

Satellite Executive BRIEFING

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Industry Trends, News Analysis, Market Intelligence and Opportunities

The Broadcast Market for Satellite

by Elisabeth Tweedie

This year marked the centennial of the NAB show. From its humble beginnings in 1923 with just 23 attendees, who got together in New York to discuss the future of broadcasting – and at that time broadcasting was only radio - the NAB show has grown dramatically. It moved to its (so far) permanent home in Las Vegas in 1988. Previously, the show took place at various venues in the US including Washington DC, Chicago, Los Angeles, Atlantic City and Cleveland. From 1978-88 it rotated between Las Vegas and Dallas before “settling” in Las Vegas. This year, the centennial, there were 65,013



registered attendees from 166 countries. The highest ever attendance was recorded in 2008 with over 100,000 attendees.

To say that the industry has changed significantly in the last hundred years would be an understatement. In the words of Chris Brown, NAB, Vice President: “Think about how far the industry has come in that time, from a strictly audio medium to the introduction of moving images, to the dawn of film, TV, cable, satellite, streaming – and all the amazing technology that has driven those incredible advances. NAB has both been a reflection of those changes and a

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The Broadcast Market for Satellite



Following the 100th anniversary edition of the NAB show in Las Vegas, we report on the highlights of the show and delve into the continuing impact of the changes in and developments in the broadcasting segment on the satellite industry. Our Associate Editor, Elisabeth Tweedie provides a good overview of this subject in our cover story this month.

Also in this issue, Robert Bell writes on "How to Survive and Thrive in Video Distribution." Indeed, to paraphrase a well-known writer, the point is not just to survive, it's to thrive. These are challenging times we face. In times like these having access to vital information and analysis is key. At Satellite Markets and Research, we continually strive to provide independent analysis backed by research.

Enjoy this issue.

Virgil Labrador

Virgil Labrador
Editor-in-Chief

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EDITORIAL

Virgil Labrador

Editor-in-Chief

virgil@satellitemarkets.com

Peter I. Galace

Elisabeth Tweedie

Associate Editors

Contributing Editors:

North America:

Robert Bell,

Bruce Elbert, Dan Freyer,

Lou Zacharilla

Latin America:

Bernardo Schneiderman

Europe:

Martin Jarrold (London)

Omkar Nikam (Strassbourg)

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Bruce Elbert, President
Application Technology Strategy, L.L.C.

Office: +1 512 9430454
Mobile: +1 310 9181728
Fax: +1 512 9430455
Web: www.applicationstrategy.com
E-mail: bruce@applicationstrategy.com

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SYNTHESIS PUBLICATIONS LLC
1418 South Azusa Ave.
Suite # 4174
West Covina CA 91791 USA
Phone: +1-626-931-6395
Fax +1-425-969-2654
E-mail:
info@satellitemarkets.com
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Broadcast Market...**...from page 1**

catalyst for changes to come.” In that context it is worth while remembering just how long some technologies take to become mainstream. Streaming was first introduced at NAB 18 years ago.

Once the exclusive purvey of Netflix and Amazon Prime, streaming is now one of the several delivery methods used by the majority of content providers. But the nature of streaming itself is also changing. This was evident by the amount of attention given to the subject both on the show floor and in the sessions.

the viewer has no control over the content and can't fast-forward through the advertisements. So, is the industry going full-circle? Part of FAST's rapid growth, may be attributed to inflation. Understandably, widespread rising prices have an impact on consumers' discretionary spending so increasing the appeal of a free service. During one of the panels at NAB, the question of whether FAST had reached saturation point was discussed. There are now multiple FAST services, each offering hundreds of channels and Chris

a recently released report from Digital TV Research, “Global OTT TV and Video Forecasts” report, showed that advertising supported video-on-demand (AVoD) will grow twice as fast as (SVoD) by 2028, to reach a revenue total of US\$91 billion up from US\$41 billion last year. To be clear, AVoD differs from FAST, as the viewers choose when and what they want to watch. However, all is not doom and gloom for the rest of the OTT segment, the same report indicated that overall OTT revenues would grow to US\$235



Streaming is no longer simply an Over-the-top (OTT) service, with a lower monthly subscription fee than cable or direct-to-home (DTH) services. It comes in multiple varieties including free advertising supported TV (FAST). The latter is rapidly growing in popularity, particularly in the US. This in itself is interesting, as essentially FAST looks pretty much like over-the-air linear broadcast television, i.e.

Knight, President and CEO, Gusto (a cooking themed FAST channel) said that he believed “there will be a culling of the herd, in the next two years.”

This move away from subscription video-on-demand (SVoD) was reflected in the annual IABM Breakfast Briefing, where it was pointed out that for the first time since its introduction in January 2020, subscriptions to Disney + fell in the first quarter of this year. In a similar vein,

billion in 2028, up from US\$154 billion in 2022. Nevertheless, the major SVoD providers are doing what they can to cut costs. For example, it was reported at the end of last year that Netflix, is focusing on hiring junior rather than experienced staff, cutting real estate expenditure, and scaling back spending on cloud services and content. Earlier this year, Netflix cut subscription prices in over 30 countries, with some tiers being reduced by

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50% according to a report in the Wall Street Journal.

During the show FCC Chairwoman Jessica Rosenworcel, announced a new public-private partnership initiative, known as “The Future of TV.” The goal is to identify a roadmap for an orderly transition to ATSC 3.0, colloquially referred to as “NextGen TV”, to make the transition as smooth as possible for consumers. The initiative will be led by the National Association of Broadcasters. Current over-the-air (OTA) broadcasting utilizes the Advanced Television Systems Committee’s (ATSC) version 1.0. ATSC 2.0 was never launched and its advances have been incorporated into ATSC 3.0. This standard is a fundamental leap for OTA free broadcasts. It will enable 4K, HDR,

wide color gamut (WCG) and high frame rate (HFR), in other words it will elevate broadcast TV to the same quality level as the best OTT, cable and satellite services. According to NAB CEO, Curtis LeGeyt, over 60% of Americans are already in range of a NextGen TV signal. One of the major issues for consumers is that it will be necessary to acquire a new ATSC 3.0 compatible TV or set top box, which obviously imposes cost and accessibility challenges. It also has the potential to be delivered to mobile devices, that however will require the cooperation of the cellular industry, both operators and handset manufacturers.

