TELETIMES MEDIA LLC

INTERNATIONAL teletimes

Issue 201
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2022

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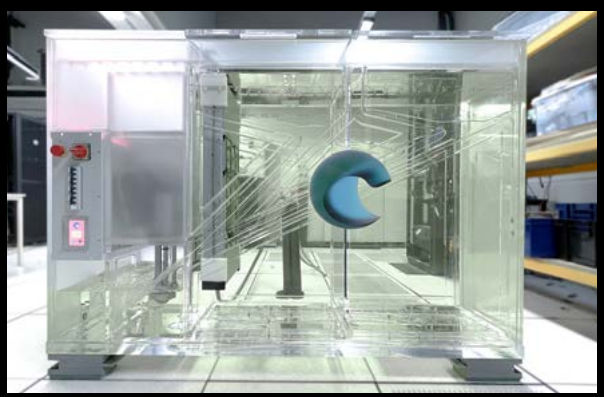

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teletimes INTERNATIONAL

Vol: 17 Issue: 06 May 2022 ABC Certified

17th year of publication

www.teletimesinternational.com
info@teletimesinternational.com

Recipient of

"MEA Business Award 2021
for Best Telecom Publication"
"Best IT & Telecoms News Outlet Award 2020"
"International Arch of Europe Award for Quality"
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	US$	AED	SAR	PKR	€	GBP
Price per copy	8	25	25	300	7	5
One year	80	250	250	3600	70	50

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Marketing Coordinator - Imran Rasheed

Printer: Khursheed Printers (Pvt) Ltd.

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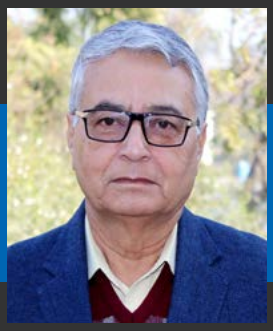
Editor's Note



Dear Readers,

Welcome to the latest edition of Teletimes.

The month of May brings our attention to SAMENA Telecom Council's flagship event, the SAMENA Telecom Leaders' Summit which is taking place in person on May 9 at the Atlantis - the Palm, Dubai. The event will return to its physical format after a gap of two years during which the event was held virtually. The event is being supported by Huawei and will take place under the patronage of TDRA UAE, and strategic support of the stc Group and Zain Group. The Leaders' Summit 2022 will bring together Chairmen and CEOs from the private sector side by side with the top decision-makers from regulatory authorities, global policy bodies and institutions. You will find an interview with Bocar BA, CEO of SAMENA Council who talks about SAMENA's role in the ICT space and the upcoming Leader's Summit.

In this edition you will also find a special feature in English and Arabic on stc's participation in Capacity ME, Dubai.

We are also looking forward to another major event towards the second half of May. CABSAT 2022 will bring together the leading satellite players once again in Dubai. As a media partner to the event, we will be participating at CABSAT along with our editorial team and look forward to meeting our partners and contributors over there.

As always, you will find the latest news and updates from all major players including key interviews with leaders from Huawei, Hughes, SpaceBridge and Es'hailsat.

Your feedback is welcome on info@teletimesinternational.com

Enjoy Reading!

Khalid Athar
Chief Editor

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Capacity ME brings together world's tech giants; stc signs global agreements

World's top mobile operators met at the Capacity Middle East Conference in Dubai to exchange experiences, discuss opportunities for cable environment improvement, and discuss possible future cooperation projects and opportunities for international expansion in the mobile industry. During the conference, the regional ICT giants introduced the latest technologies in the cloud services, content, digital infrastructure, software, data center and technology industries.

As a Saudi enabler and a diamond sponsor of this event, stc stands out as a leader in digital infrastructure development in the Kingdom of Saudi Arabia and the wider Middle East. Under its "dare" strategy that focuses on expanding selected digital and basic services, developing digital thinking and analytical capabilities, adopting new work methodologies, providing smooth, personalized, and safe customer experience, the company seeks to be the regional trusted partner, a role model for sustainability and corporate governance and a leader for cultural change at the company level. Pursuing its objective of

connecting markets through pioneering next-generation technologies, stc presented (MENA Hub); a pioneering project that brings three continents of the world together, taking advantage of the strategic location of the Kingdom. The project was launched earlier by stc in cooperation with regional and international partners with an estimated investment of one billion dollars. With the aim to promote investment in better digital infrastructure, international communication services and data centers, the project was designed to provide highly efficient cables that meet the future requirements of cloud services and develop a fiber-optic grid that ensures uninterrupted services and enables economy and GDP growth.

During the conference, stc highlighted its expansion in data centers in the region through panels attended by Eng. Mohammed Al-Abbadi, CWO of Carriers and Operators. Eng. Al-Abbadi underlined the stc's strategy to expand data centers to meet the needs of its customers and provide solutions and services that help localize technology, improve customer experience, raise the speed and efficiency of international connectivity and communications to develop the carrier and operator sector. During the panels, Adil Alaskah, International Cable Management GM, stc and Rayan Alsaedi, Global Infrastructure Development Director, stc highlighted the importance of submarine cables and the services they would provide after the completion of the projects.

stc signed many agreements with major telecommunications and

"stc provides the capacities and speed connectivity required for telecom service providers, international operators and the international business sector"

Eng. Mohammed Al-Abbadi
Chief Wholesale Officer - stc

stc signed multiple agreements with major telecommunications and technology companies during The Capacity Middle East Conference in Dubai

technology companies. It agreed with China Telecom Global to complete equipping the new point of presence (PoP) at the Middle East gateway in Jeddah, which will serve as a one-stop station for interconnection solutions with China. The group also announced its cooperation with London Internet Exchange (LINX) to expand JEDIX's range of new Internet Exchange Points (IXPs) in Riyadh and Dammam, to complete its initial collaboration, JEDIX, which was launched in Jeddah in 2018. stc will also extend its partnership with Virgin Mobile Saudi Arabia to provide mobile virtual network operator (MVNO) services for a number of years, which expands their valuable partnership on new terms in line with the dynamics of the telecom market.

In an interview with Eng. Mohammed Al-Abbadi, he confirmed that stc was keen to participate in the Capacity Middle East Conference as the largest digital enabler in the region. stc provides the capacities and speed connectivity required for telecom service providers, international operators and the international business sector. stc invested in digital infrastructure, developing a highly efficient network of international cables, which enable it to apply the fast response principle which is aligned with Vision 2030 that aims for more digitization in the Saudi market. stc invests in data centers to develop local content and digital transformation and provides digital solutions with the aim of developing world-class cloud solutions.

These efforts underscore the Kingdom's leadership in the communication and information technology sector across the region as well as the great capabilities that stc has as a leading national company and a digital enabler in the Middle East. T

مؤتمر Capacity للشرق الأوسط يجمع كبرى شركات التقنية في العالم وstc توقع اتفاقيات عالمية

اجتمعت كبرى شركات النواقل والمشغلين في منطقة الشرق الأوسط والعالم في مؤتمر capacity للشرق الأوسط في دبي، لتبادل الخبرات وبحث فرص تحسين بيئة الكابلات ومناقشة مشاريع التعاون المستقبلية الممكنة وفرص التوسع الدولي في مجال النواقل. وقدمت هذه الشركات تكنولوجيا المعلومات والاتصالات الرئيسيين في المنطقة أحدث التقنيات في الخدمات السحابية والمحتوى والبنية التحتية الرقمية والبرمجيات ومركز البيانات والصناعات التكنولوجية.

وانطلاقا من استراتيجية stc "تجرأ" والتي تتمحور حول التوسع في محاور النمو المختارة من الخدمات الرقمية والأساسية، وغرس الفكر الرقمي تنمية القدرات الرقمية والتحليلية، وتبني طرق ومنهجيات جديدة للعمل، وتشويق العملاء بتجربة سلسة، ذات طابع شخصي وآمن وأن تكون الشريك الموثوق للأعمال في المنطقة، والسعي نحو ربط الأسواق التي تعمل فيها من خلال تقنيات الجيل القادم الرائدة ومن أن تكون قدوة للاستدامة و حوكمة الشركات وقائدة للتغيير الثقافي على مستوى الشركة.

وانطلاقاً من الدور الريادي لتطوير البنية التحتية الرقمية في المملكة العربية السعودية ومنطقة الشرق الأوسط برزت stc الممكن الرقمي السعودي في المنطقة، والراعي الماسي لهذا الحدث، عبر عرض مشروعها الرائد في ربط قارات العالم الثلاث (MENA Hub) التي أعلنت المجموعة في وقت سابق عن استثمارها في هذا المشروع الذي يقدر بمليار دولار بالتعاون مع مجموعة من الشركاء الإقليميين والدوليين مستفيدة من الموقع الاستراتيجي للمملكة، والتي تعزز من خلاله الاستثمار في تحسين البنية التحتية الرقمية وخدمات الاتصال الدولي ومراكز البيانات عبر تركيب كابلات عالية الكفاءة تلبي المتطلبات المستقبلية للخدمات السحابية، وتطوير شبكة ألياف بصرية تضمن توافر الخدمة بشكل مستمر لتمكين النمو في اقتصاد المملكة والناتج المحلي الإجمالي.

خلال المؤتمر، سلطت stc الضوء على توسعها في مراكز البيانات بالمنطقة عبر جلسة حوارية شارك فيها المهندس محمد العبادي الرئيس التنفيذي لقطاع النواقل والمشغلين حيث القى الضوء على استراتيجية الشركة للتوسع بمراكز البيانات لتلبية احتياجات عملائها وتقديم مجموعة من الحلول والخدمات التي تساهم في توطين المحتوى المحلى، تحسين تجربة العميل، رفع سرعة وكفاءة الربط والاتصال الدولي لتطوير قطاع النواقل والمشغلين. بينما سلط الأستاذ عادل الاصفه، المدير العام لإدارة الكابلات الدولية والأستاذ ريان الصاعدي، مدير إدارة تطوير البنية التحتية لأنظمة الكوابل الدولية الضوء، خلال جلساتهم الحوارية على أهمية الكابلات البحرية والخدمات التي تقدمها بعد انهاء المشاريع.

ووقعت stc العديد من الاتفاقيات مع كبرى شركات الاتصالات والتقنية، حيث اتفقت stc وشركة China Telecom على اكمال تجهيز نقطة التواجد الجديدة في بوابة الشرق الأوسط بمدينة جدة التي ستوفر تقديم جميع حلول الربط البيني مع الصين تحت سقف واحد. كما اعلنت المجموعة عن تعاونها مع شركة London Internet Exchange (LINX) لتوسع نطاق JEDIX نقاط تبادل الإنترنت الجديدة (IXPs) في الرياض والدمام. وذلك استكمالا لمشروعها التعاوني الأولي JEDIX الذي تم إطلاقه في عام 2018 في جدة.
كما ستمدد stc شراكتها مع شركة فيرجن موبايل السعودية للعمل على توفير خدمات الشبكة الافتراضية المحمولة (MVNO) ممتد لعدد من السنوات، مما يوسع شراكتهما القيمة بشروط جديدة تتماشى مع ديناميكيات سوق الاتصالات.

وفي حديث مع المهندس محمد العبادي الرئيس التنفيذي لقطاع النواقل والمشغلين في stc أكد حرص stc على مشاركتها في مؤتمر السعات للشرق الأوسط للدور البارز الذي تقوم به المجموعة كأكبر ممكن رقمي في المنطقة، إذ توفر stc السعات والسرعات اللازمة لمزودي خدمات الاتصالات والمشغلين الدوليين وقطاع الأعمال الدولي، حيث استثمرت stc في تعزيز البنية التحتية الرقمية وتطوير شبكة عالية الكفاءة من الكابلات الدولية، ما يجعلها قادرة على تلبية تطبيق مبدأ التلبية السريعة والذي ينسجم مع رؤية 2030 المتمثلة في زيادة الرقمنة في السوق السعودية. وتستثمر stc في مراكز البيانات لتطوير المحتوى المحلي والتحول الرقمي وتعد مساهمتها في توفير الحلول الرقمية بهدف تطوير حلول الحوسبة السحابية ذات المستوى العالمي."

وتأتي هذه الجهود كتأكيد لريادة المملكة العربية السعودية بقطاع الاتصالات وتقنية المعلومات بالمنطقة والامكانيات الكبيرة التي تمتلكها stc كشركة وطنية رائدة وممكن رقمي بمنطقة الشرق الأوسط.T

Reshaping ICT paradigms to balance business and social value

Ahead of the SAMENA Council Leaders' Summit 2022, Teletimes International catches up with ***Steven Yi, President of Huawei Middle East,*** *to examine emerging opportunities in the digital economy—and how these are leading to new business and social value creation*

Teletimes Interview

Question: Thriving in a 'new realm of opportunity' is a key theme for the upcoming SAMENA Council Leaders' Summit 2022, to which Huawei has been a host partner for nearly a decade. How has Huawei specifically performed over the last year as the region entered this new post-pandemic realm of opportunity?

Answer: In 2021, Huawei maintained a solid financial position and our operating results were in line with our forecast. Huawei's net profits hit a record high and the company maintained a sound financial position, enabling it to continue to make future-oriented investments and navigate market uncertainties.

Importantly, Huawei's workforce, financial, and business operations all remain stable. Huawei's main business in ICT infrastructure is sound while new business segments like digital power and cloud are growing rapidly. Our ecosystem development in these fields has truly entered the fast lane.

One reason we are positive about this new realm of opportunity is because Huawei has maintained heavy investments in R&D and innovation. In 2021, our R&D expenses in absolute amount terms and as a percentage of revenue both hit a 10-year high. Huawei now has one of the largest patent portfolios in the world. By the end of 2021, Huawei also had about 107,000 R&D employees, representing nearly 55% of our total workforce.

If we look at the Middle East region specifically, we see a realm of opportunity to apply these technological capabilities. Innovations in 5G, cloud, AI, and other fields are pushing the region's digital economy into a new phase of development. The Middle East is ahead of many other regions in this respect. Because of the fast roll-out of 5G, for example, many countries in the region serve as a real proof point of how technology can help to advance the development of all sectors.

We must continue to bring technological advances to even more industries and create new value by helping governments and enterprises go digital while operating more intelligently. The task ahead is about ensuring all people benefit from

technological progress.

Q: On that point about sustainable growth, how do you see the issue of carbon neutrality being addressed from within the ICT sector? Is this a priority for Huawei in the region?

A: Sustainability certainly remains a significant theme for Huawei. We have already embraced digitalization and carbon neutrality as priorities within our strategic roadmap. As one testament to that, more than 100 countries worldwide have already deployed Huawei's low-carbon site solutions, helping operators reduce carbon dioxide emissions by 40 million tons.

We are strong supporters of the Middle East's green ambitions and the latest strategies of countries like the UAE, Saudi Arabia, and others to move towards carbon neutrality. Many of our partners across the technology landscape also desire to participate in climate change action. This movement involves innovating green low-carbon networks and data centers while promoting clean energy development.

Innovations in 5G, Cloud, AI, and other fields are pushing the region's digital economy into a new phase of development. The Middle East is ahead of many other regions in this respect

We are doing this today through Huawei Digital Power including many strategic projects in the Middle East. We see the Middle East region and the Gulf specifically as one of strategic importance to the company as we contribute to a low-carbon, smarter society powered by digital technologies.

Huawei Digital Power looks at five areas of business: Smart PV, data center facilities, mPower for electric vehicles, site power, and integrated energy solutions. While we will cooperate with businesses in all of the previously mentioned five domains, we believe that Smart PV and data center facilities are particularly important in 2022.

Moreover, we see an opportunity to support telecom carriers to optimize energy. This is done by building energy-efficient sites, networks, and operations. This helps them to reduce their carbon footprint while lowering energy expenses to meet their cost reduction goals. This is the essence of our "More Bits, Less Watts" strategy.

As an organization, Huawei has further committed to making its products 2.7 times more energy efficient by making breakthroughs in areas like theories, materials, and algorithms. Through advances like these, the ICT industry can help other industries reduce their own carbon footprints. In fact, this reduction will be 10 times larger than the carbon footprint of the ICT industry itself.

Q: The continued migration to cloud seems to be supporting regional operators and enterprises to be more sustainable and more competitive. Huawei has already confirmed expanding its own cloud regions. What other cloud plans does Huawei have lined up in 2022?

A: Across the region, we are deeply engaged in digitalization as a service—whether that is offering infrastructure, technology, or expertise in a cloud-based model. We call this 'Everything as a Service'. We have seen firsthand cloud's integral role in accelerating the region's digital transformation and inspiring innovation across industries.

Today, our HUAWEI CLOUD offerings help enterprises to minimize the carbon footprint from their IT infrastructure, speed up the development of new apps and business processes, and enable them to innovate faster in a digital economy. To build this cloud infrastructure, we see four essential elements: technology, economic alignment, a talent ecosystem, and digital sovereignty. We are working with governments and local partners to strengthen these foundations.

Using the telecom industry as just one example, the HUAWEI CLOUD now provides carriers with deployment modes built on cloud-native distributed architecture and multiple sales models.

