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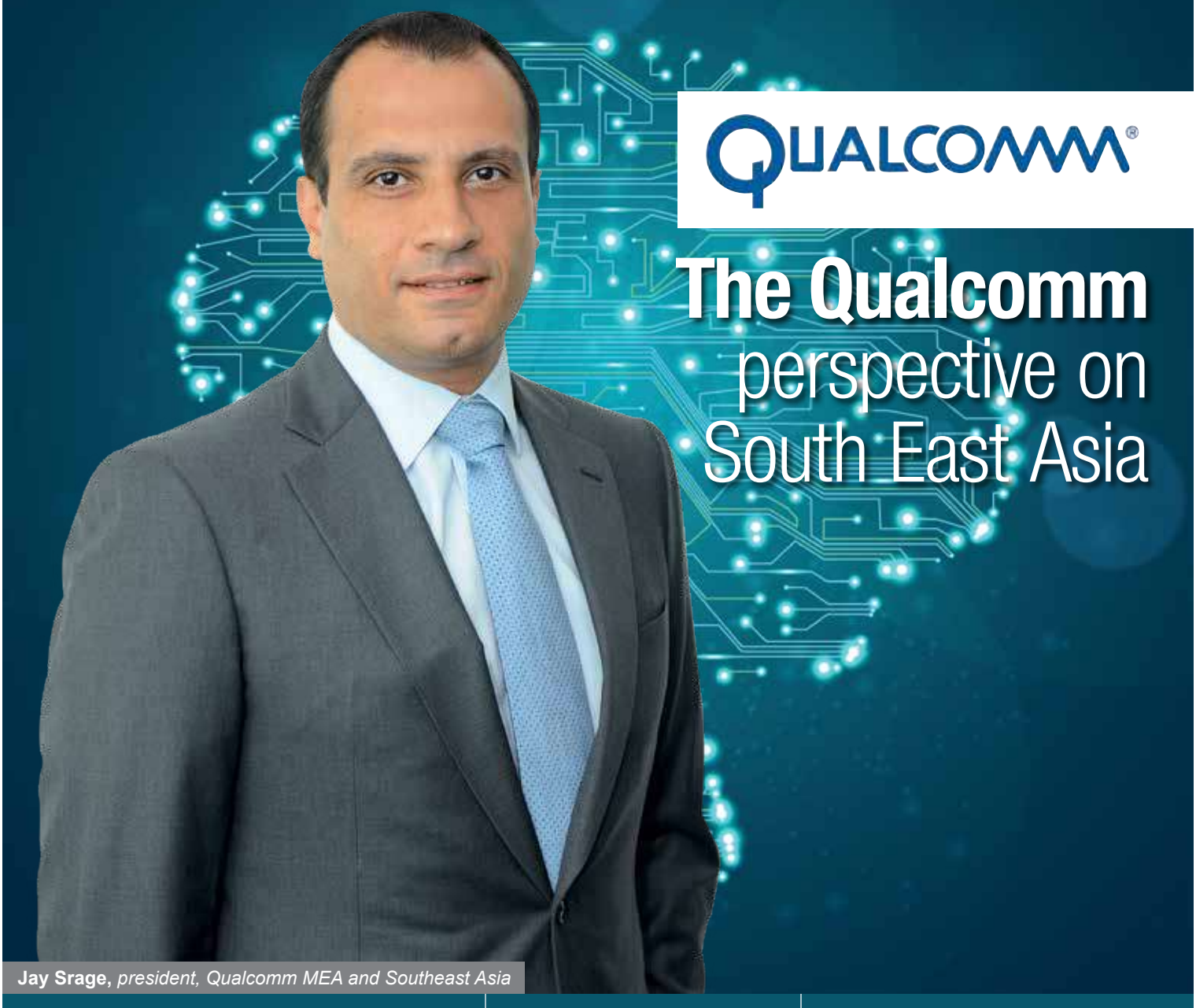
The Qualcomm perspective on South East Asia



Jay Srage, *president, Qualcomm MEA and Southeast Asia*

Mobile World Congress 2014: Is 5G or smart devices next?

The power of two

Making way for mobile banking in Myanmar

SUMMIT
TELECOM Review

"It's all about Networking"

November 24, 2014
Dubai, UAE

Telecom Review proudly announces its next summit in Dubai. In one day full of new different streams, the summit, held under the theme "It's all about Networking", will bring together ICT industry leaders across the region in a friendly environment to shed light on the changes that the telecommunications and IT sector are experiencing in the era of the new services.

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What is next?

5G mobile is coming

Toni Eid,
editor in chief
Telecom Review International

The Telecom Review team has just returned from Mobile World Congress (MWC) in Barcelona, and it was very well attended!

The Telecom Review "Daily E-News", covering the day by day events at MWC, was warmly welcomed by our clients and partners and appreciated by everyone.

No doubt, 5G was one of the hottest topics at MWC this year. However, there were quite a few new product and service launches throughout the four days of the event, so please stay tuned for more in that regard.

Some vendors see that it is still early for 5G especially that many countries such as India and some in Africa have just announced or launched 3G, while others are in the process of preparing for 4G.

However, North American operators in the US and Canada as well as South Korea are very excited about 5G in terms of what this technology could bring to customers in terms of enhancing the total experience and for the sake of our total mobility as well!

Telecom Review met operators and vendors from all over the world at MWC including from the Middle East, Asia, Africa, North America and South America.

We are proud to announce that this year we will be launching the South American edition out of Austin, Texas. This new edition will be managed by our American managing partner, Jeff Seal.

In the coming editions of Telecom Review, including the print, digital and mobile editions, you will discover many technology updates launched by top tier vendors and a summary of operators' activities. Our goal and promise is to be with the telecom industry every step of the way.

Ericsson Response partners with Save the Children

Ericsson and global charity Save the Children have signed a partnership agreement for global disaster response under which Ericsson will provide telecommunication solutions and support services for better and faster response in disaster situations. According to Ericsson the agreement leverages its core competencies to prepare for and collaborate in disaster response, supporting the partner's activities. The initial agreement is for three years after which it will be automatically renewed for one year at a time.

"ICT plays a critical role in global disaster response where efficient and effective emergency communications contribute to saving lives and alleviating suffering," Ericsson said.

"As a stand-by partner, Ericsson Response is ready to assign staff and technical solutions as an emergency response or for non-emergency field operations. The organizations will also cooperate in workshops and provide training for staff and volunteers."

Ericsson Response was founded in 2000 when Ericsson employees expressed a wish to contribute their experience and skills in disaster relief situations. Since then Ericsson Response has supported more than 40 relief efforts in more than 30 countries and hundreds of employees from all over the world have volunteered, been trained and deployed to various disaster relief operations.

The Ericsson Response team's main tasks are to set up mobile networks for voice and data communication, as well as supporting partners in training and knowledge sharing.

Oracle buys BlueKai

Oracle has signed an agreement to acquire BlueKai, claimed to be the industry's leading cloud-based big data platform. According to Oracle it "enables companies to personalize online, offline and mobile marketing campaigns with richer and more actionable information about targeted audiences."

The BlueKai solution includes its Data Management Platform, which centrally organizes a company's customer and audience data in the cloud to help implement personalized marketing campaigns across all channels and deliver better results and higher marketing RoI. BlueKai also claims to run the world's largest third party data marketplace to augment a company's proprietary customer data with actionable information on more than 700 million profiles.

Oracle said that BlueKai would be integrated with both Responsys for B2C marketing automation and Eloqua for B2B marketing automation in order to deliver orchestrated and personalized customer interactions across all marketing activities and channels.

"BlueKai combined with Oracle's Marketing and Social solutions provide customers with the ability to build the richest user profiles combining information from first party and third party sources including media, advertising, social, and mobile sources. The combination will also allow both B2B and B2C organizations to build unmatched personalized cross-channel campaigns and customer interactions across e-mail, web, social, mobile, advertising and syndicated content channels. "

The Oracle Marketing Cloud is an integral part of the Oracle Customer Experience Cloud, which includes commerce, sales, service, social and marketing.

Yahoo spurns Facebook and Google sign-in credentials

Yahoo has confirmed that it will stop letting people sign into its online services using credentials from rival Internet titans Facebook and Google.

The shift began with the Yahoo Sports Tourney Pick'Em arena and will gradually expand to all of the company's online services and products, including photo-sharing website Flickr.

"We are moving towards requiring all users to access our service with a Yahoo username over time," Yahoo said. "Eventually, the sign in buttons for Facebook and Google will be removed from all Yahoo properties."

Yahoo portrayed the move as enabling it to provide more personalized services and content to visitors, but it was also seen as part of a strategy to better target money-making ads.

Yahoo is bucking a trend of websites accepting Facebook or Google usernames and passwords to allow single online identities follow people across the Internet.

Yahoo chief executive, Marissa Mayer, has overhauled the company's offerings and launched digital magazines as part of an effort to revitalize the aging Internet pioneer and to be at the center of daily online habits. She has made a priority of following people onto mobile devices, focusing on tailoring content to individual tastes while Microsoft search engine Bing does the heavy-lifting behind the scenes, crawling and indexing online content for Yahoo under the terms of a deal struck several years ago.

Meanwhile, Facebook last year unseated Yahoo as the number two digital ad seller in the United States, according to industry tracker eMarketer. Google remained the top digital ad seller with just shy of 40 percent of the US market, eMarketer reported.

PCCW Global is first in the world to obtain MEF CE 2.0 and 10GE network certification

PCCW Global, the Hong Kong-headquartered international telecommunications division of HKT, has become the first carrier in the world to be granted international MEF CE 2.0 certification for global services that cross continental boundaries, as well as the first carrier to have its 10 Gigabit ethernet service certified. In addition, a number of PCCW Global's technical experts have been accredited with the latest MEF-CECP 2.0 certification from the Metro Ethernet Forum (MEF), the global defining body for Carrier Ethernet.

The news adds significant weight to PCCW Global's stated commitment to meeting rigorous CE 2.0 performance qualifications, as well as the continuous development of the operator's internationally acclaimed Carrier Ethernet service capabilities.

This accreditation achievement, which includes the world's first certification of all eight Carrier Ethernet service types, follows PCCW Global winning the MEF's "Best Global Wholesale Ethernet Service Award" last November. MEF President Mr. Nan Chen congratulated PCCW Global on an outstanding contribution to the industry and delivery of innovative Carrier Ethernet solutions to customers around the world.

Jordick Wong, PCCW Global's senior vice president of Product and Vendor Management, said, "Ethernet is becoming the technology of choice for many enterprises looking to extend LANs internationally without the hassle and cost of investing in multiple interface types at the customer premise. We are enriching our Ethernet offering to customers globally by providing them with a fully-managed carrier-class solution. It is essential that PCCW Global continuously upgrades its service standards and ability to support the latest voice, data and video applications worldwide."

MEF CE 2.0 has broadened the scope of CE 1.0 by adding standardized class-of-service management definitions, multi-site connectivity and inter-carrier services. In addition, CE 2.0 has introduced standardized Carrier Ethernet service management capabilities. These new standards enable carriers to streamline the establishment of external network-to-network interconnections, while improving service coverage, administration and fault management across large geographies. Other improvements include optimization of global services and the ability to offer scalability with consistent and predictable performance.

The 10GE standard is fully interoperable with existing Ethernet protocols. As demand for speed increases, cost-effective 10GE technology can be deployed within existing networks to support high-speed, low-latency requirements. This provides customers with a number of key operational benefits such as lower switch or router set-up costs, a full bandwidth advantage when carrying bursty traffic to ensure quality of service, and bandwidth headroom for traffic diversity and rerouting.

Industry leaders and experts have developed MEF-CECP certification to identify Carrier Ethernet expertise within organizations. As the industry's first vendor-neutral certification program, MEF-CECP warrants that those attaining this rigorous certification have the competency to design, market, deploy, operate and support the Carrier Ethernet equipment, networks and services that represent the next generation of telecoms technology.

Pactera expands consultancy reach with Jatis joint venture

Pactera Technology International Ltd, a NASDAQ listed consulting and technology services provider headquartered in China, has formed a joint venture with Indonesian information technology and software consulting firm Jatis Group.

Pactera said the joint venture, Pactera-Jatis Indonesia, would give it near-shore development capabilities in Indonesia to complement its global delivery centres located in Mainland China. "In addition to servicing customers in the APAC region, PJI is positioned to be a one-stop reliable centre for businesses around the globe seeking business expansion in South East Asia's booming economy," the company said.

Jatis Group's clientele includes APAC institutions in the financial, mobile-telecommunication, healthcare, manufacturing / distribution, fast moving consumer goods, (FMCG) and public sectors. Headquartered in the Indonesian capital city of Jakarta, it has branch offices in Singapore, Kuala Lumpur and Manila.

