requirement using a single, multi-

format and multi-functional platform. It addresses all our processing requirements, including up/down/cross conversion; 2.0 to 5.1 upmixing and downmixing; and Dolby E/AC-3 encoding/decoding.

It also does all the basic interfacing functions, like embedding/de-embedding, and distribution. So far, we have installed over 400 modules, which are housed in 45 Densité frames. That's a lot of purple boxes!

A single signal processor module can do the same job that five cards or devices used to.

Our signal-processing infrastructure can be quickly expanded to offer additional channels, or reconfigured for new workflows. The frames can combine multiple formats and processing functions side-by-side, and this saves space and streamlines control. It's a very scalable system that removes the need for a new blueprint to bring new channels to air, no matter what types of signals a client is dealing with.

Another advantage to Miranda's approach to signal processing is that the cards are extremely multi-functional, and this saves space and power. For instance, a single signal processor module will do the same job that five cards or devices were doing not long ago. This makes system integration and expansion much easier, and also reduces our capital and operational costs.

Some of the interfacing modules we have used most heavily are the XVP-1801 up down and cross converter, and the IRD-3802 and IRD-3811 integrated receiver/decoders.

For instance, the IKO Media sport channels typically arrive as HD feeds, although they can have different aspect ratios. By using the AFD (Active Form Description) capability of the up/down/cross converter, we can ensure that the channels are always delivered in the correct format, without any problems like the postage stamp effect. The signal processors are also used for de-embedding our audio signals so that we can provide IKO Media Sports with commentary in different languages.

We use the integrated receiver/

decoders modules for returns monitoring across 125 channels. In addition to decoding, these cards offer advanced signal quality monitoring, with sophisticated alarms.

## Large Scale, Electronic Monitoring

Given the vast number of channels that we are handling, we chose to install Miranda's iControl signal and facility monitoring system. We have always employed on-site personnel on a 24/7 basis to ensure that a client's signals are continuously being broadcast at the quality they require. However, with the new system, we now only need one operator to oversee all the facility monitoring.

This high level of efficiency is achieved with the iControl system's advanced electronic monitoring, which can integrate sophisticated probing and automation processes like Monitoring by Exception.

Our highly integrated facility monitoring system uses a highly graphical display of our entire network chain, which is presented across 12 large displays using two Miranda Kaleido-X multi-viewers. The system uses streaming video to monitor and control incoming and outgoing television feeds equipped with the Densité signal processing cards. The transmission path and the status of devices are displayed using STN's own CAD schematics and wiring diagrams of the infrastructure, and this makes the system extremely powerful for monitoring and diagnostics.

In addition to monitoring the Miranda signal processors, the iControl system also provides in-depth monitoring of third party equipment in the playout chains, including our servers, routers, and encoders. This third party equipment integration is performed using the system's advanced SNMP monitoring.

What's unique about this set-up is that a single STN operator can keep an eye on the whole playout process, and the

turn-around of every channel in a system of this scale, from the playout servers to the final encoding for transmission. Whenever the probes detect a fault, the system instantly presents alarms that can't be missed. This allows the operator to swiftly diagnose the problem, and then make necessary adjustments, or even switch to a back-up path. We've configured the iControl system with multiple levels for different tasks, so that our operator can zoom in from facility-level to device-level representations on the monitor wall GUI.

A number of multi-viewer layouts are prepared in our MCR for different monitoring applications. For example, one layout displays all the down-link feeds for all STN programmes. With a single button-push, another layout can be pulled up for live events, with monitoring of the feeds, master and slave playout, graphics, and any other services used for the live programming.

Overall, our engineers and operators have been very satisfied with this sophisticated signal processing and monitoring system. We've also had a great response from new and existing customers with

regards to our multi-format distribution, and the quality of our service delivery. We can now offer our clients the fastest possible turn-around for launching one or multiple channels to air, with virtually unrestricted signal processing capabilities and expandability. We can also ensure total safeguarding of signal quality through a rapid diagnosis and response management system that sits across the entire network facility.

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Tomaz Lovsin

## AFFORDABLE CAMERA CONTROL

The new 55D-CAU Coax/Fibre link from Telemetrics is an affordable camera control system with increased operating distance. The system is ideally suited for both permanently installed or mobile applications, and eliminates the need for video equalisers, frame



synchronisers, intercom adapters, microphone phantom power and remote power supplies. In addition to the benefits of the standard Coax Link the HD Fibre Link options offer a convenient and cost-effective means of transmitting HD/SD SDI video from the camera to the base station. +1 201 848 9818