Moreover, HUAWEI CLOUD is committed to growing with partners throughout the Middle East. Last year, for example, we announced investing USD15 million in the Middle East HUAWEI CLOUD Oasis program to assist 3,000 experts, support over 1,500 consulting and technical partners, and empower more than 100 SMEs to develop their cloud capabilities. Our HUAWEI CLOUD Spark program is another example of an initiative to support local start-ups in building their cloud capabilities.

Regarding cloud regions, we already have a cloud region based in the UAE. Earlier this year, we announced that a new cloud region will be established in Saudi Arabia. Our intention with all such investments is to allow more businesses and governments in the Middle East to have access to our cloud services. In the Middle East, HUAWEI CLOUD now offers more than 220 services, 19 data centers, over 200 local partners, and a growing list of more than 80 marketplace offerings.

Q: The maturity of the region's 5G ecosystem will no doubt help organizations to capitalize on other solutions in cloud, AI, and so on. How do you foresee 5G projects evolving in the region today?

A: We've seen that telecom operators who have invested early in 5G ha ve

achieved significant payoffs in terms of faster revenue growth and their ability to create new revenue streams through industry-specific 5G applications. This is really the next chapter of 5G, defined in part by the integration of technologies like 5G, cloud, and AI to benefit vertical industries.

Working with industry partners like 3GPP, GSMA, and others, we are contributing to the evolution of what is called the 5GtoB ecosystem. By further developing 5G standards and harmonizing spectrum, for instance, industries will find it easier and faster to embrace 5G. As a result, we anticipate investments in 5G infrastructure and applications to continue rising in 2022.

Q: Will this be the year that businesses ramp up their use of 5G applications?

A: Most definitely. Carriers are moving into exciting territory with scenario-specific business applications. Since the pandemic, industry digitization and online business have gained strong momentum.

By working with carriers and partners, Huawei has signed more than 3,000 commercial contracts for industrial 5G applications globally. These kinds of 5G applications are currently seeing large-scale commercial use in sectors like manufacturing, mines, iron & steel plants, ports, and hospitals. In our case, Huawei's 5G solutions for industries have been replicated at scale across eight typical application scenarios, including remote equipment control, data collection, and product quality inspection.

At the same time, carriers have the opportunity to innovate faster and extract more revenue from their 5G infrastructure. In the Middle East in particular, service providers are in an excellent position to meet customers' demands for HD video and gaming, as well as new AR and VR applications.

All of this comes as governments in the Middle East recognize digital transformation as a driving force behind their national development visions.

Q: Some say managing these applications has been a struggle due to a lack of digital talent. Would you agree? If so, what needs to be done to accelerate digital talent development?

A: In a digital economy, talent is the key to social transformation and economic growth. This includes specialized digital skills but also a broader literacy of the role of technology in the modern world. In one recent survey by PwC of CEOs in the Middle East, 70% of business leaders said the shortage of essential digital skills is actually a business threat.

As an organization, Huawei has further committed to making its products 2.7 times more energy efficient by making breakthroughs in areas like theories, materials, and algorithms

In the Middle East, this knowledge is crucial as nations rapidly upgrade their ICT infrastructure, seek foreign investment in local ICT ecosystems, and work to create future employment opportunities for their large youth populations. As part of the region's post-oil economic growth plan, regional universities have already started to produce highly-talented computer scientists, AI experts, and those in associated professions. Nevertheless, the collaboration between universities, governments, and private industries must continue to be strengthened—particularly as countries encourage more national talent to pursue jobs in the private sector.

Since 2008, Huawei has launched and sponsored multiple talent development programs and competitions at the global, regional, and country levels. We have already invested more than USD150 million into these programs as part of our commitment to local ICT talent development, and 1.54 million people from over 150 countries have benefited from them. Last year, Huawei announced its Seeds for the Future Program 2.0. As part of this program, we will invest another USD150 million in digital talent development over the next five years and we expect this effort to benefit more than three million additional people.

Q: In closing, if we draw back to look at the digital economy as a whole, what opportunities do you hope Huawei will capitalize on in the region over the coming months?

A: I think we've touched on many of these opportunities already, whether in 5G industry applications, the expansion of Everything as a Service, or digital power.

As such, I'd like to stress that we must all remember not to leave anyone behind in an increasingly digital world. The ICT industry today really is a catalyst for the achievement of the UN SDGs. It is why we say that if you want to walk fast, walk alone. But if you want to walk far, we must all walk together.

It is why at Huawei we have launched initiatives like TECH4ALL, through which we run projects together with our partners to make technology more inclusive by investing in local applications, skills, and knowledge-sharing platforms. We are working with its partners like UNESCO, for instance, to provide people in different regions with equal access to high-quality online education. We also support an inclusive ICT ecosystem through other global programs such as our Huawei ICT Academies, our Huawei Cloud Spark program, our Seeds for the Future CSR initiative, and many others.

The goal of all of this is to bring digital to every person, home, and organization for a fully connected, intelligent world. T

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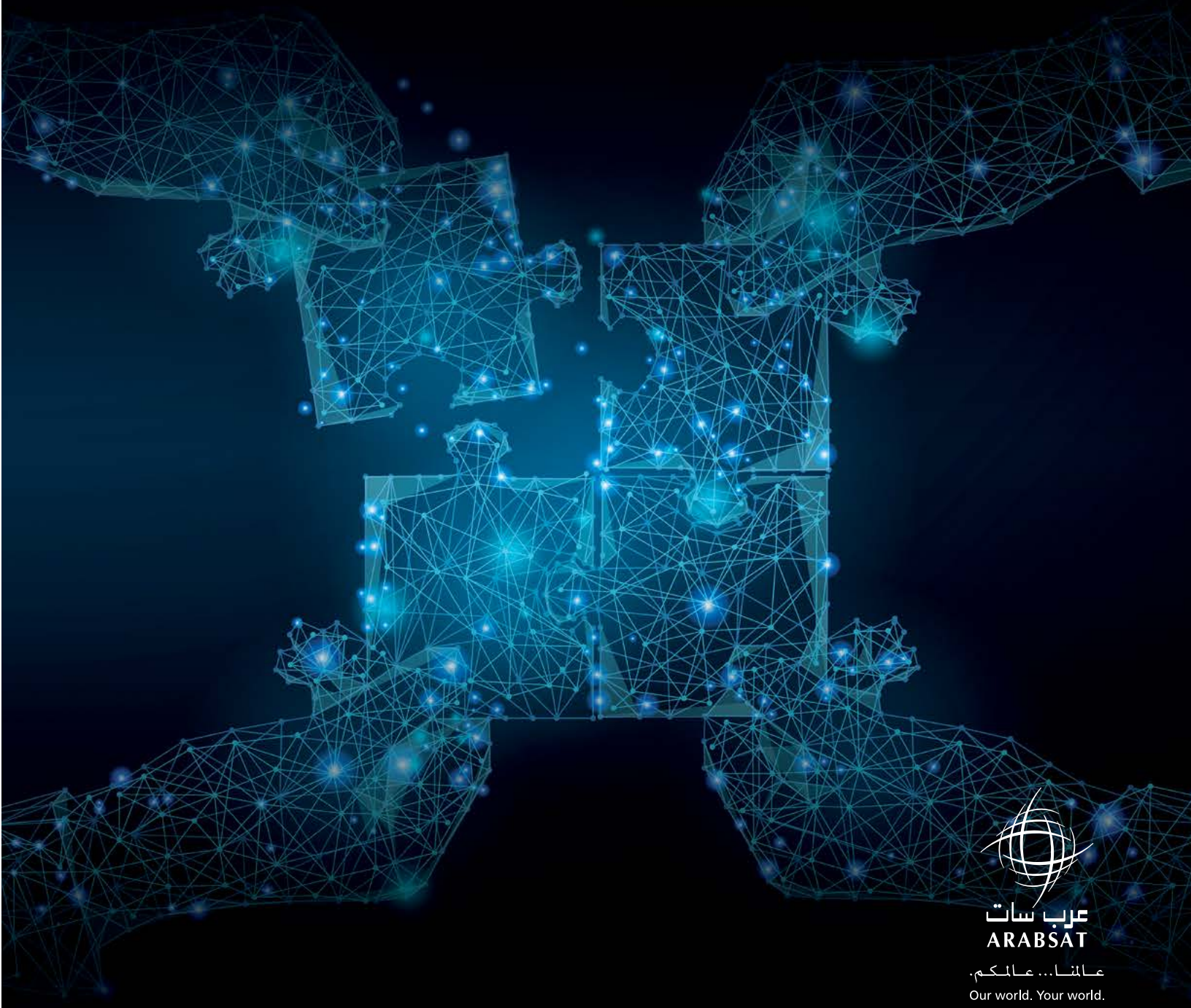

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Huawei releases 2021 annual report: Solid Operations, Investing in the Future

Guo Ping
Rotating Chairman - Huawei

Meng Wanzhou
CFO - Huawei

Huawei has released its 2021 Annual Report recently, revealing that the company had maintained solid operations throughout the past year. As per the report, Huawei achieved USD 99.9 billion in revenue in 2021, and USD 17.8 billion in net profits, an increase of 75.9% year-on-year. The company's R&D expenditure reached about USD 22.38 billion in 2021, representing 22.4% of its total revenue, and bringing its total R&D expenditure over the past 10 years to over USD 132.5 billion. Moving forward, the company also plans to continuously increase investment in R&D.

Guo Ping, Huawei's Rotating Chairman, stated at the press conference, "Overall, our performance was in line with forecast. Our carrier business remained stable, our enterprise business experienced steady growth, and our consumer business quickly expanded into new domains. In addition, we embarked on a fast track of ecosystem development."

Meng Wanzhou, Huawei's CFO, also spoke at the event, "Despite a revenue decline in 2021, our ability to make a profit and generate cash flows is increasing, and we are more capable of dealing with uncertainty." Thanks to the enhanced profitability of its major businesses, the company's cash flow from operating activities dramatically increased in 2021, amounting to USD 9.3 billion. Its liability ratio also dropped to 57.8%, and its overall financial structure has become more resilient and flexible.

In 2021, Huawei's carrier business generated USD44.1 billion in revenue and helped carriers around the world deploy leading 5G networks. Third-party test results have found that 5G networks built by Huawei for customers in 13 countries, including Switzerland, Germany, Finland, the Netherlands, South Korea, and Saudi Arabia, provide the best user experience. By working with carriers and partners, Huawei has signed more than 3,000 commercial contracts for industrial 5G applications. These kinds of 5G applications are currently seeing large-scale commercial use in sectors like manufacturing, mines, iron & steel plants, ports, and hospitals.

Thanks to continuing digital transformation trends, Huawei's enterprise business also grew rapidly, generating USD 16.06 billion in revenue during 2021. In the past year, Huawei launched 11 scenario-based solutions for key sectors such as government, transportation, finance, energy, and manufacturing. The company also established multiple dedicated teams, including a Coal Mine Team, a Smart Road Team, and a Customs & Port Team, to combine resources in a way that more efficiently serves the needs of its customers. Over 700 cities and 267 Fortune Global 500 companies have chosen Huawei as their digital transformation partner and Huawei now works with more than 6,000 service and operation partners around the world.

Huawei's consumer business zeroed in on consumer wants and needs, further building out the global ecosystem for a smart, all-connected era, as part of the company's Seamless AI Life strategy for consumers around the world. This business generated USD 38.17 billion in revenue in 2021 and continued to see steady sales growth in smart wearables, smart screens, true wireless stereo (TWS) earbuds, and Huawei Mobile Services (HMS). In particular, the smart wearable and smart screen segments both saw 30%+ year-on-year growth. In total, HarmonyOS was used in over 220 million Huawei devices as of 2021, becoming the world's fastest growing mobile device operating system.

During the past year, Huawei also focused on building out its openEuler, MindSpore, and HarmonyOS ecosystems based on the principles of open collaboration and shared growth. Over eight million developers are currently using Huawei's open platforms, open-source software, and development tools to explore new business scenarios and business models.

Guo stressed, "Moving forward, Huawei will advance its journey of digitalization, intelligent transformation, and low carbon. Relying on talent, scientific research, and an innovative spirit, we will continuously increase investment to reshape our paradigms for fundamental theories, architecture, and software, and build our long-term competitiveness." T

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Aftab Raza Khan

Building "Cybersecurity Readiness" culture critical, experts warn at GISEC GLOBAL 2022

The 10th edition of GISEC Global, the largest and most influential cybersecurity exhibition and conference in the Middle East and Africa, opened on 21st March at Dubai World Trade Centre (DWTC) as industry leaders unite to uncover the latest in global cybersecurity trends and discuss ever-increasing digital challenges. Delivering the keynote speech on the first morning of the three-day show, Dr Mohamed Al Kuwaiti, Head of Cyber Security, United Arab Emirates Government, discussed the shared responsibility required to tackle the volatility of cyberspace and how collaboration is essential to successfully protecting against global cybercrime.

"If we look at the current landscape, awareness and collaboration are key to building a culture of cybersecurity readiness," said Al Kuwaiti. "We need to innovate and work towards building the next generation of cyber security professionals. The UAE Cybersecurity Council has a timeline and the plan is to export the UAE's cybersecurity model across the region," he added.

"As the world starts to recover from the pandemic, big industry – education, healthcare, oil and gas, aviation, etc. – is going through rapid digital transformation. Their security is our security, and the more they are secure, the more we are secure. Cyber-attacks aren't bound by borders, so neither should be our approach to private sector and government collaboration," he continued.

The collaboration can be epitomised by the UAE Cyber Security Council's National Bug Bounty Programme, where 100 ethical hackers will work in real-time at GISEC Global to hack, identify, and solve software flaws discovered across different scenarios and mainframes – including electric cars, mobile phones, and drones.

Among the speakers on opening day, Stephen Kavanagh, Executive Director of Police Services at Interpol, delivered his address to the industry discussing how the public and private sectors must play collaborative roles in the response to cybercrime.

"Today, we find ourselves in a new world," said Kavanagh, the former Chief Constable of Essex Police in the United Kingdom. "We need a clear vision where all parties work together. Interpol is increasingly bringing data and expertise from the private sector to assist law enforcement. It is unrealistic to think law enforcement can recruit and retain the best brains, so that is where they turn to the private sector," Kavanagh added

Also speaking on the main stage was MK Palmore, the former Head of the FBI's San Francisco Cybersecurity Investigative Branch. Palmore outlined how global development is forcing businesses to reassess their priorities to prevent large-scale cyber-attacks.

"By 2025, 42 billion devices will be connected to the internet," Palmore said. "This is a huge expanded digital surface area to protect, so offers huge opportunities for cyber criminals. It is no surprise then that, from an infrastructure and security standpoint, our reliance on digital services as we look to maintain society and business operations has become the No1 issue for organisations," he continued.

During the next two days, conference attendees continued to hear from a host of prominent speakers, including renowned hacker Jayson E Street; Mesfer Almesfer, Chief Information Security Officer, NEOM; Professor Isa Ali Pantami, Federal Ministry of Communications and Digital Economy, Nigeria; and Amir Hayek, Israeli Ambassador to the UAE and Ministry of Foreign Affairs, Israel, among others. T

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Huawei highlights secure digital transformation solutions and strategies for ME enterprises at GISEC

At GISEC 2022, Huawei has showcased its latest cutting-edge, secure digital transformation solutions, demonstrating use cases and discussing best strategies to protect Middle Eastern enterprises in the current digital era.

Huawei demonstrated its resilient communications networks, 5GtoB solutions, scenarios and latest use cases in enabling industrial digitization, intelligent cloud solutions, smart low-carbon datacenter, smart campus solutions, end-to-end cybersecurity assurance system, 5G security, cloud security, secure digital power solutions, and secure networks at the leading cybersecurity event.

During the event, Huawei regional and global experts participated in various panel discussions and deliver keynotes on trending security topics. On day one, Aloysius Cheang, Chief Security Officer of Huawei UAE, delivered a keynote speech discussing Huawei's Projects of the 50 to enable the UAE to become a global cybersecurity hub, and Emaad Ahmed, Principal Solution Architect & Network Architecture Transformation Chief Expert, Huawei UAE, delivered a keynote address on the 5GtoB Hype around slicing. Also taking place on day one is a keynote address by the Huawei Middle East Digital Power department on the latest trends in solar power generation on the X-Labs Stage.

Additionally, Ibrahim Alshamrani, Chief Security Officer of Huawei Saudi Arabia, shed light on intelligent application security and privacy protection at GISEC's KSA Stage on day two, and Aloysius Cheang, Chief Security Officer of Huawei UAE is gave a keynote speech highlighting Integrated Communication Platform and participated in a panel discussion on what governments are doing to ensure cities are secure by design. On GISEC's Qatar Stage, Kamal Zian, Chief Security Officer of Huawei Gulf North, spotlighted Huawei's role in delivering a secure FIFA World Cup 2022 in Qatar on day three.

Jiawei Liu, CEO of Huawei UAE, commented: "As organizations in the Middle East increase their adoption of the latest advanced digital technologies to support their digital transformation goals, the risks and challenges of cybersecurity will evolve. At Huawei, cybersecurity is an integral part of all our products and solutions, right from the conceptualization stage. Therefore, at GISEC 2022, Huawei is looking forward to connecting with the regional business leaders from all industries and sectors and showcasing our wide range of secure digital transformation solutions and strategies that can help them better protect and defend themselves."

