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INTRACOM TELECOM GROUP NEWSLETTER | ISSUE 41

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INTRACOM
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INTERVIEW

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INTRACOM TELECOM WINS INTERNATIONAL “AI EXCELLENCE” AWARD

Intracom Telecom earned the prestigious AI Excellence Award at the 2024 WITSA Global Innovation & Tech Excellence Awards during WCIT 2024 in Yerevan, Armenia. This accolade celebrated the company's NFV Resource Intelligence (NFV-RI™) platform, which leveraged advanced AI technologies to tackle energy efficiency challenges in 5G networks. Amid rising energy costs and sustainability demands, NFV-RI™ achieved impressive energy savings of up to 45% in the 5G Core and 30% in telecom data centers.

Christos Rizos, Chief Technology Officer for ICT & Software Solutions at Intracom Telecom, emphasized company's dedication to innovation and sustainability, crediting the team's expertise in crafting a world-class solution that enhances AI infrastructure both locally and internationally.

Moreover, during the Digital Economy Forum, The Federation of Hellenic ICT Enterprises (SEPE) honored Greece's three standout nominations from the WITSA awards. Minister of Development Panagiotis Theodorikakos presented the “AI Excellence Award, Private Sector” to Intracom Telecom's Chairman, Isak Alon. Mr. Alon highlighted the honor of representing Greece, reaffirming the company's commitment to advancing AI in Greece, Europe, and beyond.



38 Gbps E-BAND RADIO TECHNOLOGY INNOVATION

Intracom Telecom unveils at MWC Barcelona 2025 its ultra-high capacity dual-core E-Band radio, designed to meet the demands of the 5G/5G+ era. With an industry-leading 38 Gbps full-duplex capacity over a single 2,000 MHz channel and 21 Gbps full-duplex capacity over a single 1,000 MHz channel,



and with exceptional system gain this cutting-edge UltraLink™ solution ensures the longest E-Band link ranges. Perfect for RAN xHaul applications, it offers resilient, ultra-fast connectivity where fiber optic deployment is impractical or too costly. This technology innovation transforms mobile infrastructure by providing reliable, high-speed connectivity in challenging environments, empowering service providers to meet the demands of next-gen networks and unlock the full potential of 5G and beyond.

INVESTING IN NEW STATE-OF-THE-ART MANUFACTURING FACILITY

A €45 million investment for the construction of a state-of-the-art manufacturing facility in Kozani, Greece, was announced by Intracom Telecom. Construction is set to begin in 2025 and completion is expected within two years. The project is part of Greece's Just Transition program and aims to boost regional entrepreneurship and economic growth.

Spanning over 71,000 sq.m., the new facility will house advanced machinery and will focus on manufacturing next-generation broadband wireless network products. These products will play a key role in advancing 5G/6G networks and supporting the digital economy in Greece and Europe. The plant will be powered in part by solar energy, ensuring sustainability with 20% of its electricity needs covered by solar power.



This facility will complement Intracom Telecom's existing production units in Romania and Italy, strengthening its position in the global market. The project is expected to create over 150 skilled jobs in the region, driving both innovation and regional development.

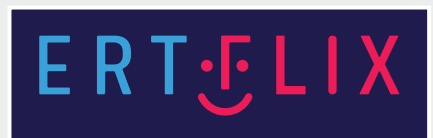
Isak Alon, President of Intracom Telecom's Board, emphasized the facility's strategic importance, noting its potential to enhance the company's global relevance and support the EU's technological self-reliance.

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UPGRADING GREECE'S NATIONAL BROADCASTER DIGITAL PLATFORM

Intracom Telecom has been awarded the project to upgrade ERTFLIX, Greece's national broadcaster (ERT) digital platform, following an international tender. The upgraded platform will ensure maximum security, ease of use and personalization, satisfying even the most demanding users.

The new ERTFLIX will incorporate functions and tools, such as parental control, offline content storage, reminders, advanced recommendation system, accessibility tools, improved navigation, "continue watching" mode and broadcast content in UHD quality.



Launched in 2020, ERTFLIX offers thousands of hours of Video On Demand and ERT's channels live streaming with more than 160 million views per month.

THE HI-TECH INDUSTRY DEPUTY MINISTER OF ARMENIA VISITS INTRACOM TELECOM

It was an honor to welcome the Deputy Minister of High-Tech Industry of Armenia, Mr. Ruben Simonyan, to the Intracom Telecom premises in Athens. During the visit, Mr. Simonyan toured the company's R&D labs and was briefed on Intracom Telecom's global operations and its advancements especially in Fixed Wireless Access, and particularly in the 5G frequency spectrum. Discussion also focused on extending cooperation and expanding Intracom Telecom's presence in Armenia.



NMS PLATFORM UPGRADE POWERING SCALABILITY

The new release (13.1) of Intracom Telecom's uni|MS™ Network Lifecycle Automation & Management Platform. It significantly increases its capacity to manage up to 1 million Fixed Wireless Access (FWA) devices; a 65% jump from the previous limit of 600,000.

This upgrade responded to the global surge in WiBAS™ device deployments by WISPs and Telcos, requiring innovative software solutions to meet growing demand. Achieving the 1-million-device milestone involved a complete redesign of database handling and the adoption of modern containerized applications.

The company's R&D team developed advanced algorithms to support 65% more subscribers while maintaining top-tier performance using the same or fewer datacenter resources. Extensive testing in automated environments, including real network data and simulated stress scenarios, ensured the platform is ready for future scalability and growth.



TRANSFORMING ALBANIA'S DIGITAL ECONOMY



During Albania's recent Digital Economy Conference, focusing on increasing country's footprint in the regional digital economy, Kyriakos Vergos, Intracom Telecom Chief Commercial Officer, delivered a compelling address on the role of next-generation technologies in transforming the nation's economic landscape. Among other, Mr. Vergos highlighted the critical need for mm-Wave bands in unlocking the full potential of 5G, and how state support, particularly through regulatory frameworks, can help realize this vision. He also emphasized Intracom Telecom's constant presence in Albania for over 20 years, Group's position as a global leader in mm-Wave technology, and its readiness to assist the Albanian State in achieving EU digitalization goals.

FOSTERING INNOVATION AND LEARNING WITH TOP GREEK UNIVERSITY

A Memorandum of Understanding (MoU) between Intracom Telecom and the Aristotle University of Thessaloniki (AUTH) aims to promote collaboration in research and innovation, particularly in the ICT sector. This partnership will create opportunities for AUTH students to gain hands-on experience through internships at Intracom Telecom, while engaging in research collaborations aligned with their academic work.

The agreement also includes support for AUTH's research labs and career services, helping graduates secure positions within Intracom Telecom. The collaboration aims to bridge the gap between academia and industry, fostering the development of new skills and innovative projects.



Charalambos Feidas, Rector of AUTH, emphasized the importance of the partnership in strengthening ties between the university and the ICT sector, offering students and researchers the opportunity to contribute to real-world technological advancements.