Tiak Koon Loh, director and CEO of Pactera, said: "Through PJI, together with our Asia South business focus, we are now able to provide our clients with strategically located best-shore alternatives by leveraging delivery capabilities in Indonesia, Malaysia and the Philippines, in addition to our existing key centres in China. With a talented team over 200 strong, this JV further enables Pactera and Jatis to enhance and develop meaningful joint go-to-market initiatives that will enable us to compete more aggressively and win more decisively in the fast growing Asia Pacific market place."

Pactera claims to deliver world-class business / IT consulting, solutions and outsourcing services to a wide range of Fortune 500 clients spanning the Financial Services, Technology, Telecommunications, Travel and Transportation, Energy, Life Sciences, Manufacturing and Retail and Distribution sectors.

Alcatel-Lucent picked for Indonesian FTTP roll-out

Alcatel-Lucent has been awarded a contract from Telkom Akses to rollout fiber to the premises networks in Indonesia. Telkom Akses is the Telkom Indonesia subsidiary responsible for building a national broadband infrastructure. It has responsibility for taking broadband penetration in Indonesia from about two percent to 30 percent by the end of 2015.

An Alcatel-Lucent spokeswoman told Telecom Review that the company had been awarded a contract for East Indonesia, but would give no other details.

Rama Agung, account director of Alcatel-Lucent Indonesia, said: "The fact that Alcatel-Lucent is the market leader in GPON and access technology combined with the proven quality of our solution were deciding factors in Telkom Akses giving us the opportunity to contribute to Indonesia's national broadband program. It is a great endorsement of Alcatel-Lucent's expertise and accomplishments in this field."

Telkom Indonesia, the largest telecommunications services company in Indonesia and majority owned by the government, has, through Telkom Akses, the responsibility for expanding the national broadband infrastructure to 15 million subscribers by 2015 as part of the TITO (Trade In Trade Off) Access Modernization Project which is replacing legacy copper cabling with optical fiber.

Alcatel-Lucent said that, once deployed its technology would "allow for the delivery of a range of consumer and business services including IPTV, video on demand, voice over IP (VoIP) and more at speeds of up to 100Mbps."

XL Axis Telecom merger clears final hurdle

Indonesia's Business Competition Supervisory Commission (KPPU) has given its approval to the proposed acquisition and merger between mobile network operators XL and Axis Telecom Indonesia (Axis).

The Commission has issued its opinion stating that there are no fears that monopolistic practices and unfair competition would result from Axis's proposed takeover by XL. XL has already received approval from the Ministry of Information and Communications and from XL shareholders for the deal, and from the Financial Services Authority (FSA), the Indonesia Stock Exchange and the Investment Coordinating Board (BKPM).

President director of XL, Hasnul Suhaimi, said: "We are grateful for the support given by the Commission. This is an important moment for the process of national consolidation of the telecommunications industry. By obtaining the approval of the Commission, we have complied with all the requirements of the conditional sale and purchase agreement (CSPA)."

Hasnul said that XL would be in regular contact with the Commission to ensure that the merger complied with all rules an requirements. Post merger XL-AXIS will have more than 65 million subscribers, which represents approximately 21 percent market share.

XL is one of the leading telecommunication companies in Indonesia. It was founded in 1996 and claims to be the only mobile carrier that has an extensive fiber optic network. XL launched 3G services in 2006. The company is majority owned by Axiata Group Berhad through Axiata Investments (Indonesia) Sdn Bhd (66.5 percent). The remaining 33.5 percent is held by the public. Other members of the Axiata Group are Robi (Bangladesh), Smart (Cambodia), Idea (India), Celcom (Malaysia), M1 (Singapore), SIM (Thailand) and Dialog (Sri Lanka).

Chinese handset makers heading for market dominance

ABI Research says it expects Chinese handset vendors to account for over 50 percent of mobile handsets in 2015, up from 38 percent in 2013.

According to ABI, the ongoing shift in growth to low cost handsets, especially smartphones, will increase their market share. "Greater China has long dominated the mobile handset manufacturing supply chain, but now its OEMs are beginning to dominate sales at the expense of the traditional handset OEMs, including even Samsung," the company said.

"Many of the Chinese OEMs have focused almost exclusively on the huge Chinese market, with little activity beyond its borders, but this is set to change. Huawei (sixth in worldwide market share for 2013) and ZTE (fifth) have already made an impact on the world stage, but other Chinese handset OEMs like Lenovo, the Motorola acquisition, is a clear statement of intent, and Xiaomi are set to join them."

Nick Spencer, senior practice director, mobile devices, said, "Chinese vendors already take up five of the top ten places in terms of worldwide market share, despite three of them only really shipping into China. The Chinese vendors highlight the changing shape of the mobile handset market, as the Chinese manufacturing ecosystem, specifically reference designs and enable the next wave of smartphone growth in low cost emerging markets and amongst price conscious consumers everywhere."

He added, "South East Asia has already experienced this trend, but ABI Research expects to see the impact of these Chinese vendors increasing in all emerging markets and even advanced markets, especially on prepay."

The Qualcomm perspective on South East Asia

In mid 2013, Qualcomm combined its operations in the Middle East and Africa with those in South East Asia, MEA president, Jay Srage, was made president of Qualcomm MEA and Southeast Asia. He explains the rationale behind the move and highlights Qualcomm's priorities in the Asian region.

Jay Srage, *president, Qualcomm MEA and Southeast Asia*

When your role as president of MEA was expanded to include SE Asia in June last year you were reported saying that bringing the two regions together would help Qualcomm to capitalise on the synergies between the MEA region and South East Asia. What synergies do you see between the two regions? How are you tracking towards this goal?

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Middle East and Africa and Southeast Asia Pacific are among the fastest growing emerging regions currently in the world. The two regions share an incredible amount of synergy; both regions include some of the most advanced countries as highlighted earlier that drive the latest technologies and innovations not only within the region, but throughout the world. For instance, Telstra in Australia has for many years been the leading driver of HSPA+ evolution, and countries like UAE, Saudi Arabia and Singapore have been among the first countries to adopt the latest LTE networks.

The synergies are also driven by operator groups that span the region. Three examples explain the need to have a unified Qualcomm approach in those emerging countries, working closely with the operator groups. Ooredoo, based in Qatar, has been very strong in SEA specifically in Indonesia with Indosat and recently in Myanmar. Saudi Telecom Company (STC) has operations that span from South Africa to Indonesia and Malaysia. And SingTel Group has investment and properties across markets from Indonesia, Australia, India and Africa.

My view is that both regions share unique similarity in trends regarding device, network and application/ service selection. As a leader in mobile technologies that works with all parts of the ecosystem including operators, vendors and developers,

Qualcomm believes that there is much to share in the way of business opportunities and technological knowhow. Ultimately, through these synergies, we are confident that consumers will be able to procure increasingly affordable devices that run on efficient, advanced 3G and 4G networks, accessing compelling and relevant applications and services. This in turn continues the growth of the mobile industry as a whole.

From a Qualcomm perspective, it is important that we focus on creating economies of scale around the technology, device and application to drive mass adoption of mobile broadband. While I can't discuss the details at the moment, we will be able to discuss the results of those initiatives in the near future.

Which countries in SEA do you consider as key?

I see the SEA region as a collection of vibrant clusters of countries with similar dynamics. You have developed countries - Australia, Singapore and Hong Kong - which play a key role in the early adoption of advanced technologies. You have the next emerging countries (large economies that will follow BRIC), which are those with significant future economic potential like Indonesia, Vietnam, Thailand and Philippines. And finally, you have the countries that are still in the very early stage of developing with challenging economic conditions like Myanmar, Laos and Cambodia, where we are also collaborating with the local players.

We see a very similar structure in MEA that includes developed countries such as Saudi Arabia, UAE and the other GCC countries, as well as developing countries like South Africa, Egypt, Nigeria and Kenya, and early development stage countries such DRC, Cameroon, and others.

Can you give a bit of an overview of Qualcomm in Asia Pac: where do you have R&D facilities? What technologies do they focus on? Can you talk about any future investment plans in the region?

Qualcomm Research is interested in redefining the wireless industry and creating the technologies of tomorrow. Our ambition is to invent technologies that give people everywhere the opportunity to transform the way they live, discover limitless possibilities, and grow their knowledge and understanding of the world around them.

Our R&D facilities in Asia Pacific are based in China and Korea. Our centres in China focus on the continued evolution of all technology standards plus femtocells and embedded software development, whereas our facility in Korea is focused on experience-based technologies and solutions such as machine learning, speech and sound recognition, image and video processing and so on. Unfortunately, we are unable to disclose specific investment plans; however, for more information please visit http://www.qualcomm.com/research

China accounts for the bulk of TD-LTE users today and you've done very well in that market. Chinese telcos, and vendors, have been reported as working to promote TD-LTE elsewhere to boost volumes and bring prices down. What is Qualcomm's view on the global TD-LTE scene and what is it doing to promote TD-LTE elsewhere?

As global mobile data doubles every year, the industry is preparing itself for an astounding 1000x increase in data processed by 2020. While the industry is addressing this through infrastructure enhancement techniques and various network solutions, LTE-TDD plays a very important part in this challenge as well. LTE-TDD utilizes unpaired spectrum, commonly found in higher frequency bands like 3.5GHz; it is Qualcomm's belief that securing these higher bands for TDD-LTE will significantly help address rapidly increasing data consumption demands.

LTE-TDD is certainly a global technology standard and has been commercial since 2011. Currently, there are 28 commercial LTE-TDD networks launched worldwide (source: GSA, Jan 2014). Qualcomm is leading the global success of LTE with our LTE/3G/2G multimode Gobi modems, the common platform for LTE-TDD and LTE-FDD, and have already powered commercial LTE devices.

You've got a new smartphone processor, the Snapdragon 801. Among other enhancements is support for 4K video, and you've got a white paper on 4K. Do we really need 4K on phones and isn't it going to put a lot of extra load on networks that are already struggling to meet demand?

Consumers are demanding a lot more from their mobile devices nowadays, be it smartphones, tablets or other devices – and quite rightly so. From emailing and watching high-resolution videos, to monitoring our homes, offices and even our personal health, the mobile device has become the central gateway bridging the physical and digital worlds.

Qualcomm believes that we, along with the entire mobile industry, need to constantly fulfil these demands so that we can truly deliver a mobile lifestyle to consumers, despite the additional load on networks.

That is why we, as a company, remain heavily focused on innovation and research & development, including the evolution of 3G and 4G networks; network enhancement techniques; small cells; and many others.

Qualcomm is increasingly focused on the Internet of Everything and I understand you are developing various technologies and solutions for a raft of vertical sectors. How relevant is this for Asia Pacific? Where do you see the opportunities in the region?

Everything around us is becoming intelligent and connected, forever changing the way we interact with the world. Qualcomm is creating the fabric of IoE for the individual, applying its vision, global leadership and successful history to help build global interoperable systems and a broad, healthy IoE ecosystem.

Specifically, we are excited about opportunities in the automotive industry and in the Connected Home sector. We are making our homes "smarter" and are working with industry partners to build innovative value-added applications, services and experiences for the connected home and deliver them at scale on open platforms. Qualcomm technologies such as Gobi, StreamBoost, AllPlay are already present in many devices in the home but we also work with a broad ecosystem of industry partners, for instance within the AllSeen Alliance (to which we contributed the open-source AllJoyn software framework). This enables us to bring the necessary interoperability across public, home and proximal clouds.

Additionally, the emergence of the "smart city" concept is something we are committed to see proliferate. 60 percent of the world's population will live in a city by 2025, thus, cities are facing huge challenges to modernize their infrastructure and services. Qualcomm believes that adding intelligence can result in immediate improvements in resource management, public safety, lower CO2 emissions and operational savings.

This requires that cities have a sustainable city wide connectivity and infrastructure plan across the six primary areas of investment: Energy, Infrastructure, Transportation, Government, Building and Healthcare. Qualcomm's unique combination of cellular and short-range connectivity ensures rapid and scalable end-to-end solutions with minimal upfront capital expenditures, nominal operational expenses and lower total cost of ownership (TCO) for many use cases.

