

BEAM MAGAZINE

No. 01 | 2012

SES[▲]
your satellite company

SATELLITES AND THE MEDIA

The opportunities arising from ever-changing consumer demands

TAKING THE LEAD

Benefitting from the varying markets of Europe

EMERGING AUDIENCES

The informed and increasingly affluent viewers of Asia

TRANSMITTING MEDIA INNOVATION

Keeping pace with the explosion in consumer devices



STRENGTHENING PARTNERSHIPS

DEAR READER,

Partnering with our customers in order to support their development and growth plans: this is the core concept that drives our commitment to customer service.

SES operates one of the world's finest telecommunications satellite fleets. With 51 satellites and a coverage area of 99% of the world's population, SES provides a major link in the global communications chain.

This fleet, now featuring more than 1,400 transponders, is the world's leading media broadcasting platform via satellite. Today, we transmit more than 5,800 TV and radio channels – more than any other satellite system. Our spacecraft carry more than 1,300 HDTV channels and our attractive satellite neighbourhoods cater to growing audiences of more than 258 million homes on six continents.

Over the past 12 months, SES has transitioned into a new modus operandi. We have realigned the company under a new banner; we have simplified our customer interfaces and extended our regional representation. We have further sharpened our customer focus and our sense for how to best add value to our customers' business and support their growth.

This magazine casts glimpses on what we've achieved recently. We are consistently implementing our **satellite fleet expansion plan**. We have launched two satellites so far in 2012, SES-4 and SES-5, bolstering our transmission capacity especially in those emerging markets where demand is fastest-growing. We are set to launch a further spacecraft, ASTRA 2E, end of the third quarter 2012. And we continue to pursue our fleet investment programme beyond 2012. With a further six satellites currently under construction, SES is well positioned to support the forecast of steady growth of capacity demand over the coming years.

We continue to develop and strengthen our most **attractive media broadcasting neighbourhoods**. More channels mean more choice, and provide better value to more end users and viewers. The channel offering available on the SES fleet continues to diversify, and the audience that can be reached through our satellites continues to increase, particularly in those markets where TV is growing most quickly.



We are pushing for exciting, **innovative satellite services** and applications. Earlier this year, we unveiled SAT>IP: this groundbreaking technology allows satellite signals to be distributed in the IP protocol to tablet computers, PCs and other smart devices. SAT>IP allows for mobile satellite reception on multiple screens in the home. It represents a true breakthrough. And we are moving closer to the launch of the O3b Networks constellation, which SES supports as a major strategic shareholder. This innovative new medium earth orbit satellite system will provide highly competitive high throughput broadband capacity for trunking, mobile backhaul and satellite applications in the maritime as well as the oil and gas sectors. The construction of the satellites is on track, and we are well set for the launch of the first spacecraft in the first half 2013 and for the commencement of commercial services by mid-year 2013.

Thanks to many tireless efforts that often remain hidden from the spotlight, we steadfastly move the needle to safeguard and improve **service reliability** on a broader industry-wide scale. Through the Space Data Association, and through other overarching interference reduction initiatives, we are a driving force to secure and improve satellite service quality and resilience.

The new SES is firing on all cylinders, tireless in its ambition to further strengthen partnerships with its customers. We have established new offices in Latin America and in Africa, moving closer to our customers especially in those markets where satellite services hold the promise of greatest added value.

These topics, and a few more, are described in detail in this magazine. I wish you an enjoyable read.

Yours sincerely,

ROMAIN BAUSCH, PRESIDENT AND CEO

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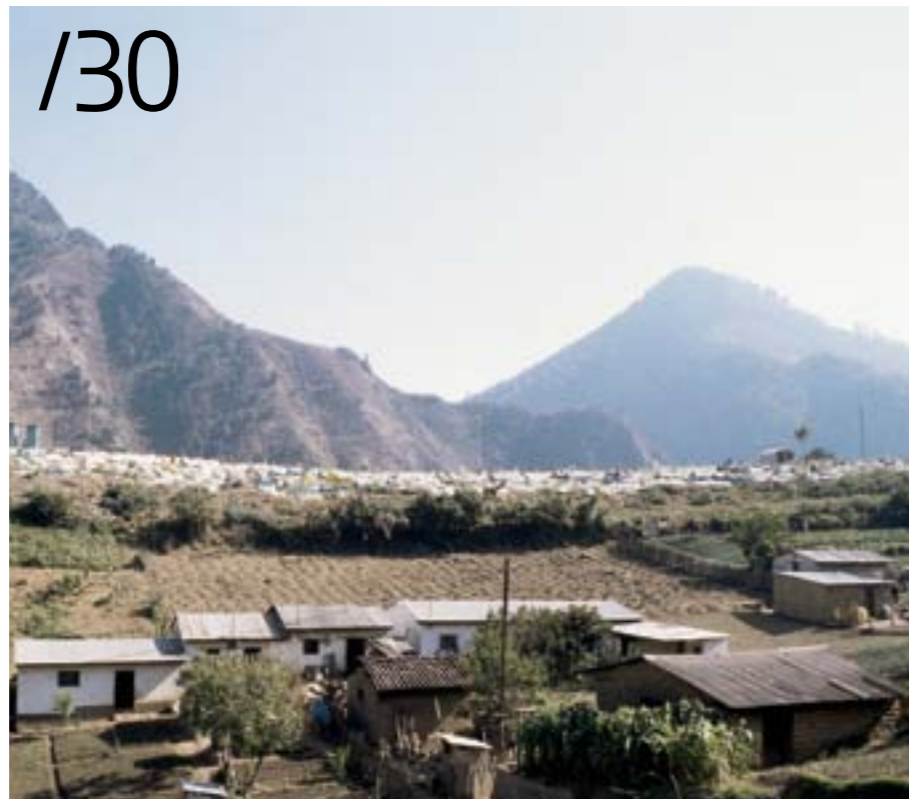
SES reaches more than 20 million pay TV homes in the Asia-Pacific. *Keith Boi*

COVERING THE AMERICAS

More than 75% of TV households in Latin America will have digital TV by 2017.

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Text: Andrew Bulkeley, Illustration: Mario Wagner

TRANSMITTING MEDIA INNOVATION

Watching a championship match in the backyard. Downloading an episode from years past in the kitchen. Ending the constant battle over what to watch – or for valuable bandwidth. Satellite technology has media distribution covered, anywhere.



HANDHELD DEVICES. EVER-GREATER SCREEN RESOLUTIONS. INTERACTIVE PROGRAMMING AND ON-DEMAND ACCESS. CHANGE AND ADAPTATION ARE NOTHING NEW TO THE MEDIA INDUSTRY.

But the pace and volume seems to be more relentless than ever, primarily because innovation and development in other sectors such as consumer electronics and internet technology are converging on media distribution. And each new technology has to be weighed for its validity and economic viability while keeping an eye on rights management for content creators.

No easy task, but SES is working to innovate and develop standards to bring content to consumers through a variety of direct-to-home models, which now take into account the explosion in end devices that is fuelling a move away from traditional TV habits.

Apple's iPhone first ushered in the smartphone and then the company revolutionised the computer industry with its iPad. While competitors rushed to push out similar products, the two Apple game-changers forever altered how consumers viewed and thought about media. Music has been mobile for decades but now television, on-demand movies and even the internet are available from nearly anywhere, at any time.

Numbers best illustrate the story of just how quickly the revolution in mobile handsets spread. In 2011, consumers bought 491.4 million smartphones, an increase of 61.3% over the number of units bought in 2010, according to market intelli-

gence provider International Data Corp (IDC). Smartphones made up 31.5% of all portable phones sold last year. IDC said it expects sales of the intelligent devices to grow to 686 million this year and comprise nearly 40% of the cell phone market. And those figures don't even include the 68.7 million tablet computers sold last year or the number of other devices, such as TVs, computer monitors and handheld gaming platforms, that are now media capable.

What unifying technology makes them so popular? Internet Protocol (IP), which is the basis for internet communication. "The world is moving toward IP broadcasting and devices that don't have built-in tuners. We noticed that consumers were increasingly expanding their viewing behaviour onto many devices beyond televisions, including different handsets and monitors. We wanted to find a way to get linear satellite signals onto those devices. And the way to do that is SAT>IP," says Thomas Wrede, VP Reception Systems, SES.

THE NEW STANDARD

For over a year, SES has been working with customers and industry partners to develop the SAT>IP protocol. The idea is to maintain it as an open standard available to everyone to help keep satellites at the forefront of broadcasting innovation. In SAT>IP, a set-top box about the size of the average wireless network router demodulates satellite signals and converts them to IP before feeding the signal into a home or larger network. Since the signal is then sent through the entire computer network, SAT>IP offers end users the opportunity to watch the full variety of satellite TV programming, including HD

channels. The type of home network is irrelevant, whether it's using traditional cables, wireless functionality or even powerline networks that rely on a home's electricity network.

Current prototypes allow viewing of up to eight HDTV programmes simultaneously on eight different screens in a single network. Each device communicates with the set-top box using standard internet communication protocols to request access to individual programming, which are then served up by the set-top box.

//Everyone in the house can watch what they want with no degradation in quality and ... without losing connectivity.

THOMAS WREDE, VP RECEPTION SYSTEMS, SES

"This gives millions of consumers access to satellite TV on multiple screens at the highest quality possible. Everyone in the house can watch what they want with no degradation in quality and even move around within the network without losing connectivity. With SAT>IP, we are creating an open standard that motivates manufacturers to develop innovative distribution solutions," says Wrede. The intriguing angle to the protocol is not just getting the IP signal onto handheld devices and TVs, but also its scalabil-

ity. Commercial applications are a serious consideration for the technology, allowing satellites to provide pay TV and interactive TV services in hotels, hospitals and other large institutions. Getting the IP signal into a building opens up a number of possibilities – likely even opportunities SES has yet to discover.

INTERNET PROTOCOL

SES has been working with Luxembourg manufacturer Inverto Digital Labs to develop prototype SAT>IP equipment. The technology was rolled out during SES' annual Industry Days event at its Luxembourg headquarters in late April. SES says it expects products for content producers and consumers to begin appearing on the market in the second half of the year. The first products will centre around SAT>IP servers that can feed from four to six programmes simultaneously into home networks for reception on iPads and Android tablet devices as well as on other SAT>IP compatible devices like set-top boxes and media players.

The SAT>IP communication protocol has been submitted to CENELEC, Europe's standardisation body, to be adopted as the European standard for IP-based satellite distribution. And that's not all. "The major challenge is to agree with operators and industry on a suitable digital rights management or DRM solution that ensures encrypted content is transported and broadcast securely," says Wrede. He's optimistic the benefits of SAT>IP will push content production houses, broadcasters and other rights owners to find a suitable DRM system. "All operators will benefit. SAT>IP will provide them with a toolkit

for developing and bringing to market user-friendly solutions for a multi-screen environment.” What does technology actually look like on a mobile end device? It’s very easy to imagine since the TV apps currently available take advantage of familiar smartphone and tablet computer functionality. SES’ Wrede recently held up his iPad at an industry event. It seamlessly streamed German television stations. To change channels, Wrede simply swiped across the screen using well-known motions, scrolling up and down the dial with ease.

Even though SAT>IP is still in its infancy, SES is already thinking of the next steps. One key innovation – and one that the satellite industry has made continuous and consistent progress on – is reducing the size of equipment required. Some day, the SAT>IP server could reside in the external satellite reception unit.

// People are demanding higher quality content that goes beyond current high definition content and screens ... The more pixels you broadcast, the more bandwidth you need.