SUNRISE-6G: PAVING THE PATH FOR 6G

SUNRISE-6G is driving superior performance through innovative access technologies, including joint communication and sensing, cell-free networks, Radio Intelligent Surfaces, and ubiquitous wireless intelligence. The project aims to establish a federation of 6G test infrastructures across Europe, enabling converged Testing as a Service (TaaS), providing a public catalogue of 6G enablers, and supporting cross-domain application onboarding. Intracom Telecom is leading the development of an Open-Standards Compliant Federation Solution and co-leading the implementation of an End-to-End AI Experimentation Framework for 6G. SUNRISE-6G was featured at InfoCom World 2024 in Athens, with research showcased by Eleni Zarogianni, Senior Research Engineer at Intracom Telecom.

📄 <https://sunrise6g.eu/>



6G TECH DEMO ACHIEVES 57 GBPS MILESTONE



Intracom Telecom participated in a cutting-edge demo at CEA-Leti's 6G corner during the European Microwave Week 2024. In collaboration with CEA-Leti and Dell, the demo showcased a 57 Gbps wireless link using advanced 6G technologies, including custom CMOS D-band transceivers at 150 GHz. As part of the TERRAMETA 6G project, a real-time smart manufacturing application was demonstrated, transmitting stereoscopic camera images via a D-band link featuring Intracom Telecom's UltraLink™-XR units and T-RIS

antennas from CEA-Leti. Data was processed on a Dell server and displayed on a TV, drawing attention to future networks operating beyond 100 GHz.

📄 <https://terrameta-project.eu>

EU PROJECT 6G-DALI KICK-OFF MEETING

The Horizon Europe SNS JU Project 6G-DALI launched with its kick-off meeting on January 16 in Barcelona, Spain. Dr. Vasileios Theodorou, Head of Research Collaboration at Intracom Telecom, is the Technical Manager of this ambitious project that unites 13 partners to revolutionize AI-driven automation in 6G. 6G-DALI aims to deploy an end-to-end AI framework supporting two key pillars: AI experimentation via MLOps and data management via DataOps. The project advances Trustworthy and Explainable AI, Federated and Cooperative Transfer Learning, and Reinforcement Learning optimization, while enabling seamless dataset intercommunication through the first comprehensive 6G Data Space.

📄 <https://smart-networks.europa.eu>



EU PROJECT ODEON THIRD PLENARY MEETING



The Horizon Europe Project ODEON is advancing the energy sector with scalable, accessible Federated Energy Data Spaces, enabling seamless data sharing and service orchestration across the Cloud-Edge continuum. At the 3rd Plenary Meeting in Granada in January, Intracom Telecom's

Research Collaboration team highlighted progress on data-driven services for energy management. A key achievement was developing an Edge-enabled Non-Intrusive Load Monitoring model using AI deep learning to estimate appliance-level energy consumption from aggregate measurements. Pruning and quantization techniques optimized the model for Edge devices. This work was presented at the SyNERGY MED and ETCEI conferences.

📄 <https://odeonproject.eu>

SUPPORTING SERBIA'S SMART CITY DEVELOPMENT INITIATIVE

Intracom Telecom is actively participating in the "Towards Smart, Green, and Sustainable Cities in Serbia" project. This initiative, led by NALED with support from Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, aims to assist Serbian municipalities in adopting smart city technologies. In partnership with Lanaco, the project addresses challenges such as IoT integration, data management, and privacy concerns.

Key expected results include (a) development of Smart City plans in five municipalities, (b) implementation of smart solutions such as smart parking, water consumption sensors, and solar chargers for electric vehicles, (c) capacity building for local governments through workshops and study visits, (d) knowledge transfer from pilot municipalities to promote smart solutions across Serbia, (e) raising awareness of sustainable, green smart solutions among local authorities, businesses, and citizens in the Western Balkans.

The project was launched in November 2024 and scheduled for completion in July 2027.



INTRACOM TELECOM ADVANCES 5G OPERATIONAL EFFICIENCY

Intracom Telecom participates in the TM Forum Catalyst project titled "Holistic Intelligence and GenAI to Accelerate 5G Monetization." The project, supported by leading service providers such as BT Group, Telus, Telecom Italia, Zain KSA, Econet Wireless, and Bludigit, addresses the challenges of monetizing 5G networks through B2B services. It focuses on enhancing observability and automation for enterprise customers and was showcased at the TM Forum's DTW24 - Ignite event in Copenhagen.

Intracom Telecom is contributing with its NFV-RI™ solution, which incorporates AI-driven features for dynamic power management, consolidation of cloud-native workloads, and Green Scoring to assess the environmental impact and efficiency of 5G slices. These innovations aim to improve operational efficiency and service quality for enterprise clients.

For more details on the project, scan the QR code to visit TM Forum Catalyst.



WOMEN'S STARTUP INNOVATION COMPETITION

With the sponsorship of Intracom Telecom, the Women's Startup Innovation Competition took place during the 88th Thessaloniki International Fair in September. It was organized by the Athens Chamber of Commerce and Industry (ACCI) in collaboration with the Athens Startup Business Incubator (ThEA) of ACCI.

The competition aimed to inspire and support innovative female entrepreneurship. As part of the event, ten women-led startups and teams presented their groundbreaking business ideas in a dynamic pitching session to an Evaluation Committee. The committee assessed each entry based on the business idea, team composition, and strategic implementation plan. This competition highlighted the power of women entrepreneurs to drive innovation and shape the future of business.



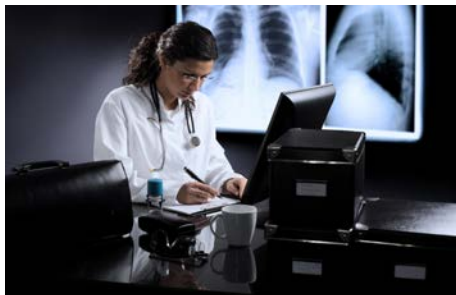
WIRELESS TECHNOLOGIES FOR AFRICA'S UNIQUE CHALLENGES

Intracom Telecom made a powerful impact at AfricaCom, the region's premier telecom event, showcasing cutting-edge wireless technologies designed for Africa's unique challenges. Key highlights included the WiBAS™ G5 platform, offering reliable broadband as a fiber alternative, and the E-Band technology, capable of delivering up to 10 Gbps over long distances to meet transport needs. With applications spanning mining, telecommunications and ICT, Intracom Telecom is paving the way for innovative solutions across the continent. Visitors were eager to learn about these advancements, marking the event as a significant milestone for the company's ongoing efforts in transforming Africa's telecom landscape.



DRIVING DIGITAL TRANSFORMATION OF PUBLIC HOSPITALS

In partnership with Computer Solutions, Intracom Telecom is executing the third phase of a project to digitize imaging exams in 37 public hospitals and Primary Health Care facilities across Greece. Scheduled for completion by August 2025, the initiative aims to modernize operations and cut costs. The project includes a national PACS digital management system and hospital infrastructure upgrades. This phase targets hospitals in the 2nd and 5th Health Regions, integrating Agfa Healthcare's Modern Enterprise Imaging Solution for streamlined record management and result verification. The effort underscores a commitment to advancing Greece's healthcare technology.



