

DIGITAL



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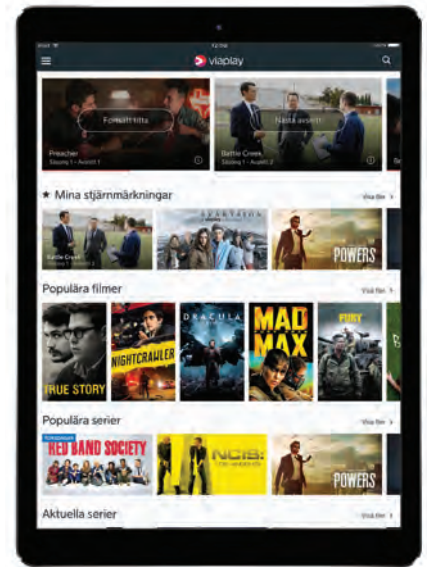
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Contents

22. The rise of the skinny bundle

The US is experiencing an influx of slimmed-down, OTT-delivered cable offerings. But how is this trend affecting the pay TV industry and does this latest development translate over to the European market? Andy Fry reports.



16. Mike Fries: introducing the GIGAWorld

Liberty Global CEO Mike Fries explains his vision for the rapidly approaching 'GIGAWorld' and explains why it will change your life.



18. Altice Labs: age of opportunity

Altice Labs' general manager, Alcino Lavrador, discusses IP delivery, the advent of 5G and unpicks some of the biggest technical challenges facing the TV industry today.

30. Interview: Harald Rösch, Melita

Ahead of next month's Cable Congress, Harald Rösch, CEO of Malta's Melita, talks to Stuart Thomson about improving a brand's reputation and growth through diversification and bundling.



32. The future of Ultra HD

We are on the cusp of pictures that are brighter, crisper and more impressive than they have ever been before. Andy McDonald looks at the latest moves towards advanced Ultra HD.

36. TV Connect 2017: the preview

Ahead of this year's TV Connect, *DTVE* spoke to two of the London event's speakers about business opportunities and digital developments.



42. ANGA COM 2017: the preview

Peter Charissé, managing director of ANGA COM, talks to *Digital TV Europe* about the exhibition's move to a new location and this year's highlights.

Regulars

2 This month 4 News digest 38 Technology 43 People 44 Final analysis

Issue no 330

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Making a connection

Connectivity is a topic that is never far from the TV industry. From the evolution of mobile screens and services through to the uptake, advancement and now near-ubiquity of internet-delivered video, the world of television is as diffuse and varied as it has ever been.

In an exclusive opinion piece ahead of his keynote speech at Cable Congress in Brussels, Liberty Global CEO Mike Fries shares his vision of the approaching 'GIGAWorld', and describes how operators like Liberty can help meet the demands of an 'always-on' society.

Grappling with changes in both technology and viewing habits has seen the industry do its fair share of soul searching in recent years and this issue of *Digital TV Europe* will look at some of the latest developments in over-the-top channel delivery and Ultra HD technology innovation.

The 'skinny bundle' seems to be the latest craze sweeping the US market. As Hulu prepares to roll out its slimmed-down OTT TV offering – following in the footsteps of PlayStation Vue, DirecTV Now and Sling TV – and as YouTube waits in the wings, we look at how pay TV-lite services are shaking up the industry. We also look at how the evolution of these flexible services translates to the European pay TV market.

Elsewhere in this edition we take a deep-dive into the latest advancements in Ultra High-Definition technology. With all eyes on the 2020 Japanese Olympics we talk to some of the leading standards bodies and technology organisations about how work is progressing and look forward to the day when High Dynamic Range, Higher Frame Rates and next-generation audio will be living-room staples.

With conference season well and truly underway, we speak to Hopster CEO Nick Walters and BBC Studios' digital development head Will Saunders ahead of their appearances at TV Connect in March.

We also talk to two cable TV industry executives who will be joining Mike Fries at Cable Congress this year. Melita's Harold Rösch gives us an insight into the competitive challenges of the operator's small home market of Malta, while Altice Labs' Alcino Lavrador takes a broader view and discusses some of the technological challenges facing the TV industry in 2017.

Finally, ANGA COM managing director Peter Charissé explains what new things to expect from the leading German industry event in May. We'll see you on the show floor. ●

Stuart Thomson will be back next month.



Andy McDonald, Deputy Editor
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News digest

> 4 EU reaches agreement on content portability > 5 Liberty Global grows advanced TV base > 6 Apple originals to launch 'in next few months' > 8 Vodafone Germany launches advanced TV service > 10 Sky moves beyond the dish with OTT TV plans

EU reaches agreement on content portability across borders

By Stuart Thomson >

The European Parliament, the European Commission and member states have reached an agreement on implementing new rules to enable content portability, allowing EU citizens to view services they subscribe to no matter where they are in the Union.

The deal is the first covering the modernisation of EU copyright rules proposed in the EU's Digital Single Market strategy.

Under the new rules, online content service providers will verify their subscribers' country of residence by using means such as payment details, the existence of an internet contract or by checking the IP address.

All providers that offer paid online content services will have to follow the rules. Providers of free services, including the online services of public TV or radio broadcasters, will have discretion in deciding whether to enable portability or not.

The agreed text must now be formally confirmed by the EU



Council and the Parliament. Once adopted, the rules will be applicable in all Member States by the beginning of 2018. The regulation grants providers and right holders a nine-month period to prepare for the application of the new rules.

The agreement on content portability comes at the same time as the end of mobile roaming charges within the EU. Mobile operators will no longer be able to levy roaming charges from June 15 this year, meaning that mobile users will be able to access content using their existing mobile data allowances no matter where they are in the EU.

The EU authorities have been at pains to emphasise the limited impact of the content regulation on "the business models of rights holders and service pro-

viders". The rules will make any provision in existing contracts that limits cross-border portability unenforceable, reducing the scope for legal conflict. The EU is not obliging service providers to ensure quality of delivery across borders, which would incur additional costs.

Service providers will however be obliged to make content available across the same devices and under the same rules as in their home countries.

EU Commissioner Tibor Navracscs, in charge of education, culture, youth and sport, said: "Digital technologies provide new opportunities to enjoy cultural content on the go, and people are eager to use them. [The] agreement opens new doors to citizens while at the same time protecting creators and those investing in the production of cultural or sport content. This balanced solution is an encouraging sign for our efforts to build a Digital Single Market that offers new opportunities for both creators and consumers."

The impact of the changes on pay TV and OTT TV service providers, broadcasters and producers is subject to debate, with the Association of Commercial Television in Europe warning that portability rules could undermine the financing of content by limiting the ability to sell on a territory-specific basis.

However, public broadcasters' organisation the EBU said that current legal uncertainty and the variation in copyright rules between member states meant that broadcasters were prevented from making their programmes available online. The EBU has said it does not believe that all geo-blocking of content will be prevented.

Tony Gunnarsson, senior analyst at Ovum, said he did not believe the changes would have a huge impact on OTT service providers. "For the big guys like Netflix and Amazon, which dominate SVOD in Europe, this is unlikely to have any impact as the two services are already available across the region," he said.

France

IPTV > Orange on Canal+

Orange does not want to acquire Canal+, according to CEO Stéphane Richard. Interviewed by BFM TV, Richard said that to his knowledge, Canal+ was not for sale, and there were no talks in progress. However, he said the pair were discussing

deeper cooperation both inside and outside France. Richard said Orange was paying close attention to the rights for Ligue 1 football, an area where there is scope for cooperation with Canal+ in the face of the rise of rival SFR as a premium sports provider. Richard spoke to BFM TV after year-end results that saw Orange's TV customer base increase by 6.9% year-on-year to

reach 8.5 million customers across Europe. In France, Orange had 6.609 million TV customers, down from 6.423 million a year earlier. In Spain, take-up of TV services increased sharply, with 507,000 customers at the end of the year, up 1.7 times year-on-year. Orange Luxembourg had 40,000 TV customers, up from 4,000 a year earlier. Orange's central European

operations had 507,000 TV customers at the end of the year, up from 366,000.

PROG > NBC for Euronews

NBC News is to acquire a 25% stake in Euronews, and the European news channel is to be renamed Euronews NBC following the transaction. NBC News chief Andy Lack revealed the move in an inter-

nal memo to NBC staff in which he announced that Noah Oppenheim, the executive in charge of the flagship *Today* programme, would take over from Deborah Turness as the US news network's president. Turness, a former ITV executive, was named president of NBC News International, a new division that will liaise between the US news division and Euronews, and could also serve as the springboard for further international expansion by NBC News. Lack told staff that NBC would invest in European journalism and strengthen the depth and pace of Euronews' reporting. According to press reports, NBC will spend US\$30 million (€28 million) for its stake in Euronews. The move will make NBC the second largest shareholder in Euronews after Egyptian tycoon Naguib Sawiris, who holds a 53% stake.

Germany

PROG > Boost for ProSiebenSat.1

Revenues from producing in the US and production company acquisitions have driven significant growth in ProSiebenSat.1's international business. The media group's content production and global sales division posted a 38% year-on-year increase in 2016 revenues of €362 million. EBIDTA increased 87%, to €47 million. ProSiebenSat.1 has reorganised its business to focus more on digital and non-advertising revenue streams. Digital sales increased 19% to €442 million. Core German broadcasting revenues were up 3% at €2.2 billion. The company reported an overall year-on-year increase of 17% in annual revenues if €3.8 billion. EBITDA was up 10% at €1 billion.

Kuwait

OTT > Iflix JV with Zain

South-East Asian SVOD provider Iflix is launching a version its service in the Middle East and North Africa in a joint-venture partnership with Kuwait-based mobile telecom operator Zain. Iflix Arabia will be headquartered in Dubai and will offer services wherever Zain is present in the region, including Kuwait, Bahrain, Iraq, Jordan, Lebanon, Saudi Arabia and Sudan, with the potential to further extend into additional regional markets. The service is scheduled to launch in the second quarter of this year, targeting Zain's mobile user base. Iflix Arabia will be led as CEO by John-Paul McKerlie, who has served as Zain's consumer marketing director since last May.

Events

Satellite 2017

Date: 6-9 March
Venue: Walter E. Washington Convention Center, Washington, DC, USA
W: 2017.satshow.com

Cable Congress 2017

Date: 8-9 March
Venue: The Square, Brussels, Belgium
W: www.knect365.com/cable-congress/

TV Connect 2017

Date: 28-30 March
Venue: ExCel, London, UK
W: https://tmt.knect365.com/tv-connect/

MIPTV

Date: 3-6 April
Venue: Palais des Festivals, Cannes, France
W: www.cabsat.com

Cabsat

Date: 21-23 April
Venue: Dubai World Trade Center, Dubai, UAE
W: www.miptv.com

NAB Show

Date: 22-27 April
Venue: LVCC, Las Vegas, Nevada, USA
W: www.nabshow.com

Internet of Things World

Date: 16-18 May
Venue: Santa Clara Convention Center, California, USA
W: www.knect365.com/iot-world/

ANGA COM

Date: 30 May - 1 June
Venue: Köln Messe, Cologne, Germany
W: www.angacom.de

Liberty Global grows advanced TV base

By Andy McDonald

Liberty Global added 313,000 next-generation TV customers in Q4 and said it plans to expand the deployment of its new 4K cloud-based set-top box.

Announcing its fourth quarter and full-year 2016 results, Liberty said that overall it added 1.2 million subscribers last year to its next-gen TV services – which include Horizon and Horizon-Lite in mainland Europe, TiVo in the UK and Yelo in Belgium.

The company ended the year with 6.7 million next-generation subscribers in Europe, representing 38% of its total video base excluding DTH.

"We will also expand the deployment of exciting new products like our 4K cloud-based set-top and our WiFi Connect Box," said Liberty Global CEO Miike Fries.



Fries:
expansion of 4K set-top deployment and DOCSIS 3.1 planned.

Liberty-owned Virgin Media launched its new 4K-enabled V6 set-top box in the UK in the fourth quarter as part of its new 'home entertainment experience'.

Looking ahead, Fries said that the company plans to continue to enrich its bundled offerings with "compelling 4G mobile offers" and new content and functionality – "including the launch of Netflix across our footprint".

Liberty started to make Netflix available on its set-top boxes – starting in the Netherlands in December – after agreeing a multi-year partnership with the SVOD giant that covers 30

countries around the world.

The company also completed the rollout of its Horizon TV offering across its European operations during the quarter, with the launch of Horizon TV in Austria and Horizon-Lite in Romania.

Fries said that in late 2017 Liberty Global will start field trials of DOCSIS 3.1 technology, which will provide "gigabit speeds" to its customers.

The company already claims to have delivered more than 1.4 million new gigabit-ready homes in 2016, including nearly half a million at Virgin Media alone, as part of its network expansion efforts.

Overall, in Europe, Liberty Global said last year it added 946,000 new revenue generating units (RGUs) – covering basic and enhanced video subscribers, DTH, internet or telephony subscribers.

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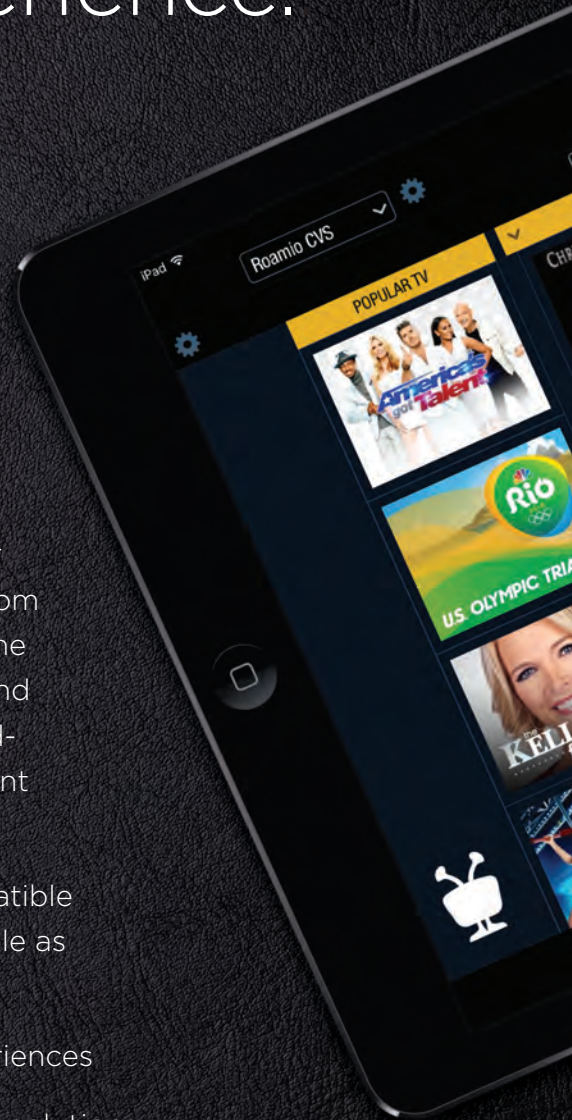


At Tivo, we're always innovating to deliver the ultimate entertainment experience. From every room of the house to anywhere in the world, we're revolutionising how people find media in this chaotic and fragmented landscape by deepening consumer engagement with movies, TV shows, music and more.

Our technologies are customisable, compatible across systems and platforms, and available as end-to-end solutions and flexible APIs.

- / Fully integrated content discovery experiences
- / Advanced search and recommendations solutions, including natural-language voice search
- / Immersive entertainment metadata
- / Insightful, data-driven audience analytics

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Q&A: Charles Dawes, senior director international marketing, TiVo

Charles Dawes, senior director international marketing at TiVo, talks about his company's recent research into changing patterns of media consumption and the evolution of the TV experience.

You recently did some research into changing media consumption patterns? What are the key lessons?

As in previous years, TiVo has undertaken its annual study into how pay-TV and over-the-top (OTT) subscribers are consuming their favourite entertainment content. This year we saw some key themes developing.

Firstly, we saw that content consumption remains as high as ever, with the average consumer spending four hours per day watching or streaming content. Here in Europe, the UK and France were slightly higher than the average, with Germany being slightly lower. We also saw that consumers still spend an average of 19 minutes per day looking for content.

One of the most significant new trends we saw, however, is something we're calling 'Show Dumping'. This is when a consumer who has invested a considerable amount of time and effort into watching a show they love stops watching because it became too difficult or expensive to continue. This could be for a variety of reasons, including the content being too hard to find because it's moved or that it's behind a paywall they don't have access to. Over 37% of our respondents had experienced 'Show Dumping'.

To what extent does thinking around the evolution of TiVo's user experience match the findings of your research?

One of the areas that we're seeing a real step-change in how we think about the consumer experience is how we look at recommending content to the consumer. We've found that pure recommendations aren't satisfying the consumer across all the use cases. Instead we need to focus on predicting what the customer would actually want to see in many scenarios. Our predictions are driven by time, day and previous interactions, as well as an innate understanding of the consumer's entertainment preferences.

In our research, we saw that those consumers who rated their recommendation system greater than seven out of 10 actually consumed over one-third more content. A clear indicator that a best-in-class recommendation engine is a requirement for an advanced entertainment discovery experience.

What are the main developments can we expect around content discovery over the coming year?

We can expect to continue seeing the drive towards the ultimate entertainment discovery experience where content catalogues aren't separate silos and the ability to predict what the consumer wants to

watch becomes a must-have feature.

We've recently launched the latest generation of the Emmy Award winning TiVo User Experience, which brings these features, and many other updates, to the market. Another feature we've already launched on our US consumer platform, including on our BOLT+, which was an honoree in the 2017 CES Innovation Awards, is QuickMode. QuickMode enables viewers to binge watch at 30% faster than real time with pitch-corrected audio – another example of TiVo innovation making entertainment consumption simple, easy and fun.

How important is voice to search and discovery and how quickly, and to what extent, do you think voice control will gain traction among consumers?

As we saw at CES in January, voice-based interaction with Artificial Intelligence-based virtual assistants is starting to become an everyday occurrence. In the content discovery realm, voice search really opens the consumer up to the wealth of content that is available to them.

With TiVo's Natural Language Understanding capabilities, the consumer doesn't need to 'search for search', and they can simply say what they are looking for and the system will understand them. From something as simple as the name of a programme or actor, to a more complicated free-form question like 'What's the film where Tom Hanks talks to a volleyball?'

The power of TiVo's voice search solution is our incredible understanding of entertainment, and the details behind each and every TV programme, series, film, song, actor, director and many more attributes, means we understand entertainment in human terms, and not simply as unconnected entries in a database.

How is the integration of the former Rovi and TiVo progressing and what still needs to be done?

It's going really well. Our aim was to bring together two leading companies in the media and entertainment space to combine the best-of-breed solutions from both companies. From leading-class metadata that spans the entertainment spectrum of video, music and sports, to Seamless Discovery that powers recommendations in eight of the top 10 US MSOs, to our Emmy Award winning User Experiences, we're now servicing over 500 operators globally, and our technologies are licensed to 170 million homes. We're continuing to evolve as we look to help our customers understand their consumers with advanced analytics solutions, and head towards providing the 'Ultimate Entertainment Experience'.

