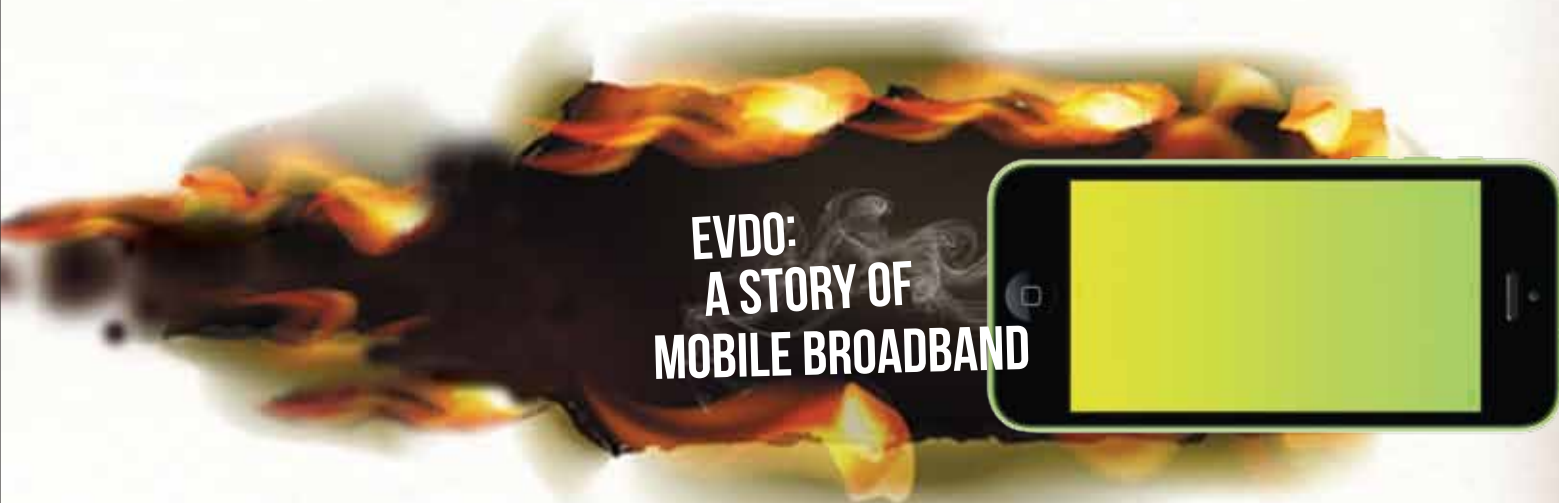


CONNEXION

steering telecom ahead

December 2013



EVDO:
A STORY OF
MOBILE BROADBAND



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I would like to share some learnings from the recently concluded ITU Telecom World 2013. "Embracing Change in a Digital World", was the central theme of the ITU Telecom World 2013 which focused on five central topics: changes in the way people communicate with each other, the need of new business models in a data-centric era, shifting industry dynamics, changes in technology and the need of new regulatory and standardization approaches.

Interestingly, all those five themes are very much relevant for Bangladesh including the need for new business models in a data-centric era after the launch of mobile Broadband via 3G.

Bangladesh is definitely progressing toward the advent of mobile broadband era which reflects the rise in smart phone demand. The current demand for smartphones stands at around 200,000 per month, according to retail estimates. The demand was at 80,000 a month in January 2013, but last quarter it grew three times and is now around 200,000 a month. It will double by November next year.

The success of Mobile Broadband MBB largely depends on devices and it needs to be attractive price-wise within the affordability of commoners. So, we urge the government to lower the import duty and VAT on mobile handset in order to reap the benefit of the new technologies.

Mobile Network Operators (MNOs) are deeply concerned at the Government's decision of the sudden revision of BWA Guideline and subsequent allocation of 2.6GHz spectrum band without any consultation with the industry and other stakeholders. The process of allowing a previously non-bidding company to be benefitted four years after an auction is also against the principles of fair play and transparency in distribution of a scarce and valuable national resource. MNOs humbly insist on immediate review of the recent change in the BWA Guideline and related spectrum allocation. We also want technology neutrality for MNOs.

