



## End User Innovativeness Drives Telecom Ecosystem to New Heights

**C**ulminating the COMPUTEX Taipei Innovation Forum 2011 was the panel discussion, which gathered several technology experts from various companies. These experts charted the ways to spur innovation, create new consumer market, and highly developed service models, which was the theme for this year's panel discussion.

Yoshio Utsumi, President of Japan Telecommunications Engineering and Consulting Services and the former Chairman of the International Telecommunications Union (ITU) moderated the panel. The members of the panel were Dr. San-Wei Sun, Senior Managing Director, Corporate Planning Department, Chunghwa Telecom Co., Ltd.; Dr. Yasuyuki Nakajima, President and Chief Executive Officer, KDDI R&D Labs; Seán Gowran, Executive Vice President, Head of Customer Engagement, Ericsson Region China & North East Asia; David Rich, Vice President, Asia Pacific Region, Akamai Technologies; and Aron Fang, Director of the Board and Senior Corporate Officer of GAIA Holdings Corporation.

meet the market demands and catch up with the present and future innovations in order to survive.

In his presentation, Utsumi tracked the development of terminals, networks, and content platforms, leading the way to a new concept of cloud computing, which has been an industry trend in the field of information and communications technology (ICT) recently. Utsumi said, "The spread of the Internet has enabled us to obtain applications and contents on-demand from various devices without restriction of time and place. These devices, such as smartphones, tablet terminals, smart TVs, and many others, have created significant impacts on our life."

"The innovations that we have been seeing today have led to drastic changes in the landscape of our environment and they have paved the way for the emergence of cutting-edge contents, services, applications, and terminals. These changes also gave birth to new company strategies and partnerships, deviating from the conventional practices in order to make further product and technology development," Utsumi added.

Dr. Sun, on the other hand, outlined the broadband readiness and ICT structure of Taiwan, wherein research and development as well as business modeling play critical roles. Taiwan's broadband subscribers are about 64 to 66 percent, ranking fourth worldwide. Chunghwa Telecom has laid the framework for strategic emerging services in order to face challenges of the telecom services and to sustain trends and opportunities. These strategies are in the area of cloud computing, which could account for 11.75 percent of revenue for operators worldwide in 2015; Internet of things, as more than 50 billion devices will be connected to the Internet by 2020; green network efficiency; and digital convergence, wherein streaming service will occupy more Internet traffic.

"These key strategies, which will support mobile and connected style of life and business, are regarded as the next opportunities for telcos to offer," said

### Presentations, Company Roadmaps

Prior to the panel discussion, the moderator and the panel members made their respective presentations, which detailed how their respective companies lived up to present innovations, and tracked the industry's future potentials. They noted that all players in the industry, and as part of the huge ecosystem, should all play a role to



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Dr. Sun, adding that “partnership and collaboration for new service ecosystem and business model is perceived vital for business continuity.”

Dr. Nakajima discussed the continuing growth of Japan’s mobile’s business concerning mobile commerce and contents markets. Mobile data traffic in Japan is forecasted to have a compound annual growth rate of 92 percent from 2010 to 2015, reaching about 6.3EB (exabytes) by 2015. KDDI is implementing its 3M strategy, which is multi-use, multi-network, and multi-device. In doing this, the company will employ various contents and services, tap best network anywhere and anytime, and enable the usage of various devices.

KDDI will leverage the 3M strategy to contain the rapidly increasing traffic and provide faster, more comfortable connection environment and reduce total network cost; create a new business model that supports various Internet terminals; and open Internet experience and contents applications unique to KDDI. Dr. Nakajima said, “In order to realize this strategy we need to reduce the cost of network so that people can enjoy application at lower cost, and seamless access from fixed network to mobile network is important. Smartphone is emerging in Japan and more than 40 percent of the mobile phones already released are smartphones.”

Gowran, meanwhile discussed the mobile broadband evolution, from the establishment of market and standards, which is the first wave, to differentiating services, and connecting things, which depicts Ericsson’s forecast that the world will see 50 billion connections in 2020. “Although the fixed business is still strong and growing, it is mobility that is the key growth area for our industry... We believe that there are opportunities for growth in the third phase (of mobile broadband evolution), we are probably entering the third phase right now,” said Gowran.

Gowran said the mobile network technology is now ready for the connected car, which is one of the several applications of mobile broadband. From 2006 to 2009, Ericsson, along with several car manufacturers and telecom providers, initiated the Cooperative Cars (CoCar) project to realize mobile car-to-car communication and mobile traffic hazard

warnings using 3G network, but with some challenges. The second phase of the project Co-Car Extended (Co-CarX) employed Long Term Evolution (LTE) standard as the primary technology and this has met the demands of regulators in terms of latency for safety applications. While LTE meets most of the needs on the safety applications, Gowran said it is also necessary to employ pWLAN standard, a wireless local area network (WLAN) standard based on vehicle-to-vehicle communication, which aids in lane-change assistance and collision avoidance.