BAPTISTE FOSSÉPREZ, SENIOR MANAGER,
PRODUCTS & SERVICES PORTFOLIO, SES

A BETTER PICTURE

The technology also allows SES to benefit from technological advances in home networking since many innovations such as greater bandwidth or an increase in the number and type of devices connected to a network mean an improvement or potential new market for satellite content. With the bottleneck of getting satellite programming onto the new handheld devices resolved, satellite’s key strength – massive bandwidth that can easily be beamed across a broadcaster’s entire footprint – can really shine.

“People are demanding higher quality content that goes beyond current high definition content, and the size of screens people use is also continuing

to increase, adding more pressure to offer higher quality content. The more pixels you broadcast, the more bandwidth you need,” says Baptiste Fosséprez, Senior Manager, Products & Services Portfolio, SES. “An infrastructure provider such as satellite is perfectly positioned to handle this growth.”

The increases in quality are always accompanied by new buzzwords and products. For consumers, 3DTV is the latest trend. Although TV and monitor manufacturers have yet to agree on just how to offer content to consumers – eliminating bulky 3D glasses that can easily be misplaced is just one hurdle manufacturers are struggling with. SES has already developed solutions and dedicated its satellite capacity to streaming the cutting-edge technology. The French Open tennis tournament and Summer Olympics in London were both available live on SES satellites in all three dimensions, with yet more events in planning. SES knows that the best way to lure more consumers to innovative technologies is to provide compelling content, such as live events.

Thanks to compression technologies, broadcasters have sent early 3D programming using slightly more bandwidth than a traditional digital HD television channel, which is fine with unlimited bandwidth. But if that signal is coming through a DSL line, one programme can eat up a significant chunk of the capacity available – even on urban 20Mbit/s. What happens if someone else in the house wants to check emails, stream a radio programme or even watch a different programme on a different device? Only satellite has that capacity.

3D, 4K AND BEYOND

And 3D isn’t the end. Television companies are already talking about the next high definition standard, known as 4K or Quad Full HD (QFHD). With its origins in movie projection, 4K’s resolution is clearly in a different league. Although no exact standards exist yet for television broadcasting, 4K is a screen resolution that’s 4,096 pixels wide and 2,160 pixels high (or 3,840 by 2,160 with QFHD) – compare that with the current HD standard of 1,920 pixels by 1,080 pixels. Yes, an increase of about four times the current resolution with a relative increase in the amount of data that must be sent to devices to render the content.

“It’s something we see as a trend. We have a team of people working to ensure that if someone buys a 4K screen, we can provide them with 4K content,” says Fosséprez.

//WHEN I WANT LARGE-SCREEN, LIVING ROOM ENTERTAINMENT I ALWAYS TURN TO SATELLITE.

Chris Forrester, Editor of Inside Satellite TV, talks about the future of broadcasting and satellites.



WHAT ROLE WILL SATELLITES PLAY IN THE FUTURE OF MEDIA BROADCASTING FOR BOTH BROADCASTERS AND CONSUMERS?

Satellite has an assured role for the world’s broadcasters, helping them achieve maximum audiences within and beyond national boundaries. The viewing choices offered by satellite, and the efficiency of their one-to-many delivery methods, suggests to me that they will not only maintain their popularity but increase their importance.

WHAT MAKES SATELLITES A BETTER OPTION FOR TRANSMITTING MEDIA CONTENT TO END USERS?

I am a firm believer in consumer choice, and also in the concept of multiple screens (computers, tablet computers and smartphones). I want them all to be populated by my information and entertainment choices whether linear, non-linear, on-demand, over-the-top, YouTube or any variations of the above. But when I want large-screen, living room entertainment I always turn to satellite. I don’t want to wait while my land-based services buffer my audio feeds, let alone try to supply HDTV!

ARE SATELLITES ABLE TO KEEP UP THE RAPID PACE OF INNOVATION WITHIN THE MEDIA AND BROADCAST INDUSTRIES, ESPECIALLY CONSIDERING THE EXPLOSION IN SMARTPHONES AND TABLET COMPUTERS LIKE THE IPAD?

Satellites are immensely versatile. I see no reason why IP-based services shouldn’t easily accommodate one-to-many audience demands for second screens. Anything that improves the efficiency of sending signals and reduces terrestrial bandwidth demand is good news for the satellite sector.

WHAT DO BROADCASTERS CONSIDER WHEN THEY DETERMINE HOW BEST TO DISTRIBUTE THEIR CONTENT – IS PRICE THE ONLY FACTOR OR DO BROADCASTERS HAVE A PREFERENCE FOR TERRESTRIAL SOLUTIONS OR SATELLITES BECAUSE OF QUALITY OR BANDWIDTH CONSIDERATIONS?

Broadcasters need to reach their audiences in as efficient a manner as possible. Mass-market channels, and many niche broadcasters have long ago discovered that satellite is a key part of their delivery mix. Indeed, in some cases it is

the only part that matters. As HDTV becomes standard television, and as the world’s leading broadcasters move to the adoption of Ultra-HD, I see satellite playing an even more important role in delivering high-quality programming.

THERE’S TWO SIDES TO EVERY SATELLITE DISH: WHAT ARE THE LIMITATIONS OF SATELLITES AND CAN THEY BE OVERCOME?

The only limit is the horizon and a satellite’s natural footprint.

WHAT SETS SES APART FROM OTHER SATELLITE OPERATORS?

SES is not alone in delivering scale but has some of the most valuable transmission neighbourhoods on the planet. SES is envied by its rivals and much-copied for its pioneering co-location strategies. I expect its early enthusiasm for HD, and now Ultra-HD, will also become benchmarks for the rest of the industry.



While industry experts think 3D is still years from catching on with the core of television consumers, 4K's shining moment might be less than a decade away. Whether or not either become the standard – they could be replaced by other standards or technologies as has been the case in the past – the trend is clear: a continuous push for higher screen resolutions with visible improvements in quality.

But innovation for satellite providers isn't just limited to how the content is delivered or its quality – the business model underlying content distribution itself is also changing. The success of over-the-top providers has surprised both internet and cable companies in recent years. Over-the-top, usually referred to as OTT, is content delivered by platform-independent providers, usually via an internet browser. The list of OTT companies is long and very familiar, since most everyone has used the services at least once, if not regularly: Netflix, Hulu and LOVEFiLM are just a few. The services grew out of the on-demand

movie push of the last decade and allow consumers to watch the film or television programming they want at the exact moment they want to watch it.

The problem? All of the revenue flows through a cable, internet or even satellite provider's network to the OTT companies. Offering a better experience – either through increased quality or a more compelling or extensive library – is the best way to lure consumers away from OTT. Cable companies can, for example, tap existing business relationships to offer their TV clients premieres or the latest TV episodes before they are sent to OTT rivals. And SES' wide bandwidth is an excellent resource for offering customers linear TV content.

The company is already working with Princeton University in the US and global infrastructure providers to develop uses that dovetail nicely with the new SAT>IP protocol. Streaming video to handheld devices through cellular networks is one demand from consumers that keeps landing atop

// With HD+, the SES Satellite System continues to be the most important platform for HD programmes, with a total of more than 50 channels – including pay-TV – on our satellites.

WILFRIED URNER, CEO OF SES PLATFORM SERVICES, SES

SES' to-do list. As cellular network operators upgrade from 3G to 4G platforms, which can offer up to 6Mbits/s, or four times top 3G rates, demands for streaming video will grow louder. The goal: combine the freedom of untethered content to smart handheld devices. No one can help cellular providers store and broadcast a library of content to their entire network better than satellite operators.

STANDARDS ARE IMPORTANT

When it comes to technological innovation in media broadcasting, this still isn't enough for SES. "In the other things we're doing, we're looking at what kinds of global standards can be developed to benefit from the convergence of telecommunications, broadcasting and the internet and bring more functionality. We're looking at how we can collaborate with our market partners to the benefit of consumers," says Fosséprez.

Regardless of what consumers are watching or where they are watching it, they still have to physically interact with their devices to order the content. Looking back at the history of the internet and even computers, it's easy to see why a single, uniform experience must be developed to avoid a widely varying landscape of user experiences and incompatible software programmes. Developing individual interfaces for each provider would result in wasted capital and man-hours as well as frustrating interfaces for consumers.

The answer was launched more than four years ago: Hybrid Broadcast Broadband TV (HbbTV). The European standard was developed by a consortium of broadcasters and consumer electronics manufacturers. The list of contributors is too extensive to list completely but includes not only SES but also broadcasters such as France's Canal+ and

Luxembourg's RTL as well as device makers Samsung and Sony. The HbbTV standard is based on Germany's simple teletext service, which allows viewers to switch TVs to text pages for additional information directly or tangentially related to programming. Teletext has now even evolved to include advertising.

HbbTV's goals have been lofty from the beginning but ultimately successful. The consortium developed a consistent means of providing services such as video on demand, interactive advertising, personalisation, multiplayer and interactive gaming, programme-related voting, electronic programme guides and even an updated version of teletext itself to HbbTV-equipped televisions and devices. "The experience has to be the same for every user regardless of the set-top box," says Fosséprez. "We need to be able to work with other ecosystems as well."

The standard is gradually spreading throughout Europe and a number of satellite operators, broadcasters and even SES itself have adopted the standard, which is quickly defining interactive TV on the Continent. In France, for example, SES is working with GlobeCast, a unit of France Telecom, and broadcaster FRANCE 24 on a pilot HbbTV service that will add interactivity to the broadcaster's ct. GlobeCast is providing uplink services from its teleport network to SES satellites to beam FRANCE 24 content to its viewers on five continents around the world.

THE SPREAD OF HBBTV

The standard is supporting the growing popularity of smart and connected TV around the world, where a number of standards exist. The innovative content following the trend is leading to increased sales of SmartTV-capable sets. In the first quarter of the year, consumers bought about 12 million such TVs, accounting for just over a quarter of the new screens

bought in the first three months of the year, according to NPD DisplaySearch. HbbTV isn't just popular in western Europe, industry insiders are now working to introduce the standard in Poland, where the first consumer devices are already available.