Aloysius Cheang, Chief Security Officer, Huawei UAE, said: "Through the 'Projects of the 50', the UAE is on track to become a global hub and testbed for advanced technologies and innovation. A strong cybersecurity posture and framework is a critical component for the Project of the 50, and at GISEC 2022, we will highlight ways in which the UAE can become a global cybersecurity hub as well."

Huawei has long worked with organizations like the GSMA, 3GPP, OIC-CERT, and other industry stakeholders to examine emerging cybersecurity risks and promote independent certifications and standards such as the GSMA/3GPP NESAS Security Assurance Specifications and GSMA 5G Cybersecurity Knowledge Base. In addition, Huawei is now driving the adoption of the OIC 5G Security Framework developed by the OIC-CERT 5G Security Working Group to enhance cybersecurity measures proportionate to the risk landscape emerging from digital technology advances. T

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Karl Song: Huawei will continue supporting digital transformation across the ME

During an exclusive Middle East roundtable to discuss Huawei's 2021 annual results from a Middle East business perspective, Karl Song, VP of Global Communications, Huawei has highlighted how the company has been at the forefront of the ICT industry, reiterated its competitiveness across the world and commitment to supporting the Middle East digital transformation.

Commenting on Huawei's recently announced annual report, Song said, "Our total revenue in 2021 reached 99.9 billion dollars and we generated a net profit of 17.8 billion dollars with a net margin of 17.9%. Huawei recorded an increase of 75.9% year-on-year in terms of net profit, and overall, we wrapped up the year in a solid financial position."

"The harder things get, the more we are investing in the future. In 2021, we increased our R&D investment to 22.4 billion dollars, representing 22.4% of our total revenue. Both our R&D expenses and R&D expense ratio reached a 10–year high in 2021, and Huawei ranked second in the 2021 EU Industrial R&D Investment Scoreboard. Our total R&D investment over the past decade is more than 132.5 billion dollars," added Song.

Song further reiterated Huawei's intention to continue investing heavily in R&D to strengthen its innovation in systems engineering and drive fundamental changes in three areas: fundamental theories, architecture, and software.

The company reported steady performance in its ICT infrastructure business while new business segments like digital power, which is of special importance to the Middle East markets and cloud grew rapidly and its ecosystem development efforts have entered the fast lane. "In the Middle East, Huawei continued to play a pivotal role in the development of the region's ICT industry, enabling digital and intelligent transformation accelerated across industries. Innovations in 5G, cloud, AI and other fields are pushing the digital economy into a new phase of development," said Song.

"The Middle East is ahead of many other regions when it comes to adoption of advanced technologies. Because of the fast roll-out of 5G, for example, some countries in the region serve as a real proof point of how technology can help to advance the development of all industries, especially when integrated with technologies such as cloud and AI," he added.

Globally, Huawei collaborated with carriers and partners to sign more than 3,000 commercial contracts for industrial 5G applications. In 2021, 5G saw large-scale commercial deployment in many industries, including manufacturing, mining, steel, port, chemical, cement, power grid, and healthcare. Huawei's 5G solutions for industries have been replicated at scale across eight typical application scenarios, including remote equipment control, data collection, and product quality inspection.

"5G remains a crucial enabler of digital transformation across the Middle East. Huawei enabled the first wave of 5G deployment in many countries across the region. Moving forward, we remain committed to contributing to the Middle East countries' technology ambition, especially in light of the mega-events such as the FIFA World Cup Qatar 2022 and help create unparalleled value and experiences for the users," he stated.

Song also highlighted the trend for green development, which has become a globally recognized mission, specifically vital to the Middle East's sustainable future in-line with the carbon neutrality targets many countries in the Middle East have already set. As a leader in the global ICT industry, Huawei has been developing innovative green technologies that make ICT products more energy efficient. Using its simplified site solution, renewable energy, and intelligent technologies, Huawei helped carriers in more than 100 countries deploy green sites. T

e&'s AGM approves a dividend per share for H2 2021 of AED 0.4, representing a total dividend of AED 0.8 per share for FY2021

e& (formerly known as Etisalat Group) has held its Annual General Meeting (AGM) where shareholders approved the recommendation from the Board of Directors to distribute cash dividends to shareholders for the second half of 2021 at a value of AED 0.4 per share, representing a total annual dividend of AED 0.8 per share.

During the meeting, the Board praised e&'s efforts in accelerating its digital transformation in an ever-changing business landscape. In light of its recent transformation into a global technology conglomerate, e& was commended for seizing different opportunities to create a more progressive business model that realises the Group's vision of impacting the lives of its customers and shareholders alike.

Jassem Mohamed Bu Ataba Alzaabi, Chairman of e&, thanked the board members for their support. He emphasised that e& will continue to be the digital champion that drives change for the empowerment of societies.

"As we enter the next chapter of our journey, we are confident that we will continue to witness even greater success as we continue to create an environment with limitless possibilities built on solid foundations, smart connectivity and fruitful collaborative opportunities."

Adopting a growth mindset to stay fit for the future

Jassem Mohamed Bu Ataba Alzaabi highlighted a series of achievements that have enabled e& to begin a new chapter, in line with its ambitious strategy to amplify business growth across different segments. The Group was named the strongest telecoms brand in the world in January 2022, and also topped the Forbes MENA Top 10 most valuable listed companies in the UAE. It reported a solid net profit of AED 9.3 billion, an increase of 3.2% year on year. It also saw a 3.0% increase in its aggregated subscriber base, rising to 159 million. e& has also maintained the UAE's network leadership with one of the fastest and most advanced networks in the world for the second year, and global FTTH penetration leadership.

Jassem Mohamed Bu Ataba Alzaabi
Chairman - e&

Hatem Dowidar
GCEO - e&

Jassem Mohamed Bu Ataba Alzaabi stated that value creation remains at the core of the work e& does as it continues to lead the change for growth. "We've already witnessed a defining moment in our history through our transformation as e&, thanks to the strong financials and standing in the market. Our growth mindset will continue to guide us forward as we refocus our efforts on investing in breakthrough technologies, accelerating in-depth market penetrations and capitalising on solid ventures with key industry players.

"We have worked tirelessly to come this far, thanks to the support of the UAE leadership to the telecom sector, and we will do what it takes to ensure that our solutions positively impact people's lives at every touchpoint. This is in line with our vision for e& to 'Make Possible'. Enhancing customer experiences and digitally empowering societies will continue to be the driving forces in everything we will achieve in the future."

Acquisitions, strategic partnerships and customer-centricity are part of the journey forward

During the meeting, Hatem Dowidar, GCEO of e& shared that the Group's strong financial performance resulted from successful international operations and steady improvements in domestic operations despite persistent challenges in the markets where it operates. He said: "This has been an exceptional year for us as we delivered solid financial performance and business growth across all our operations in 2021. The Group's consolidated revenues increased by 3.2% to AED 53.3 billion and consolidated net profit amounted to AED 9.3 billion, representing a 3.2% increase year-on-year. Our consolidated EBITDA amounted to AED 26.7 billion, representing a year-on-year increase of 1.0% which resulted in an EBITDA margin of 50.1%.

Dowidar spoke at length about the efforts undertaken by the Group on acquisitions and in pursuit of strategic partnerships for future business growth. Its acquisition strategy is driven by the Group's relentless commitment to provide innovative solutions for the benefit of all customer segments and offer long-term sustainable value for shareholders. T

Challenges & Opportunities in the New Opportunity Realm

Exclusive Interview with
Bocar BA, *CEO - SAMENA Council*

Question: How have the new changes taking place around the world transformed SAMENA Council's role?

Answer: As an advocacy body and industry association, SAMENA Council's fundamental role as that of a private-sector representative body remains fully focused on highlighting the requirement of sustainability in investments by Telecom Operators while achieving greater social and business values across the digital services ecosystem. In addition to being an industry voice for the Private Sector and as an advocate of greater cooperation between Operators and Government bodies, SAMENA Council is engaged in gradually catalyzing regulatory reforms, encouraging agility, and undertaking collaborative exercises.

In 2021, our focus was on identifying new industry-wide approaches and drawing upon the collective responsibility of financing and funding advanced broadband infrastructure. To this effect, the Council's efforts have helped put forward detailed findings and recommendations in collaboration with the UN Broadband Commission. Moreover, the Council has now the opportunity to help assess and track evolution of enabling regulatory frameworks as a Member of the Review Board for the global G5 Benchmark.

Q: How do you view the post-pandemic world, and what are some key considerations for thriving in the new digital era?

A: We are witnessing a greater urgency for the world's Private and Public sectors to co-operate, to help synergize new collaboration in digital transformation, and to collectively realize greater social and business value-creation. This need has arrived at a time when there is a greater need to integrate everything, ranging from technologies, digital infrastructure, policy and regulatory approaches, and business models.

Times are calling for revamping cost structures, embracing new technologies such as cloud communications, AI, IoT, Big Data analytics, new mobile applications, enabling sustainable investment in the fifth-generation of mobile technologies, and, importantly, engaging in smart partnerships. On the latter front, recent initiatives such as the ITU's Partner2Connect (P2C), built on the principles of inclusion, partnership, and SDG-focused digital development, are important to consider and contribute to.

Q: Over the past few years, we have increasingly witnessed synergies get developed between the Telecom/ICT industry and the Education, Healthcare, Digital Finance and, lately, with Mining and Ports sectors. What other synergies do you see emerging?

A: Where current times are presenting new challenges and opportunities not witnessed or perceived earlier, we are seeing greater synergies emerge between earth sciences and digital technologies and space exploration. If we place this in the specific context of connectivity, we realize that the global goal of digitally connecting the entire planet in a sustainable and investment-conducive manner remains a challenge, especially since over 40% of the world's population still remains unconnected or offline due to lack of connectivity infrastructure.

Given the magnitude of connecting everyone, and in times when revenue-degradation and numerous other challenges confront the Telecom industry, new infrastructure funding and financing

models are being proposed, and it would be necessary to foster collaboration among the communications service providers that are operating at the surface of the planet and those that are operating in space.

Thus, I consider new synergies emerging between the thriving digital economy and the emerging space economy. With space exploration catching pace and stakeholders drawing focus on the need to address sustainability not only at the surface of the Earth but also in space (which, for the reference of your readers, includes managing satellite launches, rocket fuel, orbital slots, space debris management, etc.), it would be interesting to see how collaboration can be built between terrestrial and space players in this era of 5G. Here I take the opportunity to extend congratulations to the Mohammed Bin Rashid Space Center (MBRSC) on having publicly launched the World Space Sustainability Association (WSSA); an initiative that could play a very relevant role in this region, starting with the UAE, to build such synergies.

Q: What do you consider to be among the newest disruptions taking place within the Telecom Industry?

A: At about the same time that 5G started to be trialed and deployed, the concept of Open Radio Access Network (OpenRAN or ORAN) emerged, triggering some promise areas to be greatly publicized within the Industry.

Operators' interest in OpenRAN is valid, as the new RAN represents a combination of existing technologies, e.g., virtualization, AI, commercial off-the-shelf parts and open interfaces. It proposes an alternative way to design and build the RAN portion of a mobile network by combining hardware and software components from different vendors. Thanks to open and interoperable interfaces, to be made possible with open standards and open architectures, multi-vendor implementation is possible on a single site, which is a step forward in going beyond today's multi-vendor RAN deployment in different sites.

As a reality check, however, true OpenRAN, to become commercially viable and ready for mass deployment, still requires years. Some key areas to keep under consideration are that OpenRAN architecture and ecosystem must comply with 3GPP protocols. From the perspective of architecture design, OpenRAN appears to leave complexity to Telecom Operators and simplicity to itself. Furthermore, considering average fiber-to-site rate in the Middle East, for example, is less than 20% and that the cost of deploying optical fiber per kilometer is fairly high, for OpenRAN to be deployed in the region, extra investment in fiber-to-the site will be essential, resulting in higher costs for Operators and that too in an environment in which revenues have been shrinking whereas customer expectations have risen.

As with any disruption, time to fully understand and take well-informed, rational decisions on OpenRAN should be given in order to better assess true opportunities that this disruption on the RAN technology front offers, and to the extent it is aligned with the Industry's other priorities. In addition, we need to acknowledge that there is no vendor responsible for the end-to-end network integration in the OpenRAN network. As a result, operations and management are complex, without clear ownership. Such areas need to be openly discussed in an objective setting.

Q: What "routine" issues still persist for Telecom Operators and what approaches do you recommend the Industry's stakeholders adopt to tackle some of them?

A: Routine as they may be, but I consider eight issues to be absolutely critical for ensuring sustainability in the digital ecosystem and thus keeping a sustainable influx of investments integral to future ICT development. These are: making spectrum available with effective regulatory approaches; addressing the region's spectrum interference issues, particularly in the coastal areas of the Arabian Peninsula; adopting a region-wide optical strategy and overcoming procedural challenges; reducing high industry fees and taxation by taking into consideration international practices and new "collaborative regulation models" that foster inclusive stakeholder participation; and creating a level-playing field for Operators, so that all Digital Space Players contribute to the development of ICT Infrastructure.

Having stated this, I believe there lies a need to adopt innovative regulatory and policy approaches such as "regulatory sandboxes", to overcome long-pending issues relating to cross-border flows, and to better support licensed Operators in helping meet their own financial targets through improved revenue-generation, and to enable to them to invest in the drive toward achieving Universal Digital Access in the SA-ME-NA region, and also in realizing carbon-neutrality and improve environmental management, for example.

Q: What are SAMENA Council's plans for holding the Leaders' Summit this year?

A: As Media Partner, you are fully aware that the last two editions of the Leaders' Summit were held fully virtually due to reasons well-known. However, on May 9th this year, Leaders' Summit, complying with all World Health Organization recommendations and the UAE Government's Covid-19 protocols and rules and regulations, will be held fully physically at Atlantis – The Palm, Dubai. We are privilege to have legacy host-collaboration with Huawei once again, patronage by TDRA UAE, and strategic support of stc Group and Zain Group.

Our objectives in the 2022 back-to-business, physical edition of Leaders' Summit is to help demonstrate leadership and commitment of stakeholders to accelerate post-pandemic recovery; showcase participation and relevance of new industries and stakeholders in the 5G and post 5G eras; experience newest innovations in digital 5G-era technologies, network infrastructure, collaboration models, integrated digital service delivery; and to unearth new possibilities for Telecom Operators as well as vertical segments in materializing new business successes.

Leaders' Summit 2022 will welcome Chairmen and CEOs from the private sector, and top decision-makers from regulatory authorities and global bodies and institutions, spanning multiple geographies. It will also include participation of global leaders and entities focused on institutionalizing and fostering cross-sector digitization and collaboration, making the Leaders' Summit the year 2022's premier virtual destination for leadership, dialogue, demonstration, and for refining future policy and regulation. Leaders' Summit 2022 will build the case for taking 5G discussion beyond connectivity to real-life innovations and impact for the business and the society. T

How is IntelligentRAN reshaping the mobile industry?

An overview of IntelligentRAN and how its supporting sustainable mobile networks based on exclusive interview with Calvin Zhao, Vice President of Huawei Wireless Network SingleOSS Product Line

By Khalid Athar

As one of the leader's in the telecom space, Huawei introduced its IntelligentRAN platform. Huawei's new IntelligentRAN allows intelligent air interfaces to use key technologies such as smart grids, scheduling dictionaries, and channel graphs. With these capabilities, they can intelligently configure air interface resources and achieve optimal user experience and capacity. Service prediction with IntelligentRAN also guides non-real-time spectrum and channel selection on the network side and real-time symbol scheduling and transmit power configuration on the base station side. This significantly reduces energy consumption across the entire network. In addition, IntelligentRAN enables intelligent SLA site planning, where parameters are dynamically configured and models can be adjusted flexibly in response to service changes.

The IntelligenRAN platform is introduced at a time when network complexities are increasing continuously for some operators. Reflecting on this problem, Zhao said, "5G is now developing very quickly around the world, but this has brought a lot of challenges at the same time. For a lot of telecom operators, they now manage 2G, 3G and 4G plus 5G. So they are now managing four generations of technologies at the same time. It has exponentially increased the complexity of the network and that has inhibited the potential of the network." The fact that a partial switch to 5G has only added more complexity to network management is true for all operators around the world.

According to Zhao, IntelligentRAN not only enables operators to tackle the problems with multi channel network management but in fact, improves the management to higher standards. Zhao said, "With our

As IntelligentRAN establishes itself as the gold standard for the industry, more and more operators are adopting strategies to become autonomous

Telecom operators and their partners strive to find ways to improve customer service on the same network. This is where IntelligentRAN makes the biggest difference

With these capabilities, telecom operators' O&M staff will no longer be buried by tiring, complicated and repetitive everyday tasks

IntelligentRAN solution, we use intelligent and collaborative coverage technologies for the optimal conditions with multi frequency and performance. We also combine the network forecasting of the traffic, so that we can achieve optimal multi-path judgment and decision-making."
Such oversight enables the telcos to manage parameter settings much better allowing them to provide differentiated SLAs and also helps telcos manage the dynamic parameters to adapt to the service requirements with more custom made configurations for delivering optimal performance. This is very relevant to the mobile industry, now more than ever, as we enter the era of 5G with the new network supporting a myriad of industries through critical connectivity and driving the digital economy.