We believe these opportunities are of great interest to governments and the mobile ecosystem in Asia Pacific, especially in places which have large population sizes and advanced infrastructure in place. Our existing efforts in the MEA region to bring the smart city concept to KSA and UAE will ensure that similar efforts in Asia Pacific will also benefit. TR

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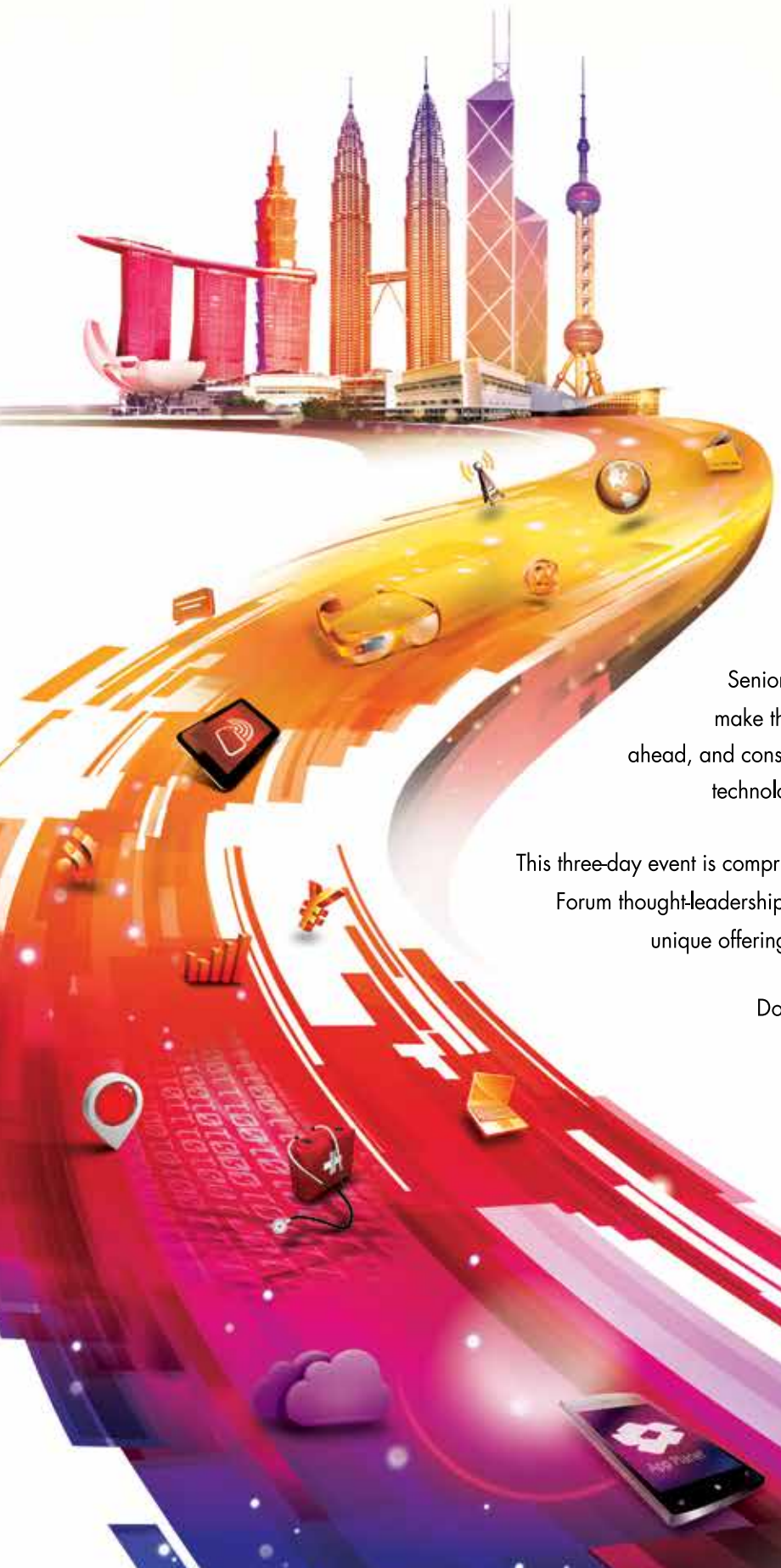
Shanghai | 11-13 June 2014 ▪ 上海 | 2014年6月11至13日



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Mobile connects us to new information, possibilities, people, ideas and experiences. The **2014 Mobile Asia Expo** will celebrate and expand on the connections offered by mobile. Senior industry leaders will learn about new developments and make the connections needed to grow their business in the years ahead, and consumers passionate about mobile will discover devices and technologies that will keep them connected to what matters most.

This three-day event is comprised of an international technology exhibition; the Mobile Forum thought-leadership conference; world-class networking opportunities; and a unique offering of featured programmes, specialty zones and pavilions.

Don't miss this industry-changing event. Make plans to be in Shanghai, where our international audience will be **Making Global Connections.**

www.MobileAsiaExpo.com

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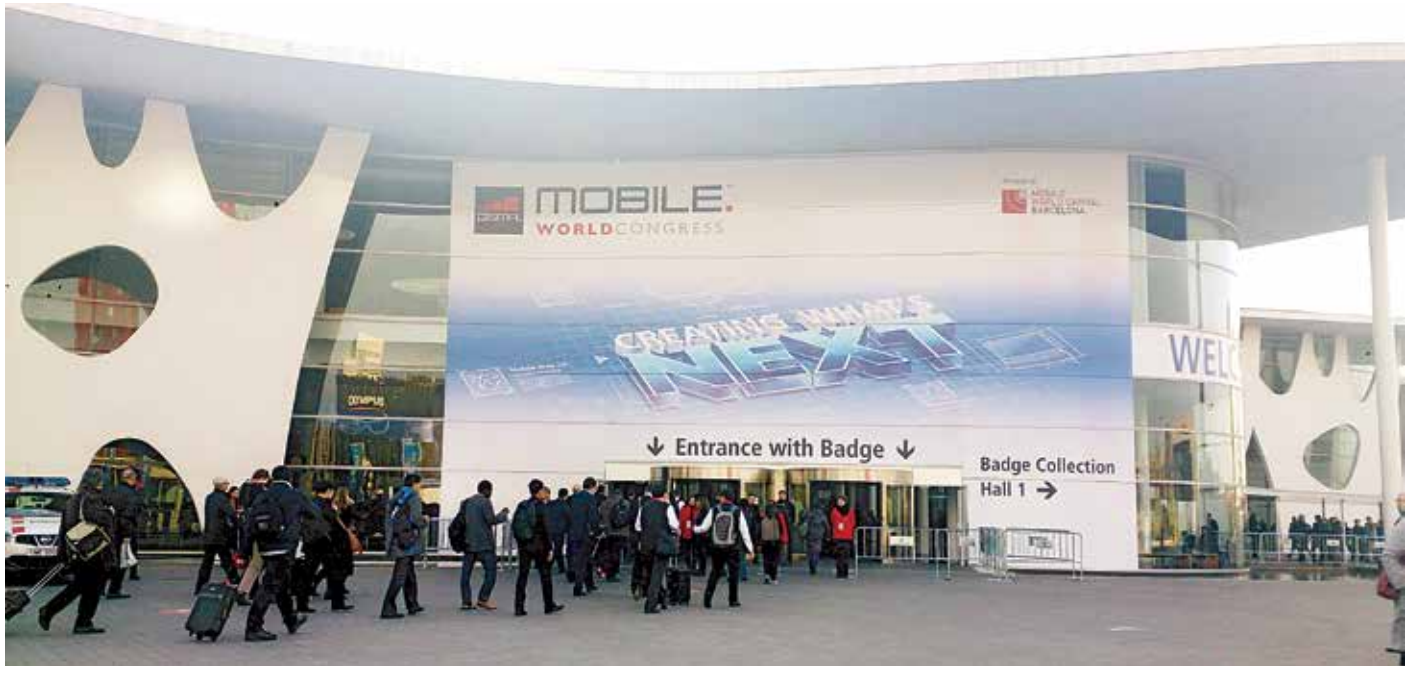
Mobile World Congress 2014: Is 5G or smart devices next?

Telecom Review's team was on the ground in Barcelona to bring our readers all the news and hands-on previews from one of the most important events on the ICT calendar. Digging our way through the crowds in the famous Fira Gran Via and jumping from one hall to another, we gathered a handful of information about the best industry experts who were present there, including the biggest vendors, operators, service providers, manufacturers and OTTs among many other players. In this issue, we bring you the first global coverage. Due to the amount of material collected, we shall deliver detailed coverage in the next issue of Telecom Review, so stay tuned.



Under the theme "Creating what's next", this year's show gathered 85,000+ delegates and focused on how mobile is changing the different facets of life.

Keynote speakers included Facebook founder and CEO Mark Zuckerberg, IBM president and CEO Virginia Rometty, AT&T chairman and CEO Randall Stephenson, as well as WhatsApp's CEO Jan Koum who discussed current and future trends in the mobile industry besides tackling the sellout to Facebook.

The event showcased some of the most significant innovations and advances in the mobile industry and offered a blueprint for the future. As part of this vision, the GSMA created a "Connected City" in which it demonstrated mobile-connected products for the automotive, education and health sectors.

Massive WiFi network

Fira de Barcelona deployed one of the world's biggest WiFi networks with over 1,200 access points in order to enable the connection and communication of thousands of mobiles, tablets, computers and gadgets in use by the huge number of companies and delegates under the same roof, and active during the GSMA Mobile World Congress. MWC was also one of the world's biggest exhibitions with an exhibition floor space of over 240,000 m2.

The social media superstar

The centrality and importance of mobile as the major driving force of our lives was reinforced when the social media superstar, Mark Zuckerberg, appeared on stage during the first day of the show, where he delivered his keynote and somehow seized that chance to defend his huge $19 billion takeover of free mobile messaging service WhatsApp, saying it is actually worth much more. The Facebook co-founder and CEO said that the WhatsApp instant messaging service was on course to connect one billion people around the world.

He also said, "WhatsApp is a great company, and it's a great fit for us. Already almost half

a billion people love using WhatsApp for messaging. It's the most engaging app that we've ever seen that exists on mobile by far." Aside from the anticipated explanation behind the $19 billion acquisition of WhatsApp, Zuckerberg talked about Internet.org, a project he started to bring Internet access to everyone in the world.

Smart devices

During the four days of the show smartphone makers were all over the place fighting for space on our wrists and heads, as high tech devices were launched one after the other, catering to all our human needs in more ways than you could ever think of.

From smart bracelets that track fitness to watches and glasses that let users take a call or check text messages and emails, smart gadgets made a huge impact during the show, rendering 2014 as a booming start for this new flourishing market.

Huawei, Samsung and Sony each launched tracking bands: TalkBand B1, GearFit and Smartband respectively. LG dipped its toe into the sphere with the Lifeband Touch. MWC 2014 was the platform for a wave of big manufacturers of mobile devices to try their hands (and wrists) at tracking bands.

On another front, smartphone giants released eye-catching new devices in their battle to maintain profit in a market that is getting tougher by the minute.

Alongside the MediaPad X1 and TalkBand B1, Huawei launched its new Ascend G6 which steps down the screen significantly, going to a 4.5 inch 540 x 960 (qHD) display from 720 x 1280 in the P6. The Ascend G6 benefits from the same software tweaks and improvements that we see on the MediaPad X1.

Samsung dominated the event with the release of the Galaxy S5, which slightly updates the S4's formula. This new release received a lot of buzz as it was rumored to be equipped with a built-in fingerprint sensor and heart rate monitor. The phone also uses a 2.5GHz Qualcomm processor; it also has a bigger 5.1 inch screen and a faster 16 megapixel camera than the S4. Nokia released the X, XL and X+ smartphones that are simple and low priced for emerging markets. Sony launched the Xperia Z2 tablet along with the Sony M2 smartphone, with minimal thickness, 6.4mm, and a waterproof design.

Back to life!

In a comeback to the smartphone market, BlackBerry also unveiled a new, cheaper touchscreen smartphone and a "classic" model with a keyboard, it a bid to stem losses and win back its once devoted following of security-conscious business and government users. The new Z3 smartphone was built under a partnership deal with FIH Mobile Ltd, the Hong Kong-listed unit of Taiwanese electronics giant, Foxconn.

The BlackBerry executive team used its presence at MWC to underscore the company's new strategy with a renewed focus on its core strengths in security, productivity, communications and collaboration.

The new OS

Away from the devices, but still within the mobile space, the OS battle continued as Mozilla promoted its new Firefox OS and Samsung its new OS, Tizen. These moves were made in an attempt to overthrow Google's mighty Android that runs eight in 10 smartphones sold worldwide.

The hacker-proof smartphone

As everyone was busy launching new connected and smart devices, privacy control dominated other parts of the show and was a key feature, especially with the launch of the much anticipated Blackphone which is labeled as the hacker-proof smartphone.

This new phone has a private operating system. It is built on Android and combines this with privacy-enabled applications that allow users to regain control over their communications activities. Blackphone is said to be the

world's first smartphone, which places privacy and control directly in the hands of its users. It includes a unique combination of operating system and application tools that offer unparalleled security and privacy to anyone who is unwilling to cede ownership of their privacy to other authorities.

