

Asia-Pacific II 2015

# Connect-World

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**What is the Future of Smart TV?**

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# 2015: An Inflection Point for Communications Service Providers, and for EMC

by John Roese, Chief Technology Officer, EMC Corporation

*Communications Service Providers are facing unprecedented change as virtualization transforms network infrastructure, and along with it, the means of delivering traditional and new services to operators. This development in the communications industry parallels the Cloud transformation that has been sweeping the IT sector for over a decade. Having learned a great deal from guiding enterprise IT organizations on the journey to the Cloud, EMC believes it is well positioned to help CSPs unlock opportunities in the rapidly evolving communications space. To better serve CSPs, EMC is developing a CSP-targeted Cloud and virtualization platform strategy that builds upon emerging industry standards, and is making dedicated investments in R&D, partnerships and field resources to bring next-generation communications solutions to market.*

In November of 2012, the Network Functions Virtualization Industry Standards Group (NFV ISG) was established to enable, “rapid service innovation for Network Operators and Service Providers” via the virtualization of network functions and underlying infrastructure. In the 2 years and 4 months that followed (as of this writing), industry leaders have invested in proofs-of-concept and early implementations, signaling accelerating adoption and providing growing evidence that the new model works.

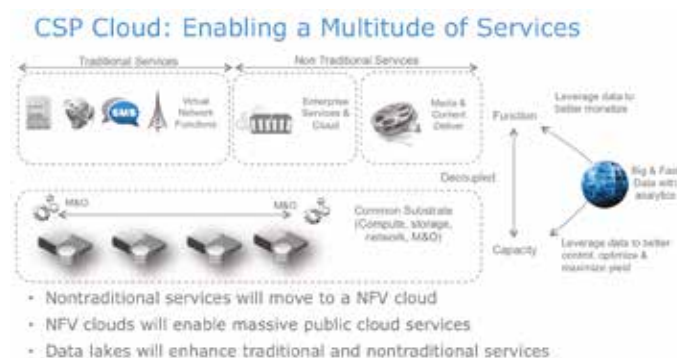
The NFV ISG was formed during a time of peak activity in server, storage and network virtualization among enterprise IT users. After years of helping enterprise CIOs and Cloud hosting and service providers navigate this “journey to the Cloud”, EMC recognizes that it has the skills and experience needed to help communications service providers take the steps necessary to succeed in the “journey to NFV”.

The primary technological driver for NFV is the decoupling of network functions from the underlying hardware infrastructure that they run on. The virtualization of routing, firewalls, security, DNS, caching, and other network functions, reduces their dependency on proprietary hardware and enables consolidation onto commercial, off-the-shelf (COTS) hardware components. This yields the first benefit of virtualization: hardware savings. These savings include both the CAPEX savings resulting from the ability to host an equivalent number of applications and functions on lower-priced hardware, and the OPEX savings associated with having less hardware to configure, run and maintain.

Building on these fundamental CAPEX and OPEX benefits, an abstracted infrastructure layer adds flexibility by making it possible to deploy apps and functions where they best belong. For CSPs, this means the ability to distribute network functions across datacenters, network nodes, and customer facilities, allowing performance to be optimized. This deployment flexibility, in turn, frees CSPs to

reimagine the kinds of services they can deliver. Providers that once focused squarely on delivering telecommunications services to its customers can now consider delivering non-traditional services such as IPTV, IT-as-a-Service, and Cloud hosting services.

But in order to deliver these new services, an important dilemma needs to be acknowledged. On the one hand, CSPs are attracted by the economies of hyperscale computing enjoyed by the likes of Google and Facebook, and wish to leverage open standards and open source to provide new services to their operator customers. At the same time, operators are accustomed to deploying nodes and networks that achieve five or six 9’s of availability to support the service-level agreements and advanced functionality expected by their subscribers, while striving to manage extremely sophisticated environments with a minimum of OPEX. This tension, between the many benefits of virtualization and openness, and the requirements for carrier-grade service-level assurance and ease-of-management, must be addressed if CSPs are to successfully deliver on the promise of NFV.



EMC believes that addressing this dilemma should not require making tradeoffs between the hyperscale and enterprise value propositions.

Instead, EMC's approach is to enable CSPs to use a common set of building blocks to stand up distributed, multiservice Clouds that provide the ability to easily dial up desired characteristics on demand. These characteristics include resiliency (e.g., sub-second Metro backup), performance (e.g., handling spikes in traffic caused by events like the World Cup) and custom capabilities like backhaul monitoring and analytics. Instead of designing all possible scenarios into a Cloud infrastructure upfront, a CSP should have the agility to add capabilities as needed, minimizing time-to-market for new services as well as the OPEX required to deploy them. This is why EMC is working to deliver an architecture that will allow CSPs to build tunable infrastructures. This architecture will eliminate traditional functional silos, allowing any VNF to be hosted on (and easily moved to) the part of the network that maximizes its performance, and also allowing new services to be added in a modular, incremental fashion, without the need to reengineer the entire network. And, by wrapping this architecture with professional services from EMC and its partners, EMC will enable CSPs to deliver carrier-grade, Cloud solutions to operators at hyperscale.

Underpinning EMC's CSP Cloud architectural approach is a modular NFVi stack that can scale from a single node all the way up to the largest Cloud datacenter. This scalability is enabled by software that can cluster server, storage and networking hardware into a platform upon which virtual network functions (VNFs) can coexist side-by-side with nontraditional services, such as Cloud hosting and media & content delivery. Big & Fast Data software will make it possible to extract maximum value from the infrastructure and functional layers through network optimization and by uncovering new monetization opportunities. EMC's CSP Cloud architecture is depicted in the following illustration.

EMC's CSP Cloud architecture aligns with the blueprints set out by the NFV ISG. Adding additional value to CSPs are the advanced, enterprise-grade services that have made EMC an IT information infrastructure leader worldwide. Services such as infrastructure management, data protection, service assurance, Big & Fast Data, and security analytics, offer the carrier-grade differentiation that CSPs will need to commercialize NFV-based solutions.

The illustration below shows a conceptual view of EMC's CSP Cloud approach that highlights its key attributes, as follows:

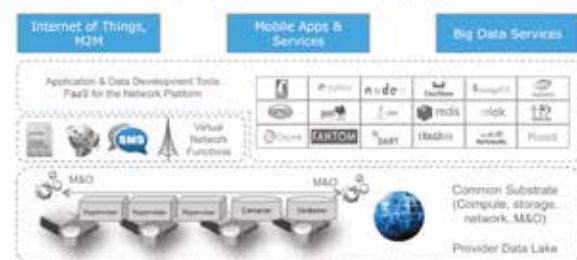
- **Flexibility:** EMC's CSP Cloud architecture is built on COTS hardware, and offers CSPs the choice between turnkey, engineered systems on the one hand, and, on the other, the reference architectures necessary to build such systems from lower-level building blocks.
- **Open Integration:** Integration with standards such as Open Stack via API instrumentation at all layers, combined with modularity, allows CSPs to choose between open source and EMC software components as business requirements dictate.
- **Agility:** Management and orchestration software enables the provisioning of different NFVi personalities to support a variety of VNF workloads, using a unified set of management and user interfaces.
- **Intelligence:** Big & Fast Data capabilities enable advanced security analytics and real-time intelligence to optimize network operations and open up new revenue opportunities in areas such as customer experience management, subscriber loyalty, location-based services, and IoT.

- **Automation:** Advanced software services provide the carrier-grade data protection and service assurance features that operators require. These features include point-in-time backup, multisite failover, replication, and disaster recovery, along with performance optimization, usage monitoring, root-cause analysis, and capacity management.



To unlock the value of the EMC CSP Cloud stack, EMC will make its suite of advanced services available via solution packs, and will provide a Platform-as-a-Service that will make it simple to write applications to exploit the stack's rich functionality. Early applications development can be expected to focus on ensuring VNFs deliver comparable value to operators as traditional network functions, but over time, application development will expand into adjacent domains such as Internet of Things, and Mobile and Big Data apps.

### CSP Cloud: A Platform for New App Development



We are currently witnessing a very exciting time for the Communications industry, and EMC recognizes that this is just the beginning of what promises to be a multiyear journey characterized by rapid change and demanding new approaches to solution development. A great deal of work is ahead for us all and will require advanced research & development, collaborative solution development, and the building of new skills, partnerships and business relationships. EMC believes that 2015 marks a crucial inflection point for the communications industry, as NFV rapidly moves beyond concept phase and into implementation. Accordingly, EMC is positioning its federated businesses – EMC Information Infrastructure, VCE, VMware, Pivotal and RSA – to deliver what CSPs need to adapt and succeed in this brave new world. ●

# CONNECTIONS



It used to be that the television was the centre piece of your living room. An influx of smaller screens in the home, though, has meant that the TV has had to fight a lot harder in recent years for your attention.

One way it has done this is with new technology. While 3D fell by the wayside, due to gimmickry, smart TV functionality has finally started to shine through and then there is 4K - a technology that has quickly changed from an out-of-reach luxury to a near affordable one.

The biggest change arguably though is web connectivity. The internet has transformed into the most powerful tool for the broadcast industry. Whether it is the like of Netflix streaming its wares, smart TVs taking advantage of the internet to bolster their features or app manufacturers tuning into the needs to TV watchers, the web is where the future of television resides.

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# The failed promise of Smart TV

by Michael Lantz, CEO, Accedo

Smart TVs have evolved from the first beginnings in 2009 to being almost ubiquitous in most homes in the developed world. At the same time, consumers have more and more possibilities of accessing their favourite video content. However, with adoption so far less than anticipated, what future role will Smart TV play?



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*Prior to setting up the company, Michael held roles at a Nordic management consultancy company, Digiscope and the medical IT company, CellaVision.*

*Michael holds a Master of Science in Engineering Physics and a Bachelor of Science in Business Administration.*

A truly premium video experience is one which is consumed via the best screen in the home, the TV. It is a natural and logical analysis that if online connectivity were available in the TV, this would be a great opportunity for consumers to reach modern video services directly on the TV, removing all needs for STBs or other peripheral devices. Fewer cables, better services and a fully integrated experience were promises that were touted by the vendors five-six years ago.

Here we are now, in 2015, with a fragmented Smart TV industry, more and more video services, an increase in connected devices competing directly with Smart TVs and slower usage growth of Smart TV than expected. In fact, we're seeing a decline in usage for older Smart TVs, leading to the assumption that consumers who have had

Smart TV for a while move to other devices. So, what went wrong and what will the future hold?

## Smart TV vendors have misunderstood the consumers

Fundamentally, Smart TV's failure is driven from a desire to be everything to everyone. Once you add some computing power and online connectivity into the TV, you can do very many things. At all of the TV manufacturers, the product managers were looking for additional features to differentiate them from their competitors and to be chosen by the retailers, rather than thinking about the consumer experience, and how it could be improved. Consequently, the Smart TVs became bloated with a challenging user experience and features, which looked good

on paper, but in reality didn't add to the overall consumer satisfaction.

At the same time, consumers' patience in front of the TV is limited. The user experience with a remote control is clunky at best, and with a complex user experience, it's been increasingly difficult to find the functions you're actually looking for. All this leads to a user experience that is difficult to navigate for consumers, and requires a significant learning curve for the mass market TV audience.

## The lifecycle for a connected device is important

A major challenge for TV manufacturers is that they get all revenues up front at the time of purchase, while a connected device needs

to be managed and maintained over time. Naturally, consumers expect to get access to the latest software releases for their device, ongoing updates and new applications. TV manufacturers generally only spend time on maintenance during the first 12-15 months after initial market introduction. After this time, all focus is on the next product launch and there is no business case for continuing to add features or functions.

However, a consumer who suddenly discovers that the expensive TV they bought last year will no longer be updated, or may not support the latest applications will understandably be disillusioned, and may choose to move to other devices and abandon the Smart TV as the main video platform. Some of the Smart TV vendors have been better at this than others, but the general focus on the ongoing lifecycle of products already in the market is low. This has led to a significant decrease in usage among older Smart TV models, and may also make those with older models replace with other non-smart devices in the future.

