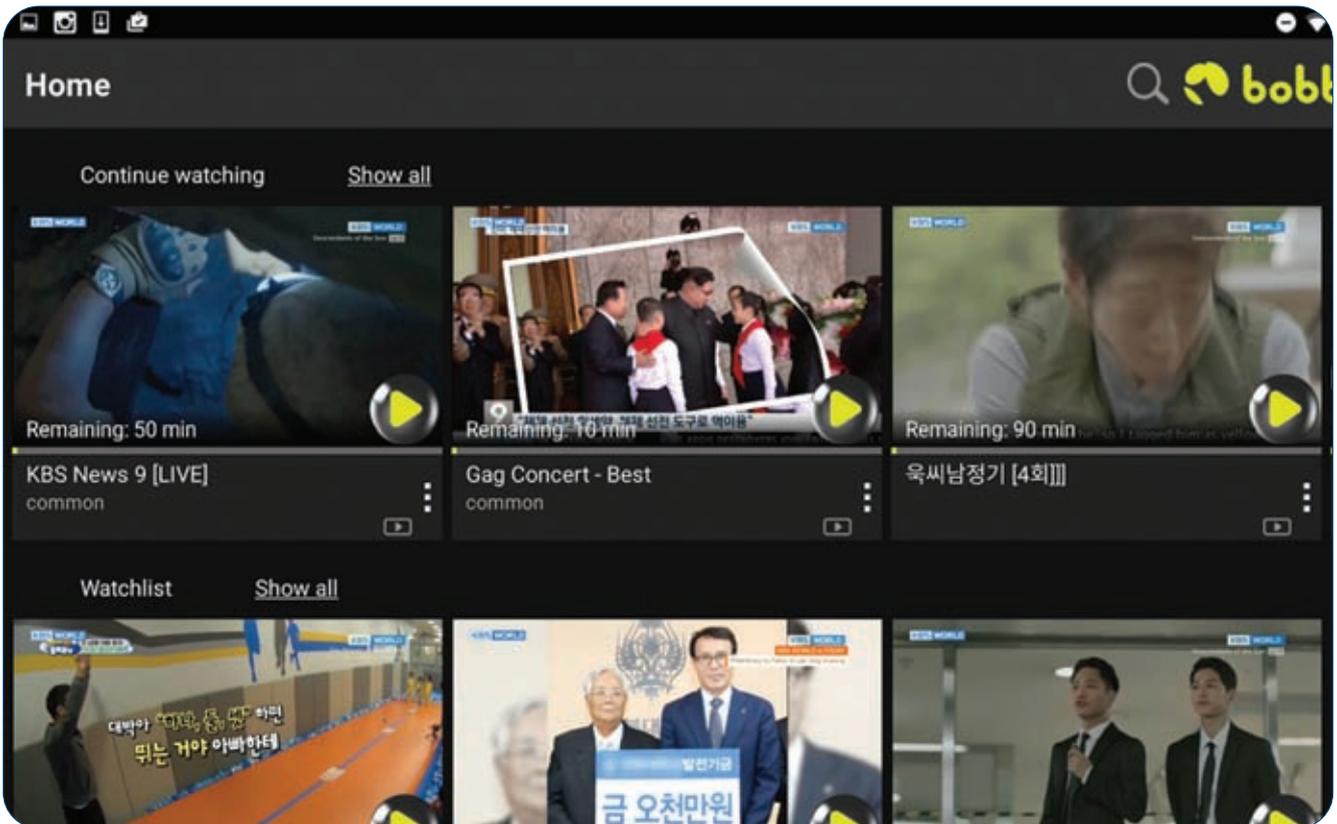




Pan-European video entertainment platform bobble.tv.



New opportunities in OTT

Over-the-top (OTT) services, which see video, audio, messaging and other media delivered directly over the Internet to PCs, Smart TVs, Smart phones, tablets, set top boxes (STB) and games consoles, have really shaken up the market since they first became a viable alternative to traditional DTH broadcasting in the 2000s. Early market entrants like Netflix, Amazon Prime and Hulu, which originally seemed like they would dominate the market in a short time period, are today facing a challenge as traditional broadcasters increasingly adopt OTT services to complement their existing offerings.