As a company that makes Internet work for business, Akamai Technologies’ global network encompass nearly 100,000 servers to over 970 networks in over 72 countries with accelerating daily traffic of 5Tbps, over 17 million hits/second, 1 trillion deliveries per day, over 35PB (petabytes) per day, and over 10 million concurrent streams. During his presentation, Rich said Akamai Technologies helps companies realize the power of the Internet, enables more sales per second and higher user satisfaction at significantly less cost, and monetize and manage digital media assets. Rich also discussed the Akamai high-definition (HD) network, which can deliver HD quality online to notebook or desktop personal computers.

To meet the growing subscriber traffic brought about by the emergence of mobile devices, Rich said Akamai and Ericsson forged a partnership to ensure that Internet experience in mobile is as good as the directly connected ones. Because mobile networks are not IP networks, Ericsson and Akamai forged the alliance to accelerate the mobile element of Internet. “Akamai can basically manage end-to-end, from the host computer right to the mobile device, the whole experience, including what was previously been a difficult part of the mobile net-



**Dr. Yasuyuki Nakajima,**  
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**Seán Gowran, Executive Vice  
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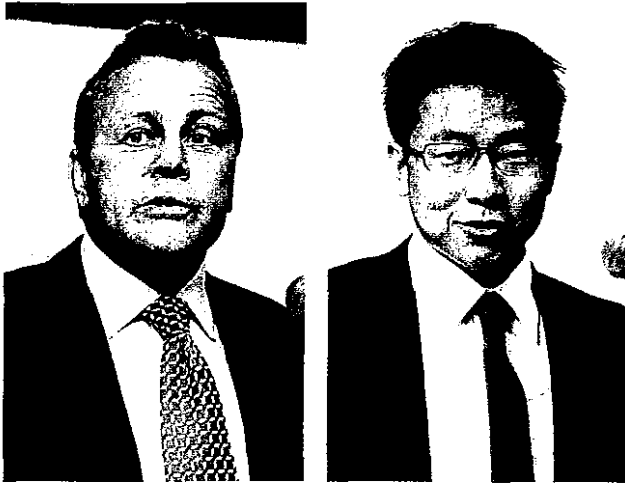
work,” said Rich.

Lastly, Fang gave an overview of GAIA Holdings, which was founded in 1986 until it went through a several transformations, from being an embedded software expert, it started venturing in disc authoring engines, creating embedded rich graphical user interface used in camcorders, video cameras, and telematics systems. They have also worked in the creation and commercialization of the successful middleware ecosystem Java, and have been working closely with mobile operators, content developers, and manufacturers.

Fang stressed the need to employ two major forces, namely analysis and interpretation, in order to pursue changes in the industry, which he said is the same tact his company used in transforming over the past 30 years. Fang also shared Andy Grove’s 10x force in describing that the industry is under constant over-clocking, and that the cycle of balancing interpretative and analytical processes needs to be accelerated as well. “Industry standardization, conformity, and compliance remain tough challenges in an overclocked world,” said Fang.

### Industry Growth

Utsumi opened the panel discussion by asking each panel member to track the future of the industry. Dr. Sun cited the strength of the Taiwanese market, particularly in the field of the telecommunications, while Dr. Nakajima said KDDI will continue to invest in infra-



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structure, although Japan's present growth in subscriber has not been meeting the company's expectations. This is because end users have diversified from single usage to multi-usage, focusing not only to contents, but to other applications as well.

Gowran of Ericsson said the innovativeness of people in using technologies is driving the industry's future, with bandwidth subscription going to 12EB (exabytes) by 2015. Rich said they are

views on the recent global economic turmoil and how would this affect their respective company's business prospect and investments in research and development. Dr. Sun said while the economic crisis did have an effect to his company, it was minimal, and their focus was to strengthen the partnership with device makers in order to lift the ecosystem. Fang on the other hand said GAIA's diversification to several businesses has been the key in surviving the turmoil,

seeing Akamai Technologies' revenue reaching US\$5 billion by the end of this decade, up from US\$1 billion at present. For the software industry point of view, Fang said GAIA is anticipating on the possibilities of the diverse innovations nowadays, but he pointed on the efficient use of bandwidth resources in order to optimize further user experience.

A question from the audience, meanwhile, sought the panelists'

while Gowran said Ericsson continues to invest about 16 or 18 percent every year to research and development in order to remain competitive.

Akamai Technologies' Rich said the crisis also had minimal impact to them because people, whether the world is in crisis or not, always look at the Internet for ways of creating business. Dr. Nakajima, in describing the agility of the telecom industry, cited that the recent disasters in Japan did not deter their company as more people have even sought to mobile communications to do business right after the crises.

Finally, Utsumi asked the panel members to define convergence and how does this thrive in their respective businesses. Dr. Sun defined convergence as the ability to offer various contents that can be viewable to diverse mobile devices, while Dr. Nakajima cited KDDI's Fixed Mobile Broadcast Convergence (FMBC) as a classic example.

Ericsson's Gowran talked about 3As, or any service, to any screen, at any time, while Rich said convergence is the ability of a user's easy access to voice data and contents on any device. Fang meanwhile said that while the present definition of convergence involves all electronic devices, it will extend to non-electronic devices as well in the future. □



The evolving end-user experience is driving innovations in various fronts.