

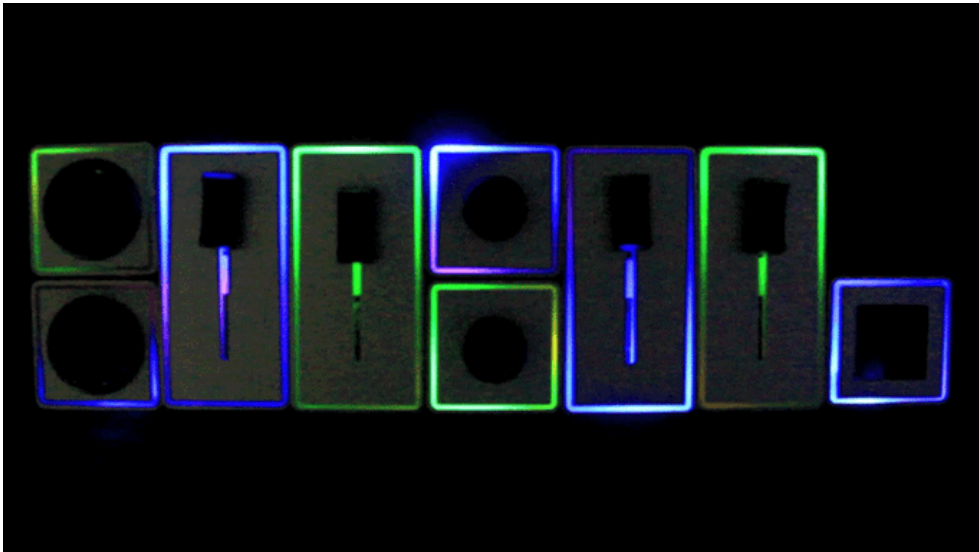
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Holographic sharks, real-time VR, 8K video and a new way to control Adobe software

By [Michael Burns](#) / on [September 20, 2016](#)

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10 groundbreaking new ways to watch TV & VR, and create in Photoshop, After Effects, Premiere Pro and Lightroom from IBC 2016.

The IBC show in Amsterdam is normally where the latest big thing in TV and film competes for your attention with new Adobe applications, Canon cameras and The Foundry, er, software for creating content for those 'big things'. This year's halls though saw the small screen and big screen crowd joined by a multitude of others with immersive technology, and at least one with apparently no screen at all.

Stranger Things

The main halls are full of the most mainstream tech – but if you want the truly futuristic (and weird) stuff, you have to head to the appropriately named FutureZone. True to form, on entering it I was greeted by what

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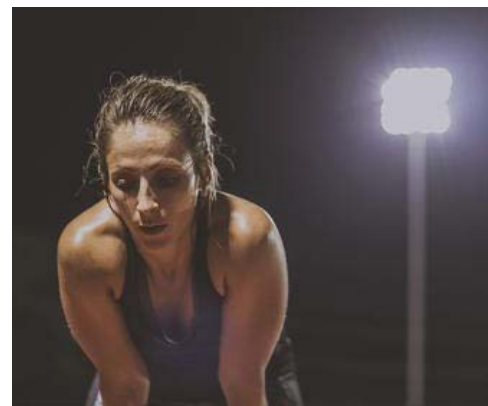
looked like a holographic shark swimming among the crowd.



This turned out to be exactly what it was, but the method of projection, by developer [Mann CG](#) was rather unusual. The almost invisible projection screen is double-sided and made up of a ‘nanomaterial’ according to Liam Mahon, tech lead on the project.

“The screen has been in development for about two and half years,” he said. “It’s actually based on a principle of quantum mechanics. The material has a coating of microscopic – on a nano level – metallic tubes. They are woven in an asymmetric pattern, and they pick up on light particles.

“If there’s enough of them, the tiny tubes take photons of light and transform that into a pattern on an otherwise-absolutely-transparent dark surface. We didn’t want to make reflective light, we wanted to make the light a raw source for a hologram – and this is a step in that direction.”



