
TECHMUTINY

new thinking, new technology for the creative sectors

A MediaTainment Finance supplement

***GURU YVES BEHAR TALKS DIGITAL TECH + DESIGN**

***STREAMING MUSIC STRUMS AGAINST PIRACY IN EMERGING MARKETS**

***THE TRILLION-DOLLAR TECHMUTINEERS WITH A GRIP ON MEDIA AND ENTERTAINMENT**

Full contents - Page 2

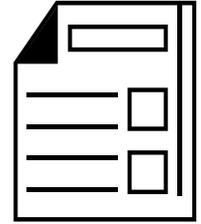
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**SMART RADIO: PLAYLISTS –
ARE THEY THE NEW RADIO?**
16 November 2015, NYC



CONTENTS

	Page
News Analysis	
Design guru Yves Béhar on wearable tech and smart design	3
Streaming music in emerging markets puts pressure on piracy	6
Digital humans taking on more starring roles in Hollywood	9
Numbers that Count	11-13
The Top 15 TechMutineers worth US\$2.4 trillion	
Venture capital tech investments in Europe	
Start-ups' Standpoint	14-15
Beacon & Lively (wearable technology); UniqueSound (music)	
Disruption Directory (tech impacting the creative sectors)	16-36
Advertising/marketing; architecture/design; books/print media; fashion; games; live entertainment; music; photography; social media; sports; television; extra	
About TechMutiny	37



Where the tech talking ends and the thinking begins

GURU YVES BEHAR: SMART TECH + WEARABLE DESIGNERS = GREAT ENTREPRENEURS

Start-ups developing and designing Internet-enabled smart jewelry in high-end fashion are set to propel wearable technology into a multibillion dollar consumer category. And industrial design guru Yves Béhar is all for it.

Speaking to TechMutiny after his keynote at this year's London Design Festival at the Olympia Grand in September, Béhar (pictured) applauded tech developers for investing more into their products' design element. Equally, he added, emerging and established fashion designers no longer see technology as the preserve of gadgets for geeks.

This could see smart costume jewelry become high-speed computers in luxury wristwatches, rings, bracelets or necklaces, the way smartphones became the computer in our pockets. It makes sense at a time when US investment bank Cowen Group predicts the global wearable devices market will be worth US\$170bn by 2020 with the lifestyle/entertainment category accounting for 40%. And, according to research by CB Insights, two of 2014's Top 10 tech wearable investment deals were for smart jewelry

makers Misfit Wearables (co-founded by former Apple CEO John Sculley) and Jawbone, where Béhar is Chief Creative Officer.

But it is the tech and designer start-ups that we can thank for spearheading this new trend, adds Swiss-born Béhar, a TIME magazine Top 25



Visionary based in San Francisco. As an entrepreneur and philanthropist, he set up his company fuseproject to create industrial design products for some of the world's biggest brands as well as invest in third-party and not-for-profit ventures.

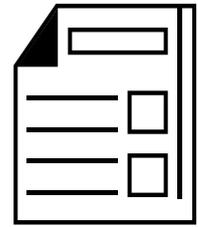
"It used to be that if you were a designer, you had zero chance of raising investment.

But designers are building great companies," he notes. "How they use technology is not about the technology itself, it is about making things beautiful, easy and accessible for the user's experience."

The smart mobile designs

The melding of design and wireless technology is inspiring new commercial fashion concepts. "Start-ups can be very dynamic because they don't normally have an existing clientele to

NEWS ANALYSIS



Where the tech talking ends and the thinking begins

annoy; they live and die by their innovation. But thanks to technology, you're seeing more designers becoming entrepreneurs themselves." And smart jewelry is establishing its foundation today because designers are learning to convert technology into portable consumer-friendly lifestyle choices. "When designing devices, I believe in invisible interfaces; these things should not take over our lives and should not take you away from the moment. They should fit into our lives."

That trend is summed up by the recent enhancements to Jawbone's line of UP fitness trackers.

Originally invented in 2011, UP was a pioneering wearable that looked like plain plastic devices



wearers strapped to their arms to monitor their health by tracking their daily lifestyle activities (including sleeping habits, diets and exercise) via Bluetooth and apps.

The most recent upgrade in September improved the award-winning UP's functionalities, such as automatically detecting when the user is sleeping or monitoring the heart rate when not exercising. Moreover, it is now available as a slender bangle (pictured above), comes in a wide variety of colors (including black diamond, violet turquoise, gunmetal and indigo twist) and is made from "premium material" to look like a fashion accessory.

Be they brooches, bracelets, cufflinks, rings, wristwatches, necklace pendants, these next generation digital trinkets come with circuit boards, sensors or other nanotechnology that

make them Bluetooth and Wi-Fi compatible. Linked to relevant apps and mobile networks, they not only help track your physical fitness via the data on your smartphone, but they can also be great communication tools.

These digital ornaments will gently vibrate or light up in different colors to notify you of a text message, an email, a social media update, or remind you of an event without disrupting your private conversation or business meeting with an irritating ringtone.

Smart jewelry is sparkling

Or these new devices can simply make you look good for leisure and special occasions.

Another start-up high-tech designer piece of jewelry making waves is the Bluetooth-connected 18-carat gold plated ring by Ringly, whose investors include venture capital maven Andreessen Horowitz.

Beacon (see page 14) by Philadelphia-based start-up Beacon & Lively is targeting women who want their digital devices to look chic and slick.

JUNE, by Netatmo, is made from gold, platinum or gunmetal and structured to look like a precious stone on a brooch or bracelet attached to a leather or silicon strap. Created by French jewelry design entrepreneur Camille Toupet, it aims to prevent premature skin damage by testing the atmosphere and reminding the wearer what cautions to take.

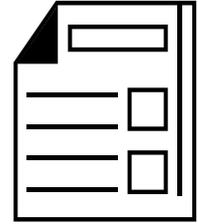
And US-based high-end men's fashion accessories firm Dalys 1895 has come up with cufflinks that contain a hidden 2GB USB and function as a portable Wi-Fi hotspot.

But it isn't only the start-ups that are making jewelry smart.

Designer labels wade in

At its recent gathering of the faithful in San

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Where the tech talking ends and the thinking begins

Francisco, iPhone maker Apple unveiled The Apple Watch Hermès Collection, the first time the company famous for the elegantly crafted iPhone and iPads, has entered into a commercial partnership with another brand (which also happens to be renowned for elegantly crafted luxury goods).

Due out in October, it melds the highly touted Apple Watch (pictured below) tech for tracking



daily activities and health with the French fashion house's logo, luxury watches and hand dials. It comes in gold, gold aluminum and stainless steel attached to expensive hand-stitched leather. Last year, Tory Burch for Fitbit was launched after the US designer label's signature refined style was added to Fitbit for Flex, another health tracking device, to create silicone or gold, silver and brass-plated bracelets and necklaces featuring the fitness measurement sensors. The stylish 3G-connected MICA (My Intelligent Communication Accessory) combines semiprecious stones, the engineering of computer chip giant Intel and the flair of designer label Open Ceremony. A gentle tap on the curved touchscreen display enables you to retrieve

messages and other data from selected contacts without having to haul out your smartphone first. Extravagance meets digital equipment with the Swarovski Shine Collection, which marries the luxury crystal maker's sophistication with the tech know-how at Misfit Wearables. The collection includes a solar powered activity tracker.

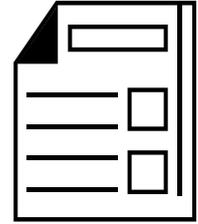
The fashion industry's disappointment with Google Glass came about because despite the great technology, the eyewear's questionable clunky design meant it struggled to win over consumers. One in the eye for wearable tech, so to speak.

But as start-ups devote more attention to the design component of fashion-forward wearables, the major labels will focus more on the business potential.

"I think we're going to see some great things from start-ups; many will struggle and a few will succeed," Béhar says.

"How they use technology is not about the technology itself, it is about making things beautiful, easy and accessible for the user's experience"
- Yves Béhar

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Where the tech talking ends and the thinking begins

STREAMING TECH IN EMERGING MARKETS PLACING PRESSURE ON MUSIC PIRACY

Streaming technology could be the Great Melodic Hope that turns piracy-ridden emerging economies into new revenue earning markets for the still struggling international music industry.

Deezer, the world's second biggest streaming music platform after market leader Spotify, recently filed for an IPO to be listed on Euronext Paris Stock Exchange. The filing stated that the service (operating in 180 countries) has made developing countries key to its plans. Spotify itself is targeting as many markets as possible with 75 million active users in 58 markets, including several in Asia and Latin America.

Newcomer Apple Music has entered 100-plus territories, including China, since its launch in June. Rdio, founded by Danish Skype co-inventor Janus Friis and already in 85-plus markets, made it clear that winning over music fans in emerging markets was core to its strategy.

After being thorns in the side of the international music business thanks to rife piracy in physical CD and vinyl sales, and à la carte digital downloads, could challenging Asian, African and Latin American countries make streaming recorded music generate incremental revenues?

The tech and telecoms solution

Internet technology, 4G and soon 5G mobile networks, apps and a young generation familiar with no other way of accessing entertainment could provide the solution there.

“The rapid advance in affordable smartphones in emerging markets is the most significant growth

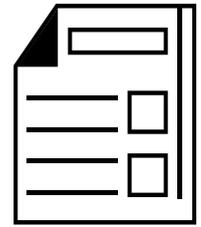
opportunity for the music industry since the invention of FM radio,” states Oliver Barnes, Rdio's UK -based Vice President of New Business (pictured below). “Emerging markets already have enormous illegitimate market places for music products; more than US\$2bn is spent in India alone on mobile ringback tones, less than 5% of which currently finds its way back to rights owners as royalties.”