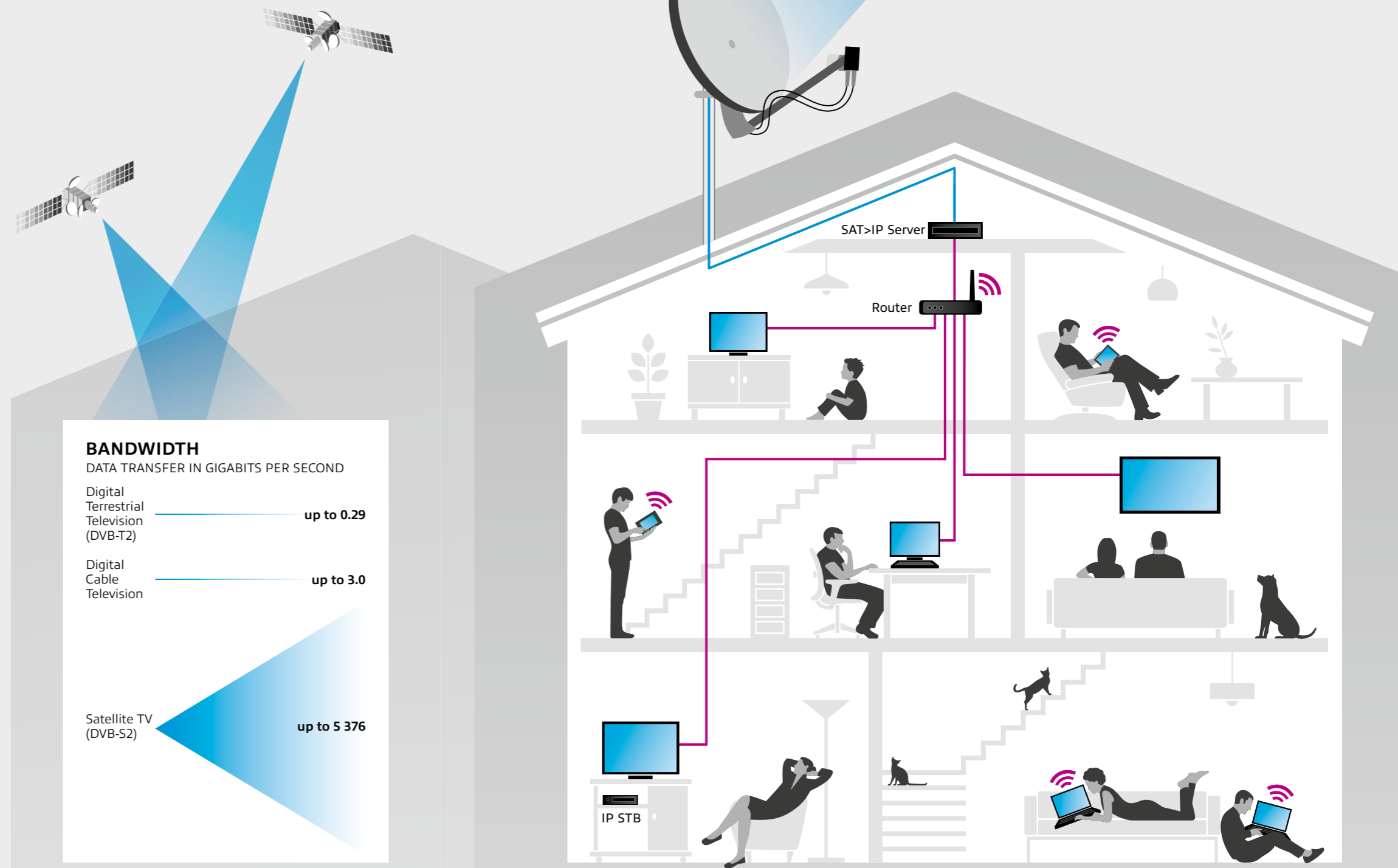
Still, SES is playing a leading role in interactive TV in Europe's biggest broadcasting market, Germany. Out of its German campus in Munich, the company has developed its HD+ service, which has accompanied the country's exit from analogue terrestrial and satellite broadcasting as well as growing interest in high definition TV. The young service has already led to the sale of 2.9 million receivers in Germany with 2.6 million users signed up by May 2012. Although viewers are granted an initial 12-month free trial, SES expects the number of subscribers to grow from just over half a million currently to one million by the end of the year.

The service offers subscribers 14 encrypted commercial broadcasters in high definition, including stations from RTL and ProSiebenSat.1, as well as 18 unencrypted free-to-air broadcasters, which are predominately Germany's powerful publicly funded stations, also in high definition. But the company is using HbbTV to introduce add-on SmartTV functionality. The product currently includes shopping options but is continuously being expanded with partners to boost the amount of interactivity. "With HD+, the SES satellite system continues to be the most important platform for HD programmes, with a total of more than 50 channels – including pay TV on our satellites," says Wilfried Urner, CEO of SES Platform Services.

SES is working to develop innovative technologies and standards for a simple reason: to help its customers offer more and better services. Urner: "Our customers today are smaller players – there are only so many major broadcasters – and if they don't offer add-on services, they'll get left behind. We are in a position to offer almost the entire broadcast value chain or just certain parts that a customer might not have. That makes them feel very comfortable and secure."

HOW SAT>IP WORKS

The SAT>IP standard allows a set-top box to demodulate satellite signals and convert them to IP for computer networks. The first SAT>IP products can deliver up to six programmes simultaneously for use on internet-capable devices and TVs.



BANDWIDTH

DATA TRANSFER IN GIGABITS PER SECOND

Digital Terrestrial Television (DVB-T2) ————— up to 0.29

Digital Cable Television ————— up to 3.0

Satellite TV (DVB-S2) ————— up to 5 376

DEMOGRAPHIC CHANGES IN CITIES LIKE BANGKOK
ARE DRIVING SATELLITE TV GROWTH.



Text: Keith Boi

COLLABORATING FOR GROWTH IN ASIA

Demographic developments coupled with converging telecommunications and broadcasting technologies are leading to increasing demand for satellite TV across the Asia-Pacific.

Multichannel television distribution in the Asia-Pacific region has experienced remarkable growth over the past few years – thanks to the increasing use of satellite technology to deliver video content, primarily through direct-to-home (DTH) television platforms.

The Asia-Pacific is currently the largest television market in the world and is on pace to pass the historic mark of one billion television sets in 2012, according to the latest research from Informa Telecoms & Media. The region also has the world's largest pay TV subscription base with 394 million households.

PROPELLING DTH GROWTH ACROSS EMERGING ASIAN MARKETS

As major DTH service providers look ahead to continued growth, satellite services play an important role in enabling content to be delivered to consumers. They also address the challenges of a media landscape where telecommunications and broadcasting technologies are rapidly converging.

“Robust developments in the Asia-Pacific DTH market over the past five years are a key reason why the demand for satellite capacity continues to grow in the region. Content consumption is on the rise, and consumers in the Asia-Pacific are increasingly turning to the power of satellites to meet their needs for richer, higher quality content,” says Deepak Mathur, Senior Vice President Commercial, Asia-Pacific and the Middle East at SES.

One of the key drivers of DTH growth is the favourable demographics, evident in the growing population of young people in countries such as China, India, Indonesia and Vietnam.

For instance, it is estimated that more than half of the 1.2 billion people in India are under the age of 25 – an important demographic group which is driving demand for local content and high-quality channel offerings, such as sports-centric live programming. These developments have already resulted in India becoming the leading DTH market in Asia, with the number of DTH pay TV subscribers reaching more than 44 million at the end of 2011.

“We are seeing the emergence of an increasingly tech-savvy population that is driving up demand for high-quality local content in Asian countries. This trend is readily apparent in countries such as India, Indonesia and the Philippines, where DTH platforms serve to address the demand for differentiated, language-specific content to attract new audiences,” Mathur explains.

New technological advances, in the form of high-powered satellite systems and the latest compression technology, have enabled DTH service providers to launch more channels and deliver more affordable video content to a wider audience. This burgeoning trend is of great significance because DTH services can no longer be considered a product for only affluent market segments. The demand for enhanced services such as HDTV has grown to capture a substantial portion of lower-income households and middle-class consumers as well.

Deregulation and the opening up of local markets by forward-looking regulators are also helping to drive growth. A good example of the region's evolving regulatory environment is Indonesia, where the government has recently granted multiple DTH licenses to several television broadcasters to promote greater competition and consumer choice in the country.

SATELLITES DESIGNED FOR OPTIMAL COVERAGE

As a pioneer in satellite broadcasting, SES carries the largest and fastest-growing DTH platforms in Asia-Pacific, with about 700 DTH channels across the region. Today, SES reaches more than 20 million pay TV homes, representing one out of three DTH subscribers in Asia-Pacific – more than any other satellite operator in the region.

“SES is in an excellent position to help DTH service providers grow their business in the Asia-Pacific, by providing the tailored reach and optimal satellite coverage they need to cope with the anticipated growth in DTH demand,” says Glen Tindall, Vice President, Sales, Asia-Pacific at SES. “We have successfully developed a fleet strategy that revolves around our prime orbital locations at 95° East and 108.2° East, which have been established as key video neighbourhoods in South Asia and the Asia-Pacific.”

The reliable satellite capacity provided by SES has enabled major DTH service providers in Asia – Dish TV and Bharti Airtel in India, as well as MediaScape in the Philippines – to deliver a richer variety of digital content to an increasing number of consumer homes. SES' NSS-6 satellite located at 95° East offers six high-powered Ku-band beams covering a potential market of over half a billion households. At 108.2° East, two SES satellites, NSS-11 and SES-7, are co-located to provide tailored capacity for DTH.

TRANSFORMING THE VIDEO LANDSCAPE THROUGH HD

Satellite broadcasting is also a key enabler for DTH service providers to boost their content offerings to keep up with evolving viewing habits through the introduction of premium HDTV services. As HDTV starts to gain traction in Asian countries, SES is able to offer the high-powered satellite capacity to accommodate more bandwidth-intensive applications and meet the demands of HDTV content.

Signal, owned by MediaScape, first launched its successful DTH offering in 2009 on SES' NSS-11 satellite, and has grown its business to around 250,000 subscribers in the Philippines. Spurred by market growth, Signal has since added more capacity on the SES-7 satellite, co-located with NSS-11 at the 108.2° East orbital spot. The additional transponder capacity has allowed Signal to boost its content offerings from nine HD and 37 SD channels to 15 HD and 51 SD channels. “The investment we have made in the additional transponder capacity will allow us to grow new television audiences throughout the Philippines, enabling millions of households to access high-quality satellite television. Thanks to SES' global expertise in carrying HDTV programmes, we have expanded Signal's HD lineup to cover a wide variety of premium programmes including sports, lifestyle, kids, history and movies,” says Annie Naval, COO and Managing Director of Signal.

“With the high levels of redundancy and reliability built into each of the satellites we operate, SES is able to support customers such as Signal to roll out new channels, launch premium HDTV offerings, and expand its services from urban areas into more remote regions. The expanded HD line-up will help Signal to attract new subscribers and maintain profitable business operations over the long term,” says Matthew Oh, Senior Sales Director, Asia at SES.

BREAKING NEW GROUND IN SATELLITE BROADCASTING

Given these trends, the DTH market is projected to see robust growth for many years to come in the Asia-Pacific region, providing plenty of market opportunities for existing and potential new entrants. SES is committed to long-term investments on new satellite procurements and to launch vehicles to ensure customers are getting reliable and cost-effective access to space.

In the Asia-Pacific region, SES is ramping up investments to meet the increased demand for satellite capacity. Its current investment in Asia includes SES-8, which is due for launch in the first quarter of 2013, to deliver critical expansion capacity to the thriving video neighbourhoods in South Asia and Indochina.

By delivering future-oriented technology expertise and expansion capacity in a predictable manner over the long term, SES is well positioned to collaborate with its customers in the Asia-Pacific region for growth in DTH services.



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2 |

1 | SATELLITE DISHES ARE BECOMING MORE AND MORE COMMON THROUGHOUT INDIA.

2 | ESTIMATES SHOW THAT MORE THAN HALF OF THE 1.2 BILLION PEOPLE IN INDIA ARE UNDER THE AGE OF 25.

Text: Nick Flaherty

SATELLITE LEADS IN EUROPE



DISH PARK AT SES HEADQUARTERS
IN BETZDORF, LUXEMBOURG.

Improvements in resolution and delivery models are driving demand and growth for satellite TV in Europe as viewers push for more local content and more choice.

THE SATELLITE INDUSTRY IN EUROPE HAS SEEN EXTENSIVE GROWTH IN THE LAST FEW YEARS.

“Three or four years ago we were all a bit nervous but what we see is a revival, particularly in the key markets of Germany, UK and France,” says Norbert Hölzle, Senior Vice President Commercial Europe at SES. “Satellite distribution is now more than 50% of the European market for the first time.”

HDTV has been a key driver for this growth. “All the TV operators and broadcasters must go to High Definition (HD) now, and there are channels out there we wouldn’t have seen on HD in our wildest dreams,” he says. “The last thing people switch off is their pay TV and their mobile phone. People stay at home, cook for themselves and watch TV so for direct-to-home (DTH) we do not expect a big downturn.”

Over-the-top (OTT) or hybrid internet TV services have been seen as a challenge to both pay TV and free-to-air services, but this is not the case, says Hölzle. “Our big competitors are the cable operators, and the telcos also want to compete with the cable operators so they come to us for distribution to off-load the linear TV and free up their own network for Facebook and other services,” he says.