As mentioned in my previous article about Satellite 2023, for the first time there were no conference sessions covering video. Similarly, at

NAB, there were no sessions focused on satellite. Satellite has definitely been diminishing in visibility at NAB for the last few years, although the major operators and many of the ground segment providers still exhibit. Some of the smaller companies that I spoke to, commented that it had been a relatively quiet show for them and were questioning whether they would exhibit next year. Nevertheless, the segment was not ignored. ST Engineering iDirect’s MCX8000 Multi-Carrier Satellite Gateway won the Hardware Infrastructure Product of the Year award. This award recognizes the most significant and promising new products and technologies showcased by exhibitors at the show. The IABM briefing highlighted that total cost of ownership (TCO) continues to be the



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number one purchasing driver for media companies. The MCX8000 was designed with this in mind. It brings together high density and high reliability to deliver a future-proof system that combines video and IP multi-service capabilities. This enables broadcasters to cater for every type of broadcast scenario including OTT and direct-to-home (DTH).

The other big news for the satellite industry was the announcement by Intelsat that it had signed an exclusive satellite deal with PBS, the US public service broadcaster, to distribute its programming to 156 PBS affiliates covering 50 million prime time viewers, across the nation. "As America's largest public media enterprise, PBS

trusts Intelsat to reliably deliver on their crucial mission of providing high-quality programming to their member stations across the continental United States," commented Pascale Fromont, Vice President and General Manager of Media for Intelsat. "With the addition of PBS to the Intelsat family, all major broadcasters in the

U.S. are utilizing the Intelsat fleet for content delivery." The Intelsat Galaxy fleet serves 123 million TV households in North America. So, whilst satellite may have taken a back seat at this year's show, this announcement coupled with ST Engineering iDirect's award, proves that the industry is as relevant as ever for content producers. 



Elisabeth Tweedie has over 20 years experience at the cutting edge of new communications entertainment technologies. She is the founder and President of Definitive Direction (www.definitivedirection.com), a consultancy that focuses on researching and evaluating the long-term potential for new ventures, initiating their development, and identifying and developing appropriate alliances. During her 10 years at Hughes Electronics, she worked on every acquisition and new business that the company considered during her time there. She can be reached at etweedie@definitivedirection.com

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Satellite's Starring Role in the Distribution of Movie Files

by **Dr. Henrik Axelsson**

It is only over the last 20 or so years that the movie industry has made the switch to digital, foregoing costly and cumbersome celluloid reels and hard drives for digitally projected films. In that time, the way that those movies files are distributed has advanced dramatically.

Today, content distribution networks – whether distributing independent releases or global blockbusters – have several options to ensure their digital files arrive at the theater in one piece. Satellite has established itself as the most efficient and cost-effective option, but for assured, faultless and reliable delivery, it needs to be accompanied by technology that is smart enough to resolve transmission errors.

Reeling back the costs

Aside from the cost – an average of \$2,000 per print – the celluloid reels that dominated much of the 20th century were flammable and posed a safety risk. Safer magnetic tapes were introduced but they too required time and effort for production and distri-

bution. The motion picture industry began converting to all-digital at the start of the 21st century. Now, virtually all of the world's 200,000 screens are digital.

Today, those screens typically show movies that have been sent digitally. This can be done by sending a hard disk drive to the theater with the movie or, assuming “last mile” fiber

credibly cost-ineffective and rapidly more expensive as more locations are added. The below graph gives illustrates the rising cost typical of a CDN network as the network grows:

Moreover, in emerging markets, regions with unforgiving terrain or economic barriers to deploying terrestrial networks, it becomes an even less feasible option. In some large markets that still do not have reliable and widely available terrestrial connectivity, Quality of Service (QoS) can be hard to guarantee, especially for live events.

Fortunately, there is a great alternative. Satellite has occasionally been considered as an expensive technology to cover the areas where terrestrial networks do not exist. However, that perception overlooks satellites's tremendous utility. Satellite connectivity can achieve very high bandwidth and data rates plus built-in redundancy makes such networks dependable, delivering constant connectivity. Satellite can be deployed without the same degree of capital expenditure that a terrestrial network will often demand. Operating expenditure is typically lower too and, perhaps most importantly, it is highly scalable.



links are in place, by transmitting the movie file over an internet network. This avoids the time and cost required to physically ship hard drives but does require a reliable, high-bandwidth network to be successful.

Terrestrial delivery networks like a CDN (Content Delivery Network) networks are one option. Yet as soon as cinema networks expand beyond around 400 theaters, it becomes in-



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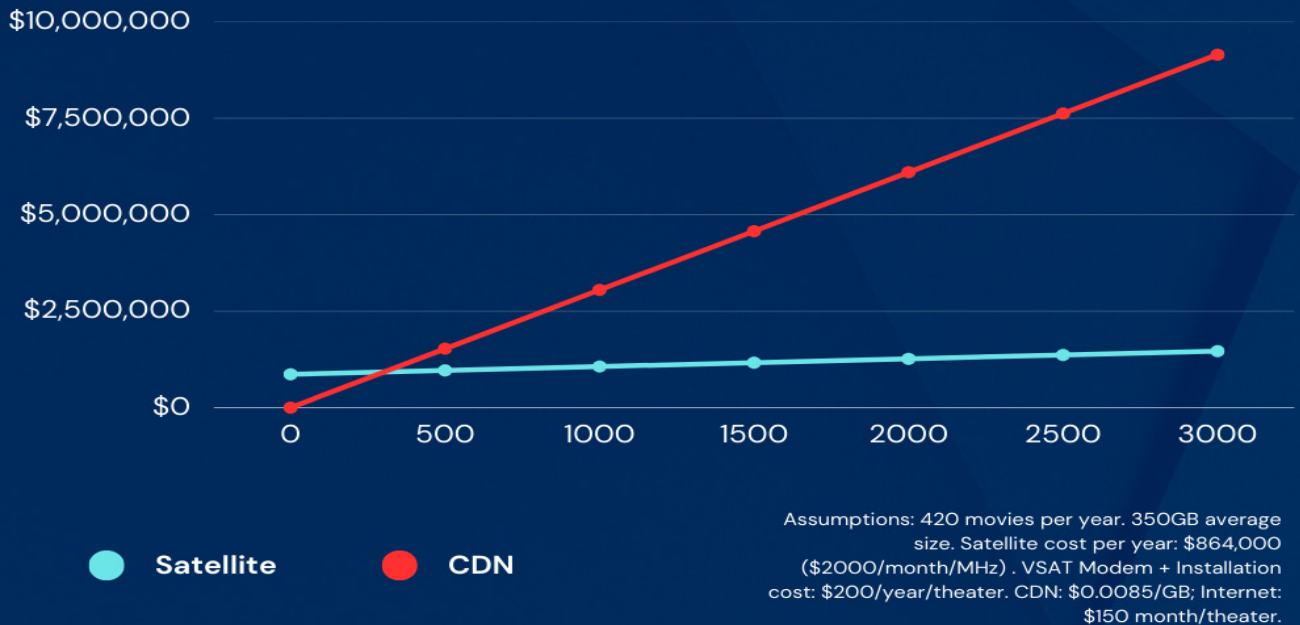