INTRACOM TELECOM SUPPORTS HELLENIC NAVY WITH TELEMEDICINE

Intracom Telecom demonstrated its e-Health expertise by equipping the frigate HS Spetses with a telemedicine suite, its third such installation for Hellenic Navy frigates operating near Yemen. The crew underwent specialized training at the National Telemedicine Network Training Center, attended by prominent officials, including the Alternate Minister of Health. Intracom Telecom also supported the Athens Naval Hospital Conference, themed "Redefining Health's Qualitative and Quantitative Dimensions." During the event, the Telemedicine application, developed with the Ministry of Health and the 2nd Healthcare District under the ASPIDES operation, was showcased live from the HS Spetses, highlighting advanced healthcare support for naval missions.



CISCO EXPERIENCE 2024



At Cisco Experience 2024 held last October in Athens, participants had the opportunity to learn and delve into key topics, such as AI-enhanced security, Hybrid Multi-Cloud Infrastructure, AI-Enabled Collaboration, and Smart Solutions. Representing Intracom Telecom, the Gold Sponsor of the event, Agamemnon Daravelas, Senior Presales Engineer, delivered the presentation “Next-Gen Networking: Unlocking the Power of Cisco SD-Access and Catalyst Center” during which he explained how these tools make network management easier, improve security, and automate tasks.

EMPOWERING WISPs WITH INNOVATION



At WISPAPALOOZA 2024 in Las Vegas, Intracom Telecom's booth attracted WISP professionals eager to address broadband challenges. Visitors learned how to enhance their BEAD applications with company's Gigabit FWA solutions, delivering reliable broadband and ultra-fast transmission. Demonstrations highlighted cutting-edge middle-mile technologies, enabling longer ranges and multi-gigabit connectivity. These innovations presented WISPs with new opportunities to expand their networks, improve service reliability, and stay competitive in a rapidly evolving market. Our U.S. CEO, Kyriakos Vergos, participated in a panel session titled 'New Shiny: Emerging Tech,' where he discussed cutting-edge mm-Wave technologies, focusing on reliable gigabit access and transport solutions”. Scan the QR code to download the presentation file.



ATHENS RIVIERA SUMMIT 2024

Intracom Telecom was a Gold Sponsor of the Athens Riviera Summit 2024 in Greece. This is an international forum for dialogue and synergies, which unites leaders across the spheres of government, investment, business, and institutions, from Greece, Europe, the USA, the Middle East, and beyond. During the Summit, Isak Alon, the President of Intracom Telecom's BoD, underscored company's commitment to diversifying revenue streams, with the Greek market playing a pivotal role in this strategy. As he pointed out, with over €20 million invested annually in R&D and a talented team of over 1000 engineers out of 1600 highly skilled professionals, Intracom Telecom is at the forefront of cutting-edge technology.



CONNECTED BRITAIN 2024



During the Connected Britain 2024 event in London, Intracom Telecom highlighted its commitment to advancing connectivity solutions and strengthening its presence in the UK market. By co-exhibiting with Winncom EMEA, company's strategic partner and reseller in the UK, Intracom Telecom demonstrated its unique portfolio of FWA solutions, including E-Band Gigabit Fixed Wireless Access and Long Range Multigigabit Point-to-Point technologies.

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WE INVEST IN THE DIGITAL FUTURE AND IN HUMAN CAPITAL

An Interview of Kartlos Edilashvili, CEO of Intracom Telecom, to the Infocom Magazine in Greece



What are the key challenges and opportunities that have shaped Intracom Telecom's path in recent years, and how do you plan to leverage these during your tenure as CEO?

K. Edilashvili » Over the past five decades in telecommunications, delivering major projects and developing innovative products and technologies, we've witnessed significant shifts, especially as large foreign companies entered the market. Many companies have undergone drastic transformations or disappeared entirely. Although Intracom Telecom faced similar challenges, we managed to adapt by drawing on our expertise and flexibility. Adaptability is embedded in our DNA and has been essential to our journey. For nearly half a century, we have actively contributed to the digital transformation of societies by delivering innovative solutions tailored to the market's evolving needs. With a forward-looking approach to technological challenges, we continuously develop and apply technologies that address both the immediate and long-term needs of our partners and clients.

What sets us apart is our customer-centric approach: instead of offering standardized solutions, we carefully listen to our clients and co-create solutions that meet their specific needs. We have developed and evolved technological platforms based on internationally accepted standards, which we then customize for each client's unique requirements.

As CEO, I intend to strengthen Intracom Telecom's culture of innovation and adaptability by promoting cross-departmental collaboration and investing in our people. I believe it is vital to inspire our employees and provide opportunities for them to develop their skills, as their commitment is key to our future success. My vision is for Intracom Telecom to

become a globally trusted organization that bridges distances and unites people and communities through innovative technology solutions.

Intracom Telecom has a strong presence in Greece. What are the company's most significant projects in the Greek market, and how do they strengthen Greece's position in new technologies?

K. Edilashvili » Intracom Telecom has established itself as a reliable partner in telecommunications infrastructure, offering pioneering solutions tailored to the Greek market. Many of our products are not only "made in Greece" but also "made for Greece." As one of the country's leading solutions developers and system integrators, we have undertaken major projects with organizations like DESFA, Athens International Airport, PPC, Hellenic Police, Coast Guard, and EDIH (telemedicine), with more projects currently under evaluation. These projects not only enhance Greece's technological infrastructure but also foster the adoption of innovative solutions that improve service efficiency, support digital transformation, and strengthen public safety.

At this point, I would like to emphasize that for critical public infrastructure, technology and its country of origin should be closely examined, prioritizing Greek technology to ensure compliance and address security concerns.

In the private sector, we have implemented projects to strengthen network infrastructure, supporting the connectivity and growth of small and medium-sized enterprises. We aim to boost our collaboration with the public sector, believing Greece's digital transformation should be based on solutions developed locally by Greek scientists and tailored to domestic needs rather than imported as "ideal" practices.

Our competitive advantage in the ICT market is offering products and solutions that contribute not only to local development but also to Greece's global outreach. We design our products in-house, leveraging our R&D centers in Greece, which provides us with flexibility. As Greece's only exporter of ultra-high-speed network technology, we deliver significant Greek added value, with products reaching international markets and enhancing Greece's technological footprint globally. For us, shifting to an outward-looking growth strategy is fundamental, as we believe Greece can not only develop innovative solutions for domestic needs but also effectively promote them abroad.

5G and IoT technologies are transforming telecommunications. What role does Intracom Telecom play in shaping these innovations, and what solutions do you offer to meet the needs of providers and end-users?

K. Edilashvili » Our company's philosophy and culture drive us to stay alert and prepared for the future. We are already engaged in collaborations for 5G networks and, through research partnerships, preparing for 6G technology. Generally, 5G (and later 6G) is more than just a technology – it is a dynamic ecosystem with solutions that evolve over time. We focus on developing solutions for ultra-broadband access, with speeds increasing from 500 Mbps last year to 2 Gbps today. A key area of the 5G ecosystem is ultra-fast wireless networks, where we have led the way over the last decade. Our current wireless transmission unit in the 70–80 GHz frequency range reaches 10 Gbps globally, while our latest solutions achieve speeds of up to 30 Gbps, making them ideal for connecting 5G base stations to network cores.