However, the growing penetration of telecoms-delivered high-speed wireless Internet, mobile payments and middle class consumers are helping to improve the social and economic fabric. This could mean more fans in China, India, Nigeria, South Africa, Brazil and Mexico able (and willing) to pay for access to services like Rdio and reject the questionable quality of pirate services featuring unlicensed music.

“By connecting developing markets to the world of music through mobile devices, it is possible to change this reality,” Barnes adds. “Once these customers have experienced a strong streaming product and the benefits offered, they can then

NEWS ANALYSIS



Where the tech talking ends and the thinking begins

likely be converted.”

Stephen Somerville, Senior Vice President of Commercial at UK-headquartered international digital music service provider 7digital, concurs: “Music streaming by default provides less obvious opportunity for pirating than physical or download sales.”

Streaming soothes struggling markets

It is universally acknowledged that physical and peer-to-peer online piracy decimated the global music sector, which generated more than US\$40bn annually by the late 1990s. Revenues slumped to just under US\$15bn in 2014, according to the recorded music business global trade organization IFPI.

In several markets outside the West, piracy penetration was between 50% and 99% of recordings sold by leading record labels.

But international streaming services, from Spotify, Rdio, Deezer, Rhapsody, Pandora to Google Play, Jay Z’s TIDAL and Apple Music are becoming positive game changers.

Users connected to the Internet can access an unlimited number of songs (from catalogs featuring up to 35 million tracks each) in exchange for allowing advertising or paying monthly subscription fees.

IFPI says digital music grew 6.9% in 2014 to US\$6.9bn. Revenues from streaming music jumped 39% as the number of paying streaming subscribers rose to 41 million the same year, from 8 million in 2012.

US research firm Gartner reported that global sales of smartphones rose 19% during the first quarter of 2015 to 336 million units, thanks to purchases in emerging countries in Asia Pacific, North Africa and Eastern Europe (but not the still complex market of China).

Several services, like Deezer and Rdio, part-

ner with telecom operators to bundle streaming music to mobile subscription to make it both affordable and billable in countries where salaries are low and credit cards are non-existent.

Growing local players

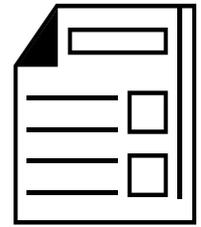
India is among the Asian territories embracing streaming. Rdio is there, as is local market leader Saavn, a start-up that recently nabbed US\$100m in new investment.

“Streaming’s share of the Asian markets that IFPI track has increased from 8% in 2010 to 45% in 2014,” Kwee Tiang Ang, IFPI’s Regional Director, Asia Pacific, says. “Conversely, download revenues have fallen from 60% to 39% over the same period, with mobile incomes (for example, from ringtones) also falling from 33% to 14%. These recent changes can in part be attributed to the fact that the key global music streaming services have only entered some of the Asian markets in the recent one to two years. Growth potential is thus still tremendous.”

In Sub-Saharan Africa, accountancy conglomerate PwC predicts South Africa’s mobile Internet reach will rise to 38 million subscribers by 2019 from 20 million in 2014. In Nigeria, the number of Internet mobile customers will grow to more than 50 million in three years’ time, from nearly 8 million in 2013.

These prospects have lured local start-ups and entrepreneurs to set up streaming platforms offering domestic repertoire and artists. South Africa’s Simfy Africa, Kenya-based Mdundo, Spinlet, iRoking and Vuga in Nigeria, plus Tigo in Ghana and Tanzania are nurturing a new generation of streaming music listeners.

This partly explains the recent commitment to Africa by 7digital, which offers business-to-business solutions to companies offering their own branded streaming music operations.



Where the tech talking ends and the thinking begins

“Emerging markets already have enormous illegitimate market places for music products; more than US\$2bn is spent in India alone on mobile ringback tones, less than 5% of which currently finds its way back to rights owners as royalties”

Rdio’s Oliver Barnes

The company recently announced a deal with CAPASSO, the South African royalties collection society and music licensing agency, covering 40 countries on the continent, that 7digital can now license music for. In Brazil, it has a similar agreement with mobile music distributor Mariposa Holdings Group, covering Latin America. 7digital’s Somerville says: “We feel extremely positive about the growth of legal music services and monetized music consumption in emerging markets.”

He adds: “One of the most exciting aspects is that these regions will likely drive more innovative consumption models as adoption of technology has evolved differently. For example, some markets largely bypassed desktop computing and went straight to mobile.”

The pricing must be right

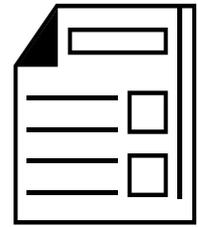
But there are obstacles to overcome before streaming becomes a serious threat to piracy.

As IFPI’s KT Ang points out, there are still “some market and infrastructural challenges, such as lack of easy access to electronic or mobile payment options in numerous Asian markets, the need for local repertoires (which are more fragmented in many Asian markets), regulatory controls, and pricing issues.”

Barnes at Rdio warns that getting the pricing and the monetization formats right is essential. What works in Western countries does not apply to countries where poverty can still make pirated music appealing.

And after decades of damage by pirates, the music business has a lot of commercial debris to clear up first. “It requires scale in order to monetize in any meaningful way,” 7digital’s Somerville adds. “As curated streaming services on connected devices give the listener more control than traditional radio airwaves, we will see streaming services scale in all parts of the world.”

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Where the tech talking ends and the thinking begins

DIGITAL HUMANS TACKLING MORE STARRING ROLES IN HOLLYWOOD

As robotic technology and artificial intelligence become the latest rage in the tech world, will digital humans looking and acting lifelike replace actors on cinema and TV screens?

The question cropped up this fall when an industrial robot, a clunky contraption at home in a manufacturing plant, joined dance ensemble Freelusion on US reality TV show America's Got Talent on the NBC network.

The robot's participation transcended gimmickry into real life when its maker, Swiss robotics manufacturing conglomerate ABB, filed an application for IRB 2400 (the robot's name) to join SAG-AFTRA, the powerful US labor union for film and TV actors.

Whether or not SAG-AFTRA takes the application seriously is immaterial. Computer-generated imagery (CGI) skin and body movement, normally associated with wrinkle-free faces and stiff gaits in kids TV animation or computer games, is increasingly looking like the real thing.

Filmmakers are using technology to produce photo realistic digital versions of famous actors and actresses and casting them in scenes to act alongside flesh and blood co-stars.

This is not about cutting footage from an old film, pasting it into a present-day scene and dubbing voices.

Digital double stars

Special effects specialists are brought in to meld visual effects, image warping, blue screens, body doubles, stunt doubles, digital masks, unused footage, outtakes and slick lighting. Successful end results, from a distance and close up, give original performances in modern-day movies.

From eye movements and textured facial hair to realistic fight scenes, digital film stars are ready for their close-ups:-

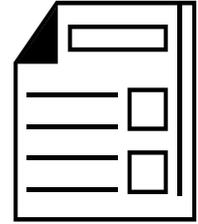
***Arnold Schwarzenegger** in Paramount Pictures' Terminator Genisys (2015). The former champion body builder and governor of California had two different roles in Terminator Genisys, the most recent in the Terminator movie series.



The challenge was for director Alan Taylor to place the 67-year-old Schwarzenegger in the same fight scene as the resurrected 37-year-old (above) who appeared in the very first Terminator film in 1984. VFX wizardry from international post-production house MPC, facial scanning of the aging Arnie, a head cast of his young self, microphotography and a six-packed stand-in ensured both Schwarzeneggers credibly confront each other in the film's epic combat.

***Paul Walker** (pictured below) in Universal Pictures' Furious 7, the latest in The Fast and the Furious action film franchise. Walker died in a horrific car crash in 2013 before the film was completed. Digital visual effects (VFX) by Peter Jackson's New Zealand-based Weta Digital, Walker's brothers Caleb and Cody acting as body

NEWS ANALYSIS



Where the tech talking ends and the thinking begins

doubles plus lookalike stunt men ensured the film was completed for the April 2015 release.



***Sandra Bullock** in Warner Bros. Pictures' Oscar-winning *Gravity* in 2013. Although her head and face were live action shots, Bullock's entire body in outer space was totally digital thanks to ingenious 3D imagery and VFX magic by London-headquartered Framestore.

A sign of things to come

***Oliver Reed** in Ridley Scott's Oscar winner *Gladiator* (2000). Reed's untimely death from a heart attack in 1999 made life a tad difficult for Scott on his ambitious epic movie. To ensure the charismatic Reed completed his role as slave trader Proximo, another US\$3m-plus was added to the US\$103m production budget so that VFX by post-production house The Mill could keep the character alive on screen. The technology included a digital body double of Reed (based on his performances in other parts of the movie) and a live body double wearing a digital mask.

***Brandon Lee**'s accidental death during the filming of the 1994 fantasy action hit *The Crow*. A digital version of his face was superimposed on a stunt double.

Doppelganger in TV commercials

It isn't only movies that use computer-generated humans to replace dead superstars. Brandon

Lee's father, the martial arts legend **Bruce Lee** who died in 1973, 'reappeared' in 2013 as the star of a 90-second Johnnie Walker Whisky TV ad by ad agency BBH Shanghai and VFX firm The Mill.

And the much loved young **Audrey Hepburn** could be in a 2013 TV ad for Mars' Galaxy chocolate brand, even though the Hollywood actress died in 1993. Framestore pulled out its digital magic wand (Facial Action Coding System) to duplicate the iconic star's face on a live actress with a similarly svelte body.