Global Wrap

TV and video delivery will become a “core capability” of 5G wireless services, allowing mobile providers to offer TV-equivalent services, according to new research. The **Strategy Analytics** report claims that 5G-delivered offerings could eat into the US\$500 billion (€475 billion) global TV and video market currently served by cable, satellite, IPTV and terrestrial broadcast service providers. More than 30 million VR headsets shipped last year, with **Google Cardboard** taking a “commanding share” of shipments and installed base, according to Strategy Analytics. The research firm’s ‘VR Headset Platform Market Share Year End 2016’ report said that Google’s low-price Cardboard option took 69% of shipment volume market share last year. **HBO** has passed more than two million domestic subscribers for its over-the-top service **HBO Now**, parent company **Time Warner** revealed. Time Warner CEO Jeff Bewkes announced the figure during the company’s fourth quarter earnings call, saying he was pleased with HBO’s US over-the-top growth. **Twitter** attracted 31 million unique viewers to live premium video in the first quarter of operations, with 600 hours of live content from partners streamed across about 400 events. The social network said that 52% of the 600 hours of live premium video aired in the quarter was sports content, while 38% was news and politics and 10% was categorised as entertainment. Twitter said that 33% of unique viewers came from outside the US, while approximately 50% of viewers were under 25.

Spain

PROG > eSports investment

Telefónica’s Movistar+ pay TV service has launched its previously announced eSports service following the deal it signed earlier this year with Modern Times Group-backed ESL. Movistar eSports will cover live gaming events along with other content. A weekly magazine show, *The Gaming House*, will also be broadcast on the Movistar Deportes 1 channel at 23:30 on Wednesdays. The service will air 10 specials covering ESLOne and IEM gaming events, the first of which will be broadcast from Katowice in Poland. Two of these specials will be tied in with the Movistar Series tournament created by the pay TV operator. In addition to the live channel,

content will be available on-demand. Movistar eSports will also feature profiles of leading gamers and additional content based on the Movistar Riders team and Game House created by Movistar as part of its broader investment in eSports. Telefónica agreed an exclusive deal with ESL in January to provide content for its pay TV service.

CAB > Vodafone 4K launch

Vodafone Spain has unveiled a new version of its TV service that includes the country’s first 4K TV offering. Vodafone will be offering a range of services in 4K, including five channels, 4K coverage of La Liga football and Netflix content. The channels offering will comprise factual channel *Odisea 4K*, special events channel *Festival 4K*, which will provide coverage of festivals,

concerts opera and ballet performances and other events in 4K with Dolby Digital sound, Funbox UHD from SPI International, Insight TV from TERN and SlowChannel, a channel providing images of nature in UHD. The service will also include access to Netflix content in 4K. The new Vodafone TV service will be based on the latest version of the TiVo platform and will include 120 TV channels, the Videoclub on-demand offering and access to HBO España and Netflix. According to Vodafone, over 20,000 titles and episodes will be available to view via a personalised recommendation and search engine. The service will include a new interface that Vodafone said is more visual and intuitive and supports simultaneous cloud-based recordings that can be accessed from multiple set-tops in the home.

Apple originals to launch in ‘next few months’

By Andy McDonald >

Apple’s first originals – *Carpool Karaoke* and *Planet of the Apps* – will launch on Apple Music in the “next few months”, according to Apple’s SVP of internet software and services, Eddy Cue.

Speaking at the Code Media conference in California, Cue showed a clip of *Planet of the Apps* and revealed details of the Ben Silverman-produced show, which will see app developers pitch for financial backing and then promotion through the App Store.

The series will be available “in most countries in the world” as part of Apple’s 18-month old subscription music offering, as will *Carpool Karaoke* – Apple’s previously announced *Late Late Show with James Corden* spin-off. Appearing on-stage alongside Silverman to discuss



Cue: video can be a very important part of Apple Music.

Planet of the Apps, Cue said that the shows will be exclusive to Apple Music, won’t appear on traditional television and will be available across Apple TV, Mac and iOS devices.

“We think that video can be a very important part of Apple Music. It’s one of the differentiating factors that we can add,” said Cue, when asked about the reasons for the move. “We’re just starting out and we’re excited. We think these shows bring something to customers that haven’t been seen before, so there’s something unique, special that we’re bringing to the table. I think there are more ide-

as like that that we have, so we hope to continue doing more – and we’ll see.”

Cue said that Apple has a “real opportunity in the TV space” but is interested in doing programmes that aren’t being done by anyone else. He played down the notion of Apple buying a large producer and distributor of content – such as a Netflix or a Time Warner – or signing up to make a big budget drama series like *Game of Thrones*.

“We’re not taking the traditional route. This [*Planet of the Apps*] is a show that’s unlike anything that we see out there that we are able to add value to,” said Cue. *Planet of the Apps* will see contestants pitch for investment from what Apple described as “four of the world’s most culturally influential entrepreneurs” – Will.i.am, Jessica Alba, Gary Vaynerchuk and Gwyneth Paltrow.



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IPTV > Telefónica numbers

Telefónica's overall TV base was stable year-on-year, at 8.3 million including 4.3 million satellite customers, giving the company a pay TV penetration of 48% where it offers the service. Pay TV subscribers in Spain numbered 3.657 million, down from 3.711 million in the third quarter and from 3.671 million at the end of 2015. In Spain, Movistar Fusión's consumer base reached 4.3 million customers, up 5% year-on-year, with some 80% of TV customers being Fusión converged customers, up 10 percentage points year-on-year. In total, there were 2.943 million Movistar Fusión TV

customers in Spain at the end of the year, up from 2.6 million a year earlier. The quarterly ARPU of Fusión stood at €81.6, 12% higher year-on-year, driven by the portfolio renewal and price hikes, and by changes in the mix of customers. However, the total number of pay TV subscribers in Spain continued to decline slightly in the fourth quarter, with 54,000 losses compared with 44,000 down in the third quarter. In Brazil, pay TV numbers dropped year-on-year from 1.788 million to 1.713 million. Pay TV numbers were down in Venezuela, up in Chile, and up strongly on 2015 in Colombia but down quarter-on-quarter.

Sweden**IPTV > Curio launch**

Factual SVOD service Curio will launch in Sweden and Norway next month after the ITV-backed service secured deals with pay TV operators in the region. In Sweden, Curio will be on the Com Hem platform, the largest in the country, and in Norway, on Get, the second largest nationally. Curio comes from the same team as Cirkus, which is the best-of-British SVOD service that is backed by UK broadcaster ITV. Like Cirkus it is designed to sit within pay TV operators' platforms and allow them

to compete with the standalone streaming services such as Amazon and Netflix, and doc-focused SVOD platforms including CuriosityStream. Also like its sister service, the first launches are in the Nordics. The Curio programming line-up will be divided across different factual categories: civilisation, nature and the environment, science and tech, and current affairs and social issues. Mark Bradford and Hugh Williams are behind Cirkus and the new docs service, which, editorially, is positioned as an alternative to the likes of Discovery and Nat Geo, which have moved away from pure factual content and into entertainment.

Vodafone Germany launches new advanced TV service**By Stuart Thomson >**

Vodafone Germany has launched a new advanced TV platform, GigaTV.

The platform, which will integrate linear TV, on-demand video and apps from streaming services as well as multiscreen access to content via smartphones and tablets, is available over the former Kabel Deutschland cable network.

The service offers access to 55 on-demand portals as well as a video library of 5,000 movie titles, access to music service Deezer, the Maxdome SVOD service and Sky's pay TV services.

The GigaTV box includes a 1 TB hard drive that can play Ultra HD TV content.

GigaTV with a set-top box is available exclusively on cable for €14.99 a month, but an app-only variant, providing TV streams to multiscreen devices, will also be available for €9.99. Google Cast and Apple Airplay functionality is not yet available.

Both variants will allow users to receive up to three streams



Ametsreiter: GigaTV will include universal search and other advanced features.

simultaneously.

HD services will cost an additional €9.99, with a premium package available for €19.99.

Ahead of the launch Vodafone Germany CEO Hannes Ametsreiter told *Bild* magazine that Vodafone plans to introduce new features including the ability to control the service via Amazon's Alexa personal assistant. He also said that GigaTV would feature universal search functionality.

News of the TV rollout came as Vodafone posted its Q3 numbers globally. In a quarter where its earnings were hit by mobile price competition in India and a tough UK market, Vodafone grew its global TV customer base by 100,000 in the course of the three months to December to reach 9.7 million customers. Overall, the fixed and

mobile operator had 14.7 million fixed broadband customers with 417,000 added over the quarter, including 339,000 in Europe, of which 76% were on-net customers.

In Germany, Vodafone had 7.8 million TV customers at the end of December. Fixed-network revenue grew by 4.8% in the third quarter and the company had 110,000 broadband customers, including 77,000 cable customers.

In Spain, TV customers numbered 1.3 million at the end of the quarter. The group's integrated fixed, mobile and TV offering, Vodafone One, had 2.1 million customers at the end of the period, up from 1.1 million a year previously. Fixed broadband net additions numbered 93,000.

Intense competition in India and pressure in the UK market contributed to an overall 3.9% in the group's revenue in the quarter to €13.7 billion.

Separately, Vodafone has put its plans to launch a TV service in the UK on hold, according to a report in *The Telegraph* news-

paper. The paper cited Vodafone CEO Vittorio Colao as saying that the service was ready to launch within weeks if the company felt it was necessary but said that Vodafone now had other priorities.

On a conference call with analysts following the group's results, Colao said UK broadband adds had been "OK" but broadband was a product it mostly wanted to push to its existing mobile companies.

Consumer broadband numbers in the UK are increasing but remain modest at 129,000, up 32,000 in the quarter.

Vodafone's UK business was, along with India, where it faces strong price competition, a black spot in the company's Q3 numbers. UK sales dropped by over 3% as a result of competition in the enterprise market and the loss of key contracts.

Colao said that Vodafone remains Europe's fastest growing fixed broadband provider. Vodafone added 1.5 million fixed customers globally last year. Fixed now represents 22% of group revenue.



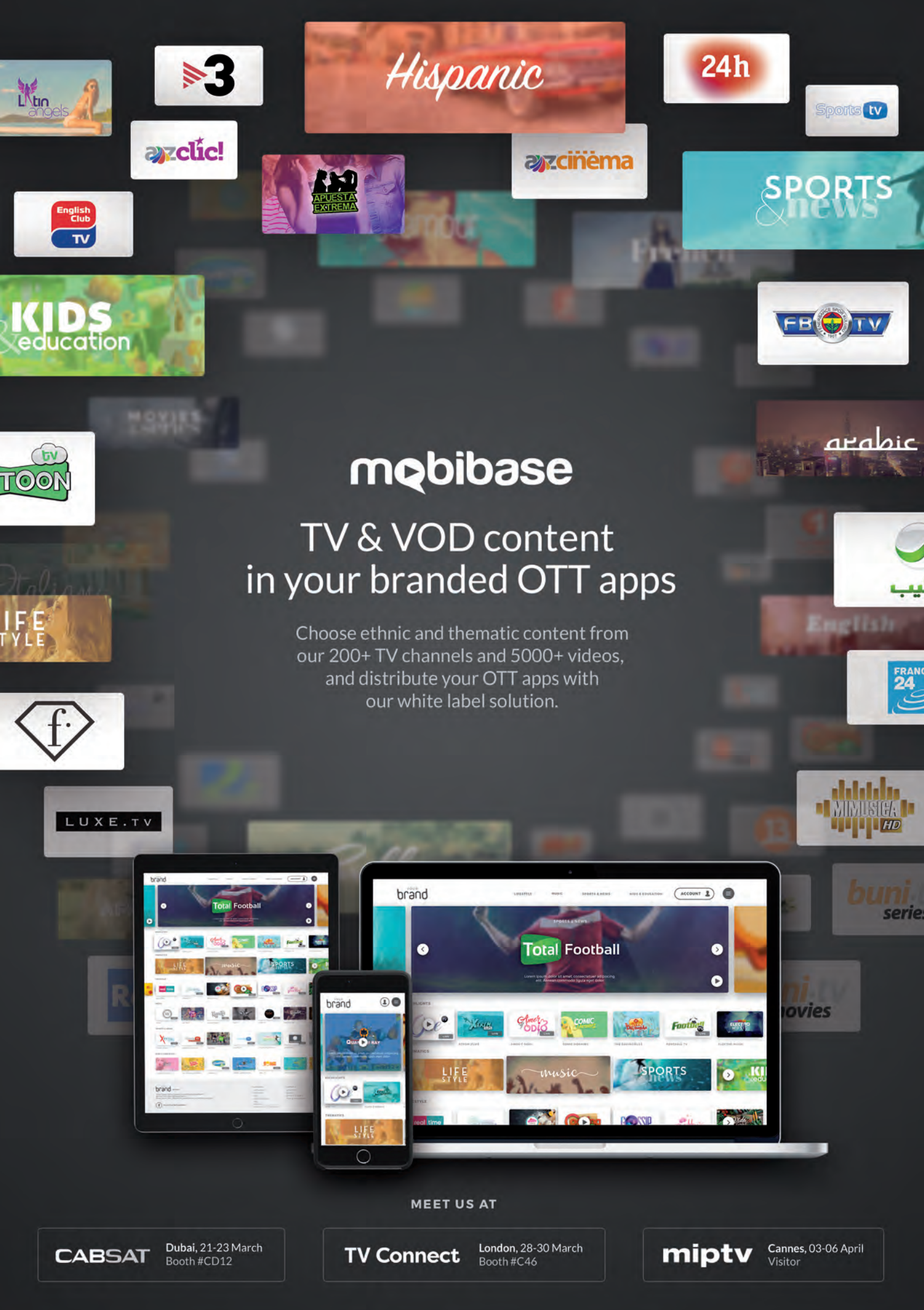
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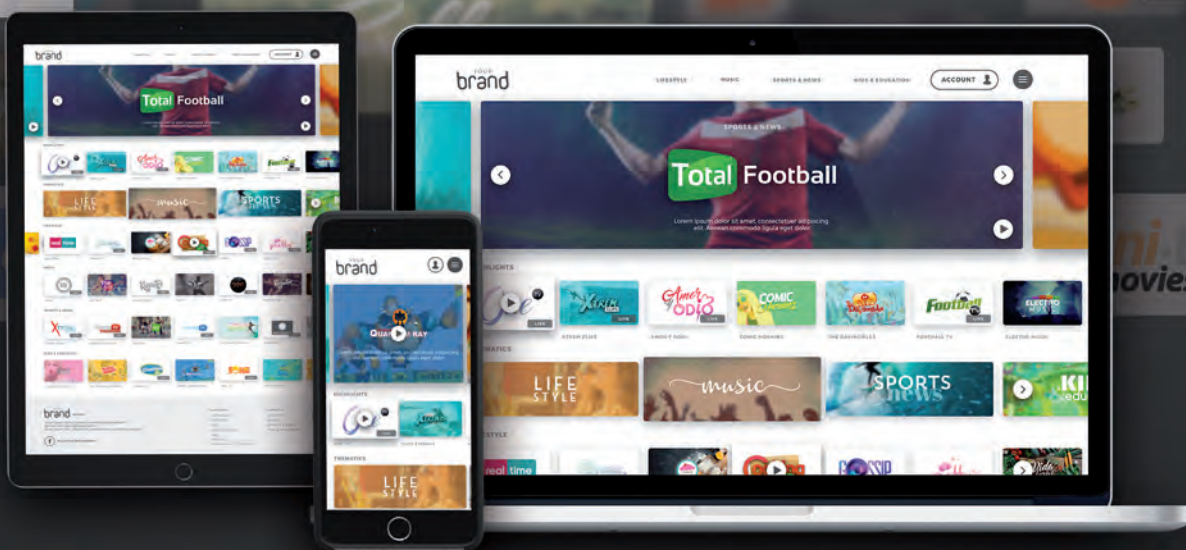




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Q&A: Vincent Roger, CEO, Mobibase

Mobibase CEO Vincent Roger talks about the market for OTT TV services for ethnic groups and the flexibility of the white-label model.

What would you identify as the top three factors that will have the biggest impact on the TV business globally over the next few years?

Moving from broadcast to IPTV is one key factor. The future TV experience is multi-platform. Today people watch videos across all their connected devices. Their favourite channels, viewing behaviour and subscriptions, all need to be portable – in the cloud, on a mobile device, or on a tablet.

The second thing is what we could call application-based TV. Linear TV has to be delivered through apps. The producers themselves are already developing their own apps for different stores. These could be mega-stores like iOS and Google, but there are also pay TV services with their own stores.

The third factor is content. The OTT revolution means that producers can be distributors. You can market your own content, and this means you now see a very strong push on ethnic and niche content. For example, there are many people from Africa in France that would like to watch content from their original country through African TV channels.

Community is becoming a very strong word in TV industry. In the US, there are eight million French-speaking people and there is no dedicated service for this community. The relevant content should be available for this target audience.

Mobibase is a 15 year-old content company. Now, more than ever, we are focusing on linear and on-demand content for specific communities. We can address various communities around the world via operators that require rights-cleared packages. For example, a major telecommunications provider asked us to develop a Hispanic package, and we cleared the rights and distributed that to them. We also supply top European operators with TV apps, and for most of our clients we provide multiscreen applications.

How significant is the market for OTT services targeted at migrant and expatriate groups globally and how fast do you expect it to grow?

I believe this is the key driver in the TV market growth today. All around the world the demand for pay TV services is becoming satiated. All of the key players have over 500 channels. It is difficult for operators to find avenues for growth. The only way to build value and get the customer to pay more is to reach out and serve their basic needs.

This could mean building offerings dedicated to watch local telenovelas from Latin America, to learn English or French languages in China, to get news on niche or extreme sports, to offer travel documentaries on specific subjects, or even to receive luxury offers for yachts, properties, cars and wine. This is how OTT services could generate new revenues.

What types of services and content are migrant and expatriate users looking for primarily and what do content providers need to do to maximise the opportunity?

The first thing is to be able to play globally. You may want to take channels to Latin America or from Latin America to Spain. You may be able to adapt linear streams to different markets according to the rights you hold or the languages you support, or instead of bringing linear channels, you could bring video-on-demand with content which will focus on international and local perspective of any kind of users' interests such as sports, lifestyle, kids or education.

Content providers have been slow to embrace all this, but often their content is already available through piracy. It can be extremely challenging to develop flexible, legitimate services. But that is what we have been doing by helping rights-holders distribute their content internationally. For example, we worked with a channel provider in Spain to help them build international content revenues, and they have been very flexible in getting the right content cleared for the right countries.

You also need a workable business model. We believe revenue share will be the main model for ethnic and niche OTT services.

To what extent are OTT TV service providers looking to white label solutions – including both the technical platform and content aggregation – and what advantages does this bring for them?

It is not difficult to stream or encode a channel, but it is difficult to achieve 100% perfect video quality. We have developed a global white-label offering, from which we can launch high-quality services in a few weeks or even days, if needed. The key is to have cutting-edge streaming technology and to be able to launch OTT solutions fast. In the past, we needed almost a year to get something launched but now companies want to launch their OTT apps in only a few weeks.

How has Mobibase adapted its business to address the changing needs of the market?

With people migrating and looking for ethnic content from their original country, Mobibase integrated in its content offer ethnic TV and VOD packages for diaspora communities from all around the world – packages such as Hispanic, Arabic, African, English, Turkish, Italian, French, Caribbean and more.