"We signed on to the Blackphone project with great excitement," Ethan Oberman, co-founder and CEO of SpiderOak, said. "We have created a special SpiderOak Blackphone Edition, which offers a 250 percent increase in secure, zero-knowledge cloud storage capacity. We can't wait to hear stories from Blackphone users about how they're taking advantage of this integrated storage solution."

Whatever 5G is, it is going to be big

The other big trend at Mobile World Congress this year was 5G. Even though everyone was talking about 5G, there was absolutely no consensus about exactly what 5G is, let alone how it would work. Despite the confusion, a joint 5G research and innovation program was initiated by the European Commission and the private sector as the European Union seeks to seize back its position as the global mobile technology leader.

A lot of discussions about 5G took center stage. However, none of the speakers and participants could provide a proper and convincing closure. For instance, Dr. Wen Tong and Dr. Peiying Zhu of Huawei commented by saying let's just call it "promising." NSN's head of technology and innovation, Hossein Moiin, said: "I have no idea what 5G is. It will be defined in the future. What we do know is what direction it will take." Likewise, Mari-Noëlle Jégo-Laveissiere, head of the innovation, marketing and technologies division at Orange said: "Whatever 5G is, it should not be 4G plus one."

In an interview conducted with Telecom Review, iBwave's

president and CEO, Mario Bouchard, expressed a similar opinion, saying it was still too early to talk about 5G, especially as the standards have not been determined yet, and the ITU committee is still working on them. He believes that 5G still has a long way to go.

Despite this hesitance towards expressing a definite stand towards 5G, everybody agreed that whatever 5G is, it will definitely be user-centric, more dynamic and energy efficient as it will use multiple frequency bands. In essence, it will pervade all areas of life, supporting new services from the Internet of Things, M2M through to business-critical applications.

Etisalat: 150 million subscribers' milestone

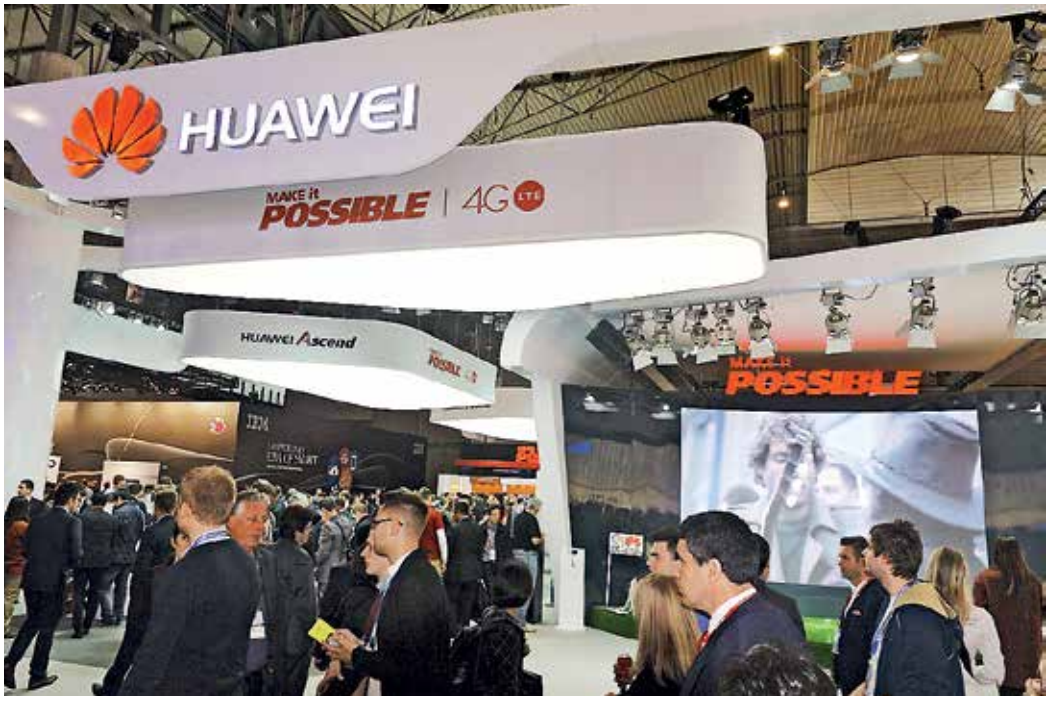
During his keynote speech, Ahmad Abdulkarim Julfar, CEO of Etisalat Group and member of the GSMA board, praised the UAE Government initiative to provide its citizens with world class smart government services. The speech came at an important moment for the Etisalat Group, the leading telecoms operator in the Middle East, Asia and Africa, as it celebrated its 150 million subscriber milestone. This milestone was achieved across 15 international markets.

Julfar presented the compelling growth journey of the company, marking the first keynote address to date by the Etisalat Group CEO at this prestigious global event. Julfar said that achieving 150 million subscribers was a great milestone for Etisalat In its quest to be the leading and most admired emerging markets telecom group.

In addition, Etisalat announced several partnerships and showcased the role of telecommunications in transforming societies. We will cover these in-depth in the next edition.

Zain: Successful participation

Zain Group's participation at this year's Mobile World Congress was exceptionally



successful as the company's impressive hospitality suite attracted hundreds of industry professionals representing the entire telecom value chain and who were keen to showcase their commercial propositions and technology offerings, or discuss strategic partnerships with Zain.

Zain welcomed several telecom ministers and regulators to its booth and chose to make a number of announcements around several community initiatives as well as highlighting a number of agreements that reinforce its position as a leading customer-oriented telecom provider in the region.

During the Congress, Zain also held talks with representatives from leading technology solution providers including Huawei, Ericsson, NSN, Google, Facebook, Samsung, Microsoft, IBM, Cisco, SAP and Oracle and operators including Vodafone, Deutsche Telecom and SK Telecom amongst many others.

Zain Group CEO, Scott Gegenheimer, was a speaker and panelist at one of the sessions at the Congress entitled "Making Business Transformation Work". Reflecting on Zain's presence at MWC, he commented, "The Zain team really felt the energy of the show, and I believe we injected some of our own into the proceedings. Telecommunications is an incredibly exciting and rapidly changing industry, and it is important to remain connected to it and tell our own story at such gatherings."

Ericsson: Your guide to the networked society

Ericsson gave us a sneak peek at what the future holds. The company showed its concept of a holistic 5G system solution and several examples of evolved mobile broadband cases such as extreme mobile broadband for local access, higher service level "everywhere" and new types of usage, mainly machine-type communication. A hands-on experience demo gave visitors a real feel of what the networked society can be like.

Ericsson also showcased its small cell as a service solution. Small cell as a service will enable operators to manage increasingly video-centric traffic in ultra-dense environments where it may not be practical to find additional sites for macro cells. The service is also a means of monetizing carrier-grade WiFi and dedicated media content, advertising and over-the-top services. It can be offered in conjunction with broadcast services such as content distribution and delivery, content processing and video stream handling, as well as Ericsson's content management systems.

Ericsson also announced several partnerships with Philips, SAP, Facebook and many others which we will also cover in the next edition.

Huawei's vision for 'Mobile Changing the World'

Huawei surprised many industry enthusiasts and the wider public with a succession of new Middle East partnerships and product launches, aiming to make connecting without boundaries possible for more people around the world.

More than 180 government officials, regulators and industry experts convened at Huawei's Broader Way Forum, themed "Enabling the Next Industry Revolution", to discuss how to promote a more collaborative, cross-industry broadband ecosystem.

To meet these needs, Huawei has pursued a global transformation strategy in recent years to become a full end-to-end ICT service provider, a core differentiator for its business globally and in the Middle East, where its customers include telecom carriers, enterprises and consumers.

Underscoring its ambitions within the mobile broadband field, Huawei signed a string of agreements with leading Middle East operators during this year's Congress. These included a series of agreements that will see Etisalat Group and Huawei deepen their cooperation in pioneering 5G mobile broadband services, fiber broadband services, and delivering Huawei's latest range of consumer devices to more customers across the MENA region. A full coverage on Huawei's activities will be published in the next edition as well.

Qualcomm 4G LTE advanced technology

Qualcomm introduced the world's first commercial 4G LTE Advanced embedded data connectivity platform with Category 6 download speeds of up to 300Mbps for mobile computing devices, including thin form factor laptops, tablets and convertibles.

The platform builds upon three generations of Qualcomm Gobi 4G LTE modems that have been field tested and proven for consumer and enterprise mobility deployments, extending Qualcomm Technologies' leadership in enabling 3G and 4G solutions that cover the broadest range of cellular technologies and RF bands worldwide.

This includes LTE support, both TDD and FDD implementations with backwards compatibility to HSPA+, EVDO, and TD-SCDMA, enabling notebook and tablet manufacturers to offer a single product that works in multiple regions around the world.

NSN showcases performance innovations

Visitors to the NSN Experience Center at Mobile World Congress 2014 saw a new FutureWorks 5G research concept that enables ultra-dense networks, a mobile network on demand for mega events, and a self-learning network that analyzes big data in real time and responds in an instant. These NSN technology innovations provided a glimpse of potential new products and services.

The company's FutureWorks demos bring to life NSN's Technology Vision 2020. This hands-on approach to innovation will enable mobile broadband networks to profitably deliver one gigabyte of personalized data per user per day by 2020. In its 5G concept demo, NSN takes densification to the next level, using new bands down to millimeter wavelengths. TR

The power of two

Dual-SIM feature phones are gaining traction in terms of popularity. In this article, we look at some of the reasons that have made these devices popular, especially in many Asian countries.

Mobile World Congress is without doubt one of the most highly anticipated telecommunication and technology events across the globe, a happening pivotal to the telecom industry. It is where new products are launched and company plans are announced. Operators, vendors, OEMs and other telecom and technology-centric businesses wait in anticipation for numerous announcements from technology innovators that could enhance their individual business portfolios.

One major announcement from this year's MWC that captured the headlines was Nokia's (soon to be Microsoft's) support for Android.

Nokia unveiled smartphones that will run Android apps without using the full Android OS. Naturally, the news made headlines. What was less widely reported was the fact that one of these phones, the Nokia XL is in fact a dual SIM device.

Nokia also announced two new low-cost dual SIM feature phones for entry level customers, the Nokia 220 and Asha 230. On another hand, LG debuted a full blown Android dual SIM phone, the Optimus L7 II.

One analyst, Geoff Blaber, who leads mobile device research at CCS Insight, was reported saying, "Particularly in a lot of emerging markets such as India, for example, dual-SIM support has become an absolute requirement."

Although dual-SIM is neither a new technology nor a new capability of advanced handsets, the announcement of plans to have multiple chipsets that enable dual SIM capability on a Windows phone is significant. This is an indication that there is a

growing trend among end users who demand multiple SIM handsets. Microsoft's announcement will likely stir up competition among other device manufacturer serving this particular market.

According to a Gartner report, there were about 1.8 billion mobile handsets shipped globally last year of which 968 million were smartphones, a 3.5 percent increase as compared to those shipped in 2012. This growth was lead by Latin America, the Middle East and Africa. Gartner also said that the remaining 800 million of 2013 handset shipments were low-end or feature phones, popular in many markets in Asia Pacific.

IDC in its second quarter smartphone tracker reported that smartphone sales had tripled from 3.5 million units in the second quarter of 2012 to 9.3 million in the same period in 2013. India recorded a 21 percent growth in feature phones, which accounted for 85 percent of second quarter handset sales in that country.

According to Kiranjeet Kaur, senior market analyst with IDC's client devices group, the key for growth in such a demanding market, as with most emerging markets, is a low-priced phone equipped with a large screen and dual SIM slots.

He said that the dual SIM phenomenon has accelerated the growth in feature phones with local vendors contributing to the growth of dual SIM smartphones flooding the Indian market.

Rise of the dual SIM phone

A study done by Nielsen showed different patterns and end-user behavior in terms of SIM usage. Entitled "The Rise of Multi-SIM Users", the study showed that 71 million Indian subscribers use multiple SIMs, and that amongst the 14 percent of those looking to buy a new handset, 75 percent intend to choose a dual SIM handset.

The study also showed that 48 percent of end users opting to buy dual SIM devices were doing so to pick the best deals from multiple operators. At the same time, and in order to be able to do this, end users tended to keep both SIM cards as prepaid in order to control the cost and capitalize on the monthly deals offered by operators.

In India, Nokia accounts for 30 percent of the dual SIM market and Samsung 16 percent. Chinese brands account for five percent of the total; whereas, OEMs such as Lava, Micromax, Max and Karboon constitute the rest.

These third party phones made their debut in Asian countries, but recent studies show that they are slowly making their way to the Latin American market.