## Complexity is increasing even further

The final major mistake that the Smart TV manufacturers have made is that in the arms race of TV product development, they have all rushed to embrace new features and functions, leading to increased requirements on app providers and content providers. These additional requirements lead to further fragmentation and added development costs for the application and content provisioning. The complexity to sign agreements, launch applications and get them approved is huge, effectively removing the possibility for market tests and requiring significant investments to reach a large target audience on Smart TV.

Samsung is, by far, the leading Smart TV manufacturer in the world, but even within Samsung's range of TVs, there are multiple generations of Smart TV platforms and different performance and functionality between models.

## The short term focus is on 4K messaging

While connectivity is still a feature of more or less every larger TV sold in the world, innovation has moved to new features. TV manufacturers are always looking for the next reason for consumers to upgrade their TVs, and 4K video content provides such an opportunity. Clearly, such a feature is not backwards compatible and will require an upgrade of the hardware.

However, 4K is a one time innovation where connectivity is an area of endless innovation possibilities. The industry is betting that a move to 4K will lead to another cycle of upgrades of TVs, which may be a driver of the market for the coming 2-3 years. It remains to be seen if 4K proves more attractive for consumers than 3D content, but it's clear that consumer marketing and positioning have evolved towards other areas than Smart TV features.

## Opportunities for Smart TV vendors to reinvent the Smart TV

However, all is not lost, as in essence the fundamental reasons for the attraction of Smart TV are still there. The screens are increasingly better and to get the content you like directly on the TV screen is a great consumer value add. The failure has been in the execution, where a focus on the traditional business model for TV has been the key problem.

That said, there are two main opportunities for the Smart TV vendors to reclaim the potential of Smart TV.

Firstly, there is a great opportunity to partner with pay-TV operators. These companies are already spending billions on finding ways to distribute content to consumers. If Smart TV manufacturers can provide a way for them to reach consumers cost-efficiently, there is clearly a business case to provide an ongoing managed experience over time. To truly make the most of this opportunity, Smart TV vendors may need to sacrifice their control over the user experience in exchange for some funding and better content.

Secondly, Smart TV manufacturers should simplify the user experience. Consumers want to find a selection of great apps, curated by the platform, at the click of a button. Smart TV vendors need to reduce focus on their own services and packaging and trust their content provider partners to create a simplified, easy-to-navigate user experience.

## The future of Smart TV

If we look ten years in the future, the market will continue to evolve. Clearly, one of the megatrends for connected devices is the availability of powerful mobile devices. Whilst the TV screen will remain the best to view premium content, every content provider and operator will engage with consumers on a mobile device in addition to the big screen. Naturally, in this world of multiple devices, consumers will expect an integrated experience across multiple screens. Some use cases will require a remote control but an increasing amount of use cases that consumers expect will be centred around replacing that functionality with a mobile device. "Smart TV" as we know it today will be a multi-device experience, where an integrated experience will be key to driving consumer usage and revenues.

Of course, this doesn't mean the end of the Smart TV, but it will add additional pressure on the Smart TV vendors to evolve. It will be vital to deploy a second screen strategy either on your own or together with partners. At the same time, a Smart TV, which is just reduced to a dumb screen, will quickly become a commodity. The winners will be the vendors who can define a user experience to best adapt to the change in consumers' tastes. ●





# G.fast: racing into the future

**Swisscom's business is shaped by people. It's the way they communicate and how they collect and share information. This development is gathering pace noticeably right now, prompting telecommunication companies to be innovative time and again. Swisscom has always faced such challenges, modernising its network and providing a wide range of technologies for the benefit of consumers in Switzerland. Swisscom puts its infrastructure, innovative services and know-how at the disposal of people and companies alike. By introducing Fibre to the Street (FTTS) and Fibre to the Building (FTTB), combined with the new G.fast transmission standard, Swisscom is taking the next step into the future of telecommunication.**

Switzerland enjoys a positive investment climate with regard to communications infrastructure. Swisscom alone invests more than EUR 1.5 billion a year in its IT and network infrastructure. That's about EUR 200 per head of the population and puts Switzerland at the top of the world's investment league table. Aside from classic telecommunication companies, other players are also contributing to the country's high-quality broadband coverage, including 250 cable network operators and about 20 power utility companies. With about 99% coverage at 30 Mbps, Switzerland is already close to achieving the broadband objectives of the EU's Digital Agenda 2020. And all without any state subsidies whatsoever

## Lively competition promotes innovation

The good investment climate also encourages market players to be more innovative and drives competition between infrastructure providers. Cable network operators, for example, are upgrading their infrastructure with DOCSIS 3.0, thus providing bandwidths of up to 500 Mbps in selected locations. Swisscom is focusing on a mixture of technologies to provide widespread ultra-fast broadband as soon as possible. In major urban areas, it is currently driving forward the expansion of Fibre to the Home (FTTH), mostly in cooperation with local power utility companies. More than 921,000 homes and businesses – about a third of all households – can already benefit from bandwidths of up to 1 Gbps. At the same time, the universal service obligation mandate obliges Swisscom to ensure that rural and marginal areas aren't left behind.

As mentioned above, Swisscom is using a broad and innovative combination of technologies to meet the growing demand for bandwidth, not only through FTTH. For example, the introduction of VDSL2 vectoring in the existing Fibre to the Curb (FTTC) network architecture will be completed in 2015. In parallel to this, Swisscom is preparing its network architecture for the introduction of G.fast by bringing fibre-optic cabling closer to its customers. Therefore it has been expanding its FTTS and FTTB networks in many communities since 2014. In so doing, Swisscom is shortening the length of copper cabling to its customers' homes and businesses to just 200 metres and creating the conditions necessary to introduce the new G.fast transmission standard.

## Huawei and Swisscom: a partnership for the future

G.fast, the successor of VDSL2, uses a wider range of frequencies (up to 106 MHz) on existing copper lines for data transmission. This allows transfer speeds of up to 800 Mbps over short distances under ideal conditions. One novel aspect of this technology is the use of separate time slots for upstream and downstream communication instead of dedicated frequency bands (Time Division Duplexing). The higher frequencies used by G.fast cause strong cross-talk between the individual copper pairs of a cable, requiring improved vectoring algorithms.

This new transmission technology arose out of a European research project that eventually led to standardisation efforts. Swisscom and its technology partner Huawei promoted the standardisation of G.fast from very early on, adding Swisscom's own requirements for G.fast. The International Telecommunication Union (ITU) approved G.9701, the G.fast standard, at the end of 2014. This is a decisive factor for G.fast's success because it defines how network elements and end-user devices must inter-operate to exchange data. Together with Huawei, Swisscom ran through various deployment scenarios which resulted in requirements for the technology and led to the development of initial prototypes of G.fast-capable Micro-CANs. These first-generation prototypes are still being tested and prototype G.fast Micro-CANs are planned to be deployed in field tests by the middle of the year. The aim is to serve several homes in a pilot community with G.fast before the end of 2015. This makes Swisscom a leading telecom provider in the development and use of G.fast.

## Come and meet us at the Broadband World Forum

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## Focus on user experience, and you might just solve the smart TV problem

by Todd Viegut, CEO, Kannuu

Today, viewers have access to hundreds upon hundreds of television channels on cable or satellite, video on demand and streaming services – and they all require a separate user interface. Each individual service—be it Netflix or DirectTV—has made some progress within their own system when it comes to helping viewers manage the vast amount of available content, but the user has to repeat the search and discovery process across multiple platforms every time they want to see what’s on. There are no comprehensive devices or services right now that act as an umbrella to allow viewers to search, discover and access television content through one central interface.



*Todd Viegut is a well-known leader in the technology of online video content business, focusing on content discovery and user experience. As the CEO of Kannuu, Viegut is responsible for charting the company's product development initiatives and orchestrating Kannuu's growth strategy. A seasoned veteran and successful serial entrepreneur with a strong focus on disruptive technologies in emerging, high-growth markets, Viegut has a proven track record for growing small to midsize technology companies and leading numerous, successful acquisitions.*

So-called “smart” technology is supposed to make our lives easier by connecting our electronic devices to the Internet and providing an intelligent, easy-to-navigate user interface that allows access to curated, relevant content instantly. In some smart product areas, such as phones, for example, hardware manufacturers, service providers and technological developers work hand-in-hand. While not completely seamless, it’s relatively easy to watch a video or access content from your phone.

In other spaces, however, those three technology providers have yet to learn to work together. In particular, the television industry has made little progress when compared with smartphones. Watching television should be all about the user experience. It’s what drives the usage

of a wider range of content and future development of more personalized TV features and benefits to attract a larger and longer retained viewing audience.

But the process of actually accessing content on a television often feels the like user experience is the last consideration. Between cable services, VOD, Netflix, Hulu, Amazon and so forth, the amount of content viewers must wade through just to find something to watch is overwhelming. Plus, none of those content providers’ apps talk to each other; you can’t watch a regular cable show from your Netflix account, for example, or vice versa. Users have to constantly switch applications to access the content they want. There are over-the-top (OTT) devices consumers can purchase to help them manage the problem, but none of them communicate

with other devices. Your Roku won’t communicate with your cable box.

For an industry that’s supposed to be all about the customer experience, why is the user interface for television so slow to improve?

In an age when people can access any information or content they want from their pocket-sized phone, the television industry is acting far from “smart.” The future of the smart TV is all about delivering content to the viewer on their terms: where, how and when they want it.

### The devolution of television

Once upon a time, the television remote was the only interface viewers had to deal with. If you wanted to change between the

eight available channels, turn the volume up and down or turn the television on or off, it was easy. The system was never more streamlined than when it first debuted. But then we started getting more channels, so our remotes got bigger. Soon, you could hook video players and game systems up to your television – but they ran on their own remotes, so viewers then had multiple interfaces to juggle while attempting to access their content. Then add cable television into the mix; this was TV, but it required its own remote and interface, too. As the television manufacturers and cable providers began to offer more options and channels, the remotes became more and more complicated.

Today, viewers have access to hundreds upon hundreds of television channels on cable or satellite, video on demand and streaming services – and they all require a separate user interface. Each individual service—be it Netflix or DirectTV—has made some progress within their own system when it comes to helping viewers manage the vast amount of available content, but the user has to repeat the search and discovery process across multiple platforms every time they want to see what’s on. There are no comprehensive devices or services right now that act as an umbrella to allow viewers to search, discover and access television content through one central interface.

It’s as if, while the rest of the technological world advances in user experience, the television industry has devolved. It’s become incredibly complicated and frustrating to watch TV, and user experience seems to not be a priority. In order for the industry to have a robust future, the consumer experience has to be the primary consideration.

**Hardware manufacturers and content service providers are equally disappointing**

It isn’t hard to pinpoint what consumers want. They want access to any content they wish to see, whenever they wish to see it, wherever they wish to see it. Today’s viewers are a demanding bunch, and smartphones have gotten everyone used to instant, easy access. Users want the same from their televisions. They don’t care how they get the content, and they don’t care who provides the hardware. They just want an easy-to-use system that

lets them access their integrated content from across multiple platforms through one interface. Is that so much to ask?

Apparently, it is. There have been some attempts at providing a truly “smart” television with these capabilities, but despite years of analyst predictions of an Apple-like company developing the hardware that would solve these problems, it hasn’t been introduced yet. Companies like Samsung have experimented with equipping their televisions with smart technology, but so far, none have survived to become part of the mainstream market. A manufacturer-led answer doesn’t look likely.



Content service providers, too, have fallen short, proving incapable (or unwilling) to disrupt the home viewing industry as much as would be required to provide a true solution. The Holy Grail here could be a single web-based service with one search and discovery interface through which viewers could access all of their VOD, subscription cable, EPG and streaming services. If it sounds too good to be true, it’s because it probably is. Interface challenges aside, such a system would face challenging obstacles in the form of working out licensing agreements, getting competitors to work together and, in essence, consolidating all of the power held over television viewers into one new source.

Instead, what we’re beginning to see are examples of OTT providers partnering with television manufacturers to integrate their search and discovery functionality into the hardware itself. Streaming media devices like Chromecast, Amazon Fire and Roku TV are trying to solve the problem. These devices connect to the television via a USB or HDMI cord, then stream a user’s content via Wi-Fi directly from multiple platforms to the television. A viewer can access their Netflix, Hulu, Amazon prime, HBO Go, Pandora,

YouTube and other streaming accounts through one user interface. As big of a step for user experience as that may be, it doesn’t mean the viewer only has to deal with one interface. Each OTT service has an app that the user must sign in and out of each time. Plus, this still doesn’t solve the problem of personalization.