Over-the-top (OTT) services provide a unique viewing experience that has been recognised throughout the international consumer market since the launch of Netflix in the mid-2000s. TV on demand – what’s not to like? No one wants to miss their favourite show, so the convenience of catch-up services such as BBC iPlayer has become a great consumption enabler among the population. Similarly, with the trend of ‘binge-watching’ TV series, OTT services like Netflix, where an entire box set can be watched at once, we have truly entered a new era of media consumption.

The current state of play

Limelight Networks’ 2016 ‘*The State of Online Video*’ report asserted that the OTT market is fast-growing and far from saturation. Some 38.4 percent of respondents (up 1.5 percent year-on-year/y-o-y) subscribed to one OTT service, 18.8 percent (up 4.4 percent y-o-y) subscribed to two, and more than 10 percent (up 2 percent y-o-y) subscribe to three or

more, leaving just 31.2 percent (down 8.9 percent y-o-y) without an OTT package. According to the report, 23 percent of millennial respondents now live in OTT-only households, while 61 percent subscribe to paid-for TV and OTT services, much higher than the 52 percent average across all age groups.

The report highlighted that OTT services and other paid-for TV services were being viewed as complementary to traditional broadcast TV and paid-for TV by many. 14.7 percent of respondents indicated that they would never end their paid-for TV subscription, up from 10.5 percent in May 2015. The top reasons for leaving a paid-for TV subscription were price increases (29.4 percent), the ability to subscribe directly to desired channels (19.5 percent), and more sports and other live events becoming available online (9.4 percent).

More regionally focused research from Chrome DM’s January 2017 report, ‘*Now Streaming: OTT*’, stated that India’s OTT market, while far from its true potential right now, is set



to receive a major boost from new low-cost unlimited Internet plans and rising Smart phone use. In urban India, six percent and 24 percent of the population consumes OTT content on a daily and weekly basis, respectively. The high cost of unlimited Internet and infrastructural issues were highlighted as limiting factors.

“The entire internet base, which is 464 million today, qualifies for OTT’s growth potential. However, infrastructure enhancement and low-cost unlimited Internet plans are the key drivers that will exponentially help in reaching and further increasing the potential base itself,” said Pankaj Krishna, Founder and CEO of Chrome DM.

The report also found that more than 75 percent of the audience prefers free services with advertisements since they already pay for Internet services. Regional content was emphasised as a major opportunity to drive OTT service growth in the country.

While the benefits provided by OTT services are widely-recognised, challenges remain that limit uptake. In developing regions, those challenges include limited or no grid access to power devices and provide broadband Internet, as well as cost-prohibitive Internet access. Meanwhile, in the Western world, it’s poor Internet speeds that are causing a bottleneck. Netflix states that speeds of 3Mbps are required for SD video streaming, 5Mbps for HD, and 25Mbps for 4K. With the UK’s average download speed of around 14Mbps in 2016, this means that many consumers are not able to access 4K content via OTT services, a factor of growing importance as the popularity of 4K TV spreads. In comparison, more and more traditional broadcasters are offering 4K content, making other services, such as DTH broadcasting, more attractive.

Embracing OTT services

The rise of OTT services is having an interesting effect on the market. In the third quarter of 2016, SES merged its subsidiary SES Platform Services with newly-acquired RR Media to produce MX1, a unified delivery platform encompassing content contribution and distribution. According to SES, the move will enhance and scale up its existing video capabilities to deliver and monetise video services across linear and non-linear platforms.

“We deliver these experiences like no one else, with unrivalled expertise, an unmatched range of capabilities, proven flexibility, and an enhanced global presence. This merger allows us to scale-up on a global basis and become the world’s leading media services provider, delivering next-generation digital video and media solutions to our worldwide customers. Closer to them, wherever they are, we enable them to optimise their media and deliver it to global audiences like never before,” said MX1’s CEO, Avi Cohen.