Also, with the boom in OTT and apps stores, we adapted our business by shifting to a multi-device approach. Mobibase is now working on several projects with major operators and OTT providers from Europe, Latin America and Middle East in order to deliver a full experience approach: content licensing and integration paired with multiscreen apps on web, Android, iOS and more.

UAE

IPTV > MBC+ Ooredoo

UAE-based MBC Group and Qatar-based telco Ooredoo have launched the new MBC+ Ooredoo Channel for Ooredoo TV subscribers. MBC+ Ooredoo will air a selection of MBC's best Arabic content and is available to Ooredoo customers on channel 180. The new launch is part of a multi-year memorandum of understanding signed between Ooredoo and MBC Group last year, which gave Ooredoo exclusive rights to some of MBC's HD channels in Qatar. The channel's launch event was held on Sunday in The Museum of Islamic Art in Doha and was attended by Ooredoo Qatar CEO Waleed Al Sayed, MBC Group CEO Sam Barnett and a host of MBC talent.

UK

PROG > BBC Scotland

The BBC is to invest £19 million (€22 million) in creating a new TV channel for Scotland and will up its spending on Scottish programming by about £20 million a year as part of a new programme of investment in the UK's devolved nations. Following a review of programming and services, the BBC has said it will recognise the need to spend more of the licence fee raised in Scotland and Scottish content and services. The new channel, BBC Scotland, will air from 19:00 each day and will include an hour-long news programme at 21:00 on weekdays, edited and presented from Scotland. The pubcaster said it would create about 80 new journalist posts to staff the service.

Together with existing funding the channel will have an initial budget of £30 million.

PROG > ITV's Brexit blues

The outlook for ITV has deteriorated as advertisers pull back on spending amid anxiety about Brexit, according to analysts at Berenberg. The analysts said that spot advertising net revenue for ITV looks set to fall by 8% in Q1, down from an earlier prognosis of a 3-4% decline. "Despite bullish headlines about how the UK is faring after the Brexit decision, it seems advertisers, particularly retail and food, are pulling back spend in anticipation of tightened consumer budgets and margin squeeze related to inflation on cost of goods sold," said Berenberg. The analysts maintained their negative 5% forecast for the full year, argu-

ing that this is a "realistic, possibly optimistic" view, with consumer spending likely to "become more muted as inflation rises and the reality of Brexit sets in".

PROG > Rights partnership

Various UK rights associations have partnered with search engines Google and Bing in a government-backed attempt to crack down on internet piracy. The UK initiative will see sites dedicated to copyright-infringing content demoted in internet search results, while sites offering legal content will be easily accessible. The new voluntary code of practise was agreed between the two leading search engines and music body the BPI, the Motion Picture Association, and the Alliance for Intellectual Property, which represents a range of rights holders.

Sky moves beyond the dish with OTT TV plans

By Andy McDonald

Sky has unveiled plans to launch Sky TV over broadband in the UK and other European markets, marking the first time it will offer its full television offering without the need for a satellite dish.

Sky said its Sky Q service will be available over IP, via a set-top box, from next year, opening up the service to "millions of homes" in the UK that are currently unable to install a dish.

The move marks Sky's latest move into over-the-top delivery, following the launch of Now TV in 2012 – a flexible service that was targeted at customers that would not otherwise pay for a Sky subscription.

Sky UK's chief executive Stephen van Rooyen said: "This year is about giving our customers even more quality, choice and value."

The news came as Sky announced its results for the six months ending December 31. For the period Sky said it added 500,000 new customers across all its markets – the UK and Ireland, Germany and Austria and Italy. This took its total retail customer figure to 22.3 million – 12.65 million in the UK and Ireland, 4.86 million in Germany and Austria and 4.81 million in Italy.

Revenue was up 6% on a constant currency basis to £6.41 billion (€6.1 billion) but operating profit was down due to "significantly higher programming costs" – particularly relating to top-flight English football.

"Our first half operating profit of £679 million is down £65 million on the prior year despite absorbing an additional £314 million of Premier League costs, highlighting the strength of our underlying financial perfor-



Darroch: Italian and German launches will follow that in the UK.

mance," said Sky CEO Jeremy Darroch.

IHS Technology senior principal analyst Ted Hall warned that Sky's impressive results included some "notable caveats", pointing out that Premier League costs in the UK lowered operating profits by 9% across the group and by 18% in the UK and Ireland.

"Keeping content costs down is a priority for Sky, highlighted by its carriage-fee dispute with long-time channel partner Discovery, which could see key factual channels and Eurosport disappear from Sky TV and Now TV on 1 February."

In the UK, Sky increased returns on its box investment by making the Sky Q box standard for all UK customers, with around 25% of new customers currently choosing to pay for additional Sky Q functionality.

"Our plans to roll out Sky Q to our other markets are also on track," said Sky, which introduced the service in the UK and Ireland last February.

Sky also plans to offer internet-delivered versions of its TV service in its other European markets. Speaking on the company's earnings call, Darroch said that, over time, it aimed to reach and address an estimated six million customers across its European footprint that do not have a satellite dish.

Darroch said that Italy and Germany launches will closely follow Sky's planned 2018 debut for the satellite-free service in the UK.



Q&A: Tor Helge Kristiansen, Conax

Tor Helge Kristiansen, EVP principal architect, Conax, talks about revenue protection, the rise of OTT TV and providing content security as a service

How can content security solutions help deliver positive revenue benefits to TV operators as well as protecting their content?

Comprehensive content protection security is still the most important element in ensuring healthy revenue streams for pay TV operators. The ability to collect payment from consumers accessing services and eliminating non-paying consumers' access to content or service is vital. To satisfy the growing demands of content and device-savvy consumers, the availability of good platform DRM clients limits the necessary investment on the device side; however it is increasingly important to invest in strong, scalable security back-end solutions to cope with the complexity of addressing multiple devices with multiple DRM options. There are an increasing number of secure and flexible solutions available from experienced security providers such as Conax that enable operators of varying levels of resources to start a secure and more advanced services operation and simultaneously satisfy the growing demands of your content and device-savvy consumers.

How can developments in content security such as the use of cloud-based technology help service providers deliver their business goals? What impact is the use of the cloud having on content security in general?

Today's operators need to embrace a competitive business model that provides flexible consumer services, while securing valuable content revenue base. Cloud-based technologies and services are aimed at providing operators with a sustainable growth model through low CAPEX and outsourced operations, while at the same time providing the ultimate flexibility in trying out new service offerings and business models. Thus, cloud or serviced-based offerings (SaaS) are becoming increasingly interesting for pay TV operations for a variety of platform functions as they offer reduce cost base and competence, making it easier to stay competitive in a highly competitive marketplace.

The cloud is providing a positive impact on content security, enabling operators to outsource security competence, reduce hardware and provide rapid launch of new features and upgrades.

What impact is the extension of TV operators' services towards OTT services and multiscreen app-based delivery having on their content security requirements?

As open consumer devices are increasingly vertically integrated into vendor ecosystems, they also come with pre-embedded platform DRMs such as Widevine, PlayReady and FairPlay Streaming. Deeply integrated into the devices with decent security levels, they provide operators with a good means for securely delivering OTT content to these devices. It does however force operators into using multiple DRM systems in their back-end systems, creating significant complexity in the overall security management of the system when ensuring customers are able to view

content in and out of the home.

When using platform DRMs, the operator has little to no control of the security level of each device being used and platform DRM options differ in terms of the business features offered making it harder for operators to set up consistent service across a multitude of devices. Since the number of attack points in these complex ecosystems is increasing, it is very important to invest in a security solution that ensures holistic protection of the both the content and the service.

What specific content security requirements to service providers in emerging markets such as India and Latin America have and what types of solution are best suited to their needs?

There are different kinds of threats to content and piracy in different regions. The biggest security challenge for pay TV service providers in emerging markets is the sharing of cards and content keys. In regions that are predominantly satellite there will be higher security exposure than other networks. It is also interconnected, making it more likely that if a hacker breaches one region then they will also get access to the rest of the continent.

At Conax we emphasise the importance of working with a strong security partner that can help operators secure the entire value chain by the use of separation technology, security evaluations, security audits, anti-piracy services and security guidance for device vendors. Operators should be aware of the various attacks on STBs and aim at building very strong security architecture by researching and utilising new security mechanisms and securing all available devices.

To what extent are TV service providers looking to service-based offerings from content security providers and what impact does this have on their business and on Conax?

Service-based offerings are becoming increasingly interesting for pay TV operations for a variety of platform technologies. Off-site services for technologies outside an operators' key competence enable reduced operational complexity, hardware and cost base necessary to stay competitive in the broadcast and OTT arenas.

For Conax, this transition is a key part of our strategy. In 2016, we deployed the Contego-as-a-Service (CaaS) cloud-based service platform, positioning Conax to tap additional growth in the global market while continuing our focus on providing out-of-the box, lean, flexible and scalable solutions. Our aim is offering a highly secure service – hosted, monitored and maintained by Conax – that supports DVB, IPTV and OTT content delivery, all major DRM technologies, and premium 4K and UHD content. We are providing pay TV operators with a sustainable growth model through low CAPEX, reduced complexity and fast-time-to-market for launching new features.



Introducing the GIGAWorld

**Liberty Global CEO
Mike Fries explains
his vision for the
rapidly approaching
'GIGAWorld' and
why it will change
your life.**

Imagine a world where your running shoes report back to you on how many miles you've clocked. A world where a home buyer can view properties through a virtual reality headset without having to set foot inside. A world where hologram teachers get beamed into your living room to teach you or your children from the comfort of your own home.

This is what we call the GIGAWorld – where these applications and innovations are supported by networks like the ones we operate throughout Europe that are capable of delivering gigabit per second speeds to every household and business. And it's closer than you think. According to a research project we've commissioned from Arthur D Little, more than seven in ten telco industry experts believe that these next-generation applications will be commonplace in just five years.

Across Europe, we already have more than 50 million GIGAReady homes capable of being upgraded to gigabit speeds with minimal cost – and we're investing billions to extend our networks to millions more homes over the coming years.

We're doing this because we've already seen that the world is moving beyond simply connecting people – to one where connectivity is always on. Computers, smartphones, tablets and wearables have become a critical and irreplaceable component of life, work and play.

But without the superfast speeds provided by fibre-rich networks such as ours, they can only do so much – like having the latest state-of-the-art smartphone, but only being able to use it in airplane mode.

The proliferation of next-generation devices and applications is set to fuel even

greater demand. The creativity demonstrated in the development of these technologies and services is awe-inspiring – from smart home appliances to virtual and augmented reality, massive data analytics and artificial intelligence.

And it's a market that's going to get a lot bigger, quickly. According to Ovum, the value of the global smart home market alone is expected to rise from US\$12.6 billion (€12 billion) to US\$76 billion between 2015 and 2020. We're well prepared for this skyrocketing demand, thanks to our role as investors and innovators in our state-of-the-art networks across Europe, Latin America and the Caribbean, empowering tens of millions of people through superfast broadband and innovative TV products.

But speed is not enough. Customer experience and technical performance are

critical, which is why quality of service is the other key component of our GIGAWorld vision.

We know that people want powerful experiences that are effortless to access. In the UK, for instance, we've seen how 800,000 of our video customers who access the Netflix app built into our Virgin Media box watch more television, churn less and are happier subscribers.

So what does this tell us we need to do? It's straightforward: keep it simple and seamless.

To improve customer experience, we offer the right content, at the right time, in the right format and at the right price point. We do this by partnering with creators, investing in content companies and producing our own content. We also make full use of our scale and bundle services.

To improve technical performance, we're thinking outside the box – quite literally – to solve connectivity problems that are traditionally beyond our scope of broadband. WiFi, for instance, is a common pain point. So, we are developing technologies that make WiFi work better, inside and outside the

home. One of our innovations automatically connects customer devices to the best channel and bandwidth for optimal performance and a seamless experience. Another uses publicly available property data to help troubleshoot architecture-related issues to connectivity.

to develop disruptive technologies.

Collaboration improves customer experience. Integrated programmes, platforms and processes manage complexity behind the scenes. So, customers can just sit back and enjoy the show.

“We've already seen that the world is moving beyond simply connecting people to one where connectivity is always on.”

We're even harnessing the power of big data to predict and fix problems before they arise. And that's because if you want to set the pace in a GIGAWorld, collaboration is key.

Collaboration adds agility. We have small, interactive teams that work with vendors to bring leading products and services to market. The result: some incremental improvements now take four to six weeks to develop, not 12-18 months.

Collaboration fuels innovation. We work with start-ups, venture partners and academia

As a pioneer of the digital age, Liberty Global has become indispensable to millions of customers. We're proud to support the smartphones and social media that connect them, the entertainment that inspires them and the apps that help them manage everyday life. ●

Mike Fries is due to close day one of Cable Congress with a keynote interview hosted by CNBC anchor Carolin Roth. He is scheduled to speak there at 17:25 on March 8, 2017.

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Altice Labs' general manager, Alcino Lavrador, discusses IP delivery, the advent of 5G and unpicks some of the biggest technical challenges facing the TV industry today.

Altice Labs: age of opportunity



What television or broadcast projects are currently occupying most of Altice Labs' time?

At Altice we want to offer the best and most unique user experience to our television customers. For that, Altice Labs is working on an "Altice User Experience" supported over a unified platform for all access networks: FTTH, Cable, xDSL, Wi-Fi, 3G/4G. This means, among others, and not to mention the technological challenges of merging platforms, presenting content in a more thematic way, less siloed in channels. On the mobility side, our efforts are to bring more and more functionalities previously restricted to fixed-access IPTV, namely better personalisation and seamless continuity between platforms.

What do you think are the biggest technological challenges facing the TV industry in 2017?

Customers today want to watch TV not only on the big screen but also on the move and on more and more portable devices, even at home and simultaneously. So, WiFi delivery inside the home, supporting multiple streams with the same quality that the customers are used to, is probably the biggest challenge. To deliver 4K TV consistently over

WiFi is no small feat today. 802.11ac with 4x4 and mesh extenders will help and will have a big push in 2017, but compatibility issues with existing STBs will come up. In addition we will see growth in data mining and analytics about customer behaviour – aiming at a better personalised offering and also a new revenue stream for advertising. Not least, as digital content availability is growing exponentially, new and easier ways to discover real-time and stored content must appear in order to enhance the customer experience.

How useful is full duplex DOCSIS 3.1 for maximising cable bandwidth and what technology or technologies will come after that?

Full duplex DOCSIS 3.1 and other such evolutions for cable can represent additional tools in our toolbox for delivering the best possible bandwidth to our customers as a very efficient value-for-money proposition. It's possible that it will be used in some places, and in other places maybe GPON is a better solution. Or we could keep the cable plant as it is or with small improvements and just do a selective subscriber migration, putting the most eager customers on FTTH/

GPON, which leaves more bandwidth for the remaining ones. We need to remember that FDX DOCSIS 3.1 comes at a price, with added complexity, without MPEG-TS Video and an all new silicon solution required. At Altice Labs we are working on NGPON2, developing our own equipment and technology, because we believe this will be the future for next-generation access networks.

What challenges will arise from the greater move towards IP delivery of content?

At Altice Labs we don't see this move as a set of challenges but more as a new opportunity. In Portugal we have, for a long time, had a full IPTV solution in place and we think that IP delivery of content is a significant improvement. For instance, as a multinational group, Altice can leverage our data networks in completely different geographies to allow us to produce content in one place, complement it in another, and deliver it to all the group operators. To do that in a non-IP network can be a nightmare, but with IP it just leverages our existing infrastructure, knowledge and investment. Most cable operators are already using IP delivery of content as the back-end for QAM muxes, for VOD or catch-up TV, so most times you just remove the QAM muxes. You need a correctly dimensioned CDN. However, you should have it in place anyway since most of the growth in consumption is in on-demand and is happening in additional devices that are already IP-only.

How important do you think 5G will be to the future of TV, as viewers increasingly stream content on the move and to different devices?

Although the big screen TV will continue to be a staple of our day to day life, and people still want to see the hottest content on the biggest screen, there is no doubt that personal and mobile video consumption will continue to grow. 5G will have an important role in that respect. According to research, by 2020, more than half of all mobile traffic will be video. People are watching it on small and not so small screens with increased resolutions, some with 2K and 4K screens, so video quality really matters. What also matters is latency and buffering time, all areas where 5G promises to improve the customer experience. We also expect that in the future, people will increasingly broadcast self-produced content as has been demonstrated by trends like Periscope, Facebook Live and YouTube Live. 5G will allow for this kind of experience in crowded spaces, like music festivals, where today's technologies have a huge challenge. These are only a couple of examples. We expect new use cases in line with the increasing digitisation of our society enabled by current 3G/4G with services like Uber and other digital platform-based services.

Do you think traditional over-the-air broadcast will eventually become obsolete? If so, how long until that will happen?

If you're talking about DTT, yes I think that it will become obsolete. The main reason is that these frequencies are a prime asset for telecommunications and there will be a point in time that people will place more value on this spectrum being used for 'mobile data' than for broadcast TV. People will get all the TV they want as 'mobile data' anyway. It will take some time but it will happen.

What do you think about the long-term viability of DTH satellite TV as a mass-market delivery mechanism?

I don't believe that DTH will go away anytime soon. It's a completely different proposition than DTT, there are countries like Brazil that have a massive area with people scattered all over the place that will only be able to get broad, good quality content this way. In these countries it will still be a mass-market proposition. In other countries, like in Europe, it will be used more as a complementary solution for places that the fixed network will not reach. Even the foreseen 5G will not be suitable as an alternative to deliver 4K, 8K or whatever resolution we will have at that time. DTH will always be able to solve this.

How does Altice Labs divide its efforts between its teams in Portugal, the US, France, Israel, Brazil. Do you all have different remits and responsibilities?

We try to take advantage of what is being done better in each geography avoiding overlap and duplication of work. If we have a good application developed in France, the United States, or whatever geography, we'll try to use it in all the group operations. The origin of Altice Labs dates back to 1950 with over 66 years shaping the telecommunications evolution not only in Portugal but also in all the places where our technology has been deployed. Achievements like mobile prepaid services that we pioneered in 1995 have been of worldwide benefit. Over our 66 years of history, much more could be highlighted, like one of the first commercial interactive cable TV service in 2001. More recently, in August 2015, we did a field trial of NGPON2 technology with Verizon, the first with tuneable optics offering symmetrical broadband speeds of up to 10 Gbps, with the potential to go even higher – up to 40 or even 80Gbps in the near future. An existing innovation ecosystem in Portugal, supported by strong partnerships with universities, industry and startups, and complemented with R&D collaboration projects under European Union Framework Programmes like H2020, enables a continuous flow of innovation. This is feeding the process of developing new and advanced products that are being deployed in over 40 countries in the world, not just in Altice's geographies. We do not simply follow the technological evolutions; we are part of them!

What are Altice Labs' key aims for the year ahead?

The first objective is to support Altice's aggressive expansion providing state-of-the-art technology enabling a clear differentiation to competitors. Besides being an R&D lab, we have a solid product orientation strategy with a market positioning and growth ambition. We believe we are a key factor that can help turn Altice into the most innovative CSP in the world. We are committed to evolving our products for the most efficiency practices, incorporating the results from R&D exploratory projects in network architectures – like SDN and NFV for our product lines of network systems, OSS, convergent charging and policy platforms, and TV solutions. Of course, maintaining the creativity culture that has been in our DNA for years, in parallel with the committed and quality delivery of solutions to the market, is the main challenge in a fast-paced industry. ●

Alcino Lavrador will speak on the 'Fostering Innovation' panel at Cable Congress at 16:45 on March 8, 2017. For more exclusive Cable Congress interviews visit: DigitalTVEurope.net.