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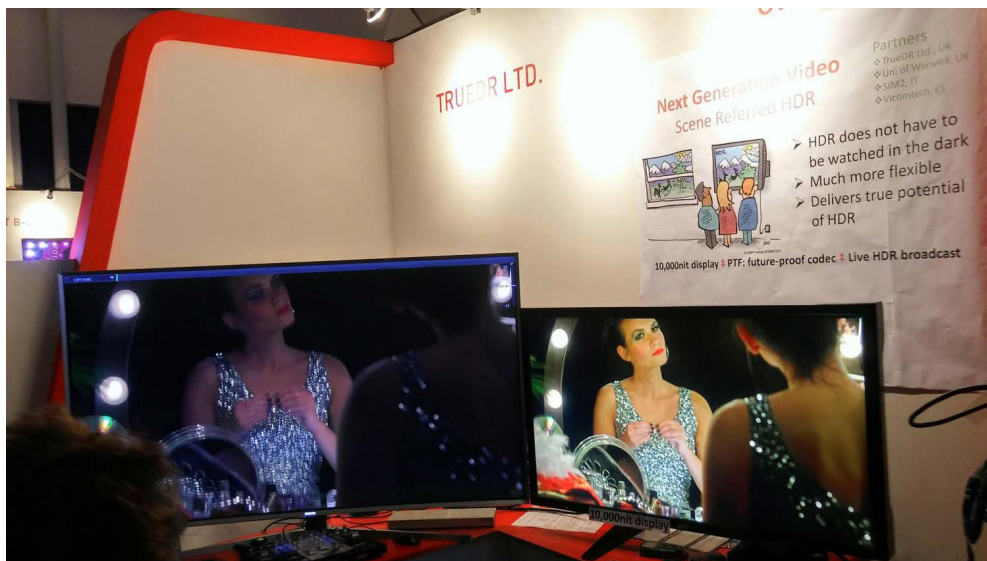
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This 'floating' content – there was more than just sharks – was very impressive, though it was slightly hampered by the massive brightness of the screen on an adjacent stand. This turned out to be a demonstration of 'scene-referred' HDR by development consortium TrueDR. Scene-Referred means the full range of lighting in a scene is captured and preserved via a special codec, which means you can watch – and see the benefits of – a HDR screen without the need to sit in a darkened room.

It relies on a Sim2 10,000nit HDR display – that's a really, really bright TV – and this was the first time that the display has ever been shown publicly.



8K video

Talking of screens, Japan's state broadcaster NHK seems to spend every IBC making ultra-high-resolution imaging look even more glorious. With the Tokyo Olympics in 2020 set to be broadcast in 8K, NHK is leapfrogging the whole 4K scene completely - the company started test broadcasts in 8K HDR by satellite last month for Rio. A prototype of an

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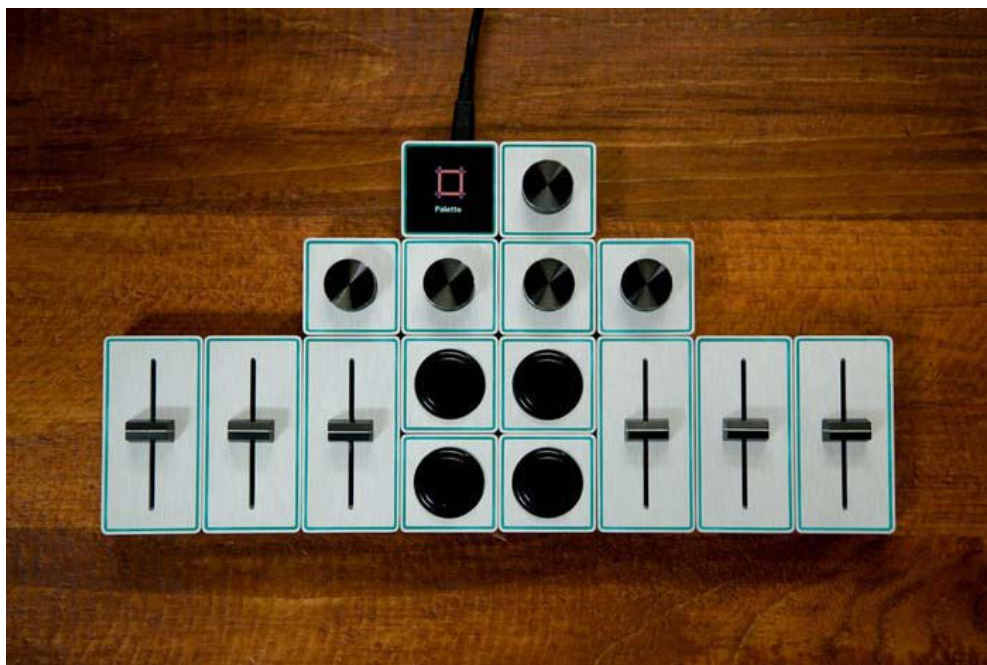


These Artists Transform Hospitals from Clinical to Creative Spaces

ultra-thin 8K display was on show at NHK's stand in the Future Zone that is designed to be rolled up like a projector screen. Constructed by 'stitching' four 65-inch 4K OLED panels together, it was incredibly thin, with stunning colours that this photo probably can't do justice to.