Talking about the improvements to the end-user experience, Zhao added, "The intelligent operation of the network is a very important factor that we consider when we design the solution. And I believe it's also a very valuable aspect to implement the collaboration between network and base stations. We have several basic capabilities such as channel models, the scheduling dictionary and intelligent grids. With these basic capabilities we can provide the optimal performance based on heterogeneous networking with multiple frequency bands, multiple sites and multiple beams."

These factors allow the optimization of the network according to network load and congestion. The unprecedented level of customization which IntelligentRAN provides means that network resources are fully utilized and optimized to be used where and when needed the most. This enables the operator to cater to a larger market whilst maintaining a high standard of delivery and actually improving the end-user experience which can now be configured according to the actual type of network usage.

Elaborating on Huawei's approach in this respect, Zhao said, "We hope that IntelligentRAN solution can utilize intelligent algorithms to identify various scenarios and use the algorithm to find the optimal solution over iterations so that we can use one network to provide the optimal performance for different requirements from diverse service over different frequencies, to meet differentiated SLA requirements for different industries flexibily. Similar to 'flexible manufacturing system' in the manufacturing industry, that contains enough flexibility to allow the system to rapidly react to production changes. IntelligentRAN supports agile service rollout and accelerates the digital transformation of thousands of industries. Carriers can continuously generate revenue by continuously launching new services."

In today's world, where data and network usage is higher than ever before, service providers are often challenged by the competing price points for network services. The most common dilemma is to target network improvement and improvement on customer experience, all while maintaining competitive pricing. Revenue is directly linked towards high speeds that can allow customers to have a good experience, and it would be very accurate to say "Better customer experience = More Revenue".

In such times, telecom operators and their partners strive to find ways to improve customer service on the same network. This is where IntelligentRAN makes the biggest difference. Zhao explained, "We can apply intelligent algorithms of machine learning or deep learning to help the self-learning of the network, through the application of intelligent technology such as Digital Twin, the physical network is digitally mapped to the digital twin network map, and a digital platform for simulation, verification, analysis and decision-making is built.." Such flexibility has now become the key to a sustainable network. With these capabilities, telecom operators' O&M staff will no longer be buried by tiring, complicated and repetitive everyday tasks. Instead, they can focus on more value adding tasks, such as designing policies, developing the automated diagnosis capabilities and simulated network repair features and over iterations, they can develop a fault tree to provide better full cost of network faults.

As IntelligentRAN establishes itself as the gold standard for the industry, more and more operators are adopting strategies to become autonomous. China Mobile is already on track for a level four autonomous network by 2025 and Vodafone has also proposed a Zero Touch Operation Network (ZTO) which is defined as an important part of their telco strategy.

Zhao concluded the discussion saying, "Intelligent network is an obvious direction of the future, and we are open to working with industry partners to collaborate and innovate together - to identify high value cases and cooperate extensively. Together, we aim to drive the development and large-scale application of the intelligent network, including our IntelligentRAN solution. In the end, we hope to boost the high quality development of the digital economy and to provide fundamental capabilities to support it." T

Interview: Khalid Athar

Qatar's space ambitions have developed based on a combination of media & telecommunication industry growth

Ali Al Kuwari, *President & CEO - Es'hailSat*

Khalid Athar: What inspired Qatar to begin developing a presence in space?

Ali Al Kuwari: Qatar's space ambitions have developed based on a combination of media & telecommunication industry growth and the need for self-reliance in all areas. In Qatar, we've learned that sustainability is about more than growing your own fruits and vegetables. The domestic workforce in Qatar is one of the most connected in the MENA region and perhaps in the world as well owing to the high tele-density built over the past many years. Today's technology-driven economy demands that people should have the tools necessary to remain connected anywhere, at any time and using any device of their choice. This involves infrastructure on the ground, as well as in space.

KA: What is the role of Es'hailSat in Qatar's space program and how do you think Es'hailSat will help Qatar achieve its goals in space?

AK: As Qatar's satellite operator of choice, Es'hailSat has been serving broadcasters, telecom companies, enterprise, and Government customers for the past 11 years from our headquarters in Doha. The security and independence of services provided by Es'hailSat helped broadcasters like beIN and Al Jazeera stay on- air even during diplomatic and financial pressures and boycotts. Telecommunication companies in Qatar's ICT ecosystem have made the necessary investments to ensure that no part of the country is in a dark spot

"The sky is the limit for Qatar's ambitions, and Es'hailSat wants to ensure that we are the first choice for companies in Qatar and across the region wherever there is a need for connectivity over satellite"

and for those that still may be beyond reach, Es'hailSat has the satellite service capabilities required to deliver the necessary connectivity.

KA: Es'hailSat is unique in that it provides both television broadcasting and communications services for the MENA region. How has this helped Qatar develop its presence in space?

AK: The sky is the limit for Qatar's ambitions, and Es'hailSat wants to ensure that we are the first choice for companies in Qatar and across the region wherever there is a need for connectivity over satellite. For our business, the priority over the next 12 months is to expand our services to support the rapid growth of Qatari customers across the board. We are keeping a close watch on the latest advancements in technology, including Cloud Playout services, Content Delivery Networks (CDN), Mobility and Telecommunication services. In addition, our fleet of two satellites, Es'hail-1 and Es'hail-2 at 25.5/26 East hotspot, is bolstered by an expansion of services delivered from our Teleport in Doha.

KA: How do you see the future of telecommunications, especially in light of Qatar National Vision 2030?

AK: Qatar's 2030 Vision is designed to move us from a carbon-based to a knowledge-based economy and Es'hailSat is a key part of that vision. As the world emerges from two years of restricted movement due to the pandemic, a few things have changed in the telecommunications landscape. Firstly, when it comes to fixed networks, it has become evident that connectivity of any kind – be it fiber, cellular or satellite – is critical infrastructure delivering a fundamental need of keeping individuals, businesses and the economy connected in an increasingly virtual world. Secondly, as maritime & aeronautical services return to normalcy, the bandwidth required for these vessels to remain connected to their headquarters and/or the Internet is witnessing rapid growth. All these trends together with the advent of global satellite networks in Low Earth Orbit are changing the way people remain connected, no matter where they may be physically located. Es'hailSat's satellites are a symbol of Qatar's commitment to free, secure, and independent communication. Beyond upgrading networks from 4G to 5G and beyond, it is important to ensure that the human capital in the ICT sector is trained regularly and their technology & soft skills are also upgraded to meet the demands of the next decade of growth in line with Qatar's Vision 2030.

KA: What are your thoughts on the future of telecoms and advanced satellite services?

AK: The world is heading towards economies driven by artificial intelligence, neural networks, and the Internet of Things, all of which can only be enabled by robust telecommunications and IT infrastructure. Therefore, it is critical for these sectors, including satellite services, to build a culture of innovation and continuous development to be able to cater to these demands. With Qatar becoming a powerhouse of talent and technological prowess in the Middle East, advanced satellite services will help ensure that the economy of the country has the tools that it needs to grow from strength to strength.

The Middle East and North Africa region has been a hotbed of economic activity in general over the past decade

KA: What are some of the challenges does Es'hailSat face in its efforts to develop Qatar's space program?

AK: Firstly, piracy is still a concern for the region as content protection witnesses an exponential growth. Although majority of the large piracy incidents have been addressed and discontinued, there is still rampant online piracy of content. A consolidated effort is required on the part of the satellite & media industry and local governments to address this issue. Then there are always price pressures when it comes to satellite capacity, services, and equipment. This has come to the forefront in the last few months, with supply chain issues causing delivery delays and further delaying implementation, service roll out etc.

KA: What are your thoughts on MENA countries increasingly becoming involved in space exploration?

AK: The Middle East and North Africa region has been a hotbed of economic activity in general over the past decade. Space exploration is the next frontier for the countries in this region to assert their arrival as major participants in the global economy. If we look at space-based services delivering television across the region, MENA has a mix of users who prefer streaming services as well as a healthy number those who would still want to consume their premium 4K/UHD content on a smart TV over a satellite DTH service. Due to this underlying demand demographic we continue to remain bullish on the future of satellite television in the region for many years to come.

KA: What do you see as the future of Es'hailSat?

AK: We are working on multiple long-term projects to fulfil our vision to be a world class satellite operator and service provider that effectively contributes to the success of Qatar's National Vision 2030 by adding a new dimension to the diversifying economy. We are evaluating new satellites in GEO for future applications such as IFC, IoT and others. At the same time we are also open to partner with NGSO constellations in order to achieve a winning proposition for all parties concerned.

KA: What advice would you offer other countries who are looking to develop their own space programs?

AK: Space programs are an extension of national economic growth and, more fundamentally, the sovereignty of any country. As Qatar has demonstrated so effectively, it is important for countries across the world to be self-sufficient in their requirements of space-based infrastructure. Furthermore, it helps tremendously to have a collaborative effort between Government and Private industry to realize the full potential of what space has to offer. Lastly, there needs to be a broader national vision to maintain the big picture and direction for all such efforts to ensure the country's progress and prosperity. T

Immersion4 wins "Most Innovative Company" award at the Burj CEO Awards

"Immersion4's DTM™ FULL immersion technology will impact the whole supply chain, starting from R&D to the movement and processing of materials, the value of the finished product and its usage for a positive ROI"

Serge Conesa, founder & CEO of Immersion4 received the award for the Most Innovative Company at the recently held Burj CEO Awards in Dubai. Immersion4 was chosen as the winner due to its innovation solution which is not only supporting the growing data centre demand in the ICT space but also helping make the world a better place by saving energy and reducing e-waste.

Immersion4 provides a liquid cooling solution that allows for electronics cooling without using excessive energy. While speaking with Teletimes, Serge said, "Air/Water Cooling has become one of the biggest problems that we have today, not just in the ICT world but in the entire electronics space. These legacy systems are creating e-waste which is not sustainable for us and our future." He added, "Immersion4 is working with the vision of making the world a better place for us and more importantly, for those who will come after us."

Immersion4's DTM™ FULL immersion technology will impact the whole supply chain, starting from R&D to the movement and processing of materials, the value of the finished product and its usage for a positive ROI. Immersion4 is unique and innovative through the liquid it uses, the design of the product and solution, the materials used and the business model altogether. This makes Immersion4 not only innovative in its technology but also innovative in the way it operates. T

HUAWEI CLOUD Summit MEA 2022 reiterates the importance of inspiring innovation with 'Everything as a Service'

At the recently concluded HUAWEI CLOUD Summit Middle East and Africa 2022 in Dubai, UAE, Huawei reiterated the cloud's integral role in accelerating the region's digital transformation and inspiring innovation across its industries. Under the theme, "Inspire Innovation with Everything as a Service", the summit brought together over 1000 government leaders, customer representatives, and industry experts from the Middle East and Africa, exploring how cloud computing can serve and advance industries such as public services, finance, carriers, media, e-commerce, and gaming. During the summit, experts also shared how industries can better leverage cloud and AI technologies across various functions.

On the sidelines of the summit, Frank Dai, President, HUAWEI CLOUD Middle East, shared in an exclusive media roundtable, HUAWEI CLOUD's vision of building the cloud foundation for an intelligent world with ubiquitous cloud and pervasive intelligence and detailed how HUAWEI CLOUD is providing 'Everything as a Service'.

"Cloud is the future of ICT and the foundation of digital transformation in the Middle East. Cloud transformation has become a top priority for industries. To build the cloud infrastructure, there are four essential elements: technology, economic impact, talent ecosystem, and digital sovereignty. To this end, HUAWEI CLOUD is working with partners to deepen digitalization and provide Everything as a Service," said Dai.

He added, "The key to successful digitalization is an all-digital, all-cloud approach with Everything as a Service, which is underpinned by three pillars - Infrastructure as a Service, Technology as a Service and Expertise as a Service. This can accelerate digital transformation while also minimising the carbon footprint from their IT infrastructure, speed up the development of new apps and business processes, and enable organizations to innovate faster."

Responding to Teletimes International's question about green cloud computing, Dai said, "Huawei incorporates green development into everything we do. We see this as part of our social responsibilities. We embrace digitalization and carbon neutrality trends while seeking to adjust our business portfolio, continue to invest heavily in R&D, support globalization, stay open and innovative, and attract the best minds from around the world."

"Huawei currently adheres to a "More Bits, Less Watts" strategy in this area. In addition to improving its fundamental digital capabilities, Huawei has committed to making its products 2.7 times more energy efficient by making breakthroughs in areas like theories, materials, and algorithms. Through advances like these, the ICT industry can help other industries reduce their own carbon footprints. In fact, this reduction will be 10 times larger than the

carbon footprint of the ICT industry itself," he added.

Dai also spoke about Huawei's focus on data security and privacy protection. The Company has invested heavily in cybersecurity, around $132.5 billion in terms of R&D with 5% of that investment going directly to cybersecurity. Huawei uses full-stack security products and ecosystem products to help customers build a security assurance system to ensure the security and reliability of customers' services on the cloud.

Furthermore, Dai also highlighted that technologies such as 5G, IoT, and cloud, are more in demand than ever before. When combined, these technologies create immense productivity gains, especially during the unprecedented circumstances of a pandemic. They form the bedrock of a digital economy by enabling intelligent and flexible operations. These technologies are also providing new opportunities for SMEs to improve operational efficiency, promote innovation, expand their market and financing channels, and facilitate remote operations during the epidemic.

Last year, HUAWEI CLOUD launched the Abu Dhabi Region, and this year the company is building a cloud region in Saudi Arabia, with plans to expand to other markets. Hosting of the HUAWEI CLOUD region in the Middle East will boost local businesses and governments' ability to access more robust and secure cloud services from Huawei and create new social and economic value in the region.

During the summit, Sara, HUAWEI CLOUD's first digital employee, made her debut in the region through holographic projection. The summit also showcased HUAWEI CLOUD's Spark Program 2022. The program will support local start-ups and partners in building their cloud capabilities.

Huawei has been present in the Middle East and Africa for over two decades and has been providing open, flexible, and secure ICT infrastructure to bridge the digital divide for more than 3500 enterprises and over 1.2 billion people in these two geographies. In 2021, HUAWEI CLOUD Middle East announced an investment of USD15 million to accelerate the development of local enterprises and ecosystems. This money will cultivate more than 1000 consulting partners, 500 technical partners, 3000 certified experts, and several hundred SMEs. T

Huawei opens ICT Academy Lab at the Community College of Qatar

Huawei has announced the opening of a Huawei ICT Academy Lab at the Community College of Qatar (CCQ) in an effort to strengthen Qatar's digital talent ecosystem while deepening Huawei's efforts to nurture a rich ICT talent pool, in line with national objectives.

The official opening ceremony of Huawei ICT Academy Lab was held at the Community College of Qatar in the presence of Dr Ibrahim Bin Saleh Al Nuaimi, Undersecretary of Ministry of Education and Higher Education, Dr Mohamed bin Ibrahim Al Naemi, President of Community College of Qatar, Liam Zao, CEO of Huawei Gulf North, and other officials from all parties.

In his speech during the ceremony, Dr. Ibrahim Bin Saleh Al Nuaimi, Undersecretary, Ministry of Education and Higher Education, noted, "Qatar's ability to attract foreign investment and foster innovative startups is directly related to our ability to produce the right ICT talent. This is why the Qatar government encourages and supports forward-thinking learning initiatives such as the Huawei ICT Academy. We look forward to seeing the original ideas that will emerge from the Lab."

From his side, Dr. Mohamed bin Ibrahim Al Naemi, President of Community College of Qatar, added, "It gives us a great pleasure to open Huawei ICT Academy Lab at the Community College of Qatar, as part of our strategic partnership with Huawei, to provide our students with a state-of-the-art educational platform that combines classroom learning with industry experience. We are confident that the Academy will promote CCQ's leading role in developing and honing the skills and knowledge of national professionals in the field of ICT to meet the growing needs of the local labor market. It will also reinforce CCQ's commitment to supporting Qatar's digital transformation efforts and its transition to a knowledge-based economy, and contributing to the realization of human development goals, a key pillar of our National Vision 2030."

Liam Zao, CEO, Huawei Gulf North, said, "We are delighted to complement the tremendous efforts by Qatar and Qatari universities to nurture ICT talent. Exposing CCQ students to a real-world ICT environment ensures that the students graduate with the right combination of theoretical and practical skills to thrive in a highly dynamic and demanding field. The Lab complements our other skills development initiatives, allowing us to build a complete value chain covering the entire process of learning, certification and employment."

Governments and private enterprises alike realize talent is the ICT industry's most important resource. While Qatar ranks high globally in promoting digital skills, the scale of the country's ambitions to nurture a knowledge economy requires that the digital skills development pipeline be fast-tracked. Collaboration between universities, industry and technology companies has proven successful in advancing this goal. Huawei ICT Academy Lab is the latest initiative by Huawei to develop digital talent in Qatar. The Huawei ICT Academy has signed cooperation programs with various universities to supply a high-quality workforce for the sector's development.