The situation with 3DTV is less clear cut. “3D will become a must-have but we will not see a lot of 3D channels,” says Hölzle. “There will be 3D content and people will have 3DTVs and channels will play 3D movies but I don’t think there will be 24 hours of 3D programming like there is with HD.”

Broadband is an increasing opportunity for satellite. Not only are OTT and hybrid services extending TV viewing in the home, but the satellite offering is expanding to cover regions that are not cost effectively accessible with other technologies. A new satellite broadband network is set to launch, providing 20Mbit/s download speeds to customers across Europe that have no internet access today.

GERMANY

“In Germany we have had a very, very successful year mainly from the analogue switch-off in April,” says Wolfgang Elsaesser, Vice President Sales for Germany, Austria and Switzerland, and Chief Commercial Officer for the SES Platform Services division. “Germany was the last country with a huge analogue penetration of 1.8 million remaining in the last year and the big challenge was to convert all these households, which required around 3.5 million receivers.”

Hybrid services are also a strong theme in the German market. “Every second TV sold today is a hybrid that supports OTT services. Previously it was thought that OTT cannibalises DTH but that’s not true, it’s an add-on,” he says. “In Germany there’s the HbbTV standard that is supported by 99% of the TV sets sold and that’s a breakthrough for interactivity on the screen. With HbbTV people are watching more TV, an extra 20 minutes a day.”

Unlike other markets ad revenues have held up in Germany. “All the broadcasters that depend on advertising are really strong,” says Elsaesser. “RTL is having its best year ever and they and ProSiebenSat.1 Media AG are creating new channels and new services.”

EASTERN EUROPE

Eastern Europe is very different from the more mature markets of the west. “We have 15 different countries with 15 different languages and 15 different speeds of development,” says Martin Kubacki, Vice President Sales Central Eastern Europe. “HDTV, 3D and satellite broadband are already present or well developed.” Some broadcasters are launching products that are 100% HDTV. “That’s very interesting because our partners want to target the high end of the market with 100% HDTV. This kind of innovative way of thinking and doing business we see more and more,” he says.

Services funded by advertising are struggling. “Everyone is talking about the financial crisis but the feedback recently is that free-to-air (FTA) is seeing a slowdown from advertising while pay TV is as dynamic as it has been this year,” says Kubacki, pointing out that HDTV is also strong in the region, especially for pay TV. “Sales of HD screens are growing fast,” he says. “People may not be able to afford expensive things but the costs are falling and if you go to the big shopping malls HD ready flatscreens are everywhere.”

There is not the same level of interest in 3D, mainly as the demand is for more local content in smaller markets. “People are not that interested in western European content, they want to see local movies, local sport and for that 3D is less relevant.”

“In Germany there’s the HbbTV standard that is supported by 99% of the TV sets sold and that’s a breakthrough for interactivity on the screen. With HbbTV people are watching more TV, an extra 20 minutes a day.”

WOLFGANG ELSAESSER
VICE PRESIDENT SALES DACH, SES

That fragmentation is a key theme of eastern Europe. “Satellite is playing an important role in this fragmented market,” says Kubacki. “Two years ago there were only a couple of general entertainment channels but now we see the markets are going to the automatic channels. People really want channels for news, sport, archive movies, even fishing. This has helped the DTH operators to grow and they are growing very, very fast here,” he says.

Another important driver for satellite growth is digitalisation. “Digitalisation via Digital Terrestrial TV (DTT) on its own simply cannot fulfil all the requirements of the operator,” says Kubacki. “We see satellite playing a crucial, complementary role to

DTT and customers such as CS Link and Skylink are growing very fast by offering unrivalled programming and full coverage of the country using satellites. “The beauty of the region is that if there is a small slowdown in one country it is compensated by growth in another,” he adds. “I don’t think countries are really scared of the crisis because people in the region are used to tough markets, they are very innovative.”

WESTERN EUROPE

The UK and France are more mature satellite markets that are seeing success driven by HDTV. “There are a couple of exceptions but mainly growth is driven by HDTV,” says Nick Stubbs, Vice President and General Manager of Western Europe at SES, which covers the UK, France and Spain. “It’s beginning to gain momentum now, as BSkyB has 65 channels and Canal+ has 30 in France.”

3D is not yet proving to be that much of a driver, he says. “Canal+ had a demo channel and replaced it with HD channels, but BSkyB has 250,000 subscribers and a really attractive 3D channel,” says Stubbs. “It has yet to be proved but BSkyB is making good progress in 3D.”

There is definite interest in the next generation Ultra-HD. “We do have pay TV operators seriously interested in testing Ultra-HD but it’s in the test phase,” says Stubbs. “Personally I’d put money on Ultra-HD rather than 3D.”

Broadband DSL and OTT services are definitely more of an issue in the more mature markets. France has the second highest penetration of DSL in the world, but telcos still use satellite alongside DSL to deliver television outside urban areas.

“Half the population cannot get the data rates required for TV even with DSL so they have satellite for the remaining 50%, that shows satellite has a long-term place,” he says. “There is a key role for satellite as the distribution technology aims to provide 100% coverage and we are offering a much better quality of HDTV wherever you live.”

Despite all the interest, Ultra-HD is some way off. “The big cost drivers are the cameras and the TV. This will take three to five years,” says Hölzle. But in the meantime HD is driving TV viewing. With pay TV holding up in the mature markets, there is growth and excitement in emerging markets in eastern Europe. The sleeping giant of Germany is finally waking up as satellite becomes a force in the marketplace.”

RECORD SATELLITE MARKET SHARE

50% of the European marketplace

THE NEW SES PLATFORM SERVICES

SES Platform Services was pioneered in Germany and is being rolled out around the world. “We provide ground services for broadcasters, from studio capacity and post production to content management, playout and archiving,” says Wolfgang Elsaesser, who is also Chief Commercial Officer for SES Platform Services. “We have an archive where broadcasters can store their content in the highest quality they have and we do the transcoding on playout.” Sky Deutschland is a key customer and SES implements its channels based on tapes and a playlist.

“We’re launching a virtual fibre teleport network,” says Elsaesser. “That gives us the possibility to get customers’ signals distributed around the world and that helps bring their content to the uplinks at Princeton or Hong Kong. We are looking to internationalise this business to central Europe, Singapore and South Africa and we think this is the year to extend the services to the US and South America. In Germany the SES business model is extending even closer to the consumer with the HD+. SES broadcasts HD channels to subscribers, who currently get their first year free. Revenue is shared between SES and channel providers such as RTL.” Elsaesser sees this progressing well as it brings SES closer to the consumer.

RTL: DRIVING HD IN GERMANY

Broadcaster RTL is the German market leader and is at the forefront of new business models for the distribution of content. It uses HD+ on linear, HbbTV and video-on-demand (VOD) services. “That’s one of the key topics of the whole TV industry, how the merger of TV and the internet will happen,” says Andre Prah, head of programme distribution for RTL. “Our relationship with SES is very positive on the technical side where we very much rely on SES because if there is a problem with the satellite there is a direct impact on our business so we

have to be very comfortable. That gives us a very secure feeling as in the last 20 years it has been almost perfect. On the other side, we have the commercial relationship with SES. They are not the cheapest but I think they are very fair in how they manage their strong position in the German direct-to-home (DTH) market and treat all their customers fairly.”

RTL has been working with SES Platform Services on the analogue switch-off across Germany and new services such as FreeTV using the HD+ service. “We have these new projects like the platform business,” says Prah. “They managed to build up FreeTV very quickly and very successfully and we are happy to be part of it. We’re looking to set up new projects combining broadband and TV and that’s very promising. There’s a new business to be expected in the next two to three years adding VOD to the HD+ platform.”

“With HD+ we are trying to change the model to receiver revenue from platform operators rather than paying for distribution and HD+ is the vehicle for this. HD+ is one of the key examples of this market as they provide access to HD services on satellite and they pay for access while we are getting paid for our content rights. It also provides a more attractive TV experience,” Prah says.

SKY DEUTSCHLAND: OTT INNOVATION

“The German-speaking satellite market has had a record of success for quite some time,” says Wolfram Winter, Executive Vice President of Communications at Sky Deutschland. “We have a total of over 80 million people with 41 million households and while the market is becoming more mature it still has room to grow.” Switching off analogue satellite signals in Germany has been a major issue for broadcasters. “Given the size of the project it was carried out in a very professional manner. SES has proven to have some German efficiency and should get the credit for this. There was no blueprint for this; it was a unique situation.

“One thing that has helped move the market development much faster is HD,” he says. “By the end of the year Sky will offer 60 HD channels, and that’s up from six just three years ago. We have over 1 million viewers watching Sky

HD and at some point in time standard definition television (SD) will come to an end. It could be five years, it could be 10.” There is significant competition emerging with more broadband over-the-top (OTT) services. “We’ve never been in better shape but we have more to do as the competitive environment is as strong as it has ever been with Facebook and Google. We want to be the most innovative entertainment company in Germany and Austria. Sky in Germany has the biggest OTT service today. The other challenge is to take this to the consumer. You can have a great concept and great technology but if you can’t convince the market that it is worth it, it won’t happen,” says Winter.

SKY: DRIVING HD TO MATURITY

Sky is at the forefront of satellite broadcasting in the UK with pay TV, SD, HD and 3D channels transmitted from SES satellites alongside broadband and mobile services.

“It’s a challenging economic backdrop but we have seen pay TV in the UK to be reasonably resilient,” says Jon Simkin, Director of Channels and Operations at BSkyB in the UK.

“Consumers continue to face tough choices but we think that the value of pay TV combined with market leading broadband seems to be resilient so far,” he said.

BSkyB has also invested heavily in broadband. “Our experience of OTT is that we see that it works well in a hybrid service that sits alongside satellite delivery,” says Simkin. “We see them sitting well together and a complementary experience, and we are seeing customers watch more TV as a result.”

3D is a key driver for BSkyB in the UK. “We are pleased with the progress we have made in 3D and what we have always seen is content is really important. We are also seeing more content in 3D from the Olympics and music festivals such as the Isle of Wight festival this summer, and some brilliant documentaries. But HD continues to drive the current business. “On Ultra-HD, as always we will continue to participate in trials and look at emerging technologies and take a view at the right time to bring these to market,” he says. “At the moment I think there’s more growth in HD. We are not yet at half our customer base on HD.”

OUR SATELLITE FLEET

The SES global fleet of 51 geostationary satellites covers 99% of the world's population to deliver reliable and secure connectivity.

Communications links are a vital part of any broadcast network, from news gathering to distributing the final content. Our vast coverage enables operators to deliver an extensive array of the latest TV content every day, companies to provide broadband network links to remote locations, and governments to establish secure communications networks, no matter where they are.

Whether you are a multiplex or network operator, we transmit thousands of TV and radio channels that will expand your audience reach quickly. With terrestrial HDTV taking off, our satellites have additional bandwidth that enables pay TV operators to add terrestrial channels to their offering. SES can provide scalable high bandwidth quality links to aggregation points and playout centres to accommodate increasing demand for HD and 3D content. With access to our specialised knowledge, you can reach the vast majority of homes around the world cost-effectively.

UPCOMING LAUNCHES 2012 – 2014

Satellite	Expected launch date	Orbital position
ASTRA 2F	2012	28.2° East
SES-6	2013	319.5° East
SES-8	2013	95° East
ASTRA 2E	2013	28.2° East
ASTRA 5B	2013	31.5° East
ASTRA 2G	2014	28.2° East

Upcoming launch schedule is based on current planning and is subject to change.

We provide regional, continental and global coverage with our fleet of over 50 satellites, which will rapidly expand under our aggressive launch plan.