Using computer-generated humans to replace living and dead actors is increasingly common. But it becomes a really big deal when the technology is applied to celebrities and legends, whose fans look for cracks in the digital smoke and mirrors. So producers use digital wizardry at their peril. While it has worked for Paul Walker, Arnie Schwarzenegger and Audrey Hepburn, Bruce Lee fans vented their ire against the Johnnie Walker ad because the real person was teetotal.

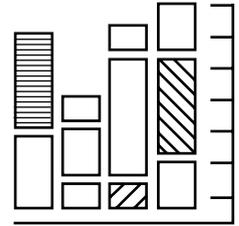
Singing 3D holograms

Moves to revive dead music stars to sing live in front of tens of thousands at stadiums have been possible thanks to developments in 3D holographic imagery. It brought back the late US rapper Tupac Shakur to perform with Snoop Dogg at the 2012 Coachella Festival. The same technology, the subject of various patent and copyright disputes, also revived Michael Jackson at the 2014 Billboard Music Awards at the MGM Grand Las Vegas Garden Arena.

But giving life to a digital rendering of a performer is a laborious and expensive task. What professional actors can do in a couple of takes can take several months for the most proficient VFX specialists to recreate.

NUMBERS THAT COUNT

The statistics illustrating technology's influence on the evolution of media and entertainment



TOP 15 TECH MUTINEERS: The tech titans controlling our media and entertainment are worth \$2.4 trillion

Apple is the most influential technology conglomerate in the media and entertainment (M&E) space, based on its enterprise value. It tops our Top 15 TechMutineers list (see **Chart 1**). Considered the world's most valuable company by several standards at more than US\$657bn, it leads a pack of 15 whose combined valuation came to a whopping US\$2,418.2bn in September. While the iPhone (700 million units sold to date) has revolutionized how we access music, videos, books, photos, games, emails and our social media pages, it is the development of the Apple Music streaming platform and music festival, plus the Apple TV set-top box, that have cemented the company's impact on M&E.

Facebook phenomenon

Facebook, the fastest growing start-up in history with a US\$270bn valuation on the US NASDAQ stock exchange, began as a geeky social media pastime. Today, its investment in online video sharing and the phenomenal growth of its mobile advertising revenue have seen it swaying the way other large media giants are structuring their businesses.

They cannot ignore Facebook's 1.5 billion registered users, the 400 million subscribers to its photo-sharing app Instagram, plus the 900 million using its WhatsApp messaging platform. Amazon (US\$257bn valuation on NASDAQ) began as an online book store. In January, it made history by winning the US' coveted Golden Globe awards for *Transparent*, its original TV comedy drama. Its ambitions now include investments in feature films, while still retaining its gargantuan e-commerce empire. And founder

Jeff Bezos owns *The Washington Post*. China's Alibaba (the only Asian company on the list) is doing everything Amazon has done on a larger scale, even though its valuation (US\$158.4bn on NYSE) lags behind its US rival.

They cannot ignore Facebook's 1.5 billion users, the 400 million subscribers to its Instagram, plus the 900 million using WhatsApp.

Despite the pioneering search engine, the Google Glass and the driverless car, Google's hold on media and entertainment includes YouTube, its video sharing platform with more than 1 billion active users. It has contributed to the parent company's US\$436bn value (NASDAQ). Thanks to technology, former US DVD rental company Netflix (NASDAQ) is the world's largest subscription-funded streaming TV platform with nearly 66 million customers globally. It comes with a valuation of US\$42.83bn.

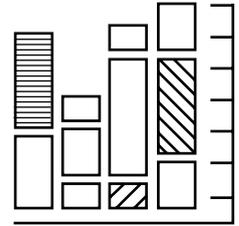
Millennial mutineers

Arguably the youngest of our 'TechMutineers', ephemeral message app start-up Snapchat (US\$16bn) is already forming partnerships with international TV networks eager to reach its 100 million active daily Millennial users. In contrast, relative veteran Microsoft (US\$355bn via NASDAQ) continues to hold its own among the new digital upstarts.

Photo-sharing app start-up Pinterest has given us a global gallery to find retailers displaying

NUMBERS THAT COUNT

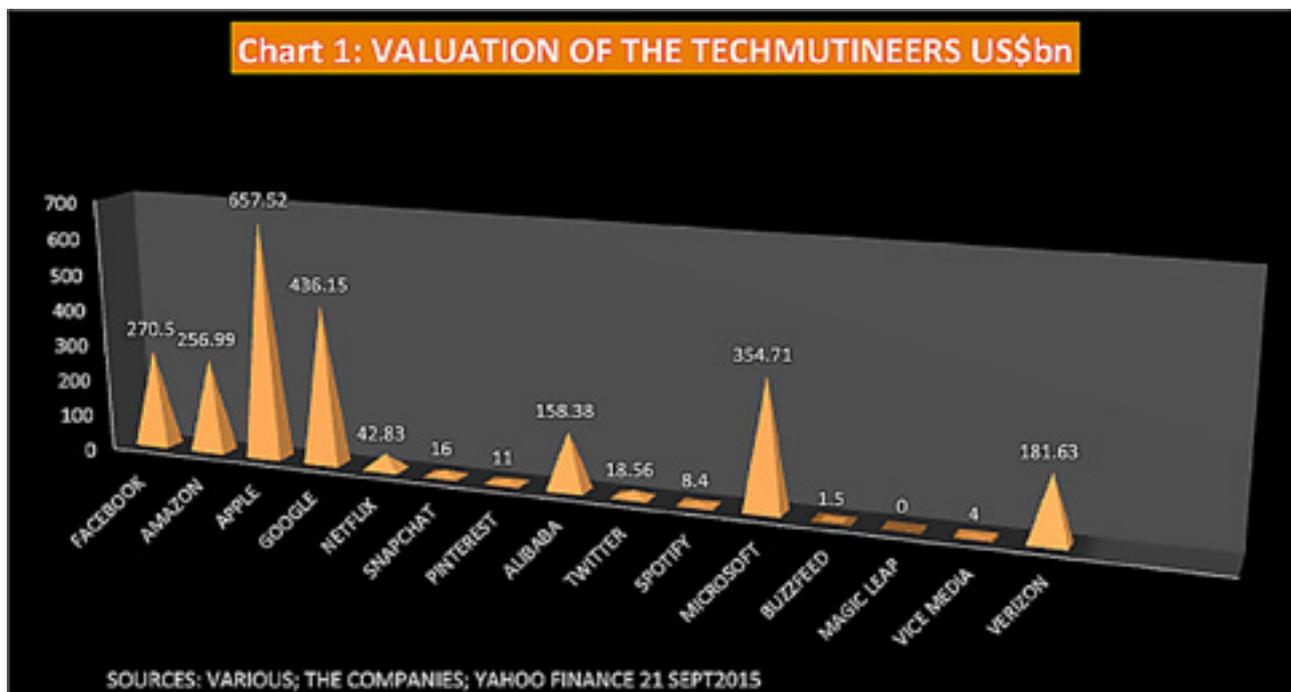
The statistics illustrating technology's influence on the evolution of media and entertainment



images of what they want to sell and consumers showing off what they would like to buy. Its advertising revenue is forecast to start soaring. It is as if Twitter's innovation was so brilliant, it is struggling with the mundane act of replacing a departed CEO (Dick Costolo) with a reluctant interim one (Co-Founder Jack Dorsey). As a brand, however, what began as a mere micro-blogging website (now on NASDAQ) is entrenched in every mobile phone owner's mind.

Unknown but still valuable

Meanwhile, no one knows what Magic Leap actually does to give it a valuation. But its alleged dream to combine augmented and virtual reality into one entertainment space is expected to overturn everything we understand about media. Google is among the investors that have financed Magic Leap to the tune of US\$540m. By buying digital media group AOL Inc. earlier this year and with plans to launch a mobile



Sweden-originated Spotify, the leading international streaming music platform with 75 million users (including 20 million paying subscribers), has forced the music industry to take consumers' access to music just as seriously as the royalties it chases for artists.

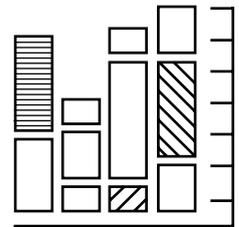
And who said publishing is dying? BuzzFeed and VICE Media's respective multiplatform online magazines and video networks have snapped up millions of investment cash from traditional TV operators.

video streaming service soon, the US' biggest wireless carrier Verizon Communications is ready to entertain millions of its mobile, broadband Internet and IPTV customers as well as non-subscribers.