**It’s time to get smart**

Content providers and television manufacturers alike need to provide their consumers with a quality user interface; one that is intuitively easy to use and provides an element of personalization so that users can find exactly what they’re looking for and get recommendations based off of previous viewing behavior.

Today, viewers have to use one search and discovery method on one platform, and a completely different one on the next. History isn’t curated across systems, so the recommended content is specific only to the individual platform. Not only is it irritating to switch back and forth, the quality and relevance of the content that’s being generated for the user is far below where it could be.

The market is waiting for a solution that provides the consumer an integrated system with the ability to shape the search experience across all platforms, provide recommended content based on comprehensive viewing activity and reduce the necessary interface to one. Smart television manufacturers need to look toward search and discovery technology providers for user interface inspiration. These solutions allow users to search through massive amounts of content from multiple sources without having to exit, and provides more personalized recommended content with one easy-to-use interface. If the television manufacturers are truly smart, they’ll work with the technology companies that can provide solutions that actually make the television experience a source of pleasure instead of frustration. ●



# Moore's Law to Kurzweil's Law: Should we be prepared for dramatic change in the television market?

by Simon Bryant, Associate Director, Consumer Electronics, Futuresource Consulting

Global Sales of Smart TV continue to grow strongly. What is driving the market? Are consumers using these sets and if so what for? What are the implications for Broadcast and Pay-TV? Simon Bryant, Associate Director - Consumer Electronics, Futuresource Consulting, addresses some of these questions for Connected World with a specific focus on The Asia Pacific market.



Simon directs all Futuresource Consulting's consumer electronics research programs and is an expert across a number of CE technology sectors.

Simon manages the group's continuous work in all aspects of CE, including wearables, TV displays, home AV, mobile, tablet and data-storage areas. In addition to managing the suite of continuous services, Simon is also a major contributor to various private client assignments.

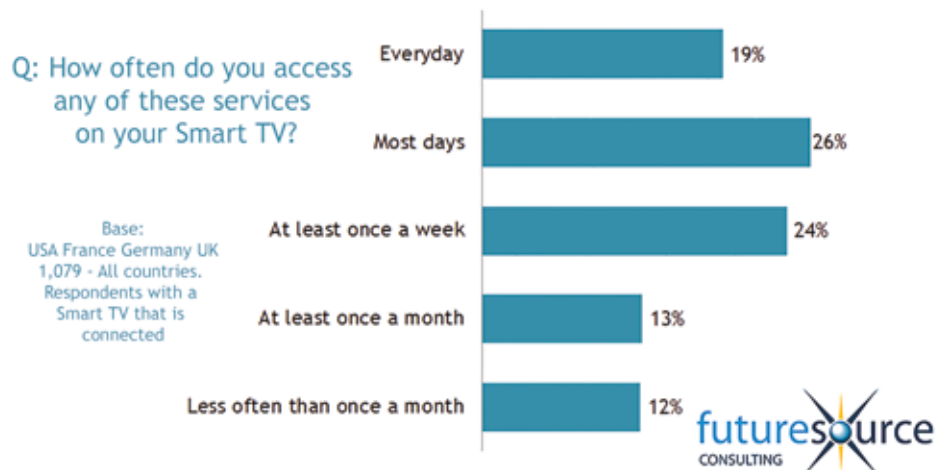
Simon holds a Bachelors of Business Administration in Business Management from Lancaster University.

## High growth market

Although the TV industry spotlight has moved on to UHD and Curved screens, Smart TV continues to pervade the market as a value added feature and remains on course to reach the majority of homes in developed markets by 2018.

Internet connectivity is moving 'top down' through the TV price spectrum and will be an expected standard feature on mid-range and even low end products by 2018. Smart features like tile-driven navigation, interactive EPGs, gesture recognition and device mirroring appeal to consumers at the point of sale as part of a premium set proposition along with screen size, LED quality, design, audio, UHD, Curved etc.

## Frequency of Accessing any Smart TV Service



Global Smart TV sales reached 120m units in 2014; China currently leads the global market with 28m units shipped in 2014.

Smart TV ownership will reach 70% of homes in all key regions by 2018. By the end of last year 17% of households owned at least one Smart TV, while in the APAC region it was 15% of households in 2014.

Unlike other worldwide regions APAC consists of many disparate markets witnessing varying widely degrees of adoption. Australia and Japan have among the highest household penetration rates in the world, 78% and 47% respectively (end-2014), but these countries contribute only 10% of the APAC volume, while China and India represent 67% of the region's volumes, but Smart ownership is much less developed, 18% in China and negligible share in India. By 2018 APAC ownership is forecast to represent 37% of households.

**Smart TV Killer Apps: Online video**

Connectivity and usage levels are significant – over half of Smart TV owners say they use a service at least once a week (Source: Living with Digital Wave-10 May 2015).

Research shows Smart TV owners use a variety of apps like Facebook, Spotify, Twitter and Skype, but there is no doubt that video is the key interest driver. While interest and usage is highly focused on video at present, far lower interest exists for other genres or general Web use, a radically different profile to the mobile market.

Video usage is mainly concentrated on free content like broadcast catch-up TV, YouTube or subscription services like Netflix and Amazon, who do not generally need to share significant revenue with TV makers and offer little opportunity for exclusivity.

The evident lack of apps or content business model for TV hardware makers may be causing some vendors to re-assess their Smart TV strategies, especially given the ongoing cost of platform development and applications support, but no one manufacturer can 'de-feature' their sets and remain competitive.

Meanwhile, the industry may be re-assessing Smart TV strategies in the light of limited direct return on investment and a shift of focus to UHD; the ongoing cost of platform development and support for apps developers with little clear consumer payback; little

opportunity to monetize apps or content, consumer interest concentrated on free or subscription video; limited scope for content exclusivity as a differentiator, except for a few examples e.g. ITV Player only on Samsung in the UK); the growing base of alternative Smart TV devices is marginalising the appeal of embedded Smart TV features, including very low-cost Digital Media Adaptors, as well as Consoles, Pay-TV STB's, and Blu-Ray.

However while vendors will consider 'de-features' their TV's as one way to address the commercial shortcomings of their Smart TV businesses, consumers increasingly expect Smart features and apps and there is no way for a manufacturer to unilaterally de-feature its products and remain competitive, so Futuresource believe the market will continue to develop. Although there are plenty of ways to access online video, Smart TV integrates Broadcast and Broadband services within a single user and control interface and in the view of Futuresource this will limit growth of DMAs\* beyond 2016. Smart TV offers access to IP-delivered non-broadcast content like UHD, as well as opening the door to interactive long term concepts like targeted ad insertion and web/broadcast overlay.

**Smart TV vendor strategies**

As the world's leading TV brand Samsung has a sufficiently high share in Smart TV (>25%) to maintain its own platform and apps program, as well as seeking exclusive content, but is also promoting Tizen as an open OS alternative to Google. Meanwhile Google is building support for Android TV which includes Sony, Philips and Sharp

among its partners. The Smart TV Alliance is led by LG and supported by Panasonic and Toshiba.

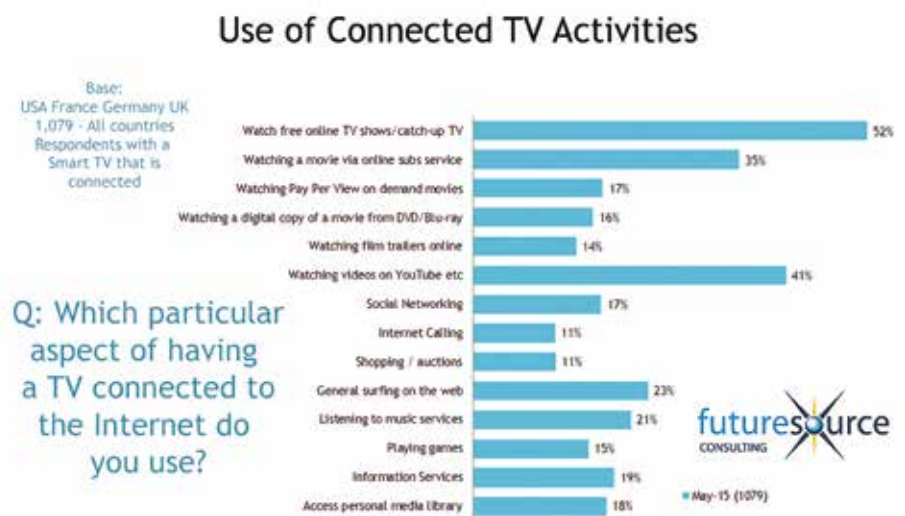
Several regional frameworks are in existence e.g. acTVila (Japan), NGB TVOS (China), and HbbTV (Europe, also MHEG & MHP), most of which draw on open standards like CE-HTML and OIPF, but cause frustrations for TV vendors addressing a world market.

In practice, almost all platforms now support HTML5 running on a Linux core, meaning a high degree of future apps development commonality.

Apple TV remains the only gateway between TV and the Apple ecosystem at present.

Pay-TV providers and broadcasters are focused in the opposite direction, taking content out to the 'second screen', notably tablets and smartphones. Television Interactivity is also directed towards handheld devices, with 'companion apps' for additional programming, information, competitions, voting etc.

For most users today Smart TV primarily provides a convenient way to access online video content on the large screen. SmartTV is expected to grow to 215 million units in 2018, 82% of total TV sales, in APAC 90million units are forecast to ship in 2018. ●



## A stage for Wildey

by Srividhya Srinivasan, Co-Founder, Amagi

### Monetization vs User Experience and Innovative Product Placement in the age of Smart Television and Immersive Experiences



Srividhya Srinivasan is the Co-Founder of Amagi

*Srividhya Srinivasan loves creating innovative and disruptive technology products that challenge industry status-quo. Vidhya brings about 20 years of technology and product development experience to build pioneering products at Amagi.*

*Vidhya guides product engineering and is responsible for overall delivery and operations. Under her leadership, Amagi has successfully delivered 99.99 percent SLAs in cloud-based broadcasting for global TV networks and targeted advertising.*

*Prior to Amagi, Vidhya co-founded Impulsesoft in 1998, a leader in wireless audio technology. At Impulsesoft, Vidhya built the next generation wireless products with OEMs in Asia and Europe. Post-acquisition by NASDAQ-listed semi-conductor major SiRF, Vidhya continued to architect new products and also integrate them with SiRF's larger product portfolio.*

*Vidhya began her career as a software engineer at Texas Instruments after graduating in computer science engineering.*

In 1964, Douglas Wildey's Sci-Fi virtual reality animated series premiered on ABC. Jonny Quest ignited the curiosity for Immersive Video Experiences around the globe and it ran for two successful seasons.

Over the last couple of years, the entertainment industry witnessed the introduction of high-end wearable technology which could simulate virtual environments with almost the exact amount of accuracy as depicted in the erstwhile animated series. Currently, major players in the entertainment and gaming industries are vying for their share of the virtual reality pie and everyone seems to be smitten with the idea of delivering alternate reality environments for their customers. This superb amount of interest in this technology is supported by the fact that it isn't merely another device. It's an extension of the human condition.

A multidimensional global economy prevents service providers from providing

the same physical experience to consumers around the globe. Looking at this in a localized context – let's imagine that an extremely popular rock band from Spain tours the world prior to releasing their latest studio single. Fans and groupies will fight it out to secure tickets to the respective venues around the globe. Some of them will make the cut, some won't. At least that's how it works in the traditional scenario.

Now picture this, in a slightly time-warped utopia of personalized entertainment, we don't get the band to go up on stage at all. Instead, we place them in a custom "Live Immersion" studio where the members of the band participate in the show, play their scheduled tracks with all of their equipment, aligned exactly how they would have been on stage. We deploy 360° capable drone cameras in the studio environment, allowing us to capture video from multi-angular perspectives. We also enable the recording of sound at different levels based on the distance

of any point on a 3D axis from the origin of the sound track. For example, sound captured at a point closer to the lead vocals and distant from the lead percussionist would focus more on the vocals and less on drums. The idea is to create a custom environment with realistic video and audio monitoring.