Cool things, hidden away

It's typical at IBC to come across odd bits of technology that might have been lost in the big PR razzmatazz around the show, and this year is no different. Nestled among the cables on a couple of the demo desks on the Adobe stand was a curious collection of cubes with knobs, dials and sliders on top.



This is [Palette](#), originally a Kickstarter project by Calvin Chu, a modular quick configuration control system for Photoshop, Audition, After Effects and Lightroom - with beta versions for Premiere Pro and Final Cut Pro available.

Now a fully fledged shipping product from [palette.com](#) by the Canadian startup of the same name, Palette cubes click together using a magnetic interface and provide a physical interface for making repetitive tasks more efficient in the Adobe products. It can also be used as a MIDI device for music control, as a joystick, or as a substitute for keyboard shortcuts. Differently priced packs of Palette modules are available, and there's even a super-stylish wooden version for those with the deepest pockets.

Another product that caught my eye was a low-cost [\$1499/£1,149] motion-capture system from [Noitom](#) called Perception Neuron. Available now, the stand was swamped with people enquiring about the system

Perception Neuron integrates into third party software such as

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MotionBuilder, Unreal and Unity and real-time rendering engine **iClone 6** – which was being demoed on the stand.

On the next stand, Amy Davis, associate producer for the firm Cubic Motion, was showing off its very impressive face-tracking system that turns performances into real-time facial animation. It tracks more than 200 facial features at over 90fps and automatically maps this data to extremely high-quality digital characters in real-time.

It's also able to be live-streamed to a game engine, which can be seen below.



What's next for VR?

VR and immersive technology popped up everywhere at IBC. As well as a presence in the Future Zone, Nokia had a stunning oval stand in the main Exhibition halls to tout its OZO camera. The camera can capture spatial (ie 3D) audio and video in 360 degrees horizontally and 180 degrees vertically (or vice-versa if you turn it sideways).

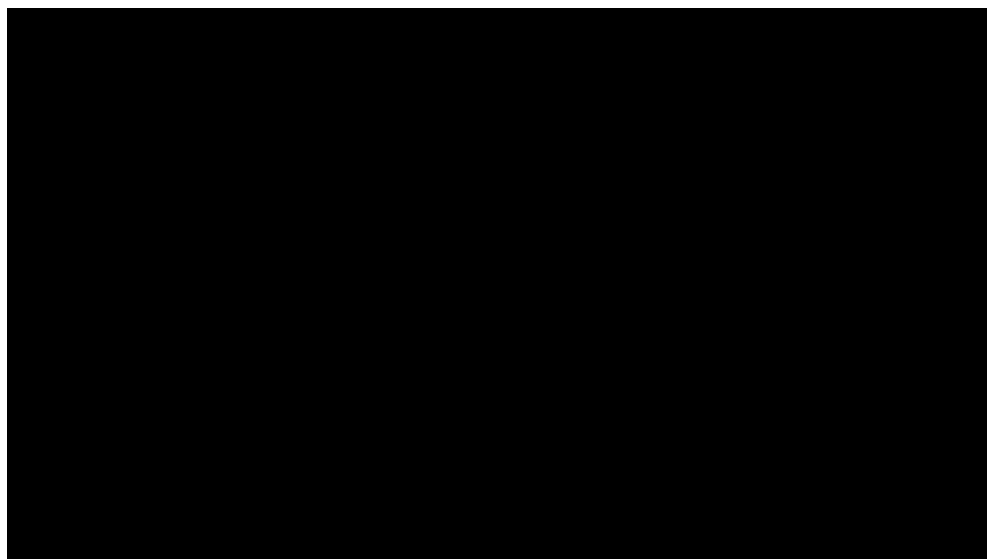


Nokia's main 'news' about the OZO was a 25% price cut – making VR production using it cheaper, but it's still damn expensive – but it was the high-quality content captured using it that really stood out. Nokia 'showed' – 'offered' is probably a better word – scenes on headsets included being inside an interrogation in a cop drama and trying to escape from a bear at a campsite.