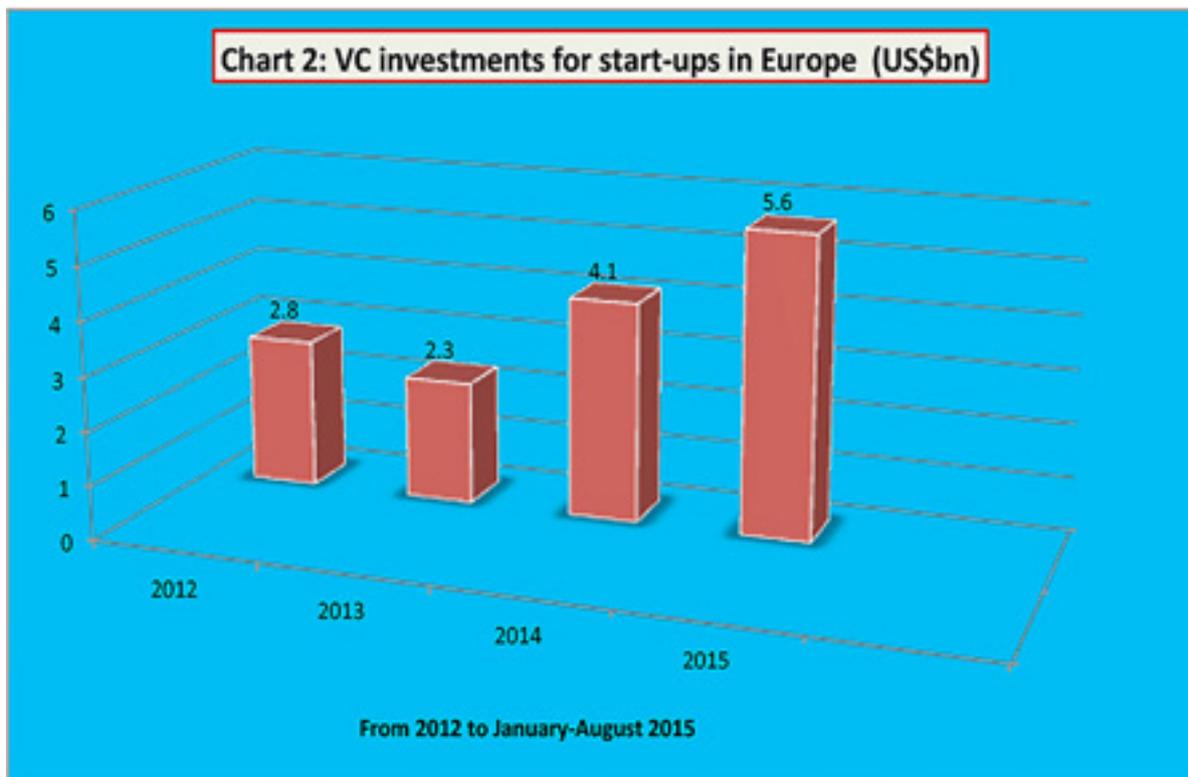
Our list is based on Vanity Fair's 2015 Top 50 Disrupters, the uber culture magazine's ranking of individual pioneers whose innovative tech has overhauled a raft of different sectors. From the VF ranking, we selected the tech companies of the innovators never out of the M&E news, based on stock exchange shares and industry experts' observations.

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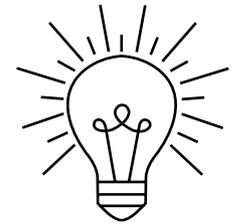


VENTURE CAPITALISTS STILL IN LOVE WITH START-UPS IN EUROPE



UK tech and media research group StrategyEye has some good news for tech start-ups in Europe. The amount being spent by venture capital (VC) investors in the region is accelerating. As Chart 2 shows, cash committed to budding tech companies soared to US\$4.1bn last year, from US\$2.8bn in 2012. And during the first eight months of this year alone, US\$5.6bn has been poured into the coffers of next-generation technology enterprises. Media reports indicate that the Eurozone is economically healthy despite a slight slump in September. Additionally, industries are, so far, untroubled by the growth slowdown in China. The top VC investors in Europe include Google Ventures, Index Ventures, Balderton Capital and Passion Capital.

START-UPS' STANDPOINT



The challenges start-ups face the moment they go public with their visions

Product/service: Beacon Bracelet (Smart Jewelry)

Developer: Beacon & Lively (Philadelphia, US)

When launched: April 2014

Targeted users/sector: Beacon & Lively's primary target market consists of professional women, mothers and Baby Boomers; women seeking a way to minimize the distraction of mobile phones during business and social events.



How will your technology change the industry you are in; what gap is it filling; what is the unique selling point?

The expectation is that women have to be available to family, work, kids, babysitter and school at all times of the day. However, it's equally important to stay in the moment. Having your phone out on the table during business and social situations can be distracting and counterproductive. The Beacon is a stylish way to stay connected, allowing the user to live harmoniously with technology. Beacon & Lively is an everyday wearable tech accessory. It's a simple way to stay connected to the people that are most important to you. Beacon & Lively is different because our bracelet uses patented multicolored lights as both a design element and a notification feature. Using the Beacon & Lively mobile (Android and iOS) app, you assign unique colors, patterns or vibration to your VIPs in your life - to choose whether you will stay in the moment or reach for your phone.

How did you or the founders overcome your biggest fear when you realized the concept was becoming a business reality?

As founders, our biggest challenge was entering the jewelry space – an industry in which we had

little prior experience or were knowledgeable about. Our product consists of hardware (jewelry housing), software (mobile app) and circuitry. Bringing these three components together into a functional product was another major challenge. But trying to break into the jewelry industry has been the biggest learning curve. Luckily, our jewelry designer, Anna Couturier was able to lead the charge in understanding how best to wrap our technology into a beautiful piece of jewelry.

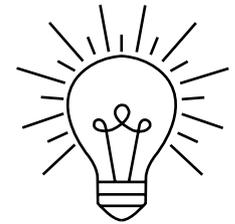
Any recent developments to announce?

In May, we won the Angel Investor Forum Award in the US. The competition was hosted by The Refinery CT, an accelerator program that's been mentoring Beacon & Lively and nine other women-led start-ups into scalable businesses. We are currently negotiating a partnership with a major jewelry manufacturer. Beacon & Lively exhibited at the JA Jewelry Show in NYC in July 2015 as part of the Smart Jewelry Pavilion, and we also exhibited at the Decoded Fashion Hacked Gallery last winter.

Current Investors:

Co-Founders David and Veronica Becker

START-UPS' STANDPOINT



The challenges start-ups face the moment they go public with their visions

Contact details:

URL: www.beaconandlively.com

Twitter: @BeaconandLively

Facebook: BeaconAndLively

Email: info@beaconandlively.com;
veronica@beaconandlively.com

Product/service: UniqueSound

Developer: UniqueSound, Inc. (New York City, US), plus an office in Paris, France

When launched: March 2015

Targeted users/sector: Composers and content creators

How will your technology change the industry you are in; what gap is it filling; what is the unique selling point?

Most content needs music, but there is no central place to identify and work directly with talented music composers. UniqueSound solves this problem by creating a marketplace to bring together an unprecedented network of professional composers and all the content creators in need of music. Our technology enables composers to sell their content directly and in a self-service capacity. We've built the portfolios to showcase their work and get hired, and developed The MusicShops, which allows them to directly license their own catalog.

How did you or the founders overcome your biggest fear when you realized the concept was becoming a business reality?

When we were accepted at Techstars New York City (the highly coveted US start-up accelerator program) in December, it was really big news and a big challenge for us. We (originating from

Paris, France) were in a new city with a new culture, new people, a new language. So with the team (four people at this time), we decided to live together for the first two months. We also came up with a kind of pact: to be supportive and play collective. We successfully graduated in April. That was an awesome team experience.

Any recent developments to announce?

We just launched a new version that includes The MusicShops. This is based on the concept that every single composer has music "sleeping" (unused) on their hard drive. With The MusicShops software, they can now directly license their existing music. And they are in control because they are the ones who set the price rates. In June, we were one of the winners of Midemlab, the start-up contest held at Midem, still the largest international music industry gathering, in Cannes. Also, we've just closed a US\$1m seed round.

Current Investors:

Venture Capital: Foundry Group ; Felix Capital;
ISAI Angels: Tobias Peggs; Frédéric Montagnon

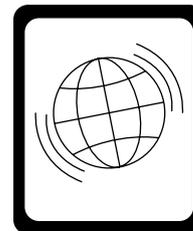
Contact details:

Twitter: @joinuniquesound

URL: www.uniquesound.com

Email: hello@uniquesound.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

ADVERTISING/MARKETING

Product: Audience Platform, Twitter's new name for its mobile ads network

Need to know because the platform, formerly called Publisher Network, has been revamped so that campaigns can reach viewers outside the Twitter network as well. It is bringing in new ad formats, including promoted videos and promoted tweets that can be enhanced into other marketing formats like online interstitials and content marketing as and when needed by the marketer.

Creative function: mobile advertising; social media ads

Creative target: advertisers; ad agencies; sponsors

Company: Twitter, based in San Francisco, California, US

Key executive(s): CFO Anthony Noto; Senior Director of Revenue Products Ameet Ranadive

Investors/Owners: New York Stock Exchange-listed

Distribution platform: proprietary network

Launched: 2014 (as Publisher Network)

URL: <http://ads.twitter.com>

Product: Instagram, photo-sharing app

Need to know because the popular mobile app Facebook bought for US\$1bn in 2012 is for the first time selling ads on a global scale to all types of advertisers, including those who have focused on TV and websites so far. Advertisers and agencies can use an automated system to upload the campaigns without going through Instagram. Initially, ads were available in only eight countries, expanding to 30 territories in September, before going truly global this Fall. The 300 million-plus subscribers will also see still image and 30-second video ads and have access to a 'buy' button to make purchases. The set-up will be powered by Facebook's ad-targeting technology.

Creative function: mobile advertising; digital advertising; e-commerce

Creative target: advertisers; online merchants

Company: Instagram, based in San Francisco, California, US

Key executive(s): Co-Founder/CEO Kevin Systrom; Global Head of Business and Brand Development James Quarles

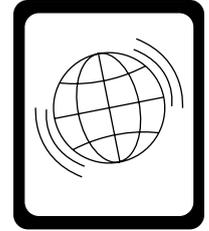
Investors/Owners: Facebook

Distribution platform: mobile app; Internet

Launched: 2010

URL: www.instagram.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Product: Scoota, new name for UK online ad tech company Rockabox

Need to know because the new branding came after Rockabox picked up £3.7m (US\$5.6m) in new investment in September. The new investors are major ad agency and advertising executives, including BBH's Sir John Hegarty, former TBWA Worldwide President/CEO Michael Greenlees, ex-Omnicom Chairman Martin Boase and Richard Reed, Co-Founder of Innocent Drinks, one of the UK's fastest growing advertisers. Scoota is using the new cash to develop its technology platform to create and measure programmatic ads and grow in Europe.

