



## *Innovation Insight*

No 14/18 November 2018

# The impact of emerging technologies on the private security industry

*Recent trends*



# The impact of emerging technologies on the private security industry

## Recent trends

*DeltaHedron® Innovation Insight* is a series of white papers, reports and newsletters exploring aspects of the technological future and technological innovation, with a specific focus on the strategic business impact, opportunities, risks and threats presented by emerging technologies and the dynamics of technological change

This report contains a selected number of references to recent trends and news articles published mainly **circa September to mid-November 2018**, that will impact on the **private security industry**.

Views in the articles are those of the authors (or as stated in the articles), and are not necessarily supported by DeltaHedron. References are to open source articles, generally excluding peer-reviewed and academic journals.

The content of *DeltaHedron Innovation Insight* is for general information purposes only and should not be used as a substitute for consultation with professional advisors. DeltaHedron has taken reasonable professional care in collecting and reporting of the information but has not independently verified, validated or audited data to verify accuracy or completeness. Mention of specific companies, products or brands does not in any way indicate endorsement. None of the vendors were contacted, nor did any contribute financially or otherwise to this report.



This document is best viewed electronically when downloaded into a pdf reader on a computer, tablet or smartphone, which enables the hyperlinks to be clicked to gain access to the references and to navigate different sections in the document.

Clicking on the “[Return comment]” links will open a pre-formatted email page that enables the reader to send comments back to DeltaHedron in a convenient format.

Entries in the report are listed only once, even though they may be relevant to more than one category. The sources cited in this report were active on the date of compilation (28 November 2018).

**Please visit DeltaHedron®’s website at: [www.deltahedron.co.uk](http://www.deltahedron.co.uk)**

**DeltaHedron®’s public e-journals can be viewed at:**

- Innovation Impact ([bit.ly/Innovation\\_Impact](http://bit.ly/Innovation_Impact))
- Smart Cities Innovation ([bit.ly/Innovation\\_Smart\\_Cities](http://bit.ly/Innovation_Smart_Cities))



Private e-journals for clients can be generated in this format as well as the format of this report.

DeltaHedron®’s *Executive Innovation Insight* is described on our website at:

**[www.deltahedron.co.uk/executive-innovation-insight/](http://www.deltahedron.co.uk/executive-innovation-insight/)**

**DeltaHedron®’s publications can be downloaded from:**

**[www.deltahedron.co.uk/publications/](http://www.deltahedron.co.uk/publications/)**

Photo image frontpage: Pixabay

DeltaHedron® is a registered trademark of DeltaHedron Ltd

# The impact of emerging technologies on the private security industry

## Recent trends (circa September to mid-November 2018)

### Quicklinks

- Trends, disruption and emerging technologies
- 3D Printing
- Augmented Reality (AR) and Virtual Reality
- Artificial intelligence (AI) and machine learning
- Blockchain
- Cyber Security
- Big data and analytics
- Detection, recognition, tracking, imaging and biometrics
- Digital identity
- Digital transformation
- Drones
- Home security
- Internet of Things (IoT) and sensors
- Other security applications
- Robotics and automation
- Telecommunications mobile, and wifi
- Wearables

### Executive Summary

This report refers to a number of trends and development of emerging technologies and their impact on and application in the private security industry, as reported circa September/early November 2018.

The dynamics of technological change present new opportunities to the innovators but at the same time also risks and threats for slower or non-adopters. New developments and applications are produced at a rapid pace, which in turns lead to new business models and modes of customer engagement. Disruptive technological innovations not only spawn new companies and industries, but also render laggard companies and entire industries obsolete.

The private industry offers a range of services to its customers, which include the securing and protection of physical and infrastructural assets, people and events, assets in transit as well as response to threats. A number of companies are also offering cyber security solutions as well as services to detect and combat fraud and counterfeiting.

A spectrum of emerging technologies which are fuelling the Fourth Industrial Revolution in general, continue to have a strategic business impact on the private security industry. A number of IT-related technologies, particularly next generation mobile (such as 5G) and cloud-based solutions will impact on many sectors, including the private security industry.

3D printing is evolving rapidly and offers new solutions with new applications. Printing with metal and alloys are now commonplace, as is the ability to print with multi-materials and bespoke wearables. The recognition that 3D printers seem to have their own 'fingerprints' is interesting, as it will enable the ability to trace a specific 3D printed object (including firearms) to its source.