It wasn’t long before MX1 was delivering these services to customers. In October 2016, TeraVolt and 3 Screen Solutions (3SS) was selected by MX1 to design, engineer, develop and integrate apps and managements systems for bubbles media’s pan-European video entertainment platform bobbles.tv, which operates over DTH satellite and OTT. bobbles.tv delivers TV channels from around the globe throughout Europe to reach a potential audience of 14 million ex-patriots originating from Asia, Latin America and Africa.

“We launched bobbles to entertain and connect people who’ve relocated to Europe, offering great programming that reflects their own culture. It was great to team up with MX1, TeraVolt and 3SS to get this complex project up and running. They came up with an appealing look and superior usability

to meet our customers’ expectations,” said Arnold C. Kulbatzki, Founding Partner of bubbles media.

TeraVolt provided the design, including an innovative user front end for easy navigation, for multiple devices, while 3SS developed apps for web, iOS and Android, and completed a comprehensive integration with key back end functions of MX1 including DRM, content and language management, payment platform and overall user management interfaces with BSS/CRM, and design and delivery of user onboarding processes. 3SS also provided support in HTML, JavaScript, Objective C and TypeScript.

Central to the deployment was the integration of a mediation layer taking the form of an application server that links the online video platform’s back end systems with the front end and new apps in a seamless, unified and operationally-efficient way. Features which TeraVolt and 3SS innovations made possible include linear TV and catch-up TV, search and backwards electronic programme guide (EPG), allowing a subscriber to access a programme even if they missed it. An easy-to-use subscriber dashboard includes the display of teaser elements, new programming highlights and metrics which show which programmes are proving the most popular. MX1’s video platform helps broadcasters and content owners harness the business potential of multiscreen, enabling media companies to launch tailored OTT services with maximised speed and resource efficiency.

“The launch of bobbles.tv on satellite and OTT is a great example of MX1’s expertise in how to powerfully leverage DVB-S linear channels and on-demand OTT. Bringing all the





required systems together in such a co-ordinated fashion is a great achievement,” said Kai-Christian Borchers, Managing Director of 3SS. “We are very proud to provide developments that support MX1 in making it possible.”

Enabling faster adoption

Seizing new market opportunities, several companies are developing technologies and systems that will allow operators and broadcasters to add OTT services to their portfolio without having to stump up the development costs in-house, while others are targeting the device end of the spectrum with technology that can be integrated into OTT-capable Smart TVs and tablets.

In November 2016, content delivery network provider Broadpeak and Eutelsat Communications joined forces to develop a satellite-based solution for multiscreen video delivery to connected devices, extending access to video on mobile devices beyond terrestrial networks and providing a competitive edge for mass market OTT service delivery.

SmartBeam enables free and paid-for broadcasters to broadcast video content in IP format via satellite, creating a network dedicated to IP-native terminals like tablets and Smart phones. The system works with any Wi-Fi enabled device, supporting instant channel change, DRM security and low latency. The underlying streaming technology is Broadpeak's nanoCDN, which allows operators and content providers to contain their bandwidth requirements to only a few megabits per second to multicast OTT services to millions of devices simultaneously.

“SmartBeam redefines how satellite can extend access to live and on-demand content on mobile devices, enabling an exceptional quality of experience for OTT customers located beyond range of terrestrial networks,” said Jacques Dutronc, Chief Development and Innovation Officer at Eutelsat. “In combining our skills with Broadpeak we are ready to support TV broadcasters as they evolve into a multi-platform environment, starting with Tricolor TV, Russia's leading pay-TV operator, that has selected SmartBeam for the first satellite network in Russia to deliver video content to mobile devices.”

Meanwhile, January 2017 saw Opera TV and Novatek launch Opera TV's OTT-enabling product suite, pre-integrated on Novatek's system-on-a-chip (SoC) TV platform. The solution enables device manufacturers to develop Smart TVs with hundreds of HTML5-based OTT services as standard, providing cost savings and reduced time to market.