Creative function: online advertising; programmatic advertising

Creative target: advertisers; online publishers

Company: Scoota, based in London, UK

Key executive(s): Co-Founder/CEO James Booth; Co-Founder Torie Chilcott

Investors/Owners: include Frog Capital; Notion Capital; Sir John Hegarty; Non-Executive Chairman Michael Greenlees

Distribution platform: Internet

Launched: 2008 (as Rockabox)

URL: www.scoota.com

Product: Super Bowl 2016, the annual American Football Championship competition

Need to know because as the US' biggest annual live TV event, it is making history. Its broadcaster CBS is offering advertisers the opportunity to buy 30-second TV spots on its much coveted airtime on both the broadcast network and streaming platforms simultaneously. So far, live streaming of the game has been separate, and only a few of the TV ads were also seen on webcasts. Marketers are expected to pay a higher premium (reportedly US\$5m-plus) if they want their campaigns to be both on air and online.

Creative function: TV advertising; online advertising; multiplatform advertising

Creative target: advertisers; ad agencies

Company: CBS Corporation, based in New York, US

Key executive(s): CBS President/CEO Leslie Moonves

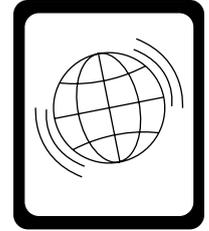
Investors/Owners: CBS; National Football League

Distribution platform: TV broadcast; Internet

Launched: 2016

URL: www.superbowl.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Product: Unruly Media, social media ad tech platform

Need to know because it has just been acquired by the UK division of News Corporation for £58m (US\$88m) in cash with another £56m (US\$85m) due depending on Unruly's future performance. News Corp hopes to use the technology, which inserts ads on videos on social media platforms and analyzes their performance, across its own media websites plus Unruly's existing and future clients'. Unruly has offices in London, New York and Singapore.

Creative function: online video advertising; online ad analytics; social media analytics

Creative target: advertisers; ad agencies; video producers; online publishers

Company: Unruly Media, based in London, UK

Key executive(s): Co-Founder/Co-CEO Scott Button; Co-Founder/COO and CMO Sarah Wood

Investors/Owners: News Corporation

Distribution platform: social media; proprietary network

Launched: 2006

URL: www.unruly.co

ARCHITECTURE/DESIGN

Product: Lewis Grand Hotel, creates the world's first 3D-printed commercial building

Need to know because US hotel proprietor and material science engineer Lewis Yakich is extending his Philippines-based Lewis Grand Hotel by using a 3D printer to build a two-bedroom villa, including a 3D-printed Jacuzzi, that will be commercially rented to guests. The 3D printer technology to construct the 1,500sq ft concrete building was supplied by Andrey Rudenko, famous for building the world's first 3D-printed castle in the US state of Minnesota. Although the hotel took 100 hours of print time to complete, several interruptions were required to install plumbing and electrical wiring.

Creative function: 3D printing; architectural design; building construction

Creative target: construction entrepreneurs; low-income housing developers

Company: Lewis Grand Hotel, based in Angeles City, Philippines

Key executive(s): Owner Lewis Yakich

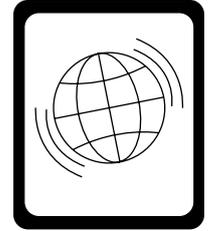
Investors/Owners: Lewis Yakich

Distribution platform: architectural building; 3D printer

Launched: 2015

URL: www.lewisgrand.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Product: The Kennel, dedicated offices for pre-seed tech start-ups

Need to know because it was designed by US architect firm CHA:COL, which was commissioned by Palo Alto, California venture capital firm K9 Ventures to create an office space for start-ups to develop their businesses. Although elegant, it is sparsely furnished to give it a temporary feel that encourages users to move on and progress. The Kennel, built inside an old Palo Alto-based 5,000sq ft warehouse, features a retrofitted 20ft long shipping container that functions as a meeting room.

Creative function: architectural design; office furnishing design

Creative target: enterprises

Company: CHA:COL, based in Los Angeles, California, US

Key executive(s): CHA:COL Co-Founders Apurva Pande and Chinmaya Misra

Investors/Owners: K9 Ventures

Distribution platform: architectural building

Launched: 2015

URL: www.chacol.net

BOOKS/PRINT MEDIA

Product: Bertelsmann Education Group (BEG), German media giant's new publishing division

Need to know because Bertelsmann, joint owner of the world's largest book publisher Penguin Random House, has been diversifying its business by extending its textbook publishing interests into the fast-growing field of e-learning. The e-learning subsidiary, centered on US-based Relias Learning, will be supported by online education services Udacity and Arist Education System, and the privately owned global university Alliant International University.

Creative function: e-learning

Creative target: students; academic establishments

Company: Bertelsmann, based in Gütersloh, Germany

Key executive(s): CEO Kay Krafft

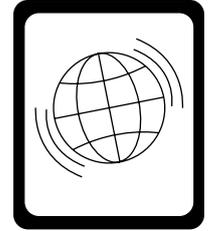
Investors/Owners: Bertelsmann

Distribution platform: Internet; print media; academic institutions

Launched: 2015

URL: www.bertelsmann-education-group.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Product: Kindle Scout, Amazon's crowdsourced publishing venture

Need to know because after focusing on the US market since its launch in October 2014, Kindle Scout is going global. It means aspiring authors in most parts of the world will be able to submit their unpublished manuscripts to Kindle Scout for book fans and Amazon editors to read and vote for. The most popular submissions will be published by Amazon's Kindle Press imprint. Currently, the initiative is limited to English language works.

Creative function: book publishing

Creative target: authors; literary agents

Company: Amazon.com Inc.

Key executive(s): General Manager Dina Hilal

Investors/Owners: Amazon.com

Distribution platform: Internet; Kindle e-reader

Launched: 2014

URL: <http://kindlescout.amazon.com>

Product: POP Comics, self-publishing mobile app for comic creators

Need to know because it has been set up by Stu Levy, founder of Tokyopop, the North American publishing company specializing in Japanese manga comics and cartoons. Tokyopop, famous for spearheading Americans' passion for manga during the 2000s, closed its business in 2011 while sorting out some financial problems. It has been resurrected to commission and develop new titles from next year. But the POP Comics app will allow comic writers to publish their own creations, which will be free to fans but supported by advertising.

Creative function: self-publishing media

Creative target: manga developers; comic creators; graphic novel writers

Company: Tokyopop, based in Los Angeles, California, US

Key executive(s): Tokyopop CEO/Founder Stu Levy

Investors/Owners: Tokyopop

Distribution platform: Internet; mobile app

Launched: 2015 (in closed Beta)

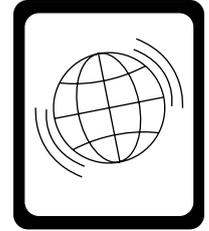
URL: <http://popcomics.com>

FASHION

Product: Fits.me, virtual fitting room

Need to know because it is now the fully owned subsidiary of Rakuten, the Japanese e-commerce giant. It licenses out its pioneering technology to online fashion retailers who want to make sure online shoppers have selected the right size before ordering attire via the Internet. Retailer partners include Hugo Boss, T.M.Lewin and Thomas Pink.

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Creative function: e-commerce; fashion retail

Creative target: fashion retailers

Company: Fits.me, based in London, UK

Key executive(s): Fits.me CEO James B Gambrell; Rakuten CEO Hiroshi Mikitani

Investors/Owners: Rakuten

Distribution platform: Internet

Launched: 2010

URL: <http://fits.me>

Product: Ipsy, (formerly MyGlam) subscription-funded cosmetics delivery service

Need to know because expansion plans accelerated in September when it won US\$100m in new investment. It is a colossal amount compared to the comparatively mere US\$3m it had raised beforehand. Experts now give Ipsy a US\$800m valuation, possibly helped by the fact that YouTube beauty and fashion celebrity Michelle Phan is a co-founder.

Creative function: beauty and fashion e-commerce

Creative target: beauty and fashion brands

Company: Ipsy, based in San Mateo, California, US

Key executive(s): Co-Founders Michelle Phan, Marcelo Camberos, Jennifer Goldfarb

Investors/Owners: TPG Growth; Sherpa Capital

Distribution platform: Internet; door-to-door delivery

Launched: 2011

URL: www.ipsy.com

Product: Lesara Bags, direct-from-warehouse fashion and lifestyle marketplace

Need to know because by combining a wholesale operation with a direct-to-customer retail service, Lesara Bags is able to order clothing directly from factories in Asia, based on what's trendy for its customers who are based in Europe. Cutting out middle men also ensures its customers benefit from the wholesale discounts. For this to work, it owns and operates warehouses in China and in Europe, and ensures customer service is a priority. The investment will be used for international expansion.