Augmented reality (AR) and virtual reality (VR) offers enhanced training capabilities, in which real-time scenarios can be realistically modelled. This includes the modelling of specific physical environments as well as providing additional real-time information pertaining to sites with which they not be familiar to a reaction force through AR. Artificial intelligence applications, analytics and big data, combined with next generation biometrics (including facial and voice recognition) and

geospatial technologies, offer enhanced capabilities to identify and track individuals and assets. These technologies are also offering enhanced capabilities to combat poaching of animals.

Cyber security is a very dynamic area, with both threats and counter measures evolving rapidly. The use of blockchain applications is becoming increasingly prevalent, and is underpinning smart contracts and the authentication of data, in addition to its well-known applications in cryptocurrencies. Significant advances are also being made with regard to digital identities.

Drones are increasingly being used in a wide range of applications, including transport, delivery as well as surveillance. From a disruption perspective, drones will have a major impact on the security industry, particularly when used in “swarms” rather than individually.

A number of emerging technologies, such as the internet of things and associated sensor technologies as well as robotics are finding new applications in the security of residential, commercial and industrial facilities.

## Trends, disruption and emerging technologies

[\[Back to Quick links\]](#)

- **7 emerging big data technologies to watch out for**  
(Source: Analytics India Mag) *[Return comment]*
- **Avoiding disruption from disruptive technologies**  
(Source: Project Management) *[Return comment]*
- **Disruption aerospace and defense here - are you ready**  
(Source: Aviation Week) *[Return comment]*
- **Innovation in the Fourth Industrial Revolution: To disrupt or be disrupted**  
(Source: EIU Perspectives, 7 Aug 2018) *[Return comment]*  
“As the Fourth Industrial Revolution unfolds, what innovations are in store? It’s inevitable that jobs are going to be impacted as artificial intelligence automates a variety of tasks. However, just as the Internet did 20 years ago, the artificial intelligence revolution is going to transform many jobs—and spawn new kinds of jobs that drive economic growth. One of the main effects of the Fourth Industrial Revolution is increased human productivity.”
- **Technology innovation is disrupting risk management**  
(Source: Brink News) *[Return comment]*
- **The top 10 security challenges SMBs face**  
(Source: Tech Republic) *[Return comment]*
- **These are the top 10 emerging technologies of 2018**  
(Source: World Economic Forum) *[Return comment]*

## 3D printing

[\[Back to Quick links\]](#)

- **3D printers have fingerprints too**  
(Source: Knowridge, 19 Oct 2018) *[Return comment]*  
“This discovery could help trace 3D-printed guns. Like fingerprints, no 3D printer is exactly the same. That’s the takeaway from a new University at Buffalo-led study that describes what’s believed to be the first accurate method for tracing a 3D-printed object to the machine it came from.”
- **3D printing for footwear and podiatry**  
(Source: 3D Print) *[Return comment]*
- **Future cars to be made from revolutionary 3D printed vibration proof material**  
(Source: 3Ders) *[Return comment]*
- **GE aviation 3D prints 30,000th metal 3D printed fuel nozzle**  
(Source: 3D Print) *[Return comment]*
- **HP's new metal 3D printing platform could revolutionize auto industry**  
(Source: Interesting Engineering) *[Return comment]*

- **Lufthansa Technik opens additive manufacturing centre to develop lightweight 3D printed aerospace parts**  
(Source: 3D Printing Industry, Oct 2018) *[Return comment]*  
“Lufthansa Technik, the maintenance, repair, and overhaul (MRO) division of aerospace company Lufthansa, has established a new Additive Manufacturing Centre in Germany to develop lightweight aircraft parts.”
- **MetalMaker 3D launches rapid prototyping service for 3D printed metal parts**  
(Source: 3D Printing Industry, 7 Nov 2018) *[Return comment]*  
“MetalMaker 3D, a Connecticut-based start-up, has launched a rapid prototyping service integrating 3D printing with investment casting. Aimed at creating functional metal parts, the service has been launched as a more cost-effective alternative to Direct Metal Laser Sintering”
- **Optimizing the 3D printing of natural materials on a large scale**  
(Source: 3D Print) *[Return comment]*
- **Researchers use a team of mobile robots to 3D print large scale structures**  
(Source: 3Ders) *[Return comment]*
- **The future of 3D printing**  
(Source: Engineering) *[Return comment]*
- **This is how researchers can now track 3D printed guns and weapons**  
(Source: ZD Net, 19 Oct 2018) *[Return comment]*  
“In the same way that no human fingerprint is exactly the same, neither are 3D printers – and these small differences can be used to find the source of dangerous 3D-printed goods, researchers say.”
- **US Navy installs first 3D-printed metal part aboard a warship**  
(Source: Maritime Executive) *[Return comment]*
- **Volkswagen will use 3D printers to mass produce parts**  
(Source: CNN) *[Return comment]*

