

disk drive in the device, and we suspect this will only appear in first generation devices, and slowly disk drives will disappear in such devices, as the cloud DVR becomes accepted and reliable.

One interesting line in the announcement is that Orange says the 1 TB drive can be shared with up to 10 people – this either means that you can copy content from the home DVR to up to 10 different portable devices, or that it will transcode and stream to this many devices. We think the former is more likely.

Orange also features one of those new, stripped down remote controls or the device can be controlled through an app on a phone, tablet or watch and that App has built into it the Nuance supplied voice controls, so that you can speak to the device to change channel or search. Presumably the existing Voyage multiscreen and recommendation engine from subsidiary Viaccess-Orca is built into these apps or will be at some point, since it has led the Orange incursion into multiscreen over the past 2 years.

During the launch event a virtual reality immersive event was conducted using the HTC Vive VR headset to take journalists and executives into the box itself.

Also at the launch the Livebox was shown incorporating a few other specialist apps such as celebrity recognition app Reminiz, which recognizes actors on screen to bring up actor details, and Wildmoka, which is already used by Canal+ in France. Wildmoka lets you share 30 second clips from TV on social media. The launch event was held at the 4<sup>th</sup> “Show Hello” at the Carrousel du Louvre, in Paris.

Orange also used the event offer up its Homelive services: tele-monitoring by EPS; Wiser multizone thermostat control from Schneider Electric; control of energy bills with EDF’s e.quilibre service; and to announced new development partners in Awox, Cabasse, Fitbit, Garmin, Netatmo, Parrot Flower Power, Philips Hue, Somfy, Sony Lifelog and Withings.

## **Key Issues**

### **Can AI write a movie script?**

At this week’s Connected TV Summit in London we were intrigued by the question of whether AI could one day write its very own TV show? It turns out that AI has already accomplished this.

David Stiff, CEO of Israeli AI firm Vault, gave a presentation on Vault's potentially huge and disruptive innovation. Despite recent breakthroughs and headline grabbing news, he claims that the finance industry has been using AI for over 30 years and is getting increasingly good at it - to the point where AI now makes over 50% of financial decisions, whereas AI in the world of media currently only makes less than 3% of decisions.

There has already been some big news for AI during the past week as Google's DeepMind successfully defeated the world champion at the Japanese game of Go, a game in which there are more possible board positions than there are atoms in the universe. This victory was years ahead of Google's own ambitions, and is a sentiment for just how the technology is coming on, in leaps and bounds.

The news about Vault came at a session of the conference which took in three disruptive areas - AI, Virtual Reality and Augmented Reality.

By feeding Vault a movie script, it uses algorithms to judge if the movie will be successful by comparing data points to box office performance data. Vault projects numerous different outputs in producing its decisioning, from an array of investment factors and forecasting, to the ideal cast for the movie, what demographics it appeals to, and how the actors relate to specific demographics, and also looks at historical data for the financial returns of past movies. Stiff stressed that Vault's number one focus is on how much money should be invested, and it narrows down the limits and risks of investment, highlighting that, "Vault likes movies that will make money."

Stiff said that Vault's algorithms differ to those used in recommendation engines because traditional recommendation software doesn't take the complexity of story lines into account, whereas Vault looks deep inside the genre and analyzes 300,000 to 400,000 different elements that make up a single story.

Stiff gave an example of a friend of his, cartoonist and software developer Andy Herd, who recently fed every single episode of the popular series Friends into Google's TensorFlow open source machine learning software. From this, the neural network he created, produced a multitude of brand new fresh scripts for episodes of Friends. Having said that, much of the script content is

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too random and erratic to be taken seriously, but it's called machine learning for a reason, and most significantly of all, Herd did this at a cost of \$0 in a grand total of just 3 hours.

Ironically, it transpires that Vault actually has its own inherent sense of bias, as Stiff said Vault has shown a sort of petulance in choosing movies featuring AI, such as Terminator - something that is sure to send AI alarmists into meltdown.

Vault is already working with some large and some small studios, which are unnamed for now, according to Stiff, as well as banks, agencies, and media companies. It was emphasized that essentially Vault is designed not to upset Hollywood and put people out of jobs, but to compliment Hollywood and make it more money.

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Although, the creative minds responsible for some of the most successful movies of all time will be adamant that AI will never have the creative edge that made some of the most successful and iconic movies what they are. The brutal truth is, there is a formula for success and it's already happening. Stiff gave a tried and tested example of Vault in action; last year, the movie "In the Heart of the Sea" was released, which had a huge budget, and it was a bit of a flop. Apparently Vault predicted this movie wouldn't be as successful as its backers believed, and claims to do this with about 65% to 70% accuracy.

Virtual Reality (VR) has taken center stage at most major tech events over the past two years, and Connected TV Summit was no different. Despite the VR hype, it hadn't quite gained the momentum to bring it to mass market, but it's clear now that 2016 is going to be the year of VR - as was evident at MWC last month. Operators, broadcasters, social networks, online platforms, and content providers are all digging deep into the potential of monetizing VR, and the panel at Connected TV World Summit featured some innovators from these industries.

Representatives of BT and Deutsche Telekom on the panel said their respective companies are both looking at the future demands of VR on bandwidth and how to accommodate this using edge computing technologies to increase network capacity, as VR requires low latency. BT is working with a company called Live-Like, to investigate how VR and 360-degree video can sit alongside broadcast, for example, showing 360-degree content on social media before a live sports match kicks off. The difference be-

tween VR and 360-degree video, otherwise known as “the magic window”, is that 360-degree video is consumed on a smartphone or tablet without a headset, which is ideal for short form content.

For long form content, the use of a VR headset will certainly create an incredibly immersive experience, but the panel admitted that one barrier for VR, particularly for live sports, is that it takes away the interactivity which comes with using the smartphone as an additional screen when content is being broadcast on the main big screen. While VR gaming is beginning to take off, and Facebook and YouTube are hurriedly producing VR and 360-degree content to meet demand, it could still be several years before virtual reality becomes a broadcast reality. In terms of standards, DVB is reportedly “looking into it”, and YouTube has begun forming strategic partnerships.

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### **US pay TV subs down over 1 million in 2015**

A recent report from Leichtman Research Group claimed that the major pay TV providers in the US lost 385,000 subscribers in 2015 – but by our watch we make the real figure to be more than 1.5 million.

We’re not sure why other research firms feel the need to sugar coat the pay TV figures by either omitting or choosing to ignore significant losses, but Faultline will continue to tell the truth, no matter how bleak the future looks.

DirecTV made a slight recovery in Q4 2015 by adding 214,000 subscribers, ending the year with just under 19.8 million, but in Q1 it had 20.41 million subs; that’s a loss of around 610,000 – so it’s unclear where Leitchman got its figure of 167,000 subscriber additions for DirecTV in 2015. Coupled with U-verse’s subscriber loss of 350,000, this gives AT&T an overall pay TV customer loss of 960,000 for the year.

The only explanation in sight is that AT&T has stopped pushing U-Verse to anyone and everyone, but is now only taking on profitable business, so expect the decline to go on. Any financial analyst who only takes in the cellular numbers is missing the point.

However, the start of this month saw AT&T announce it will be taking DirecTV OTT with three new flavors in DirecTV Now, Di-