Now comes the fun part. With recent advances in custom 3D design, it is possible to simulate various types of live venues and place the band right there while streaming the entire content live. The difference between how to handle broadcasts now, and how we can do it in this utopia that we've created, is dependent on the usage of wearable interfaces which allow users to have a truly immersive experience. In this specific scenario, we can allow end-users to purchase digital passes (priced strategically competitive to real-life concert passes) which will be valid for the duration of the show. Each user, using their wearable 3D device, can connect to the digital 'concert' and see their favourite band play

# Yamal-300K' Eastern Campaign

*by Gazprom Space Systems*

Two and a half years ago the Russian satellite operator Gazprom Space Systems replenished its orbital constellation with a new satellite Yamal-300K.

The satellite was launched from Baikonur cosmodrome and put into the 90°E slot on the geostationary orbit. After the successful launch of Yamal-401 satellite into the same orbital slot, and moving all the customers from Yamal-300K to the new satellite, Yamal-300K started planned relocation into the other orbital slot 183°E. This position is located over the Pacific Ocean, and enables coverage of the Russian Far East, Korea, Japan and other South East Asian territories; and as far as Alaska. These regions have good market prospects and, because of this, Gazprom Space Systems made a decision to extend its business eastwards and arranged this “Eastern Campaign”.

The satellite in its new designation is interesting for the Russian as well as international customers. Gazprom Space Systems experienced it already at the stage of preliminary sales. One of the Yamal-300K beams perfectly covers the Russian Far East and attracts the attention of, for example, Russian mobile operators concerned about creation of backhaul infrastructure for their cellular networks in the region.

The steerable beam of the satellite is ready to serve any region of the South East Asia, Australia, New Zealand and the waterlocked states of the Pacific Ocean. However, the most attractive coverage, in our opinion, is provided by the wide shaped beam of Yamal-300K that covers the north of the Pacific Ocean with its intensive aeronautic and maritime traffic and big transport hubs on the coast.

Recently, Gazprom Space Systems essentially renewed and extended its satellite assets. Launch of the three high power satellites resulted in the 3.5 time growth of the satellite capacity amount in 2015 in comparison with 2012. Nowadays satellite flit of the company is rather young (the average satellite age is less than three years).

The company markets 30% of Yamal satellites capacity outside Russia. In particular, one of the new satellites Yamal-402 55°E has achieved prominence on the markets of Africa and the Middle East, and Yamal-202 49°E has already been successfully working for Asian markets for more than ten years.

In Russia, Gazprom Space Systems is not only a satellite operator but also a service provider and system integrator. The key element of the

company's ground infrastructure is the Telecommunication Center in Stchelkovo near Moscow, from where the satellite constellation is controlled, and where the main ground assets to provide services are concentrated (hubs, up-links, NOC and so on). From this place the company also controls wide scale satellite communication earth stations network placed in the Russian regions.

Concerning further business development, along with the plans to create new own satellites, Gazprom Space Systems also searches for new business models. The company relies on cooperation with the other satellite operators to build and use orbital assets. Joint efforts with other operators helps to resolve increasingly frequent collisions connected with overcrowding of the GEO.

Cooperation allows us to share the risks of financing capital-intensive satellite projects. The idea to create joint satellites, or hosted payloads, has become ever more popular. During those periods when our large investments are impeded, similar solutions provide operators with the opportunity to gain business traction.

While similar business ideas are waiting for their implementation, the business project “Yamal-300K' Eastern Campaign” has already started. ●

**CommunicAsia2014, EnterpriseIT2014 and BroadcastAsia2014**

# Showcase Breakthrough Technologies for an Increasingly Connected World



Social media, big data analytics, OTT, multi-platform screening and CYOD (Choose Your Own Device) are some key trends to watch in 2014. These trends are fuelled by a steep increase in consumption of data and entertainment on mobile devices, especially in Asia Pacific.

End-users now seek reliable and seamless services on the go; and the industry is responding with a proliferation of cutting-edge solutions such as business analytics, cloud services, social TV, and second/multi screens that help consumers stay connected in an evolving digital world.

“As the dominance of mobility proliferates in every aspect of our lives, businesses in Asia need to be agile and flexible to reach out to the always-connected consumer, while maintaining a competitive edge in the market. Our comprehensive showcase of the latest products and solutions including connected devices, multi-screen broadcasting, satellite mobility applications and ultra HD, across CommunicAsia, EnterpriseIT and BroadcastAsia will enable companies to explore sustainable business models to remain competitive and current”

**Mr. Victor Wong,**  
Project Director of Communication Events,  
Singapore Exhibition Services.

The application of these technologies will be intertwined throughout the three exhibitions and conferences. Visitors will not only get to experience the convergence of technologies, they will also get to unlock new business pathways with access to networking with major global industry players.

## Where Mobility and Connectivity Take Centre Stage

Enabling technologies for the entire mobile ecosystem, ranging from satellite communications, embedded technology, mobile technologies to multi-platform screening and broadcasting, will come together during **CommunicAsia2014, EnterpriseIT2014 and BroadcastAsia2014** when the industry’s most established event opens from 17 to 20 June 2014 at Marina Bay Sands, Singapore.

CommunicAsia2014 together with EnterpriseIT2014 will demonstrate how various technologies connect people, enterprises and cities with three new thematic clusters – **NXT Cities, NXT Enterprises and NXT Connected Services.**

A part of CommunicAsia2014, **SatComm2014** will return to provide a strategic base for the global satellite community to showcase the latest satellite communications and turnkey solutions that meets the critical needs of Asia’s entire mobile ecosystem.

BroadcastAsia2014 will feature the hottest state-of-the-art technologies and solutions from acquisition to production to delivery that will enhance the multi-screen experience for users ‘on the go’. Key highlights include a focus on sportscasting, as well as the return of ProfessionalAudioTechnology and the Cinematography / Film / Production Zone.

## Knowledge Transfer Platform

Held alongside CommuniAsia and BroadcastAsia, the CommunicAsia2014 and BroadcastAsia2014 conferences bring a knowledge transfer hub and networking platform for attendees to debate and discuss critical upcoming trends such as disruptive technologies in the ICT and broadcast market landscapes, industry risk factors and models for success that will enable companies to ride the mobility wave and remain profitable.

CommunicAsia, EnterpriseIT and BroadcastAsia saw more than 51,000 trade attendees from 100 different countries/regions in 2013.



For show updates, please visit [www.CommunicAsia.com](http://www.CommunicAsia.com), [www.goto-EnterpriseIT.com](http://www.goto-EnterpriseIT.com) and [www.Broadcast-Asia.com](http://www.Broadcast-Asia.com).

## SHOWS AT A GLANCE:

### CommunicAsia2014 | EnterpriseIT2014

<b>Incorporating:</b>	SatComm2014
<b>Date:</b>	17 – 20 June 2014
<b>Venue:</b>	Marina Bay Sands, Singapore
<b>Opening Hours:</b>	17 – 19 June 2014: 10:30 am – 6:00 pm 20 June 2014: 10:30 am – 4:00 pm
<b>Admission:</b>	Business and trade professionals only
<b>Visitor Registration:</b>	<a href="http://www.communicasia.com">www.communicasia.com</a>   <a href="http://www.goto-enterpriseit.com">www.goto-enterpriseit.com</a>

### BroadcastAsia2014

<b>Incorporating:</b>	ProfessionalAudioTechnology2014
<b>Date:</b>	17 – 20 June 2014
<b>Venue:</b>	Marina Bay Sands, Singapore
<b>Opening Hours:</b>	17 – 19 June 2014: 10:30 am – 6:00 pm 20 June 2014: 10:30 am – 4:00 pm
<b>Admission:</b>	Business and trade professionals only
<b>Visitor Registration:</b>	<a href="http://www.broadcast-asia.com">www.broadcast-asia.com</a>



## CONFERENCES AT A GLANCE:

### CommunicAsia2014 Summit

<b>Date:</b>	17 – 20 June 2014
<b>Venue:</b>	Marina Bay Sands, Singapore
<b>Admission:</b>	Registered delegates only
<b>Registration:</b>	<a href="http://www.communicasia.com/index.php/conference/fees-registration/">http://www.communicasia.com/index.php/conference/fees-registration/</a>

### BroadcastAsia2014 International Conference

<b>Date:</b>	17 – 20 June 2014
<b>Venue:</b>	Marina Bay Sands, Singapore
<b>Admission:</b>	Registered delegates only

### Creative Content Production Conference 2014

<b>Date:</b>	17 – 20 June 2014
<b>Venue:</b>	Marina Bay Sands, Singapore
<b>Admission:</b>	Registered delegates only
<b>Registration:</b>	<a href="http://www.broadcast-asia.com/index.php/conference/fees-registration/">http://www.broadcast-asia.com/index.php/conference/fees-registration/</a>



live. By using 3D technology as available in mass multiplayer gaming environments, we can depict a crowd in the scenario and maybe even allow the user to choose who they want to stand next to.

If you're in Manhattan and your spouse is on a business trip to Shanghai, who's to say that the two of you can't catch up for a Rolling Stones Concert together at Los Angeles? With immersive experiences trying to push the limits of artificial interactivity, maybe you'll even get to hold hands during such a simulcast event!

Apart from the wow factor of such an interface, it also allows us to explore an entirely new era of product placement. In this hypothetical environment, where the end-user is digitally placed inside an interactive show, we would do well to assume that digitally created humanoids can be engineered inside the simulation. And right there, the absence of absolute reality can be used at an advertorial advantage.

#### How?

Let's say that teenage music enthusiast Natasha purchases a pass to this simulcast concert and is effectively positioned inside the crowd. She's captivated by the blaring music and is enjoying her digitally enhanced experience. The advertiser then displays a crate of canned beverages right next to her, inside the simulation. This sparks a feeling of thirst with Natasha, allowing such a scenario to shift our idea of advertisement from a stop-gap solution to a perpetual format. This advertisement does not interfere with the concert as a popup, or as a commercial break. Instead, we're allowing the product to exist directly in front of the users, pretty much all the time. And we can choose the relevance of such product placement based on the specifics of any given simulation – beverages at digital concerts, sports gear or fan merchandise during a live sports event and so on.

Purchasing the product can be very simple. We might look at the inclusion of user-access controls which direct them towards e-Commerce portals, and let them pay and get the product delivered to their respective shipping addresses. Or, to make the transaction a little more exciting, we may perpetuate the shopping experience into the simulation itself – where the user hands over digital currency (e.g. Bitcoins) to the seller's humanoid agent and completes the transaction without exiting the simulcast environment.

The next big leap for Smart TVs, is individually tailored content. At the broadcast level, we have successfully engineered the process of targeting advertisements and content based on regional demographic behaviour. What if the same theory were to be applied to an individual?

As a popular example of multi-layered content, the John Cusack-starrer 1408 famously had three alternate endings, for television, theatrical and online experiences. As audiences around the world marvelled at this voluntary inclusion of possibilities, we have also seen reactive audiences such as the fan-following of the popular daytime sitcom 'How I Met Your Mother', many of whom rose in fury against the original series finale episode, and demanded an alternate ending. The network executives at CBS finally revealed, after days of speculation, that the Home-Video DVD Edition of the sitcom would include an alternate ending.

Considering the volatility of viewership and empathy, it is reasonably wise to plan such events well in advance. In 1408, one major difference between the endings was the mortal status of the protagonist at the end. The outcome of a cinematic experience, whether positive or negative, can create a major impact on the public perception of any creative giant. At this juncture, we can imagine a future where the solution to this paradox is presented as a predictive analysis of the emotional measure of a viewer, and the delivery of individually tailored content, based on their past feedback and reviews.

The internet and its repositories have become increasingly invasive over the years; IMDB, Netflix and other online movie databases already contain an extensive plethora of individual ratings to present an idea of how different people react to various cinematic stimuli. Consequently, we can then link the post-cinematic emotions of a viewer to their digital shopping behaviour too! A man who expects to see the warrior protagonist make it out alive from a battlefield, gets to see his hero emerge victorious in his plight, and then we show him an advertisement about Personal Safety Equipment. This is beyond the paradigm of contextual advertisement – we might have to look for a whole new word to describe what this can turn into.