Meanwhile, Huawei's flagship CSR program, Seeds for the Future, celebrated another successful season in 2021, with students from three universities, including CCQ, graduating with ICT and cultural trainings in cutting-edge technology such as 5G, cloud computing, AI, and IoT. T

UAE's Cybersecurity Council to collaborate with Huawei in strengthening ecosystem's capabilities

The UAE's Cybersecurity Council has signed a MoU with Huawei to collaborate in the strengthening of local strategies and efforts related to cybersecurity. The agreement was signed at the GISEC 2022 cybersecurity conference that took place between March 21 – 23 at the Dubai World Trade Center.

As per the memorandum, both parties will work towards strengthening strategic collaboration in cybersecurity based on the Public-Private-Partnership model. This will help promote cybersecurity innovation, drive development in cybersecurity capabilities, and nurture a strong cybersecurity ecosystem.

Dr. Mohammad Hamad Al Kuwaiti, Head of Cybersecurity, UAE Government, said: "We are excited to be signing this agreement with Huawei in line with our mission of developing a comprehensive cybersecurity strategy and creating a safe and strong cyber infrastructure in the UAE. This step will also help drive our efforts to establish the UAE as a leading global hub for cybersecurity for the benefit of the nation."

In addition, the agreement aims to create an open, transparent, and trustworthy environment between the UAE Government, Huawei, and other technology vendors.

Aloysius Cheang, Chief Security Officer at Huawei UAE, said: "We are honored to be partnering with the UAE Cybersecurity Council. Huawei is committed to supporting the UAE's efforts as the country accelerates its digital transformation journey. As cyber threats are continuously changing, our agreement with the Council will help us work towards providing a cybersecurity ecosystem that is safe and secure. This partnership will also help recognize Huawei's long-term commitment to sustainable development in the UAE as a top digital hub globally."

As part of the memorandum, both parties have agreed to work together in building visibility and promoting thought leadership in the area of cybersecurity, cooperating in the field of cybersecurity research and development through an independent think tank that both parties will establish, and jointly establishing a Cybersecurity Center of Excellence to deliver talent training that addresses the cybersecurity capacity-building needs for Emiratization.

The partnership comes as spending on security including hardware, software, and services is also on the rise across the region, predicted to grow 7% to USD3.76 billion in 2022 according to IDC. T

We are moving into our 4th evolution for our solution which promises to provide on a single platform

David Gelerman, *President and CEO - SpaceBridge*

Q: What new technologies were revealed this year by SpaceBrigde?

A: SpaceBridge has spent the last four years to define, design, test and release the plethora of new features to its award-winning ASAT-II VSAT platform. Most of the features were released the last year and in the beginning of this year, fulfilling our commitment to the market with the following primary objectives to satisfy customers' demand:

1. Improved efficiency – SpaceBridge is proud to announce a new release of its Forward Link Systems FLS220/ FLS250 which improves efficiency along multiple levels. On the forward link, we have integrated a new GSE/BBFramer/ ACM unit into our forward path allow us to choose from all available DVB-S2X MODCOD choices to respond to rapidly changing conditions in a single carrier of up to 500 Msps. On the return link, to save around 10% of access channel power by providing granular MODCOD per request, we continue to innovate with support for the industry's first MF-TDMA offering supporting 5% roll off factor across all return link MODCODs and carriers. This complements our 16QAM, coupled with the Return Link DRA/ACM, offering and RLE implementation which contribute to our overall goal of improving efficiency by driving down encapsulation overheads and increasing spectral efficiency. Overall, we achieved over 20% improvement of channel combined spectral efficiency. We also released the native Layer 2 end-to-end connectivity.

2. Mobility – SpaceBridge recognizes that the drive toward mobility support is unrelenting. In this respect, SpaceBridge has implemented a new mobility management function into our NMS and also further augmented our connection robustness by improving

our Dynamic Rate Adaptation (DRA)-the Return Link ACM mechanism. With demonstrated vendor interoperability through OpenAMIP, SpaceBridge is able to dynamically resize up to 480 individual RL carriers, each at its desired MODCOD per fastest return link Superframe of 26.5msec, allowing highest possible availability while maintain high throughput required for any On-The-Move application continuity.

3. SpaceBridge released the new line of bare board standalone modem U7720-SA designed for integration with ManPacks, SoTM, SoTP antenna ACUs and in chassis integrated housings.

4. New Line of cellular backhaul 3G/4G Modems with embedded 3G/4G GTP Optimization, Acceleration and built-in IPSec option, designed for rural and Semi-Rural remote cellular sites backhauling.

Q: Can you share what satellite ground segment technologies you think will shape the industry in the next five years?

A: 5G is definitely having impact on how we are currently envisioning and shaping/communicating the satellite ground segment of the future. There are notable technology evaluations ranging from "direct-to-handset" LEO satellite prototypes, to orchestrations of SDN managed services across MEO to GEO.

In the short, and the long term, all network terminology will shift to the terminology being defined under the auspices of the 3GPP for 5G. Communications and services will be driven by operator orchestration which will tie up the delivery across multitudes of transport environments in a seamless hybrid network including fiber, SDN, MEF, 5G network slicing and LEO/MEO or GEO satellites. The latter point being essential to satellite being accepted and included as a viable data transport means by the industry. So, whether the service is SCPC or MF-TDMA, it must support and provide services and functions transparently in support of delivering 5G services.

In addition, the ground and space assets integration will be crucial to achieve better efficiency. Next Generation of Software Defined Satellites, will require tight integration of ground and space mission, for real time computing capabilities to provide flexibility and improved satellite resources utilization.

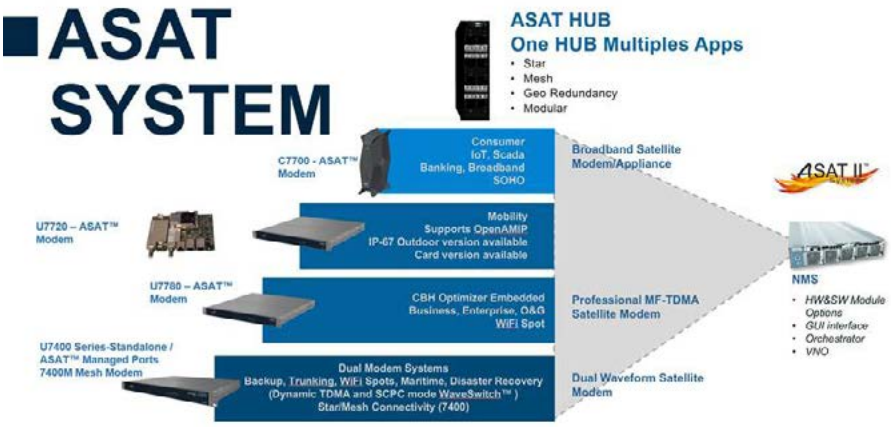
Q: As the global pandemic seems to be nearing an end, what changes are you seeing in the satellite industry?

A: Despite the pandemic, there has been incredible investment put into the satellite industry with the media headline focusing on the exploits of LEO, launchers, flat panel antennas and space tourism. At the same time, there are huge investments going into GEO VHTS super Software Defined Satellites and, at the other spectrum, GEO nano satellites. Business cases for IoT, remote monitoring, broadband services and constellations have never been so varied or so plentiful. Clearly there is a lot of investments coming into the satellite and space industries and so the future is bright with a lot of opportunities for new entrants and legacy operators and equipment vendors.

As for the pandemic, I believe that it's time to face the reality and call it now the global endemic, as the Corona virus is now here to stay with us, never going to disappear and just like a regular flu every year coming with the new mutation variants and we need to adapt to it to restore our habits and our live styles.

Q: What are some of the most successful projects that SpaceBridge recently delivered?

A: While SpaceBridge is primarily known as a ground equipment vendor, the truth is that we offer much more than that and often provide full turnkey solutions for our customers and partners. In that respect, SpaceBridge is proud to have delivered a number of turnkey HTS networks during the pandemic and continues to work to grow those type of network models. Additionally, Spacebridge delivered operational Navy Comms on the Move (CoTM) satellite solution and even Army flyaway VSAT stations, both of which benefit from the developments mentioned earlier. We take pride in knowing that our customers who employ our solutions, see our solutions as best of breed in the industry.



Q: After over 30 years of success in the industry, how do you describe SpaceBridge's role today and what's your vision for the future?

A: SpaceBridge (under previous names of Spar Aerospace, EMS Technologies, Advantech Wireless) has been a staple in the satellite industry for 30 years, earning the intensive experience and

reputation. SpaceBridge has always been an innovator with first to markets on innovations such as MF-TDMA, combining and switching on-a-fly the SCPC and TDMA on a single platform, RF technologies (such as GaN) and also in the digital satellite domain with recognized first fully compliant Open Standard DVB-RCS and now RCS2 Hub and terminal solutions. SpaceBridge technology has evolved significantly from that time with focus on delivering industry awarded solutions such as WaveSwitchTM while always maintaining leading edge of network level performance and efficiency, both on the physical level such as MODCODs, Roll-Offs, encapsulations, FECs, etc., but more importantly, on the overall network performance. SpaceBridge has the highest KPIs related with the Scheduler efficiency and ability to reuse the spectrum more efficiently, taking full advantage of MF-TDMA, as its VSAT platform, due to the superior NCR clock recovery implementation, does not require to receive the synchronization burst from each and every user terminal every Superframe, significantly increasing the ability to-reuse the BW and, hence, having much higher statistical multiplication gain that allows to put practically unlimited amount of terminals on a single beam, not limiting it with number of simultaneously logged users, or sending idle "keep-alive" bursts that degrading the overall end-to-end satellite network throughput.

At this time, we are moving into our 4th evolution for our solution which promises to provide on a single platform the true "best of breed" multi-service performance levels across a range of network verticals (from low oversubscribed high bandwidth users to highly oversubscribed broadband service delivery). All of which can be managed from simple NMS to supporting APIs into larger level orchestration management schemes. We believe we are on the right track to ensure our upcoming next generation solution can deliver on performance, price and features to challenge other vendors in this space.

Q: Would you like tell us about some of your latest partnerships and how they contribute to SpaceBridge's vision?

A: We have not remained indifferent to changes in the market, and for several years now, alongside the development of innovative products at the forefront of technology, we have developed a number of innovative business models. In the past year we have witnessed a number of successes. Among them we can mention our collaboration with ThaiCom and WTD, in favor of providing Internet services in Indonesia, with a service potential that exceeds the quality of all competitors in the territory, in addition, together with a number of partners, we have developed another successful venture in Brazil to provide managed services, this is in addition to the continued supply of pure capex solutions. Worth to mention that we delivered two Geo Redundant HUBs with SpaceBridge Award winning WaveSwitchTM capabilities to the Brazilian Army and continue to support the spectacular growth of the Space Communication Technologies OmanSat network, that were able to accomplish in one year that others couldn't do in years.

5G is definitely having impact on how we are currently envisioning and shaping/ communicating the satellite ground segment of the future

Q: Can you share your outlook for 2022? What will be your major area of focus for this year and are there any major milestones to achieve in the near future?

A: While the Shannon limit is well known in satellite industry as the metric for performance in satellite communications, it is nevertheless the target by which all equipment manufacturers try to maximize while presenting the best mix of technologies to deliver the best possible solution to customers. In that respect, this year we are focusing on delivering even higher return link efficiencies while driving ever larger channel capacities needed as customers move toward more data intensive applications. We see this as one essential component with the other being the ability to drive operator service (and eventually 5G) orchestrations across the satellite.

Q: As we move towards a world full of multi-path connectivity, how are different satellite technologies evolving to achieve this goal? How is SpaceBridge contributing to this?

A: As already mentioned, SpaceBridge understands well the power of concepts which have fallen now under the 5G umbrella. While SDN concepts have been around for years prior to 5G, our core features and capabilities we are working on presently will be interoperable with the orchestration mechanisms, enabling for on-demand or SDN driven service connectivity. So, whether SpaceBridge manages a single or multiple path connectivity, we envision SpaceBridge will be able to support external inputs or APIs to contribute to best service path continuity decisions, regardless of the satellite technology being employed. For this to happen we all need to embrace and have a homogeneous Open Standard network such as 5G/DVB-S2X/RCS2 to have full interoperability for different vendors to interconnect. T

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China Telecom Global and stc launch a new point of presence in Jeddah

Recognizing the need for connectivity between enterprise organizations and carriers in Asia and MENA region, China Telecom Global (CTG) has partnered with Saudi Telecom (stc) to launch a new Point of Presence (PoP) at Mena Gateway in Jeddah. The new PoP will allow CTG's global and Asian multinational enterprise customers to enjoy direct access to their KSA branches. It also serves as an important exchange node for network capacity in the region to connect Middle East, Europe, and Africa.

With the launch of this PoP, Mohammed Alabbadi, Chief Wholesale Officer at stc, said: "By joining hands with China Telecom, we are glad to continue expanding our footprint of network solutions for KSA-based corporate clients and provide them robust data services that connect to Asia and beyond. We have been providing businesses with reliable and secure connectivity across their offices in the region and globally, and this new partnership further solidifies our commitment, and enables our corporate customers to operate cross-country with ease, convenience, and peace of mind."

Dayong Zhang, Chief Technology Officer at China Telecom (Africa and Middle East) Ltd stated: "The establishment of our PoP in KSA marks a key milestone in our growth journey. This PoP in the Middle East region has provided a solid foundation for businesses in KSA, especially for those planning to expand to Asia-Pacific, to enjoy fast and reliable connectivity to the region that powers their business. Likewise, it will also serve as a digital gateway for Chinese businesses to expand their footprint in the KSA market, creating huge potential for businesses in both regions. Furthermore, the new facility will strengthen our partnership with stc to establish a digital pathway for supporting our customers to embrace the digital economy. We look forward to continuing working with stc and elevating our partnership to the next level in the future." T

Employee engagement - A key driver of the overall performance of a business

Berenice Chassagne

Head of Atos Growing Markets (Middle East, Turkey, Africa, and Major Events) Speaks on Digital Workplace

Employee engagement is a key driver of the overall performance of a business. As a Leader in Outsourced Digital Workplace Services, our goal at Atos is to create a revolutionary new intersection between technology, people, and things. Enabling every employee wherever they may be based, to benefit from a personalized way of working underpinned by innovative and holistic engaged employee experience technologies.

Performance, not productivity is key to a strong, resilient, and healthy organization across the board – financially, creatively, and competitively. We must think beyond productivity and create organizations that thrive because they allow their employees to thrive. In a highly competitive world, engaging and empowering employees has become critical for attracting and retaining talent and for driving operational excellence throughout organizations In an exclusive interview with Berenice Chassagne – Head of Atos Growing Markets (Middle East, Turkey, Africa, and Major Events)

Automation, Artificial Intelligence, Machine Learning, Robotization, Edge Computing. All these things will impact productivity in its traditional sense. But unlike in the 80's we do not need to ship the adoption of these tools around the world, if we create engaged employees who do not fear these changes but embrace them then we will open new doors for growth and performance.

And to bring performance I think we need inclusive productivity and engagement because we have reached a point where; as we automate more and more, productivity is no longer enough. We need to be more inclusive. Recognize diversity in all its forms: from gender equity, through cultural differences, those with disabilities, and our seniors. And in doing so create a wholly accessible workplace where diversity leads to creative solutions. Imagine for a minute a world

where solutions are not one size fits all, but all manner of shapes and sizes enabling anyone to access them. That will engage people like never before because they will have a personal stake in the work.

Engagement & profitability

At the beginning of the pandemic, Atos predicted that 40% of the workforce would work from home. That prediction appears to have been spot on, as in a recent report from Statista, 30% of respondents stated everyone at their company was working from home with another 15% stating that they could work from home "as needed". That situation though has changed a lot with lockdowns and restrictions loosening up as infections went down and vaccinations went up.

What the pandemic has shown overall though, is the need for clear hybrid strategies, organizations must now focus on rebounding stronger, more resilient, and sustainably than ever before. We should not just dream of that. Because embracing it allows us to tackle some of the critical challenges of our age. If we can dramatically change the way we approach work – especially presence at the office, we can make some meaningful impacts toward decarbonization. For example, if everyone in the world worked from home one day a week, we would save 24 million tons of carbon emissions. We should dare to believe in a world where this is not just made possible by organizations, but employees understand and buy into their individual roles. Giving them personal accountability and ownership of their Carbon footprint within organizations. Making an employee aware of the impact of his decisions on commute, travel, on workstations, on storage, ... gives him the opportunity to align his values with his acts. In the Atos Great Place to Work survey, 84% of employees said it was important to work for a company that embraces social and environment responsibility as a core value.

If we can create the same engaged employees we do on-site from anywhere; we can employ the best talent from around the world, we can prevent burn out, we can make work fun. Gallup tells us that employees who feel highly engaged lead to 10% more engaged customers, other studies mention 81% lower absenteeism and 23% higher profitability.

Giving end users power requires us to securely open data, in privacy-protecting ways to enable rather than penalize

If we can put more power in the hands of our employees to design their processes, if we can create frictionless work, we can automate the mundane and free our people to do what they do best, solve problems. Anywhere could be a workplace.