SECURING THE CONNECTED FUTURE



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Q&A: Steve Christian, Verimatrix

Steve Christian, SVP of marketing, Verimatrix discusses how TV operators and content companies can use data analytics to grow their business

What are the key opportunities and challenges that TV operators and content companies face in using data to improve their services, operations and business in general?

Increasing instrumentation of video service delivery and the intense analysis of the vast streams of data created by such sources is going to be a continuing theme for the next-generation operator. The driver behind these trends is the increasingly competitive environment for consumer attention – and the way in which analytics in various different dimensions helps operators evolve and grow their services.

Data creates opportunities both for real-time adaptive functions, such as recommendations, and supports longer-term planning in marketing and service development.

Data analytics also has great potential for revenue generation through advanced advertising, to match general audience data with third-party databases. In one real example, buyers of smart watches were found to be much more likely to watch TV late after midnight than the average viewer. This allowed operators to make money selling such late-night slots by pitching at smart watch advertisers, who in turn could target their audience without having to buy even more expensive prime-time spots.

There are also challenges, notably privacy, security and complexity of integration. As operators and others are looking to harness data, regulations are coming into force all over the world extending rights over privacy. In the European Union, the General Data Protection Regulation (GDPR) will come into force in May 2018, giving greater control over their personal data, with restrictions over data export.

What do TV operators and content providers need to think about when securing and using subscriber and viewing data they collect, and what are the main threats?

Beyond compliance with privacy regulations, operators need to be concerned about the integrity of source data collected, which can be compromised in a number of different ways. For example, it can include fraudulent data (i.e. emanating from a cloned or un-authenticated device), it can be corrupted or misappropriated on its way back to an operator's data warehouse, or – once stored at a central point – that storage facility can be hacked. The source data also needs to be protected in transit by encrypting the data itself that is transmitted across an encrypted channel.

Essentially operators need a revenue security solution that can gather data, keep it secure, route it to where it needs to be, and securely expose it to analytics systems owned by a media company or their trusted partners.

What measures should companies ideally put in place to securely store and manage personal data?

Start with an organisational asset management of the collected data. Operators should think about how they can break down departmental

silos, while still enforcing rules and roles on how data can be used and shared within an organisation. They need to define use-cases for data analytics and develop an 'entitlement-mapping' process, as well as a detailed data policy that is enforced internally and communicated with subscribers clearly.

Operators need to be mindful that subscribers must be convinced that this data is secure and be persuaded that they will gain value by allowing their service provider to access it. This involves providing customers with clear evidence of the benefits they will obtain by complying.

What impact will European privacy legislation have on the way TV companies use and manage data?

The GDPR impacts operators in several key ways:

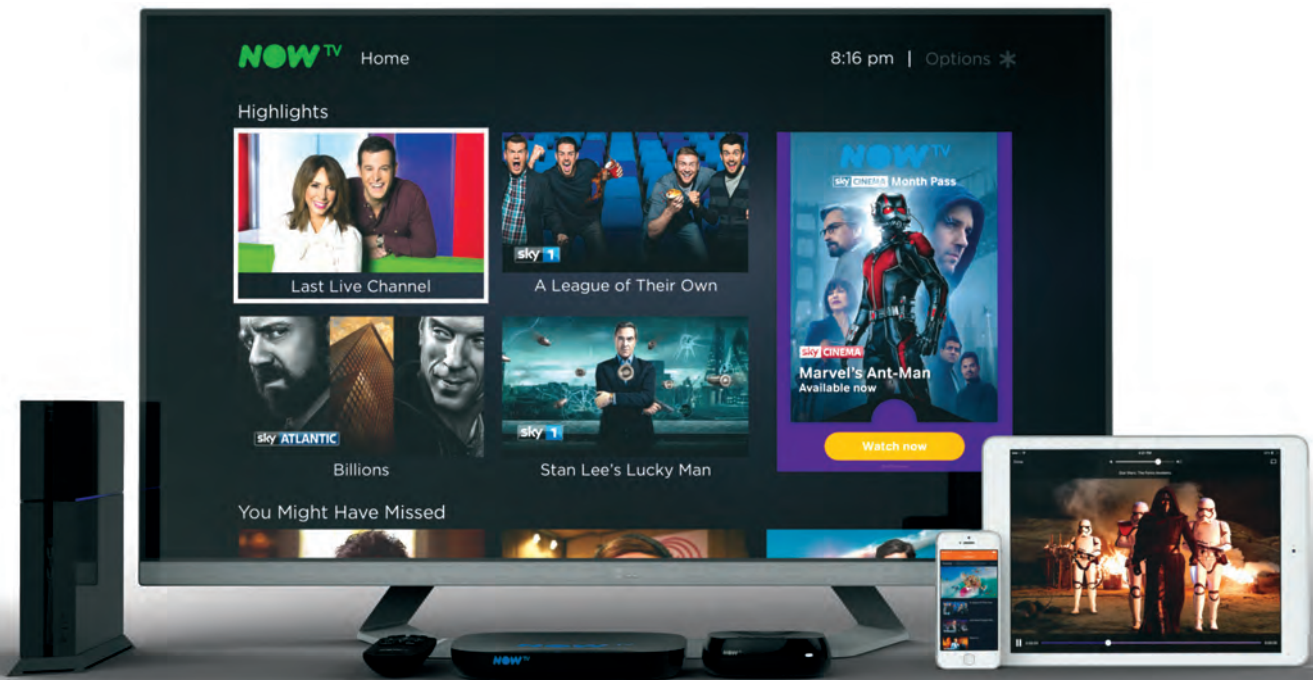
- Companies must obtain informed consent from all consumers to collect data, including verification that minors have the consent of their parent or custodian.
- Consumers can withdraw consent and erase collected data at any time (i.e., the right to be forgotten).
- Companies cannot export data outside the EU to systems that do not meet GDPR standards.
- Companies must establish a Data Protection Officer (DPO) who reports on the company's security systems.

Verimatrix has commissioned a survey of global operators to gain insight on how they are preparing to be compliant with GDPR, along with other regulations and best practices in data protection, which will be released soon.

What additional security considerations do service providers need to bear in mind as smart home services become more widely adopted?

Operators need to be aware of the new threats posed by large numbers of smart home devices, such as organised distributed denial of service (DDoS) that can be mounted from botnets of IoT devices such as Wi-Fi routers, IP video surveillance cameras and even connected domestic appliances.

Operators also need to recognise the smart home security field is still at an early stage, with several important issues to resolve, such as financing of IoT security, given the low cost of the devices themselves and unclear revenues models for IoT services. It is likely that governments are going to mandate a certain level of security and certification, while consumers themselves will start to be concerned if, as seems possible, they could be deemed liable for attacks on third parties from, say, botnets in which their devices played a part. IoT service providers might then come under pressure to assume responsibility for such breaches. Verimatrix and other providers of content security will ensure they have the technology and skills to help their operator customers address these issues.



The rise of the skinny bundle

The US is experiencing an influx of slimmed-down, OTT-delivered cable offerings. But how is this trend affecting the pay TV industry and does this latest development translate over to the European market? Andy Fry reports.

For decades, the global pay TV business has been dominated by cable and satellite platforms offering large bundles of thematic channels. But the arrival of SVOD services like Netflix, Hulu and Amazon was the first indication that the traditional way of packaging content might be under threat. Now more upheaval in the pay TV market could be on the horizon thanks to the introduction of so-called 'skinny bundles'.

As the name suggests, skinny bundles are services that offer a lower number of channels than a traditional pay TV platform at a reduced price. Streamed over the internet,

they are targeted at people who are unhappy paying for hundreds of channels they never watch but feel that on-demand services like Netflix don't provide a sufficiently rounded TV entertainment experience.

The existence of this middle ground is evident in research data. In October 2016, for example, a survey from US strategic consultancy Activate reported that 61% of people without pay TV gave their reasons for not subscribing as "not worth the money", "can't afford it" or "too many channels". At the other end of the spectrum, GfK has found that those without pay TV, typically younger

audiences, miss the buzz of live sport and the ability to channel surf. GfK senior vice-president of consumer insights and trends, Karen Ramsbacher told *DTVE* that: "There is interest among younger audiences in skinny bundles, though it depends of course on what channels are included in the package on offer."

Right now, the market that best encapsulates the skinny bundle debate is the US – where a number of companies have already launched new services or are about to do so. First into the fray were Sony's PlayStation Vue and Sling TV, a low-cost offering from DTH pay TV operator Dish that already has around one

Now TV (left) offers UK viewers a contract-free way to access Sky channels and content.

million customers. Coming soon is a skinny bundle offering from Hulu – with Apple, Amazon and YouTube also circling the sector. Also significant is DirecTV's new skinny bundle offering, DirecTV Now, which joined the market in late 2016.

There are two keys reason why all of this is happening now in the US. The first is that broadband is fast enough and widely penetrated enough to make the delivery of multiple channels via OTT a viable proposition. The second is that there is a meaningful gap to aim at. Services like Netflix are typically sub-US\$10 per-month, while traditional cable pay TV packages often run to more than US\$100 when the cost of set-top box rental is included.

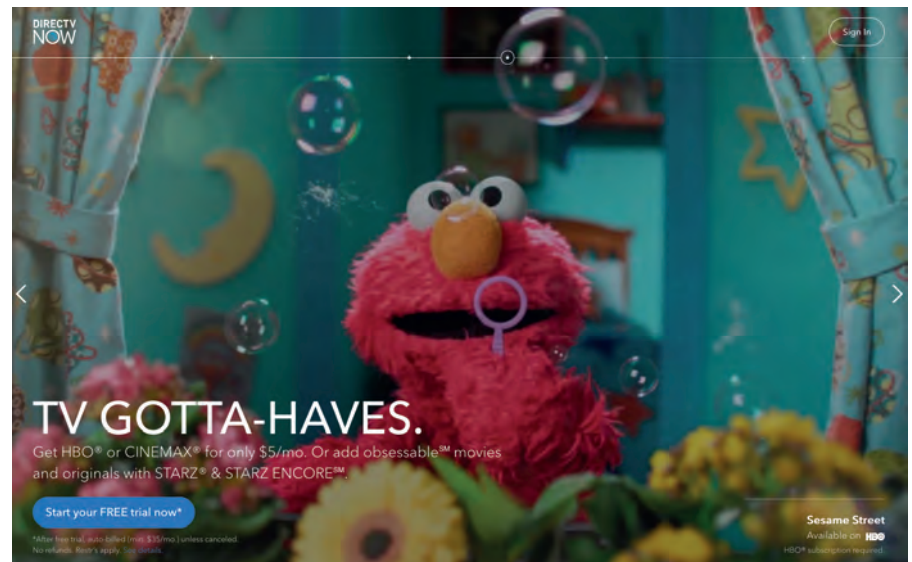
Underlining the point, Sling TV's offering starts at US\$20 (€19) per-month for a bundle of around 30 live TV channels, including A&E, AMC, ESPN, History Channel and Disney Channel. The highest price Sling TV goes up to is US\$40 per-month, which is still a significant discount against what legacy pay TV packages cost in the US. It's a similar story with Hulu's planned package. Speaking at the Consumer Electronics Show in Las Vegas in January, Hulu CEO Mike Hopkins said the company's proposed service will cost under US\$40 per month and will include its existing US\$8 SVOD package. Deals have been done with pay TV channel operators such as Walt Disney, 21st Century Fox, Time Warner's Turner and CBS.

a bundle of 100 live channels for US\$35 per month through DirecTV Now. Leaving aside the fact that AT&T is a massive telco, the company already has around 25 million pay TV subscribers. It is also in the midst of acquiring one of the world's biggest content factories, Time Warner, for US\$85 billion. In *Star Wars* terminology, then, it is more akin to the Empire than the Resistance.

AT&T's move is especially interesting because its new competitively-priced skinny bundle significantly undercuts DirecTV's classic offering, which starts with an US\$88 monthly fee for an entry-level of 145-plus channels. This looks like an open invitation for DirecTV's existing subscribers to churn out of their expensive packages. But the company's CEO Randall Stephenson appears unruffled. Speaking at a *Wall Street Journal*-hosted conference recently, he said: "This is

the most exciting thing I've been a part of in a long time, and I can't wait. I border on the evangelical about it." Shrugging off the threat to legacy revenues, he said cannibalisation just means that "you've found something the market really, really wants."

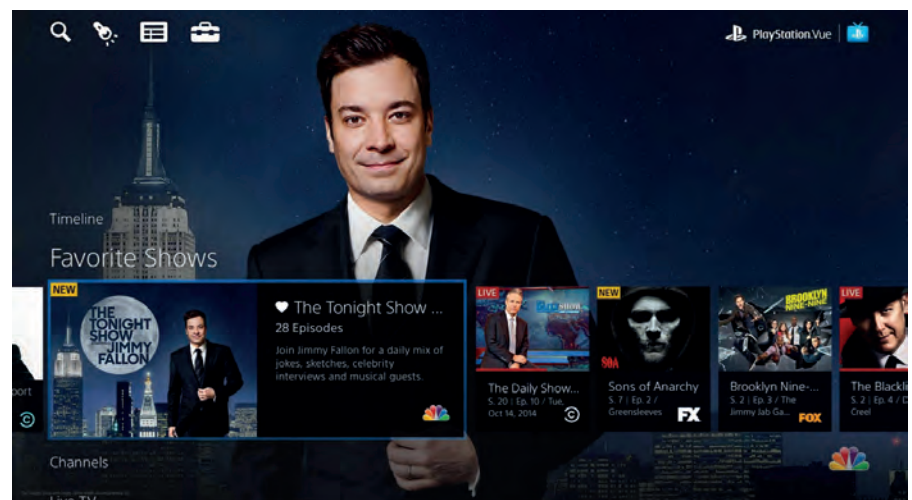
The US market's major cable players aren't oblivious to what it happening either. While Comcast has an indirect stake in Hulu, it is also making changes to its own core offerings that speak to the consumer desire for flexibility and choice. It has started offering a range of different options – some of which are lower cost and some of which introduce new elements – such as access to Netflix. It is also now retailing some services via a partnership with Amazon. What all of this means for the US market is not yet clear. But analysts tend to take the view that the incumbents are likely to weather the storm: "The US pay TV



Incumbent experiments

As with SVOD, the skinny bundle play is a potentially disruptive innovation. But it would be wrong to assume that 'disruptors' are going to win the battle for consumers. Sling TV belongs to an established DTH operator while Hulu's shareholders are NBC Universal, Fox Entertainment, Disney-ABC and Turner. NBCU, which owns 30% of Hulu, is itself a subsidiary of leading US cable operator Comcast. AT&T-owned DTH platform DirecTV underlines this further by offering

DirecTV Now (top) and Sony PS Vue (right) are each offering IP-powered bundles of channels in the US.



sector is on the cusp of a transformation,” says Ampere Analysis research director Guy Bisson. “But I think we’re looking at an evolution in consumer behaviour rather than a wholesale flight from pay TV. As with SVOD’s cord-cutters, some consumers will be tempted by stand-alone skinny bundles, but many will be persuaded to stay with their existing operators through the integration of new OTT-style services into the programme bundles on offer.”

Some cannibalisation of revenues is inevitable, says Bisson, “but the incumbent players are in a strong position because they have first-hand experience of what consumers want. There’s always a risk that some new disruptive player will blow existing pay TV operators out of the water but they’d have to do something seriously wrong for that to happen.”

Elisabetta Romano, VP and head of media solutions at Ericsson, is positive about the potential for skinny bundles: “They enable pay TV operators to address different market segment opportunities and serve customers that may have cut the cord or never signed up for a pay TV subscription to begin with. The long-term success of these bundles will be determined by whether consumers feel they are getting value for the price point and whether they are economically viable for operators.”

In terms of who will come out on top, she points out that for all of the speculation that a major web player like Apple or Google will launch a skinny pay TV bundle, they have yet to do so. Instead, pay TV operators in the US have launched their own skinny bundle offerings. “This is because large pay

TV operators have the scale and strength to negotiate good carriage contracts with broadcast and cable TV networks, enabling them to launch affordable offerings.”

This pro-incumbent assessment is also evident in Activate’s analysis of the market (see sidebar), and there is further support of it in an annual survey of the media sector by consultancy firm PwC. Published in December, the company’s survey found that increased flexibility on the part of legacy platforms is encouraging consumers to stick with them. For example, the number of US homes opting to keep cable at a lower cost and with fewer channels, cord shaving, jumped to 23% from 18% a year earlier.

“We are not in a monogamous relationship with the consumer anymore. We don’t kid ourselves that we are the only place people go for programming.”

Patrick Danckwardt, Com Hem



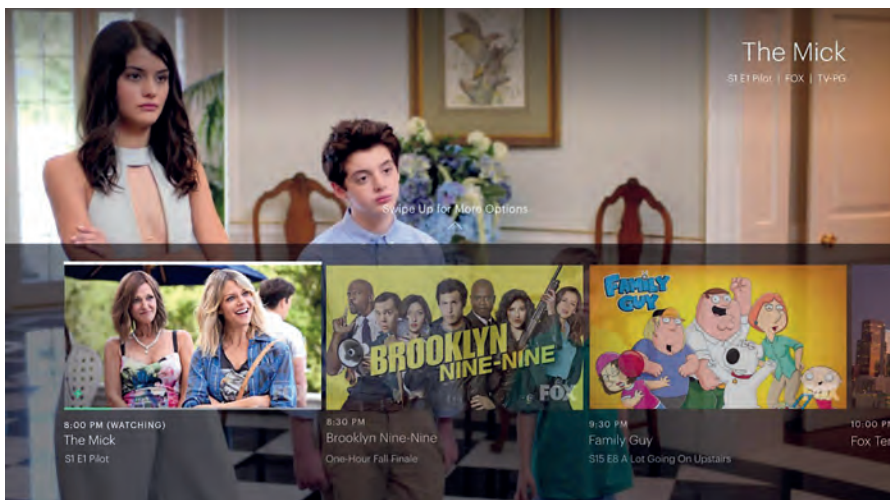
While that shift could be interpreted as bad news, ie less ARPU, it has to be seen alongside PwC’s finding that 84% of people expect to still be subscribing to cable in one year – up from 70% in 2015. The significance of this is that it gives the incumbents more opportunities to lure people into quad-play relationships or acquire top-up subscription and transactional services. Play their cards right and the incumbents could end up making just as much by offering subscription stacks as they do through big bundles – just so as long as they keep hold of customers.

an SVOD service). And third, the incumbents seem to have moved more quickly to plug the gap.

A good example of this is evident in the UK, where Sky’s launch of OTT offering Now TV gives it a suite of services that range in price from a few pounds to £92 (€109). Underling the potential for upselling, Sky reported in its most recent set of results that it secured record transactional sport revenues from Now TV. There are now reports that the company wants to expand the Now TV OTT offering into European markets like Spain where it currently doesn’t have a pay TV foothold.