Expanding our idea of futuristic television and the concept of linked devices will hopefully play a non-linear role in aiding information and revenue models for broadcasters. Through apps such as Shazam,

we already have access to technology that enables us in identifying music by sampling audio. What if your tablet device could identify the content that you're watching on your living room TV just by sampling the audio, and then present you with a list of references to look for on the screen of your mobile device? The information can be as diverse as required, based on exactly what you're watching. If you're an enthusiast for Animal Planet and you're watching a show about the tropical defensive habits of elephants, your tablet device can auto-generate a link to get you better information about the subject, or maybe give you an advertisement to buy a cool beverage to beat the equatorial heat!

Smart Television is no longer restricted to the idea of internet-enabled display devices. It's time for us to consider the possibility of integrating our lives through what we watch in the comfort of our living spaces. It's time to throw the remote control away, and dive into the startling depths of the human mind for an answer. ●

## FTTH enabling the contents for Smart TVs

by Hasan Munasir Choudhury, Director General, FTTH Council Asia-Pacific

FTTH has been a THE technology for pushing gigabit internet access to homes and it is being deployed in all parts of the world. Asia-Pacific region has seen the highest growth in FTTH deployments. Towards the end of 2014, FTTH connectivity reached a milestone of 100 million users in Asia-Pacific



*Hasan Munasir Choudhury, Director General, FTTH Council Asia-Pacific*

*Hasan Munasir Choudhury has been involved in the ICT sector for over ten years. He is a graduate of the City University of New York. Munasir started his career with Magnani Caruso Dutton, a creative agency in New York. Soon after he joined Netcom Information Technology, a training institute in New York in 2003. He later joined the startup team of a WLL based GSM operator in Bangladesh. In 2007, as Project Manager of Fiber@Home Bangladesh Ltd.; Munasir led the deployment of the 1st GPON based FTTH Open Access Network in Bangladesh. Shortly after, LS Cable & Systems appointed him as their Country Representative for Telecommunication & FTTH business in Bangladesh. In 2012 he joined the FTTH Council Asia-Pacific as General Manager. In January 2015 Munasir took over the role of Director General at the FTTH Council Asia-Pacific.*

Smart TVs have been around since late 2000. Top TV manufacturers have pretty much made Smart TV features available to their high-end and mid-range products. Many are now pushing it towards even the basic models. Prices of components have become more cheaper and popular open source platforms such as Android makes it easier for consumers to experience rich content on their big TV. With recent announcement from Samsung about their own Smart TV operating system Tizen and LG announcing WebOS based Smart TV; the competition for dominating the Smart TV arena is heating up. It is the killer applications such as Netflix, Youtube, Hulu that are changing consumer behavior, moving them away from the good old cable TV set top boxes. CNET on a recent article confirmed that Netflix has a

paid subscriber base of more than 60 million worldwide. How are things shaping up for the future? According to Consumer Electronics Association (CEA) study, 45 percent of all U.S. TV households watch internet content on their TVs by early 2014 which is a staggering 17% more than 2013 when the number was hovering around 28%. With a projected 16.1 million app-enabled TV shipment by end of 2014, it will not be surprising to see Smart TV numbers beating forecast in 2015. All these indicate that Smart TV is here stay.

So how about the infrastructure that supports such bandwidth hungry applications that you run via Smart TV? Fiber based technology such as FTTH (Fiber to the Home) has made it possible to cater to the high speed demands. You are able to stream full HD contents

from Netflix thanks to the 50mbps or more connection you have at your home.

FTTH has been a THE technology for pushing gigabit internet access to homes and it is being deployed in all parts of the world. Asia-Pacific region has seen the highest growth in FTTH deployments. Towards the end of 2014, FTTH connectivity reached a milestone of 100 million users in Asia-Pacific. As per analyst firm IDATE, at the end of 2014 there were 74 players in the region involved with FTTH/B deployments. Places such as Japan, Korea and Hong Kong has got one of the highest penetration of FTTH. It is interesting to see that high speed contents have also developed in these regions quite rapidly and the possible reason being there is infrastructure which is in place to

**“In the US, Google Fiber’s entry has made a significant impact on existing operators as they are pushed to upgrade their decades old copper infrastructure to Fiber. Google offers an aggressive gigabit connectivity to many cities in the US. HD contents are being pushed through this fiber infrastructure without any constraint what so ever.”**

support such high bandwidth demanding services. Countries like Singapore is making it a mandatory requirement to have fiber connectivity installed in every single house. In terms of number of subscribers, China is the main worldwide market leader while India, Indonesia are expected to join in with huge subscriber numbers in the coming years. IDATE forecasts show that by 2019 more than 174 million in Asia-Pacific will have access to the FTTH/B technology with an extraordinary 425 million homes passed with this FTTH/B technology.

In the US, Google Fiber’s entry has made a significant impact on existing operators as they are pushed to upgrade their decades old copper infrastructure to Fiber. Google offers an aggressive gigabit connectivity to many cities in the US. HD contents are being pushed through this fiber infrastructure without any constraint what so ever. AT&T offers high speed internet through its U-Verse package and thanks to Google Fibers push towards gigabit speed; AT&T recently moved to their own gigabit program called AT&T Gigapower. Other major player Verizon has been trying to match the competition. Verizon with its own FiOS Quantum service are offering consumers up to 500mbps of speed.

The European market is also geared up to towards adoption of FTTH. Interestingly countries such as Lithuania (Ranked 1), Latvia (Ranked 3), Russia (Ranked 4) and Romania (Ranked 5) are leading the European pack with highest household penetration according to a recent European FTTH/B ranking by analyst firm IDATE. However, we also see countries such as Sweden (Ranked 2), Norway (Ranked 6) and Portugal (Ranked 7) in near proximity. As per IDATE, at the end of 2014 there were a staggering 330 projects that were taking place in 39 countries in the European region.

Turning our focus to Middle East and North Africa (MENA), more than 41 FTTH projects were on going towards last quarter of 2014 as per IDATE. Year on year subscriber grown has been +33.2% (Ref: FTTH MENA Market Panorama at September 2014). It is in MENA, United Arab Emirates is leading the Global Ranking in FTTH.

Other areas where FTTH has started to make strides are Latin American nations as

well as in Africa. Due to presence of very dated infrastructure, it is becoming easier for carriers to overhaul the network to a fiber based infrastructure where as in the most mature markets it may be a challenge as major investments have gone in to copper infrastructure for years. Sooner or later it is expected to change. As more and more competitors line up with fast reliable fiber based solution providing rich contents for our TVs, the incumbents are then forced to switch strategy and start upgrading their network.

So what is to come in the future ? 4K TVs are already here. Netflix is the first major player to start streaming 4K contents. Speed requirement ? 50+ mbps and can go up even more depending on the type of compression used for 4K streaming. If you have two or more TVs in the house, you are already crossing 100mbps and that is just for your TVs use only. Japan has announced that 2020 Olympics will have a 8K broadcast. There are many references to what kind of bandwidth we are talking about for streaming 8K contents to our Smart TV and that’s when we start exiting the “mbps” scenario and get in to the “gbps” arena. The bottle neck will not be availability of Ultra HD TVs or sophisticated Smart TV platforms or even the availability of contents. It will come down to the infrastructure that can support the ultra high speed requirements. And FTTH is here to meet that demand. ●



### **Connect-World now on Facebook & Twitter**

*Connect-World*, the world’s foremost discussion forum for leaders in the ICT industry, is now available on Facebook and Twitter.

The world’s top ICT decision makers express their opinions in *Connect-World*. They use clear, non-technical, English to discuss how ICT helps shape regional and global development. The articles essentially examine the influence that ICT products and services have on the way people live and do business. With separate editions for each of the world’s regions, the reports highlight the most important ICT trends and issues influencing socio-economic growth.

*Connect-World* is now available to follow on Twitter (<http://twitter.com/#!/ConnectWorldICT>) and Facebook <http://www.facebook.com/connectworld.ict>

Also, it is still possible, for FREE, to directly access all past and present *Connect-World* articles, ICT Industry press releases, eLetters, ICT News and more at [www.connect-world.com](http://www.connect-world.com).

## The future of TV

by Mark Blair, Vice President, Asia Pacific, Brightcove

The media environment is rapidly changing whereby the traditional TV as we know it is no longer just about a single linear experience. One viewer can now view content across multiple screens, which presents a multitude of revenue opportunities.



Mark Blair, Vice President, Asia Pacific, Brightcove

Mark joined Brightcove in 2010 to bring his digital industry knowledge and technology experience to Brightcove's Asia Pacific organisation. Mark has led Brightcove's effort in building partnerships with key media companies in the region, growing the team in Australia & New Zealand and successfully winning customers such as Television New Zealand, Nine Entertainment Network, Network Ten, Yahoo!7, MediaWorks and Fairfax. Mark currently manages Brightcove's Asia Pacific team, leading sales and marketing activities across the Digital Media and Digital Marketing businesses.

Prior to joining Brightcove Mark held several senior appointments with Allaire, Macromedia and Adobe in a variety of field and headquarter-based roles in Asia Pacific and North America across sales, marketing and product management.

Mark is based in Sydney and holds a Bachelor's degree in Product Design from Sheffield Hallam University.

The future of TV will be multiscreen and multiplatform, where one user will have countless options to choose from when deciding on how to access and consume content. That in itself presents several layers of complexities and opportunities for every media publisher. The line between linear TV and online video streaming has not exactly blurred yet, but with the series of advancements in the TV space, from OTT, TV Everywhere to standalone streaming services, launched this year alone is proof that the future of TV as we know it, is set for more shake-ups to come.

### The streaming wars

2015 has proved to be the year where almost every country in Asia Pacific saw an OTT streaming service launched or new players entering the market, challenging the status quo. In Australia, Fairfax Media and Nine Entertainment teamed up to launch Stan, a subscription VOD streaming service.

The service is a clever strategy to gain first mover advantage ahead of the imminent debut of Netflix in the Australian market. In New Zealand, free-to-air operator, TVNZ launched TVNZ OnDemand as an advertising funded VOD service. In Thailand, PrimeTime went live with its SVOD service with an offer of four different types of bundled pricing packages for subscribers to choose from. In Singapore, SingTel announced the launch of HooQ, a regional OTT streaming and downloading service whose first launch will be in the Philippines, followed by Thailand, Indonesia and India.

What is evident is that these players are applying a variety of innovative monetisation and payment models, and at a price level that is a fraction compared to the cost of a monthly cable subscription, all in an aggressive bid to build a sustainable subscriber base.

### The future of free-to-air

In many markets across Asia Pacific, free-to-air broadcasters continue to compete with pay TV operators. As catch-up TV takes off, free-to-air operators in Australia, New Zealand and Europe, have embraced the Hybrid Broadcast Broadband TV (HbbTV) standard. HbbTV enables broadcasters to combine over-the-air broadcast with IP delivery to publish personalized video and interactive TV experiences to users on connected TVs and set-top boxes.

As an industry standard, HbbTV is an open technology platform that seamlessly combines TV services delivered via broadcast with services delivered via broadband. This enables access to Internet-only services for consumers using connected TVs and set-top boxes. The reason HbbTV is such a revolutionary standard is that it allows consumers to experience seamless Internet and broadcast viewing. HbbTV

provides broadcasters with the tools to offer the viewer a truly personalized viewing experience with an interactive menu and ability to navigate through the menu to discover content.

HbbTV offers a standardized, easy-to-use mechanism for serving up content on a TV interface. HbbTV enhances the linear offering by layering what is essentially a “webpage” on top of the linear experience, seamlessly blending live and VOD capabilities. By offering these new content consumption options to viewers, HbbTV will allow free-to-air broadcasters to enhance the leanback experience for their viewer base. HbbTV also makes it easier for broadcasters to deploy OTT companion content and integrated HTML5 apps on connected devices without prompting consumers to exit the linear experience.

The HbbTV standard is also the first major use of MPEG-DASH as the streaming protocol in a consumer focused situation, enabling streaming to any device. This is significant because it paves the way for MPEG-DASH to become the mainstream encoding format, simplifying the diverse content formats that the broadcaster needs to support.