Creative function: fashion retail; e-commerce

Creative target: fashion brands; fashion designers

Company: Lesara Bags, based in Berlin, Germany

Key executive(s): Co-Founder/CEO Roman Kirsch; Co-Founder/COO Matthias Wilrich

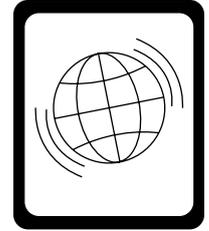
Investors/Owners: Northzone; Vorwerk Ventures

Distribution platform: Internet

Launched: 2013

URL: www.lesara.de

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Product: Polyvore, search engine for fashion and beauty products

Need to know because the technology, which helps fashion fans find what they want and where to buy it, has been snapped up by Yahoo for a reported US\$200m in cash. Previous investors included DAG Ventures, Goldman Sachs, Matrix Partners, and Israeli-US private investor Vivi Nevo. Yahoo hopes driving traffic to Polyvore will help it compete more effectively against leading visual search engine giant Pinterest. Instead of enabling users to buy direct via its website, Polyvore guides them to a large list of online stores using its services.

Creative function: e-commerce; fashion marketing

Creative target: e-retailers; fashion fans

Company: Polyvore, based in Mountain View, California, US

Key executive(s): CEO Jess Lee

Investors/Owners: Yahoo Inc.

Distribution platform: Internet; mobile apps

Launched: 2007

URL: www.polyvore.com

Product: The Black Tux, tuxedo and suit rental service

Need to know because the start-up tallied US\$40m in total investments after collecting another US\$25m from investors in September. It was for a Series B round of funding led by Stripes Group. The business model is centered not only on having the inventory of quality clothing to rent out, but also value-added services like designing, tailoring, dry-cleaning, and customize the service. It also uses algorithmic tech to ensure customers find the right fit. The new cash will be used to expand by adding sales to the rental business.

Creative function: fashion and garment supplies

Creative target: fashion designers; fashion retailers; event organizers

Company: The Black Tux, based in Santa Monica, California, US

Key executive(s): Co-Founder/Co-CEO Andrew Blackmon; Co-Founder/Co-CEO Patrick Coyne

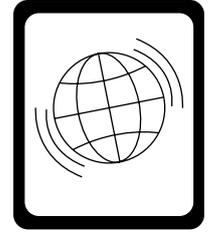
Investors/Owners: include Stripes Group; Menlo Ventures; First Round Capital

Distribution platform: Internet; door-to-door delivery

Launched: 2013

URL: <http://theblacktux.com>

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

GAMES

Product: XFINITY Games, cloud-based streaming games platform

Need to know because video games compatibility is the latest enhancement to the XFINITY X1, the cable TV set-top box launched by US cable operator Comcast in 2012 to allow subscribers to access streaming video services as well. With XFINITY Games, gamers can use the same set-top box and TV screen to play video games. The games are not played on the set-top box itself, which uses cloud technology to link players to distant servers. The smartphone or tablet functions as the controller. As part of the Beta test for XFINITY Games, publishing giant Electronic Arts (EA) is providing a selection of its titles for the trial period.

Creative function: video games distribution

Creative target: games developers; games publishers; gamers

Company: Comcast Corp, based in Philadelphia, Pennsylvania, US

Key executive(s): Comcast Executive Director, Product Management Preston Smalley

Investors/Owners: Comcast

Distribution platform: TV set-top-box; cloud technology

Launched: 2015

URL: www.xfinity.com/xfinitygames

Product: Yvolver, mobile games marketing platform

Need to know because it has been acquired by multiplatform advertising service provider Opera Mediaworks, whose system will incorporate Yvolver's marketing engagement technology for gamers. Yvolver's system offers game developers monetization tools, such as in-app purchases and advertising in mobile games, plus incentives to encourage players to stay loyal.

Creative function: mobile games marketing

Creative target: game developers

Company: Yvolver, based in Dallas, Texas, US

Key executive(s): Yvolver Co-Founder/CEO Steve Nix; Opera Mediaworks' CMO Will Kassoy

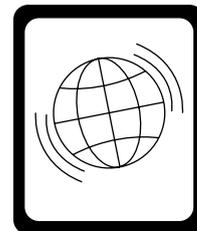
Investors/Owners: Opera Mediaworks

Distribution platform: proprietary online network

Launched: 2013

URL: www.yvolver.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

LIVE ENTERTAINMENT

Product: Bkstg, direct-to-fans portal

Need to know because concert promotion conglomerate Live Nation is among the high-profile names that have agreed to invest a combined US\$20m into Bkstg, the soon-to-launch mobile app that allows music artists to connect directly with their fans. The artists and/or their management will also be able to host original video content, merchandise and concert ticket sales on the app. Fans can share their different experiences with each other via the one app instead of using numerous different social media sites, and artists will own the data gathered via the app.

Creative function: music marketing; entertainment marketing

Creative target: music artists; music management; concert promoters

Company: Bkstg, based in Los Angeles, California, US

Key executive(s): President/Chief Revenue Officer Erika Nardini; CEO Ran Harnevo

Investors/Owners: Live Nation Entertainment; Modest! Management; Scooter Braun Projects; Three Six Zero Group; Global Group; Mark Cuban Companies; Deep Fork Capital

Distribution platform: Internet; mobile app

Launched: Scheduled for 2015

URL: <http://bkstg.com>

Product: SFX Entertainment, the world's largest dedicated electronic music festivals promoter

Need to know because it has secured US\$90m in new funding despite financial troubles that almost saw some of its existing investors threaten to sue the company for fraud after founder Robert FX Sillerman allegedly failed to take the publicly quoted company private as he had promised because he did not have the funds. The new funding includes a revolving credit loan and cash from an institutional investor, and from Sillerman's own investment fund.

Creative function: live electronic dance music festivals; night clubs

Creative target: DJs, electronic dance music acts; live events organizers

Company: SFX Entertainment, based in New York, US

Key executive(s): Chairman/CEO Robert FX Sillerman

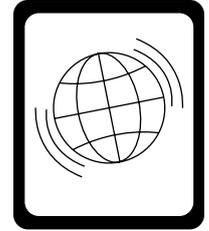
Investors/Owners: NASDAQ-listed

Distribution platform: live entertainment; internet; mobile app

Launched: 2012

URL: www.sfxii.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Product: Ticketfly, digital ticketing sales and distribution platform

Need to know because it has raised US\$50m in a Series D round of funding led by Riverwood Capital. The company uses cloud technology to help concert promoters book artists and venues, sell tickets and merchandise. Additionally, it offers fans a mobile-friendly app that tracks the latest hot gigs. Ticketfly will use the money to enhance the services it offers clients.

Creative function: e-ticketing services; live music marketing

Creative target: concert promoters; live entertainment organizers

Company: Ticketfly, based in San Francisco, California, US

Key executive(s): Co-Founder/CEO Andrew Dreskin

Investors/Owners: Riverwood Capital; Mohr Davidow Ventures; Sapphire Ventures; Cross Creek Capital; Northgate Capital; Primary Venture Partners; Contour Venture Partners

Distribution platform: Internet; mobile app

Launched: 2008

URL: www.ticketfly.com

MUSIC

Product: Akazoo, social music streaming service

Need to know because it has secured about €17m (US\$19m) in new funding with the cash supplied via a consortium led by Toscafund Asset Management and Penta Capital. The move comes at the same time as Akazoo merges with R&R Music, a London-based developer of music recommendation engines and user profiling technologies. Akazoo now has a reported valuation of €104m (US\$116m) with owner InternetQ cornering about 69% of the shares.

Creative function: digital music distribution; digital music marketing

Creative target: music artists; record labels; music publishers

Company: Akazoo, based in London, UK

Key executive(s): CEO Apostolos N. Zervos; Chief Strategy Officer David Ritchie

Investors/Owners: InternetQ; Tosca Penta Music; R&R Music's founders

Distribution platform: mobile app

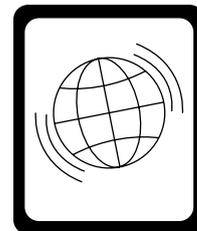
Launched: 2012

URL: www.akazoo.com

Product: Aurous, peer-to-peer music discoverability app

Need to know because the developer of Aurous wants it to do for the music industry what Popcorn Time has done for the film sector. Popcorn Time enables users to search and find the latest movies for free, download and watch them in no time on a dedicated player using the notorious open source BitTorrent technology for peer-to-peer distribution of online content. Basically,

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Popcorn Time is compared to Netflix but illegal because it has allegedly not applied for the required copyright licenses. Aurous is expected to face lawsuits similar to the ones plaguing Popcorn Time as it does not have the required music distribution licenses. Its spokesperson claims it will include a purchasing button to encourage legitimate music sales. It is scheduled for a public launch in October.

Creative function: digital music distribution

Creative target: artists; music fans

Company: Aurous Group

Key executive(s): Developer Andrew Sampson

Investors/Owners: Aurous Group

Distribution platform: mobile app

Launched: 2015

URL: <http://aurous.me>

Product: BBC streaming service, music discovery platform

Need to know because the UK public broadcaster hopes to use this to enter the highly competitive streaming music sector currently led by Spotify. The new service will make the estimated 50,000 pieces of music played on BBC radio or TV programs every month available to stream for a limited period of time. It will be built on BBC Music Playlister, launched in 2013 to enable listeners to curate BBC music they like and then export their playlists to stream and/or download on Spotify, Deezer, YouTube and Apple's iTunes.

Creative function: digital music marketing

Creative target: artists; record labels; music publishers; music fans

Company: British Broadcasting Corporation (BBC), based in London, UK

Key executive(s): BBC Director of Music Bob Shennan; BBC Director-General Tony Hall

Investors/Owners: BBC

Distribution platform: Internet; BBC Music Playlister

Launched: Unknown

URL: www.bbc.co.uk/music/playlister

Product: Drip, cooperative for diehard music fans

Need to know because it has raised US\$1.5m in seed funding to expand a platform designed for "super" fans dying to get closer to their favorite music artists, creators and record companies.