Recognizing early on the transformative potential of IoT in telecommunica-

tions, we have developed innovative IoT solutions for managing and controlling smart devices in areas like smart lighting, smart parking, waste management, and noise monitoring in smart cities. We also offer comprehensive IoT solutions for energy management, water management, and industrial IoT. By using open APIs, we facilitate communication with various sensors and the development of smart applications. These efforts enable us to compete internationally and effectively support both providers and end-users.

**Adaptability, innovation,
and AI-driven solutions
are key to driving
Greece's digital
transformation and
global expansion**

The Gigabit to the Home initiative is vital for achieving the EU's Digital Decade goals. What technological and strategic approaches does Intracom Telecom adopt to reduce the digital divide between urban and rural areas?

K. Edilashvili » The Gigabit to the Home initiative is critical for achieving the EU's Digital Decade goals. The EU has set clear targets for 2030 and co-funds necessary actions to meet them on time. In Greece, the National Broadband Plan 2021–2027 aligns Greek policy with EU directives. One key action is the Ultra-Fast Broadband project, aimed at gigabit-to-home access. The EU's requirement for universal access to this speed promotes equality and inclusion, ensuring a digital environment accessible to all EU citizens.

Intracom Telecom develops products already in use in similar EU initiatives, supporting digital transformation. Our

Fixed Wireless Access (FWA) solutions are based on global standards and customized to meet the needs of each community. We are keenly interested in upcoming initiatives by the Greek government and are fully prepared to collaborate with the relevant authorities.

Artificial intelligence is central to your solutions. What AI use cases has Intracom Telecom developed, and how do they enhance sustainability and operational efficiency in telecommunications?

K. Edilashvili » Artificial intelligence is a core component of our solutions. We focus on enhancing our wireless networks through AI-driven innovations that significantly improve network performance and reliability. These advancements not only support sustainability in telecommunications but also improve operational efficiency. Our AI products range from predictive customer experience to data center sustainability and smart automation. For instance, we offer solutions that reduce energy consumption in data centers by over 35% and others that cut energy usage in 5G networks by 45%. These smart, green solutions have already seen success in markets such as Japan, and we aim to introduce them to the Greek market as well. Recently, we earned a global accolade at the 2024 WITSA Global Innovation & Tech Excellence Awards, representing Greece in the AI category. Our AI solution optimizes energy efficiency in 5G networks.

Additionally, we have developed technologies for automatic recognition of emergencies like fires and floods, enabling timely public notifications and enhancing safety. With experience in data analytics and AI dating back to 2011, we lead AI innovation, investing in generative AI and autonomous multi-agent systems, as well as small language models, which promise to transform

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telecommunications. Our AI initiatives aim not only at Intracom Telecom's success but also at contributing positively to society and the environment.

Investment in Research & Development is pivotal for staying at the forefront of innovation. Could you tell us about some of the most cutting-edge solutions currently under development at Intracom Telecom's R&D centers?

K. Edilashvili » Our leadership in key areas of interest is driven by intensive R&D efforts at our three research centers in Athens, Thessaloniki, and Patras. Over the past 25 years, we have built up essential expertise and developed a team of highly skilled engineers across all key specialties. This allows us to develop systems that strengthen our competitive edge, both in technological innovation and in meeting operators' needs directly, ultimately adding real value for their subscribers. We've also established strong ties with the academic community, collaborating on projects and attracting talent for career development. In a field where access to skilled engineers makes all the difference, we excel at cultivating, training, and advancing talent from Greece's limited talent pool due to its smaller population.

Consider, for instance, that subscribers in Italy, Spain, and Bulgaria enjoy wireless ultrabroadband access at home, thanks to groundbreaking wireless access network technology developed by a team of Greek engineers. And in just one year, we'll be discussing speeds of 2 Gbps for residential and business wireless access users. Even more remarkable, this upgrade requires no equipment changes—only software implementation. This is just one of many exciting developments underway in our labs. Equally significant is our progress in advancing wireless transmission methods



Kartlos Edilashvili
Intracom Telecom CEO

for 5G networks. Within two years, we will offer products with speeds exceeding 35 Gbps, which is 250% faster than today's comparable systems.

At Intracom Telecom's Software Development Center, our focus is on building the core of 5G networks and optimizing them for cloud environments. At the same time, we're developing innovative solutions based on microservices architecture and leveraging technologies such as machine learning, knowledge graphs, and generative AI to automate documentation. Our goal is to support digital transformation on cloud platforms, reducing costs for providers while enhancing the efficiency of our services, and contributing to a fully connected society.

Talent development and retention are critical for the success of any tech company. What initiatives does Intracom Telecom undertake to attract and nurture talent, especially in Greece?

K. Edilashvili » We believe our people are our greatest asset, so we continuously invest in their learning, growth, and career development. Through specialized educational platforms, targeted training programs, and modern tools, we ensure our team acquires the knowledge and skills they need to be ready for tomorrow's challenges. We place particular emphasis on reskilling and upskilling, giving our employees the chance to advance and adapt to new roles, thus enhancing their flexibility and career progression. To promote transparen-

cy and trust, we have implemented regular "One-on-One" meetings between employees and management, where ideas and needs can be openly discussed, fostering a supportive environment. This open dialogue is a cornerstone of our strategy for talent development and retention.

In addition, our long-term collaboration with Greece's academic institutions is another key advantage. Since 1995, we have actively participated in research projects, giving students and young researchers opportunities to experience real industrial research and the processes of a large multinational company. Our research centers, spanning from Greece to Milan, work closely with academic institutions, creating a steady bridge between the academic world and the tech industry. Intracom Telecom also promotes a work environment that encourages creativity, flexibility, and remote work, recognizing the importance of work-life balance. With these initiatives, our aim is to attract, develop, and retain talented professionals who will contribute to our company's ongoing success.

Intracom Telecom recently announced an investment in Kozani, Western Greece, to build a high-tech equipment production facility. Can you tell us more about this project?

K. Edilashvili » This investment marks a significant milestone for Intracom Telecom and reinforces our commitment to technological excellence and sustainable development. The new manufacturing facility in Kozani is a strategic addition to our existing production units in Romania and Italy, designed to address the growing global demand for advanced telecommunications solutions. Construction is set to begin in the second quarter of 2025, with completion expected within two years. The facility will focus on producing cutting-edge radio systems for high-frequency wireless networks. These systems, developed by our R&D centers in Greece, provide ultra-high capacities and performance, meeting the needs of telecommunications providers worldwide. Sustainability is a key focus of this project.

The facility will meet 20% of its energy needs through solar systems, aligning with our broader vision of driving environmentally responsible innovation. Kozani was chosen for its modern infrastructure, strategic location, and easy access to European markets. These advantages position the region as an ideal base for expanding our production capabilities and strengthening the European Union's digital independence. Importantly, this project will also deliver significant socio-economic benefits. Over 100 skilled jobs will be created, stimulating the local economy and supporting regional development. This facility is more than a production unit—it's

a catalyst for growth and innovation. It reflects our mission to empower societies through cutting-edge connectivity solutions while fostering sustainable regional prosperity. We are excited about this next chapter and confident that the Kozani facility will help Intracom Telecom continue to lead in high-tech advancements and contribute meaningfully to the communities we serve.