Scandinavia is another market where leading players have also made pre-emptive strikes to stay ahead of potential competitors. Jonas Karlen is CEO of Viaplay, the OTT sister platform to Modern Times Group’s (MTG) pay TV platform Viasat. He says: “We launched Viaplay in 2011, a year before Netflix arrived the market. I think we were quick to realise that if we didn’t do something, then another company might.” Unlike Sky, which has kept Now TV at arm’s length from its flagship offering, MTG has made a virtue of the relationship between Viasat and

Hulu’s forthcoming live streaming TV service will be priced at under US\$40 per-month.



Viaplay: “Our customers can subscribe to Viaplay as a stand-alone service, but if they subscribe to Viasat they also get Viaplay as part of their package. Our experience has not so much been one of cannibalisation, but of Viaplay’s complementary service winning us subscribers,” says Karlen.

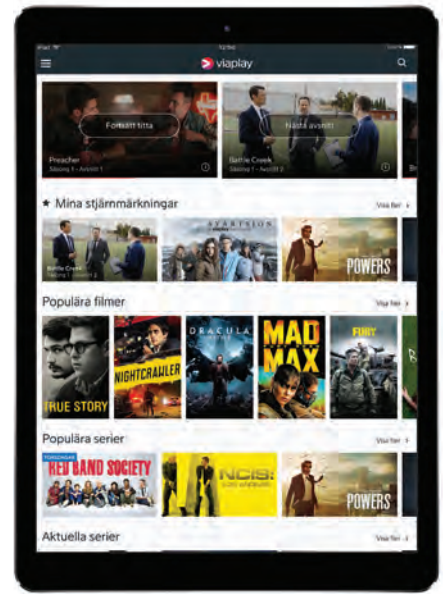
Having said this, Viaplay – which also recently launched into the Baltic region as a companion to Viasat – has been given space to develop a service that is right for its own customers: “The two platforms work together in areas like content acquisition, but in many respects we are independent. That has allowed us to innovate in ways that are right for our customers, without feeling that we have to implement a legacy business model. That’s important in the Nordics, which is such an advanced market in terms of broadband penetration and media usage.”

Control of content rights is one key defence against rival players, says Karlen. Aside from premium sports rights, the platform has been bolstering its position by commissioning original drama and building closer relationships with key content providers. An example of the latter is a recent deal to act as launch partner for streaming service Fox+.

Viaplay, the OTT sister platform to MTC’s pay TV service Viasat, launched in 2011.

Outside of content, “it’s also about making sure you keep relevant,” explains Karlen. “We have a great user interface, a strong TV everywhere proposition and new services like Viafree. The latter is a stand-alone AVOD OTT service which is mainly targeted at the younger end of our audience.” Asked if the Nordics might see a similar scenario to the US, he says: “We already have the SVOD players, but I don’t think there is really a gap for skinny bundles. We have covered most price points with our services and also offer a simplicity that customers like. As long as we are offering good decently-priced programming, I think that is more attractive than trying to build up a series of à la carte services.”

Karlen’s upbeat assessment is echoed by Patrick Danckwardt, head of television at Swedish cable platform Com Hem. “There has been a little bit of a drop in linear viewing in Sweden but overall engagement with video programming has never been higher because of the high penetration of superfast broadband here. For us, the key has been to make sure we offer as wide a range of attractive options to



our consumers as possible.”

Com Hem’s introduction of TiVo in 2013 has been a success, with 38% of the company’s digital TV base now taking the service, says Danckwardt: “We added Netflix to TiVo in 2014 and a TV everywhere service called Com Hem Play last year. That is working well for us because it offers access to a wide range of content across so many different platforms. We also acquired DTT pay TV operator Boxer in 2016. That has been a big success for us in extending our range of channel offerings to users.” Danckwardt says a key part of adapting to the new market is realising “we are not in a monogamous relationship with the consumer anymore. Content is the key driver in the market – so we want to be the main source. But we don’t kid ourselves that we are the only place people go for programming.”

Some observers argue that the emergence of alternatives to the set-top box as the gateway to consumption will create opportunities for OTT players. However Danckwardt says Com Hem’s experience with STBs is a good one, with the adoption of TiVo having had a positive impact on the company’s growth and customer satisfaction levels: “The STB has been declared dead many times, but it’s still a great way to deliver the full pay TV experience. I think Chromecast has done a fantastic job but it wouldn’t be easy to replace the STB-centric model.” Strong revenues of €550 million for 2016 suggest Com hem’s strategy is right. Echoing Karlen, Danckwardt doesn’t see an obvious gap for new players in the Nordics. “I don’t think we have a problem with

Skinny bundle challenges

Strategic consultancy Activate took a deep dive into the potential for disruption in the US pay TV market in its Tech and Media Outlook 2017. It concluded that fears of widespread cord-cutting were “overblown”. One of its arguments was that young consumers are still users of pay TV but often piggyback on other people’s passwords. Once they can no longer access content for free, they will migrate back to pay TV, says Activate.

On the subject of virtual pay TV skinny bundles, it identified Sony, Sling TV, Hulu, DirecTV, YouTube, Amazon and Apple as likely combatants. However it warned that their chances of emulating the pay TV market’s incumbents would depend on how they manage a range of factors including: efficient customer acquisition, quality programmes, competitive pricing, a channel bouquet, a better user experience and reliable delivery.

Under each heading it sees significant challenges. On customer acquisition, Activate predicts high entry costs, high churn, strategic

pricing disadvantages and limitations in the range of channel packages they can provide. As for programming, it says existing operators have an advantage in live, high-demand programming – notably premium sports.

Competitive pricing is a touted by many as a potential win for the new players but Activate points out that incumbents are already offering a range of reasonably priced packages. “In fact,” says Activate, “our research indicates that content breadth is a value driver – consumers want the content bouquet. This is why skinny bundles are getting fatter, previously slim packages (eg. Sling and Sony) are adding more channels.”

Activate also notes that only half of the US has the minimum download speeds recommended for virtual TV services. So its conclusion is that “the old winners are likely to be the new winners. Once established multichannel video programming distributors enter the market, they will leverage their wide reach into a cost advantage over smaller players.”

Channel shut-down: counting the cost of the skinny bundle

All of this talk about skinny bundles has serious implications for channel operators. Having spent the best part of two decades packing out EPGs with large portfolios of brands, what happens if the market shifts to skinny bundles?

The obvious answer is that some of them may shut down. There's no suggestion that this will happen overnight, because platforms and channels have a shared interest in keeping bundles as big as possible. But the recent spat over carriage terms between Sky and Discovery in the UK illustrates that there are some significant movements taking place.

VIMN's SVP, commercial and content distribution, Arran Tindall remains very bullish about the prospects for pay TV: "Our data shows that pay TV is continuing to thrive despite the growth of OTT. Internationally, pay



Tindall: pay TV is continuing to thrive despite the growth of OTT.

TV penetration is still low enough that there is plenty of opportunity for us to expand the business." VIMN has built its core business on the back pay TV partnerships. For this reason, says Tindall, "our starting point is to work things through with our affiliate partners. If a company like Sky wants to launch Now TV or a dedicated kids app then we will explore what we can do in partnership with them."

The company has been cautious with SVOD

players like Netflix out of respect for its pre-existing partnerships. "But skinny bundles is an evolving market that we are looking closely at. We'd be happy to support and participate in them because it's our goal to get our brands as broadly distributed as possible." For channels, staying loyal to existing partners is key. But it's also important to make sure they don't miss out on early adopter opportunities. For example, Disney CEO Bob Iger believes his company's involvement with US skinny bundles provides a clear message to other skinny bundle operators about his channel brands' value: "The inclusion of Disney product, particularly ESPN, on OTT services is quite meaningful. Sony certainly had that experience when it launched Sony Vue without ESPN. It included it later, after the launch, and it saw its subs go up substantially."

people over-paying for content here. The fact is that Com Hem is a great place to get a lot of content and we just need to keep delivering a faster, better product that stays in touch with key trends in the market like eSports."

Customer convenience

As some of the above scenarios illustrate, the pay TV industry's response to the threat of skinny bundles isn't simply about offering cut-price packages. It is also about increasing functionality so that existing services deliver better value. Like Com Hem, for example, Liberty Global is integrating Netflix into its offering across all markets. Unveiling that deal, Liberty CEO Mike Fries said it would provide "even more freedom to our subscribers allowing them to access a goldmine of amazing TV and films at the click of a button."

In mid-February, Liberty Global's fourth quarter 2016 results showed that it isn't yet suffering from disruptive influences, with European operating income up 22% to US\$683 million. In part this is a reflection of Bisson's point about headroom for growth. But it's also linked to the company's emphasis on extending services. Fries said: "We will continue to enrich our bundled portfolios with compelling 4G mobile offers and the addition of new content and functionality – including

the launch of Netflix across our footprint. We will expand the deployment of our 4K cloud-based set-top and our WiFi Connect Box. Also, in late 2017, we start trials of DOCSIS 3.1, which will provide gigabit speeds."

Of course, it's worth noting that the threat of skinny bundles in Europe varies by territory. The Nordics and the UK may be very competitive, but there are attempts to introduce low-cost offers in other markets. In France, JeanDavid Blanc, founder of AlloCiné, and Pierre Lescure, founder of Canal+, teamed up last year to launch OTT service Molotov.tv, declaring that: "The essence of Molotov is to lead the distribution of TV channels and programmes in a new direction, better reflecting their quality and diversity, and bringing TV into the internet era".

Available across all devices, Molotov.tv has a basic tier that is free of charge and comprises 35 channels, including all channels that are available on the nation's digital-terrestrial network TNT. For €3.99, users can record up to 100 hours of programming in the

French service Molotov has a basic tier that offers 35 channels for free.



cloud for viewing later. For €9.99, they can access 70 channels, including Paramount and Disney Channels. An added bonus is that users are not tied into contracts. It's too early to say if Molotov.tv will establish itself as a viable business. But what is noticeable is that it has managed to secure investment from French transmitter company TDF and Sky in the UK. Although Sky has only taken a 4% stake, this is an interesting move when seen alongside the planned expansion of Now TV into non-Sky territories. The message may be that OTT-based skinny bundles are a low-risk way for pay TV operators to establish a beachhead in neighbouring territories.

What is clear is that business models are already starting to shift in line with changing viewing habits. As content delivery becomes increasingly IP-based, the skinny bundle, in the US at least, is becoming a major area of competition. While the picture in Europe is very different, incumbents have been quick to act and the increasing popularity of the no-contract online access model – particularly among younger viewers – may prove telling for the future of the industry. ●



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Q&A: Charlie Johnson, Digital Element

Charlie Johnson, VP, UK & Ireland at Digital Element talks about the merits of IP geo-location for broadcasters.

What is IP geo-location and what benefits, if any, could it bring to the broadcast industry?

IP geo-location data is a fundamental building block of the internet and allows online businesses to accurately identify user's location – without consumers being personally identifiable. This is useful to a number of online industries from advertising to commerce, and from financial services to criminal detection agencies such as INTERPOL.

Although IP geo-location has long been used within the broadcast industry, broadcasters have taken a rather half-hearted approach to including it as part of their content distribution strategies – despite the use of accurate data providing the first line of defence for content protection, and developing a robust solution for accessing data.

What are the challenges of using IP geo-location to manage geographic content rights and how can these be overcome?

Accuracy is probably one of the biggest challenges facing broadcasters looking to employ geo-location technologies. With a plethora of low-cost solutions available, it is often easy to run with a supplier without confirmation the technology works or provides accurate data.

Other challenges in using IP geo-location include ensuring the data covers 100% of the world's IP addresses, and checking that proxy detection is in place to help businesses protect themselves against IP spoofing. Some databases carry zero proxy detection within certain countries, which leaves broadcasters open to being targeted by fraudsters masking their location.

There's a lot for broadcasters to contend with so an accurate IP data solution is vital. Digital Element maintains the world's most comprehensive and accurate geo and proxy databases, and is the only Media Rating Council (MRC) accredited service, assuring broadcasters they are working with a leading frontline provider that is trusted by global content leaders.

By working with a premium IP intelligence provider, broadcasters are safe in the knowledge that geographic rights loopholes can be efficiently monitored and minimised.

How significant a challenge to rights-holders is IP spoofing and what can be done to combat it?

IP spoofing is a growing problem faced by all rights-holders. As content is becoming more accessible via the internet, so are the methods used by fraudsters to overcome rights legislation.

We have recently seen a greater focus on proxy detection from our clients, especially the major players. If you Google how to watch BBC iPlayer abroad, lots of services appear. However, when you then take a look at the forums you will find many irate users who have discovered these solutions do not work. This is where our accurate proxy detection is working.

We highly recommend a strong focus on the numerous types of proxies being used, such as VPN's, DNS, and Tor Exit Gateways, to allow broadcasters to create a solution that addresses their unique requirements rather than creating a "generic bucket" of proxies. Digital Element is the only provider that can help provide the detailed information needed to identify different proxy types and empower online businesses to tailor solutions to their own restriction needs.

Which of the players in the distribution chain – studios, broadcasters, service providers – should have responsibility for content protection?

Accountability ultimately lies at the point of consumption, but we are seeing more and more of the chain taking on responsibility – and rightly so.

For example, we are seeing an increasing number of contract specifications on providers and the type of content protection they use. It's no longer deemed acceptable to simply rely on services provided by your content delivery network (CDN), for example, as accuracy and data coverage plays a key role. To maintain the value of content, everyone in the chain needs to take accountability – we can't just pass the buck on this!

More and more content creators are adding restrictions to targeting type and pushing this on to the end distributor. If we all work together to provide best of breed services, we can boost content protection success rates and help defend revenue streams to fund more quality content.

What can Digital Element provide to help content rights-holders and what further technological advances can we expect in this area?

Digital Element's team of specialist data engineers and analysts are working hard to ensure we deliver the most robust and accurate solution to address the problem of IP masking, at a commercial scale.

By working in conjunction with our clients (including those in financial services and government bodies) we are able to achieve the most comprehensive view of the IP space and win the fight against fraud. We are working across the broadcast industry to understand its unique challenges and provide comprehensive targeting solutions.

We have been operating in the IP space for over 16 years and have a unique understanding of IPv4 and, importantly, IPv6 – enabling us to provide an in-depth level of detection. With today's proliferation of devices and content accessibility, the number of challenges for broadcasters has increased, but Digital Element's unique geo-perspective, down to zip +4 or postcode level, which works with device-derived data, has enabled much greater insight.

This area of content protection is ever evolving, but we are proud to say our solutions continue to develop and help protect data.



Interview: Harald Rösch, Melita

Ahead of next month's Cable Congress, Harald Rösch, CEO of Malta's Melita, talks to Stuart Thomson about improving a brand's reputation and growth through diversification and bundling.

Growing an established cable business is often a matter of undertaking multiple initiatives, each of which makes a small but significant difference.

While OTT TV players such as Netflix often make big, bold high-risk moves to capture a global market share as quickly as possible, cable operators more typically deliver value by improving customer service, experimenting with the way services are bundled and investing, over time, in building network capacity.

This is especially true in a geographically restricted market with multiple established players such as Malta. Melita is the country's number two fixed-line player and the number three mobile operator. For CEO Harald Rösch, who took the helm at the company just under a year ago, there was no single obvious key to unlocking rapid growth.

Melita had already diversified from pay TV to offer mobile and fixed broadband services

under the previous CEO, Andrea Torriani. For Rösch, who previously served as CEO of Germany's HanseNet and Bulgarian cable operator Blizoo, the most pressing priority was to improve the company's reputation among its users.

"We were growing but the company had the worst reputation in the market. If you want to be successful in the long term that is something you have to change," he says.

After a year of constant ongoing work to improve the company's image with its subscribers, Rösch can point to some successes. The company's 'Net Promoter Score', the commonly used metric of customer loyalty based on whether people would recommend a company to a friend, has risen from a poor minus 30, to a positive 20 in December. However, changing perceptions involves hard work on multiple fronts. There is no silver bullet.

"It isn't just about doing one or two things.

You need to take a lot of initiatives and it is not easy to pinpoint anything precise," he says.

According to Rösch, Melita has focused on achieving everything it promises to the customer, such as installing equipment within two days and answering phone calls within a specific period. Complaints are dealt with the same day. Rösch says that the company invested in tools for call centre staff so that the way they handled enquiries and complaints was consistent. Melita also invested in automated testing and diagnostics so that staff could identify quickly whether there was actually a problem with consumer premises equipment.

Consumer expectations

Sometimes it is difficult to meet consumer expectations, for example in relation to actual broadband speeds matching those advertised

Melita recently showcased its new data centre at the ICE Totally Gaming 2017 event.

– an area where Melita attracted some criticism. Often, says Rösch, people use speed tests that underestimate the speed actually being delivered – for example, because the test provider is based in the UK rather than Malta – or because there are limitations with customers’ WiFi networks over which the operator has little control.

Beyond the hard work of retaining customers through small but cumulative improvements in service, opportunities for growth in Malta are circumscribed to some extent by the small size of the addressable market. However, Rösch has identified the enterprise market and mobile communications as two areas where there is potentially room for improvement.

“Growth is clearly an issue on a small island. We have a low market share in business-to-business – where we have about 10% – and in mobile – where we have about 17% – so these are two markets where we can grow organically,” says Rösch.

One of his main goals is to build a stronger business-to-business arm to serve the country’s business community. “We have made some infrastructure investments for B2B with a data centre that is the best in Malta,” he says. By providing international connectivity – the company has a plan to lay a second undersea cable to the Italian mainland – Melita’s investment puts it in a good position in particular to offer services to Malta’s booming gaming industry, which contributes around one seventh of the country’s GDP.

Melita recently showcased its new data centre at the ICE Totally Gaming 2017 event in London. According to Melita, the number of client data racks hosted at the facility increased by 100% last year. In addition to the gaming industry, customers included financial services, banking and ICT companies.

“The infrastructure we have is very good and we can also deliver fibre connections across the whole of Malta.”

Multi-play packages

In the residential segment, there is also some room for organic growth thanks to the fact that Malta’s population is growing because of immigration. Beyond this, Melita can only really increase its residential subscriber base



by taking customers from its competitors. However, for Rösch, an alternative strategy for growth can be based on upselling existing residential customers to new packages and building a higher-value mobile base.

He believes there is some room to upsell customers to multi-play packages, and Melita is continuing to expand its product portfolio. It will soon launch a new advanced TV service, having worked on the launch for the last eight months. “This will give us a full range of services including DVR, TV Everywhere and especially a user interface that is going to include a pretty state-of-the-art recommendation engine.”

The company is deploying an RDK-based platform to enable the service, which could also include access to OTT TV services. Rösch says Melita is in talks with one major OTT TV provider to include its offering as part of the service. Within Malta, OTT TV is a major competitor. Rösch estimates that about 30% of households have IP boxes at home that receive services from small local operators, often redistributing content without the proper licences and rights cleared. “This is widespread and it’s a reality we have to deal with.”

While it may compromise the ability of operators to sell premium TV offerings, the popularity of Malta’s myriad OTT TV services does provide one benefit to infrastructure-based providers such as Melita – it generates demand for high-speed data services. Rösch says that Melita plans to offer a 1Gbps service over part of the island this year – a headline-grabbing number that highlights the capabilities of networks and is seen by operators as a useful marketing tool.

Mobile services

Melita is also pushing ahead on the mobile front, with a plan to launch 4G mobile services, most likely in the second half of this year. “We

are in the process of choosing the vendor. We have full national coverage but we need to upgrade the technology. The backhaul will be supplied partly by our coax network. Half of our masts are connected by fibre and the rest are coax,” says Rösch.