The quality of immersive experience – especially the audio cues – from such professional devices at IBC was so much advanced since the same time last year. It's obvious that there is serious money being thrown at this. But it's just as obvious that while producers and broadcasters are keen to get involved, they're wary of spending too much money on projects that the public might not want to pay for - everyone remembers the lessons of stereo 3D. We're still very much at the testing the water phase.

However, VR headsets were a very common sight on the IBC show floor, and 360 video was being seriously discussed by leading creatives and CEOs as a storytelling tool and revenue stream in the Conference.

Here's Foundry CEO Alex Mahon, with her very quick take on VR right now.

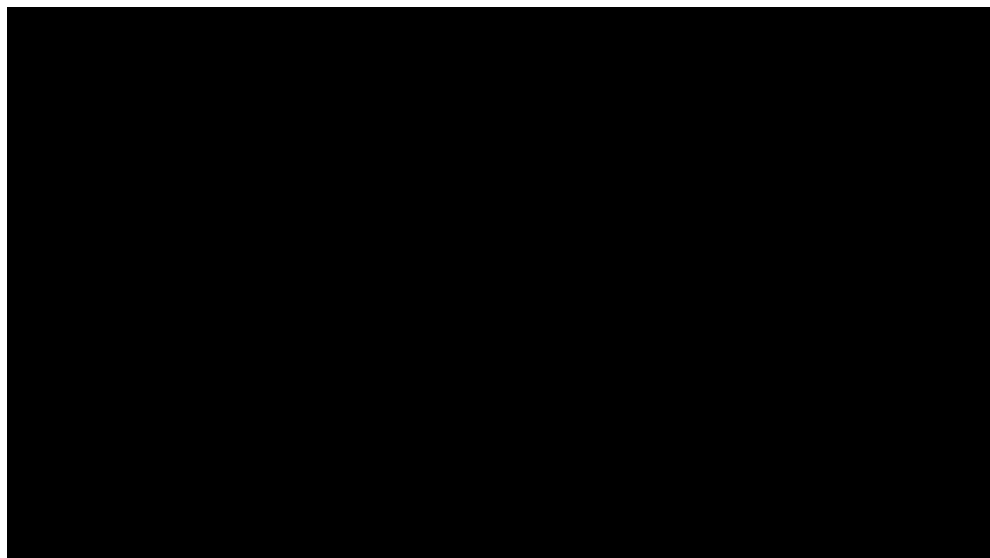


You can also watch [Solomon Rogers on the show's site](#) (but we can't embed it) discussing VR. Solomon is CEO of Rewind, which recently took on a [VR spacewalk that they created for the BBC](#).