### Pay TV to TV Everywhere

According to Digital TV Research, pay TV revenues in the Asia-Pacific region will grow by US\$10 billion between 2014 and 2020 to reach US\$41.52 billion and pay TV penetration reach up to 68.4% by 2020. According to the research, the three largest markets for pay TV will be China, India and Japan, accounting for two-thirds of the region’s \$42 billion pay TV revenues by 2020. The research states that pay TV revenues will more than double in Bangladesh, India, Indonesia, Laos, Myanmar, Nepal and Pakistan, between 2014 and 2020. However, for Australia, Hong Kong, New Zealand, Singapore, South Korea and Taiwan, revenues are predicted to fall due to competition and OTT services.

With the likes of Apple TV, Chromecast and standalone video streaming services like HBO NOW invading the living room, competition has intensified for pay TV operators. Cord-shavers, cord-cutters and cord-nevers are emerging as a worrying trend, which has prompted pay TV operators to evolve their offerings by augmenting their programming with VOD services, offering on-demand channels within the

linear experience itself, and enabling content to be available across multi-screens. Pay TV operators have also embraced the TV Everywhere, an authenticated streaming system where premium cable content is available to view online, provided that the user can prove that they have an existing subscription to the pay TV service.

### Virtual channels

The user “joins” a channel at any point they wish and a pseudo-live channel is served, the concept being a linear experience with elements of consumer demand-driven control. It is programmed content but it starts when the user joins and helps alleviate the recommendation and content discovery dilemma. It combines both the lean back and lean forward experience to give a hybrid experience. It provides the programmed TV channel feel with a non-linear on-demand delivery. This sort of model will help lift potential advertising CPMs as the user will be entertained rather than have to explore themselves. For non-millennials and converts from corded connectivity, this environment helps maintain a familiar and comfortable branded channel experience but with the convenience of time-shifted viewing.

Regardless whether it is streaming, free to air, virtual channels or pay TV, the future of TV is evolving due to a number of factors: the accessibility of content across multi-screens, user experiences and behaviour, and revenue models.

### Content across multi-screens

With TV on demand, consumers today are taking control, seeking and discovering what, when and which devices they want to consume content on. According to Nielsen, video content viewed on a computer or mobile device has experienced significant growth of 62% as compared to last year<sup>1</sup>, but this does not mean the traditional TV screen is becoming redundant; what has changed is how consumers are defining what their “TV” screen is at any given time.

In some markets, the 2nd screen is actually the 1st screen. In Australia, creating content for the 2nd screen meant that Mi9 could assemble a State of Origin rugby companion app with compelling multi-camera video, social media and stats for fans. The app is designed to augment the broadcast on the first screen. However, in Latin America, for example, a cell phone is much more likely

to be used as the primary viewing device (note that mobile phone sales in that region grew 59% YOY in 2014, fastest in the world). Developing the right video-centric 2nd screen experience for mobile means preparing content in different formats and bitrates and maybe a greater emphasis on highlights vs. linear streams given users’ data cap limitations.

### User experience and behaviours

Consumers today have a massive library of content to choose from including live broadcast TV, VOD streaming services, and other varieties of OTT platforms. Consequently, offering simple recommendations and personalisation is key in allowing consumers to discover new content and develop loyalty to a particular TV or streaming platform. But when it comes to the discovery of additional content, great thought should be put into the curation, shaping and promotion of content on an ongoing basis. Media publishers can tap into analytics to understand what and how users are consuming and use that data to enhance the user experience.

Viewers have come to expect a uniform and seamless experience when consuming an OTT service. On TENplay in Australia for example, a viewer watching a TV show on a tablet can pause and then switch to a mobile device, resuming where he or she left off, and enjoy a familiar user interface across devices.

Different screens provide different ways of navigating and consuming content. Consumers tend to exhibit different modes of behaviour depending on what device they are using, and some types of engagement, such watching short-form videos, will always be more preferred on certain devices.

Another trend among mainstream audiences is multitasking. A recent Nielsen survey found that while online, Australians under 35 years of age are more likely to simultaneously use TV and the internet, while those aged 25 years and above are more likely to do so on a daily basis. Women also use multiple screens simultaneously more frequently than men. The most common device pairing in these scenarios is the TV and tablet. With the TV and tablet or smartphone combination, there are two types of multitasking - meshing and stacking. Meshing is the consumption of complementary content that is specifically related to the programme on TV.

<sup>1</sup> [http://ir.nielsen.com/files/doc\\_presentations/2014/The-Total-Audience-Report.pdf](http://ir.nielsen.com/files/doc_presentations/2014/The-Total-Audience-Report.pdf)

**“The media environment is rapidly changing whereby the traditional TV as we know it is no longer just about a single linear experience. One viewer can now view content across multiple screens, which presents a multitude of revenue opportunities.”**

Defined by Ofcom, meshing is communicating via other devices while watching TV; these activities are related to the TV programme being watched. Tweeting or posting to social media, texting information or commentary about the programme being watched are examples of meshing. In the U.S, drama series such as the Walking Dead and reality TV shows such The Bachelor are the most tweeted about TV Programmes on Twitter. Both programmes have a highly engaged fan base that interact with each other, or the characters, and react in real time to events. Stacking is communicating via other devices while watching TV; but these activities are not related to the TV programme being watched. One might say, adults tend to work on their laptops while having the TV on but are not completely engaged with the actual programming.

#### Revenue models

The end goal of each of these multi-platform video experiences is to drive revenue and profit.

An ad-funded model is still a significant model for broadcasters, but other approaches are emerging that go beyond SVOD, to hybrid models that mix AVOD, SVOD and TVOD. Ultimately, the advertising experience is still far from the seamless broadcast advertising experience that viewers want and have come to expect.

However, the technology is available today for content owners to be able to not only incorporate video ads, but also insert personalised video ads, overlays in video streams, and hide controls to prevent fast-forwarding through ads. Media companies can increase profitability through targeted, dynamic ad insertion, providing a seamless, personalized viewing experience on thousands of devices.

When viewing content online or mobile, viewers have become accustomed to the option of being able to skip ads, while broadcasters prefer solutions with features that prevent ad skipping. One can argue that the context and personalisation of an ad placement is key for viewers to embrace ads, but it boils down to the hard fact that ads remain a strong revenue generator for

broadcasters. But media publishers need to be aware that too much advertising can soon feel intrusive, annoying and hamper the overall user experience. The only way forward is to better understand the face behind the ad impression, in order to serve relevant ads to viewers that they can appreciate. Providing a seamless, zero buffering experience and removing the blank screen between the streaming content and the ads are also critical.

A blended business model with different combinations of ad-supported and paid subscription options can also be offered to empower viewers to decide how they want to “pay for” their content. The newly launched PrimeTime OTT service in Thailand is an example of a Subscription VOD and Transactional VOD hybrid approach that enables viewers to select a subscription model that best fits their content preference.

#### Conclusion

The media environment is rapidly changing whereby the traditional TV as we know it is no longer just about a single linear experience. One viewer can now view content across multiple screens, which presents a multitude of revenue opportunities.

As the changes in how viewers today consume media continue to play out, perfecting the digital and lean forward experience will become increasingly important to broadcasters wanting to stay relevant to their audiences. Innovation within the user experience will be vital – expect to see far more simplicity across VOD players, and a lot more mileage to be had from 2nd screen experiences.

In order to establish a future-proof TV strategy, media companies must focus on figuring out where demand lies, how their audiences interact with content, establish a long-term content programming strategy, and deliver a streamlined and simple user experience. And accomplish all of that and still serve up an attractive and flexible monetisation options for audiences to choose from. ●



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## Smart TVs and even smarter consumers: The future of content on demand

by Nick Fitzgerald, CEO, TV2U

The challenge the industry now faces is that today's viewers are looking beyond video on demand, linear TV and pay per view. They still want access to this content, granted, but having had their fill of Netflix and similar services, and after bingeing on high-quality video sourced from elsewhere online, modern viewers are turning their sights on more diverse and alternative forms of content. They're now looking for video matching their unique tastes and views, much of which is available from user-generated sources.



Nick Fitzgerald, CEO, TV2U

*Nick's experience extends over 25 years in the broadcast and new media Industries. A successful business leader and visionary entrepreneur, Nick is responsible for setting the strategic goals and objectives for TV2U.*

*Prior to TV2U, Nick served in numerous executive level positions and was instrumental in the setting up of many successful companies including Digital Rapids Asia.*

The availability of online content has dramatically expanded today's entertainment options. Up until the early noughties, it was only possible to watch a TV show if you either tuned in when it was shown live on air, caught a re-run, or bought the box set. For decades the viewing public was at the mercy of broadcast schedules and rating seasons, but now the situation has changed. The internet has forced linear TV out of the limelight while ushering in 'catch up' and 'on demand', releasing the shackles imposed by broadcasters and letting the viewer watch TV at a time and place convenient to them, not the other way around. It's not just television either. The film industry has also moved in this direction, music and games too. In fact, the entire media landscape has been

affected by the internet in this way, and, with the influx of internet-enabled devices now available, the "content on demand" industry as a whole is going from strength to strength. So, when you combine the widespread availability of smart TVs and connected set-top boxes – bringing internet access into the living room – with hugely successful video on demand services like Netflix, it's no surprise the average viewer has become accustomed to having more control over their content consumption habits than ever before, leaving broadcasters playing catch up.

The problem, at least for traditional players, is TV isn't a walled garden anymore. The days where a cable provider or terrestrial broadcaster held all the cards are long

gone. Instead, today's viewers have grown accustomed to the flexibility offered by internet-based streaming services. New research from ZenithOptimedia further demonstrates this, emphasising what we've known for a while – although linear TV is still a major form of media usage among consumers, internet-based consumption is gaining ground every day, especially when it comes to video. Today's viewers relish the ability to pause, play, pick up and put down content to fit around their schedules, and it's reached a point where consumers now expect access to this content on any device, at any time. The extensive back catalogue offered by the industry's biggest streaming players has also led to a common trend for bingeing on several episodes of a show in one sitting.



**“The challenge the industry now faces is that today’s viewers are looking beyond video on demand, linear TV and pay per view. They still want access to this content, granted, but having had their fill of Netflix and similar services, and after binging on high-quality video sourced from elsewhere online, modern viewers are turning their sights on more diverse and alternative forms of content. They’re now looking for video matching their unique tastes and views, much of which is available from user-generated sources.”**

Some audiences, millennials in particular, are becoming so invested in video on demand services it’s even reached a stage where they’re exclusively watching online content rather than live TV.

Over the past decade, broadcasters have responded to this change in user expectations by offering IP-based on demand delivery for their content. This, at the very least, gives viewers the flexibility to access what has traditionally been described as linear TV content, on any device of their choosing, at a time that suits them. But as many broadcasters only opted to introduce this functionality in response to growing competition from online players like Netflix, they’re at risk of falling behind once again. This is especially true in 2015 as there’s another change on the horizon, only this particular challenge has a much wider reach. It isn’t exclusive to broadcasters. Instead, all players in the video streaming space must adapt, or risk losing out to new competitors entering the market.

The challenge the industry now faces is that today’s viewers are looking beyond video on demand, linear TV and pay per view. They still want access to this content, granted, but having had their fill of Netflix and similar services, and after binging on high-quality video sourced from elsewhere online, modern viewers are turning their sights on more diverse and alternative forms of content. They’re now looking for video matching their unique tastes and views, much of which is available from user-generated sources.

The BBC’s iPlayer is a good example of this. When it was first introduced, iPlayer heralded the future of online video streaming. But, in May 2015, the Financial Times reported the service is declining in popularity. iPlayer’s latest usage stats are a clear representation of how it’s no longer sufficient to only provide live TV and catch up content, particularly if viewers are paying for the service in question. As TV viewing habits are increasingly shifting towards alternative platforms like YouTube, particularly among millennials as they look for content more relevant to their interests, this demonstrates a significant shift

within the industry that broadcasters need to follow or suffer a similar fate. With many of today’s viewers flitting between live TV, subscription-based video and shorter user-generated content, broadcasters must focus on introducing innovation to their digital services in line with changing user appetites.

By partnering with alternative cloud entertainment service and technology providers, it’s possible for broadcasters to fight against the changing TV tides and remain relevant and engaging in an ever-changing market. Modern IP-based content streaming providers offer the best of both worlds, encompassing VoD, pay per view and live TV services, plus the ability to create highly personalised channels tailored around an individual subscriber’s likes and dislikes. Some players in this space, like TV2U, can even supplement a wide range of premium video with user-generated content to add more value and drive subscriber loyalty, and can also give broadcasters the flexibility to only charge subscribers for the content that interests them, rather than a flat fee.

