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MARKET BRIEFS

Executive summaries of market trends and opportunities in key market segments and regions worldwide

The SNG Market

by Virgil Labrador
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This is not your father's SNG. Satellite news gathering (SNG) has been undergoing profound changes in the last few years that has made it more accessible to almost anyone with even the most modest of resources. Once the exclusive domain of only the largest of broadcasters with the massive trucks and Outside Broadcast (OB) vans, now even anyone with a smart phone can perform some of the most basic of SNG functions.

One of the key drivers for change in the SNG market is the proliferation of high throughput Ka-Band satellites that is making SNG more affordable and SNG equipment smaller and lighter—key features needed in covering remote events. Management of SNG resources is also evolving with more efficient tools to optimize satellite capacity and SNG personnel.

From Analog to Digital

But first a little background on the evolution of SNG over the years. SNG started to take off it the 70s and 80s using large C-Band antennas which were in use until the late 90s. The introduction of Ku-Band systems in the 90s paved the way for smaller dishes and higher capacity. C-Band transponders were typically 36 MHz while Ku-Band transponders were 72 or 54 MHz. The higher frequencies of Ku-Band enable the use of smaller antennas and less transponder capacity Smaller antennas also means smaller trucks were needed, which in turn provided more flexibility in covering events and cost less than the larger trucks required for C-Band transmissions.

Most of the C-Band and Ku-band systems were analog. A key development was the introduction of digital transmission technology which gave rise to Digital Satellite News Gathering (DSNG). Digital technology enable more sophisticated compression techniques, which is pivotal in the transition from Standard Definition (SD) to High Definition Today, DSNG is the norm among SNG systems.

The SNG market is rapidly evolving. Apart from satellite, coverage from the field can be done on smartphones using 3G and 4G networks. But in remote areas without cell coverage and even in high traffic cell sites, satellite is the only way to go.
(photo courtesy of C-Com Satellite Systems).

Enter Ka-Band

In 2005 WildBlue Communications launched its Ka-Band consumer service in the U.S. using part of the Anik F2 satellite. In 2007, Hughes Network Systems launched Spaceway 3, an all Ka -Band satellite that provided up to eight times more bandwidth than Ku-Band satellites.

WildBlue (which was later acquired by Viasat) and Hughes (which was acquired by Echostar) were very successful in the consumer satellite broadband market making the US the largest satellite broadband market in the world with over one million subscribers as of the end of 2012. Viasat then realized that its success in the consumer market can be replicated in other niche markets such as SNG. "Viasat is leveraging its vast experience and as a vertically integrated company, we can provide all the necessary components, from equipment to satellite capacity for an SNG system," said

Stefan Jucken, Director of Strategic Business Development at Viasat. Viasat is marketing its SNG services as "Exede Newsgathering" and promises two-way IP connectivity with bandwidths of up to 8 Mbps which can provide true HD over IP.

Aside from its SNG service in North America, Viasat also provides the SNG equipment for Eutelsat's Ka-Band NewSpotter service in Europe and the NBN Co. in Australia.

Size of the SNG Market

As mentioned earlier, Ka-Band satellites have been proliferating the markets globally. Apart for Hughes and Viasat in the US, among the operators with current Ka-Band capacity include Eutelsat (Ka-Sat), Avanti Communications (Hylas-1 and 2), Al Yah Sat Communications (Yahsat 1A and 1B), Hispasat (Amazonas 3), among others, with more coming in the pipeline including Inmarsat's Global Express, Arabsat's Badr-7 and Newsat's Jabiru-1.

NSR forecast a healthy market for Ka-Band services, specifically in the video contribution and Occasional Use (OUTV) markets. Euroconsult estimates that by 2020, the market for video contribution and OUTV capacity will be over US$ 1.2 Billion. The SNG equipment market is estimated to reach over US$ 600 million by 2015.

SNG Revenue Projections

	2010	2015	2020
Estimated revenue per transponder (2020 based on 2017 estimates)	$1,170,000	$1,070,000	$960,000
Number of transponders for video contribution	871	1078	1328
Market revenue for video contribution	$ 1,018,978,740	$1,153,890,140	$1,274,994,240

Source: Euroconsult

From MHz to Mbps

Ka-Band services operate differently from C– or Ku-band services. The smaller foot print of Ka-Band satellites enables it to re-use frequencies in individual spot beams. It also is IP-based and can deliver traffic from terminal to fiber. This minimizes capital costs as all you would need is an IP Point of Presence (POP). Since IP is almost universally used now, it simplifies transmission into various formats. IP-based platforms also gives reporters access to newsroom IT systems and the internet. With Viasat's Exede SNG system, for example, a reporter on the field can have two-way IP connectivity with their newsroom as if they were back in their TV station's control room.