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SATELLITE VS. CDN COST COMPARISON



In fact, Howard Kiedaisch, the CEO of Digital Cinema Distribution Coalition (DCDC), which was founded by the heads of leading U.S. studios and exhibitors – including AMC Theatres, Cinemark Theatres, Regal Entertainment Group, Universal Pictures, and Warner Bros – recently remarked, “Though there is a lot of excitement about broadband solutions and talk of satellite distribution being an antiquated technology, it’s by far the most cost effective and reliable method to transmit our content at this time.”

Essentially, the cost doesn’t change depending on whether you’re reaching a few hundred to thousands of viewers with your movies.

Seamless Delivery Solutions

Satellite multicasting, from point to multiple points, is unparalleled in its ability to simultaneously reach a nearly unlimited number of geographically dispersed sites. It is not error-proof, however, as digitally transmitted files are always prone to delay, degradation and deletion. The likelihood of error increases significantly the larger the size of the file. Although the average film file size is about 250 gigabytes, there are many films over 1 terabyte. An incomplete or damaged file is unusable to cinema networks and content distributors who are dependent on assured, faultless delivery of their content.

To solve such errors on the fly, a mathematical concept utilizing algorithms to correct for errors was

developed. Although the math is complicated, the concept known as Forward Error Correction (FEC) is simple. It is possible to think of FEC like a Sudoku puzzle where if a user receives enough numbers, they can work out what is missing ones are. If an algorithm can solve for all the missing pieces, it can complete the entire file or stream. However, not all FEC operates in the same way and not all FEC technologies are equal. If you are a leading distributor of films to cinemas and want to stop sending content out on bulky hard drives and start sending with satellite multi-casting, the highest quality FEC will ensure the most reliable delivery of files the first time they are sent – despite errors that may have occurred during transmissions!

The better the algorithm, the higher the efficiency of error cor-

TECH BRIEFS

rection, the greater the reliability of delivery, the faster the speed for a complete transmission and the larger the cost savings on retransmissions. It is important to know which level of FEC your network uses.

Lights, camera, FEC in action

Apart from world-class FEC, custom workflows and functionality must be added to any digital cinema ecosystem to address the requirements of content distributors, including sending, scheduling, encryption, bandwidth and other delivery services. At the transmitting site, FEC and a sophisticated Content Management System monitors and actively optimizes network performance. At the theater side, a sophisticated appliance with specialized receive software resides in the projection booth with ample storage to accumulate dozens of films for playout. If the theater is interested in playing live sports, music or other events, a decoding device is needed to uncompress encoded or compressed video audio streams.

When all this comes together, a fully optimized digital cinema network can deliver theatrical content to thousands of theaters to millions of satisfied film goers. In the US, DCDC was tasked with finding such a solution. In 2012, it chose KenCast as their technology partner and, over a decade later, its leading technology supports DCDC's delivery of feature, promotional, pre-show and live content distribution into theaters throughout the network of 33,000 screens in over 3,000 cinemas.

In the Americas, from the tip of

"...As the digitization of cinema continues and file sizes grow through increasingly higher resolution standards, it's imperative for content distributors to ensure that their distribution methods harness the most advanced technologies on the market..."

South America to Alaska, KenCast's digital cinema solution, which caters to hybrid satellite-terrestrial networks, is installed in over 5,000 theaters. It also supports the fastest growing segment in cinema, live content such as sports, concerts and more.

As the digitization of cinema continues and file sizes grow through increasingly higher resolution standards, it's imperative for content distributors to ensure that their distribution methods harness the most

advanced technologies on the market. Field tested proven solutions allow exhibitors to focus on cultivating memorable experience for fans and provide operators invaluable peace of mind.

Despite a perception as a poorer performing and more costly alternative to terrestrial, when scaling a network for live events and feature film releases, it is clear that satellite is far more cost effective and offers superlative performance for many cinema networks.



Dr. Henrik Axelsson is the President of KenCast. Since joining KenCast in 2006, Henrik has held multiple roles within the company, including software development, operations, business development and management. As President, Henrik oversees the company's technology roadmaps, its daily operations as well as its marketing, business development and sales initiatives. In concert with the Board of Directors, Henrik charts the company's

strategic direction. For more information on KenCast, go to: www.kencast.com

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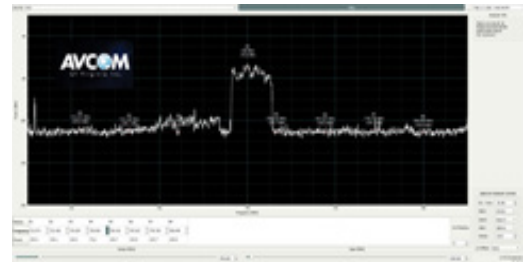
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Virtual Room Dialogues and Summit Analyses

by **Martin Jarrold**

The GVF webinar series will shortly enter into its fourth year. The 46th event in the series (not including additional online panels staged for inclusion in the virtual programs of major satellite industry events impacted by Covid-19 lockdowns and travel restrictions) will take place on Thursday, 25 May 2023 @ 3:00 pm UK time/10:00 am US Eastern time. ‘Connecting Antennas and Satellites: The Critical Link?’ will examine how satellite communications, in fulfilling unique business connectivity needs, presents solutions providers with significant network challenges.