At ITU Telecom World 2013, global telecom experts underscored the need for congenial policies and legal framework in the telecom sector to attract more infrastructure centric investments in Asia.

Some of the global telecom personalities expressed concern over the heavy tax burden on licensing and spectrum fees which will deter the advancement of the transformation and subdue the proliferation of the sector.

This is the last issue of the Connexion for the year 2013. I would like to express my gratitude to our readers, editorial boards and all concerned for their support and hard work.

Wishing you all a very happy and prosperous New Year 2014!

T I M Nurul Kabir

ABOUT AMTOB

Association of Mobile Telecom Operators of Bangladesh (AMTOB) is a national trade body representing all mobile telecom operators in Bangladesh. AMTOB has emerged as the official voice of the Bangladesh mobile industry to interact with relevant government agencies, regulators, financial institutions, civil society, technical bodies, media and other national & international organizations. It provides a forum to discuss and exchange ideas between the stakeholders and the industry actors for the development of mobile telecom industry through public private dialogue. AMTOB facilitates an environment which is conducive for its members and industry stakeholders with a view to establish a world class cellular infrastructure for delivering benefits of affordable mobile telephony services to the people of Bangladesh to bridge the digital divide.

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DID YOU KNOW?

The first consumer cell phone came in **1982**.
And the first text message was sent in **1992**.



Among College Students **99.7%** have mobile devices.
These students mostly prefer texting to calls or emails.



Today's average mobile phone is more powerful than the PCs that sent two astronauts to the moon in **1969**.



Britain's first mobile phone call was made on 1st January 1985, by the **comedian Ernie Wise**.
At the time mobile phones were the size of a briefcase and cost £2000.



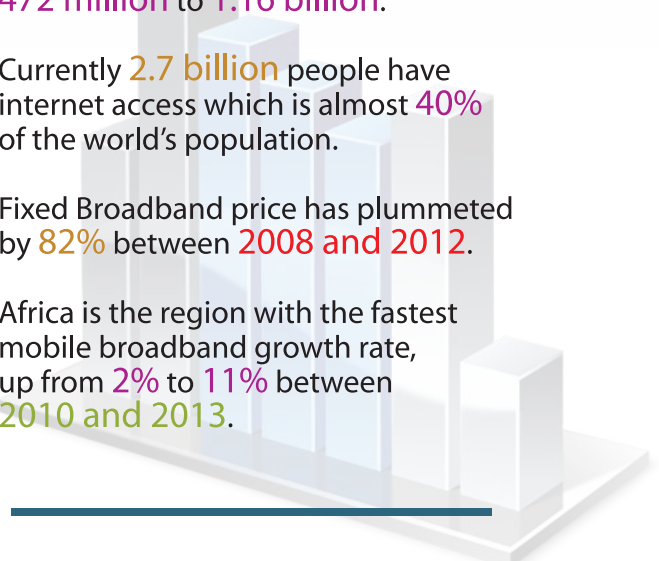
FACTS AND FIGURES

In developing countries the number of mobile broadband subscriptions has more than doubled between **2011** and 2013 from **472 million** to **1.16 billion**.

Currently **2.7 billion** people have internet access which is almost **40%** of the world's population.

Fixed Broadband price has plummeted by **82%** between **2008** and **2012**.

Africa is the region with the fastest mobile broadband growth rate, up from **2%** to **11%** between **2010** and **2013**.