Also, telecom service providers play important role in providing an efficient, mobile, and hyper-connected work environment.

For example Vodafone Spain launched 'Vodafone Infinity Workplace, a new Digital Workplace offering that aims to provide a highly secure digital workplace with universal remote access, available anytime, anywhere, and from a variety of devices and operating systems, with optimum security on a subscription basis to all business profiles, from large corporations to small and medium enterprises (SMEs) and freelancers.

Orange bank, the 100% mobile bank of the telco operator Orange created a cloud-based advanced Digital Workplace solution to provide Orange Bank employees with a new unified work experience, regardless of their location or device.

To add on WINDTRE, a leading mobile operator in Italy is adapting to innovative internet-based Modern Management solutions, making it easier to manage devices and update applications for 360° management, allowing employees to work more smoothly and efficiently, without compromising safety and performance.

Atos has been positioned as a Leader by Gartner in its February 2022 Magic Quadrant for Outsourced Digital Workplace Services (ODWS), based on its completeness of vision and ability to execute. This is the sixth consecutive year that Atos has been named a Leader in a Gartner Magic Quadrant report related to outsourced digital workplace services

Employees who feel they are heard are 4.6 times more engaged. Creating a caring environment for our people creates a caring environment for our clients, and their clients, and ultimately a more caring, equal society.

Indeed, it's very much about caring for the employees, providing vision and purpose, and building trust.

Secure Collaborative Environment

Giving end users power requires us to securely open data, in privacy-protecting ways to enable rather than penalize. Data can unlock people's potential and boost business performance, but these are not prizes worth having if they diminish the fairness and trust, upon which engagement relies. Productivity is not enough post-covid, it will not happen without employees.

While Telco over Cloud (ToC) and Multi-Access Edge Computing (MEC) enable advanced features tied to distributed digital workplace management, organizations see the rising need to implement flawless security control in real-time. From a telco perspective, these security requirements span across all the IT and Network domains that are undergoing an unprecedented digital transformation journey.

From the outset of the early consulting steps to its META telco customers over this new paradigm, Atos has built key security offerings unleashing Trusted Digital Identities and Data Protection from any access. Such unfailing capabilities, coming alongside a secured Digital Workplace ecosystem, provide ways to proactively mitigate the new set of security risks brought in by multiple accesses, ineffective BYOD policies, shadow IT systems, and unsecured networks border gateways.

Virtual Only Future

In fact, according to Frost and Sullivan, 28% of all businesses surveyed said they would be 100% remote and virtual in the future. These organizations have determined that they can create an engaged workforce wherever they are. That in itself may change the shape of other organizations that come to different conclusions.

Our approach to this new frontier of work is called "Engaged Employee Experience". It is a program of investment and focuses that we believe will make Atos the leading enabler of this new frontier of work. I want us to be more than the leader in Digital Workplace, I want us to create a revolutionary new intersection between technology, people, and things, by combining Digital Workplace with Employee Experience.

From productivity to performance, make technology work for your employees

We have launched a revolutionary new approach with some leading partners and vendors that will enable our clients to go beyond Digital Workplace,

- With Voice of the Employee technology: we're giving clients the ability to measure, analyze and manage the employee experience in real-time from anywhere. Giving them the power to make tangible decisions to improve the experience for all.
- On Citizen Development: we're giving clients and users the low and no-code platforms to rebuild processes, and tailor them to individual needs. With fully integrated training and adoption services to make the most of the platforms, both reducing pressure on IT teams and freeing the diversity of potential for all.
- When it comes to Smart Working, we are building on the consulting work we have been doing during COVID-19 to go beyond safe workplaces. Creating smart spaces deeply integrated into the heart of next-generation workplaces will give us new collaborative and social experiences. The workplace is no longer a 9 to 5 but a hub for creativity and collaboration. But also, connecting those hubs to the rest of the world, through immersive technologies like Augmented Reality, or biometrics to connect clinicians with patient data safely and securely. Smart working is no longer just about being able to book your desk in real-time. It's an era-defining shift in where, when, and how we work.
- For Accessibility we are bringing forward technology to make workplaces easier to use for everyone. From tooling to support visual changes to technologies that aid interactivity. We're working with vendors to enable all our technologies for accessibility. Plus, more accurate data facilitate the interoperability of assistive technologies with mainstream tech.
- On the vitally important topic of Mental Health, we are enabling employees with embedded analysis tools to set boundaries and better balance their work-life. Also, with sentiment analysis tools we could help clients to measure the emotional state of employees and trigger remediation measures again in real-time. In doing so, we can help organizations to become increasingly pro-active about mental health, thus preventing stress, burnout, and worse for their employees and create a safe and healthy workplace where people can be their personal best.
- With Training –we're enabling new approaches to Micro-Learning, building on the lessons of the consumer lead revolution in Massive Open Online Courses or MOOC's. With new gamified micro-learning approaches we're helping clients and users prevent a digital divide in the workplace. Giving people the skills to succeed with the host of new technologies they will be using in the future.
- Finally new HR consulting capabilities with partners will join the dots between technology and people, so we take the lessons of design thinking alongside the cultural challenges of individual organizations to build the best solutions for clients and end-users every time.

We have launched a revolutionary new approach with some leading partners and vendors that will enable our clients to go beyond Digital Workplace

We believe this to be the most comprehensive, intersectional set of services on the market today. A paradigm shift in the focus on either technology OR experience towards technology AND experience, and performance AND experience. It is our ambition to lead this space just as we have done with Digital Workplace before it. By creating this new engagement- and human-focused work environment, we will transform our clients' organizations. One human-centric desktop at a time! T

Interview: Gulraiz Khalid

All signs are that the demand for broadband everywhere will continue to grow

Ramesh Ramaswamy
EVP and GM, International Division, Hughes

Gulraiz Khalid: Amidst varying factors such as decreasing price points, consolidation in multiple markets, newer business models, and a COVID hit business ecosystem, where do you see the traditional satellite market heading on a global level?

Ramesh Ramaswamy: As you note, the satellite industry has been going through a lot of changes. But one thing that we know for certain is that people need to be connected – probably more so now than ever before. During the pandemic, we saw data consumption climb across all of our markets due to people working from home, taking classes online and conducting business on the internet. And all signs are that the demand for broadband everywhere will continue to grow. In that context, we see a huge opportunity for satellite connectivity – including both high-throughput geostationary satellites and low earth orbit satellites. In fact, research firm ABI Research predicts the serviceable, addressable market (SAM) potential for global satellite communications will grow to 330 million premises – or 1.3 billion people – by 2026. That's a big opportunity that can be addressed in three specific ways. First, through direct-to-home internet service, which we offer under our HughesNet banner in the Americas, YahClick in Africa, and through partners in other markets. Second, through cellular backhaul by satellite. And third, through community Wi-Fi hotspots like our Express Wi-Fi service throughout Latin America

and community Wi-Fi programs in many other global markets, such as Indonesia.

GK: Please tell us about Hughes' international expansion in different markets over the past two years? Do you have a few best case examples?

RR: The past two years were pretty exciting at Hughes. Even though most of our team worldwide had to work from home, we were firing on all cylinders, so to speak, in helping our customers stay connected across all our markets: enterprise, consumer and small- to medium-sized businesses on every continent. During that time, we announced and embarked upon a joint venture with Bharti in India, now spanning more than 200,000 VSAT across the country.

We reasserted our partnership with OneWeb as an investor, an engineering partner and a service provider partner. We are engineering and deploying their gateway electronics and core modules, and we have signed distribution agreements for OneWeb capacity in India, North America and for U.S. Department of Defense applications. In fact, we already initiated the first LEO implementation for the DoD in the Arctic Region in a project for the U.S. Air Force Research Lab.

Our Yahsat partnership also continues to grow. We have two joint ventures with them. One serving Africa, the Middle East and parts of Asia, and the other serving Brazil.

GK: Please share some details about the agreement with PSN (Pasifik Satelit Nustantara) in Indonesia? What kind of services will Hughes be providing to them?

RR: We're excited about our latest project with PSN in Indonesia. This is the third time PSN has selected Hughes JUPITER™ Ground System capabilities for their satellite implementations. Repeat business like this is the very best kind of endorsement we can get. PSN had also selected the JUPITER System for the Satellite of the Republic of Indonesia (SATRIA), currently under construction, and the Nusantara Satu satellite (formerly known as PSN VI), now in service. We consider the JUPITER System the 'de facto standard' in satellite implementations worldwide with good reason – it's operating on more than 75 satellites.

We're excited about our latest project with PSN in Indonesia. This is the third time PSN has selected Hughes JUPITER™ Ground System capabilities for their satellite implementations

As for international expansion, our strategy remains steadfast. In some markets, like North and South America, we offer a vertical solution with our own satellite capacity, ground equipment and services

In this case, we will be supplying gateways to power the Nusantara Lima very high-throughput satellite. The contract calls for eleven JUPITER gateways that will enable 100 Gbps of capacity on the satellite. Services across Indonesia and nearby countries will bring internet access to people living outside the reach of terrestrial broadband.

GK: What metrics/capabilities would you classify as a gold standard for being a really high throughput satellite? What benefits do such satellites (including the Nusantra Lima) provide to the customer?

RR: It's all about achieving the lowest possible cost per bit – this is the key metric that drives the satellite service business. With our next satellite, JUPITER 3, we are achieving close to $1M per Gbps. The benefits to customers include higher volumes of data at lower price points. The JUPITER System helps our customers achieve this metric, with operational efficiency and what we believe is the best price-to-performance ratio in the industry.

GK: What markets are you looking to expand into in the near future? Which international markets will provide the highest growth?

RR: As for international expansion, our strategy remains steadfast. In some markets, like North and South America, we offer a vertical solution with our own satellite capacity, ground equipment and services. With our JUPITER High Throughput Satellite fleet, we have the largest Ka-band capacity across the two continents. When we launch our next satellite, JUPITER 3, we'll instantly double our capacity, bringing our total fleet to more than 1 TB, enabling us to connect more customers – consumers with our HughesNet® satellite internet service and enterprises and mobile network operators with broadband solutions and managed network services.

In other markets, we help to connect the unconnected through strategic partnerships. Our JV in India with Bharti is one example of that kind of partnership. Our JV with Yahsat is another example. In this way, we expand our reach and capabilities to help further our mission, working with governments and other operators to help connect the unconnected. T

Kamal Zian, *currently working as Chief Cybersecurity officer, responsible for overall cybersecurity and data protection strategies and execution plans within the Gulf North rep office (Qatar/Kuwait/Bahrain) of Huawei.*

Previously, he served in Huawei as Director of Consulting, director of regulatory affairs, and head of core network solution department.

With more than 18 years' experience in the Telecom and IT industries, he possesses broad experience across most technologies including 5G, IoT, cloud and Big Data, having worked in a variety of senior capacities across Technical, Commercial, Business Management, Operations, Sales, Marketing, and consulting disciplines. He is an expert in the Business of Telecommunications - managing all aspects (strategy to execution) of Telecommunications Carrier / Service Provider businesses.

In the course of his career, Kamal has worked with ICT infrastructure vendors and SW providers across MENA region.

"Strengthening the entire ecosystem is a shared responsibility where each party must think about the entire system"

Kamal Zian, Chief Security Officer at Huawei Gulf North speaks with Teletimes in an exclusive interview

Khalid Athar: How do you see network security evolving in the next 5 - 10 years?

Kamal Zian: Network security is the foundation of the ICT layer. Everything is connected through networks. The devices, the cloud; all the IT systems are managed together and joined by one platform, which is the network. And as we build more ICT solutions, network security and its importance evolves accordingly.

Our initial solutions were mainly focused on the networking whether it is wireless or fixed network. As such, we do have a lot of previous experiences on delivering secure and reliable networks to our customers and partners.

More importantly, right now, we see that the digital transformation pace is accelerating globally. Especially here within the Middle East, talking about GCC countries - we have seen governments transforming into e-governments. We have also seen enterprise verticals like oil and gas or banking advance very fast in their digital transformation journey. Taking that into consideration, we will have a strong commitment to have a focus on cybersecurity.

In Huawei, we are playing a key role in securing the networks for our customers. Our responsibility is to provide secure solutions whether in the IP or wireless technologies; we are compliant with the international standards. We are even contributing to those standards to be more secure. And what we see in the future is that the increase in importance of cybersecurity will continue.

We will continue to remain focused on cybersecurity resilience - trying to provide a different layer of prevention, detection and reaction. But what is special about us is that we have this focus on prevention. The major investment in what we are doing at Huawei is to try to protect and prevent cybersecurity incidents by building a solid digital platform and this is what sets us apart from other competitors or vendors in the same domain. We are trying to provide solutions that are secure by design. Our processes, internal processes starting from initial R&D, and innovation up to the delivery are all fully secured and following international standards.

teletimes INTERNATIONAL

KA: Can you elaborate on how Huawei looks at cyber-security as an organization?

KZ: Cyber-security is about strong foundations, about pro-activeness rather than re-activeness and this comes together with a policy from the management. The key part is the management buy-in. If we look at the past, our founder Ren Zhengfei has given clear guidelines 10 years back about cybersecurity. This is even before we started discussing the risks. At that time, he clearly mentioned that cybersecurity, is a pillar of our business operations. It cannot be separated from our business operation and is something intrinsic to that. We need to have a strategic focus on that.

That is why, since 2008 to the date, we have seen a huge development within our organization, moving step-by-step into more maturity in terms of cybersecurity framework, in terms of development of our products, and in terms of how we secure our products. And we take our strong foundation and strong cyber-security focus as we move into the future.

The organization is very, very mature in this aspect. We have representatives of such as the CSPOs, chief cybersecurity and privacy officers on the ground, on the frontline, and we also have the regional cybersecurity organizations that are playing a role of link between the strategic perspective of the headquarters, our executives, our implementation, and execution that happens in the rep offices. So with this strong organization, we are confident, that, in the future, we can support our customers' success. We can provide secure solutions, secure networks, secure cloud services, and in terms capabilities, this will only increase.

KA: What will be the impact of the Metaverse when it comes to cyber-security?

KZ: This is a very hot topic right now. When we talk about Metaverse, it's mainly about VR and AR experiences. Huawei has always been a promoter of these experiences because we see the benefit of merging the real world and the digital world together.

As you are transforming or building what we call digital twins, it means the real world is somehow duplicated within the digital world. So your surface of attack, is expanding and, hackers and attackers will find more opportunities within the Metaverse. However, I will come again to the same basic principles. It's not about next-generation technology like Metaverse or basic services - the foundation of cybersecurity is the same. If you are protecting the foundation and your digital platform and your products are secure by design, your connected ecosystem becomes secure.

KA: How should individual companies approach cyber-security with an "ecosystem-based" thinking?

KZ: Strengthening the entire ecosystem is a shared responsibility where each party must think about the entire system and focus on compliance.

In Huawei, we just don't focus on ourselves; we understand that we are part of a bigger ecosystem and think about cybersecurity in the same manner. We are talking to governments, trying to have an exchange of communication on how we can improve cybersecurity regulations, how we can learn from them whilst providing recommendations on localizations of the cybersecurity standards, even international standards. We are part of the 3GPP which is part of ITU and part of many other organizations. By sharing our knowledge and recommendations with others, we also learn and approach the issues together as a collective.

We are learning from other stakeholders, whether public and private, and implement their ideas into our own roadmaps and operations. We believe this is the only way to move forward, to continuously learn as an ecosystem and work together to strengthen the foundations on which all technologies depend on.

KA: How would you comment on the cybersecurity policy in Qatar, Bahrain, and Kuwait?

KZ: The three countries are very active and we already have the establishment of a clear organization that is managing cybersecurity in a centralized way for this region.

The entire region is very pro-active and the right approach is being followed across. If I talk about Qatar - they have established a national cybersecurity agency last year. And the beauty of that is that it is centralized. It is completely separate from CRA and this agency is managing cybersecurity from a holistic point-of-view on a national level. It means that we are not talking about single, for example, ministries or government entities which are doing their silo-based frameworks or programs of cybersecurity. We are talking about an organization that is supervising the overall national cyberspace, and we believe that this is the right approach towards having a unified management of cybersecurity on a national level. And with this approach, you can solidify your cyberspace.

KA: What benefit do you see in having this centralized approach?

KZ: Honestly, as we many times say, cyberspace is somehow your new borders. We used to talk about the land as a national asset, right now we are talking about the data as a new national asset. So protecting national data and protecting your cyberspace is becoming a national obligation.

"Protecting national data and protecting your cyberspace is becoming a national obligation"

And when you have this centralized management and this centralized organization that is supervising the whole thing, it facilitates implementation, execution, but even more that, establishes the correct strategy right from the start.

KA: How does Huawei look at innovation in the future with cyber-security in mind?

KZ: As a leading ICT company, we are actually investing heavily in R&D and innovation. However, we are not just creating a future with innovation, we are protecting that future with cyber-security in our minds right from scratch.

This gives a confidence to our customers when they see we are investing billions of US dollars on innovation. Within the next five years, we will also be securing at least 5% of this investment only on cybersecurity.