These challenges necessitate that satellite network solutions companies provide products and services to ensure that satellite communications are efficient, secure, reliable and optimized for their intended purpose. The objective of this webinar is to examine in detail how solutions providers meet the complexities of these challenges and how their products and services are transforming as the antennas and modems on the ground and spacecraft in orbit are transforming. More details about this Zoomed dialogue will feature soon on <https://gvf.org/webinars/>.

In stark contrast to this topic, our 45th webinar was ‘all about the money’. Panelists from investment institutions, an established LEO satellite operator and a New Space start-up undertook a detailed examination of space sector investment, looking at ‘How to Access Capital in 2023’.

Moderated by Dara Panahy, Partner at the Transportation & Space Group of Milbank LLP – an interna-

tional law firm with decades of experience in the space industry – this webinar’s panelists – Akshay Patel, Managing Director, PJT Partners; Joakim Espeland, CEO, QuadSAT; Peter Kossakowski, Executive Director of Strategic Planning, Iridium; Noel Rimalovski, Managing Director, GH Partners – undertook a detailed examination of space sector investment.

The webinar began with an introductory overview looking at macro trends in terms of availability of capital



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and investments in the space sector – especially in the context of high interest rates and declining stock prices. Following the overview, panelists spoke to how today’s capital investors are increasingly focused on business fundamentals rather than just ideas and unproven technol-

ogies. The panelists went on to explore topics such as variations on the archetypal capital raising processes for space start-ups, key takeaways and lessons learned from SPAC vehicles and de-SPAC transactions, the nature of the effect on investor perceptions of the collapse of Silicon Valley Bank for the space industries, the impact of Virgin Orbit having filed for bankruptcy, and the role of strategic/corporate-linked investment funds such as Lockheed Martin Ventures, Airbus Ventures and the former Boeing HorizonX venture arm. You can watch the recording of this event in the GVF webinar archive at



The Critical Link?

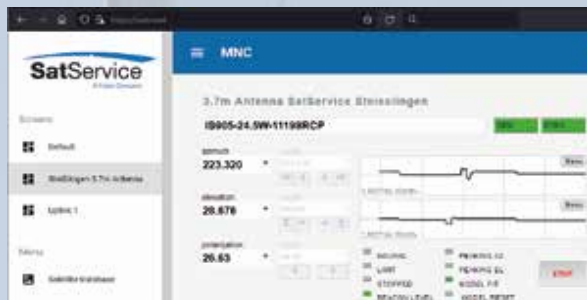
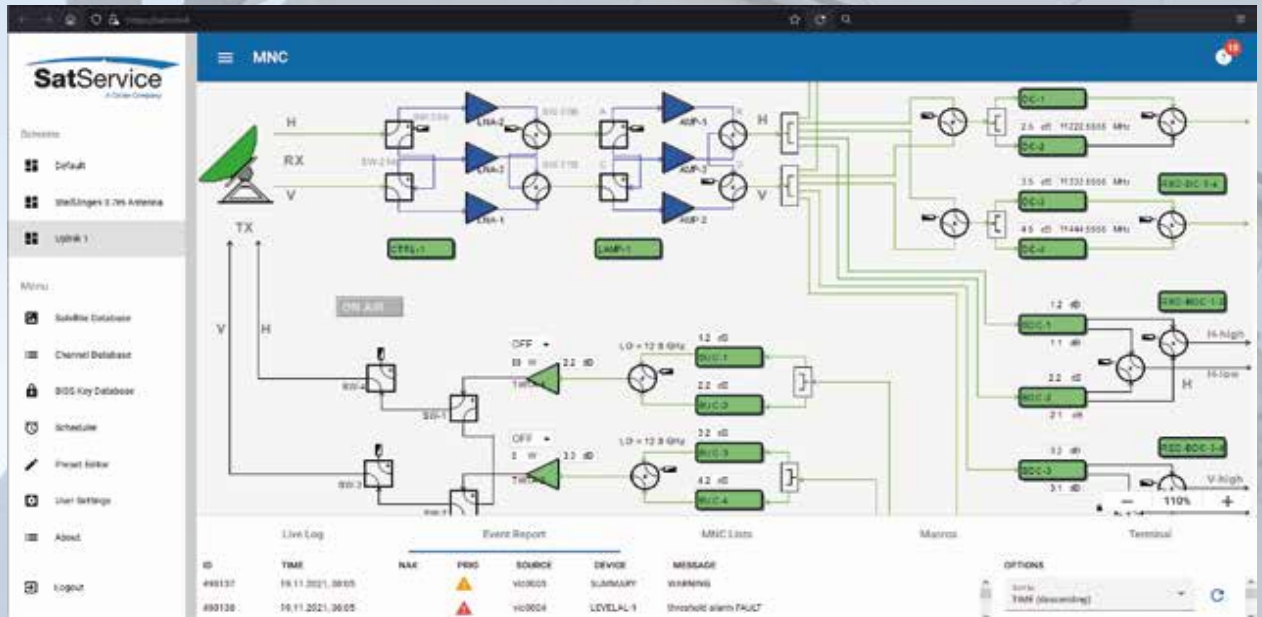
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<https://gvf.org/webinar/how-to-access-capital-in-2023/>.

Sandwiched between these two webinars is CABSAT 2023, 16-17 May. Providing exhibition attendees with a value-added and free to attend opportunity to listen to, and engage with, expert analysis of a range of topics high on the satellite industry agenda is the CABSAT 2023 SatExpo Summit, for which GVF will be providing content support on 16 May.

A total of four GVF panel sessions will explore the following themes:

Satellite & HAPS: Transformational Technology Disruption, Service Resilience

As I wrote in my previous column, the concept of disruptive evolution is central to the space and satellite industry lexicon and will be the focus of the panel discussion on the theme of satellite and HAPS in relation to 'Transformational Technology Disruption, Service Resilience'. Contributing to this dialogue will be Arabsat, Integrasys, Intelsat, and Quika (part of Talia); and I will moderate.