In 2015 and beyond, succeeding as a broadcaster or internet-based streaming service will come down to providing the viewer with a range of content tailored to their needs. There’s no longer a distinct divide between professional video and what’s created exclusively for online channels. The walls have come down, and what would have traditionally been defined as ‘amateur’ video is now regularly reaching an audience of millions. Platforms like YouTube have become front of mind for certain viewer types, demonstrating a real opportunity for broadcasters to tap into a wealth of alternative content and use it to both gain new subscribers and retain existing ones. After all, if users know they’re only paying for content they want to watch – and can access it on demand, whenever they want to watch it – this can make a huge difference between a subscriber switching over to a new network, or switching off for good. ●



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## The Pay-TV experience: It's time.

by Gali Michaeli, Vice President, Business Development, Comigo

Smart and connected TV sales are growing rapidly (researchers are expecting over 20 percent annual shipments growth), and people are increasingly connecting their TVs to the Internet, but it is still a fragmented market. The large amount of vendors and operating systems leads to a world where most providers are still hesitant about developing Smart TV apps, if only for the sheer size of the investment needed to capture a significant portion of this market.



*Gali Michaeli is the vice president of business development at Comigo, a cutting-edge pay-TV platform provider which offers an exciting TV experience on any device. Gali is the force behind Comigo's strategic alliances, managing business development and partnerships within the ecosystem.*

*Before joining Comigo, Gali was vice president of strategy at Applicaster, where she led the company's strategic and tactic initiatives, alongside long-term business development and new market penetration. Prior to that, she was a manager at TASC Consulting & Capital, leading the TMT vertical and managing projects for telcos, broadcasters, MNOs, and cablecos.*

*Gali served in the IDF intelligence top technology unit and holds a Bachelor of Arts in economics from Tel Aviv University and a Master of Arts in law from Bar Ilan University.*

For many years, discussions about TV viewing have centered on whether it is a lean-back vs. lean-forward experience and what role mobile and tablet devices play in terms of video viewing and as companion activities. Recently, the TV industry has evolved drastically. Viewers have more choices than ever before, from legacy cable and satellite offerings to online SVOD, dongles, antennas, and gaming boxes of every sort. Piracy has also changed, becoming so abundant that it is an issue in and of itself. Tech-savvy users are finding content they want, but not always with the most comfortable user experience. Most viewers, however, are still settling for a traditional multichannel offering, perhaps complementing it with Netflix or a popular online video offering in their country.

It is clear that, even today, content is still king. Viewers will not pay for TV services unless

the content is compelling, up-to-date, and local. Furthermore, as competition increases, price plays an increasingly important part. Taking into account high-quality, relevant content at fair prices, the true differentiator for operators, service providers, and broadcasters remains a third aspect — experience.

### What is experience?

Experience can mean different things to different people. The user experience can be an integrated part of a TV program; this is especially relevant for live events and prime time shows. In these cases, the content may include elements of participation, such as voting, prize contests, and more. Usually, this kind of experience can only be offered by the content creators in real time. It can create significant differentiation for content, and has been known to establish global brands

like “American Idol” or “The X Factor.” However, this type of experience hasn't, thus far, been available to most service providers in the business of offering content to home viewers. For these service providers, the goal has always been to bring content to the user.

Still, the industry has come a long way. There used to be only one, maybe two, channels, and people had to actually get up from the couch to change the channel. Can you imagine?! Then, even more channels emerged, enabling people to watch what they wanted, not just what was available. After that, lo and behold, the remote control was invented! From there, for a few years, it felt like things were moving forward. Cable and satellite providers came out with set-top-boxes with program guides that showed viewers the names of scheduled programs and additional information or metadata,

VOD offerings, start-over TV, and various other features, all of which made for a better viewing experience, giving viewers more choice, information, and control. Control and information are especially important. The advent of Smart and connected TVs enables users to combine the traditional multichannel TV experience with next-generation content options like online video.

While all of this was happening, smartphones and tablets came along, creating a new expectation that the user experience can, and should, be at the forefront of product managers' agendas, even for TV content. Suddenly, what used to be a slow-to-respond, remote-controlled experience became quick and interactive thanks to a slick UI (user interface) featuring a modernistic design that involves scrolling, tapping, and generally using natural gestures to reach content. As a result, according to Gartner more than 50 percent of mobile data is video<sup>1</sup>, and more than 34 percent of millennials watch more video online than on TV, according to a survey by The New York Times. Viewers today are used to quickly discovering content and to everything having a state-of-the-art look and feel. TV providers can't afford to have similar issues. Moreover, they are expected to exceed expectations by constantly innovating and making sure viewers are getting more and more out of their TV experience.

## The living room environment

Though Smart and connected TV sales are growing rapidly (researchers are expecting over 20 percent annual shipments growth), and people are increasingly connecting their TVs to the Internet, it is still a fragmented market. The large amount of vendors and operating systems leads to a world where most providers are still hesitant about developing Smart TV apps, if only for the sheer size of the investment needed to capture a significant portion of this market. In addition, in order to provide a truly seamless experience, more than just an app needs to be developed. The operator needs to control the TV operating system to enable simple viewer actions to take place, such as reaching the required home page or channel when the TV is turned on (as opposed to, for example, reaching an apps menu). Clearly, neither the Smart TV vendors nor the existing pay-TV operators are keen on this happening. The operators don't support this due to the large investment needed and existing investments in various STBs, and the vendors because

they cannot afford to lose control over the app markets that their TVs have become.

Thus, operators continue to invest in set-top-boxes. This enables them to control not only the content, but the content-viewing experience. They can make sure viewers reach the right place when turning on the TV, while controlling the look and feel of the entire experience. Well thought out middleware on a high-quality set-top box gives pay-TV operators the ability to truly engage with TV viewers.

## Differentiation through experience

In most competitive TV markets, price plays a crucial part. Content, too, is important. Yet in a world where viewers can get content in many ways, it's likely they'll choose the option that looks, feels, and is experienced, in the best way. Even when SMS was fully available and functional, the founders of WhatsApp managed to revolutionize how we communicate textually by innovating the one thing that wasn't good enough — the user experience. Simplicity and functionality were most important. Facebook did the same thing, in terms of differentiating through experience. Yet even before looking into Facebook's UI, Mark Zuckerberg revolutionized something else — the way that people engage with each other and the types of interaction people are willing to participate in.

Another type of experience that made all the difference is, almost obviously — the PC. The financial and technical ability for almost anyone today to work digitally by gaining access to endless new content optimizes the working experience, while also enabling gaming, socializing, and much more.

In much the same way, differentiation for operators can come from several directions: UI, engagement, and access to more content. All three of these are aspects of the user's TV and content experience, and can be used separately or combined to give viewers something more. For example, UI can make or break content discovery. Even the best recommendations algorithm is not enough if it's not intuitive and pleasing to the eye.

On the engagement front, social is the obvious go-to today. Users often prefer to watch what their friends recommend than what is popular. Operators need to show users what their friends like to watch, or are watching now, and present it where it's most convenient — on the screen they are watching. Operators can, and should, also

provide users with additional activities that are relevant to the user and to what they are watching. For example, operators can enable discovery during a music video by providing lyrics and links to covers. Likewise, operators can enable users to browse merchandise from their favorite show at the moment when the user is most likely to be thinking about it — while they are watching the show!

Another key differentiator can be access. Users need to be able to reach the content they want — not just long-form video but also short form. They will want to access content a specific operator has licensed, as well as OTT offerings such as Netflix and HBO GO on the operator's platform. Beyond video content, there also needs to be access to social content, data and information pertaining to the video, and even things that are completely unrelated but provide value to consumers. These may include commerce, shopping and payments, directly on the TV screen and in some cases even overlaid directly on the video. This kind of access can keep users' eyeballs on the big screen while providing the incentive to stay with a provider that has such a holistic view of the living room. Personalization, too, can play a key role here, providing users with access to the services that are most relevant based on social recommendations and personal preferences. For example, an operator can provide a sports fan access to real-time statistics and data without losing a moment of their favorite team's match. All of this is provided in one place on-screen and is based on the users' choice of teams to follow.

## Content, price, experience

To summarize, it's not one but three things that make or break a successful TV offering for industry players. A car needs a viable engine and a place to sit, it also needs to be priced fairly. But the true difference between different brands lies in the design, the strength of the engine, the comfort of the seating and the sound system. We can compare this story to TV offerings — it's all about the user's experience.

The TV industry has come a long way in this area. Television has never been more convenient, engaging, or cooler to watch. Despite the presence of mobile and tablet devices, people are still spending significant, even growing, amounts of time in front of the big screen at home. It's our job to make sure that we continue to provide viewers with ample reasons — beyond just the size of the screen — to continue to do so. ●

<sup>1</sup> <http://www.gartner.com/newsroom/id/2977917>

## Making pay-TV profitable in Asia Pacific

by Jonathan Guthrie, CEO, Paywizard

How do pay-TV operators get to grips with their audience? The answer is through actionable insight. Having access to relevant and marketable subscriber data means pay-TV operators can fully understand their audience and launch targeted campaigns based on what they are watching, when they are watching, and how they are watching it. This not only helps to attract new subscribers, it also helps retain and up-sell existing ones.



*Jonathan Guthrie, Co-founder and Chief Executive, Paywizard.*

*Prior to founding the company, Jonathan worked for BSkyB for eight years, from 1992 as Head of Finance and Deputy General Manager of BSkyB's subscriber management centres. Previously with Ernst and Young, Jonathan qualified as a chartered accountant in 1986.*

The explosion of video enabled, internet connected devices means that today, the global pay-TV market is changing. The Asia Pacific (APAC) pay-TV market in particular, is undergoing a rapid period of evolution. Research from Media Partners Asia shows that TV everywhere subscribers are expected to grow from four million to around 15 million over the next five years. And as multiscreen grows across the region, the APAC market is looking to Europe to determine its future, and answer a number of fundamental questions: How do we successfully extend our services and manage the growing number of subscribers? And how do we create services that are personal, and most importantly, profitable? The answer is an expert subscriber management system.

Whether pay-TV operators are growing their traditional TV business or launching a new OTT service, they need to be able to deliver their content across multiple devices.

But many operators are recognising that delivering a true multi-device service is difficult - and one of the main reasons for this is the complexity of navigating different screens. The stark difference between the endless number of devices means that simple tasks such as signing up subscribers is proving to be a major challenge. Yet being able to sign up for services, validate billing and take payment is at the heart of any multi-device strategy. In order to successfully extend TV services across multiscreen, pay-TV operators must have a subscriber management system that has an understanding of the device profile, user authentication practices, as well as be able to take payment across a diverse range of methods if they want to create profitable TV everywhere services.

Operators need to be able to get their services out to the widest paying audience if they want to drive revenues, and that means

being able to deliver services across as many distribution methods as possible. A platform interoperability strategy allows companies to streamline operational processes and use a range of delivery methods to reach a wide audience. But integrating various delivery and payment platforms to ensure content flows across owned and partner channels in a seamless and chargeable fashion is not easy. A subscriber management system must act as a bridge between different technology platforms, and enable elements such as subscriber sign up, billing and payment to be agnostic of underlying technology restrictions. Having an easy to deploy subscriber management system that is pre-integrated with conditional access systems, video delivery and payment platforms ensures operators can get to market fast and eliminate costly or bespoke development.

The ability to support payments anytime and anywhere is another essential requirement to

**“If pay-TV operators are able to become familiar with their subscribers, and understand exactly how they are consuming content, they can use that knowledge to deliver services that subscribers want, enjoy and ultimately, are happy to pay for. And being able to fully understand your audience will do more than just boost profits. It will help to increase customer lifetime value, ARPU and customer satisfaction, whilst also decreasing churn rate.”**

create a profitable pay-TV service. However there are a number of significant issues around payment validation and processing to overcome; especially when services cross country borders or regional territories. Around the world there are a number of stark differences in payment preferences and pay-TV operators need to understand their market dynamics as well as subscriber behaviour. For example, across Europe it is the norm to use credit and debit cards to pay for services. But in Asia, using vouchers for over the counter cash payments for services is incredibly popular. In order to support this, a pay-TV operator will be required to interface with several highly bespoke Point of Sale (PoS) terminal service providers across the region to make this happen.