As Intracom Telecom evolves, what are the main prospects and strategic goals for the company's future and the telecommunications industry as a whole?

K. Edilashvili » My vision is to create a world where technology serves as a catalyst for societal and economic progress, positioning Intracom Telecom as a trusted global solutions provider. Through the company's transformation, we aim to focus on our growth activities and to devise a strategic expansion plan that will bring us closer to our objectives over the next five years. Our strategic goal is to be among the top five ICT product providers, offering innovative solutions that improve people's lives and strengthen communities. The next five to six years will be crucial, as initiatives like the Digital Compass 2030 in Europe and the Broadband Equity Access Deployment program in the U.S. present significant opportunities for network infrastructure.

I'm particularly excited about the markets in Africa and the Far East, where increased infrastructure investments are foundational to economic growth.

We are also enthusiastic about engaging in satellite technology projects in Greece, which demand expertise in high- and ultra-high-frequency radio communications, telemetry, network architecture, and specialized software development—areas where we have extensive knowledge and solutions. Our experience in European technology projects gives us a strategic advantage in partnering with specialized companies and pursuing these projects through consortia.

A central part of our strategy is diversifying our revenue streams, with a strong focus on the Greek market, where we aim to participate in broadband projects as well as those requiring AI solutions, which we are already integrating into our platforms. We believe that AI adoption should expand across the public and private sectors, as it will be the main driver for the digital modernization of the country. As Intracom Telecom, we are and will continue to be at the forefront of this transformation, contributing to the development of sustainable and innovative solutions for the future. ■

ARTICLE

TRANSFORMING CONNECTIVITY FOR MULTI-DWELLING UNITS WITH MM-WAVE FWA

PANTELIS TRAKAS
Principal Product Manager, Wireless Network Systems

As urban areas face increasing demand for high-speed internet, Fixed Wireless Access (FWA) has emerged as a promising solution to deliver broadband connectivity to both densely populated and underserved markets. Among the frequency bands used, the 28 GHz and 29/31 GHz millimeter-wave (mm-Wave) bands stand out for their excellent ability to deliver ultra-fast internet speeds to multi-dwelling units (MDUs), which often encounter unique connectivity challenges. This article explores the potential of mm-Wave FWA for MDUs, the implementation challenges and strategies for successful deployment.

UNDERSTANDING FIXED WIRELESS ACCESS

Fixed Wireless Access (FWA) is a broadband delivery method that employs wireless technology to connect homes or businesses to the internet. Unlike fiber or cable, FWA relies on base stations to transmit radio signals to Customer Premises Equipment (CPE). This wireless approach offers a cost-effective "last-mile" solution, especially in locations where deploying wired infrastructure is impractical or expensive.

WHY THE 28 GHz BAND?

The 28 GHz band is part of the mm-Wave spectrum and offers ultra-fast, low-latency communication. It has gained popularity for its suitability in high-capacity data transfer. Key attributes include:

- » **High Bandwidth:** Delivers gigabit-speed connections, essential for MDUs with high user density.
- » **Low Latency:** Enables real-time applications such as video conferencing and online gaming.
- » **Efficient Spectrum Use:** Offers better performance in dense urban environments compared to traditional technologies.





ADVANTAGES OF 28 GHz FWA IN MDUS

- » **High-Speed Connectivity:** The 28 GHz band supports multiple tenants simultaneously without significant service degradation, even during peak hours.
- » **Scalability:** Service providers can expand coverage within buildings or across neighborhoods without major infrastructure overhauls.
- » **Lower Deployment Costs:** By leveraging wireless infrastructure, FWA reduces the need for costly fiber installations.
- » **Reliability:** The dedicated spectrum ensures stable, interference-free connections in dense urban settings.

CHALLENGES IN DEPLOYING MM-WAVE FWA

Despite its benefits, FWA deployed in 28 GHz and 29/31 GHz bands presents several challenges:

- » **Line-of-Sight (LoS) Requirements**
High-frequency signals are easily obstructed by walls and other obstacles, requiring clear LoS between base stations and CPE.
- » **Signal Interference**
Weather conditions and physical barriers can impact signal quality.

ADDRESSING DEPLOYMENT CHALLENGES

Overcoming the obstacles to implementing reliable and scalable mm-Wave FWA networks in the 28 GHz and 29/31 GHz bands involves the following strategies:

» Site Surveys and Network Planning

Conducting thorough site surveys and using advanced planning tools ensures optimal placement of base stations and CPEs, addressing LoS challenges and minimizing interference.

» Regulatory Compliance

Adhering to spectrum usage regulations, building codes, and permit requirements is critical for smooth and lawful deployment.

» Network Monitoring and Management

Continuous performance monitoring optimizes signal quality, adjusts bandwidth allocation, and ensures uninterrupted high-speed connectivity for residents.

mm-Wave Fixed Wireless Access
revolutionizes urban broadband with
scalable, high-speed 28 GHz solutions
overcoming deployment challenges

CONCLUSION

The 28 GHz and 29/31 GHz bands are revolutionizing broadband connectivity for MDUs, offering high-speed, scalable, and cost-effective solutions. Although deployment challenges such as LoS limitations and signal interference persist, strategic planning and the use of advanced network technologies can overcome these hurdles.

By addressing these challenges, mm-Wave FWA networks have the potential to empower urban/suburban residents with reliable, high-speed internet access that supports modern, data-intensive lifestyles. With its promising capabilities, mm-Wave FWA is poised to become a cornerstone of urban/suburban broadband innovation and an excellent complement or alternative to fiber. ■



ADVANTAGES OF HYBRID BEAMFORMING VERSUS DIGITAL BEAMFORMING

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In the rapidly evolving world of wireless communications, beamforming technologies are central to improving signal quality, optimizing bandwidth, and enhancing overall network performance. Beamforming is particularly vital in the context of advanced wireless technologies like mm-Wave FWA and Wi-Fi 6, which rely on efficient and high-capacity transmission of data across multiple users. Among the various beamforming techniques, digital beamforming and hybrid beamforming are two key approaches, each offering distinct advantages and trade-offs.

Digital beamforming involves fully digital signal processing at each antenna element. By independently controlling the phase and amplitude of signals for each antenna element, it enables precise control over beam direction. This makes digital beamforming highly effective in dense

environments with high user density and multi-path propagation. However, its implementation requires significant computational resources, leading to higher costs and power consumption.

Hybrid beamforming, on the other hand, combines digital and analog signal processing techniques. This approach splits the signal processing into two stages: digital beamforming at the baseband and analog beamforming in the radio frequency (RF) domain. By leveraging analog components to manage groups of antennas, hybrid beamforming reduces the hardware complexity and power consumption associated with fully digital systems. This scalability and efficiency make hybrid beamforming particularly suitable for large-scale systems like massive MIMO arrays in 5G and purpose built mm-Wave FWA networks.