Operators also charge differently for Ka-Band services—they charge per Mbps instead of per MHz (or per transponder), so you only pay for the actual bandwidth that you use. As the frequency is re-sued over several spot beams, operators are able to charge less for capacity, this results in significant savings for broadcasters in transponder costs.

Making SNG more Portable

The higher frequencies and high-powered spot beams of Ka-Band allows the use smaller antennas typically 75 cm (29.5 inches) to 1.2 meter (3.9 ft.). It also means the RF amplifier requirements are smaller.

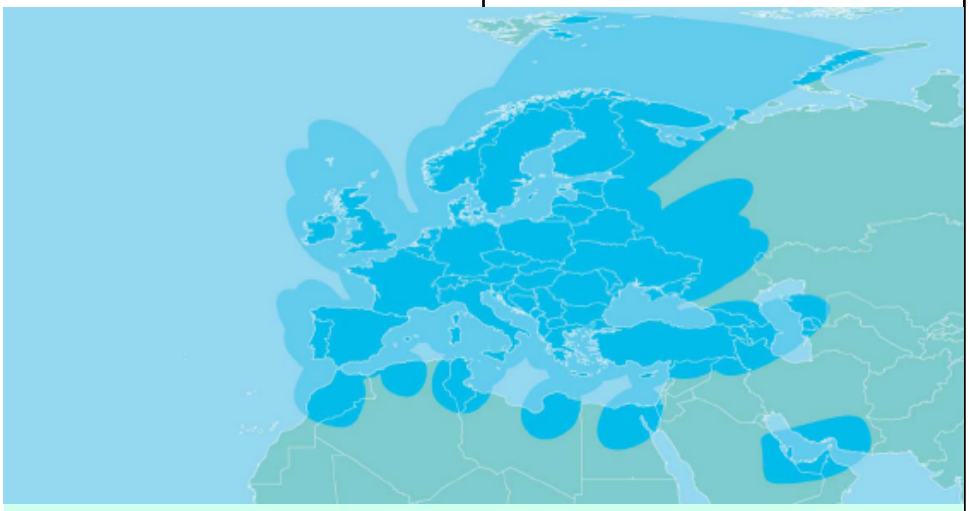
This results in a portable terminal which can be transported in a normal car that journalists usually drive or could be checked-in as baggage in airlines.

SIS LIVE's ManPak®, for example, weighs in at 12 kgs (30 lbs), is an integrated and compact VSAT terminal that provides a high bandwidth connection capable of high speed data and HD SNG transmissions. Extremely rugged, portable and fully integrated, ManPak is the only terminal of its type without any loose parts. The unit can be comfortably carried in a backpack across rough terrain and checked in as airline baggage.

ManPak is exceptionally easy to use, has a high gain, is multi-band, can acquire and be used on any satellite using SIS LIVE's award-winning GUI, and can be out of it's bag and operating live in three minutes.

Ease of Use

Viasat's Exede Newsgathering currently uses C-COM's 75 cm Auto Acquire An-



Ka-Band satellites are able to provide more power and flexibility with its unique frequency re-use spot beam system, as illustrated here with Eutelsat's Ka-Sat coverage in Europe and the Middle East. (image courtesy of Eutelsat)

tennas on vehicles. The C-COM Auto Acquire antennas are able to deploy and lock on to a network in two minutes. The ability to set-up quickly is crucial for broadcasters covering live, breaking news. Other companies provide Auto Acquire antennas such as AvL and Cobham Satcom Systems, among others.

The main benefit of Auto Acquire antennas is that it can be operated by a reporter even without a technical background since everything is automated and can be deployed by the push of a button.

Sis LIVE's ManPak® weighs only 12 kgs and is exceptionally easy to use, has a high gain, is multi-band, can acquire and be used on any satellite using SIS LIVE's award-winning GUI, and can be out of it's bag and operating live in three minutes.

(photo courtesy of SIS LIVE)

These developments has made SNG very accessible even to the smallest broadcasters and independent journalists. No large capital outlays are required or a big crew. There is a benefit for larger broadcasters as well, as they would not need to deploy SNG trucks to various locations and can use local stringer and contributors instead.

Management of SNG Resources

With increasing more options, the proper management of SNG resources is essentially. Capacity costs must be contained. Trucks and vehicles need to be deployed to locations in a timely manner and many other considerations.