Arabsat will be represented by Dr Badr Nasser M. Alsuwaidan, Senior Vice President & Chief Technology Officer; Alvaro Sanchez, the Chief Executive Officer of Integrasys will also contribute; along with Greg Ewert, Vice President Strategy & Business Development at Intelsat; and Jack Buechler, Chief Commercial Officer at Quika (Talia).

Into the Blue: Flying and Sailing with Satcoms

This panel will also be moderated by me, and I will be joined by Hani El Arja, Vice President Connectivity Sales, MENA & Central Asia, Eutelsat; Abdulaziz Aldhaher, Country Director, ST Engineering iDirect; and Joakim Espeland, Chief Executive Officer, QuadSAT. The core theme here will be that when mobile aboard an aircraft, a ship, a train, or in a car we share in common the expectation that, no matter the location, there should be no limitation to broadband access to streaming, social media, and bandwidth hungry work applications. This session will investigate the space and ground segment evolution supporting today's expanding mobility markets.

The Digital Cloud in Orbit

Examining this topic, with me again moderating, will be representatives of Gilat Satellite Networks, Kratos, and SES. From Gilat we will have Gil Elizov, Vice President Products; from Kratos, Mark Lambert, Pres-

"...These challenges necessitate that satellite network solutions companies provide products and services to ensure that satellite communications are efficient, secure, reliable and optimized for their intended purpose...."

ident UK; and from SES, Sergy Mummert, Senior Vice President, Global Cloud Sales and Strategic Partnerships. The session will investigate all facets of the satellite business-Cloud interface, including virtualization and edge-computing. In the context of the 'network of networks', important questions are, "What is the nature of maximizing satellite's interoperability with telcos and MNOs?" and "Is the Cloud a monolith, or really a series of fragmented, siloed, and differentiated Cloud infrastructures?"

Connectivity: What the Underserved Want, What the Underserved Get

As moderator for this session exploring the long-standing challenges of the digital divide, we welcome Isabelle Mauro, the new Director General of GSOA. Comprising the panel will be Rhys Morgan, General Manager, EMEA Media and Networks Sales, Intelsat Ventures Sarl; Hamid Nawaz, General Manager, Enterprise & Cloud, MECA, SES; Rami Al-Wazani, System Design Engineer, SpaceBridge; and, James Trevelyan, Senior Vice President, Enterprise & Emerging Markets, Speedcast. There is not only a digital divide between developed nations and countries with generally poorly developed broadband capacities; but also, between well-served urban and suburban areas and underserved rural and remote regions. The satellite industry's ongoing objective of bridging these divides must be premised upon how our understanding of the true nature of the dynamics of the digital divide changing, because this is what drives the search for new initiatives to develop new solutions.



Martin Jarrold is Vice-President of International Program Development of GVF. He can be reached at: martin.jarrold@gvf.org



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The complexities and many paths to hiring a space qualified employee is revealed in an SSPI publication entitled, ‘Making Leaders – How to Recruit College and University Students’. This very useful read for space and satellite company HR personnel highlights the range of places and approaches for hiring and securing talent.



To quote from its introduction:

“...Most companies in the industry prefer to hire from a pool of experienced candidates typically poached from competing firms, according to SSPI’s 2016 workforce study Launch Failure. That has produced an age distribution in which those experienced workers ages 45-54 make up 42% of employees in the industry. It is a practice whose limits are clear. As one hiring manager told us, “We are all competing for the same talent, and there is only a limited amount of it to go around.”



“There is no question that it is easier to hire veterans than it is to create internships then hire, onboard and train graduate and undergraduate students.”

“In the long term, it is obvious that a fast-moving technology industry needs a steady influx of people with different experiences, new kinds of expertise and a fundamentally different outlook.”

It is to address such complexities in the recruitment environment that GVF and SSPI and SatProf partnered to develop SBQ the Space Business Qualified certification. SBQ is an additional and an invaluable tool in the HR toolbox, enabling mastery of the fundamentals of the business of space, filling a critical gap for people who are new to the space and satellite industry. Read more at www.spacebq.org.

How to Survive and Thrive in Video Distribution

By Robert Bell

The movie “Everything Everywhere All at Once” is not a documentary about the demands of media consumers around the globe. But it could be. The growth of streaming services throughout the last decade—accelerated by the global pandemic—has had a huge impact on the video distribution marketplace. And it’s not done yet.

More than 80 percent of U.S. households have at least one subscription streaming service, according to media research services firm MRI-Simmons. And the number of households using multiple services has reached more than 60 percent, according to Parks Associates.

In July 2022, Nielsen announced that streaming usage surpassed cable to claim the largest share of television viewing for the first time. Streaming represented a record 34.8% share of total television consumption in the US, while cable and broadcast came in at 34.4% and 21.6%, respectively.

While the streaming field is still dominated by established names like Netflix and Amazon Prime, the number of streaming services available to consumers continues to grow. Content owners are launching their own platforms and offerings from deep-pocketed technology companies such as Apple and Google are gain-

ing footholds. While many of these platforms provide just on-demand content, a growing number of services are moving into offering live TV and cable channels, too.

What does this mean for the teleport operators to which content owners outsource the distribution of their high-value product? It means

tribution Market – WTA asked its media-market members how the business had changed, what that change required of them, and what they think is ahead. They told us:

Ever-changing end-user demands are driving rapid change

Customers today need networks to deliver every form of content in every way to their end-users as markets evolve. As a result, technology solutions are multiplying, prices are declining and contract durations are shrinking. Customers demand the launch of new channels in a matter of days. The pressure is on to manage capex downward and match opex to revenue while driving innovation forward. Best quote: “They want things that weren’t available five years ago. And some of the things they want, they don’t even know, but they want the system to be flexible enough that it can deliver these in the future.”

Software is replacing hardware along the delivery chain.

Virtualization of hardware into software, and the rapid adoption of the cloud, are equipping operators to rise to the challenges of change. With this transformation, however, comes rising complexity in a market where transmission runs the gamut from satellite to CDNs to mobile networks.



adapting at a speed they could never have imagined two decades ago and re-engineering their businesses to reliably and profitably deliver everything everywhere, all at once.