BEAMFORMING: ENHANCING CONNECTION RELIABILITY AND NETWORK EFFICIENCY

Beamforming is a cornerstone of advanced wireless communication, playing a critical role in improving signal quality and optimizing network performance. By directing signals in specific paths rather than broadcasting them uniformly, beamforming achieves higher gain, resulting in longer and more reliable connections even in challenging environments. The technology also minimizes interference by focusing energy in targeted directions, which is particularly beneficial in dense deployment scenarios. Additionally, beamforming serves as a foundation for Multi-User (MU) connectivity through spatial separation, enabling simultaneous communication with multiple devices. This capability enhances network capacity and efficiency, making beamforming indispensable for modern wireless systems, including those leveraging mm-Wave spectrum and massive MIMO arrays.

ADVANTAGES OF HYBRID BEAMFORMING OVER DIGITAL BEAMFORMING

» Lower Power Consumption

Hybrid beamforming reduces the reliance on power-intensive digital components, significantly decreasing energy consumption. This is particularly important in mobile networks, where base stations and user equipment must operate under strict power constraints. By improving energy efficiency, hybrid beamforming also reduces operational costs and enhances the sustainability of wireless networks.

» Cost Efficiency

The fully digital approach of digital beamforming necessitates a large number of ADCs, DACs, and DSPs, which increases both hardware and computational expenses. In contrast, hybrid beamforming minimizes the need for such components, making it a cost-effective solution for large antenna arrays.

» Scalability

Massive MIMO systems, a cornerstone of advanced ultra broadband wireless access technologies, require handling a vast number of antennas to serve multiple users simultaneously. Digital beamforming's high computational demand limits its scalability. Hybrid beamforming, with its ability to group antennas and reduce digital processing, provides a scalable alternative for large systems.

» Simplified Hardware Design

Hybrid beamforming reduces the need for individual ADCs and DACs for each antenna element. This simplification of hardware design not only lowers costs but also facilitates the deployment of large antenna arrays in practical systems.

» Improved Spectral Efficiency and Performance

While digital beamforming excels in precision, hybrid beamforming achieves high spectral efficiency by combining digital and analog techniques. This balance enhances network capacity and reduces interference, making it ideal for high-throughput scenarios like mm-Wave ultra broadband FWA networks.

» Reduced Latency

By leveraging analog components for faster signal processing at the RF stage, hybrid beamforming can reduce latency compared to fully digital systems. This advantage is crucial for applications requiring

Hybrid beamforming balances digital and analog processing, optimizing performance, scalability, and cost-efficiency for modern wireless networks like mm-Wave FWA and massive MIMO systems

real-time communication, such as autonomous vehicles and virtual reality.

» Use Cases and Applications

Hybrid beamforming is well-suited for applications requiring high throughput and cost efficiency, such as mm-Wave Fixed Wireless Access (FWA) networks, massive MIMO deployments, and satellite communications. Its scalability and energy efficiency make it a preferred choice for large-scale wireless systems. Conversely, digital beamforming is better suited for smaller systems or environments requiring maximum flexibility and control over individual antenna beams.

THE SOLUTION

A prime example of hybrid beamforming technology is Intracom Telecom's WiBAS™ G5 smart-BS. This Point-to-Multipoint hub is part of the company's ultra-broadband portfolio, designed to deliver interference-free connectivity in the 24.25-29.50 GHz mm-Wave band. By leveraging Multi-User MIMO and an Advanced Antenna System (AAS) for precise beamforming, the WiBAS™ G5 smart-BS achieves sector capacities of over 5 Gbps using up to 200 MHz channels. Paired with the WiBAS™ G5 GigaConnect+ terminal, it provides end-user speeds of up to 2 Gbps over distances of up to 8 km.

This cutting-edge solution supports up to 120 terminals per hub, making

it ideal for dense FWA deployments in suburban and rural areas. Its rapid deployment capabilities and compatibility with 3GPP-based 5G systems ensure seamless integration into existing networks. Additionally, the WiBAS™ G5 smart-BS incorporates advanced features like hitless adaptive modulation up to 1024-QAM, low latency, and robust VLAN translation, catering to both direct and wholesale service models.

CONCLUSION

Hybrid beamforming represents a transformative approach to wireless communication, offering a balanced mix of performance, scalability, and cost-efficiency. By combining the strengths of digital and analog signal processing, hybrid beamforming addresses the challenges of modern wireless networks, particularly in the context of ultra broadband mm-Wave Fixed Wireless Access networks and beyond.

As wireless technologies continue to evolve, solutions like the WiBAS™ G5 smart-BS underscore the practical advantages of hybrid beamforming. With its high capacity, energy efficiency, and seamless integration capabilities, the WiBAS™ G5 smart-BS exemplifies the potential of hybrid beamforming to drive the future of wireless communication. ■

ARTICLE



UNIFIED AI AND DATA PLATFORM TO EMPOWER DATA SCIENTISTS, DATA ENGINEERS AND BUSINESS USERS

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In the indispensable field of data science and engineering, professionals spend an overwhelming amount of time on repetitive, time-consuming tasks. While the spotlight is often placed on machine learning (ML) model creation and fine-tuning, the reality is that most of the data scientist's or data engineer's workday is consumed in data preparation, cleansing, transformation, and orchestration tasks. These foundational steps are essential for creating reliable ML pipelines and extracting valuable insights, yet they remain bottlenecks in the workflow.

BigStreamer, Intracom Telecom's unified AI and data platform, has been a game-changer for efficiently handling large-scale data workloads. By integrating generative AI (GenAI) capabilities, we aim to revolutionize productivity for data scientists and engineers, enabling them to focus on the creative and analytical aspects of their jobs while eliminating the burden of labor-intensive data wrangling.

THE CHALLENGES IN DATA SCIENCE AND ENGINEERING WORKFLOWS

Before diving into the potential of GenAI, it's important to understand the challenges faced by data scientists and engineers:

» Data Preparation and Cleansing

Raw data is rarely in a usable format. Data scientists spend hours cleaning, normalizing, deduplicating, and imputing missing values to ensure their datasets are analysis-ready.

» Data Exploration and Schema Navigation

With data stored across multiple sources and complex schemas, identifying the right datasets for analysis is a significant hurdle. Users often waste valuable time navigating through data catalogs and querying metadata instead of focusing on analysis.

» Data Validation and Consistency Checks

Ensuring data consistency across interconnected datasets is tedious and error-prone. Identifying mismatches, duplicate entries, or missing values often involves writing complex scripts and manually inspecting results.

» Data Compliance with Regulations

Compliance with standards and regulations is a growing concern. Identifying and managing sensitive data while adhering to continuously updated regulatory requirements is a time-intensive yet critical task.

» Report and Dashboard Generation

Crafting dashboards and reports often requires manual coding and expertise, limiting accessibility for non-technical users. This slows down decision-making and creates bottlenecks as teams wait for data professionals to deliver insights.

These challenges reduce productivity and detract from high-value activities like model crafting, experimentation, and insights generation.