Creative function: digital marketing

Creative target: artists; musicians; labels

Company: Drip, based in New York, US

Key executive(s): Co-Founders Sam Valenti IV and Miguel Senquiz

Investors/Owners: angels

Distribution platform: Internet

Launched: 2012

URL: www.drip.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Product: Flipagram, music video mobile app

Need to know because the tech start-up, which enables commercial users and consumers to combine photos, videos and favorite music to create music videos to share, has raised US\$70m. Most of the cash will be used to license music owned by conglomerates like Universal Music Group, Warner Music Group and Sony Music Entertainment and other major rights owners for international applications.

Creative function: recorded music licensing; video productions; digital marketing

Creative target: video producers; music rights owners; artists

Company: Flipagram, based in Los Angeles, California, US

Key executive(s): Co-Founder/CEO Farhad Mohit; Co-Founder/CCO Joshua Feldman; Co-Founder/CTO Brian C. Dilley

Investors/Owners: Sequoia Capital; Kleiner Perkins Caufield & Byers; Index Ventures

Distribution platform: mobile app

Launched: 2013

URL: www.flipagram.com

Product: LyricFind, international lyrics licensing agency

Need to know because it has made its first major move in Asia by forming a partnership with China-based R2G, one of the leading digital music distribution service providers and also one of the few to offer legal online music solutions in one of the world's piracy-ridden markets. It gives Chinese content creators a legitimate source for licensing international lyrics they want to use.

Creative function: lyrics licensing for digital use

Creative target: songwriters; artists; music publishers

Company: LyricFind, based in Toronto, Ontario, Canada

Key executive(s): Co-Founder/CEO Darryl Ballantyne

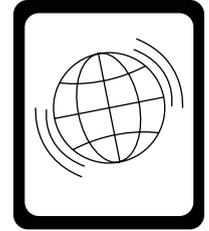
Investors/Owners: include Walden Venture Capital's Larry Marcus

Distribution platform: Internet

Launched: 2004

URL: www.lyricfind.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Product: Playground Sessions, software for learning to play musical instruments

Need to know because US music legend Quincy Jones is behind a crowdfunding campaign to raise US\$1.5m for a downloadable app designed to make learning as much fun as playing a video game.

Creative function: music education

Creative target: music students; aspiring musicians

Company: Playground Sessions, based in New York, US

Key executive(s): Founder/CEO Chris Vance; Co-Creator Quincy Jones

Investors/Owners: include Quincy Jones, BBH's Neil Munn; Binary Capital's Jonathan Teo; Seneca Capital's Kuldeep Malkani; angels

Distribution platform: mobile app; website

Launched: 2013

URL: www.playgroundsessions.com

Product: Saavn, India's leading streaming music service

Need to know because it has raised US\$100m in a Series C round of funding led by Tiger Global and supported by other investors including US media giant Liberty Media, Bollywood actor Ranbir Kapoor and former Vodafone CEO Arun Sarin. The money will be used to develop the service, which just reported 18 million monthly active users, license more content and develop its ad sales tech.

Creative function: digital music distribution

Creative target: artists; record labels; music publishers

Company: Saavn, based in New York, US

Key executive(s): Co-Founder/CEO Rishi Malhotra; Co-Founder/President/CSO Vinodh V. Bhat; Vice President/Editor-in-Chief Sneha Mehta; Strategic Advisor Arun Sarin

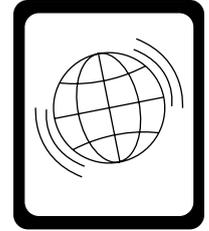
Investors/Owners: Tiger Global Management; Quilvest; Bertelsmann India Investments; Liberty Media Corporation; Mousse Partners; actor Ranbir Kapoor; Strategic Advisor Arun Sarin

Distribution platform: Internet; mobile app

Launched: 2007

URL: www.saavn.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Product: SoundCloud, audio streaming platform

Need to know because the dogged free-to-use platform is to launch a subscription-funded edition later this year. The company has been criticized for not making enough effort to monetize the service to pay rights owners whose music is uploaded on to the platform by fans.

Creative function: digital music distribution; music recording; music marketing

Creative target: artists; music fans

Company: SoundCloud, based in Berlin, Germany

Key executive(s): Co-Founder/CEO Alexander Ljung; Co-Founder/CTO Eric Wahlforss

Investors/Owners: include Institutional Venture Partners; The Chernin Group; GGV Capital; Index Ventures; German Startups Group Berlin

Distribution platform: Internet

Launched: 2007

URL: www.soundcloud.com

PHOTOGRAPHY/ART

Product: Live Photo, Apple's most recent iPhone gimmick

Need to know because this new technology allows users to convert high-resolution images into short video-like animations on the new iPhone 6S and 6S Plus devices. The very brief clip is designed to make the iPhone appealing to young users suckled on GIFs and Twitter's short looping videos on Vine. Live Photos can also be viewed on other Apple devices.

Creative function: animation

Creative target: iPhone customers

Company: Apple, based in Cupertino, California, US

Key executive(s): CEO Tim Cook

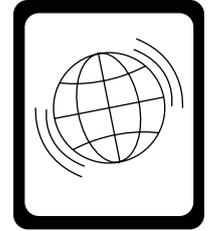
Investors/Owners: Apple Inc.

Distribution platform: mobile app

Launched: 2015

URL: www.apple.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Product: Project Tango, initiative for virtual reality camera phones

Need to know because it belongs to Google's Advanced Technology and Projects (ATAP) unit, which aims to develop smartphone and tablet cameras that can track images in 3D. This will be facilitated by integrating Intel Inc.'s virtual reality image technology. The required development kit is scheduled to be released by the end of this year. The agreement is also part of Intel's strategy to enter the mobile computing sector.

Creative function: 3D photography; virtual reality images

Creative target: 3D designers; mobile game designers; mobile camera manufacturers

Company: Google Inc., based in Menlo Park, California, US

Key executive(s): Designated CEO Sundar Pichai

Investors/Owners: Google Inc.; Intel

Distribution platform: mobile app

Launched: 2015

URL: www.google.com/atap/project-tango/

Product: Flatpebble, online marketplace for hiring high-end professional photographers for weddings and other events

Need to know because the start-up has snapped up US\$600,000 from Indian Angel Network, one of India's largest group of angel investors, which was impressed by Flatpebble's ability to offer transparency in its pricing model, making it popular among the customers and photographers it works with.

Creative function: search engine for booking photographers

Creative target: weddings and other event organizers

Company: TechClove Technologies Private Limited, based in Hyderabad, India

Key executive(s): Co-Founder/CEO Venkatesan Seshadri; Co-Founder/CTO Pranav Mehta

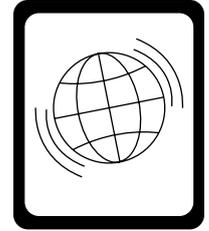
Investors/Owners: Indian Angel Network; TechClove Technologies

Distribution platform: Internet

Launched: 2013

URL: www.flatpebble.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

SOCIAL MEDIA

Product: Alphabet, proposed new name for Google Inc.

Need to know because after overhauling the Internet media business and making billions with its dominant search engine, Google has decided it needs a new holding company. This enables it to streamline the divisions of its various subsidiaries. One division, still called Google, will oversee the search engine business and other subsidiaries, like YouTube while Alphabet will handle the non-media projects, such as Google Ventures and Google Capital (investments), Google Fiber (broadband), Nest (Internet of Things) and others (XLab, Wing, Calico, Life Sciences).

Creative function: corporate reorganization

Creative target: investors

Company: Alphabet Inc., based in Mountain View, California, US

Key executive(s): Alphabet CEO Larry Page; President Sergey Brin

Investors/Owners: NASDAQ-listed

Distribution platform: Internet; mobile apps; Internet of Things

Launched: 2015

URL: <https://abc.xyz>

Product: Ashe Avenue, website and app developer for media and tech brands

Need to know because it was recently acquired by ambitious AOL Inc., the digital media and tech advertising conglomerate, for an undisclosed sum. Ashe Avenue, which has shut down its website after being absorbed by AOL, will be responsible for the image and technological development of AOL's Lifestyle websites and other brand products. Founded in 2002, Ashe Avenue's clients have included Google, VICE Media, Pepsi, Intel and some AOL subsidiaries.

Creative function: website and app development and design; technology innovation

Creative target: AOL's Lifestyle brands and content

Company: AOL Inc., based in New York, US

Key executive(s): AOL.com and Lifestyle Brands' CTO John McKinney

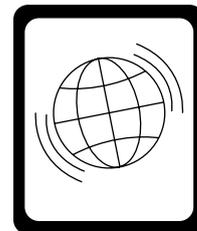
Investors/Owners: AOL Inc.

Distribution platform: Internet; mobile app

Launched: 2007 (as an AOL subsidiary in 2015)

URL: <http://corp.aol.com>

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Product: Live, Facebook's streaming video app for celebrities

Need to know because it was launched by Facebook, still the world's biggest social media platform by value and subscription numbers, in August, to offer the rich and famous a dedicated live streaming feed to reach their fans in real time. It is part of Facebook's long-term ambition to be as big a video platform as YouTube.