In terms of actual usage, in a recent report by the ITU, it was noted that mobile subscription is set to exceed seven billion early this year, and more than half of this will be in Asia Pacific. This equates to 96 percent of the global population, but the ITU was quick to dismiss the notion that almost everyone in the planet has a mobile phone.

The ITU pointed out that there is a clear disparity between subscriptions and the number of subscribers because individual customers subscribe to more than one service.

Susan Teltscher, head of the ICT Data and Statistics Division of ITU Telecommunications Development Bureau said, "Individuals may own multiple SIM cards and are actively using them." She also added that this is largely the case in developing countries where most customers are on a prepaid SIM.

The power of two

As highlighted by the Nielsen India study, one of the main reasons customers opt to maintain dual SIM phones is for them to have the option to choose the best deals from operators. However, there are several other reasons for choosing a dual SIM device. These include:

• The convenience of being able to make and receive phone calls from different networks without the need to carry multiple handsets;

• Separating business and personal usage;

• Avoiding the high termination charges for inter-network calls;

• Choosing the network with the best coverage at each location;

• Using local SIMs when abroad, but being able to keep a home country SIM in operation at the same time.

With a list of benefits like this, it is no wonder that dual SIM phones are growing in popularity. TR

Making way for mobile banking in Myanmar

After 50 years of military rule Myanmar is rapidly catching up with the 21st century. Telecommunications is leading the charge, paving the way for other developments such as mobile and internet banking, thus bringing great benefits to the Burmese people and the national economy.

Filipino communications workers started arriving in Myanmar in December 2012 to help develop the country's communications infrastructure. By August 2013, they were remitting $150,000 per month back to their home country. It is a clear sign that Myanmar, an Asian jewel 50 years ago, is now reintegrating itself with its Asian neighbors.

Burma, as it was formerly known, was under military rule for more than 50 years until 2010. Since then, reforms have been underway on all fronts to make the country flourish again, spearheaded by president Thein Sein.

With the country opening up to the world, significant and crucial institutional changes are being undertaken particularly in the telecommunication sector. Thus, many Filipino communication engineers are now working in Myanmar as part of its nation building.

In addition, the increase in tourism has significantly contributed to the growth of the nation.

Telecommunications, tourism, trade, banking and finance are the major drivers helping to boost the under-developed economy.

Mastercard was one of the first few international finance organizations active in Myanmar. For the past six months it has done wonders for the finances of Myanmar's citizens. Burmese can now withdraw money using their ATM cards through designated ATM machines, and the volume of cash transactions has been significantly reduced as people start to learn how to use debit and credit cards through Mastercard partnered banks.

In the recently concluded Second Telecommunication Infrastructure Summit held in Yangon, banking and finance was a subject of a healthy debate.

In one of the talks a panelist from the finance sector mentioned that the banking and finance sector would work hand in hand with the communication industry to boost the GDP of the country. The panelists were unanimous in the view that the introduction of mobile money should be considered and, if possible, mobile money should be launched at the same time as telecoms services from the new operators.

U Winston Set Aung, deputy governor, Central Bank of Myanmar, admitted that the National Telecommunication Reforms had set the bar high for the development of other industries. He suggested that other sectors should have plans as ambitious as those of the telecom sector, especially the finance sector, which straddles every other industry sector. Set Aung reiterated that the finance sector was determined to rise to the challenge, recognising that its reforms would benefit the whole economy of Myanmar.

In addition, Professor Aung Tun Thet, the economic advisor of the president's office, acknowledged that mobile banking and internet banking went hand in hand. Together, both industries have tremendous potential to accelerate the country's development. He said these initiatives were part of a bigger economic plan wherein financial institutions were being asked to make mobile and Internet banking part of their strategy.

He added that the government was trying to discourage the various financial institutions from adopting strategies that would benefit only themselves, saying co-operation was important. Lastly, he pointed out that Myanmar was fertile ground for mobile and Internet banking services, so there was room for everyone to develop their services. Co-operative Bank Ltd (CB Bank) representative, U Zayar Aung, head of IT and payment operations, agreed with the professor and said that his organisation was deploying such services.

Matther Drive, president Southeast Asia of MasterCard Worldwide, stressed the importance of educating citizens about banks and their

services. He said that, although the country was progressing towards mobile banking and payment, some of its citizens were still stashing their cash at home instead of depositing it in their banks. He also stressed that Burmese should learn to use their ATM cards or credit cards ather than making cash transactions.

He said that telcos and financial institutions should make a concerted effort to raise awareness of these services because greater uptake would benefit the economy as a whole.

Driver called for "coordinated progressive regulation" saying that, in drafting and finalizing financial regulations, everyone including banks, government agencies and telecom operators should be actively involved.

Ross Cormack, CEO of new telco, Ooredoo Myanmar, said that making financial transactions through mobiles was an established practice in other countries, but for Myanmar represented an entirely new frontier. He added that provision of such services was front of mind for Ooredoo Myanmar when planning its network rollout.

He said that the greatest challenge lay in supporting funds transfer and this would require determined efforts by the relevant regulatory authorities, the banking institutions and the telecommunications industry. He called for the development of a win-win strategy for the benefit of Myanmar citizens saying that Ooredoo Myanmar was willing to work with any organization wanting to develop solutions.

These discussions should serve as the framework for the cooperation between different agencies and industries. It is only through collaborative efforts that they can develop a system that will work well for the nation. In only three years Myanmar has made astonishing progress. With a concerted approach from both the finance and the telecom industries, mobile banking will soon become a reality. TR

Surge in high-speed data usage in Asia calls for more effective strategies in LTE

In the incredibly connected world we live in, the need for consistent high-speed connectivity has never been more imperative. A recent study has revealed that the number of next-generation LTE users will surpass 120 million by 2015, driven by key Asian markets such as China, Japan, Indonesia and South Korea. Other parts of the Asia Pacific, such as Indonesia and Singapore, in different stages of LTE network deployments, are expected to attain significant headway over the next few years. Separately, there are regions like India and Thailand still in the process of rolling out 3G, with LTE network deployments still some way from realization.

CommunicAsia2014 checks in with Juan Jose Rio, Partner at Delta Partners and conference speaker at the CommunicAsia2014 Summit. Rio provided an insight into some of the key strategies governments and regulatory bodies need to tackle in the development and allocation of spectrum, and shared practical tactics for industry players who are looking to capitalize on commercial opportunities.

Main roadblocks

Governments will need to strike a balance between appearing forward thinking through issuing LTE licences and not issuing LTE spectrum prematurely when operators are not ready. This will be a challenge in itself. In these developing countries, LTE deployment will likely be more gradual while allowing for the influx of affordable devices. LTE will be deployed on a selective basis

Many governments are also looking to LTE to fulfill national broadband priorities though LTE has its limitations, it tends to be a competent replacement for entry level DSL, but challenges around spectrum availability, in-building penetration and the ability to support a multi-dweller household tend to make it difficult for LTE to be a high speed DSL/HFC/FTTX substitute.

Challenges ahead

Telcos in developing countries may find a much tougher economic case for LTE. With much lower ARPUs versus those in developed countries, they will find it challenging to charge proportionately more for higher speed offerings. Similarly, low ARPU customers will need to get access to a range of affordable LTE devices, in much the same way we now have access to affordable 3G devices.

Developing countries may also often struggle with a lack of critical infrastructure such as fiber networks and spectrum, driving up the costs of network rollout. For countries that have recently just rolled out 3G, the risk of not being able to fully monetize these assets through their useful life results in a more marginal incremental business case.

Tips for successful monetization of LTE

Asia is a lot less homogeneous than other regions, with developed countries like Japan and South Korea leading in terms of LTE penetration and developing countries like Thailand and Myanmar that are still in the process of rolling out 3G. Nonetheless, there are certain common themes around how LTE can be effectively monetized. A right pricing framework to drive mobile data profitability would be the most critical factor for monetizing successfully in Asia. Uncapped plans, while popular, need to be rationalized to better fit subscriber usage profile. A detailed understanding of the ROIC of LTE on a granular (i.e. base station) rather than network-wide basis is also needed to determine the right technology choices when deciding where and when to deploy LTE. Lastly, operators are also realising the benefits of selective network sharing and are taking advantage of this in a new wave of mobile network investment.

Ensuring customer satisfaction is vital

A fundamental part of a LTE strategy will be ensuring that the end-to-end customer experience remains satisfactory. LTE is inherently a more complex platform than 2G/3G with key dependencies around the network, the device and the content accessed. Hence, telcos need a clear understanding of what changes are required to all touch-points along a customer's lifetime journey.

CommunicAsia2014 Summit: The Future of LTE and Spectrum Allocations in Asia

Although LTE deployment and its device ecosystem in certain parts of Asia are still in their infancy, there is no doubt that Asia possesses huge potential for LTE technology to further develop. Delegates at CommunicAsia2014 Summit will get to hear from and engage with a stellar panel of speakers, who will present their unique experiences on the multiple facets of the evolution of LTE in Asia.

The CommunicAsia2014 Summit will also bring a knowledge transfer hub and networking platform for attendees to debate and discuss critical upcoming trends such as disruptive technologies in the ICT landscape, industry risk factors and models for success that will enable companies to ride the mobility wave and remain profitable. Presented by C-level industry thought-leaders, some of the latest hot topics will include the 'Internet of Things', the rise of VSAT mobility solutions for land, air and sea, enterprise consumerisation and CYOD. TR

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Myanmar: On the cusp of a new era

Myanmar is on the cusp of a new era of economic development, enabled by recent telecommunications reforms. There was much excitement at the Second Myanmar Telecoms Infrastructure Summit at the prospect of new networks being rolled out.

Second Myanmar Telecoms Infrastructure Summit

It has been an exciting journey over the past two years for Myanmar, a nation that has been under military rule for more than 50 years. In 2011 the military junta was finally dissolved and the country began to adopt a new form of government, one that its citizens were not accustomed to.

Since then, the government has focused on reform. Significant progress has been made in all aspects, particularly in the telecommunication sector, but these improvements are only just the baby steps towards the nation realizing the full potential of its new-found freedom.

The atmosphere in the second Myanmar Telecom Infrastructure Summit held in Yangon was one of great interest and excitement. With over 1000 delegates, local and international, the gathering served as a forum of ideas for Myanmar's telecom industry. With the recent issuance of new operator licenses, delegates enthusiastically explored and debated possibilities that these developments might bring.

The summit commenced with an address from the deputy minister from the Ministry of Communication and Information Technology, his Excellency Thaung Tin. He said that reform was the only option. He described 2013 as a milestone in the country's telecommunications development, created by the entry of new operators. He promised that the government and its agencies would fully support future endeavors like the summit to further develop Myanmar's economy.

Enda Padraig Hardiman, managing partner of Hardiman Telecommunication Ltd, stressed the importance of capital formation in the development of Myanmar. He explained that every dollar invested, particularly in telecommunications, would produce economic benefit of $1.50 - $2.00. He added that such investment, particularly by the four newly license operators, would have significant impact on the economy and would spur growth in other sectors such as real estate and banking/ finance.

Service of, for and by the people

Ross Cormack, CEO of newly licensed operator, Ooredoo Myanmar, opened his presentation with his company's first TV advertisement. He said that the award of new licences represented a clear and bold statement of what Myanmar wanted to achieve and said the move would help the nation advance. He reiterated that Ooredoo Myanmar was committed to these goals and said that Ooredoo Myanmar's service would be "of the people, for the people delivered by the people."

There followed much discussion about the challenges of implementation and how the telecoms industry could move forward in Myanmar.

Ericsson Myanmar chairman, Johan Adler, said that Ericsson had re-entered Myanmar two years earlier in recognition of the progress the country had made towards becoming more open. He identified key areas that the government needed to address to expedite the planned rollouts of the new operators, in particular access to land for the installation of network infrastructure.

In many instances, a resident or an owner of land does not have clear legal documentation of those rights. Adler said that this was crucial for both landowners and network operators because network operators should be reaching access and lease agreements with the real landowners. He also identified the difficulties of ensuring reliable power supplies and adequate road access to every site in order to ensure speedy delivery of services, particularly in remote areas of the country.

Sebastian Pawlita, partner in Polastri Wint and Partners, raised the issue of taxation of tower asserts and U Ba Myint senior general manager at Myanmar Railways, highlighted the importance of the railway network to the rollout of optic fiber cable.

One of the most exciting presentations of the day, one that shocked the audience, came from VDB Loi Myanmar. A partner in the company, Edwin Vanderbruggen, highlighted legal issues, land use rights and other challenges presented by rooftop leases and gaining regulatory approvals. He said there were three major headaches: land use, importation and construction.

Major barriers to network rollout

The audience was dumbfounded as he recounted the numerous processes that a company had to undergo before it could start operations.