HOW GENERATIVE AI EXTENSIONS ENHANCE BIGSTREAMER

Integrating GenAI into BigStreamer™ has the potential to transform the data science and engineering experience by automating mundane tasks and assisting professionals in every stage of their workflow. The following GenAI-based capabilities would significantly improve user productivity:

Data Exploration via Natural Language Interfaces

Navigating large datasets and understanding complex schemas can be a daunting task for even experienced professionals. BigStreamer, enhanced with GenAI, could allow users to explore their data more intuitively through natural language prompts. For example, a user could type:

- » “Show me all tables related to customer transactions for the past six months,” or
- » “Find data sources containing sales data aggregated by region.”

Generative AI integration in data platforms can automate time-consuming tasks like data preparation, validation, and compliance, boosting productivity for data scientists and engineers while enabling greater innovation and faster insights

The platform would then suggest relevant tables, schemas, or data sources, allowing users to quickly identify and retrieve the information they need. This capability reduces the time spent searching for the right data and lowers the barrier to entry for new team members or non-technical users.

Data Validation

Ensuring data consistency across large datasets is a critical but labor-intensive task. GenAI extensions in BigStreamer could automate data validation by crafting intelligent test jobs. For example, the platform could:

- » Detect mismatches between expected and actual data values across tables (e.g., ensuring that sales records in one table match invoice records in another).
- » Flag anomalies such as duplicate entries or missing key fields in transactional data.

Imagine a user prompting:

- » “Check that all customer IDs in the sales table exist in the customer master table and report any mismatches.”

The system would generate and execute the necessary validation jobs, providing users with a detailed report of inconsistencies, reducing manual effort and error rates.

Data Compliance with Regulations

In today’s regulatory environment, ensuring compliance with data regulations and industry standards

is paramount. BigStreamer’s GenAI extensions could act as a compliance advisor for policy enforcement. For instance, the system could:

- » Identify unusual patterns or anomalies in data access using stored audit logs, indicating potential security threats.
- » Continuously monitor the constantly evolving regulatory landscape and recommend updated obfuscation or anonymization strategies based on the regulatory requirements of specific jurisdictions.

A user might prompt:

- » “Classify a dataset according to the new compliance measures recently applied in the industry (e.g. finance, shipping).”

This capability would provide organizations with an added layer of assurance while reducing the complexity and risk associated with regulatory compliance.

Data Preparation and Cleansing

Data preparation often involves tedious tasks like normalizing values, handling missing data, and identifying outliers. With GenAI, BigStreamer could assist users in automating these processes. For example:

- » Suggesting optimal imputation methods for missing values based on data type and distribution.
- » Automatically detecting and correcting anomalies in datasets, such as misformatted dates or invalid entries.

A user might prompt:

» “Clean this dataset by filling missing values in the revenue column and flag outliers in the customer age field.”

This capability would significantly reduce the manual effort required for data preparation, enabling users to focus on higher-value tasks.

BigStreamer™ integrates GenAI to automate data tasks, boosting productivity and enabling creativity for data professionals

Report and Dashboard Generation via Natural Language Interfaces

Creating dashboards and reports is often a manual process requiring coding skills and significant effort. With GenAI, BigStreamer simplifies this process by enabling users to describe their requirements in natural language. For instance:

» “Generate a dashboard showing total revenue, customer churn rates, and sales trends over the past year,” or
 » “Create a report comparing this quarter’s performance across regions.”

The platform would then generate the necessary queries, visualizations, and layouts automatically. This feature would empower even non-experts, such as mid-level managers, to create insightful dashboards without involving data scientists or engineers, making data insights more accessible across the organization.

UNLOCKING CREATIVITY & INNOVATION

By offloading tedious tasks to GenAI-powered BigStreamer, data scientists and engineers can focus on what truly matters:

1. Experimenting with novel ML algorithms
2. Developing domain-specific insights
3. Iterating rapidly on models to improve accuracy
4. Driving data-driven innovation in their organizations

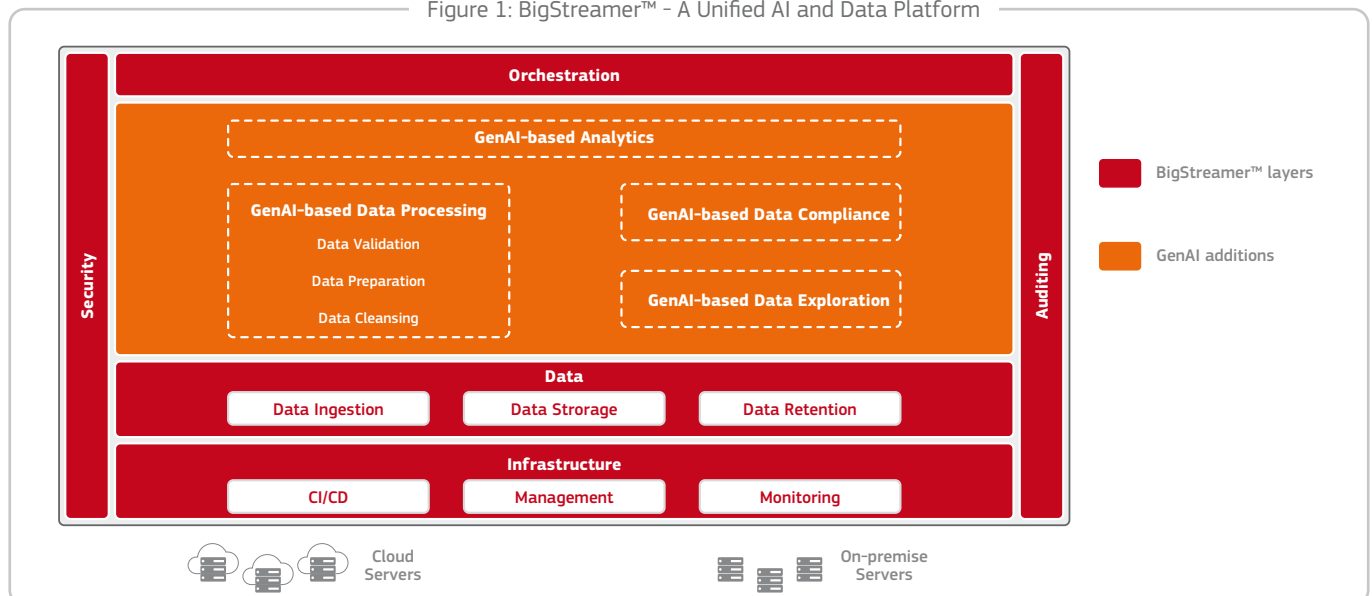
Additionally, with productivity-enhancing features, organizations can scale their data operations without proportionally scaling their teams, creating significant cost and time efficiencies.

LOOKING AHEAD: THE FUTURE OF BIGSTREAMER WITH GENAI

The integration of GenAI into BigStreamer is more than a technical enhancement—it’s a strategic move to redefine productivity in data science and engineering, as well as business stakeholders. As we continue to refine these features, we envision BigStreamer becoming an indispensable tool, enabling professionals to overcome their workflow challenges and focus on delivering transformative outcomes.