ND SatCom's Media Fleet Manager software supports broadcasters such as US-based ABC and Univision and Europe-based TF1 and WDR, to plan, book and schedule their transponder resources online simultaneously – increasing their network's purchasing power, eliminating error-prone manual procedures and increasing the degree of automation in their production workflows. Another aspect is the flexible combination of DVB and IP carriers. Although DVB transmission is still standard for live news gathering via satellite, IP increasingly blends in with a broadcaster's daily operations.

The ND SatCom Media Fleet Manager is an easy-to-use management tool to plan, schedule and book DVB and IP uplink sessions via fixed and mobile stations. Bookings can be made faster and more conveniently than by fax or phone. Mobile uplink operators can respond immediately to video contribution requests. A central database stores all events and bookings and the resource management screen displays the status of available transponders and stations. Support of DVB and IP transmissions enables broadcasters to optimize their production workflow.

According to Patrick Schmehl, Product Manager, ND Satcom, broadcasters who use the Media Fleet manager realized savings both in terms of reduced transponder costs as well as reduced personnel cost. Their clients also appreciate the ability to do both DVB and IP transmissions (see the sidebar on page 5 "Benefits of a more efficient network management system").

Other Developments

One recent development in news gathering is the use of mobile 3G and 4G networks. Nowhere has this been more evident as in the Middle East where social and political upheavals such as the Arab Spring has made the region a fertile source of live news. With restrictions in the procurements, transport and use of SNG equipment, journalists have resulted to using smart phones and other mobile devices to cover breaking news events.

Mazzen Nassar, President of Dubai-based equipment distributor MenaNets, said that the Middle East broadcast market is booming and will continue to grow in the next few years. He sees the Arab spring leading to deregulation of the broadcasting resulting in the opening up of broadcasting market to new players. The main driver is really the immense popularity of entertainment, news and sports in the Middle East which has one of the highest growth rates in broadcast viewership.

The political unrest and conflicts in the Middle East such as in Iraq, Libya and

One of the most enduring images of the Arab Spring—a citizen capturing the news on his cell phone.

Syria have also resulted in the destruction of vital broadcast infrastructure, which needs to be replaced. In Libya the new government is earmarking resources for the rebuilding of their broadcast facilities destroyed during the civil war.

Nassar, however, notes that a lot of the demand for SNG and other broadcast equipment in the middle East are left unfulfilled due to the regulatory barriers. Depsite these, however, he thinks that the market will continue to grow.

Joven Cabague, Senior Engineer, Contribution and Distribution Platform of Al Jazeera, says that on his wish list for SNG and flyaways are more portable, lightweight and with value-added services with more VSAT-type functions that can do DVB and IP at the same time. One area where they are currently expanding is in their mobile, portable news gathering equipment. They did an evaluation of five companies nine months ago that provide these portable equipment that work on 3G and 4G networks. The four companies that they evaluated were: Streambox; Quicklink; Triple IT ; Djero Live + and Aviwest.

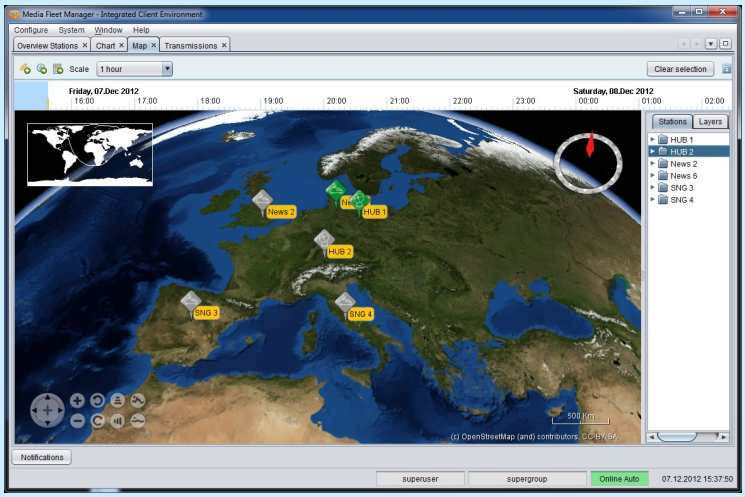
They tested the various products and found that Aviwest performed the most consistently under different conditions. Aviwest equipment was also smaller and weighed less than the others. Cabague said that what they liked about Aviwest is that they were very open to suggestions from Al Jazeera and they designed a new model based on the feedback from Al Jazeera. So they went with Aviwest. They are currently renting Aviwest equipment while the new model is being built. The next Aviwest model is expected to come out this year and Al Jazeera has ordered 15 units initially.