Following lunch there was a panel discussion about Myanmar's telecom infrastructure outlook. The panel kicked off with panelists from Ooredoo Myanmar, Ericsson Myanmar, Asia Broadcast Satellite and Myanmar Computer Federation. Ross Cormack explained his company's decision to rollout only 3G in Myanmar in contrast to competitors who are rolling out both 2G and 3G.

The afternoon session was about extending affordable 3G network connectivity to remote and underserved areas. Avi Peleg, business development director from satellite operator O3B Networks, explained the role that his company's network could play in bringing communications to those beyond the economic reach of cellular networks.

SingTel also presented on satellite communication and satellite broadband opportunities.

The summit's first day ended with a presentation from Asia Broadcast Satellite on how satellites could become an integral part of the rollouts planned by the newly license operators.

Day 2

Lord John Shazell, president and CEO of Teleconsult International Pte Ltd, opened up the second day with a discussion on human factors such as quality, health, safety and environment challenges and his company's solution. He was followed by a presentation from Dr Badri Gomatam, chief technology officer from Sterile Technology Ltd, comparing and contrasting Myanmar with India, in particular, how lessons learned from rolling out India's telecom infrastructure could be applied in Myanmar.

TNS Indochina's Ralf Matthaes tackled the mobile retail scene, current trends and user preferences. He noted that over the past two years, the price of a SIM card had dropped from about $1000 to about $100 and predicted that prices would fall further as new operators began rolling out services. Roland Berger Consultants pointed out that distribution would be key to a successful service rollout.

Nicholas White, director, South East Asia of Deloitte Consulting Pte Ltd, presented some successful business models and approaches that could be applied in the broadband rollout plan in Myanmar.

Mobile money a must for Myanmar

A panel discussion from the different industry sectors involved in the rolling out of mobile money capped off the second day. The panel comprised Professor Aung Tun Thet, economic advisor from the President's Office; Peter Maher, group country manager, Southeast Asia, Visa Worldwide Pte Ltd; U Winston Set Aung, deputy governor, Central Bank of Myanmar; Matthew Driver, president Southeast Asia, Mastercard Worldwide and Ross Cormack CEO of Ooredoo Myanmar.

The group discussed the need for and the potential of mobile money in Myanmar. Cormack said it was important to have collaboration with financial institutions as this would address the need of the majority of the Myanmar's citizens. He then stressed the importance of mobile money saying it was time to ask citizens "to get their money out of the mattress and into the financial institutions."

Representatives from the Central Bank and from the president's office assured the panel that the reforms underway in the telecom sector would be repeated in the financial sector. They said citizens should be patient because these things would take time.

The event, the second telecom infrastructure conference in Myanmar, concluded with high hopes for the future of telecommunications in Myanmar and with a range of ideas to address challenges and remove impediments to the development of telecoms in the country. TR

Ooredoo Myanmar: On the challenges of 3G network rollout

Ross Cormack, *CEO, Ooredoo Myanmar*

Ooredoo Myanmar was named the winner of one of two telecommunications licences for Myanmar in June 2013. In October of the same year, Ross Cormack was appointed as CEO. Keeping up with Ooredoo's latest developments, Telecom Review Asia Pacific spoke to Cormack about his appointment as well as his company's plan to rollout 3G services in both urban and rural areas.

What was your initial reaction when you knew that you would be at the helm of Ooredoo Myanmar?

I was elated. It is a huge honor for me to be given this role. Actually, during the early stages, when we were first bidding, I was involved in the discussions at the Ooredoo headquarters as I was part of the team who was critiquing our bid.

We were divided into teams, weighing the pros and cons of the situation. So, I have a lot of knowledge about business in this part of the world; it was not totally new to me. Since then, I have been following up with the progress. I even got more excited when suddenly I realized that we could actually penetrate this market. Then my boss asked me if I could do it, and here I am now.

Ooredoo is known for its successes in different markets. What do you think is its differentiator? Do you think you will use the same formula here in Myanmar?

We have a track record of focusing on customers. This logic made us successful in other markets. We believe that if we get great people who work together well and they provide a great service, then customers will enjoy it.

Once end users begin to enjoy our services, then they will use our services more and in turn our stakeholders will be happier. The business is a virtuous circle. We focus on the customer experience as we believe it to be the secret of our success. This is exactly what we are doing in Myanmar.

Apart from planning, one of the first things that we are doing is building a distribution network. Building telecommunications networks is about hiring the right people. Basically, we evaluate people not only by their professional capabilities, but also we weigh how their core values are in line with Ooredoo's values.

Caring, connecting and challenging are our main values. Are they caring about the customers and each other as a team? Do they really like to work with the communities? That is what connecting is all about. Challenges are about how we set the bar high in terms of what we expect our people to do. They get to work, they get to challenge themselves and they get to work in teams effectively. They get to produce something that is really special.

As CEO of a company in its initial stage, what do you think is the biggest challenge of Ooredoo Myanmar today?

At this point, I think our biggest challenge is to do with the permits for building the towers. Land rights are not fully clear in the country. Land ownership is often in doubt. The building permit process is very complicated as there are 12 different types of land use and we need need help

> "At this point, I think our biggest challenge is to do with the permits for building the towers. Land rights are not fully clear in the country"

from the authorities. It is a big challenge, but the authorities have been very supportive. They promised to help us to get some kind of fast track top down process finalized which would help us to get the building permits at the local government level.

Is that why at you are closely coordinating with government agencies?

Telecommunications development is something new here in Myanmar. We are sticking close to the regulator because they not only need to learn how to regulate the operators, but they need to plan the different steps and stages of the process; they have never done any of this before.

In the old days, there was probably one permit request per a month in each of the major district councils. Even back then, it took a long time to process the very limited requests.

The situation has changed because today they get more than a hundred request per month from us alone. Imagine that these requests are coming from just one operator. So, this is a very big challenge.

What can you tell us about the services you will be offering? Don't you think the market is not ready for such advanced services, especially 3G services?

First, we looked at the government's aims as set out in the Information to Tender (ITT), and they were very bold. They wanted to bring Myanmar back to its old glory of being the region's jewel in terms of telecommunications.

To achieve this, we did some basic market surveys and decided that the market would be successful if we went with a full 3G proposition. It has many benefits because it means we get 3G at 900MHz and 2100MHZ giving us both in-building and wide area coverage. But what is great about this is that for most people it will be their first internet connection, they will own it and, most of all, it will be right in their pocket. That itself is very compelling.

In addition to that, we are in the process of sourcing low cost smartphones that can provide an exciting customer experience at affordable prices. Unlike other places, where SIM cards are exorbitantly priced, customers here will enjoy our service as our SIM cards will most likely be reasonably priced, about 1500 kyat or about $1.50. When I came here six months ago I paid about $140.00 for my SIM.

Based on our market research, we think that there is a pent up demand and that people will be excited about the new internet services. People love social networks; they want to stay in touch with their friends and relatives. A lot of them need mobile phones to help them with their jobs. Entrepreneurs working with the family business can gain significantly with 3G services; these will help them to increase their business.

You have mentioned earlier that in you are setting up your own university. Would you say that this is a bold move on your part? Can you give us more information about the Ooredoo Myanmar University?

Yes, I think that is how we like to do things. I think it is bold. We are going to start the Ooredoo Myanmar University internally and modestly with our own people. We are training them, and from there we will build the planned institution.

We will start developing skills that we will need for Ooredoo Myanmar at Ooredoo Myanmar University. It will definitely be interesting.

We will be working together and partnering with federations, universities and technical colleges. In fact we started doing this when we brought people to the assessment centers. That move in itself was already the fabric of what will become the University. There is also an ongoing training for the people who have recently joined us, and all of this forms part of that program. So, it is already starting but at the moment it is happening internally.

Now internally, any plans of rolling it out for everyone?

Not exactly for everyone, but what we will do is that we will have some kind of joint ventures with further education establishments. When we are ready, we will be delighted to tell you more about the program. TR

Ericsson Myanmar: Towards a more developed society

Johan Adler, *Vice President, Ericsson Myanmar*

Johan Adler opened Ericsson's Myanmar office in mid 2012 and Ericsson was selected as one of its network infrastructure suppliers by Telenor Myanmar after it was awarded one of two telecommunications licences in June 2013. Adler talks to Telecom Review Asia Pacific about Ericsson's role in the country and the challenges and opportunities that telecommunications development will bring.

What is Ericsson doing in Myanmar?

As a result of positive development and the progress which has been recently witnessed in the country as well as the forthcoming opening up of the nation in late 2011, we decided to set up a liaison office in Myanmar. My initial assignment was to be a liaison officer and an observer. However, with time, we started helping the ministry with whatever we could contribute in terms of knowledge and experience in order to help in the development of the nation.

Then suddenly we realized that things were moving faster than we expected. Consequently, from being a liaison office we are now a registered company. We are a fully-fledged organization. We have about 60 local employees and a handful of foreign experts.

What we are doing here is the same thing that we are doing in all other countries. We sell and contribute our technology to operators, particularly mobile infrastructure. We are a leading company in the world in standards, specifically in 3G and LTE. Though I could say that we are in discussions with all of the operators here, I am not in the position to comment on any particular contract. Hopefully, we will be able to do that very soon.

But to assure you, we are heavily engaged with the operators, both international and the incumbent operators. The National Telecom Reform clearly stipulates two international and two local players. One of the locals is the incumbent operator. The local operators are both in discussion with the international partners because they also realize their needs in terms of operations and experience.

Take for example MPT. The organization is basically a department within a ministry, wherein their main function is to deliver utilities and communication services for the country of Myanmar. Although on its own, it is working fine, but this kind of business will not be sustainable. It will never survive in a competitive environment. That is why the government has the responsibility to make sure that they are sitting on a platform with competencies, experience and financial as well as other resources to compete with the international operators. This is really a very interesting situation.

The operators have received their licenses recently. How do you see it working by 2015 when the country will have an independent regulatory body?

Well, there was some sort of a regulated market before the National Telecom Reform was launched. There was very little need for regulation as there was only one service provider, and thus they could use whatever frequency band they needed.

But as soon as more players came into the market, the telecom scene became in need of some

sort of referee to set the rules. This is where the regulator's role jumps in, and I would say that the regulator in Myanmar has done a fantastic job.

I understand that the regulatory body in Myanmar has received a lot of advice from international organizations, policy makers and regulators in other countries. So they have done their homework and they have been listening and taking in experiences from around the world. By understanding and making use of every single detail, they have developed their own framework. Today, everyone is praising that regulatory framework. So that is a fantastic start, particularly for all the four operators.

It is said that one of the major challenges in terms of infrastructure is the leasing out of lands, what can you say about this?

I can only agree. There are a lot of challenges of different magnitudes. But the most difficult part now is the opacity around land acquisition and land ownerships because traditionally a lot of landowners have never registered ownership of the land or the right to the land.

Land has been passed on from father to son, to grandson and there is no registration. In this respect, it is difficult for the tower companies to make lease agreements with the land's rightful owner. They have to make sure that they are doing an agreement with the right person. The situation becomes very complicated if they build a tower and later on realize that they have built it on land belonging to someone else with whom they do not have any agreement.

In this sense, we have to educate the local subcontractors on the basics and standards including how to respect individual human rights. Our partners, subcontractors and suppliers should all be taught how to meet the international standards in that respect. So, it is part of our mission to provide the necessary education in this regard. On another hand, we also need to train our subcontractors how to do the actual installations in the field.

In addition, we have issues with power suppliers. Roughly 80 percent of the sites that we have to install do not have access to the power grid. So we need to have alternative power sources: less than environmentally friendly diesel generators or perhaps solar cells. So, we have got to have very efficient equipment, and this is where Ericsson can play an important role.

Adding to these challenges, we have the lack of decision-making structure with the government organization, the ministries and other agencies, particularly when dealing with commercial companies as they are not used to taking such decisions. That has been obvious from the assignment of radio spectrum for microwave equipment and things like that.

These may appear to be small problems, but they all add up. First and foremost, we aim to support and develop the society in Myanmar. In doing this, we definitely need the support of the government and other agencies.

In terms of vendors, Myanmar is more accustomed to your Asian counterparts such as ZTE and Huawei, how do you see that playing along?

Yes, that is true. We are the newcomers in Myanmar. Both Huawei and ZTE have been here for many years.

> "We are heavily engaged with the operators, both international and the incumbent operators"

But as a consequence of us coming in, the cost of infrastructure has gone down significantly. In that way, we have contributed positively although they are still using the incumbent vendors. But generally, we have had an effect in terms of the cost, and hopefully this will be passed on to the end users.

Do you think by next year these challenges will have been addressed, and you will be talking more about the huge opportunities?