EVDO: A Story of Mobile Broadband

Enhanced Voice-Data Optimized or Enhanced Voice-Data Only (EVDO) is a telecommunications standard for Mobile Broadband (MBB). It is a

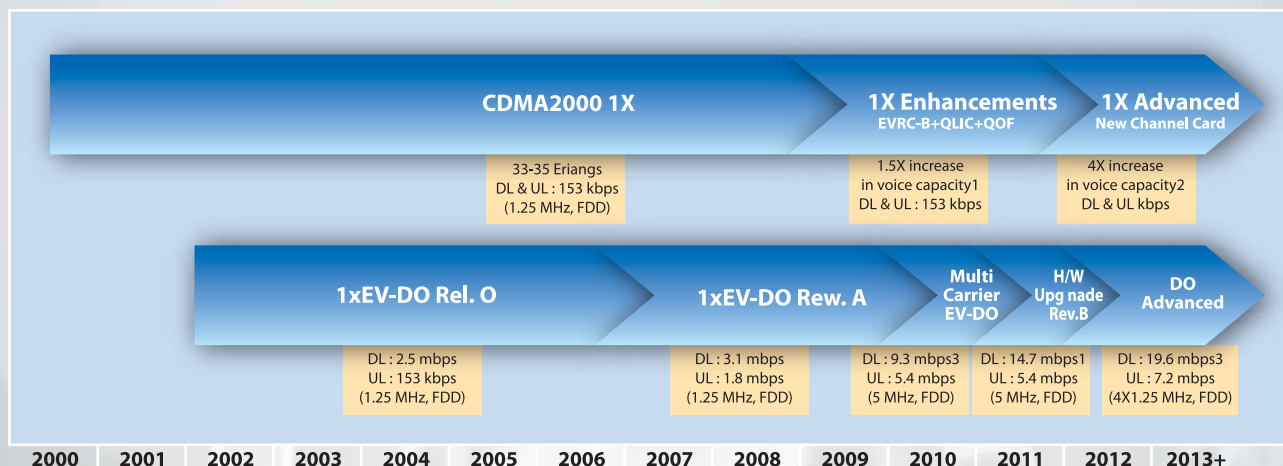
EVDO Evolution

EVDO was designed as an evolution of the CDMA2000 standard that would support high data rates and could be deployed alongside a wireless carrier's voice services. An EVDO channel has a bandwidth of 1.25 MHz, the same bandwidth size that IS-95A (IS-95) and IS-2000 (1xRTT) use.

The channel structure, on the other hand, is very different. Additionally, the back-end network is entirely packet-based, and thus is not constrained by the restrictions typically present on a circuit switched network.

The EVDO feature of CDMA2000 networks provides access to mobile devices with forward link air interface speed of up to 2.4 Mbit/s with

CDMA2000 ROADMAP



technology for the wireless transmission of data through radio signals, typically for broadband Internet access.

It uses multiplexing techniques including Code Division Multiple Access (CDMA) as well as Time Division Multiplexing (TDM) to maximize both individual users' throughput and the overall system throughput.

EVDO is standardized by 3rd Generation Partnership Project 2 (3GPP2) as part of the CDMA2000 family of standards and has been adopted by many mobile phone service providers around the world – particularly those previously employing CDMA networks.

Rel. 0 and up to 3.1 Mbit/s with Rev. A. The reverse link rate for Rel. 0 can operate up to 153 kbit/s, while Rev. A can operate at up to 1.8 Mbit/s. It was designed to be operated end-to-end as an IP based network, and so it can support any application which can operate on such a network and bit rate constraints.

Bangladesh's pioneering mobile phone company Pacific Telecom Bangladesh Limited (PBT) which operates under the brand Citycell first introduced EVDO in Bangladesh in 2007. It runs on the cutting edge EVDO technology, the next generation CDMA 1X technology. One can enjoy download speed of up to 1 Mbps, experiencing superior internet browsing festivity with video streaming, video surveillance, and rich media content.

Bangladesh never shied away in embracing new technologies and as an endeavor high-speed Internet EVDO was launched in the market. Availability of bandwidth and location information gives rise to EVDO devices applications not previously available to mobile phone users.

EVDO Services



Bangladesh has already entered into the Mobile Broadband era. Since it is a new service in Bangladesh, so the expectation is very high from it. Customers are definitely getting high speed mobile internet and video call for sure. In light of the current technological regime of Mobile Broadband, it can surely be said that the country has moved into a new technological dimension. The country is going to be prepared with the infrastructure to support the services that can be provided through MBB. But the Content Providers should be ready to provide the adequate content and the ecosystem should be developed so that the facilities of new technologies can be properly utilized and enjoyed.