Launching 4G will help Melita build a profile as a provider of premium mobile services alongside its fixed-line offering – placing it on a more equal footing in mobile with rivals Go and Vodafone. “Traditionally Melita has been a premium broadband operator but the cheap guys on mobile. That perception is something we are about to change,” claims Rösch.

He says Melita has developed a quad-play offering that allows customers to build their own bundles, including entry-level 100Mbps fixed broadband and a basic TV channel line-up and phone line. There are options to upgrade to 250Mbps broadband and take one or more of three additional TV packages.

According to Rösch, Melita has been able to build a significant base of post-paid mobile customers – the split between post-paid and pre-paid is roughly 50:50 – in a market that is predominantly pre-paid. He adds that the latest packaging initiatives by the operator put it back on a competitive level playing field with Go after a period when price rises early last year meant that it was perceived as over-priced in relation to its rival.

In addition to its investment in 4G, Melita also claims to be the largest WiFi network provider in the country. All mobile subscribers have access to Melita’s public WiFi hotspots and can use up to 10GB of capacity.

Malta is a small country – its population is just 450,000 – with strong competition between telecom and media service providers. However, Melita has over the past couple of years successfully reversed negative brand perceptions and showed that it is possible to grow through creative packaging and adding new services. ●

The future of Ultra HD

We are on the cusp of pictures that are brighter, crisper and more impressive than they have ever been before. Andy McDonald looks at the latest moves towards advanced Ultra HD.

Since mid-2016 a host of industry developments have paved the way for the introduction of Ultra High Definition television that goes beyond higher resolution 4K pictures.

High Dynamic Range is, for many, the most important of these emerging technologies. However, Higher Frame Rates, Wider Colour Gamut and spatial audio all promise to make the viewing experience closer than it has ever been before to reality. Thanks to the dedication and hard work of various industry bodies, the past year has seen a number of breakthroughs, including the ITU's announcement of a new

standard for High Dynamic Range television and the DVB Steering Board's approval of the UHD-1 Phase 2 specification.

Digital TV Europe spoke to some of those most closely involved in Europe's move towards next-generation Ultra HD and look towards life in a truly post-HD world.

Summer of UHD

Last summer the ITU took a major step in the advancement of television broadcasting with the release of a new standard for

High Dynamic Range television. The ITU's Radiocommunication Sector (ITU-R) developed the BT.2100 standard in collaboration with experts from the television industry, broadcasting organisations and regulatory institutions in its Study Group, updating its 2015-approved BT.2020 Recommendation for Ultra HD TV. Included in the new recommendation are two options for producing High Dynamic Range TV images – Perceptual Quantization (PQ) and Hybrid Log-Gamma (HLG), as well as a simple conversion process between the two HDR-TV options. UHDTV Recommendation BT.2100



Samsung debuted its latest QLED TV line at this year's Consumer Electronics Show.

in that we think that UHD is wasted without HDR," says Quested. He argues that allowing HDR compatibility with progressive HD pictures will mean that daytime programming will not be confined to Standard Dynamic Range (SDR), helping to reduce what could be a perceived by viewers as a huge disparity between 'high-end' shows and the bulk of a broadcaster's programming schedule as the technology starts to take off.

"There will be people who don't see the difference between good HD and UHD in terms of resolution, and that's down to TV style, eyesight and distance from the screen. But there's nobody that will not see the difference between an SDR and HDR image. I think as a sales point, HDR sells more TVs than resolution," says Quested.

"Eventually the resolution will sell more TVs than HDR, because TVs will be much larger and it will be needed. If you think about the changeover period, when people have 42-inch or 50-inch screens, the resolution difference is only visible on, I would say, certain shots – not on all shots. You go up to 80-inch screens, which aren't that far away, and resolution becomes as important. So it's not that it's less important, but it's about timing."

HDR and beyond

Hybrid Log-Gamma and Perceptual Quantizer are important parts of the ITU's Ultra HD specifications. While both are capable of delivering identical High Dynamic Range images, the BBC and NHK worked together to produce HLG as an alternative to Dolby's PQ, in order to create something more suited to live broadcasting. Richard Salmon, a lead engineer at the BBC's Research & Development arm, explains: "We looked at the Dolby proposal and thought the pictures looked good, but we struggled to see how you could implement it in a broadcast infrastructure. So we developed our own ideas, NHK developed their ideas, and then we came together. Each of us had to compromise somewhat to come up with a joint proposal, but our ideas were sufficiently similar that we could."

The collaboration between the Japanese and UK public broadcasters stems from a long history of working together, a by-product of the

fact that NHK and the BBC have the world's first and second largest broadcaster research labs. Salmon claims that in the case of HLG, the two R&D divisions had different ideas about where, for example, the blending point between the log and the gamma was going to be. However, by discussing such figures and challenging each other's approaches they were able to jointly come up with something that was better than either original proposal.

Salmon, like many other industry experts, believes that HDR is the standout technology related to next-generation Ultra HD, as it can apply to all types of content. In December the BBC ran a trial on the iPlayer, using HLG to offer a four-minute segment of footage from *Planet Earth II* in 4K High Dynamic Range. The corporation described the experiment as an "early but important step toward streaming high-quality Ultra HD programmes on BBC iPlayer in the future."

"High Dynamic Range is probably the most important in terms of being a step-change for the viewer," says Salmon. "The tests we've done, both in the BBC and the European Broadcasting Union, have shown that by just increasing the resolution from HD – doubling the resolution in each direction, which is what UHD-1 does – the perceived benefit, even at the optimum viewing distance, is noticeable – but marginal."

This is borne out by the findings of a BBC R&D white paper, titled 'A Survey of UK Television Viewing Conditions'. Published in January 2015, the research paper noted that the optimum viewing distance for high definition television is just over three times the screen height (3H) away. According to the study, people sitting this distance or closer to the screen could potentially benefit from resolution that goes beyond that of high definition – yet this only applied to 10.2% of respondents. A mere 1.5% of respondents were found to watch TV from a distance of 1.5H or closer, which would give them the "full benefit of a UHD service".

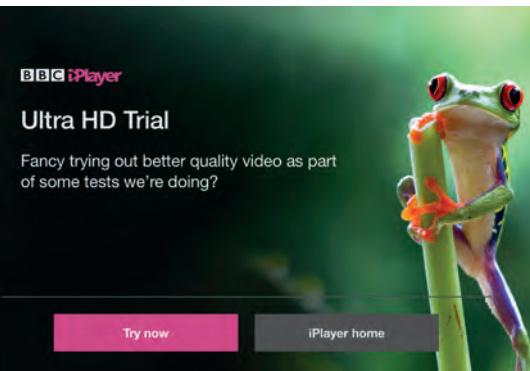
While HDR certainly carries a 'wow factor', other technologies can also be implemented to reproduce more life-like images. Salmon claims that while 'constant luminance' was included in the ITU-R's BT.2020 recommendations, it did not make it into BT.2100 as this is still too far ahead of its time.

"Constant luminance is the way the eye works, but when colour TV was first introduced back in the 1960s and '70s it had to be done in a way that was compatible with black and white

also allows TV producers to choose from three levels of resolution: HDTV (1920 x 1080); UHD TV '4K' (3840 x 2160); and '8K' (7680 x 4320).

Andy Quested, chairman of ITU-R Working Party 6C, explains that BT.2100 builds on and is an extension of BT.2020. The colour imagery is the same between the two recommendations, the frame rates are the same and both only allow progressive scan images. However one notable difference is that ITU-R added 1920 x 1080 HD resolution into the standard – something it had omitted from BT.2020.

"There was a good reason for doing that,



television. So to do that there had to be some compromises in terms of the order in which matrixing and gamma correction were done. Having made that compromise back then, it's now extremely difficult to change it," says Salmon.

"We tried to get it into high-definition television standards 20 years ago. It was too revolutionary then and it's still a bit too revolutionary, so it's not included in the new ITU 2100 standard," he adds. "It changes, potentially, the way you make television programmes and it's a battle that every so often we've proposed but there just isn't enough interest in it across the world."

The next phase

In November the Digital Video Broadcasting (DVB) Steering Board followed in the footsteps of the ITU by publishing its updated UHD-1 Phase 2 specification. Building on UHD-1 Phase 1, which was based around spatial resolution of 4K, Phase 2 added in newer features like High Dynamic Range, Higher Frame Rates and next-generation audio, and was hailed by the Steering Board as a "major milestone for the industry".

The open standards body's Phase 2 HDR specification supports HLG and PQ transfer functions, defines higher frame rates that go beyond the current 50/60 fps, and has also added next generation audio schemes to provide immersive and personalised audio content using object- or scene-based coding.

"We've worked hard to try and ensure that the specification is based on a consensus in the industry and we're quite proud of the fact that we're able to achieve that," says DVB chairman Peter MacAvock

MacAvock describes a "gargantuan effort" in getting the specification out the door, with

The BBC recently streamed HDR footage from *Planet Earth II* through the iPlayer.

six to eight months needed to get the technical specification finalised and nearly two years to agree the commercial requirements.

"One of the difficulties that we of course faced was the fact that, as the DVB process was proceeding, so too were developments in the marketplace, because during that period of time Netflix launched its services in 4K. Also we were faced with a situation where there was a number of technical proponents proposing their own systems, but who had already deployed their solutions commercially," says MacAvock.

He claims that while, in an ideal world, standards development would work in parallel to service development, the DVB accepts that in the IP markets occupied by Netflix and even BT's 4K sports service, there is less need for the type of horizontal standards needed by free-to-air services.

"We recognise that organisations may choose to deploy services prior to the finalisation of the technical specifications. There are risks associated with doing that, but they're perfectly entitled to go down that route. In a similar position I would probably do the same thing they have done – not wait for the DVB project to forge ahead," says MacAvock.

As he sees it, the DVB's latest specifications came together against the backdrop of the rapid commoditisation of 4K panels in the

to justify the expenditures in terms of your shareholders or your other stakeholders. So it's not as easy as saying everybody should deploy UHD services now."

Raising the rate

Higher Frame Rates add another interesting dimension to picture quality, though one phenomenon that looks likely to persist as the world moves towards Ultra HD is a variance in frame-rate standards based on geographical location. "Until we come to a common mains [power] frequency we'll always have that issue. It's a fundamental fact of life," says Qusted.

PAL and NTSC regions today dictate that frame rates must be at 25 and 30 frames-per-second respectively to be compatible with the 50 and 60Hz frequencies used in mains power in differing parts of the world. While some had hoped for this to be resolved with a universal Higher Frame-Rate standard, 50fps and 100fps standards in 50Hz regions will still be matched by comparable 60fps and 120fps variants in 60Hz locales. "Unfortunately when we started doing some tests, we realised there's some fundamental issues. If you go to any football stadium in Europe that isn't using brand new, very efficient LED lighting, as soon as you pass twice the mains frequency on your frame rate, you get flicker," says Qusted.

With the increase in resolution, there is also the challenge of motion blur. Salmon explains

"You can see HDR UHD coming together around 2020 and I feel that those Olympics will be the first big event."

Andy Qusted, ITU



consumer electronics industry, and also the realisation that OTT providers that will "drive the rollout of Ultra HD services" in the short- to medium-term.

"What we're seeing is that traditional broadcasters are very involved in producing UHD content – even if they're not in the business yet of distributing it at mainstream to their customers," says MacAvock. "It's great to be able to have the luxury of all adopting technologies as they become available, but ultimately it's a balancing act – you've got

that as you increase the static resolution you have more pixels going past the camera, which makes the image look more blurred when you pan the camera – for instance during live football. If there's a marked difference between the static and the dynamic resolution, it becomes uncomfortable for the viewer. "HD was right on the cusp of that effect, so we had to reduce the artificial sharpness, because it wasn't actually needed, and slightly shorten the shutter to sharpen the moving images. That worked for HD. As we double the resolution,



LG's latest line of Signature OLED TVs support HDR images.

you take a receiver round and you plug it into the back of each display in turn and see what happens. It's a fairly rapid-fire way of checking out whether or not you've implemented the specs correctly and whether the displays recognise what they're being given."

Asked when the first free-to-air receiver boxes compatible with HDR are likely to hit the market in the UK, Daniels says: "How long is a piece of string? From an IP point of view, they will be capable of it within the next 12-18 months. But from a broadcast point of view, we're a ways off doing that."

Querstedt at the ITU has firmer views about when HDR UHD might start to become ubiquitous among TV viewers; he says that all signs point to 2020. "I don't know if it's coincidence or deliberate, but if you go to an optician, what's the best vision that you'd hope to ever have? 20/20. What's the standard? BT.2020. And what's the year of the Japanese Olympics? You can see this sort of coming together around 2020 and I feel that those Olympics will be the first big event – even though the Japanese, for reasons of national pride, are doing it in 8K."

In Japan, NHK and others are already testing two UHD broadcast channels over satellite, and there's also a commercial satellite channel on air in Europe. All three are using HLG. In 2014 BBC R&D also successfully transmitted UHD content over IP and from terrestrial transmitters, during a trial staged at the Commonwealth Games in Glasgow.

Bandwidth remains an issue. "Progress on HEVC coding is ongoing and it is improving all the time. Although while non real-time HEVC encoding has improved, real-time HEVC encoding still awaits the efficiency gains we expect to see as a codec matures," says Salmon. "UHD using HLG has now been demonstrated using both satellite transmission, and in the recent BBC iPlayer trial of *Planet Earth II*, showing that all transmission options are potentially feasible for UHD with HLG."

While IP-delivered services like Netflix, Amazon and BT Sport may have made the first push into 4K, the signs are that the industry as a whole is moving towards next-generation UHD services. As the specifications fall into place, it is only a matter of time before advanced, more life-like images become a living room reality. ●

it becomes more of a problem again. So the studies that we've done and NHK has done in Japan shows that we needed something around 1/300 of a second shutter to stop the motion blurring," says Salmon.

"Back in 2008 I suggested that we should perhaps be looking towards a 300 frames per second TV system. The Japanese managed to persuade me that that was going to be impractical. We settled on 100 in Europe and 120 in Japan as the frame-rate. That satisfies human vision, if you can track the motion."

In reality, these frame-rates, which are included in all the current standards for future television systems, will most benefit sports broadcasters, as they are arguably pushing the envelope in terms of picture rendition. As a style choice, TV drama still typically strives for the 'filmic look' afforded by 25fps.

Querstedt sees frame-rate as an artistic tool to be used by content makers – not the domain of engineers. However, he says work is also underway on Dynamic Frame Rate.

"In other words frame-rate that can change during a programme," he says. "We've just started object audio. Object video is coming along. Why doesn't the frame-rate match the speed of movement of the object? That is a long way out, but in virtual reality that might become really important, and also quite possible."

All eyes on 2020

While the ITU and DVB have done valuable work towards the deployment of advanced Ultra HD TV, the move towards High Dynamic Range and Higher Frame Rates is also being

aided by a wide number of industry bodies.

Madeleine Noland is chair of the guidelines working group at the Ultra HD Forum, which released version 1.2 of its Ultra HD Phase A industry guidelines at the Consumer Electronics Show in January. The Forum says Ultra HD Phase A encompasses practices and technologies that are commercially feasible in UHD services today, with the latest update including information on, among other things, implementation of channel-based immersive audio and down-converting HDR/WCG to the ITU's BT.709 SDR specification.

"I think that one of the things that the forum brings to bear is we really are a glass-to-glass organisation – from camera to display," says Noland. "Whereas organisations like the DVB are very much focused on terrestrial transmission, or the equivalent in the case of satellite or cable, they don't really go all the way back into the world of production. With the Forum, we're really trying to help the service providers who have to manage the entire ecosystem."

In the UK, non-profit technology innovation body the DTG is also keeping pace of market developments. Its D-Book defines the requirements for every new TV and digital-terrestrial television receiver in the UK. D-Book 9, published in November, includes support for High Dynamic Range and mandated the use of HEVC for HD, IP-delivered services in order to pave the way for UHD.

The DTG also holds regular 'Plugfests' which David Daniels, the DTG's lead on UHD and VR, describes as "a bit like speed-dating" for display and receiver makers. "You put a whole load of displays into the room and then

TV Connect 2017: the preview

Ahead of this year's TV Connect, *DTVE* spoke to two of the London event's speakers about business opportunities and digital developments.

Hopster: once in a generation opportunity

The kids entertainment market is in flux and new providers have a chance to create global platforms built around a subscription on-demand model, according to Hopster founder and TV Connect speaker Nick Walters

New entrants to the kids market face a 'once in a generation' opportunity to 'become global leaders' as digital distribution consolidates around key apps and moves to a subscription model, according to kids 'edutainment' app provider Hopster's founder and CEO Nick Walters.

Interviewed by *Digital TV Europe* ahead of TV Connect, Walters says that the "kids space is only going to grow" and that Sony's recent investment in his company means it is ideally placed to benefit.

"We believe there is a once in a generation opportunity to go out and build a global leader in this space. That takes some funding. There is a number of investment things we want to be pushing on, and we want to make sure we have the support to do that," he says.

"One of the things we looked at last year was where was the support going to come from, and we were super pleased that Sony came in and got behind the vision."

Walters also says that families' evolving usage of interactive apps means that the model of paying for apps and transactional in-app payments is on the way out. He says this was becoming a difficult model to sustain.

"Over the last year Apple and the developers have come together to ask what is the best model for kids, and the answer is that it is probably subscription, building destinations that families are going to keep coming back to and are going to deliver value month-on-month and year-on-year," he says. "If you look at the top grossing apps you have gone from a place where almost everything was a transactional app to a place where almost everything is a subscription app. I think the app store will continue to consolidate around a smaller number of hub apps for kids that play a big part in their lives and own and earn a slot on the homescreen of everyone's devices. That's where we want to be – a must-have app for every family."

Addressing Hopster's mix of educational interactive games and apps and entertainment programming, Walters says he believes the service should ideally have a mix of "half video and half everything else", with more games and other interactive content to come.

He says Hopster will develop more original content, building

on its development of original games, and added that it is looking at doing more shorter-form video and developing more local content over the next 12 months.

"We will get behind projects that we think will deliver what we are all about," he says. "For a platform like us it is not about being the next 20% financier of something like *Thomas and Friends*. What we want is short form content that really fits our curriculum and drives that unique point of difference."

In relation to localisation, Walters claims that pre-school content is "quite global" with titles that "travel very well". He says his company tries to be locally relevant, for example by partnering with Content TV for nursery rhymes and adding content from Millimages. The service is also localised in Iceland in partnership with Vodafone.

Walters says that business-to-business and direct-to-consumer are "not completely separate things". Addressing Hopster's distribution

"There is a once in a generation opportunity to go out and build a global leader in this space."

Nick Walters, Hopster



model, Walters says there is a "spectrum" between "completely managing the user experience" and "doing a fully bundled deal" with "lots of staging posts."

He cites the example of Hopster's relationship with Apple as an intermediate model, where Apple takes payment through in-app billing but Hopster still retains a significant amount of control over the customer. "You want to pick the model that is best for your partner and best for the market."

On the question of which devices it makes sense to be on, Walters says that Hopster "really wants to be on big platforms that reach as many people as possible" like Apple and Roku. "We want it to be easy for subscribers to find us. It is better if they are not bouncing back and forth between the TV and a website for example."