In a recent report – It’s Alive! How Innovation Enables Teleport Success in a Changing Video Dis-

Best quote: “When we had physical assets, we could spend \$50,000 on a particular unit. Then you need to make sure you use it enough to justify the cost. Now, in the cloud, it’s pay-as-you-go. You can spin up or spin down the channels as needed. We used to have a lot of equipment for OU. Now we can pay as customers use them. It enables us to be more competitive in the market.”

The teleport workforce must adapt to new realities

The declining need for RF expertise is matched by exploding demand for IP and cloud skills. Engineers can find themselves stranded with administrative overhead to handle the cascade of change and need automation and reorganization to make the most of their skills again. Sales teams must learn to sell a broader range of capabilities and adapt to new customer demands at speed. Best quote: “They’ve had to learn. They’ve had to adapt and become proficient in all the latest and greatest technologies and platforms, including the public cloud. We’ve had to cross-train folks in engineering and cross-train in operations to stay efficient.”

Satellite will continue to deliver value but may compete more with ground segment


The one-to-many economic advantage of satellite will continue to deliver value in media. To capture that value, satellite operators will continue to verticalize their operations, potentially putting greater competitive pressure on teleports. But their success in

“...The one-to-many economic advantage of satellite will continue to deliver value in media. To capture that value, satellite operators will continue to verticalize their operations, potentially putting greater competitive pressure on teleports. But their success in this complex business is by no means assured....”

this complex business is by no means assured. Best quote: “Teleports need to adopt the right technology, have a good platform around it and use it in a dynamic fashion,” a technology provider executive said. “That’s what the satellite operators are doing, and if the teleport operators don’t do that, the satellites will take it over themselves.”

Predicting the future is getting harder

Some companies are engaged in sophisticated planning exercises trying to envision their market and services five and ten years into the future. For others, planning horizons are shrinking instead, as flexibility and agility become the keys to survival. Best quote:

“The evolution of broadcast delivery has changed how we manage our vendors, and how our vendors manage us. Sometimes, we provide the whole end-to-end solution. Sometimes, we are part of the end-to-end delivery. And sometimes, we are a small part—just the interface between larger parts of the ecosystem. But we are still part of a critical delivery mechanism.” 



Robert Bell is Executive Director of the World Teleport Association, which conducts research into the teleport and satellite industry and offers a Teleport Certification program to service providers. ***It’s Alive! How Innovation Enables Teleport Success in a Changing Video Distribution Market*** is available for free to members and for sale to non-members at <https://www.worldteleport.org/store/viewproduct.aspx?id=20925249>. He can be reached at:

rbell@worldteleport.org

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Gilat Signs Definitive Agreement to Acquire DataPath

Petah Tikva, Israel, March 9, 2023 - Gilat Satellite Networks Ltd. (Nasdaq: GILT, TASE: GILT), announced today that it has signed a definitive agreement to acquire DataPath, Inc. (DPI), which will be a core component of Gilat's Defense growth strategy. DataPath is a provider of trusted communications for the US DoD Military and Government sectors. The acquisition is another step in Gilat's initiative to increase its presence in the growing Defense market. Gilat expects its annual revenues in the Defense sector to increase by approximately US\$ 50 Million following the closing of the acquisition, accordinign to the company.

The transaction has been approved by the Gilat board of directors and by DataPath's board of directors and stockholder. The closing of the transaction is subject to certain regulatory approvals, including the receipt of clearance of the Committee on Foreign Investment in the United States (CFIUS), and other customary closing conditions. The acquisition is expected to close in the third quarter of 2023.

DataPath has more than 25 years of experience in integrated communications and information technology and is a market leader in trusted communications systems, services, and end-to-end solutions for mission-critical operations. DataPath is a US based

expert systems integrator with a strong focus on the DoD and US government sectors, bringing leading competencies in systems engineering, software development and mechanical engineering. These attributes have enabled DataPath to secure and maintain their continual presence in the provision and sustainment of SatCom systems, such as portable ground stations, and related services.

Needham & Company LLC and Quilty Analytics LLC are serving as financial advisors to Gilat. Natschitz Brandes Amir & Co. and Foley and Lardner LLP are acting as Gilat's legal counsel. RCBG is serving as an exclusive financial advisor to DataPath. DLA Piper LLP and Greenberg Traurig are acting as DataPath's legal counsel.


Voyager Space Acquires ZIN Technologies

London, UK, March 15, 2023 - Voyager Space, an American space technology company announced the acquisition of ZIN technologies Inc. (ZIN), an engineering, design and integration company providing human-related space-flight systems and monitoring solutions. This acquisition is part of Voyager Space's expansion of

space infrastructure and technology capabilities to further its Starlab development efforts.

ZIN provides systems and highly engineered solutions to multiple launch vehicles, low-Earth orbit infrastructure projects, and spacecraft, including the U.S. Space Shuttle, the MIR space station, the International Space Station (ISS), Dream Chaser, and Starlab. ZIN has participated in over 400 research activities on the ISS – including the development of microgravity research equipment, and supporting the human-rated structural monitoring systems for the Lunar Gateway under NASA's Artemis program.

ZIN has experience in the integration of complex space-rated hardware and the development of rendezvous, docking, and related capabilities. These solutions have direct applications to the Starlab space station and complement Voyager Space's portfolio of space infrastructure and technology capabilities.

"ZIN's aerospace expertise, strong reputation in the industry, and legacy working with NASA and the ISS, makes them a perfect fit for Starlab and the growing Voyager Space technology ecosystem," said Matthew Kuta, President and COO of Voyager Space. "ZIN has already played a crucial role as a capability provider to Starlab and as a founding leadership team member of the George Washington Carver (GWC) Science Park. We look forward to working with them further as part of the Voyager Space family." 

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President Sales in order to further expand its business in the MENA region. While maintaining his successful dubbing business through his company Magmedia, Simons will take charge of promoting the vast array of services offered by Nextologies.

The Canadian-headquartered broadcast solutions provider Nextologies Limited expanded into the Middle East in 2019 with the establishment of Nextologies FZ LLC in Dubai Media City. Under the leadership of Simons, Nextologies FZ LLC will continue building and offering proprietary video transport technology and OTT enablement services to this region, which has embraced next-level technologies and business models.