Creative function: live video streaming; online video marketing; online entertainment

Creative target: media and entertainment celebrities

Company: Facebook Inc., based in Menlo Park, California. US

Key executive(s): Product Manager Vadim Lavrusik

Investors/Owners: Facebook

Distribution platform: social media

Launched: 2015

URL: www.facebook.com/mentions

Product: Pebbles Interfaces, gesture recognition tech developer

Need to know because the growth in visual computing, which features technology that creates hyperreal images for users to interact with on-screen, is central to the development of virtual reality entertainment. Facebook's virtual reality tech subsidiary Oculus VR has acquired Israel-based Pebbles Interfaces, which has developed gesture control technology for video game players, for example, to see their fingers and hands interacting with virtual objects in real time on a device's screen. The deal is said to be worth "tens of millions" of dollars.

Creative function: gesture recognition software; virtual reality entertainment

Creative target: video game developers; interactive TV content creators

Company: Oculus VR, based in Irvine, California. US

Key executive(s): Pebbles Interfaces Founder/CTO Nadav Grossinger

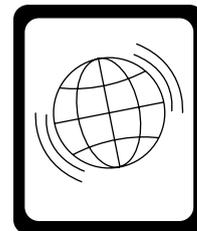
Investors/Owners: Oculus VR

Distribution platform: Oculus Rift VR headset

Launched: 2010 (as Pebbles Interfaces)

URL: www.oculus.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

SPORTS

Product: Alibaba Sports Group, sports-themed web portal

Need to know because this new subsidiary of Chinese e-commerce behemoth Alibaba claims to be filling a gap in the country's sports media and entertainment businesses. It plans to do so by using the Internet and cloud technology to offer quality sports services in terms of sports rights management, media and marketing.

Creative function: online sports content management, development and production

Creative target: sports rights owners; athletes; sports fans

Company: Alibaba Group Holding, based in Hangzhou, China

Key executive(s): Chairman Daniel Zhang; CEO Zhang Dazhong

Investors/Owners: Alibaba Holding Group; Sina Corporation; Yunfeng Capital

Distribution platform: Internet; mobile apps

Launched: Scheduled for 2015

URL: www.alibaba.com

Product: Yahoo Fantasy Sports, a new daily edition

Need to know because until now, the web portal and search engine pioneer Yahoo has been offering its popular fantasy sports service, which fans happily pay for, on a seasonal basis since the 1990s. It has now added a new daily version to the service, which is currently available in only the US. The new daily fantasy sports mean Yahoo is able to monetize the service on a more frequent basis. Fans can also collect their winnings daily instead of waiting until the end of each respective sport's season. The daily edition is kicking off with professional US baseball before roping in other types of sports.

Creative function: fantasy gaming; gambling; sports marketing

Creative target: sports rights holders; professional sports teams; sports fans

Company: Yahoo Inc., based in Sunnyvale, California, US

Key executive(s): Yahoo Sports' Vice President of Engineering Kelly Hirano

Investors/Owners: Yahoo Inc.

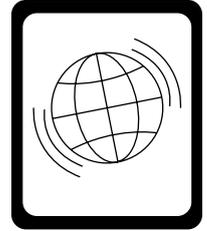
Distribution platform: Internet; mobile apps

Launched: 2015

URL: <http://sports.yahoo.com>

DISRUPTION DIRECTORY

Outline of the latest in global groundbreaking technologies



TELEVISION

Product: Apple TV's voice-activated remote control

Need to know because Apple's set-top box is for the first time featuring Siri, the company's intelligent personal assistant technology, in its touchpad remote control. When users 'talk to' the remote control and ask for a specific TV program, Siri will search a variety of sources to see if the show is available to watch.

Creative function: content search

Creative target: mobile TV viewers; TV rights owners

Company: Apple Inc., based in Cupertino, California. US

Key executive(s): Apple CEO Tim Cook

Investors/Owners: Apple Inc.

Distribution platform: Internet iOS, watchOS, tvOS apps

Launched: 2015

URL: www.apple.com

Product: Go90, Verizon Communications' social mobile app for TV entertainment

Need to know because the Beta version of the free ad-funded app that Verizon, the giant US wireless carrier, imagines the future of TV will look like, has been launched. In addition to featuring full-length TV shows, music videos and original online video content, Go90 is a "mobile-first" service aimed squarely at young Millennials. The content providers include Hollywood's DreamWorks Animation, TV network Scripps Networks Interactive and YouTube network Victorious. Go90, which is sharable among users, has used OnCue, a streaming TV platform acquired from Intel last year, as its infrastructure.

Creative function: online video; mobile video; TV entertainment; social TV

Creative target: broadcasters; online networks

Company: Verizon Communications Inc., based in New York, US

Key executive(s): Verizon's Executive Vice President/President of Product Innovation and New Businesses Marni Walden

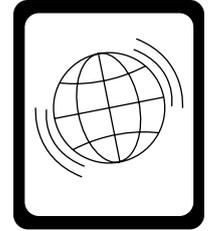
Investors/Owners: New York Stock Exchange-listed

Distribution platform: Internet

Launched: 2015

URL: www.verizon.com

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Product: iStreamPlanet, multiplatform live streaming TV tech provider

Need to know because Turner Broadcasting System (TBS), part of the Time Warner empire, has snapped up a majority stake in iStreamPlanet, which specializes in developing and supplying tools for streaming professional video and TV content to viewers. Not only will iStreamPlanet stream content to viewers of TBS TV channels, like CNN and Cartoon Network, but it will also remain autonomous, to serve existing and new third party clients.

Creative function: online video; online TV

Creative target: rights owners; broadcasters; content producers

Company: iStreamPlanet, based in Las Vegas, Nevada, US

Key executive(s): iStreamPlanet CEO/founder Mio Babic; TBS Chairman/CEO John Martin

Investors/Owners: Turner Broadcasting System (TBS)

Distribution platform: Internet; mobile app; streaming platforms

Launched: 2000

URL: www.istreamplanet.com

Product: joiz Group, social TV media and marketing operator

Need to know because joiz, famous for its multiplatform social TV networks aimed at Millennials, has integrated its proprietary technology into the content management and distribution software systems at Israel-based RR Media to offer social TV capabilities to broadcasters, content owners and rights holders. The service also enables monetization via targeted advertising.

Creative function: social TV content developers and distributors

Creative target: broadcasters; social TV operators; community TV networks

Company: joiz Group, based in Zurich, Switzerland

Key executive(s): joiz Group Co-founder/CEO Alexander Mazzara; RR Media CMO Elad Manishviz

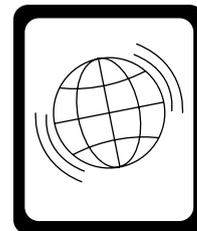
Investors/Owners: joiz Group

Distribution platform: social TV; Internet; mobile apps

Launched: 2010

URL: <http://joizglobal.com>

DISRUPTION DIRECTORY



Outline of the latest in global groundbreaking technologies

Product: Outspeak, original online video content network

Need to know because it is said to be the first multiplatform of its kind to offer a digital stage for Millennials to tell their stories and express their views about the world at large in the form of news, commentaries and entertainment. It is powered by Canada-based BroadbandTV (BBTV), the YouTube multi-channel network operator partly owned by German media venture RTL Group.

Creative function: multi-channel network of news, commentary, entertainment and lifestyle content

Creative target: emerging journalists, citizen journalists; content creators

Company: Outspeak, based in Vancouver, Canada

Key executive(s): BBTV founder/CEO Shahrzad Rafati; The Huffington Post's Chairman/President and Editor-in-Chief Arianna Huffington

Investors/Owners: BBTV; The Huffington Post

Distribution platform: YouTube; dedicated website; The Huffington Post and BBTV websites

Launched: 2015

URL: <http://outspeak.tv>

EXTRA

Product: Drinkable Book, first ever print manual used for treating contaminated water

Need to know because more than 660 million people worldwide have no access to clean drinking water and just as many do not know contaminated water causes diseases. The Drinkable Book is a physical book with sheets of pages not only printed with information about how to filter dirty water. Each sheet is also treated with nanoparticles of silver that turn each page into a filter which kills diseased bacteria as the water passes through. The project is being developed and tested in the US by Carnegie Mellon University, McGill University, and University of Virginia, and in African, Asian and Caribbean countries by charities like WATERisLIFE. The Drinkable Books is seeking sponsors.

Creative function: education; clean environment; health

Creative target: local and rural communities in developing markets

Company: Carnegie Mellon University, based in Pittsburgh, Pennsylvania, US

Key executive(s): Theresa Dankovich (Carnegie Mellon University); WATERisLIFE founder Ken Surritte

Investors/Owners: include Carnegie Mellon University; WATERisLIFE

Distribution platform: print medium

Launched: 2015

URL: www.waterislife.com

The quality quarterly newsletter that keeps track of technology breaking the boundaries surrounding traditional media and content platforms, and the technologists making a difference.

Our **News Analysis** covers tech activities in the international media, entertainment and creative businesses. Our **Disruption Directory** lists technology products that have been announced or developed for specific creative sectors. Our **Numbers That Count** page features statistics illustrating technology's influence on media and entertainment's evolution. Our **Start-ups' Standpoint** section gives emerging technology service providers a platform to state the differences they hope to make and the challenge of fulfilling those ambitions.

[Back to Contents Page](#)

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Media, entertainment and tech decision makers seeking a snapshot of the new developments catapulting the creative businesses further into the 21st century.

Contact details for all enquiries:

Editorial Director/Publisher Juliana Koranteng

Web: www.techmutiny.net

Email: jaykaymedia@btinternet.com

Twitter: @TechMutiny

LinkedIn: Juliana Koranteng

Advertising/Marketing: info@jaykaymediainc.com

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SMART RADIO: PLAYLISTS – ARE THEY THE NEW RADIO?

16 November 2015, NYC



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