Devices capable of supporting the level of interactivity that Hopster wants to offer is also important, he says. ●



Hopster provides a mix of video, games and other content for kids.

BBC Studios: driving digital ideas for flagship shows

Creatives are increasingly putting digital distribution ideals front and centre when creating global flagship shows, according to BBC Studios' Will Saunders

Big global flagship TV shows are increasingly being created with multi-platform distribution in mind, with digital ideas increasingly being driven by the creative talent – and even onscreen talent – behind the programme, according to Will Saunders, creative director, digital at BBC Studios and a speaker at this year's TV Connect show.

Interviewed by *Digital TV Europe's* sister title *TBI* ahead of the TV Connect event, Saunders, who heads up digital development for BBC Studios, says that big flagship shows such as *Planet Earth II*, *Top Gear* and *Dr Who* are now global brands in their own right and that the production of such shows is increasingly being planned around multi-platform distribution from the start.

"*Planet Earth II* is a multi-platform brand," says Saunders. "It has had huge uptake on platforms like Facebook and YouTube but [its makers] also understand how to take best advantage of formats like virtual reality and 360° video." He says that new forms of factual or fictional storytelling are being developed with social media and mobile platforms in mind from the start. "Increasingly a lot of this is coming from the creatives behind the show. People, including onscreen talent, see the need to stretch their ideas around multiple platforms."

BBC Studios is in the process of becoming a commercial entity that can compete in the market, while the BBC itself is committed to opening up its commissioning process to enable third-party production companies to participate in tenders. Saunders points out that the BBC itself is often one of several investors – or even a minority investor – in some flagship shows that have emerged as global brands. While funding multi-platform initiatives can be challenging, BBC Studios can work with BBC Worldwide, the broadcaster's commercial arm, and third-party companies to seek additional investment for digital projects.

"Shows like *Planet Earth II* have investment from around the globe and think of themselves as global propositions. So their creators have to think how they will work on social platforms and on emerging platforms like Oculus or Google Daydream," he says. "There is a lot of thinking around the idea of moving beyond a linear experience right

"Planet Earth II has had huge uptake on platforms like Facebook and YouTube."



Will Saunders, BBC Studios

from the outset."

In relation to the commercial imperative to develop content specifically for social media platforms such as Facebook, for example, Saunders says that this is less about increasing the audience directly and more about building awareness. "We are looking to drive up the consolidated on-demand performance of the show, but that is difficult to achieve – these are carefully gated communities," he says. "It is more about driving awareness and attribution, and reaching an audience that might not come to TV."

Saunders says he believes the BBC is in a good position to experiment with new formats and ideas, given its unique funding model and relative freedom to take risks. "The BBC is the place in the UK where you should expect to see innovation. It doesn't necessarily do innovation for innovation's sake but it tries to anticipate what audience behaviors will be [in the future]."

Saunders cites the example of *Dr Who* as a show with a "strong understanding of how it works across platforms," and gives the example of the award-winning *The Doctor and the Dalek* game, designed to encourage kids to take up coding, that was associated with the show. He says the BBC's natural history unit also has "a very literate understanding of how to make their content work across multiple platforms". ●

TV Connect highlights 'disruptive convergence'

The organisers of this year's TV Connect show have identified the concept of 'disruptive convergence' as the key theme of the event. Within this framework, the event will kick off with a series of conference sessions at The Crystal Hotel in Royal Victoria Docks on the morning of March 28 covering key themes such as big data and advertising, 5G, mobile video and OTT TV.

The TV Connect event proper will begin at 16:00 that day with an opening ceremony at ExCel, followed by a Q&A session with Alex Pettit, creative technologist and live streaming expert. This will be followed by a late night opening drinks party from 17:30. The main agenda on March 29 will include plenary presentations on programme commissioning, disruptive convergence and digital transformation.

The plenary sessions will then be followed by a series of concurrent streams on all aspects of connected entertainment, strategy and digital disruption. Day three – March 30 – will include plenary sessions on demographics and data and a presentation on streaming by ZTE member of the CTO group Jinshan Liu. Concurrent streams will cover topics including VR, UHD TV, OTT TV and mobile video.

The show will include a number of high-profile networking events. The Networking Reception on March 28 will take place in the TV Connect VIP Lounge from 17:30-19:30, providing an opportunity for one-to-one networking. Admission is free but space is limited to 100 pre-registered service provider attendees. March 28 will also feature an invitation-only VIP & Speaker boat party.

Technology in focus

Infrastructure, equipment and product news for digital media distribution

In Brief

Five arrests in UK clamp-down on illegal STBs

Five people have been arrested in North West England as part of a crackdown on the sale and distribution of illegal TV set-top devices. UK intellectual property protection organisation, FACT, instigated the action on behalf the Premier League, Sky, BT Sport and Virgin Media. The raids on the homes of the suspects turned up Kodi devices pre-loaded with unlicensed add-ons and apps that allow users to illegally stream premium TV channels, live sport and films, according to FACT. The IP body claimed that collectively the suspects may have made "in the region of £250,000" (€300,000) selling these boxes via social media, online forums, and their own dedicated websites.

Google brings VR to the web with Chrome update

Google is bringing virtual reality to the web with the latest version of its Chrome browser. The update is designed to offer users a "fully immersive experience" when using Chrome with a Daydream-ready phone and Daydream View headset. "Just browse to a VR experience you want to view, choose to enter VR, and put the phone in your Daydream View headset," said Google. "If you don't have a headset you can view VR content on any phone or desktop computer and interact using your finger or mouse."

YouTube automatic captions now on 1bn videos

YouTube has now automatically subtitled one billion videos, having first automated video captions in 2009. YouTube combines Google's automatic speech recognition technology with the YouTube caption system to offer automatic captions, a process it described as a "big leap forward" in helping it keep up with the video service's growing scale.

"Fast forward to today, and the number of videos with automatic captions now exceeds a staggering one billion. Moreover, people watch video with automatic captions more than 15 million times per day," said YouTube product manager Liat Kaver. She claimed a major goal for the team has been improving the accuracy of automatic captions, with improved speech recognition, machine learning algorithms and expanded training data.

"All together, those technological efforts have resulted in a 50% leap in accuracy for automatic captions in English, which is getting us closer and closer to human



YouTube uses automatic speech recognition technology to caption content.

transcription error rates. Continuing to improve the accuracy of captions remains an important goal going forward, as does the need to keep growing beyond one billion automatic captions. We also want to extend that work to all of our 10 supported languages."

Separately, YouTube is extending the availability of its mobile live streaming feature to all content creators with more than 10,000 subscribers, ahead of a planned rollout to all users further down the track. Mobile live streaming enables creators to set custom titles, enable live chat and choose whether to send notifications to

their subscribers.

As part of the extension of the availability of mobile live streaming YouTube has launched Super Chat, which it describes as a "live stream monetisation tool". The feature enables fans to "stand out from the crowd and get a creator's attention" by purchasing chat messages that are highlighted and stay pinned at the top of a video's chat window for up to five hours. Super Chat is currently available to content creators in 20 countries and Super Chat-enabled video is available to viewers in 40 countries. YouTube first announced mobile live streaming in June last year.

V-Nova acquires Faroudja Enterprises patents

Video compression specialist V-Nova has acquired the global patent portfolio of video imaging outfit Faroudja Enterprises. V-Nova said that the acquisition represented a strong investment by the company in its own long-term technology roadmap. It said that the Faroudja pre- and post-processing technology would further improve the efficiency of V-Nova's Perseus compression codec, which is designed to deliver video at very

low bandwidth, opening up the possibility of delivering TV services over 2G phone networks as well as delivering high-resolution video over bandwidth-constrained terrestrial fixed networks.

The acquired patent portfolio consists of the Faroudja pre- and post-compression processors. The system includes video enhancement techniques like multidimensional video processing, and according to V-Nova the technolo-

gy can enhance the performance of compression standards such as MPEG-2, H.264, HEVC and its own proprietary Perseus codec.

Fabio Murra, SVP of marketing at V-Nova, told DTVE that V-Nova intends to use the patents to enhance its own proposition. "It is very complementary to Perseus - it uses techniques that we can use in Perseus."

The two companies did not disclose the terms of the deal.

Nigeria switchover strategy could be duplicated

Nigeria could set the template for a raft of other African digital switchover projects, with conditional access-enabled boxes unlocking multiple ways to pay for DSO projects that are challenging countries' ability to finance them, according to Nick Markham, chairman of Inview Technology, the UK technology company entrusted with the project.

Markham, formerly strategy director at ITV and one of the architects of Freeview, told *DTVE* that using CA-enabled boxes to create a reliable mechanism to levy a licence fee was attracting more interest across Africa. "Other African countries are looking at the model and the fact that they can build a domestically-owned platform." Markham said that there are 100 million TV homes in Africa, so the potential market for this technology and way of implementing switchover is huge.

Digital switchover in most African countries has been fraught with challenges. South Africa finally began a limited switchover in part of the Northern Cape province last year after a long legal battle over whether to introduce



Markham: Other African countries are looking at the Nigerian model.

encryption that has yet to reach a conclusion. Other countries have failed to meet switchover deadlines and have faced problems in implementing the process, often due to a lack of funds.

"The whole system is based on conditional access," said Markham of the Nigerian project. Inview has tapped Nagra to supply CA for Nigeria, and the technology is seen as a way to implement efficient collection of a licence fee that will help pay for the project. Using CA will also create a platform over which pay TV operators such as StarTimes and MultiChoice's GOtv could provide pay TV services.

"The other beautiful thing with CA is you can use the platform to deliver pay TV, so the idea is to make it a ubiquitous box with open access," said Markham. In addition to established players such as StarTimes and DStv/GOtv

- neither of whom have yet to take up the offer - Markham said that the platform could be used by the country's dynamic film production business, Nollywood, to distribute content securely. An industry that is plagued by piracy could thus establish a secure revenue stream that would enable it to put more cash back into production. "We've got a secure platform so it could be a major way to distribute Nollywood movies securely," he said.

In addition to paid-for services, Markham said that advertising would be key to making the platform pay. He said that switchover afforded a unique opportunity for the country to implement accurate audience measurement for the first time. "Audience measurement is a key part of the project. There is licence fee and pay TV income but advertising is critical and that means robust audience measurement." He said the contract to supply audience measurement would be put out to tender, adding that the Nigerian TV advertising market could deliver substantially more ad revenues than it currently generates.

EBU welcomes parliamentary vote on 700MHz

The European Broadcasting Union (EBU) has welcomed a vote by the European Parliament's Industry Committee to validate an earlier EU inter-institutional agreement on preserving access to UHF spectrum below 700MHz for terrestrial TV broadcasting until at least 2030.

The EBU welcomed what it described as a dismissal of a plan to give 'downlink-only' access to the fought-over spectrum to mobile operators, which had originally been proposed by the European Commission. Under the proposals approved by the Parliament, EU

member states will also have the flexibility to set the clearance of the 700 MHz for mobile use to 2022 rather than 2020 if this is proved to be necessary and justified.

Possible justifications include for financial reasons and harmful interference resulting from unresolved cross-border coordination issues. The final text on the use of the 470-790MHz spectrum is expected to be published in April.

"This agreement ensures that European audiences can continue benefiting from free-to-air TV reception at home, which is crucial

to sustain the universality of public service media. At the same time, it puts Europe in the lead when it comes to harmonised spectrum for mobile: 1260 MHz will be available for mobile broadband, which is more than any other region in the world," said Wouter Gekiere, deputy head of the EBU's Brussels office.

EBU head of technology and innovation Simon Fell said: "DTT broadcasting is indispensable. There are no other technologies currently out there capable of replicating its advantages, both for viewers and broadcasters."

In Brief

HbbTV Association backs Nordic move to HbbTV2

The HbbTV Association has welcomed NorDig's new specification, which marks the Nordic region's first steps from HbbTV1.5 to HbbTV 2.0. NorDig - which specifies the technical specifications for digital TV in Sweden, Norway, Finland, Denmark and Ireland - released specifications to support the adoption of HbbTV 2 at the end of January. The release of NorDig Unified Specification 2.6 will see the Nordics become the third region to take up HbbTV 2 after the UK and Italy. New HbbTV devices that fall under NorDig's remit will have until July 1, 2018 to support HbbTV 2.0.

Kudelski and Twitter to collaborate

Content security specialist Kudelski has broadened its relationship with Twitter, with an aim to pursue "collaborative opportunities in areas of joint interest". Kudelski Group CEO, André Kudelski, said that the deal is part of a broader strategy to work with social and video companies, though would not go into details about what the new Twitter agreement will entail.

Eurofins, Samsung partner for HbbTV testing

Eurofins Digital Testing is developing an HbbTV Application Test Centre with Samsung for testing HbbTV Applications on HbbTV enabled TVs. Samsung will provide the initial TV platforms for conducting the compatibility tests, including an enhanced debug mode that allows the gathering of additional data to diagnose issues. Samsung will also help app developers to run apps on Samsung TVs.

In Brief

Technicolor files patent suits against Samsung

Technicolor has filed several patent infringement suits against Samsung Electronics, relating to products including digital TVs and mobile phones. The suits were filed in the Regional Courts in Dusseldorf and Mannheim in Germany, and the First Instance Court of Paris in France. The proceedings relate to 10 patents covering video coding, telecommunications and other associated technologies.

Vodafone unveils Gigabit ambition for Bavaria

Vodafone Germany has set the goal of making Gigabit broadband speeds available to 70% of the residents of Bavaria by 2019, making Bavaria Germany's 'first Gigabit state'. Vodafone Germany CEO Hannes Ametsreiter said that Vodafone would turbocharge the development of broadband in the southern German state over the next two years, continuing to upgrade its fibre network to deliver 1Gbps to seven in 10 households.

Viaccess-Orca teams up with ContentArmor

TV technology company Viacces-Orca has teamed up with watermarking specialist ContentArmor to strengthen the protection of UHD and 4K premium content. ContentArmor watermark technology has been integrated into Viacces-Orca's Sentinel content protection products, including hybrid card/cardless CAS and proprietary DRM products for multiscreen TV. V-O said that embedding the watermarking agent within its product family would enable operators to meet content owners' distribution requirements.

3GPP embraces broadcast requirements for 4G/5G

The next major update of the 3GPP mobile broadband standard will include features to enable public service broadcasters to deliver their content to 4G - and ultimately 5G - devices, according to the European Broadcasting Union (EBU).

3GPP Release 14, which is expected in June, will include a standardised interface for broadcasters to provide content which is then transported over LTE eMBMS, service layer components broadly aligned with the profiles commonly used for TV distribution over traditional platforms, and improvements in the radio

access network to enable cost-efficient rollout of wide area eMBMS coverage. The EBU said that work on the release is ongoing, with more to be done on developing the TV service layer in LTE as well as broadcast capabilities in 5G.

In a video interview published by 3GPP last month, 3GPP chairman Erik Gutman said that there had been "support for broadcast for some time within 3GPP" with a system-wide mechanism for delivering multicast and broadcast content. However, he said, this had not had wide commercial adoption, and the forthcoming release would identify what factors need-

ed to be addressed and "make as much headway as possible".

"We will now offer a standardised interface for broadcasters to provide content. We will have mechanisms within the system to provide... direct transmission of content from broadcasters that are using digital standards. We will also offer a broadcasting system for streaming and delivery that complies with a whole set of profiles that are widely adopted in the industry. Last and quite important, we will have advances on the radio access side that will lower the cost and broaden the coverage," said Gutman.

Vizio settles TV data collection complaint

TV maker Vizio has agreed to pay US\$2.2 million (€2.1 million) to settle an FTC lawsuit challenging its collection of TV viewing data without consumers' knowledge or consent. The US Federal Trade Commission (FTC) and the Office of the New Jersey Attorney General charged Vizio with installing software on its TVs to covertly collect viewing data on 11 million consumer TVs.

The complaint stated that, starting in 2014, Vizio and an affiliate company manufactured Vizio smart TVs that capture "second-by-second information" about video displayed on the TV - including over-the-air broadcasts, DVDs and content delivered over cable, broadband, set-top box and streaming devices.

It also alleged that Vizio added to this 'automated content recognition' specific demographic information - such as sex, age, income, marital status, household size, education level, home ownership, and household value.

Vizio sold this information to third parties, who used it for

various purposes, including targeting advertising to consumers across devices, according to the complaint.

The federal court order said that Vizio is required to "prominently disclose and obtain affirmative express consent for its data collection and sharing practices".

"According to the complaint, Vizio touted its 'smart interactivity' feature that 'enables program offers and suggestions' but failed to inform consumers that the settings also enabled the collection of consumers' viewing data," said the FTC in a statement.

"The complaint alleges that Vizio's data tracking - which occurred without viewers' informed consent - was unfair and deceptive, in violation of the FTC Act and New Jersey consumer protection laws."

Vizio general counsel Jerry Huang said that the resolution it struck with the FTC and the New Jersey Division of Consumer Affairs "sets a new standard for best



Vizio was charged with covert data gathering.

industry privacy practices" and stressed that Vizio never twinned viewing data with "personally identifiable information" such as name or contact information.

"The practices challenged by the government related only to the use of viewing data in the 'aggregate' to create summary reports measuring viewing audiences or behaviours," said Huang.

"Today, the FTC has made clear that all smart TV makers should get people's consent before collecting and sharing television viewing information and Vizio now is leading the way."

Vizio's US\$2.2 million payment consisted of a US\$1.5 million payout to the FTC and US\$1 million to the New Jersey Division of Consumer Affairs, with \$300,000 of that amount suspended.

BBC rolls out personalisation for connected TVs

The BBC is rolling out new iPlayer personalisation features for connected TV viewers, in a bid to make it easier to move from device to device.

A new 'Pin and Pair' sign-in option on connected TVs will let iPlayer viewers twin their computer, tablet or smartphone to their main TV, meaning they can start watching content on the move and pick up where they left off when they get home.

The sign-in option will initially be available to viewers with YouView devices, but will roll out to other connected TV devices, including set-top boxes, streaming media devices and games consoles, in the coming weeks and months.

"Enabling sign-in on connected TVs and the rollout of new personalised features builds on the BBC's strategy to make BBC iPlayer more personal across screens - letting you discover and enjoy programmes that are more



relevant to you on the devices you use, whenever and wherever you use them," said head of BBC iPlayer, Dan Taylor-Watt.

To sign-in viewers will be able to select a person icon on the top of the iPlayer screen on a connected TV. By going to the web address displayed on the TV from a different device and entering the code their device will be paired.

The BBC said that it intends to launch further personalisation features, including personalised recommendations, in "the near future".

This comes after BBC director general, Tony Hall, said in January that the corporation must "reinvent public service broadcasting"

in a bid to take on digital video giants like Amazon and Netflix.

In a speech to BBC staff in Birmingham to mark the beginning of the BBC's new 11-year charter period, Hall said that the BBC iPlayer must "make the leap from a catch-up service to a must-visit destination in its own right".

To do this, he highlighted personalisation as a "major priority" and said the BBC aims to grow the number of users who sign-in to the iPlayer from around three million today to 20 million "as quickly as possible".

Separately the BBC has said that the iPlayer experienced a "record-breaking month" in January, with 304 million programme requests - its highest ever.

The BBC's January iPlayer traffic marked an 8% increase on December's programme requests - the BBC's previous biggest month. It was also up by more than 50 million requests compared to January 2016.