Simons has 25 years of operational media & satellite experience in the MENA region. He was part of the launch team in Showtime, launching offices throughout the MENA region, replicating the success for Orbit and contributing as part of the team that merged the two companies into what is OSN today. Simons then went to the Yahsat start-up in 2010, commercializing the broadcasting arm Yahlive and making it a hot-spot for the Yahlive East Beam.

Speaking about the partnership with Simons, Christian Morsanutto, Managing Director of Nextologies FZ LLC, explained, “We’ve known Magnus at Magmedia for years, and given his experience with the media leaders in the region, we know he is the right individual to help us grow our business and achieve our goals moving forward. The rapidly expanding media technology landscape in MENA will undergo major restructuring and growth over the next decade, making now the ideal time to create a

partnership to help lead that growth.”

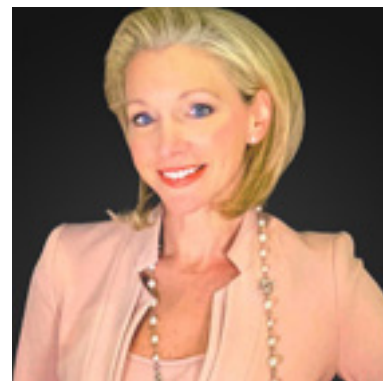
“Having followed Nextologies’ growth and development closely for the past 10 years, I am excited to partner with Nextologies to assist them in further taking their business to new heights,” says Simons. “This part of the industry is evolving rapidly, with broadcasters looking for efficient top-level technology. To this end, Nextologies, with its award-winning enterprise-grade broadcast and OTT solutions at significantly lower cost structures than its competitors, is uniquely positioned to take a big share of this segment.”

Nicole Robinson Joins Comtech’s Executive Leadership Team

Melville, N.Y. April 18, 2023 – (NASDAQ: CMTL) Comtech announced the appointment of space industry veteran **Nicole Robinson** as a Chief Strategy Officer. With nearly two decades of leadership experience in the space industry, Robinson brings deep expertise and differentiated knowledge across public, private, government, and commercial space sectors that are well aligned with Comtech’s strategic priorities and global growth trajectories.

Prior to joining Comtech, Robinson served as President of Ursa Space Systems, a leading satellite intelligence and data analytics provider, where she was responsible for taking the company from a start up to a scale up by accelerating growth globally while also optimizing operations. Previously, Robinson served as Senior Vice President of Global Government for SES,

In her position as a Chief Strategy Officer, Robinson will collaborate with



Nicole Robinson

Comtech’s Strategic Council to create and implement priority space business pursuits; oversee the development and implementation of new technologies; orchestrate global growth initiatives; and lead other priorities related to geospatial imagery and data as well as space communications in both U.S. and international markets.

Robinson has served in a variety of high-profile board and leadership positions including President of the Society of Satellite Professionals International, the largest professional organization in the space and satellite. Robinson also previously served two terms as Chair of the Hosted Payload Alliance and held positions at Washington Space Business Roundtable as well as other organizations. She was the recipient of the 2012 Future Leaders Award by the Society of Satellite Professionals International and is a member of “The FEW,” an invitation-only assembly of senior executive women.

Robinson completed her bachelor’s degree at Radford University, earned an MBA from Liberty University, and is a graduate of the Senior Executives in National and International Security Program at Harvard University, Kennedy School of Government.



Introducing **GENESIS** - the new series of Ku-band SSPAs and BUCs from Advantech Wireless Technologies.

GENESIS epitomizes the latest in hardware and software technologies, making it the most feature-rich satcom SSPA in the industry. Initially available in 200W, and 250W variants, GENESIS delivers a host of high-end features, including some that are unique to the **GENESIS** family:

- Secure SNMPv3 interface
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- Field-removable power supply and fans
- Forward and reflected power monitoring & true RMS power detection
- Device-level monitoring for detailed fault analysis and diagnostics
- Embedded logic to manage multi-amplifier redundant and phase-combined systems, negating the need for any external controllers.

Additional frequency bands and higher power levels based on the **GENESIS** platform will become available in the coming months.



Euroconsult Counts 2.6 Billion Remained Unconnected to Broadband at the End of 2022

Paris, France, April 12, 2023 - Internet usage has doubled in the past eight years, with an estimated 67% of the world population using broadband services in 2022, according to the world's leading authority on space and satellite-based applications markets, Euroconsult. From access to public services such as remote health advice to remote working and learning and the ability to communicate opinions and share information, universal connectivity has become an increasing priority for governments across the globe.

While international organizations are encouraging infrastructure development plans for broadband use and accessibility in unserved areas, some 2.6 billion people remain unconnected. In its latest report on Universal Broadband Access (UBA), Euroconsult mentions that the least-developed and landlocked developing countries are particularly lagging, with just over one-third of their populations connected to the internet. Asia Pacific and Sub-Saharan Africa alone hold 85% of the world's unconnected people, with a quarter located in India.

"With access to broadband services increasingly recognized by governments as a driver of economic growth, this represents a significant untapped opportunity for service providers, estimated at US\$ 74 billion in 2022," said Dimitri Buchs, Managing Consultant at Euroconsult and the Editor in Chief of their Universal Broadband Access report.

Mobile Internet has been the primary growth driver for network expansion and Internet subscriptions in recent years. However, despite mobile network avail-

ability to over 95% of the world's population, at least in the form of 3G, service affordability and lack of digital skills are yet to be fully addressed. This has created an "adoption gap" - people do not use Internet services even when coverage exists where they reside. In 2022 only 100+ countries met international broadband affordability targets.