The opportunities are huge. Myanmar is a country with a population of about 60 million and a GDP growth of about seven percent on average; for many years, these people have not been provided any services. There are huge opportunities, not only in terms of infrastructure, base stations or transmissions, but hopefully in all the applications and services.

Mobile money and mobile payment are huge in Myanmar because the majority of the population is un-banked. So it is important for these people to bring the money "out of the mattress" and into the bank or into the system where the money can further contribute to the growth of the economy. It is not just a matter of convenience to the user; it is also a matter of national economy.

Another thing is that they have a lot of overseas workers who want to transfer their funds home. If they can do that with an international money remittance company using a mobile phone, then they will bring home more money, thereby contributing to the export growth of the country. There is a huge benefit with mobile money, a good example is the Philippines, and those services can easily be applied here.

It is interesting as well because I think of Myanmar as a case study on how the development of telecom will impact the society. We did an in-depth study on what we expect telecom services to be like and how they will impact GDP. We came to the conclusion that the National Telecom Reform will have an impact of about 7.5 percent on GDP, but it has also a social impact and we intend to do a follow up study once the network is established to see the social impact and how it changes people's lives.

How do you see Ericsson Myanmar growing?

We plan to grow rapidly. We will be very busy in the next few years. In fact, I have been convincing my management not to look at the short term but rather at the growth opportunities that are on the horizon and at what role we can play in the growth of Myanmar society in general.

I see that five years from now, Ericsson will play a major role in the telecommunications market here. We will bring in the knowledge and experience from our businesses around the world and apply those here. We can give advice to the government and different stakeholders here in Myanmar. TR

TD-LTE Summit: Event preview

The TD-LTE Summit is now in its 2nd year and is set to once again bring together the entire TD-LTE ecosystem. Delivering high-level speakers and a top quality conference agenda, the summit will discuss the most pivotal issues facing this emerging standard.

Bringing together both TD and FD technologies, the conference will examine operator case studies from the first market movers and look at how they have overcome the challenges of the relatively limited TD-LTE ecosystem.

TD-LTE is set to grow massively in 2014 and this summit will examine the innovations and developments making this growth possible. Attend this meeting and learn how TD-LTE will influence the telecoms industry in 2014 and beyond, meet the key players driving the innovation and debate the most contentious issues facing the industry.

The summit will be held in Singapore for two consecutive days, April 8 and 9, 2014. A fine line-up of speakers is expected to take center stage and these include:

- Prashant Gokarn, chief planning and strategy officer, Indosat;
- Wing Lee, CEO, YTL Communications;
- Ashwin Jaiswal, VP and head, IT Business Consulting, Reliance Communications;
- Hassan Shahid, head of product innovation, pricing and OTT strategy, Mobilink;
- Pen San Tang, managing director, Packet One;
- Bjorn Admunsen, director of coverage, Telenor;
- Dr Sadik Al-Jadir, senior executive vice president, commercial, Pakistan Telecommunication Company Limited (PTCL);
- Sai Ram Prasad, technical director, Axiata Group
Harpal Mann, founder, Clear Mobitel;
- Dr Fumio Watanabe, CTO, UQ Communications;
- Morteza Seraj, senior adviser CTO, Telecommunication Company of Iran (TCI);
- Billy Bae, deputy manager, Network R&D Center, SK Telecom;
- Adnan Imtiaz Halim, head of radio access network, Qubee;
- Karim Lesina, executive director, European Affairs, AT&T
Imad Hoballah, chairman and CEO, TRA Lebanon;
- Tucker Grinnan, regional head of telecom and media research, Asia-Pacific Global Research, HSBC;
- Michael Thelander, founder and CEO, Signals Research Group;
- Guang Yang, senior analyst, Strategy Analytics;
- Julian Bright, senior analyst, Informa Telecoms & Media;
-Tom Mowatt, principal analyst, APAC, Analysys Mason;
- Mani Manimohan, public policy director, GSMA;
- Rohan Dhamija, head of India and South Asia, Analysys Mason. TR

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- 7TH ANNUAL LTE north america 2014 — November 18-20, 2014, Dallas, Texas, USA
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Pacnet shifts focus to the enterprise

Carl Grivner, *CEO, Pacnet Asia Pacific*

Under its recently appointed CEO, Carl Grivner, Asia Pacific submarine cable and data center operator Pacnet has sharpened its focus on enterprise customers and has implemented one of the first software defined network services in the region.

With 46,000km of submarine cable networks around Asia Pacific, Hong Kong based Pacnet is well placed to serve the regional communications requirements of carriers and corporations alike. However, with the region's carriers increasingly looking to move up the value chain, Pacnet would prefer to compete with them for those high value enterprise customers than enable them with connectivity.

Pacnet CEO, Carl Grivner, told Telecom Review Asia Pacific that today, about 60 percent of Pacnet's revenue comes from enterprises and 40 percent from the carrier market. Yet, he wants to shift this balance even further towards the enterprise market.

"On the carrier side, to some extent, we are enabling our competitors," he said. "Also, on the enterprise side, relationships are more long term. The carrier market is highly competitive and more about basic connectivity, while on the enterprise side we can bundle more services together."

Grivner says that some of the value Pacnet is able to offer enterprises comes from the company's intimate knowledge of all the diverse markets of Asia.

"Every country in Asia is different. Not only do we have the network and the data centers, but we have the people in all those countries who know how to get things done. We see a lot of business in Europe and the US with businesses looking to the Asian market."

Exploiting Software Defined Networking

A major weapon in Pacnet's armory, yet to be fully tested, is the Pacnet Enabled Network (PEN). Pacnet's realization of software defined networking technology will enable its enterprise customers to dial up bandwidth on demand from a web portal between Pacnet data centers and potentially between their own facilities.

PEN has been in beta with selected customers since its announcement in November

2013 and phase one went live in February. It offers point-to-point links between Pacnet data centers and other data centers in Hong Kong, Singapore, Australia, Japan and the USA.

Phase two, to be launched in July, will add Chongqing in China and data centers in the US. Phase three is due to launch at the end of 2014.

PEN has the potential to seriously disrupt the current model where international bandwidth is sold on long-term contracts, and therefore to cannibalize a large chunk of Pacnet's own business, but Grivner says the benefits outweigh these potential disadvantages.

"We are a bit concerned about that but I see revenue upside. I see reduction in costs. I see customer satisfaction significantly increased, and I see PEN as a glue that ties us to our customers. I also see a significant reduction in capital. So, I am willing to take the risk that it will cannibalize some of my revenues along the way."

One of the major claims made for SDN is that, by shifting the network software (the control plane) from the routers and switches (the data plane) onto standard servers, it enables the costly and sophisticated networking technology from vendors to be replaced with simpler and much cheaper commodity products. This is no myth, says Grivner. "When you buy a product from one of the main brands, it is about $2500 per port. When you buy it from of the new brands that have embraced SDN it goes down to $50."

Grivner added that Pacnet is also looking at extending this bandwidth on demand capability right into customers' own premises in partnership with local telcos. "We have carrier customers, one in Asia and one in the US who have come to us and said that they are interested in taking down to the local level."

The company is also looking at bundling PEN functionality into Pacnet's data center offerings for companies wanting to use those facilities for cloud services. However, the company has no intention of being a provider of cloud services as its data center services extend only as far up the value chain as managed servers. "We want to enable our customers to use the cloud, but we are not getting into software or the application layer."

Grivner is also optimistic that use cases for PEN will emerge from Pacnet's customers as the service ramps up. "I don't think we know all the things we can do with PEN. I think customers will be the enablers of new apps and services. For example, one large bank has an internship program every summer with 500 interns. Some years it is in Sydney; some years it is in Hong Kong. So they need to move their apps and their bandwidth around. PEN is certainly well suited to doing that."

A new CEO and a new strategy

Grivner joined Pacnet as CEO in July 2012 and promptly set Pacnet on a new direction, unveiling a new strategic plan to "to fast-track the transformation of the company, create a more nimble and competitive organization and enter a new phase of accelerated growth and profitability."

The new strategic plan included five components:

- Focus exclusively on carrier and enterprise customers;
- Leverage existing unrivaled data center capacity and introduce additional managed services for customers;
- Expand the capabilities and reach of Pacnet's network in China;
- Implement an industry leading operating model that enables superior execution and the delivery of an unrivaled customer experience;
- Rationalize the business to free capital for more value added services.

That strategy is paying off, says Grivner. He told TR APAC that 2013 was one of the most successful years in the company's history. "We added a lot of new enterprise customers and exceeded our plans. On the carrier side we had a very strong year, in the region and across the world. The value of our sub-sea network continues to be recognized."

New data centers coming

Pacnet's 46,000km of regional submarine cables connect its data centers in 14 cities in Asia, and Pacnet continues to expand its data center network in Asia. It opened a new data center in Singapore in November, the first to be certified to Tier III by the Uptime Institute. "We have just purchased land in Shanghai and will look at starting construction in early 2015. We have Tianjn outside Beijing coming on line in July, and we are looking at one or two other markets," Grivner said.

The company has no intention of building its own data centers in the US and Europe. However, for customers needing data center facilities in these markets, it will be looking at reciprocal arrangements with other players. "We are looking at setting up some partnerships to provide data center capabilities in the US and Europe because more of our Asian customers want to have a presence there," Grivner said. "We are talking to a couple of providers right now that are looking for reciprocal arrangements in Asia." TR

Ooredoo and Globe opt for Emerson's Aussie datacenter modules

Steve Shelley, *vice president for modular solutions Emerson Asia Pacific*

Emerson Network Power sees a growing market for modular data centres that can be built quickly at low capex and then expanded as demand for facilities increases. It has already scored contracts with Ooredoo Myanmar and Globe Telecom and has created a new business unit to exploit the opportunity.

A modular data center system developed by Emerson Network Power for Australia's National Broadband Network is finding favour with other telcos in the region: Emerson has scored contracts from both Ooredoo in Myanmar and Globe Telecom in the Philippines.

Emerson Network Power was awarded a $100 million contract in October 2011 to build 10 network facilities centers around Australia for NBN Co, the company building Australia's National Broadband Network, to house network management equipment and core network equipment for NBN Co's wireless and satellite networks.

The contract called for two facilities in each of the main capital cities including Sydney, Melbourne, Brisbane, Perth and Adelaide and for the entire project to be completed in 12 months.

NBN Co was planning to rollout a fiber to the premises network to 93 percent of Australian premises and to use a mixture of fixed terrestrial wireless and satellite networks to serve the remaining seven percent. However, the FTTH rollout is being severely cutback in favor of FTTN following a change of government.

Ooredoo Myanmar won one of two licences awarded earlier this year by the Myanmar Government to operate the full gamut of telecommunications services. It plans to launch 3G mobile services in 2014. On the other hand, Globe Telecom is expanding its networks throughout The Philippines.

For its modular data centers, Emerson supplies the data center module, the structure that houses the equipment, the uninterruptible power supply, the DC power supply, the cooling systems and the data center monitoring system. The entire unit can be constructed in Emerson's facility and shipped ready to connect and use, can be built on site or can be shipped dismantled for assembly on site.

Ooredoo Myanmar is using the full Emerson modules, assembled on site. Globe Telecom has taken a rather different approach. It has opted for modified shipping containers that Emerson is fitting out as modular data centers.

Steve Shelley, vice president for modular solutions Emerson Asia Pacific, told Telecom Review Asia Pacific, "We are building the data centers for the mobile and broadband network for Ooredoo. We are supplying multiple data centers for nine locations in Myanmar. We have nearly finished the first site, we will have the second site finished within a month or so and the third site will be finished before June."

New business unit formed

Shelley is a 20 year Emerson veteran who is heading up a new business unit created to exploit the market for modular data centers on the back of Emerson's success in Australia with NBN Co.

He said that the technology developed for the NBN Co contract was finding traction in Asia and elsewhere. "We have a pipeline in excess of five projects in Australia and other parts of Asia, a mixture of telcos and other operations.

To capitalize on its success with NBN Co, Emerson is expanding its modular data center business, with Australia playing a lead role. "We put quite a big team together to do the NBN rollout and we gained a lot of expertise," Shelley said. "There is a real market in Australia, in Asia Pacific and the rest of the world for a modular solution. An Emerson team in Australia is the nucleus for the modular systems that are being rolled out throughout Asia. There is a similar group being set up in Europe and also one in the US."

Stephen Liang, group vice president of Emerson Network Power in Asia Pacific, said, "As businesses across the region race to meet the unprecedented demand for more data, improved and faster performance, more consistent deployment and modular solutions have emerged as the clear answer to meet the deployment needs for critical infrastructure."

He added, "The newly-assembled business group aims to further refine our design and delivery capabilities and extend our lead in delivering these solutions for Emerson Network Power in the region."