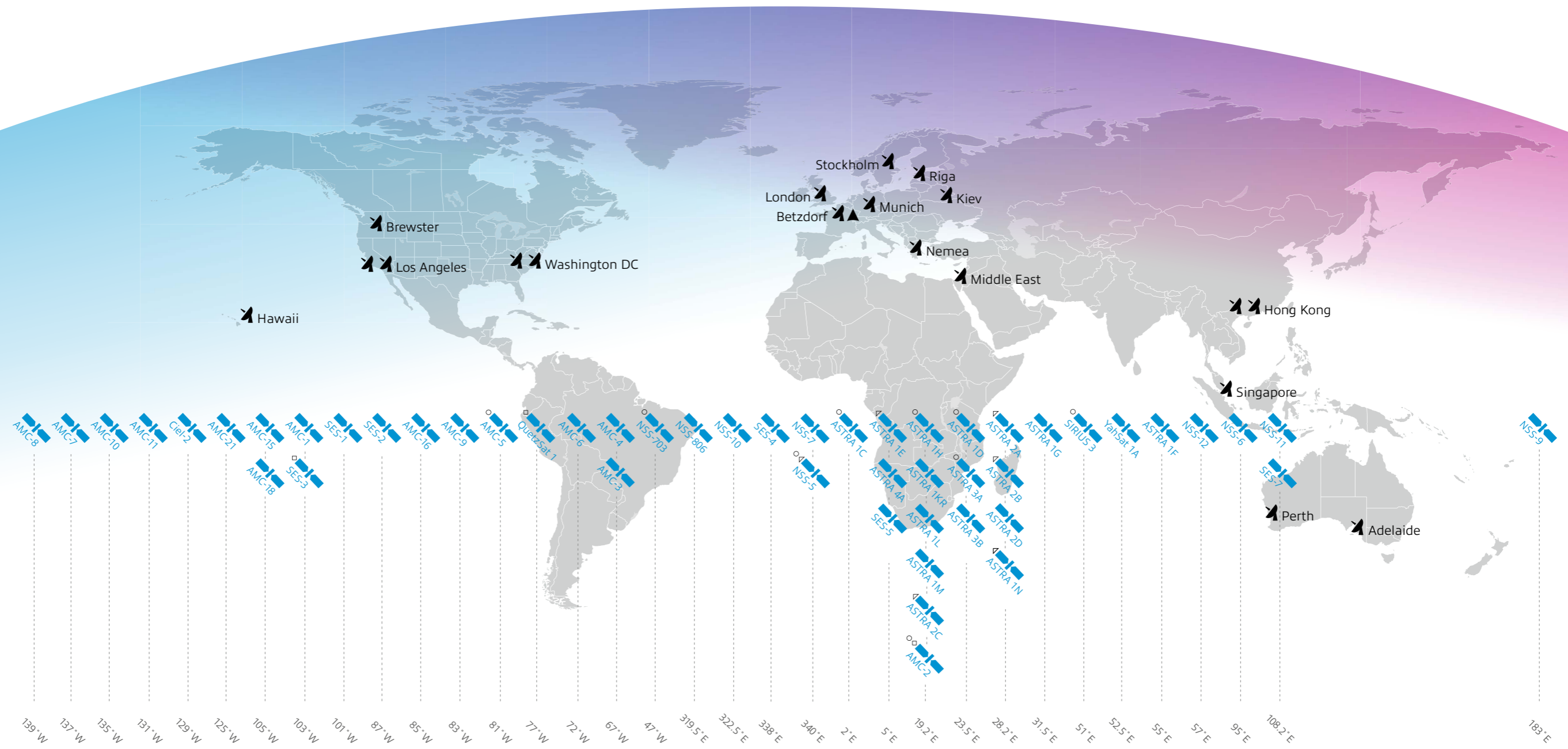
By the year 2014 SES fleet will grow by another six satellites. Our ambitious investment strategy aims to empower emerging as well as existing markets to thrive at maximum potential.

We are expanding our fleet capacity to enable leading television networks to reach new audiences by broadcasting in high-definition (HD) and 3D. We are dedicated to connecting underserved communities throughout Asia, Africa and Latin America by bringing a variety of communication links on our satellites.

But our ambitious launch schedule is not just about putting satellites in space. It's also about putting the power of connectivity into your hands and the hands of your customers.



SES GLOBAL SATELLITE FLEET



- ▲ Headquarters
- ▲ Teleport (owned and partner teleports)
- Inclined
- Expected orbital position
- ▴ To be relocated

Fleet configuration is based on current planning and is subject to change. SES holds a 70% interest in Ciel Satellite Limited Partnership. Yahsat 1A's Ku-band payload is owned by YahLive, an SES affiliate.

August 2012

Text: Tinat Chowdhry

THE GLAMOROUS YEAR OF OCCASIONAL USE

MAJOR ATHLETIC, POLITICAL AND ENTERTAINMENT EVENTS ADD DEPTH AND FRESH CONTENT TO THE GLOBAL BROADCAST CALENDAR EACH YEAR. AND EACH YEAR, SES IS THERE.

“The one-time and semi-regular events in 2012 allowed SES’ Occasional Use service to shine as they beamed coverage of events such as the London Summer Olympics, the Euro 2012 European football championship, the Queen’s Diamond Jubilee and US presidential candidate debates worldwide,” says Samantha McCloskey, Vice President, Global Occasional Use Services & Special Events, SES.



SES SATELLITES CARRIED 48 DEDICATED OLYMPIC CHANNELS FROM JULY 25 TO AUGUST 13.

Broadcasters and media operators use SES’ satellite capacity to provide vital communications that link seamlessly between

studios, playout centres and head-ends. Our customers’ sites around the world are connected by our global fleet for as long as they need capacity. Our dedicated engineering team in locations around the globe helps build and tailor-make packages for broadcasters around the world.

Despite the irregular and sometimes unpredictable event locations, SES is able to provide broad capacity. The London Olympics offers just one example. SES satellites carried an unprecedented level of free-to-air, direct-to-home coverage of the Games. The company broadcast 48 dedicated Olympic channels from July 25 to August 13, comprised of 24 standard definition and 24 high definition channels.

“Through our orbital location of 28.2° East, we provided satellite capacity to cover the London Olympic Games. The BBC, the Games’ host broadcaster, provided the content for the Olympic channels which included live coverage of all Olympic sports from all the Games’ venues – some 2,500 hours of live sports broadcasting – in addition to over 30 national and regional BBC channels that were also aired via SES’ ASTRA 28.2° East,” says McCloskey.

The content was broadcast unencrypted thanks to agreements with UK satellite platforms from British Sky Broadcasting, or BSkyB, and freesat. The content was also released for delayed viewing with personal video recorders (PVRs) from the likes of Sky+ and freesat+. The Olympics’ popularity pushed not only SES to provide extra coverage – the BBC also included



TV AUDIENCES ARE GROWING AROUND THE WORLD, AND NOT JUST FOR OPEN AIR EVENTS LIKE THIS IN BELGRADE, SERBIA.

live streams on its web-based iPlayer in addition to the 48 dedicated channels.

But the London Olympics were just one event supported by SES satellites orbiting miles above earth this year. The company also broadcast coverage of other sporting events such as the Euro 2012, the French Open tennis tournament and the Tour de France. The company even sped coverage of Formula 1 races around the world. On the political side, SES supported news outlets as they reported on pivotal elections in France, Germany and Greece. And moviegoers everywhere quickly learned who became best actor and best actress at the 2012 Academy Awards thanks to SES.

For the Euro 2012, this year’s key event for the football fanatic, SES satellites NSS-7, SES-4, ASTRA 1K and ASTRA 4A made sure viewers did not miss a yellow card, penalty kick or Spain’s ultimate victory – and subsequent celebration with the players’ children on the pitch. SES satellites supported national and international broadcasters such as Eurovision, BSkyB, Media Broadcast, GlobeCast, ESPN, VRT and TVPoland as they brought the tournament to their local audiences.

And SES did not just stop at broadcasting compelling events. It also helped drive media innovation in coverage of live events by offering dedicated capacity for groundbreaking 3D programming. SES’ ASTRA Satellite System carried Eurosport Group’s 3D broadcasts of the French Open and the London Games throughout Europe. Events and matches from both events

were aired live on Eurosport 3D from the ASTRA 19.2° East orbital position.

“Making high quality 3D sporting events available to a wider audience and producing compelling 3D content will help spur the growth of the 3D industry. We are proud that SES satellites were used by our long-standing partners to deliver live action from the French Open and the London Olympics this summer,” says Norbert Hölzle, Senior Vice President Sales Europe at SES.



SES MADE SURE FILM FANS AROUND THE WORLD WATCHED LIVE AS MERYL STREEP AND JEAN DUJARDIN WON THEIR OSCARS.

Over the last two decades we have provided the satellite links to carry all kinds of major events, including the Olympic Games and World Cup as well as breaking news stories from around the world. Regardless of what events the next year brings, it will be carried on SES satellites.

// THE TRANSITION TO THE SATELLITE DISH AND RECEIVER AS A COMMONPLACE FACET OF EVERYDAY LIFE REVOLUTIONISED TELEVISION VIEWERSHIP

Text: James Schwoch

THE 21ST CENTURY SATELLITE INDUSTRY: CHALLENGES, OPPORTUNITIES AND LEADERSHIP

Looking back over the past 50 years to the genesis of global communication satellites yields a remarkable story of an industry that grew through opportunity, adversity, diversity and ingenuity to touch the lives of everyone, and deeply interconnect the peoples and places of our planet. The profound worldwide changes wrought by the satellite industry, incredible as those changes have been, are not confined to social, political, cultural and economic conditions. The global growth, development and deployment of satellites since mid-century also shaped the practice of global security and disarmament; revolutionised research techniques across the vast scope of the sciences; accelerated media distribution and enhanced the global awareness of our shared geophysical environment both on and beyond Earth.

What is truly surprising about the satellite industry's past is how many things were not predicted, anticipated or expected from the global development and use of satellites. The list of unexpected developments includes the transition of satellites uses and technologies from Big Science into everyday life, first marked by the transition of television distribution away from terrestrial towers and coaxial cable to satellites and the rapid rise of home ownership of earth stations around the world, and also the unanticipated responses of scientists, policymakers and the general public to the very first public releases of visual satellite imagery. The transition to the satellite dish and receiver as a commonplace facet of everyday life – in other words, the ability to own your own dish and pick up signals directly from a satellite – revolutionised television viewership around the world and paved the way for a vast range of additional satellite-based consumer services.

We now live in a media-saturated world, both in terms of content and in terms of technologies. The satellite industry is central to this media-satu-

rated world, and it presents both challenges and opportunities for the industry; challenges and opportunities, that will provide the impetus for continued global leadership. Some of these challenges and opportunities are anticipated and predictable and the satellite industry responds admirably to the ever-increasing global need for more telecommunications, more content, more connectivity and more imagery. What are the future challenges and opportunities that haven't yet materialised that the satellite industry can take the lead on?

Environmental and climatological security and management needs are some of the less apparent trends where the satellite industry can step in and lead. The industry already has a legacy of significant contributions in raising global consciousness about the urgency of environmental awareness, and can build upon that legacy. The mobile media revolution of the 21st century creates a daunting challenge for media companies faced with the repurposing and digitisation of their past and present media content to deliver it to mobile platforms. This never-ending drive for more bandwidth is having unexpected consequences. The global electric power consumption of digital content repurposers and their transcoder farms is beginning to dwarf the electrical power needs of their teleports and network services. I was stunned to learn that the global electrical power consumption dedicated to the digitisation and repurposing of media content for new mobile platforms is already beginning to surpass the global electrical power consumption needed to run the global telecommunications and satellite providers of the world – and we are still in the rapid growth phase of global mobile technologies. How much electricity will both the satellite and media industries of the future need?