Therefore pay-TV services must offer a range of payment methods, including pre and post pay models, credit and debit card processing, direct debits, and local payment options. Operators should also think about mobile phone integration and cash economy options powered by vouchers and branded e-Wallets like PayPal. The subscriber, who is signing up to a service via an app or web browser, should have no idea of the complexity behind making payments. The user interface will ask simple validation questions and at a click of the button, they will be connected to a world of content.

But extending services and enabling subscribers to sign up and pay for their favourite TV shows, movies and sporting events is only one piece of the TV everywhere puzzle. Today, with more companies offering pay-TV services across multiscreen, companies need to be able to target audiences to grow subscriber interaction and drive revenues.

If pay-TV operators are able to become familiar with their subscribers, and understand exactly how they are consuming content, they can use that knowledge to deliver services that subscribers want, enjoy and ultimately, are happy to pay for. And being able to fully understand your audience will do more than just boost profits. It will help to increase customer lifetime value, ARPU and customer satisfaction, whilst also decreasing churn rate.

So how do pay-TV operators get to grips with their audience? The answer is through actionable insight. Having access to relevant and marketable subscriber data means pay-TV operators can fully understand their audience and launch targeted campaigns based on what they are watching, when they are watching, and how they are watching it. This not only helps to attract new subscribers, it also helps retain and up-sell existing ones.

It is for these reasons that operators should implement a data strategy covering acquisition, retention and churn management. By collecting and analysing data, pay-TV operators can understand subscriber behaviour across each platform, enabling them to effectively market by upselling and cross-selling products, ensuring they retain subscribers, reducing churn and boosting profits at the same time.

Adopting a cloud-based model can also lead to significant and often untapped monetisation opportunities. The cloud is helping to simplify subscriber management and billing that has traditionally proven to be complex and expensive to do in-house. And there are a number of reasons for this; not only does a SaaS based delivery model offer a significant reduction in timescales for systems integration, set up, configuration and storage costs, but it also reduces the requirement for ongoing maintenance and operational support resource.

But regardless of whether a subscriber management system is deployed in-house or utilises the benefits of the cloud, it is important to have tailored services that support this system. Having tailored services, run by pay-TV experts, will ensure that you drive revenues throughout the customer lifecycle and overcome any challenges. Whether seeking simple advice or the complete design and deployment of a project; it is crucial to ensure a services team is incorporated, that can build and deliver revenue-boosting techniques that continuously improve the pay-TV service.

So today, subscriber management is playing a vital role in the TV everywhere landscape, and pay-TV operators in APAC need to have a system that will ensure they prosper in

the competitive market. Being able to drive revenue opportunities, keep subscribers engaged and loyal and coming back for more, will ultimately ensure operators profit from pay-TV. ●

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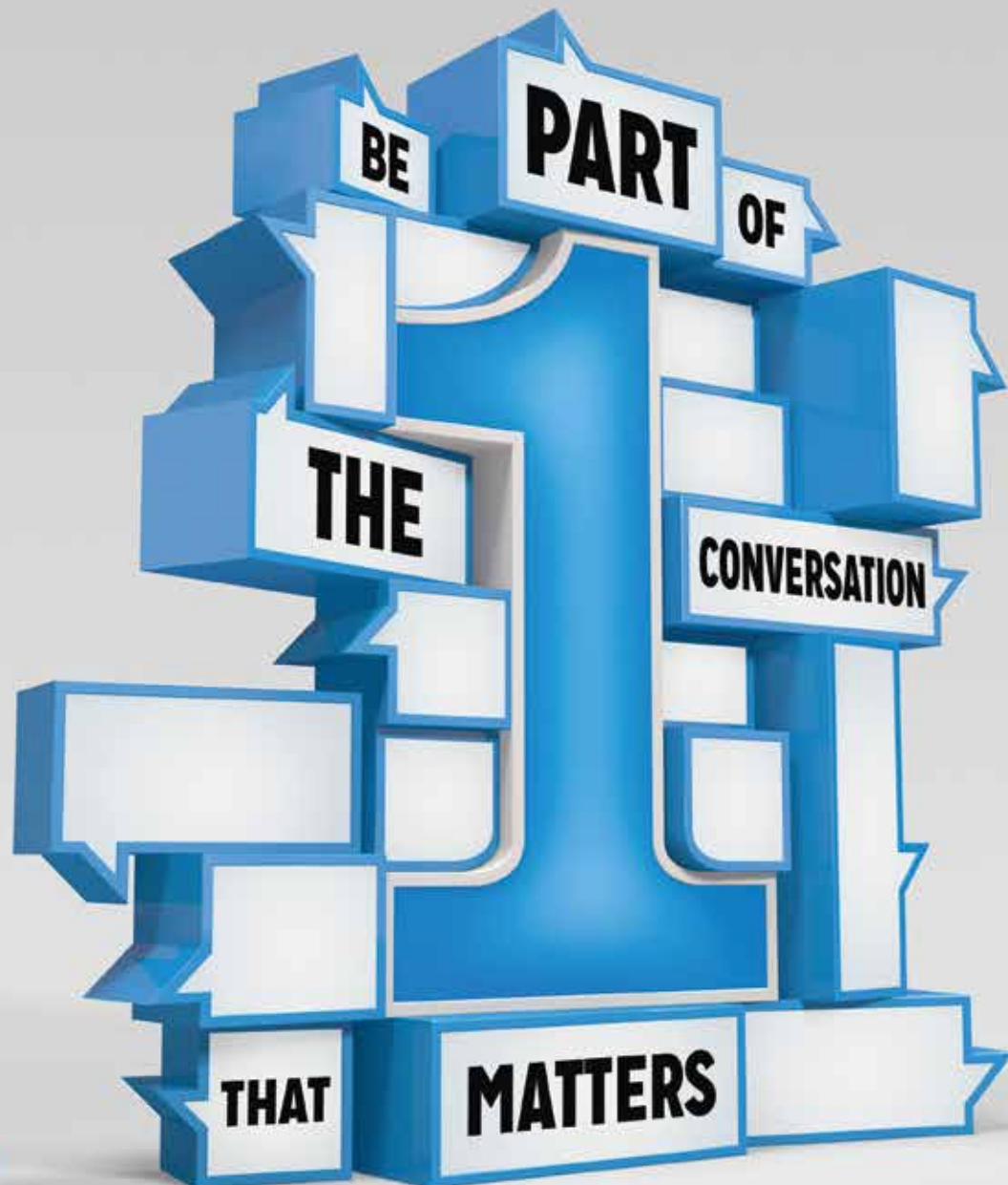
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## Asia's least developed telecommunications market is well on its way to becoming the world's fastest growing

by Rupert Owen, Director, Overseas Exhibition Services, CommuniCast

The Myanmar government has not only emphasised its support for the developing ICT industry through the liberalisation of the mobile market but also through the issuing of an unlimited number of Internet Service Provider (ISP) licences. Since mid-November 2014, 45 ISPs have applied for licences, with more than 12 already being issued. Amongst these 12, four are tower companies, two are fibre optic network providers, and six are infrastructure and private companies.



Rupert Owen, Director of Overseas Exhibition Services, CommuniCast

Rupert Owen is the Director of Overseas Exhibition Services. With over thirty years experience in developing and organising trade shows across Asia, the most recent one being for the ICT industry in Myanmar, Rupert has an extensive knowledge of the region and the developments that are constantly changing and shaping the Asian region.

Prior to working for the Overseas Exhibition Services, Rupert spent four years in Singapore working on events. His previous experience was in international marketing for a UK based brewery. Rupert received a Bachelor of Arts degree in Geography from Durham University.

The global telecommunications industry is constantly changing and developing to meet the ever-increasing demands driven by consumers, and Myanmar is no exception. In recent years, the Asian region has shown an insatiable appetite for innovation and technology, making it a hub of activity and a magnet for global enterprise and investment – with abundant opportunities across all ICT, satellite and telecommunication industries, as Myanmar plays catch-up with its ASEAN neighbours.

The recently isolated Southeast Asian country, formerly known as Burma, is home to the region's least-developed

telecommunications infrastructure. Myanmar has a population of more than 51 million people, yet despite this telephone penetration levels are among the lowest anywhere in the world - with mobile users growing beyond 25% and internet and fixed line usage in the region of 2%.

The country is still at the threshold of take-off, both in the supply of essential services in the key metropolitan areas, and in first stage service availability across the whole country. With the tele-density of the country targeted to reach 75% by the end of the 2015/2016 financial year, the opportunities for telecom

suppliers are bright, especially since the ISP, broadband, banking and broadcasting markets are opening up.

### 2014: A big year for Myanmar's telecommunications industry

2014 saw Myanmar's first communications technology, enterprise and convergence solutions show, CommuniCast, take place in Yangon and, with support from the Myanmar government the event put the country's emerging and fast-developing ICT industry on the map. A second event, set to take place later this year, confirms the



demand and interest in the development of Myanmar's telecommunications industry and will once again provide a professional platform for those in the industry to meet and exchange ideas.

When the country's Ministry of Communications & Information Technology (MCIT) announced that it was taking bids for the right to build its first mobile networks, it received a huge response from more than 90 applicants. The recent launch of mobile services by the two international licence winners Ooredoo and Telenor, and the reinvigoration of the incumbent operator MPT, by its tie-up with KDDI and Sumitimi, has changed the competitive landscape of the industry.

The three mobile operators, plus a fourth pending take-up, are expected to spend over US \$5 billion over nine years to build out their networks, with the aim to increase the mobile penetration level from under 25% to 90% by 2019.

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### The next step

In spite of the new roll out of mobile licences and ISP licences, Myanmar's ICT backbone is still in its infancy. The liberalisation of the mobile and ISP markets are just the first steps in the forward development of the country's ICT industry.

Further plans for major changes in the broader access and media markets are currently underway, with the expected passing of a new broadcasting law to open up the country's media industry and encourage the distribution of new services. This will facilitate the launch of new media channels, although there will be strict control on cross-ownership and foreign ownership will be permitted to 30%. While the Myanmar government is keen to work with other countries to fulfil Myanmar's ICT industry potential, the traditional aspects of the country's media industry will remain with a strong demand for the creation of Myanmar language and culture-based content.

Following the success of last year's CommuniCast event and the announcement of a second event in November, the Myanmar government has sent a strong message to the world that it is committed to infrastructure development on a truly massive scale. Broadband penetration in Myanmar currently stands at just 2%, but it seems like all of that is set to change with the preparation of an ICT master plan. The plan, which will also include a programme for the national roll out of broadband, is set to take place in the second half of this year.

Satellite sovereignty continues to be a key theme which came out of last year's event which was host to the country's first Satellite Forum. The Myanmar government has since outlined plans to launch its own satellite within five years with an 'open, fair and transparent tendering process'. In addition to supporting mobile network backhaul, satellite services will be crucial for supporting key sectors including defence, education, health, banking, mining and agriculture. CommuniCast 2015 will continue to focus on this during the country's second Myanmar Satellite Forum on 18th November 2015.

### A market full of opportunities

With the anticipated deregulation of the broadcasting market, the preparation of an ICT master plan and the launch of unlimited ISP licences, Myanmar has already come a long way to securing its future as a hub of innovation and technology.

The ambitious plans for leapfrogging the digital divide and increasing the tele-density within the country to 75% of the population by the end of the 2015/2016 financial year, offers ongoing opportunities in the build-out of the core infrastructure as well as many new areas of growth.

The CommuniCast event last year set a new benchmark for projecting the forward development of the country's ICT industry. Following the huge success of CommuniCast 2014, the event will be joining forces with the International ICT Fair for its return in 2015 – emphasising the demand for a professional platform for the emerging and fast-developing Myanmar ICT industry to meet. The co-location of events provides the opportunity for the full spectrum of the ICT economy to be under one roof, from satellite and broadband through to mobile and enterprise solutions.

With profiles for the second event reflecting the needs on the ground, the organisers of the event are hoping that the co-location of the events will help push the country's ICT industry further forward and provide the solutions for fulfilling Myanmar's ICT industry potential.

The CommuniCast Myanmar event will return from 17-19 November 2015 at Myanmar Event Park, Yangon. The second Myanmar Satellite Forum will be held on the 18th November. ●



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