Expansion to Europe and US planned

The engineering design for Ooredoo in Myanmar is being undertaken by Emerson in Australia and a post sales team from Australia is in Myanmar supervising the construction and doing the fit out of the modules. These are being constructed in Melbourne and shipped to Myanmar dismantled.

According to Shelley, while the concept of modular data centers is not new, it has only recently started to find favor with customers, and the NBN Co implementation has been a significant factor in acceptance. In this regard, Ooredoo executives visited Australia to inspect the NBN Co system.

Shelley said, "Modular data centers have been around for a while. What has changed is the way we are going about doing them and how quickly we can implement them. The changes we have made rendered them much more cost-effective."

He added, "It's a case of seeing is believing. People see what we have done, and see that it works, and that it is a professional high-tech building."

Data center capacity on demand

The main attraction of modular data centers, Shelley said, was that capacity could be added as needed, which made them particularly attractive to startup telcos like NBN Co and Ooredoo Myanmar. "NBN Co's requirement was for facilities that could be expanded as usage of the NBN increases."

According to Ross Hammond, director of Emerson's Telecom Business, Australia and New Zealand, "This is potentially a game changer for companies that need to develop data center space quickly in parallel with land acquisition and development and with building applications. I think this is an ideal technology to help them get computing power and technical facilities available and operational really quickly. This is the main reason NBN Co went down this path, and I think it is applicable to many other companies." TR

Self-doubt on the road to telco transformation

Adrian Ho, *principal analyst enterprise, Ovum*

Adrian Ho, principal analyst enterprise at Ovum, argues that Asia Pacific telcos are well-placed to achieve success in the wider ICT market given their large installed base of both consumer and enterprise customers but many doubt themselves as they strive to transform.

The instruments for success in the ICT industry have always been threefold: conviction, innovation and having an explicit sense of what your customers want.

Telcos across Asia Pacific are in an enviable position given their large installed base of both consumer and enterprise customer. This base is second to none in the ICT world.

There is also a fine line that separates enterprise and consumer solutions. The trail that telcos can blaze in this increasingly converged marketplace will essentially define who and what they are as the second half of this decade approaches. However, it continues to be disheartening to witness so many telcos across Asia Pacific harboring self-doubt as they strive to transform themselves.

Telcos across the region and globally, such as BT, Orange, AT&T, Verizon, SingTel, NTT and Telstra, that have painfully stuck to their transformational convictions are so much fitter now than they were five years ago. The progress they have made has vindicated early doubters. These telcos have embraced their new ICT identity irreversibly. But there is now an ever-widening gap between the leaders and others in the region. Ovum believes the window of opportunity for many telcos is getting smaller, and 2014 is the year that they must adopt a transformation strategy that is worthy of its name.

Pick your battles and invest accordingly

The burning question facing most telcos is how far down the ICT road they should travel. For the vast majority it will be an insurmountable task to become a fully fledged ICT provider despite the prospect of faster growth.

Wholesale transformation of their business models will not work for many of them because they do not have the infrastructure for it. This journey is also definitely not for the faint-hearted. For many telcos, picking the right battles in order to play to individual strengths and unique local market conditions will be key. This includes "everything cloud

and mobile/M2M" leveraging core network, data center and connectivity assets. The region is only at the start of a cloud wave that will fundamentally reshape the very workings and core of ICT infrastructure.

Data sovereignty should be one of telcos' key calling cards given the high importance placed on it by enterprises. Google, IBM and Amazon Web Services (AWS) are expanding their data center footprints in Asia Pacific in response to this as well.

Telcos should provide options from pure public cloud services to dedicated private cloud services wrapped around stringent service-level agreements (SLAs) and top security. The latter should command a premium as public cloud services are experiencing a race to the bottom in terms of pricing in some markets, and this is squeezing margins.

For mobility, the issue of security still tops the agenda, especially for regulated industries. Asia Pacific telcos should be at the forefront in helping their enterprise customers build that secure mobile and "cloudified" workplace.

Device management is now a minimum requirement in most mobility engagements, especially in a bring-your-own or choose-your-own device environment, so the next opportunity for telcos will be application management and possibly development/ customization.

Channels and partnerships are critical to scale

One of the biggest challenges for telcos as they move into adjacencies is scaling quickly to ensure margins that can quickly deliver returns on investments.

Pure public cloud has scored a distinction of being a technology that is moving towards being highly commoditized, even before the industry matures, which only underlines the challenges for service providers. Price points for MDM solutions are also experiencing massive erosion.

Extending channel reach or even managing a channel ecosystem for many telcos in the region is completely alien. A complete and immediate change in mindset towards the channel is required because telcos' direct salesforces will not suffice in the region.

The way forward for telcos is to leverage some of their cloud partners' channel ecosystems, forming new alliances with integrators and consulting partners and building B2B2C models that allow them to monetize business process automation all the way through to the final customer.

Is there a regional leadership vacuum?

For telcos in the region that started their transformational journey early, namely SingTel, Telstra, NTT and Tata Communications, the region is essentially their oyster. Asian enterprises are expanding across the region in a dynamic fashion and are looking for Asian-centric service providers to support this momentum. These telcos have regional ambitions but still have some credibility issues with CIOs on their ICT capabilities, with some CIOs believing that telcos should stick to being network providers.

The first challenge for these telcos is to raise their brand awareness among technology buyers and change buyers' perception of them. Many of these telcos have very robust ICT capabilities (although these may not yet be available across the region). The second big challenge is that many of the new battles they face will involve going head on with IT vendors/integrators such as IBM, CSC, and HP that have the brand and command the respect of many technology buyers. TR

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GSMA and Facebook join forces to connect the unconnected

Mobile industry body the GSMA and Facebook have joined forces in a bid to connect the billions of people globally that currently have no access to the Internet.

They will focus on reducing the total cost of ownership (TCO) of mobile services on the basis that mobile will be the enabling technology for the vast majority of people in developing markets.

"While there are nearly seven billion mobile connections worldwide, there are only 3.4 billion people that currently have mobile phones," said Tom Phillips, chief regulatory officer, GSMA.

"Mobile will offer many around the world, particularly in emerging markets, their only access to the Internet and the information and communications services it enables. Connecting the next billion is a major goal of the GSMA and we are pleased to be working with Facebook and internet.org to make this a reality."

Facebook's VP communications and public policy, Elliot Schrage, added: "We launched the Internet.org partnership last year as a contribution to addressing the challenge of ensuring everyone has affordable access to the Internet. Mobile operators are key to meeting this challenge and we are pleased to be able to work with GSMA on making sure that mobile Internet can be delivered in a sustainable and affordable way."

The two organisations say they will work with governments in developing markets to address key factors that have an impact on affordability and availability.

"The partnership will focus on creating a sustainable environment to incentivise mobile infrastructure investment and usage, as well as eliminating or reducing existing mobile-specific taxation or refraining from imposing new such tax regimes."

The GSMA and Facebook recently issued reports elaborating on these issues.

The GSMA study "Mobile Taxes and Fees: A Toolkit of Principles and Evidence" examined the current taxation burden on mobile in 19 countries in developing markets.

The GSMA said it "revealed the significant negative impact of sector-specific taxation in these markets."

Other issues they plan to address include: maximising the availability of harmonised spectrum to drive mobile broadband adoption; evaluating the establishment of local Internet exchange points (IXPs); fostering the development of local Internet content; and examining the effectiveness of universal service funds.

Apple sent billions offshore to avoid Australia tax: report

Apple is reported to have shifted billions of dollars in untaxed profits from its Australian operations to Ireland over the past decade, as the government vowed to stop global companies from dodging their fair share of tax.

An investigation by the Australian Financial Review obtained 10 years' worth of financial accounts for Apple Sales International, an arm of the organization it described as the "secretive" Irish company at the heart of the group's global tax arrangements.

The newspaper said the US tech giant had moved an estimated Aus$8.9 billion (US$8.1 billion) in untaxed profits from Australia to a tax haven structure in Ireland, paying just 0.7 percent of its turnover in tax.

Last year Apple declared pre-tax earnings in Australia of only Aus$88.5 million after sending an estimated Aus$2 billion from its Australian sales to Ireland via Singapore.

Apple in Australia declined to comment, but the company has previously said it had complied with the law and done everything required by the Tax Office. There is no suggestion it has done anything illegal.

In response to the report Australia's finance minister, Mathias Cormann, said that the Government was determined to recover tax that companies had inappropriately avoided and that it was pursuing the issue through the G20.

"Businesses operating around the world are not necessarily paying their fair share of tax where they're earning their profits," he said, without naming any firm.

"Our view is, and that is a view that's shared around the world, businesses should pay their fair share of tax where they earn profits."

Concerns are mounting that global companies, particularly those involved in the digital and Internet sectors, can reduce their tax bills by shifting profits around the world to areas where rates are lowest.

Apple and other multinational US companies have also been under fire in the US Congress, with lawmakers accusing them of using a web of foreign subsidiaries to dodge taxes.

EAN	Emergency Alert Notification
EAP	Extensible Authentication Protocol
Eb	Energy of an information bit
EC	Exchange Carrier
EDI	Electronic Data Interchange
EFI	External Functionality Interface
EFR	Enhanced Full Rate. The standard GSM Voice Coder operating at 12.2 kbps
Electronic wallet	A Web-browser plug-in that handles and stores a user's credit card and payment information
Embedded base equipment	Customer-premises equipment that had been provided by the Bell Operating Companies prior to January 1, 1984, that was ordered transferred from the BOCs to AT&T by court order
End-to-end communication	A direct peer to peer communication of terminal equipment (TE) to TE, or TE to a network gateway supporting
Endpoint node	In network topology, a node connected to one and only one yybranch
Equivalent satellite link noise temperature	The noise temperature referred to the output of the receiving antenna of the earth station corresponding to the radio-frequency noise power which produces the total observed noise at the output of the satellite link excluding noise due to interference coming from satellite links using other satellites and from terrestrial systems
External environment interface (EEI)	The interface between the application platform and the external environment across which information is exchanged TR

Telecom Events' Calendar 2014

Telecommunications Exhibitions And Conferences Where Telecom Review Is A Media Partner

March 2014

EurasiaCom

The 10th Annual EurasiaCom 2014, is the region's leading Telecoms, Media & ICT event. EurasiaCom is the key event to be at to glimpse what's round the corner in the coms sector.

Date: 25 -26 March 2014
Place: Istanbul , Turkey

LTE WORLD

The world's leading 4Gevent, will be relocating back to the popular city of Amsterdam for 2014! With its core values of creativeness, enterprise and innovation, Amsterdam is the ideal location for the world's only dedicated global LTE event.

Date: 23-25 June 2014
Place: Amsterdam RAI, Netherlands

April 2014

Broadband Asia

Broadband Asia & TV Connect brings together decision makers and buyers from the fixed, wireless and mobile broadband industry from across the Asia- Pacific region and beyond.

Date: 29-30 April 2014
Place: Suntec, Singapore

June 2014

Mobile Asia Expo

Mobile Asia Expo 2013 had over 20,000 business and consumer attendees, as well as an incredible conference, innovative exhibition and impressive line-up of featured programs. MAE 2014 will be even bigger and better.

Date: 11-13 June 2014
Place: Shanghai, China

CommunicASIA

CommunicAsia continues to strengthen and stay relevant to the ever changing info-communications technology industry. CommunicAsia2014 is the event that addresses the ENTIRE ICT ecosystem from 4G / LTE, AR and Innovations, Content Security Management, FTTx, Mobile Apps, Mobile Broadband, Mobile Devices, RF & Cables, Telecom Energy & Power System and many others.

Date: 17 - 20 June 2014
Place: Marina Bay Sands, Singapore

September 2014

Asian Carrier Conference

The ACC is the most sought-after telecom conference in Asia, the world's growth area on telecoms and IT. The ACC is where industry leaders from wholesale fixed and mobile carriers, network and infrastructure providers, applications and service developers, handset and equipment manufacturers and entertainment and content distributors join under one roof to discuss and share about the latest technology, breakthroughs and innovation in the world of telecommunications and ICT.

Date: 10-13 September 2014
Place: Cebu, Philippines

LTE ASIA

Now in its 8th year, LTE Asia is the must-attend event for Asian operators.

Date: 15 - 17 September 2014
Place: International Convention & Exhibition Centre, Suntec Singapore

November 2014

Telecom Review Summit 'Its All About Networking' 2014

For the 3rd consecutive year, Telecom Review's summit 'It's All About Networking' will bring to Dubai the leaders of the telecoms and ICT sectors from across the globe in a very friendly environment to discuss the markets' latest challenges and opportunities.

Date: 24 November 2014
Place: Dubai, United Arab Emirates

Latest updates on: www.telecomreviewasia.com

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