Beyond the need for more power, growing mobile media demand raises many questions about hard-

ware and platforms for content delivery. I doubt the world is all that far away from the emergence and profusion of set-top receivers with a capacity of 10,000 channels (0000-9999), replacing the current 1,000 channel (000-999) systems. Much is said about a growing future of individual selection of near-infinite content via clouds and internet service providers, and doubtless this will grow. However, the appeal of set-top delivery systems via both cable and satellite services will continue to be strong because of their ease of use, the ability for family and small-group viewing on large screens and the efficacy of delivering new services such as 3D through satellite's large bandwidth. The emergence of 10,000 channel set-top devices will trigger new environmental management challenges in the retirement and recycling of our current 1,000 channel set-top boxes. It may also enhance the role of a network programmer not so much as a traditional gatekeeper, but rather as a content connoisseur, or a content concierge if you will, for global television viewers.

// THE SATELLITE INDUSTRY RESPONDS ADMIRABLY TO THE EVER-INCREASING GLOBAL NEED FOR MORE CONTENT AND MORE IMAGERY.

Can global media, telecommunications, computer hardware and software manufacturers and the consumer electronics industries sustain their current visions and philosophies of proprietary and market-driven decisions on technical and operating standards into the foreseeable future? I realise even raising this question risks eliciting howls of protest across a universe of equipment manufacturers, software writers and financial investors joined by many consumers who equate the vision of proprietary and market-driven decisions on technical and operating standards with freedom of choice. Given that the continuing momentum of these

market-based decisions creates more electronics equipment, increases the rate of obsolescence of older equipment and increases global power consumption, are there environmental and climatological limits to the vision of proprietary and market-based decisions regarding operating and technical standards? This extraordinarily sensitive question has yet to fully emerge in policy circles and public discourse, but might be faced in the not-so-distant future.

Amid this proliferation of new hardware on Earth, we are also witnessing a growing global awareness of the consequences of debris in space. Recent satellite shoot-downs and satellite collisions bring attention to the problem, as well as educate concerned global citizens about space debris management techniques already in practice. These space debris management applications include the subtle redirection of satellites away from potential collision courses, the occasional recalibration of the International Space Station orbit, and the move to manufacture satellites and space objects in such a manner that, as their functionality ends and are replaced, the now obsolete satellites can be more easily manoeuvred into an orbital path that will result in a safe atmospheric decay. More ambitious applications may include satellites specifically designed to harvest space debris and the development of systems and approaches that recover, rebuild and repurpose, and redeploy new satellites from old satellites – all while in orbit. Payload, interoperability of parts and components and careful planning of satellite construction and satellite manoeuvrability once in orbit will all enhance these future applications aimed at cleaning up space debris. Another idea that might help enhance these efforts would be some sort of credit for satellite manufacturers and operators who construct and operate satellites in ways that further enable their satellites to be harvested and/or recycled while in outer space. This might be a space variant on carbon credits. However, any steps that provide incentives for satellite design and operation that enhance outer space harvesting and recycling should be welcomed by the satellite industry. The industry should now take the initiative to help develop incentives and approaches for space debris management.

Demands on world electrical power grids and the insatiable global demand for electricity, the burgeoning amount of obsolete or discarded consumer

media technologies as people avidly update their media devices, and the vexing problem of space debris are but three of the complex and challenging environmental problems created by the overlap between the satellite and media industries. As satellite services and efforts expand and diversify in the 21st century, perhaps global power grid management, careful uses of electrical consumption in the design and buildout of communication systems, new ideas in space debris management, and further environmental approaches to 21st century global mobile communication will help usher in concepts and visions we might call 'green global media'. Often, these challenges are already being addressed by the satellite industry, and the satellite industry has a real chance to be a global leader in addressing these problems at a world scale.

In part this is because of the legacy, the serendipity if you will, of the satellite industry and its contributions to helping the people of the world develop a global consciousness through geophysical imagery and global interconnectivity. Positioning the global satellite industry as a leader in responsible environmental and climatological management will also attract a wide range of highly talented young people to careers in the satellite industry. Over the past 20 years, college and university students have experienced an expanding range of classroom courses and research projects that explore environmental and climatological challenges. The rising generation is deeply committed to addressing and solving these challenges and will only embrace and seek employment in an industry that takes these concerns seriously. The satellite industry can, and I believe will, make valuable contributions to our future by continuing to demonstrate good practices and environmentally responsible policies, by encouraging the proper disposal and successful recycling of media technologies both on and above the planet and by continuing, in both anticipated and surprising ways, to expand our awareness with its unprecedented global reach that we all must wisely share and protect this small blue-green orb we call Earth.

JAMES SCHWOCH



JAMES SCHWOCH IS THE SENIOR ASSOCIATE DEAN FOR THE SCHOOL OF COMMUNICATION AT NORTHWESTERN UNIVERSITY IN QATAR, AND PROFESSOR OF COMMUNICATION STUDIES AT NORTHWESTERN UNIVERSITY IN CHICAGO, ILLINOIS.

He has published five books to date, most recently *Global TV: New Media and the Cold War, 1946–69* (Illinois, 2009) and also published many articles, book chapters, encyclopedia entries and essays. Schwoch's next book, currently in production with Rutgers University Press, is a co-edited volume with Lisa Parks (University of California – Santa Barbara) titled *Down To Earth: Satellite Industries, Technologies and Cultures*. His research and teaching areas include global media, media history, diplomacy and international relations and global security.

Schwoch has held fellowships and external research funding from, among others, the Fulbright Commission (Finland 2005, Germany 1997); the Ford Foundation (1996–2000); the National Science Foundation (1998–2002); and visiting professorial appointments in Finland at the Universities of Tampere (1994), Jyväskylä (1996) and Helsinki (1994, 2005). During 1997–98 he was in residence at the Center for Strategic and International Studies in Washington, DC, where he was the Leonard Marks Fellow in Global Communications Policy.

Working on both the Doha and Evanston campuses of Northwestern University – but more often than not in Doha – Schwoch continues to participate on PhD dissertation committees and advise graduate students as relevant to his areas of research expertise.

Text: Paul Sims

COVERING THE AMERICAS

Abel Souza considers the new business opportunities that abound across his homeland of Brazil. He sees a rising middle class across Latin America. He's excited as Brazil prepares to host both the World Cup and the Olympics. The region's coming of age brings a smile to the face of this hardworking executive.

Souza is experiencing the positive impact new growth has had across much of the region, from the small, remote jungle communities to the big cities like São Paulo, where he is part of a growing SES team. "It's so good to see so many of our media and enterprise customers throughout the Americas expanding and starting businesses," Souza says. "Pay TV services such as direct-to-home (DTH) and cable along with intensifying HDTV adoption are big drivers of the media business here, as consumers are ready and able to buy into a new level of home and sports entertainment."

Steve Bunke recalls a similar scene across the US more than a decade ago, as HDTV permeated premium channel line-ups and changed the way Americans watched TV: "HDTV was a game changer for television and satellite distribution." Bunke, SES' Vice President of North America Sales, experienced the operator's market anticipation and ramp up to HDTV firsthand. "SES quickly became the HDTV leader and today delivers more HDTV content than anyone across our growing global fleet," he says.

"We used to say once you watched an HD broadcast, you couldn't go back to standard definition," Bunke reminisces with a smile. "That's exactly how it played out here, and Latin American viewers are now experiencing the same infatuation with high definition programming 10 to 15 years later," he adds. "And like in North America, sports will prove to be a big driver of HD across Latin America, especially with the 2014 World Cup and the 2016 Summer Olympic Games on the horizon."

LATIN AMERICA'S MEDIA BOOM

Pay TV and HD require satellite capacity to reach big audiences across vast remote and rural regions of Brazil and beyond. SES' satellite capacity is poised to push the media boom forward, the

result of an aggressive launch initiative aimed at boosting the global operator's fleet by 13 new spacecraft in a three-year span. Many of those new satellites are joining existing and newly relocated SES spacecraft to serve what many industry experts call the hottest emerging market on the planet.

"I can't underscore it enough, there is a huge demand for capacity and a huge opportunity for growth in Latin America and the Caribbean," Northern Sky Research President Christopher Baugh reported during an SES Latin American customer conference. "DTH is truly on the rise, along with HDTV, government initiatives, maritime and cellular backhaul."

"It's an exciting win-win. The launches of SES-4 and SES-5 this year, and SES-6 next year, are fuelling media and enterprise companies with the bandwidth they need to really spread their wings," explains Souza, "It's all about timing, and SES has bigger, better capacity at just the right time to help Latin America reach its potential. Media firms and telcos in Brazil, Mexico and Latin American as a whole are diving into the digital boom."

Souza is spot on, according to a recent report from Digital TV Research that shows most of Latin America "experiencing a surge in digital TV take-up." The study forecasts that more than 75% of the region's TV households will have digital TV by 2017. Brazil is expected to add nearly 28 million digital TV households across all platforms in the next five years, while Mexico should gain more than 17 million.

"SES is committed to an early satellite replacement strategy that protects and offers our customers major advantages across the region and the globe," explains Dolores Martos, Vice President of Latin America and Caribbean Sales for SES. "By not waiting until the last minute to launch new replacements, we can get an early start on future initiatives," she says, citing SES-6 as a prime example. "SES-6 is scheduled to launch and replace NSS-806 around the middle of next year, despite a good three years of life left aboard what has become home to Latin America's leading cable neighbourhood," Martos notes.

NSS-806 will ultimately move to a new orbital location, where it will initiate one of many new SES media communities serving the Americas and other regions of the world. "SES is unique in that we're not just replacing satellites, we're adding significant incremental capacity over Latin America," Martos says.

NORTH AMERICA'S ULTRA-HD PLAN

HDTV is not some fleeting fad across North America. It has redefined an entire industry. Hundreds of the most popular TV channels are in high definition. Millions of homes have multiple HD flat screens. "The big HDTV wave has covered the US and Canada, with Mexico riding the emerging wave heading for Latin America and other regions around the world," notes Bunke.

He sees Ultra-HDTV as the next trend for viewers in the US and beyond: "Ultra-HDTV is like 3D without glasses and it promises to drive satellite capacity in three to five years, even as new iterations of DVB S2 and MPEG-4 are introduced. The Ultra-HDTV buzz is gaining some traction, and the big media companies are taking a serious look at ways to satisfy the market's hunger for even better resolution. Ultra-HDTV will require two to four times the capacity needed to deliver regular HD, so it's a trend we're following very closely." As Ultra-HDTV, known as 4K, looms on the horizon, many of the world's biggest media companies are reaching deeper into emerging markets to tap new audiences and growth opportunities. They're doing it with the help of SES, which streamlined its global organisation a year ago.

"SES has expanded the fleet over North America to meet a broad range of media customer demands – from DTH to broadcast and occasional use," Bunke explains. "We have rock solid relationships with the world's leading media and entertainment firms, and we're extending those partnerships to help our customers grow."

IT TAKES A COMMUNITY

The SES fleet, now 50-plus satellites strong, offers reliability and flexibility to a broad range of media and enterprise customers around the world. For example, Telefonica's Media Networks Latin America (MNLA) unit inked a long-term deal for capacity aboard the AMC-4 spacecraft earlier this year to expand its pay TV service across Central America and the Caribbean.

Capacity was very scarce in the region before SES moved both AMC-4 and AMC-3 to 67° West. The pair of satellites is now playing an important role in the delivery of expanding DTH services everywhere from Guatemala City to Mexico City and the Caribbean Islands. AMC-9 was relocated over Mexico, where it is expected to become home to a leading media community.