Despite the growing popularity of 3G and 4G networks for news gathering applications, satellite technology still has the edge in areas outside of the cellular network coverage. Satellite News Gathering

Managing an IP/DVB-based SNG Network

The ND SatCom Media Fleet Manager (MFM) is an easy-to-use management tool to plan, schedule and book DVB and IP uplink sessions via fixed and mobile stations. MFN makes it possible to connect the world in less than ten clicks and to transfer bookings automatically via workflow from the MFM to participating stations (SNGs). With shorter transmission bandwidth utilization resulting in substantial cost savings. A central database stores all events and bookings and the resource management screen displays the status of available transponders and stations. Due to the fact that only resources which are available at that point in time can be scheduled, booking is fast, easy and secure.

The new MFM 2.3 is now available. Among its new features include: Enhanced user friendliness in operation (e.g multislot selection in the chart); DVB-S3 ready; enhanced fleet management (e.g. support of geo information's for transmissions) and micro wave planning support.



Some of the key features of the MFM include:

- Scheduling tool for satellite contribution sessions
- Supports of DVB and IP uplink sessions
- Automatic feed activation/deactivation
- Immediate contribution-link status feedback
- Dynamic connection handling to fixed stations and SNGs
- Station status shown on maps with automatic update
- External interface to other booking systems
- Cluster functionality - Combination of two or more MFMs
- All transmissions stored in a central database
- Multi-satellite support
- Dynamic satellite bandwidth usage for DVB and MF TDMA carriers (SKYWAN)
- Multiple booking clients
- Support for Service Provider with User Management and Access Control
- Easy configuration of SNG setups
- New report engine to generate accounting extended reports

The MFM is used by major broadcasters in North America and Europe including among others ABC, West Deutsche Rundfunk (WDR), Sky Germany and service providers like GlobeCast.

systems also have the advantage of higher throughput and the ability to broadcast in HD, while 3G and 4G networks are still perceived to be more for lower quality transmissions due to the limited bandwidth. However, mobile networks and satellites are not necessary mutually exclusive. Hybrid SNG equipment that can do both 3G/4G and satellite are very popular and can use either one depending on network availability or the requirements of a specific job.

Conclusion

The changes in the SNG market are driven mainly by the changing requirements of broadcasters whose audiences are demanding more from their news coverage. Audiences today are more discerning of the news and entertainment options and demand instant gratification and high quality. In order to keep up from demand and not lose their core audiences, content providers need to use very available tool at their disposal and continue to find innovative ways to delivery their content to their audience to their preferred formats.

Ka-Band certainly looks to proivde some key opportunities for SNG including lower cost and higher quality of service. Yet, Ka-Band is still relatively new and not without its pitfalls. However, with the massive influx of investments in new Ka-Band satellites, it might be a safe bet that the Ka-Band will be shaping developments in broadcast and SNG services in the years to come.

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Benefits of a more efficient network management system

When France's largest private television network, TF1 need to upgrade its SNG network management system to be able to seamless integrate their DVB and IP transmissions, they opened up the process for bidding in August 2011. They ended up contracting with ND SatCom to upgrade their network with SKYWAN IDU 7000 terminal, Media Fleet Manager and a Monitoring & Control System for each of their SNG trucks.