We are talking about 5 billion US dollars invested in developing and improving cybersecurity capabilities for our solutions. And with that, we are somehow transferring this kind of confidence to our customers, so they know that they have a strong partner on their backs which will support them during their digital transformation journey. T

RSCC takes an active part in eliminating the digital divide in Russia

Participating in CABSAT 2022 in Dubai

On 17–19 May 2022, RSCC will take part in the annual CABSAT exhibition, the leading industry event in the Middle East region with a focus on innovations in telecommunications, satellite connectivity and broadcasting.

Business development and promotion of services in the Middle East and North Africa (MENA) has been one of the company's priorities for more than 15 years. The communications market in this region is one of the largest and fastest growing in the world. RSCC offers Middle Eastern customers services related to the content delivery, the arrangement of television broadcasting and communication channels. "We are always open for cooperation across a broad range of issues with new clients as well as our existing partners. I am sure that on the sidelines of CABSAT we will be able to tell them more about our company's products and solutions, expand the existing contracts and agree on new projects," Alexey Volin, Director General of RSCC, said.

The company's constellation currently consists of 13 modern geostationary satellites, whose communication services almost 80% of the Earth's surface. Four of those satellites, namely Express-AM8, Express-AM44, Express-AM7 and Express-AM6, located at 14° W to 53° E orbital slots, ensure a stable coverage of the MENA Region and can be used to arrange television and radio broadcasting, TV platforms with an uplink in Europe, data exchange, internet access, as well as maritime VSAT. At present, as many as 400 ships operate in the "marine network of RSCC," including 27 ice class vessels and the largest icebreaker in the world Arktika; all of them feature satellite access to the internet and local networks, telephony and mapping information. RSCC also ensures the broadcasting of 700+ TV and radio channels.

Alexey Volin, *Director General of RSCC*

RSCC has also developed a new service type, namely unmanned navigation, which can revolutionise the industry of sea freight and ocean shipping. Since 2018, Russian Satellite Communication Company has been involved in realising a project for unmanned navigation and is currently the only Russian operator with this kind of experience.

One more promising project involving the company is the testing of new satellite technologies from RSCC, which enable precise point positioning of agricultural machinery. Specifically, satellite equipment will be installed on agricultural machinery, allowing its positioning accuracy to be increased from 30 cm to 40 cm. According to the available forecasts,

RSCC's Participation in CABSAT 2021 in Dubai

One more promising project involving the company is the testing of new satellite technologies from RSCC, which enable precise point positioning of agricultural machinery

this is expected to improve the performance of tractors and combine harvesters by 10–15%. As part of the project, RSCC cooperates with technical universities, research centres and major manufacturers of agricultural machinery in a southern region of Russia, where the first tests will be carried out.

RSCC takes an active part in eliminating the digital divide in Russia. People living in small settlements often face the problem of access to basic services due to underdeveloped telecommunications infrastructure, which makes their quality of life much worse. This situation isn't unique: there is a similar problem in Arab states. According to data from the ITU, the share of internet users in cities in these states is double that in rural areas. That said, each country has geographical peculiarities, many of them have vast territories with remote and hard-to-reach areas, such as deserts or mountains. Satellite communications are the only alternative to optic fibre that can offer a much cheaper and faster solution to the communications problem. They allow people who live in remote areas to use public services, social networks, educational and other services.

RSCC will showcase at stand D8-20, hall 8 at the CABSAT 2022 exhibition at the Dubai World Trade Centre and familiarise with the company's offer. T

Eutelsat and OneWeb sign global distribution partnership to address key connectivity verticals

Eutelsat Communications and OneWeb, have zannounced a global, multi-year Distribution Partnership Agreement (DPA) for OneWeb capacity. The agreement paves the way for Eutelsat to commercialise OneWeb services across key verticals including Maritime, Aviation, Enterprise, Telcos and Government.

The partnership reflects the deepening cooperation between the two companies after Eutelsat became OneWeb's second-largest shareholder last December, and it showcases the synergies between them, delivering Eutelsat's extensive commercial reach to OneWeb while complementing Eutelsat's fleet of geostationary satellites with low Earth orbit assets.

Eutelsat Chief Executive Officer Eva Berneke said: "As a shareholder in OneWeb, we are excited to play a role in the success of this new constellation by incorporating OneWeb's connectivity services into our portfolio of solutions. This deal showcases the scope for synergies between our two companies and opens up the potential of low orbit

Eva Berneke
Chief Executive Officer - Eutelsat

Neil Masterson
Chief Executive Officer - OneWeb

to complement our geostationary assets in the fast-growing markets of aero and maritime mobility, fixed data and government services, building on the development of 5G and cloud technologies that will generate low latency requirements."

OneWeb Chief Executive Officer Neil Masterson said: "This expanded partnership with Eutelsat offers us a significant opportunity to combine our GEO and LEO connectivity solutions, expanding our global capacity and further enhancing our commercial service. Drawing on Eutelsat's decades of experience in serving the satellite industry, coupled with OneWeb's substantial business momentum, the agreement demonstrates our collaborative approach to scaling up our LEO connectivity services." T

TiVi5MONDE launches exclusively on ARABSAT across MENA region via longstanding Globecast partnership

Globecast and Arabsat have announced that TiVi5MONDE has exclusively chosen the longstanding partnership to launch the channel in SD and HD across the MENA region. The free-to-air DTH channel launched 28th Jan 2022.

TiVi5MONDE, owned by French network TV5MONDE, is a 24/7 French language children's network, featuring cartoons, educational shows, and teen series. I

Dr. Badr bin Nasser AlSuwaidan, Arabsat Acting CEO, said, "Arabsat is always honoured to be one of the partners and satellite distributors of TV5MONDE's network of TV channels in the Middle East and North Africa region. Working with Globecast, we're very pleased to have been selected as the exclusive satellite distributor of the new kid's channel for our viewers in the Arab world. Arabsat has always been proudly classified by our viewers as the preferred satellite video neighbourhood of the Arab family. We pay close attention to the valuable and distinctive TV channels that are particularly relevant to the customs, traditions, and privacy of the Arabic family in our region."

Yves Bigot, TV5MONDE CEO, said, "We are very pleased to launch this new channel with our long-time partners Arabsat and to expand the TV5MONDE brand in the MENA region. We anticipate Tivi5MONDE driving interest among young north African Francophones and Francophiles while further promoting French-culture and language in this area."

Philippe Bernard, Globecast CEO and Chairman, said, "Satellite channel distribution is very powerful across the MENA region and our partnership with Arabsat has proved invaluable for many customers. We are really pleased that the partnership's relationship with TV5MONDE has now expanded to include this channel launch. The technical and business confidence shown is reflected in the cost-effective, reliable and premium quality service we are providing." T

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"The Future is Wireless" and we believe in it 100%

Kamal Mokrani

Global Vice President at Infinet Wireless speaks with Teletimes in an exclusive interview

Khalid Athar: How is Infinet Wireless doing in its international business? What new markets are you approaching at the moment?

Kamal Mokrani: I am personally directly responsible for the international business of the company. So, I'm always looking for areas where we can grow our business, and, certainly, we have achieved some major success in certain parts of the world and the pandemic itself has created quite a significant opportunity for us because of the explosion in the growth of remote working and remote e-learning. We have a lot of sales, business development and marketing efforts going on in countries like Mexico, which has become a significant target for us. We have secured a very large project to link up 4,000 schools and this was almost like a pilot project for us, but it's significantly big and pilot of one particular state in Mexico. And later, we're going to be deploying it in all states. So this is, potentially, a market that is going to help us grow maybe three or four times the size of what we've been doing so far.

KA: What do you think is the key to Infinet Wireless' success in the wireless solution industry?

KM: Unlike many other companies maybe who try to diversify too much, we have taken the conscious decision to stick to what we know best. We have a lot of expertise in the wireless communication space in developing and designing protocols; delivering as much capacity as possible whilst reducing the spectrum used for that. Spectrum is a valuable resource, and we try to get our customers the best performance using the limited spectrum that they have.

KA: Why are flexible wireless networks crucial for the industry 4.0 era?

KM: Our designs are SDR "software-defined radios" - What does that allow us to do? It allows us to provide exactly what you mean by flexibility. We think we know what's going to happen over the next few years. But we're building platforms today that will allow us, through changes of software, to adapt the products to new requirements. If you look at IoT, for example, which is a term branded around by so many people, there will be millions and millions of additional devices wanting to access. We do not know, and nobody knows today, the true impact on the infrastructures. So, we are preparing ourselves such that if today we do one gigabit per second, for example, with product X, we would like that product through software changes to do 10 gigabits per second, in three to five years' time, depending on the requirements. This flexibility is key to Industry 4.0.

> ***Spectrum is a valuable resource, and we try to get our customers the best performance using the limited spectrum that they have***

KA: What is your approach towards partnerships for growth? Are you looking for new partners?

KM: We are constantly looking for new partners. The reason for that is our business model is based on working with partners and with system integrators. The products that we provide can fit in any sector of the industry. I'm not saying we are in all of those sectors, but there are specific ones that we need to find new partners for. For example, the project I mentioned in Mexico is with the state of Jalisco. There, we, effectively are working with the Ministry of Education, which is not one of our core target sectors, but by securing this project, we effectively expanded into a different sector of the industry and which means we needed to find new expertise. People who understand content for e-learning, who understand the challenges of remote working and this has pushed us even more to look at other sectors of the industry. We are looking at things like the mining industry, which has not been a core business for us, but this is something again that we are pushing very hard into. And for that, we always like to team up with people and partners who know that sector of the industry. We bring in the technology expertise and we count on their understanding of the operational challenges that we may not necessarily have ourselves.

> ***"We have a lot of sales, business development and marketing efforts going on in new markets like Mexico"***

KA: What advice would you give to a businessman looking to get into the wireless market?

KM: I would say now, more than ever before, is the best time to go into wireless. Our company's slogan is "The Future is Wireless" and we believe in it 100%, and we are investing heavily again. If there is a new entrepreneur that wants to invest in wireless, I would strongly suggest looking at the business model he or she wants to establish. Wireless is a huge market to select the niche where they believe they can add value. This is all about adding value and, I guarantee if it's done properly, the returns would be extremely high. And this is again, something we are ourselves banking on, in a big way. Watch this space and in the next few months, or a couple of years, we'll be coming out as well with what I consider truly revolutionary solutions for the wireless industry. T

Etisalat UAE, part of e& launches first global live multi-vendors VoNR ecosystem in collaboration with Ericsson and Huawei

Etisalat UAE, part of e& (formerly known as Etisalat Group), in collaboration with Ericsson and Huawei has announced the successful deployment and testing of the first E2E live multi-vendor VoNR (Voice over New Radio) ecosystem worldwide. The launch marks an important milestone for the UAE's digital transformation objectives.

VoNR is a call service that uses the stand-alone architecture of the 5G network, providing lower latency and improved quality, resulting in an elevated calling experience and high-speed data. VoNR Call has been made and verified over a live multi-vendor ecosystem consisting of Core and Radio 5G SA related nodes from both Ericsson and Huawei. This innovative milestone is an important step towards the commercial introduction of seamless 5G voice services in e&'s cloud-native network.

Khalid Murshed, Chief Technology and Information Officer at Etisalat UAE, said: "The launch of VoNR is in line with e&'s vision to bring the best in digital technologies, smart connectivity and innovative solutions to all our customers. With Ericsson and Huawei as our strategic partners for this project, we will maximise opportunities to further enhance the end-user communication experience by ensuring better voice continuity and quality. Today, handset manufacturers are keen to massively launch VoNR enabled devices in the market for which e& is pleased to have its network-ready fulfilling the requirements of complete live multi-vendors ecosystem."

Ekow Nelson, Vice President Ericsson Middle East & Africa, said: "Over the past years, voice calling has become a key service in the UAE. As the UAE is driving ever-more digitalisation powered by 5G, high quality and seamless voice calling will become a must-have service for residents across the nation. With the launch of Etisalat UAE's first VoNR service, we are proud to play a continued role in helping the UAE realise its digital transformation objectives. We remain committed to providing network excellence to ensure the nation is equipped to offer the numerous digital opportunities that 5G will bring to the region."

A spokesperson at Huawei said: "As 5G SA coverage expands within UAE, the demand for better voice quality with best possible experience is inevitable on 5G Core. This is why VoNR will be the key to further improve the customer's confidence trusting voice continuity in 5G coverage areas. Huawei, is fully committed to assist Etisalat on this digitalisation journey and would feel privileged to work with Etisalat to help them achieve their goals."

Etisalat UAE's (part of e&) customers will benefit from 5G stand-alone data browsing with ongoing voice calls, superior quality 5G voice services through "HD voice +", faster call set-up, as well as robust security to prevent fraud and misuse of personal data.

VoNR Enhanced Voice Services technology also removes voice distortion, water noise or any other types of voice disturbance that customers would have faced in the past. It is expected that new services will be rolled out through the VoNR ecosystem, such as accessing real-time mobile interactive gaming and voice call at the same time, exchanging secure media content during the voice call and experiencing interactive augmented and virtual reality. T

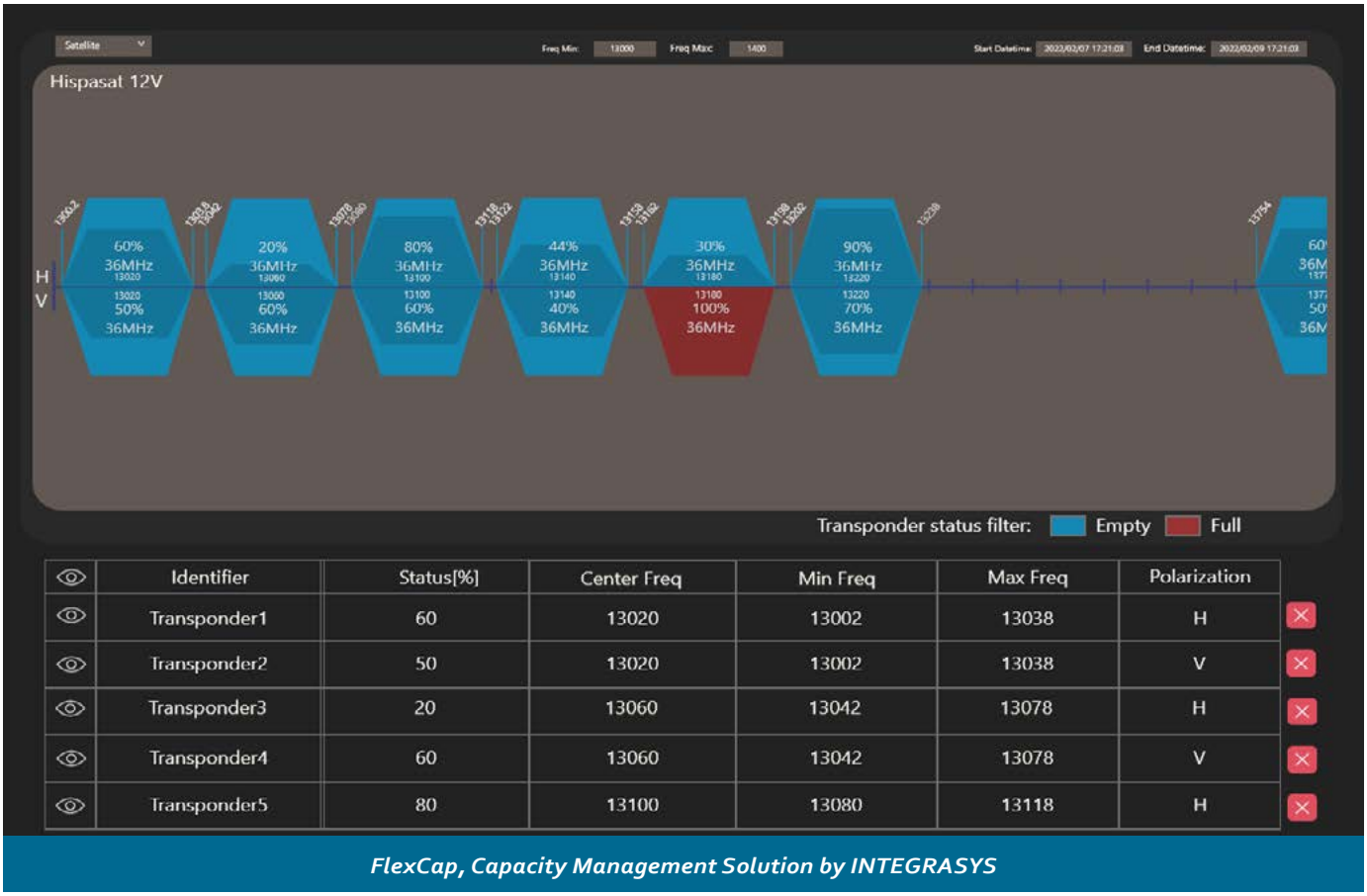
An Efficient network capacity management in a crowded space

By Jose Horta, Sales Director, INTEGRASYS

The imminent Starlink's sub-constellation composed of approximately 1600 satellites, leads to a new beginning in the years to come. With a precedent for other NGSO and VHTS players to penetrate the market.