"SES has the ideal coverage, spectrum and unmatched DTH experience to enable expansions into new markets throughout Latin America," says Pedro Planas, chief technology officer for Telefonica's MNLA. "Our long-term agreement with SES represents a strategic partnership aimed at meeting the increasing demand

from our customers, the existing and new pay TV operators in the region, and will allow us to continue offering a growing line-up of compelling content."

"Latin America pay TV revenues are forecasted to climb to nearly 23 billion US dollars over the next five years, with DTH accounting for close to two-thirds at 15.9 billion US dollars," says Vicente Medina, sales director in SES' Mexico City office, citing the recent Digital TV Research report. "Mexico is in a strong second place position behind Brazil."



THREE NEW SATELLITES FOR LATIN AMERICA IN TWO YEARS.

Steve Bunke knows what a successful media community can do for SES and its customers. SES' AMC-10 and AMC-11 satellites are home to many of the world's leading media and entertainment companies, and the operator is building a new media community aboard a trio of spacecraft, AMC-18, AMC-1 and SES-1, at the heart of the North American arc. "We're instituting a triple-feed antenna programme to drive head-end penetration and big name media customers to those birds," Bunke explains. "SES has powerful, reliable capacity at this prime orbital location to enable broad, secure and flexible coverage across the entire region."

Media communities provide major benefits, including high head-end penetration that translates into bigger audiences and better value. NSS-806 is Latin America's classic example of a tremendously successful neighbourhood.


"We will utilise NSS-806's golden years to build a new and important video neighbourhood over Latin America, much like we've done with AMC-3 and AMC-4 along with AMC-9 over Mexico," Martos explains.

A number of innovative SES initiatives are underway at Princeton University, just a few miles away from SES' regional offices. One project in particular is exploring satellite applications to further enhance video streaming. Bunke is eyeing the development closely: "Breaking that code could open the door to tremendous opportunities for satellite and exciting new future trends and business models."

Text: Tinat Chowdhry

DIRECT TO AFRICA

Demographic developments in Africa are helping to increase viewership numbers dramatically. To help further, SES is teaming up with partners to improve content and simplify access to satellite TV.



DIGITAL TV VIEWERSHIP IN CITIES SUCH AS ABIDJAN, THE FORMER CAPITAL OF IVORY COAST IS EXPECTED TO EXPLODE IN THE COMING YEARS.

// The opportunity lies in providing an increasingly sophisticated African viewership with a significantly increased number of TV channels – a first for many African countries.

CHRISTOPH LIMMER, SENIOR MANAGER MARKET DEVELOPMENT AFRICA, SES

ECONOMIC GROWTH, INCREASING POPULATIONS AND EXPANDED DEREGULATION AND INVESTMENT COUPLED WITH A RISING INTEREST IN NATIONAL AND INTERNATIONAL EVENTS AND PROGRAMMING ARE LEADING TO A BOOM IN TELEVISION IN SUB-SAHARAN AFRICA. SES IS WORKING WITH BROADCASTERS AND MANUFACTURERS TO MAXIMISE TELEVISION TAKE-UP.

While about 80 million households currently have a TV in sub-Saharan Africa, that figure is expected to climb to an additional 50 million by 2017, according to Euroconsult, McKinsey and SES. Although the climb in numbers is impressive, the forecast for digital TV is even rosier – currently just 10% of the homes enjoy digital TV but just over half are expected to have converted by 2017, according to Digital TV Research.

Low population density, remote communities and financial obstacles make satellite TV – and free-to-air (FTA) in particular – especially attractive and poised for rapid growth. The increase is already evident in Ghana where, in less than two years, the audience for MultiTV has swelled five-fold with the help of a joint marketing campaign with SES. MultiTV is a digital FTA, direct-to-home (DTH) platform – the country's first national FTA service.

Founded in 2009 by Multimedia Group, the country's largest private media and entertainment company, MultiTV offers 18 TV channels and six radio stations broadcast throughout Ghana and across western Africa from SES' ASTRA 2B satellite at 28.2° East. MultiTV provides film, sport, kids, news and religious programming from Ghana, including public broadcaster Ghana Broadcasting Corp.'s GTV channel and MultiTV's own branded channels, Joy TV, Joy Sport and Joy News.

LOVING BOMAYE

Reception of the unencrypted MultiTV channels requires only a digibox and dish with no subscription charges for viewers – inline with the broadcaster's inclusive policy of "Digital TV access for all". SES' ASTRA 2B satellite makes it possible for MultiTV's broadcasts to be available throughout Ghana, even in the more remote northern areas where terrestrial communications are often unreliable or even non-existent. MultiTV's innovative marketing has helped boost viewer numbers with campaigns such as a digibox giveaway accompanying the wildly popular and controversial 24/7 reality show, 'I'm In Love With Bomaye'. But MultiTV's success is also thanks to the establishment of a national distribution network and an accredited installer base.

Working with MultiTV, SES Africa's marketing team has developed the Elevate programme for installer training, quality assurance and accreditation. The programme helps dealers and installers improve their skills while boosting the quality of installations, leading to an increase in revenue for installers, improved customer satisfaction and a broader reach for MultiTV. Elevate has accredited over 800 installers, predominantly in major cities such as Kumasi and the capital Accra. Monthly MultiTV digibox sales are running at around 50,000 and MultiTV is working to recruit an additional 2,800 installers to the Elevate scheme.

INTEGRATED SATELLITE RECEIVER

When SES joined the MultiTV marketing campaign in 2010, the platform had 200,000 homes. Today more than one million homes enjoy the 18 TV and six radio channels, making MultiTV SES Africa's fastest-growing FTA broadcaster in the region.

Viewer figures are expected to continue growing as new channels are added to the FTA satellite portfolio and as the first TV in Africa with an integrated satellite receiver hits the market this summer.

In March 2012 SES announced a collaboration with Korean manufacturer Samsung Electronics to increase FTA satellite viewership in sub-Saharan Africa. The collaboration, the Samsung LED TV Free Satellite initiative, has led to the introduction of an LED TV specially designed for Africa that boasts a built-in FTA satellite receiver. Satellite dishes are connected directly to the TV, eliminating the need for a separate set-top box. SES and Samsung are working together to provide a training programme for installers to handle the new TV and begin a joint marketing campaign for the new TV and FTA satellite TV in western Africa. As a leader in FTA broadcasting, SES delivers more than 60 channels to more than 40 African countries.

"This collaboration is the first of its kind and will drive digitalisation in Africa," says Christoph Limmer, SES' Senior Director of Marketing Development and Marketing in Africa. "Today, one out of three households in Africa has a TV set but less than 10 million homes receive content in digital format. Our cooperation will not only help to improve access to digital content for African consumers but it will also encour-

age African broadcasters to launch more content. In servicing more than 40 African countries, we are well aware of the huge demand for more and higher quality TV services. The opportunity lies in providing an increasingly sophisticated African viewership with a significantly increased number of TV channels – a first for many African countries."

ALL OVER AFRICA

Samsung launched the new TV in August, first targeting Ghana, Cameroon, Ivory Coast, the Democratic Republic of Congo, Nigeria and Senegal. Making satellite TV more accessible should increase SES' reach across western Africa and encourage more African broadcasters to launch FTA content. SES is doing its part – both on the ground and in orbit – to boost audience figures in Africa.

"The Samsung LED TV Free Satellite is our contribution to the continent's efforts to 'go digital', providing African consumers with greater choice and broadcasters with the opportunity to grow the region's media industry," says Dae Hee Kim, Regional Product Manager at Samsung Africa.

50M

ADDITIONAL HOUSEHOLDS BY 2017

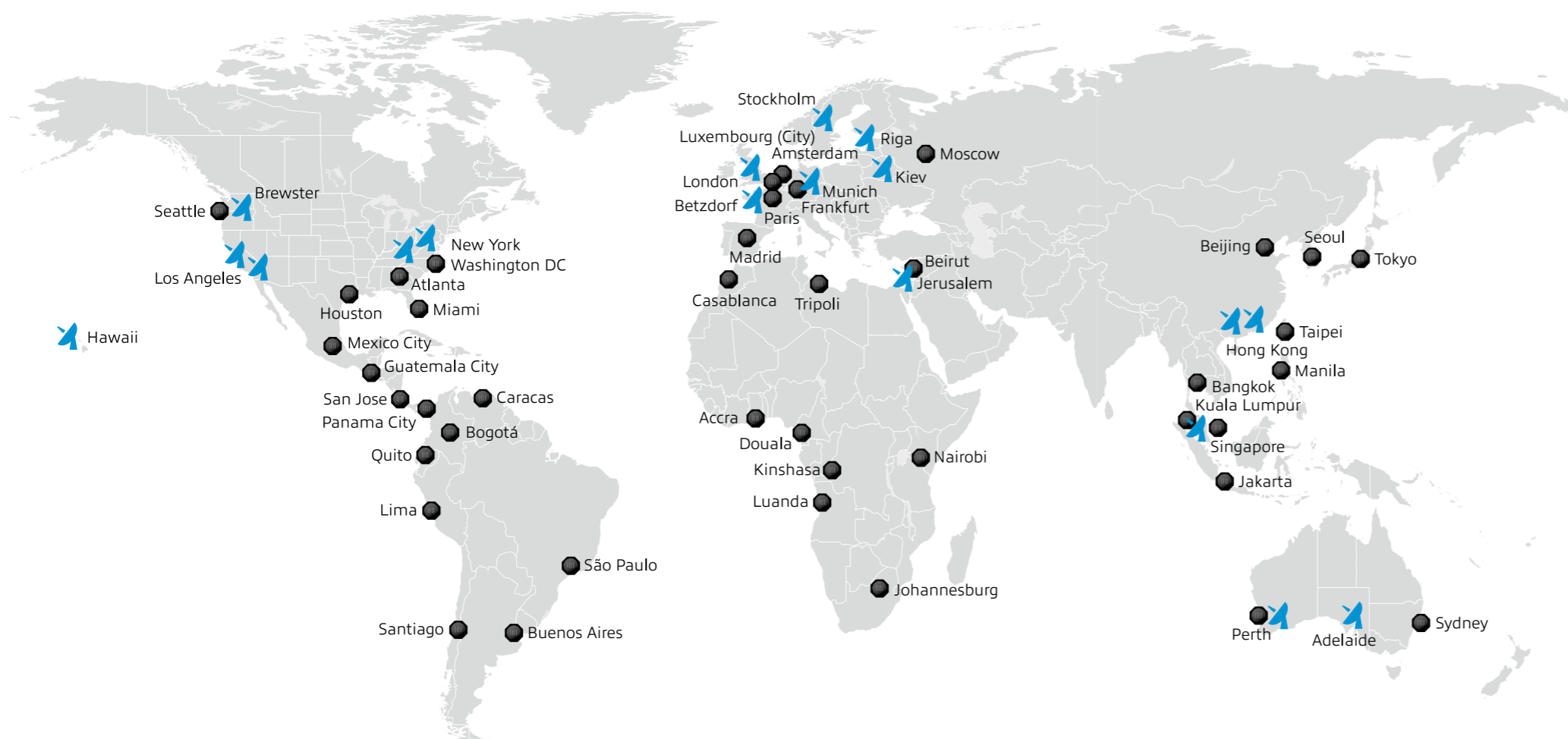
About 30% of homes in sub-Saharan Africa will have a TV by 2017, up from about a quarter currently, according to Digital TV Research's Digital TV Sub-Saharan Africa report.

3x

DIGITAL PENETRATION BY 2017

Only 9.2 million TV households in sub-Saharan Africa received digital signals at the end of 2011, but that figure is expected to triple by 2017 to 27.3 million, according to Digital TV.