Peeping into the Future

The destination of all operators following the HSPA and EVDO is the long-term evaluation or LTE technology. One can reach to LTE by using CDMA technology or GSM technology. As long as the data communication is concerned Mobile Broadband will increase the use of data services. Currently EVDO has a capacity of providing up to 11Mbps speed which will be increased up to 14.7 Mbps. Citycell is planning to start this by March next year. The regulatory approval and investment formalities are in progress for the expansion.

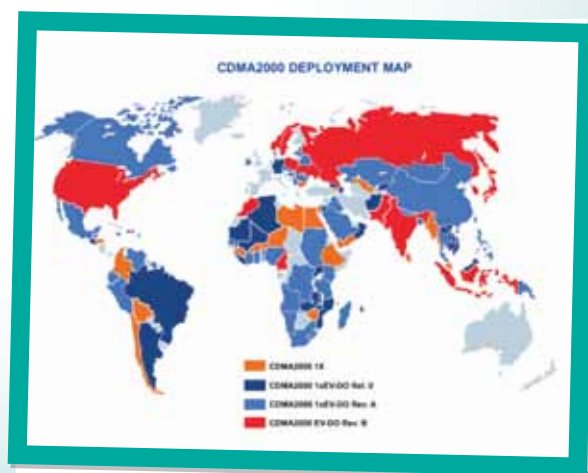
Mobile broadband service has instilled into every thoroughfare of human lives, influencing daily activities. It has the power to reduce the digital divide and improve the quality of life.

Mobile network technologies such as EDGE, EVDO, HSPA and LTE are widely used for connecting a range of devices such as smartphones, computers, sensors and machines to the Internet and broadband services.

It runs on the cutting edge EVDO technology, the next generation CDMA 1X technology. One can enjoy download speed of up to 1 Mbps, experiencing superior internet browsing festivity with video streaming, video surveillance, and rich media content.

The Essence of Mobile Broadband

The beauty of Mobile Broadband is that people can perform or deliver their tasks irrespective of their physical location. This technology could bring immense benefit to the people of Bangladesh which is densely populated where cities routinely witness traffic congestion; as a result physical deliveries are delayed. But with the use of MBB people can easily deliver electronic copy of documents via the Internet without any obstacles and transcending time constraint.





Baker Zhou
CEO
Huawei Technologies
Bangladesh Limited

Huawei is a Customer Centric organization. At every level we actively ensure that our customers' requirements and needs are identified and incorporated into our solutions.

What are the key factors contributing to the tremendous success of Huawei Technologies in increasing business footprint in Bangladesh as well as other countries of the globe? What is your present market share in Bangladesh?

From the core Huawei is a Customer Centric organization. At every level we actively ensure that our customers' requirements and needs are identified and incorporated into our solutions. It has enabled us to gain the trust of customers all over the world. Bangladesh is no different. Huawei Bangladesh started its journey back in 1998 with a small office and 3 employees; now Huawei has grown to 22 branch offices to ensure faster service delivery with 700+ local engineers serving all 7 operators.

Resonating with the revolutionary changes taking place in the ICT industry, Huawei continuously innovates to advance our technology leadership; Huawei has over 70,000 R&D employees, comprising more than 45% of our total workforce worldwide. We have set up 16 R&D centers in countries that include Europe, the US, Russia, India, and China. Huawei's R&D expenses totalled USD25billion in 2012, accounting for 13.7% of the company's annual

revenue. Being always at the cutting edge of technological marvel, Huawei is proudly serving 45 of the top 50 global operators.

Last but not the least; we highly value our members of staff. They are the foundation of the company who drive the company with utmost dedication, integrity, initiative and teamwork. As of today, there are over 100 local employees in Bangladesh office whose tenure extends over 5 years. It shows the trust and bonding between Huawei and its workforce.

What is your company's vision for next three years for expansion of business in Bangladesh and elsewhere in the world?

Bangladesh has been home for Huawei for more than 15 years now. We are the leader in this market bringing cutting edge technology and experience from around the world. Now, with the advent of 3G in Bangladesh, our clientele face new challenges and opportunities from OTT, broadcasting etc. We are committed to bring the experience from other markets to alleviate those challenges.