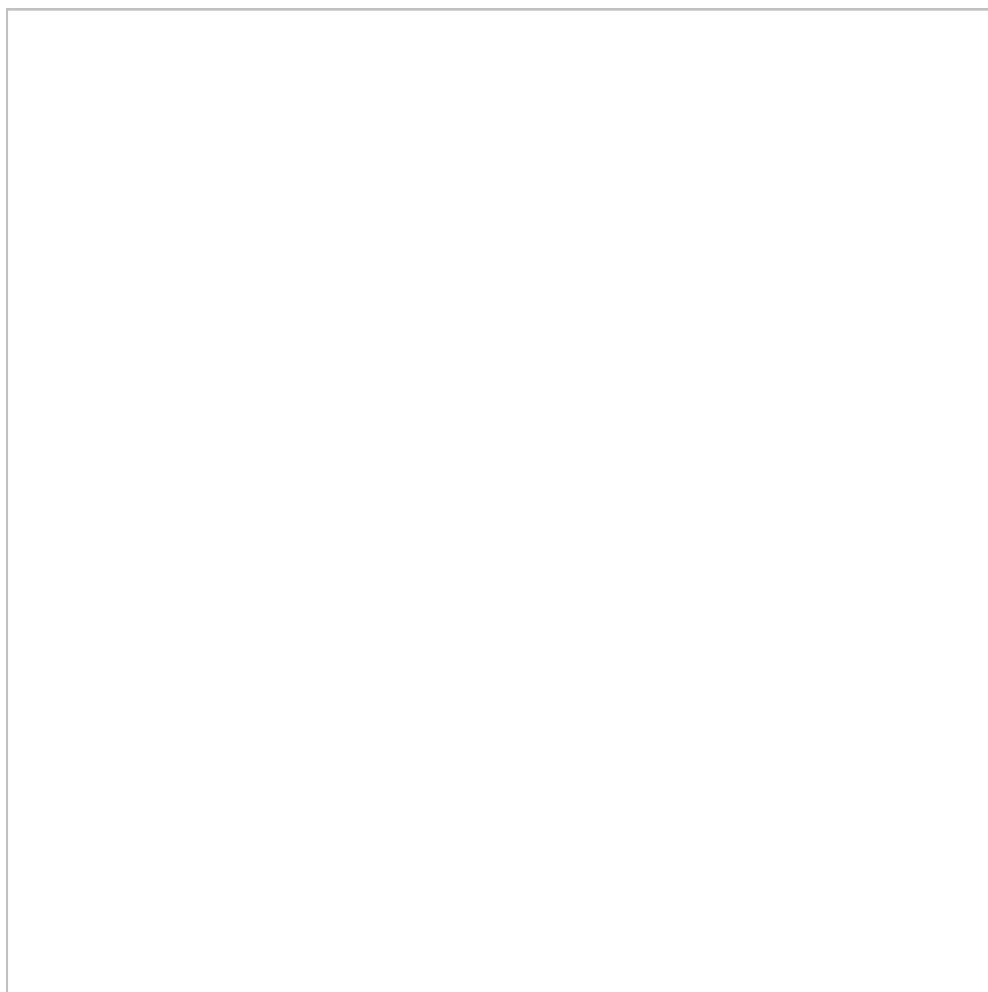
Experimental VR



The Future Zone offered some customised VR applications and content, such as VR firm Rilix, which was demonstrating its Coaster app in real rollercoaster cars.



[Argon Design](#) was showing 360-degree panoramic live video from a six-camera customised GoPro rig to one of the [Pufferfish Pufferspheres](#) that were dotted around the Future Zone.



Argon's business development VP Clifford Dive said that the solution, Argon360, offers live streaming of VR – with realtime stitching and parallax correction for 4K video streams. He is currently looking for a manufacturing partner to produce a professional live 360 video streaming product.

As the system doesn't require the serious PC hardware of other solutions - it could conceivably be the size of a PlayStation or even smaller - I can

imagine the final product (combined with a VR rig) being the great for live events. Imagine going to Formula 1 and being able to see all around xxxxx's car – while he's driving round the track (if you're not into Formula 1, replace this example with your favourite sport or hobby).


GoPro for VR – and an easier life



Over on the GoPro stand itself, VR was also the focus for Omni (*above*). This is the company's new complete system for VR capturing, stitching and publishing. It consists of six Hero4 Black cameras synchronised up in a spherical aluminium rig, combined with Kolor video stitching software, and an external power supply/charger. Available for pre-order, it costs a penny short of £4,200.

There were a number of other interesting new variations for the popular mini action-cam on the stand. The GoPro Custom Solutions team has been producing headgear one-offs, such as a biking helmet and umpire's cap with integrated broadcast quality cameras. There's even a camera inside an awards stand, which was recently used to film reaction shots at the Grammys. [See more of the wacky lineup below.





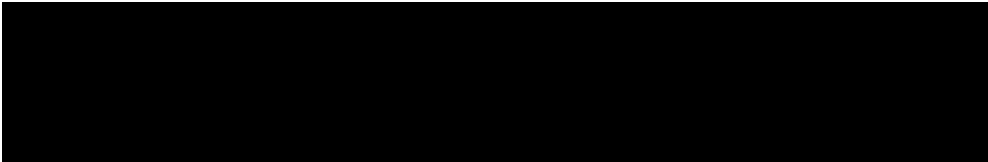
One other GoPro-related product I saw that was incredibly popular with showgoers might sound a bit dull after the experimental creativity we've been talking about so far – but it's a time- and problem-saving device that will free you up to do those really groundbreaking projects.