CUSTOMERS DELIVER THEIR CONTENT. OnSES DOES THE REST.



▶ Teleports
● POPs

Broadcasters and telecom operators are increasingly looking for advanced communications services that can accommodate a wide range of commercial data and video applications. SES understands these needs and will soon combine an extensive global teleport network with secure communications links and reliable bandwidth services.

OnSES is a new, SES-branded and managed service that will offer an easy connection between its customers' premises and all SES teleports via more than 40 Points of Presence, or POPs. It's a global fibre-based network solution designed for transporting content from virtually any location. By connecting SES-owned and partner teleports with the network, the future in network contribution services moves closer to its customers. "SES owns and operates teleports all over the world, which enables us to offer commercial services such as hosting, uplink and platforms to our customers," says Baptiste Fosséprez, Senior Manager Products and Services Portfolio, SES. "OnSES will be a one-stop shop with a defined interface, locations, costs and activation time. It combines SES' own world-class teleports and carefully selected third-party teleports with a global fibre network to provide a truly integrated global fibre teleport network closer to the customers' facilities. It also allows customers to have access to the full range of SES VAS (value added services). OnSES will be an easy and hassle-free solution for customers and is hence a concrete example of how SES develops customer-centric solutions."

"With this new concept, SES will offer customers an end-to-end managed telecommunication service that can easily be bundled with our satellite capacity and with our video platforms. The solution will be implemented on the basis of customer requirements and will be available to them wherever they would need the service," says Ibrahima Guimba-Saidou, Senior Vice President, Commercial Africa.

OnSES aims to become a global network virtually connecting the entire world with one of its teleports. The largest number of teleports and POPs on offer makes it the most extensive teleport network in the world.

Text: Tinat Chowdhry

Photography: Mike McGregor, Philine von Sell

OUR PEOPLE

JEFFREY T. WATTS

GENERAL MANAGER

PAYLOAD MANAGEMENT OPERATIONS CENTRE

“The core of any business is building customer trust and to do that you have to develop relationships with the customer at a personal level,” says Jeffrey T. Watts, General Manager, Payload Management Operations Centre. Watts and his team are responsible for safeguarding SES frequencies. “We have to protect that satellite spectrum for our customers. Every day we face new challenges and we derive a lot of satisfaction every time we are able to successfully solve a customer’s problem.”

Watts joined SES from the US Air Force, where he was assigned to the E4 Airborne Command Post, a specially equipped Boeing 747 that is designed to keep the President and top-level government and military officials connected during national emergencies. “I worked with satellite and other hi-tech communication systems in an airborne command center. It was an exciting job!” he says.

Watts’ love for satellites grew out of his work with the military jumbo. “The idea of bouncing direct line-of-sight communications to anyone in the world is a great basic concept but one which requires some interesting technology. Satellite communications has so many facets – and that makes it much more interesting than any other career.”

Although he also enjoys golf and photography, Watts’ military service has rubbed off on other parts of his life: he is currently taking lessons to become a licensed private pilot. “I truly love flying and have always wanted to become a licensed pilot,” he says.

“SES and its people have been a second family. They have fully supported any professional and personal needs I have had over the years. I work with a talented team and am very proud to work for a company with such a strong customer service reputation.”

// Every day we face new challenges and we derive a lot of satisfaction every time we are able to successfully solve a customer’s problem.



// By the age of 11 or 12, radio communications had become my hobby. I've been doing it ever since.

THOMAS WREDE
VICE PRESIDENT, RECEPTION SYSTEMS

“When it comes to new products, innovations and technologies I’m like a kid in a candy store,” says Thomas Wrede, Vice President, System Receptions, SES. He’s been passionate about communication technologies since his childhood and always enjoyed playing with radios and antennas in his spare time. When it came time to study at university, getting a degree in electro-technical engineering was an easy choice.

“When I was very young, my father was also very passionate about radios and brought them home to listen to the Voice of America, Radio Japan, NHK and Radio South Africa. I used to fiddle with the radios and, by the age of 11 or 12, radio communications had become my hobby. I’ve been doing it ever since.”

Wrede has always been impressed by satellite television but says it could be vastly improved by technologies that would eliminate the dish. Still, the constant innovation in satellite communications provides him with inspiration and the motivation to do and learn more.

And his personal love for electronics and new satellite technologies even stretches beyond the office – instead of flowers, Wrede has a huge aluminium antenna tower in his garden.

“When you do this for so many years, it becomes a passion. It’s carried into your spare time as well. So I think sometimes the challenge is to switch off, but when you are enjoying this time, there is no need to switch off,” he says.

Despite his love for new technologies, he still prefers a pen and paper for note taking. “If you use a Blackberry to type in some notes or some key words, it’s very awkward. It’s not easy to do,” he says.

After college, Wrede spent some time looking for the right company. As a young engineer, he would switch jobs every three to five years looking for new challenges, but when he came to SES, he quickly felt at home. He says he’s never had a dull moment at SES and enjoys its multicultural environment, where the many different nationalities and cultures provide a broad pool of knowledge. “With SES, there were new things to innovate every three to five years. Working for a satellite company is a dream job, and I am doing it.”



LESLIE GADSBY
INDUSTRY EVENTS PLANNING MANAGER

“I’ve managed over 200 tradeshows all around North America – can you believe it?” says Leslie Gadsby, Industry Events Planning Manager, SES. “I don’t understand all of the inner workings of a satellite but I find it fascinating that an asset so far up in the sky can receive and send signals at such a great speed and accuracy. Being able to move them around from the ground and keep them in orbit is also remarkable.”

Gadsby grew up before mobile phones, complex video games and satellite TV with 300 channels. As a child, she loved to ride her bicycle and roller skate around her neighbourhood. There was so little traffic, she and her friends could even play kickball and baseball right on the street. She started her career as a court stenographer and then got a bachelor’s degree in marketing. She’s been working for SES for 27 years and says the many recent changes have been good for the company. “I love working for SES because of its people. They are warm, helpful and make me feel at home,” she says. “I absolutely love my job. I am a very detail-oriented person and this job requires that type of skill.”

At shows, Gadsby’s main tools are a black Sharpie and Post-it Notes. “I can’t live without them. I write notes on them for myself – like, ‘Don’t forget to bring more cups for the coffee machine!’. I also tape them to the wall to let booth builders know something has to be changed.” In her spare time, Gadsby likes to take her dog for a walk, read and, when necessary, do home repairs. “I’m truly blessed to work at a job that I love so much. It fits me to a T. Plus – it’s never the same twice.”



HARRY PALLAS
SENIOR MANAGER, SPACECRAFT OPERATIONS CENTRE

“The core of our operation in Gibraltar is the Satellite Operations Centre, which is based in the centre of town. And over there we fly 10 satellites for SES,” says Harry Pallas, Senior Manager, Spacecraft Operations Centre, SES. He leads a team of six satellite controllers who ensure satellites remain in their proper orbit and reposition the spacecraft when necessary. “While we refer to satellites in geostationary orbit, they’re not actually stationary. They’re actually moving at 11,000 kilometres per hour. They’re flying very fast,” he says.

Pallas is a native of the tiny UK territory at the tip of Spain and joined SES through the 2001 acquisition of GE Americom. “I’ve lived here all my life except for four years at the University of Southampton in England where I took a degree in electronics engineering,” he says. “I returned to Gibraltar and worked for 10 years as a broadcast engineer.” His ancestors settled in Gibraltar in about 1750, shortly after it was awarded to the UK by the Treaty of Utrecht.

Pallas says he enjoys the laid-back Gibraltar lifestyle, the country’s famous monkeys – Europe’s only monkeys – and the Mediterranean climate. But he also looks forward to coming into the office. He helped build his team in the late ’90s, first overseeing a single ‘bird’. The centre now can control up to 21 satellites but usually operates no more than 11 of them simultaneously. “A good test of a controller once he’s trained is how well the manager rests and sleeps while the guy’s on duty. I sleep very easily,” he says.

COMBATING SATELLITE INTERFERENCE

Interference costs the satellite industry millions of dollars each year in direct expenses and lost business opportunities for companies and their customers. To identify and resolve interference quickly, SES works closely with other operators and industry organisations such as the Space Data Association (SDA), the Satellite Interference Reduction Group (sIRG), the World Broadcasting Unions' International Satellite Operations Group (WBU-ISOG), the Global VSAT Forum (GVF), the Radio Frequency Interference-End Users Initiative (EUI) to share information and implement mitigation initiatives, such as Carrier ID, to identify and resolve interference quickly and efficiently.

"We are taking the lead on a number of issues which are absolutely critical to the way we deliver services," said Stewart Sanders, Senior Vice President of Planning and Procurement for SES and chairman of the Space Data Association (SDA). "We're not doing it for fun – or because it's what the industry is doing. We're doing it because it's important to ensure we can maintain the availability of services for our customers."

Interference can happen in a number of different ways and SES works on reducing interference from many different sources including adjacent satellite interference in space and terrestrial interference from sources such as GSM networks, WiFi, FM radio and radar. By training installers, system integrators and operators, particularly for VSAT terminals, SES has taken a strong lead in seeking to reduce the effects of interference.

While some interference events are simple to track down, some are a real challenge. SES' team of experts is dedicated to finding these problems as quickly as possible. SES prefers to eliminate interference before it even happens through training and industry collaboration on initiatives such as Carrier ID and best practices for operators.

Along with other satellite operators, SES has been a strong Carrier ID advocate. Unique IDs for each carrier can help identify the source of a signal that inadvertently causes interference. The relatively dynamic environment of carrier activations during sports events, for instance, increases the possibility of human errors such as dual illumination of Occasional Use capacity. Carrier ID can help resolve this situation and SES actively supported testing of Carrier ID solutions ahead of the London Olympics, including the free provision of test capacity for use during the games.

SES has also developed specialised in-house capability to ensure we can identify and implement any necessary cure should interference occur, including out-of-the-box thinking and the development of new techniques.

RAPID RESPONSE TO HUMANITARIAN CRISES



EMERGENCY.LU THE RAPID RESPONSE SOLUTION.

Communication is a vital component of relief efforts for any natural disaster or humanitarian crisis. And to provide crucial, multi-layer telecommunication links within hours of a devastating event, SES is contributing satellite capacity for emergency.lu, a new emergency-response platform initiated by the Luxembourg government.

The emergency.lu initiative is satellite-based and is designed to quickly re-establish communications in areas isolated by emergency situations. It can be airborne within two hours of an alert. Once on-site, a telecom terminal is connected to an inflatable antenna that links up with a satellite in geostationary orbit, 36,000 kilometres above the earth. The connection provides two-way broadband internet connectivity for voice, data and image transmission, simplifying coordination and working in concert with the World Food Programme's Emergency Telecommunications Cluster. The solution offers wireless local networks for local aid workers for their laptops, tablets and cellphones.

The rapid response equipment is available to the international community as a free global public service funded by the Luxembourg government. It gives humanitarian aid providers an additional tool that offers a broad range of end-to-end support, including air transport as well as satellite infrastructure, during the initial disorienting hours of any humanitarian emergency. In addition to SES, Luxembourg Air Ambulance and HITEC Luxembourg are part of the initiative along with technical partners Skype and Ericsson.

SES' deep business relationships, high-quality service and exceptional satellite communications give it the expertise and knowledge required for acting fast in difficult situations. Its culturally diverse regional teams are located around the globe to work closely with customers and they offer additional support to emergency.lu.

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The Hague | *The Netherlands*
Hilversum | *The Netherlands*
Istanbul | *Turkey*
Johannesburg | *South Africa*
Kiev | *Ukraine*
London | *UK*
Madrid | *Spain*
Mexico City | *Mexico*
Moscow | *Russia*
Munich | *Germany*
Paris | *France*
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