“As the availability of OTT services expands globally, it becomes increasingly expensive and technically complex for manufacturers or SoC providers to stay ahead of the curve,” said Aneesh Rajaram, CEO of Opera TV. “The team at Opera TV works relentlessly to reduce these barriers for our partners. This integrated platform will not only help accelerate OTT availability, but also serve as another example of the path forward for key technology partners to continue to collaborate and devise cost-effective ways to deliver OTT-ready platforms to consumers.”

The newest Novatek SoCs come complete with Opera TV's suite of OTT products, including Opera TV SDK, a next-generation Blink-based HTML5 engine, the Opera HbbTV 2.0 module, the Opera Media Streaming Module, and Opera TV 2.0. The integration provides more than 1,000 apps to Novatek's customers for seamless integration into their devices. Opera TV's apps ecosystem, which includes BBC iPlayer, BBC News, Hulu and YouTube, among others, is the

world's largest for connected TV devices, spanning more than 40 million devices shipped each year.

Providing an alternative solution

As the OTT market matures, we're seeing an increasing number of ways to access content on any number of devices. Moreover, new products offering ever-more capabilities are coming to market; when it comes to TV in 2017, the possibilities seem truly endless.

In January 2017, Mohu launched AirWave, a wireless over-the-air (OTA) and OTT device that integrates live, local broadcast TV with free streaming channels and OTT content from Apple TV, Netflix, Hulu, Fire TV, Android, iOS and Roku, among others. The US\$149.99 device is targeted at 'cord-cutters' seeking more cost-effective solutions to subscription cable and satellite TV services.

“We are at the crest of the cord cutting revolution,” said Mark Buff, Mohu's CEO. “Pay TV is broken. AirWave is our attempt to reinvent the TV viewing experience by offering consumers flexibility, convenience, and choice. With Free TV Everywhere, you can watch what you want, how you want, and with no monthly fees.”

The all-in-one interface provides a one-stop solution for consumers with seamless access to all content. AirWave connects wirelessly to the Mohu TV application, which allows users to channel up and down through live broadcast content and free streaming content in a familiar, cable-like TV guide. Key features of AirWave include:

- Combined live, local channels and streaming video in a cable-like programme guide, offering programme descriptions, the ability to select favourite channels, and view up to 14 days of upcoming content.
- Coax cable-free connectivity, allowing set-up anywhere in the home where there is an Internet connection.
- ClearPix Technology offering dynamic pixelation reduction that automatically adjusts to improve image reception of OTA broadcasts. ■

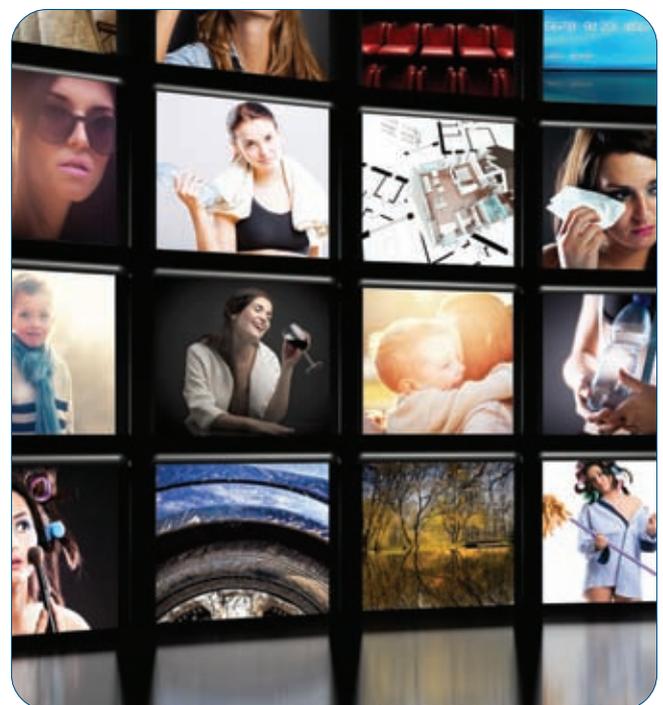


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