In order to strengthen the Mobile Broadband Ecosystem, Huawei is open collaborate with the operators and build the foundation for future growth of Bangladesh economy. This December, we launched the flagship Huawei Ascend P6 in Bangladesh, which is the world's slimmest Smartphone.

Bangladesh has skilled manpower which is also attractive wage wise; do you have any plan to set up assembling plant in Bangladesh to avail this opportunity?

We sent 102 of our local employees overseas only in 2012 on various on-job trainings to master advanced technology anticipating 3G deployment in Bangladesh.

And it is through their hard work, dedication and experience that we have so successfully and efficiently deployed 3G in Bangladesh for our prime customers and in turn for the people of Bangladesh. We shall continue to do it as part of our strategic decision.

We have also collaborated within the industry to enable some local university students with the opportunity to visit Huawei China HQ and experience the advanced technology evolution as it happens.

The individual value each employee has to contribute the total value Huawei has to offer. Holding to the principle of "dedicated employees as the foundation" enhancing their capabilities not only benefits individuals but also contributes to the company's overall growth.

How much Huawei contributes in corporate social responsibility (CSR) activities? Could you please give us an account what you have done so far in Bangladesh?

As a corporate citizen of this world we are committed to proactively make social contributions to countries and communities in which Huawei operates. We are under oath to operate with integrity and in compliance with applicable laws and regulations of the country. Huawei has not only grown bigger over the years, we contributed 10.2 Million BDT as TAX to government and over 27 Million BDT as local purchase in year 2012 alone.

Meanwhile, the most noteworthy is sponsoring Bangladesh University of Engineering and Technology (BUET) to set up a Wireless & Communication Laboratory and Training Center from which BUET students will be greatly benefited and in turn will help the society to create more telecommunication experts in Bangladesh.

How do you think AMTOB, being the single platform of Mobile Telecom industry in Bangladesh, may continue assisting the industry in a more dynamic way?

Association of Mobile Telecom Operators of Bangladesh (AMTOB) has emerged as the single voice of telecommunication in Bangladesh. We are very happy with the proactive role the industry association is playing which is absent in many countries. It is very crucial to keep industry players aligned and sing in a harmonized voice in order to realize demands of the industry for the betterment of the society and the industry. As the leading technology supplier in Bangladesh market we are also happy to collaborate with AMTOB. We wish every success of AMTOB and its members.

Do you foresee any obstacle which has been hindering the telecom business in Bangladesh? If any, could you please elaborate how to overcome those?

Bangladesh has made tremendous progress in the field of telecommunications and we believe that congenial telecom policies and favorable investment climate have helped to reach at this stage.

We realize some of the operators in this market are struggling to make sustainable profit for future growth. If the government could consider balancing the TAX and VAT structure on the sector to present a win-win situation for the government, the operators and the people. We firmly believe that, Mobile Broadband has the potential to further boost the GDP and propel Bangladesh into Digital era. It will ensure that the industry is healthy and we - vendors and operators can collectively impact on the people's lives and economy of Bangladesh.

ITU TELECOM WORLD 2013 ENDS WITH A CALL FOR CONGENIAL TELECOM POLICIES

Global and regional telecom experts underscored the need for congenial policies and legal framework in the telecom sector to attract more infrastructure centric investments in Asia.

The call was made at the recently concluded ITU Telecom World summit held in the Thai capital Bangkok. Commenced on November 19, 2013 the theme of the summit was "Embracing change in the Digital World".

Dr. Hamadoun I. Toure, Secretary General of International Telecommunication Union (ITU), observed that the profusion of the ICT sector is molding the mindset of the people to connect in different ways and the policy makers and regulators should catalyze the transformation.

A multi-stakeholder meeting and partnership announcement program took place which was attended among others by Brahima Sanou, Director, Telecommunication Development Bureau, ITU and Dr. Enu-Ju Kim, Regional Director of ITU Regional office.