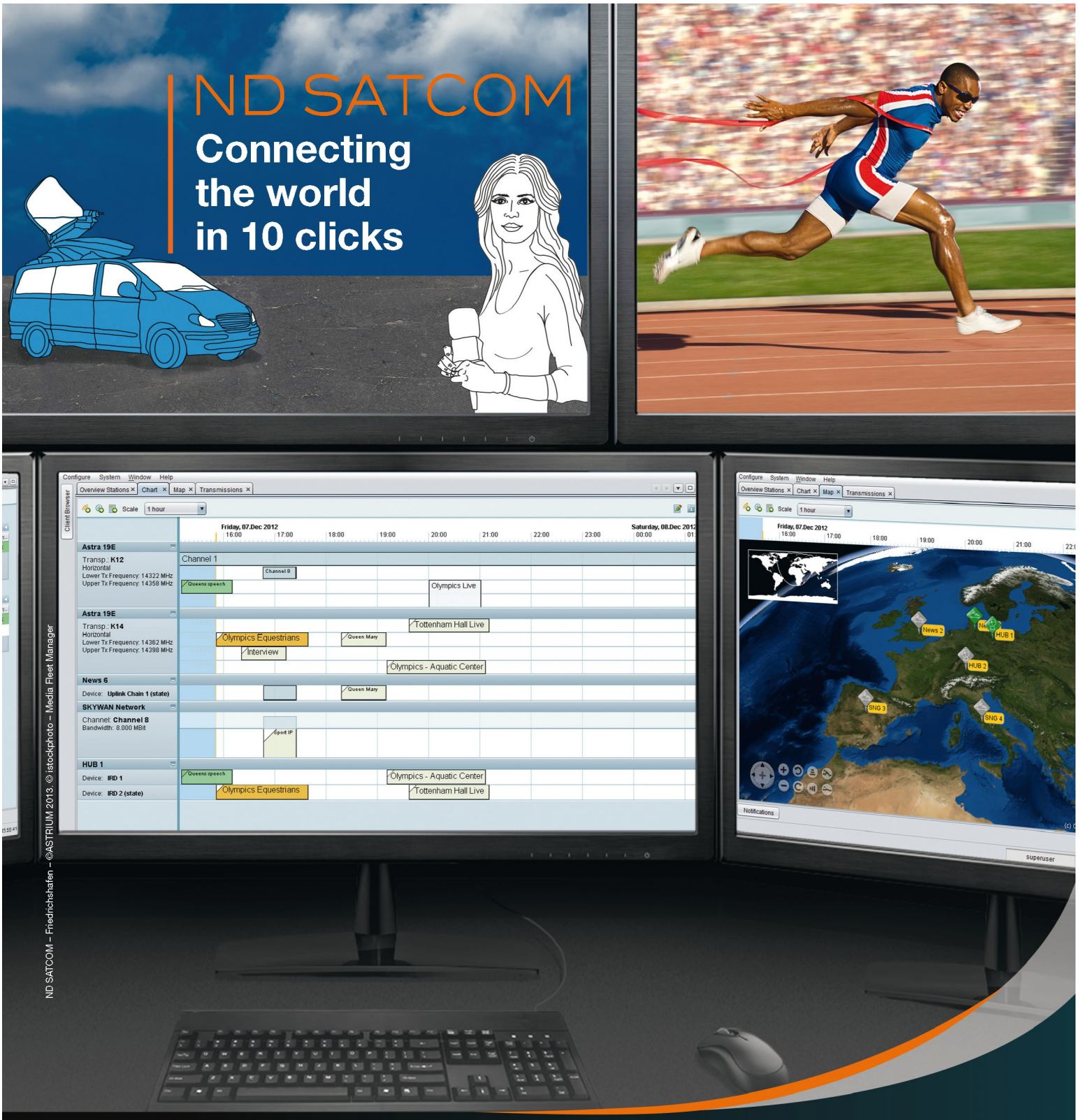
The reason they went with ND Satcom is that they needed a end-to-end system that can manage bookings, do remote uplinks, provide the encoders and IRDs that will work seamlessly with their current SNG trucks,according to Yves Davot, SNG Project Manager for TF1. "ND Satcom's Media Fleet Manager provided the best solution to managing our SNG network," he added.

France's larget private TV network, TF1 uses ND SatCom SKYWAN IDU 7000 terminals, Media Fleet Manager and a Monitoring & Control System for each of their SNG trucks. (photo courtesy of TF1)

Since they implement the ND Satcom SNG system over a year ago, it has resulted in substantial costs savings in transponder costs as well as it required less personnel to operate than before the system was in place. Davot said that "now that we have the Media Fleet Manager, we can allocate our transponder capacity more efficiently, uplinks and downlinks are optimally used and we do not need to reserve any backup capacity or do overbooking to compensate, so we are saving a lot." The more efficient use of their satellite capacity has enabled TF1 to share some of their excess capacity with service provider GlobeCast, resulting in further savings.

It also takes less personnel to operate the SNG trucks which are fully automated. Davot said they only need one person to operate their smaller vehicles and a maximum of two for the larger vechicles. With labor costs at a high premium in / Europe this translates into major savings.

But more importantly, Davot likes the the flexibility that the IP-based Media Fleet Manager provides. This allows them to switch DVB transmissions and migrate to IP, which makes it easier to transmit different formats.



The Media Fleet manager is an easy-to-use management tool to plan, schedule and book DVB and IP uplink sessions via fixed and mobile stations. Broadcasters can rely on a powerful scheduling system to supervise and remotely manage transmission resources within a fleet of SNG vehicles and fixed up- and downlink stations. MFM saves costs, time and resources by simplifying your production workflow. With the new Media Fleet Manager you can easily connect the world in 10 clicks. www.mediafleetmanager.com

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