Regarding the Satellite Capacity Supply, according to Euroconsult "High Throughput Satellites" report, previsions point that by 2026 NGSO satellites will take 90% of in-orbit capacity. While the global HTS capacity supply is expected to grow more than six times from 2021 to 2026, topping 60 TBps of capacity. The satellite industry is booming, and the capacity needed for ambitious projects is remarkable and will keep growing in the coming years. The exponential growth of capacity supply responds to expected similar demand growth. This new capacity volume is cheaper to produce thanks to the technological advances, but at the same time its market price is decreasing due to the increased supply and from an operational and technical perspective it is significantly more complex to manage, due to its new scale, and to the flexibility of the upcoming space and ground segments.

Taking this unprecedented growth with newcomers to the satellite industry, the major concern of the Satellite Operators is the waist of capacity. For instance, as the GEO satellite launches are not growing at the same speed as NGSO; also adding the C-band repurposed frequencies to SG. The need to use capacity efficiently, in order to avoid the waste of resources is critical for the new space network infrastructures. As heavy CAPEX business models in Space and Ground NGSO aim to be optimized through ground technology advances, for reaching profitability. The focus is increasingly set on the optimization of OPEX factors, particularly the most critical one: providing efficiently capacity service, talent (in high demand), and growing the market penetration to take advantage of the space



Identifier	Status[%]	Center Freq	Min Freq	Max Freq	Polarization
Transponder1	60	13020	13002	13038	H
Transponder2	50	13020	13002	13038	V
Transponder3	20	13060	13042	13078	H
Transponder4	60	13060	13042	13078	V
Transponder5	80	13100	13080	13118	H

FlexCap, Capacity Management Solution by INTEGRASYS

assets. Optimizing the use of satellite capacity involves advanced technical, and operational expertise in key processes such as link budgeting, network sizing, capacity monitoring, and interference mitigation.

Nowadays, GEO Satellite Operators and Service Providers need optimizing dramatically their business, and economic implications, as it determines the key cost/benefit conversion factor between the total paid capacity (MHz), and charged capacity (Mbps) to customers. The end-user IP service level requirements are satisfied, and the per-site CAPEX cost will determine what realistic market can be obtained.

Satellite Operators that provide capacity to their leasing customers are willing to maximize revenues given the large CAPEX investments in satellites manufacturing and launching. Satellite Operators may also have the role of Service Providers for some market segments, serving directly connectivity to end-users, to try to be more effective in competing against NGSO.

From a professional Service Provider's point of view, there is a need to optimize contracted "raw" capacity in terms of power (dBW) and bandwidth (MHz) to deploy global quality-managed IP connectivity services in a particular market segment paid per Mbps. Service Providers that contract spectral resources to satellite operators (in the old FSS style or by purchasing "open" HTS Capacity (Mbps)) and deploy their own network infrastructure to offer specialized services, need to make sure they get the most of the contracted capacity, converting into a flexible and profitable, optimized network services to be sold based on a "per Mbps" basis to its customers, bring added value offerings to them.

Government agencies usually use a mix of owned and leased capacity from commercial operators or allies. Gather, monitor, and optimize the use of available satellite communication resources, or make them available to authorized government, guaranteeing access in unpredictable situations, and ensuring operational efficiency and short turn-around times, aligned with operational user and security requirements.

Current capacity management operations are far from being supported by modern tools that reflect the technological advances and the dynamism existing and expected in capacity management. Complex Excel spreadsheets, legacy systems, sometimes just ported to a web server, maintaining their structure and lack of usability and difficulty for evolution are the tooling norm in the fast-evolving industry.

INTEGRASYS developed a game-changing Capacity Management System, FlexCap. This solution brings satellite network Service Providers the proper management, and flexibility of the space capacity procuring, capacity leasing, capacity monitoring, and network service deployments over leased capacity. The new smart tool allows managing the pool of capacity dynamically by allocating different users and agreements. This system optimizes the Mbits/s in the capacity leases as well as uses the spectrum within the available frequencies. Also, FlexCap has a faster booking up/down of services, easy to configure by non-experts on satellite engineers. One of the greatest advantages of the tool is that planning capacity becomes easier, and the Satellite Operator has the whole picture of the capacity lease to allocate it in a timeframe so that their resources are always used efficiently, bringing a new level of business intelligence. Also, for Service Providers, the SLAs are accommodated to the needs they must provide their customers with the best-in-class services.

The satellite industry paradigm is changing rapidly and, although capacity supply is growing, the need of being aligned with the resources and the ability to manage the new challenges presented by the new constellations require actions by the current key players of the industry, to make processes easier to take advantage of the arising opportunities. T

SpaceBridge Inc. joins the Digital IF Interoperability Consortium

SpaceBridge Inc. has announced that it has joined the Digital Intermediate Frequency Interoperability ("DIFI") Consortium, an independent space industry group formed to advance interoperability in satellite and ground system networks. SpaceBridge Inc. joins a rising number of leading organizations within the space industry coming together to shape the DIFI Consortium. These organizations are contributing to the innovation of digital transformation of space, satellite and related technologies for the benefit of the space industry. SpaceBridge Inc. sees great value in joining this Consortium by solving current industry and customer challenges in a seamless and automated way through bringing digital IF/RF to life.

"30 years ago, while the entire market was using the 70MHz or 140MHz for modems as the intermediary interface (IF) to RF, the SpaceBridge portfolio company (ACT-wireless Inc.) pioneered the new revolutionary idea to implement L-band interface in the modems and was the first to introduce it to the satellite market in our SL2048/QD2048 modems. 4-5 years ago SpaceBridge realized the trend of separating the routers and servers from modems/RF and started to implement the digital interface between our high-speed modems and RF equipment. We are happy to join the club of companies who believe that now is right time to revolutionize again the RF/IF interface and build the new digital standard to ensure modems/RF interoperability." said David Gelerman, President and CEO of SpaceBridge Inc.

Stuart Daughtridge, Chairman of DIFI and SVP for Advanced Technologies at Kratos commented: "We are pleased to add SpaceBridge, another international leading edge technology company, to the organization. They will be a strong teammate in furthering the maturity and adoption of our interoperable Digital IF standard and enabling the digital transformation of our industry. T

Security and Privacy Concerns with Smart Technologies

Dr. Wael Bayaydh

Wael Bayaydh (Researcher in the university of Oxford-UK, and member of St-Hilda's College) has finished a study about security and privacy concerns with the smart homes and smart devices that can live stream information, or collect and store data (e.g., information, audio, and/or video) about home residents and bystanders who are in range. The detailed scientific paper will be published in the ACM-CHI2022 (i.e., The international computer human interaction conference). The smart devices' capabilities and unprecedented levels of data collection from inside the home are raising concerns about privacy and security, including for example issues surrounding consent practices for data collection and use (e.g. dark patterns and persuasive design practices to gain consent), how personal data is protected by companies and third parties (e.g. smart CCTV or nanny-cams being breached to stream video outside the home), or even how smart technology can be misused by users against other members of the same household (e.g. intimate partner or domestic abuse). This is further complicated by the fact that homes are private spaces in which the privacy rights of smart home users and bystanders are not clearly established, and also where culturally and socially acceptable privacy norms and practices are continually evolving in the face of highly innovative and changeable technology.

The vast majority of privacy research in the smart home has focused on western contexts (e.g., Europe, and North America) however, as smart technology becomes more ubiquitous, we argue that non-western perspectives have been overlooked and require close attention in order to provide more suitable privacy solutions that fit the contextual needs more closely. In this paper, the researchers report on the results of a qualitative study aimed at exploring the privacy concerns of domestic workers in smart homes to examine smart homes to explore privacy attitudes and practices, focusing on public awareness of smart devices, worker privacy concerns and expectations, aspirations for privacy control in smart homes, perceptions and expectations of privacy rights, and contextual influences (i.e., social norms, customs, and religious background).

The researchers have interviewed multiple stakeholders using semi-structured interviews, which we then translated, transcribed, and analysed using Grounded Theory. The team have identified 5 themes: a) Weak public awareness of smart technologies and basic understanding of user privacy in the smart home; b) Privacy concerns, and expectations -- highlighting that cameras are reported to be the most concerning devices; c) Perceptions that worker privacy rights are limited and power dynamics between workers and employers are asymmetric, which leaves workers with no choice other than accepting situations where employers use smart devices to monitor them; d) Contextual, social, and religious influences on privacy concerns, practices and rights; and e) Aspirations for innovative privacy control features to compensate for perceived problems with existing solutions. The paper concludes with some recommendations to mitigate the impact of smart home devices on bystander privacy and discusses future research avenues. T

Intelsat and PCCW Global collaborate to deliver on-demand enterprise connectivity solutions

Intelsat and PCCW Global have announced a new collaboration to extend the reach, resiliency and quick delivery of on-demand enterprise connectivity offerings.

The integration of Intelsat's FlexEnterprise global connectivity fabric with PCCW Global's Console Connect Software Defined Interconnection® platform enables organizations to deliver enterprise connectivity to locations around the globe while leveraging an easy-to-use platform underpinned by one of the world's largest private MPLS networks.

The combined solution addresses two key obstacles to delivering reliable, agile services across all of an enterprise's locations: limited local telecom infrastructure that can challenge traditional network deployments in developing or hard-to-reach places, and lengthy lead times typically associated with creating high-performance networks and services. The collaboration brings together

Frederick Chui, Chief Commercial Officer, PCCW Global, said, "The collaboration with Intelsat brings together the latest innovations in fixed network and satellite network technologies to deliver more flexible enterprise connectivity solutions. By integrating Intelsat's FlexEnterprise solution with the Console Connect digital platform, our global customers can access satellite connected locations wherever they need to and effortlessly turn up services across all sites."

FlexEnterprise leverages the world's largest and most advanced integrated satellite fleet and ground infrastructure to enable service providers to integrate the reach and reliability of Intelsat services without the need to manage wholesale satellite capacity. The connectivity-as-a-service solution offers packaged service that makes it quicker and more cost-effective to add resiliency to existing sites and extend the reach of enterprise networks to even the most remote areas.

The Console Connect digital platform puts users in control of one of the world's largest MPLS and Tier 1 IP networks, providing them with private, on-demand connections between over 750 data centres across more than 50 countries worldwide. Console Connect is home to a growing ecosystem of cloud, SaaS, IX, IoT, carrier and enterprise partners, which are directly interconnected by the platform's private high-performance network, delivering higher levels of network performance, speed, and security. Through the platform's MeetingPlace feature, users can also directly order and provision partner services, such as remote peering, colocation and business applications, as well as access native services from Console Connect.

Brian Jakins, General Manager and Vice President of Networks, Intelsat, said, "Our Sales and Product teams work closely with the telecom ecosystem to make satellite services more relevant and easier to adopt for a broader set of customers. With the integration into the Console Connect platform, Intelsat is able to more easily meet customers anywhere on the PCCW Global network, while enterprises leverage the platform to extend applications and services to their most remote users and outposts." T

Intelsat supports programmers with Cloud Connect Media

Intelsat has announced its latest service offering: Cloud Connect Media, a connectivity solution that provides programmers with secure access between the IntelsatOne Media Network and Amazon Web Services (AWS).

Cloud Connect Media is designed to provide content providers with a private, dedicated secure gateway between AWS and the Intelsat global media distribution network. Intelsat is an AWS Select Partner in the AWS Partner Network (APN).

C-SPAN, the nonprofit, public affairs network providing Americans with unfiltered access to federal government proceedings, will be the first Intelsat customer to use Cloud Connect Media to add resiliency and reliability to their linear workflows. C-SPAN and Intelsat have been longstanding partners driving innovation in the media industry, and this trend continues with Cloud Connect Media.

"Intelsat's rollout of Cloud Connect Media helps complete C-SPAN's transition to a total cloud configuration by providing a fast and reliable path from our uplink location directly to Amazon Web Services, with the most up-to-date connectivity available," said Roxane Kerr, vice president of Technology for C-SPAN.

"The ability to send and receive media content securely from the cloud, while maintaining broadcast-grade distribution reliability, has become a focus for many of our media customers," said Bill O'Hara, VP and GM of Media Business at Intelsat. "Cloud Connect Media uses AWS to help our customers access their cloud services while still being able to utilize the industry-leading Intelsat network and our full suite of media managed services for regional and global video distribution."

"AWS Direct Connect can support Intelsat's mission with a low latency, secure, and private connection to the global AWS network," said Clint Crosier, director, Aerospace and Satellite at AWS. "The speed and agility of AWS are well suited to help Intelsat meet customer expectations for rapid, reliable global connectivity and communication." T

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09 May

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GSMA Mobile360

Riyadh, KSA

17 - 19 May

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Dubai, UAE

23 - 25 May

COMEX Technology Show

Oman

24 - 25 May

TELECOMSWORLD Middle East

Dubai, UAE

30 May - 01 June

5G MENA

Dubai, UAE

31 May

avia – Asia Video Industry Association

Singapore

31 May - 01 June

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Dubai, UAE

01 - 03 June

ConnecTechAsia

Singapore

03 - 10 June

SMART TECH KOREA

Seoul, South Korea

13 - 14 June

CYBERTECH

Dubai, UAE

14 - 16 June

MEET ICT Bahrain – The Leading ICT Event in Bahrain

BITEX Bahrain International Technology Exhibition

Manama, Bahrain

29 June - 01 July

GSMA MWC Shanghai

Shanghai, China

09 - 12 September

Amsterdam, Netherlands

28 - 30 September

GSMA MWC Las Vegas

Las Vegas

09 - 13 October

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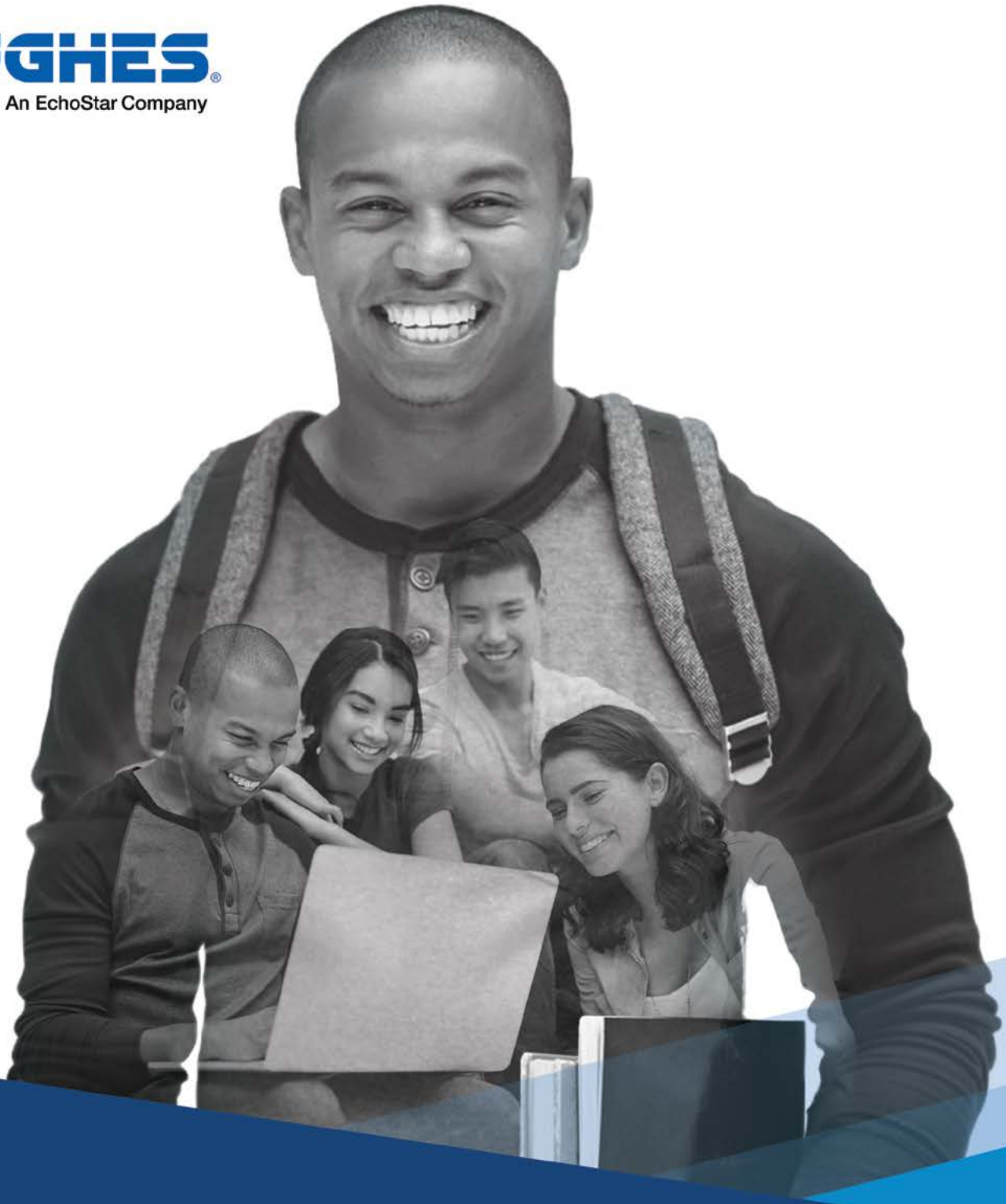

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