AMTOB Secretary General T I M Nurul Kabir presented a project titled "Strengthening ICT and Telecom Sector in Bangladesh (SITB)".

Bangladesh Telecommunication Regulatory Commission put forward a proposal titled "Development of National Broadband Network" using Public Private Partnership that was presented by BTRC Vice Chairman Md. Giashuddin Ahmed.



Md. Giashuddin Ahmed, Vice Chairman of BTRC and AMTOB Secretary General T I M Nurul Kabir presented their respective projects at the Connect Asia Pacific Summit on behalf of Bangladesh

GSMA Chairman Jon Fredrik Baksaas in a sideline interview conjectured that price reduction of smartphones, development of local contents and tax exemption will spur the growth of the internet service in Bangladesh.

A high level delegation of Bangladesh government led by MD. Abubakar Siddique, Secretary of Ministry of Posts and Telecommunications attended the summit. Md. Giashuddin Ahmed, Vice Chairman of BTRC and senior officials from public and private sector among others participated in the summit.

Earlier, a Ministerial roundtable participated by ministers from different countries took place on November 18.

Many government and non-government entities from different countries including Bangladesh pressed for investment to expand national broadband network in a contiguous event, titled the "Connect Asia Pacific Summit," prior to ITU Telecom World.



Head of Bangladesh delegation Posts and Telecommunications Secretary MD. Abubakar Siddique (1st row 2nd from the left) pose for a photo call with other head of delegates including Ministers following the Ministerial roundtable.

AMTOB ACTIVITIES



A delegation of AMTOB met the Minister of Posts and Telecommunications Advocate Shahara Khatun, MP, at her office on November 7, 2013.



A delegation of AMTOB met the newly appointed Minister for Posts and Telecommunications Rashed Khan Menon, at his office on December 8, 2013.



Mehboob Chowdhury, member of AMTOB Executive Council and CEO of PBTL handing over a memento to the outgoing AMTOB Chairman Michael Kuehner on behalf of AMTOB at AMTOB Night held on December 18, 2013.



Chris Tobit, Vice Chairman of AMTOB and CEO of Airtel Bangladesh Ltd. welcoming Supun Weerasinghe, the newly appointed CEO of Robi Axiata Ltd. by presenting a bouquet.



A delegation of AMTOB met the President of Foreign Investors' Chamber of Commerce and Industry (FICCI) recently.



AMTOB Executive Council members pose for a photo call with other members and distinguished guests at AMTOB Night.

AMTOB MEMBERS' ACTIVITIES



Youth of international community storming the Airtel 3G Internet Experience Zone at the International Club Dhaka on the 4th of December. Airtel, the fastest growing telco in the country arranged for a roadshow to showcase their 3G internet to the members of IC.



Banglalink wins "Best Brand Campaign" at World Communication Awards 2013.



Citycell recently signed an agreement of infrastructure sharing with Bangladesh Infrastructure Company Limited (BICL). This agreement will facilitate both the organizations to maximize the use of network facilities and enhance the network coverage without duplication of investment for network facilities. Mr. Mehboob Chowdhury, CEO of Citycell and Mr. Andy Rolt, Managing Director of BICL signed the agreement.



Grameenphone sponsored Bangladesh Special Olympics team won 70 medals including 43 gold, 20 silver and 7 bronze at Special Olympics Asia Pacific Games held in Newcastle, Australia.



Robi Axiata Limited, in partnership with the Bangladesh Army, created a new world record of the largest human national flag. 27,117 people collectively created the largest flag at the National Parade Ground, Sher-e-Bangla Nagar on the 16th December 2013.
Photo copyright: Shahidul Alam/Drik/Robi



Officials of Teletalk Bangladesh Limited and Madan Mohan College, Sylhet exchanged documents following signing of an agreement for online admission and regular collection of fees from the students. The function was witnessed among others by Finance Minister Abul Maal Abdul Muhith, MoPT Secretary MD. Abubakar Siddique and Managing Director of Teletalk Md. Mujibur Rahman.

AMTOB

Association of Mobile Telecom Operators of Bangladesh

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