Freeview kicks off 700MHz clearance with Selkirk

Freeview is to quietly begin the process of clearing the 700MHz spectrum - which it is being forced to relinquish by Ofcom to make way for mobile services - in the Scottish Borders at the beginning of March.

BBC channels broadcast from the Selkirk transmitter will change frequencies on the morning of March 1. Viewers will be required to retune their TVs or set-top boxes to continue receiving the public broadcaster's standard-definition services.

The move, which has received little or no publicity, will affect about 18,000 homes in the Borders. Freeview said that BBC HD services will not be affected. YouView set-tops, including those

provided by BT TV and TalkTalk, will also require retuning.

Freeview said it will run an information campaign to prepare people for the change, including advertising and on-screen messages. According to a trade and industry briefing issued by Digital UK, most aerials are expected to be capable of receiving a reliable signal following the changes. However, it said a small proportion of group C/D aerials may need to be updated to wideband models.

Digital UK warned that there would be some temporary outages between February 28 and March 1 during the changeover. Homes served by Selkirk's relay transmitters will not need to retune.

A simulcast of the BBC A multiplex will continue to be broadcast on UHF channel 50 until March 29 to help viewers who may require support to receive UHF channel 32. An outfit called Digital Mobile Spectrum Limited has been charged with providing TV aerial support during the transition.

The Selkirk move is the first part of a nationwide programme of 700MHz clearance to be carried out between now and 2020, following Ofcom's decision in 2014 to make part of the 700MHz band available for mobile services.

Ofcom claims that fewer than 1% of households will need to replace their rooftop aerials during the 700MHz clearance programme.

In Brief

Sky taps Nokia CDN to deliver OTT TV, data services

Sky is tapping Nokia to provide its Velocix Content Delivery Network (CDN) to deliver high-speed video and data services for its UK customers. Nokia said the deployment is currently serving Sky On Demand. However Sky and Nokia are jointly working to expand the Velocix solution to support Sky Go and Now TV services for live TV and video on demand. Sky recently announced that it would launch the full line-up of its service in the UK over IP as well as satellite, with its other European markets to follow.

Altice USA to use Nagra to secure TV services

Altice USA, the number four US cable operator, has chosen Nagra to provide conditional access for its 4K and HD TV services. Nagra Connect, the converged CAS/DRM protection solution for broadcast, IPTV, OTT and the connected home, and the MediaLive platform will be used by Altice USA to protect IP- and QAM-based content including 4K Ultra HD. Nagra said its solution could efficiently coexist within legacy US cable systems, while avoiding duplication of bandwidth and enabling an open choice of set-top box suppliers.

Irdeto hails MTS milestone

Conditional access provider Irdeto has said that its technology has now been deployed to over two million subscribers of Russian service provider MTS. Irdeto's conditional access technology now secures the Russian broadcaster's TV services across nine different time zones, representing the majority of Russian territory.

Q&A: Peter Charissé, ANGA COM

Peter Charissé, managing director of ANGA COM, talks to *Digital TV Europe* about the exhibition's move to a new location and this year's highlights

Why is ANGA COM moving to the new exhibition halls?

Our move is linked with a comprehensive modernisation initiative. We can expect two new, spacious halls and a modern congress center at the northern part of the Cologne fairgrounds. With that we will reach a completely new level regarding our appearance and quality of stay.

What additional advantages does the new location bring to the event?

Now, we can offer considerably more premium spaces to our exhibitors than in previous years. Besides the more high-grade appearance, our exhibitors can take advantages of several logistical improvements: no pillars, daylight, flexible floor ducts for supply connections and a much easier accessibility to the exhibition halls during construction hours.

What are the key themes for the 2017 congress and why have you focused on these?

First and foremost, the roll-out for the so-called 'gigabit society' remains on the top list; this means the construction of fibre networks as well as the new cable internet standard DOCSIS 3.1. In the field of media it seems to me that personalisation is the most exciting topic. This includes time-shifted TV just as recommendation engines, big data, multiscreen, OTT and voice control. In addition we can expect new movements from the smart home topic. I am quite sure that this holds a great market potential for network operators.

What is the current booking situation in the exhibition hall, especially with regards to the top exhibitors?

Already now, three months before ANGA COM's start, more than 370 exhibitors have registered for 95% of the exhibition space of the previous year. More than 100 companies have used the relocation to increase their stand space. That is a fantastic response. As a new

"Now we can offer considerably more premium spaces to our exhibitors."

Peter Charissé, ANGA COM



approach, we have contacted our main clients especially early and individually with new stand proposals. What has been very well received was that we could offer significantly more choices and design leeway within the new booth allocation. Just to name a few especially prominent names, Cisco, Huawei, Nokia, Arris, Appare TV, AVM, Unitymedia, Astra, Eutelsat, Media Broadcast and the Deutsche Telekom have already booked their stands.

What do you see as the top themes that will dominate industry discussion over the next year?

It seems to me that four strategic questions are especially important: (1) How can network operators and TV broadcasters successfully respond to the growing competition from OTT offerings? (2) Will the transition from SD to HDTV continue to move forward, also with reference to the encrypted private channels? (3) How will the competition between last mile access technologies develop: FTTH, DOCSIS, DSL, Mobile and Wifi? (4) Will network operators be able to expand new product portfolios, e.g. in the field of smart home? ●

ANGA COM moves to new venue

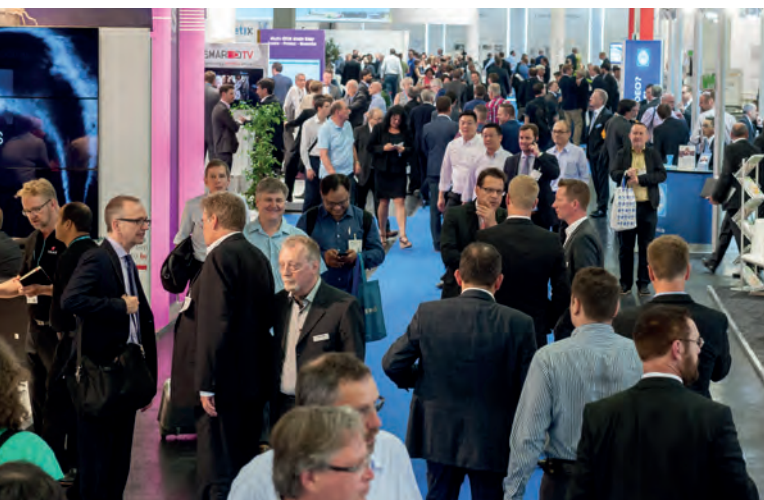
ANGA COM this year moves to a new venue within the Köln Messe, occupying two new exhibition halls and a modern congress centre. While the event was previously on two separate levels, the two new halls are directly adjacent to one another and offer high ceilings with daylight.

According to ANGA COM, in January over 300 exhibitors had already registered for this year's event, with over 90 companies using the relocation to the new exhibition halls to increase their stand space.

The ANGA COM 2016 congress, which accompanies the exhibition, last year attracted over 2,200 visitors to hear over 160 speakers across 28 presentations and panel sessions.

The exhibition, with 450 participating companies, attracted 18,000 visitors, 52% of whom were from outside Germany.

ANGA COM 2017 will take place in Cologne from May 30 to June 1.



On the move

US President Donald Trump has named an outspoken critic of net neutrality as the chairman of



US media and telecoms regulator the Federal Communications Commission. **Ajit Pai** has been an FCC commissioner since 2012, appointed by former president Barack Obama despite their differing views on how the internet should be regulated as a hat-tip to existing political etiquette. He has now risen to the top spot.

Liberty Media has completed its US\$8 billion (€7.5 billion) takeover of Formula 1 and appointed **Chase Carey** as CEO, replacing longstanding F1 boss Bernie Ecclestone. After some 40 years in charge, Ecclestone now becomes 'chairman emeritus' and will be available as "a source of advice" for the F1 board. Carey, who also serves as chairman of the board at 21st Century Fox, takes the F1 CEO role alongside his existing position as F1 chairman, taking operational control over the business.

Facebook has appointed MTV Networks executive **Mina Lefevre** as head of development for its original content efforts. Lefevre, who confirmed her move in a post on Facebook, was previously executive vice-president, development and programming and head of scripted content at MTV. She will stay based in Los Angeles, working out of Facebook's offices in Playa Vista.

ProSiebenSat.1 has appointed Maxdome's director and co-CEO, **Filmon Zerai**, as chief digital officer for ProSiebenSat.1

TV Germany. Zerai will join the management team of ProSiebenSat.1 TV Germany, taking up the newly created role on March 1. He will be tasked with further developing the digital activities of ProSiebSat.1 TV's channel brands and will report directly to the CEO of ProSiebenSat.1 TV Germany, Wolfgang Link.

Apple has poached the director and general manager of Amazon's Fire TV product, **Timothy Twerdahl**. Twerdahl becomes vice-president in charge of Apple TV product marketing, reporting to iPhone marketing VP Greg Joswiak. Before his three-year stint at Amazon, Twerdahl worked for three years as VP of products at Android smartwatch-maker WIMM Labs. Prior to this he worked at Roku from 2008 to 2009 and at Netflix from 2007 to 2008.



The EBU has appointed the head of digital innovation at Flemish public broadcaster VRT, **Ezra Eeman**, as its first head of digital. In his newly created role, Eeman will be responsible for leading all digital initiatives, as well as for steering change and innovation throughout the European Broadcasting Union.

Former Hulu executive, **Johannes Larcher**, has joined Austin, Texas-based virtual reality firm SubVRsive as CEO. SubVRsive announced the appointment at the same time as it revealed that ad giant WPP had invested US\$4 million into the business - funds

it will use to accelerate growth and build the team. Larcher worked at Hulu between 2009 and 2013 as senior-vice president of international.

A+E has upped **Laura Fleury**



to head of international programming, giving her a remit across channels including History, FYI, Crime + Investigation and Blaze. She will oversee global programming, covering A+E's originals for the international market, co-production and acquisitions. Fleury will also coordinate the international networks collaboration with their US counterparts and the flow of programming from the US to the global networks.

Croatia's parliament has named **Kazimir Bacic** as the new director-general of public broadcaster HRT. Bacic was previously head of technology at HRT. He began working for the organisation in 1984 and has served in a variety of roles including assistant director-general for development and technology. He is also a member of the EBU's technical committee.

SeaChange has promoted chief information officer **Jonathan Rider** to senior vice president and chief operating officer. Rider will report to CEO Ed Terino and oversee engineering, product management, services, sales and marketing globally.

A+E Networks UK has poached BBC Worldwide's **Riccardo Donato**. Donato will take on a new

role as director of distribution and digital partnerships at the UK arm of A+E Networks, which leads company operations in 90 territories in Europe, the Middle East and Africa.

Discovery Networks Italy has appointed **Alessandro Araimo** as its new general manager. Araimo has been with Discovery Networks Southern Europe since 2014 as senior VP and COO. He takes on the new role on March 1. Separately, Discovery's Norway and Sweden boss **Harald Stromme** has left the company amid reports of a disagreement about the direction of the business in those territories. Regional digital chief **Sindre Østgård** has also stepped down after less than a year in his role.

Music video streaming service Vevo has brought in **Kevin McGurn**, with the digital exec joining from MCN group Fullscreen. At Vevo, which is backed by some of the music majors, he will be chief sales officer. He joins from Fullscreen where he was head of sales.



TF1 Group has named **Agnès Rosoor** as CEO of home shopping channels Téléshopping and Top Shopping. Rosoor, who replaces **Jérôme Dillard** as head of the French broadcaster's home shopping and e-commerce activities, will report to Régis Ravanard, deputy CEO in charge of advertising and diversification at TF1 Group. ●

Please email contributions to: stuart.thomson@knect365.com



“Discovery accused Sky of leveraging its ‘dominant market position’ to pay the content provider less than it received a decade ago. The dispute was resolved at the 11th hour, but the acrimony on both sides was clear.”

Breaking the waves

Big businesses in the TV world (or anywhere else, for that matter) are complicated, nuanced operations. At some point, it’s almost certain they will suffer from a classic case known as ‘the swan syndrome’ – while everything might look serene on the surface, there’s a lot of frantic panic paddling going on just underneath the waves.

Sky’s ‘swan’ moment broke the surface recently and we all got a good look at what was going on. Not only did the pay TV giant’s most recent financial results show a profit plunge of 18% at its UK business for the six months to the end of December 2016, but the churn rate of people disconnecting from its services rose to 11.6%, up from 10.2% in the same period in 2015.

If this were not enough to get the analysts sharpening their pencils, the same week the results were announced, one of Sky’s biggest independent suppliers, Discovery Communications, threatened to pull all its 13 channels, including Eurosport, off of the Sky platform because it claimed Sky was not prepared to pay it enough to carry its services. Discovery accused Sky of leveraging its “dominant market position” to pay the content provider less than it received a decade ago.

These are not unconnected events. Sky’s dominant position in the UK – a market that provides 90% of the pan-European broadcaster’s profits – is facing increased threats on several fronts. Rival BT’s entrance into the sports market has added a deep-pocketed and savvy rival bidder for key rights.

Separately, the amount paid for channels to be on the Sky platform is one area where Sky and any pay TV provider looks to drive a hard bargain, particularly when churn numbers are running high. The Sky-Discovery dispute was

resolved at the 11th hour and a new carriage fee deal agreed. The details of which were not made public, but the acrimony on both sides was clear.

What all this shows is the pressure on the traditional linear TV platforms to perform in an increasingly competitive world. Consumers have increasing amounts of choice, not least from big digital players like Netflix and Amazon, as well as home-grown, on-demand services delivered on broadband. Meanwhile, Google, Facebook and others are also adding more and more video content to their offers and becoming more telly-like. Even messaging app Snapchat is getting into the video game, for example, striking a recent deal with BBC Worldwide for exclusive content from the BBC’s *Planet Earth II* series for its Snapchat Discover platform, content that aired a day ahead of the linear debut of the programme on TV in the US and Canada.

For Sky all this change is happening even as the pay TV giant is about to be wholly bought by 21st Century Fox in an £11.7bn (€13.8 billion) takeover, currently wending its way through the regulatory process in the UK and Europe. Putting Sky together with Fox is part of a bigger strategic plan by Rupert Murdoch and sons to add scale and clout to better compete in individual markets but also against the big digital players like Netflix and Google which have global footprints, deep pockets and big ambitions.

The pressure has never been greater on Sky. So it should come as no surprise that CEO Jeremy Darroch took the occasion of its recent results to announce a new Sky product – a dish-less version of its pay TV offering. Set to launch next year, this will include the full slate of Sky’s TV channels delivered over broadband.

Of course, Sky has dipped its toe in the

OTT waters already with its Now TV service, a pay TV-lite product, with an estimated 500,000 subscribers to date, and in Germany Sky has launched an OTT service called Sky Ticket. But this newly mooted full-fat, Sky OTT service is in a whole new ball-park. This ‘new era’ product will greatly appeal to Sky’s chairman James Murdoch who has always been more of a ‘digital’ guy than his father.

Coupled with recent programming strategy shifts, Sky is embracing competitive realities. While football will remain an expensive but likely must-have feature on Sky’s shopping list, recent big decisions towards factual entertainment and away from factual documentaries and new comedy are part of a plan to create format shows that can be long-running and exportable.

Sky’s head of content in the UK, Zai Bennett, wants a *Big Brother*-type series that it can re-commission across seasons and exploit on platforms around the world. Bennett called out Vin Diesel’s *The Fast And The Furious*, saying what he wants is a TV series like that – with the impact of a big Hollywood movie. The appetite for drama series has never been higher and Sky has six drama series set to air this year at budget of £25 million each. Perhaps surprisingly, Bennett is also thinking outside of the linear channel box: “We are not a linear channels business. We are a multi-platform business and the linear channels are a shop window,” he said in a recent interview.

Sky is having to transform its business and it’s far from alone; there are a lot of swans out there all furiously paddling. ●

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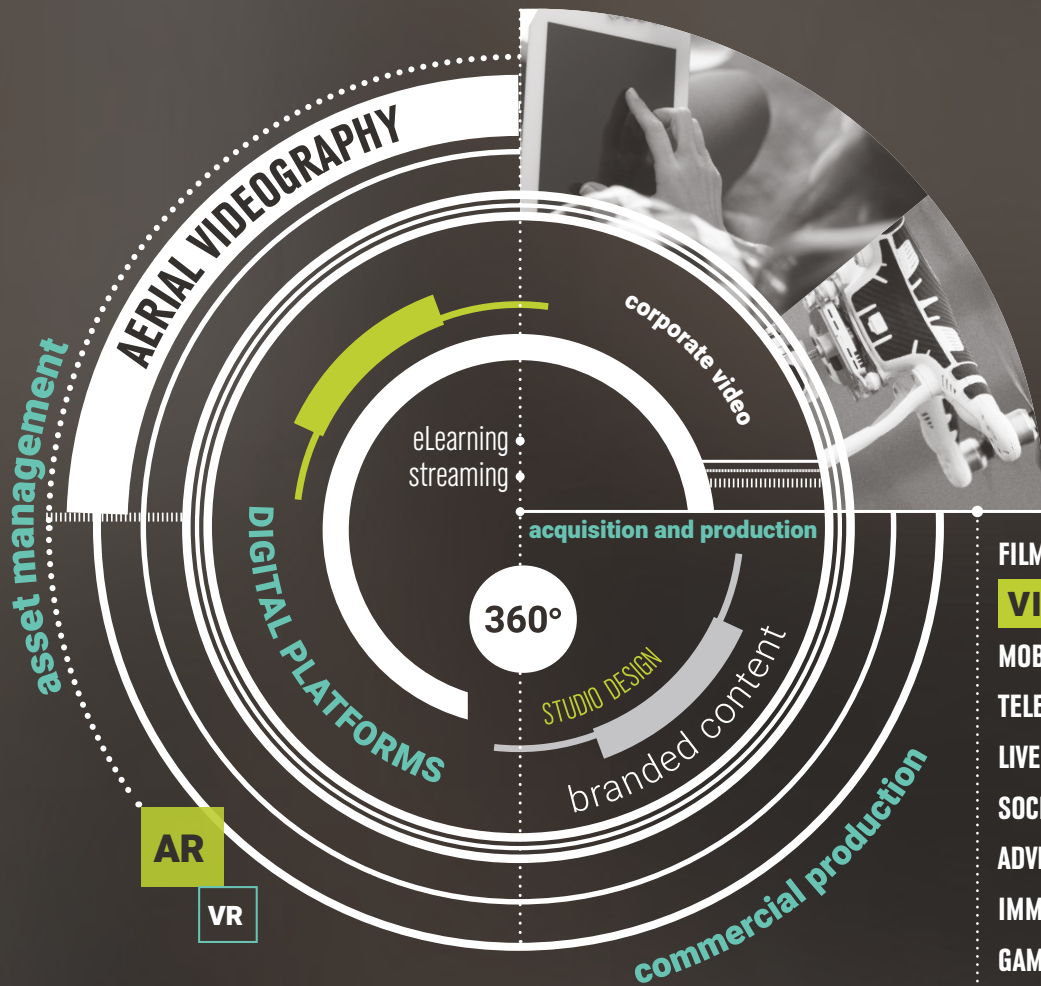
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