GoPro shooters using multiple cameras will want to know about the newly launched [SyncBak Pro](#) from Timecode Systems. IBC was the European premiere for the device, available on pre-order (£228 from www.timecodesystems.com), and it was proving incredibly popular with showgoers. It allows GoPro HERO4 Black and Silver cameras to generate their own frame-accurate timecode, and offers the capability to wirelessly timecode sync multiple GoPros and GoPros with pro cameras and pro audio devices over long range RF. There is also capability to wirelessly view, control and monitor all GoPros on a shoot over long range RF from the company's B:LINK Hub app - ideal for multi-camera projects.

The new world in front of the greenscreen

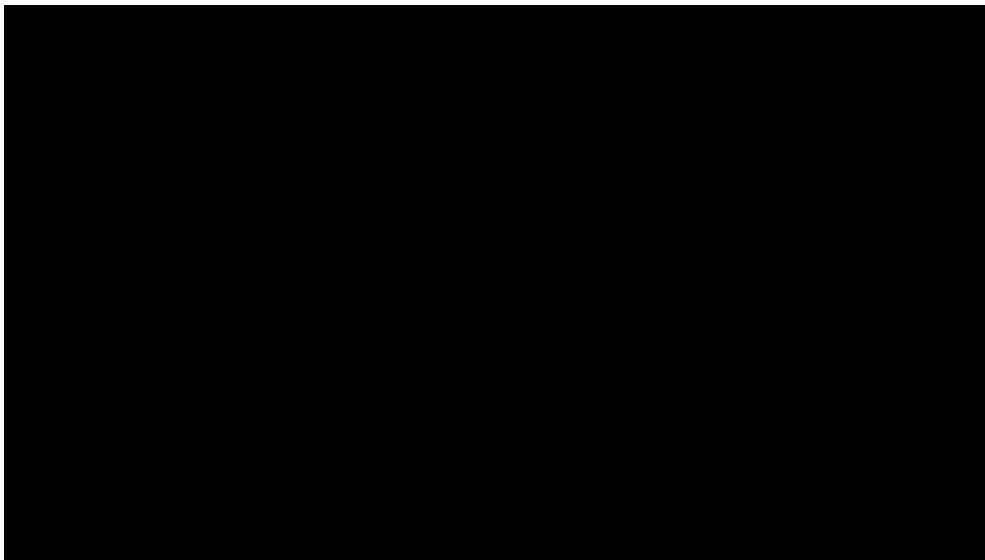
Virtual Production – ie shooting a whole production on greenscreen – is a theme we've covered before on *Digital Arts*. It's interesting to see this become a topic of the conference, although it's primarily still a planning technology reserved for film and high-end TV drama.

One of the key people working in this field is VFX house [Atomic Fiction](#)'s co-founder Kevin Bailie, who was at IBC to deliver a case study on his company's virtual production work on *The Walk*. The film by Robert Zemeckis is based on the true story of wire walker, Philippe Petit, who illegally walked a high wire between the Twin Towers. VFX was used to rebuild 1974 New York and its World Trade Center. Watch a breakdown video below.





Kevin is about to start VFX work on *Star Wars Rogue One* and currently working on *Allied*, a wartime romantic thriller starring Brad Pitt and Marion Cotillard (trailer *below*).



Atomic Fiction is also working on the next *Pirates of The Caribbean*, *Blade Runner* and *Star Trek Beyond*.

After his presentation, Kevin told me a little about what's in store for Robert Zemeckis' next film, which is under wraps.

"It's going to be crazy, we're going to use every tool in the book," he said. "There's going to be VR, virtual cameras, real-time motion capture involved, all kinds of really neat stuff. We're still actually figuring out what techniques to use where. But that's the fun thing about [Robert]. He's so open to using the right tool for the job. Whether that's old *Polar Express*-style mocap or live-action treated to look a certain way, he'll use whatever he can to tell the story best. He's the most inspiring director I've ever worked with in that regard."

And that's what all of the innovative technology is all about – helping those making films, shows, experiences, ads and more create exciting, powerful or otherwise meaningful experiences. And they need your

creativity to do that.

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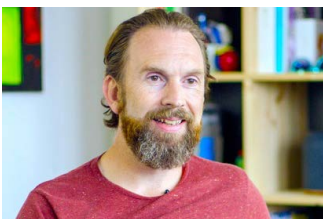
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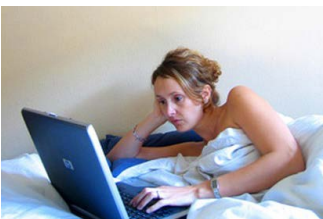


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