By addressing the real pain points of data exploration, preparation, validation, and compliance, BigStreamer is positioning itself not just as a data platform but as a comprehensive productivity enabler for the modern data-driven enterprise. ■

Figure 1: BigStreamer™ – A Unified AI and Data Platform



AI-POWERED EXCELLENCE



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ARTICLE

LICENSED MM-WAVE FWA SOLUTIONS THE GOLD STANDARD IN WIRELESS CONNECTIVITY

PANTELIS TRAKAS

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Fixed Wireless Access (FWA) technologies have revolutionized the way we connect to the internet. Among the plethora of FWA solutions, licensed millimeter-wave (mm-Wave) FWA solutions stand out as the gold standard for delivering reliable ultra broadband service. In this article, we will explore the reasons why licensed mm-Wave FWA solutions shine and how they compare to unlicensed 5 GHz and 6 GHz FWA solutions.

LICENSED MM-WAVE FWA SOLUTIONS: A BEACON OF EXCELLENCE

» The Spectrum Advantage

Licensed mm-Wave FWA solutions operate in carefully allocated, exclusive frequency bands such as the 24 GHz, 28 GHz, 29/31 GHz and 39 GHz ranges. These bands are rigorously controlled, ensuring minimal interference and providing a robust foundation for high-capacity data transmission.

» High Data Rates: A Game Changer

The standout feature of licensed mm-Wave FWA solutions is their ability to deliver unparalleled data rates. Speeds often soar beyond 1 Gbps, making them the ideal choice for applications demanding massive data throughput. With such capabilities, they cater to the needs of 4K video streaming, gaming, and enterprise services with ease.

» Fortified Against Interference

Interference can be a nightmare for wireless ISPs affecting the SLAs towards their end customers. Licensed mm-Wave FWA solutions enjoy protection

against interference. This exclusive access ensures a stable and consistent connection for users, free from the disruptions that often plague unlicensed spectrum bands.

» Quality of Service (QoS) Guarantees

QoS guarantees are the backbone of critical applications like telemedicine, Internet of Things (IoT), and mission-critical communications. With licensed mm-Wave FWA solutions, service providers can provide robust QoS guarantees, ensuring that vital services function flawlessly.

» Extensive Coverage

Despite their high-frequency nature, licensed mm-Wave bands are capable of covering vast areas with reduced infrastructure. This property minimizes deployment costs and, in turn, subscription fees, ensuring that more people can benefit from high-speed internet access.

LICENSED MM-WAVE FWA SOLUTIONS VS. UNLICENSED 5 GHz AND 6 GHz FWA SOLUTIONS

Now, let's delve into a comparison between licensed mm-Wave FWA solutions and unlicensed 5 GHz and 6 GHz FWA solutions to highlight the superiority of the licensed option.

1. Data Rates

» Licensed mm-Wave

Reigns supreme with the capability to offer more than 2 Gbps data rates per subscriber terminal, ensuring

that data-intensive applications run smoothly and without lag even in situations that multi-gigabit speeds need to be distributed amongst many users like in Multi Dwelling Units (MDUs).

» **Unlicensed 5 / 6 GHz**

Offers moderate data rates, typically ranging from 100 Mbps to 500 Mbps for 5 GHz. However, advanced 6 GHz options can achieve up to 1 Gbps with MIMO 2x2 configurations. These enhanced capabilities make the 6 GHz band a compelling choice for applications requiring higher throughput within unlicensed spectrum.

2. Cost

» **Licensed mm-Wave**

Initial costs can be high due to licensing fees and specialized equipment. However, the value derived from the performance justifies the investment.

» **Unlicensed 5 GHz**

Delivers cost-effective solutions that are accessible to smaller ISPs and communities. While cost-efficient, they may lack the bandwidth and QoS capabilities of licensed mm-Wave solutions.

3. Interference

» **Licensed mm-Wave**

Boasts low interference, thanks to the exclusive nature of licensed spectrum bands. This is a critical advantage for maintaining network stability and ensuring a reliable connection.

» **Unlicensed 5 GHz**

Vulnerable to interference, particularly in densely populated areas where multiple devices and networks operate within the 5 GHz band. This interference can disrupt network performance and reliability.

4. NLOS Performance

» **Licensed mm-Wave**

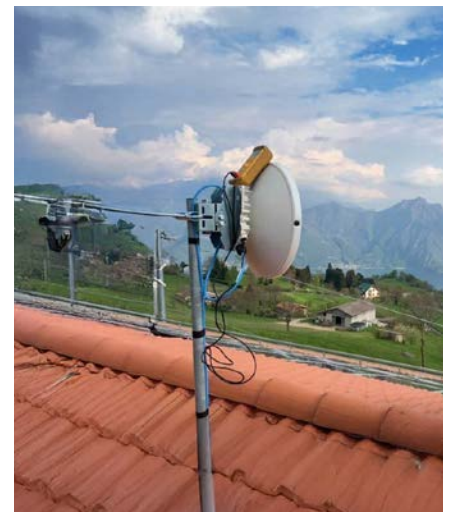
Suffers from limited Non-Line-of-Sight (NLOS) capabilities due to their high-frequency nature. They excel in line-of-sight deployments.

» **Unlicensed 5 GHz**

Shines with better NLOS performance, making it the preferred choice for urban environments with obstacles like buildings and foliage.

WIBAS™ G5: A LICENSED FWA POWERHOUSE

Intracom Telecom's WIBAS™ G5 smart-BS exemplifies the gold standard in licensed mm-Wave FWA solutions. Operating in the 24.25-29.50 GHz mm-Wave band, this Point-to-Multipoint hub features Multi-User MIMO and an Advanced Antenna System for precise beamforming, enabling interference-free connectivity. With support for 200 MHz channels, it achieves sector capacities exceeding 5 Gbps and pairs with the WIBAS™ G5 GigaConnect+ terminal to deliver up to 2 Gbps per end-user over an 8 km range. The system supports up to 120 terminals per hub, making it ideal for dense suburban and rural deployments. Its advanced features include hitless adaptive modulation up to 1024-QAM, low latency, and VLAN translation, ensuring both performance and flexibility. Furthermore, its rapid deployment capabilities and seamless integration with 3GPP-based 5G systems highlight its role as a technology-neutral, high-performance broadband solution. The product has a roadmap of evolution to include frequency bands such as 29/31 GHz and 39 GHz.



CONCLUSION

Licensed millimeter-wave (mm-Wave) FWA solutions undoubtedly represent the pinnacle of wireless connectivity. Their exclusive spectrum access, high data rates, protection against interference, and ability to guarantee Quality of Service (QoS) set them apart as the ideal choice for demanding urban environments and enterprises.

While unlicensed 5 GHz and 6 GHz FWA solutions have their merits, such as cost-effectiveness and Non-Line-of-Sight (NLOS) performance, they struggle to match the data rates and reliability of licensed mm-Wave FWA solutions. The key is to choose the solution that aligns with the unique needs of the deployment area and user base.

In conclusion, licensed mm-Wave FWA solutions set the gold standard for high-speed, reliable wireless connectivity. Their capabilities make them the go-to choice for applications that demand the highest data rates, minimal interference, and uncompromised Quality of Service. As technology evolves, the gap between licensed and unlicensed solutions may continue to widen, solidifying the position of licensed mm-Wave FWA solutions as the beacon of excellence in the FWA landscape. ■

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