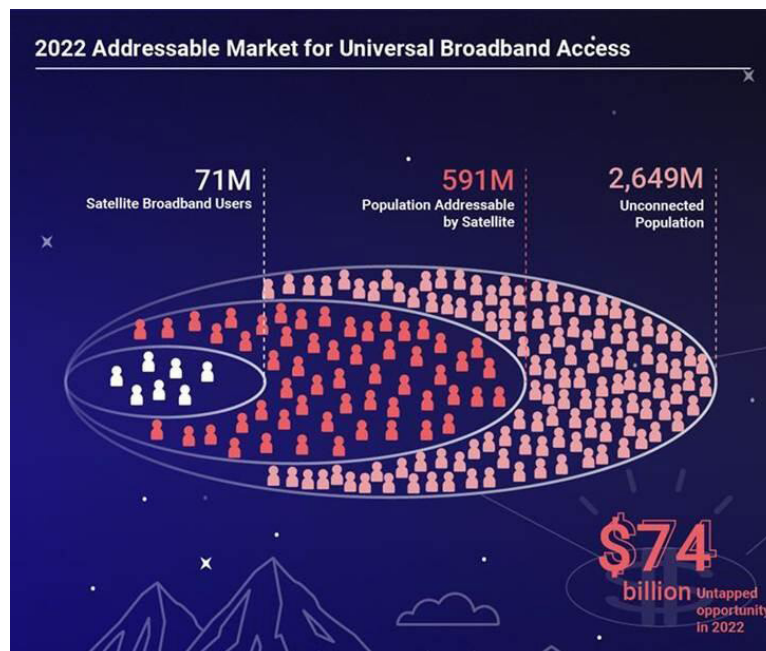
"This highlights the need for government and commercial initiatives to refocus efforts to close the digital divide beyond the expansion of coverage. We anticipate that at least one billion people, mainly those living in extreme poverty and uninterested in accessing internet services, will remain off the grid by the early 2030s," said Dimitri Buchs.

More notably, however, governments and international organizations are shifting their focus towards 'meaningful connectivity' - a combination of sufficient download speeds and data allowances with an adequate device and frequent access to the Internet.

Governments are adopting multiple strategies to expand and secure meaningful connectivity for all, turning to satellite

as the more cost-effective option for low-density areas where terrestrial network deployments are not economically feasible. Today, three main satellite solutions are used to address the universal access broadband market: consumer-grade broadband, cellular backhaul, and rural connectivity.

According to Euroconsult's report, the addressable market for satellite solutions reached 591 million people in 2022, with 71 million people connected to satellite broadband services at the end of the year, a number



expected to more than double in 2031 to reach over 150 million users. Consumer broadband is currently the dominant satellite option in advanced economies, while cellular backhaul is the most frequently used option in emerging markets, mainly due to the lower cost of services for end-users.

The rollout of satellite constellations and next-generation high-throughput satellites (HTS) planned in the coming years will be crucial in helping reduce the digital divide, enabling satellite services to offer increasingly affordable entry-level satellite services. Upcoming HTS services will also provide ‘better quality’ packages to users through unlimited plans and higher data rates.

Other opportunities exist for satellite services to expand their addressable market in the coming years. These include vehicles in motion like RVs, such as Starlink Roam service, and the direct-to-device (D2D) market. The D2D satellite service landscape is particularly gaining momentum, supported by new regulations - like the FCC rule-making - and new 5G standards (through 3GPP) to integrate satellites into terrestrial networks more seamlessly.

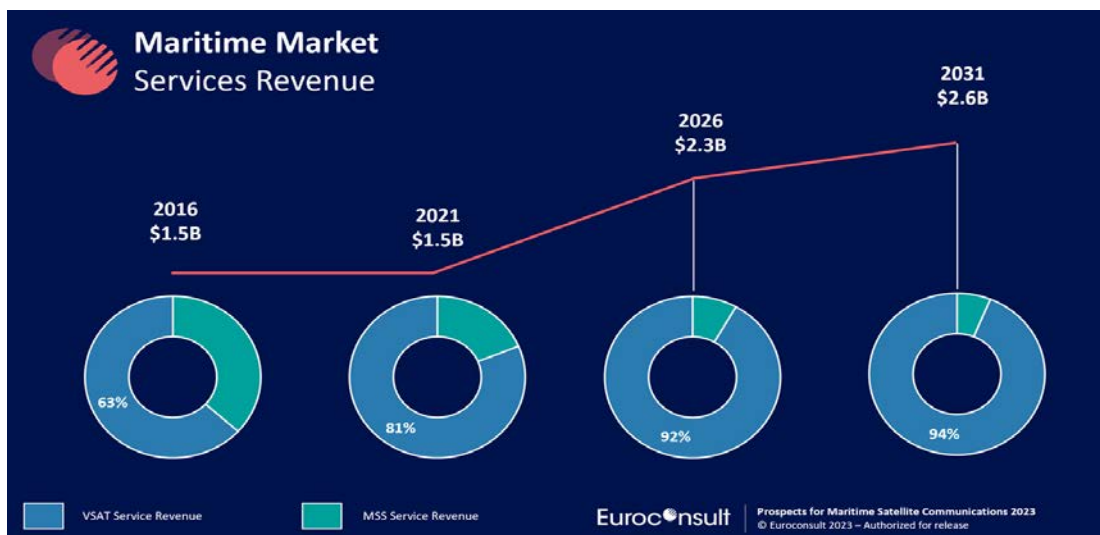
Euroconsult’s latest ‘Universal Broadband Access’ report is out now, providing detailed insights into the three satellite connectivity segments and the effects of satellite constellation services on the UBA market.

Universal Broadband Access - A Complete Analysis & Forecast of the Satellite Universal Broadband Access

Market (April 2023) is the second UBA report from Euroconsult offering a complete analysis and forecast of the satellite broadband market. It includes a detailed discussion of the addressable markets, a strategic analysis of the economics and opportunities, a comprehensive market assessment, and a market forecast through 2031 with trends and forecasts broken down by region and vertical market. Premium content is also available with detail on key macroeconomic indicators by country, detail on the number of satellite terminals installed by country, including consumer broadband subscribers, number of Wi-Fi hotspots, and number of cellular backhaul sites, addressable market for satellite forecasts by region, and a satellite universal broadband projects database.

The Euroconsult Group is the leading global strategy consulting and market intelligence firm specialized in the space sector and satellite enabled verticals. Privately owned and fully independent, we have forty years of experience providing first-class strategic consulting, developing comprehensive market intelligence programs, organizing executive-level annual summits and training programs for the satellite industry. The Euroconsult Group is trusted by 1,200 clients in over 60 countries and is headquartered in France, with offices in the U.S., Canada, Japan, Singapore, and Australia. For more information go to: www.euroconsult-ec.com.

VITAL STATS



According to Euroconsult’s forecasts, maritime satellite communication operators are expected to surpass US \$1.1 billion in revenues by 2032 at a 7% CAGR over the decade.

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