## Augmented reality (AR) and Virtual Reality (VR)

[\[Back to Quick links\]](#)

- **A new perspective on Virtual Reality (VR) and its uses**  
(Source: South China Morning Post) *[Return comment]*
- **Augmented and virtual reality in operations: a guide for investment**  
(Source: CapGemini) *[Return comment]*
- **Counter-terrorism police are now training with virtual terrorists**  
(Source: Phys) *[Return comment]*
- **Duplicate and share real-world objects in Augmented Reality (AR) with 3D scanner pro**  
(Source: VR Scout) *[Return comment]*
- **Focals augmented reality glasses look super-stylish**  
(Source: TechRadar, 24 Oct 2018) *[Return comment]*  
“When Google Glass first appeared in 2013, the future of augmented reality (AR) eyewear was looking rosy – that is, until our hopes and dreams for the futuristic tech were shattered by disappointing design, privacy concerns, and stubbornly high price tags.”
- **How Honeywell Virtual Reality (VR) could make it safer for soldiers to operate US Army combat vehicles**  
(Source: Tech Republic) *[Return comment]*
- **Jarvis adds Alexa and augmented reality to make its motorcycle helmet even smarter**  
(Source: Digital Trends, 10 Jul 2018) *[Return comment]*  
“Adding Amazon Alexa support to the new Jarvis X-AR smart motorcycle helmet’s feature set was a savvy decision. Riders don’t necessarily need to worry about learning how to manage the new lid when they can ask Alexa for what they want.”

- **Mixed reality 2019: Why the year ahead will be huge for enterprise VR/AR**

(Source: ZD Net, 7 Nov 2018) *[Return comment]*

“One of the big enterprise tech trends of 2018 was the arrival of employee training programs utilizing enterprise AR/VR. Major companies like Walmart and Tyson made headlines for ambitious pilots aimed at upending traditional training paradigms with the latest mixed reality tech. Enterprise virtual reality training could generate more than \$6 billion by 2022, according to ABI Research, and next year, 2019, will likely be the tipping point when a major use case for a technology that’s struggled to find adopters truly takes off”

- **Real results from virtual reality: safer jobsites**

(Source: Construction Dive) *[Return comment]*

- **Reality check: virtual, augmented and mixed**

(Source: Disruption Hub) *[Return comment]*

- **Siemens invests in a start-up that's creating 'human-eye resolution' virtual reality**

(Source: CNBC) *[Return comment]*

- **Smart glasses design projects images right into the eye**

(Source: New Atlas) *[Return comment]*

- **Smart helmet lets you talk to Google Assistant, see directions in Augmented Reality (AR) display**

(Source: Mobile Syrup) *[Return comment]*

- **This new headset lets you see Virtual Reality (VR) as clearly as the real world**

(Source: Interesting Engineering) *[Return comment]*

- **Truly useful augmented reality is coming – we are not ready.**

(Source: Futurism, 25 Oct 2018) *[Return comment]*

“Six years ago, Google ushered in the age of face computers with perhaps the coolest tech publicity stunt out there: a live stream of product engineers jumping out of a zeppelin and landing on the roof of a building.”

- **Virtual reality: A cheat sheet for business pros**

(Source: Tech Republic, 25 Oct 2018) *[Return comment]*

“VR isn’t hype or a mere novelty—there are real-world applications for the tech. This primer on virtual reality covers how businesses are using it, popular VR devices, and more”

- **Virtual reality market: emerging trends, in-depth assessment, new strategies, price, future roadmap and key players**

(Source: Empowered News) *[Return comment]*

## Artificial Intelligence (AI) and machine learning

[\[Back to Quick links\]](#)

- **An executive’s guide to Artificial Intelligence (AI)**

(Source: McKinsey) *[Return comment]*

- **An introduction to deep learning and neural networks**

(Source: Inside Big Data) *[Return comment]*

- **Arlo’s artificial intelligence-infused security cameras can recognize cars, pets, and packages**

(Source: Digital Trends, 25 Oct 2018) *[Return comment]*

“Most internet-connected cameras are branded as “smart,” but how smart are they really? Anyone who has ever received a false alarm notification triggered by a rogue squirrel might tell you, those cameras aren’t as smart as they seem.”

- **Artificial intelligence and machine learning for executives**

(Source: McKinsey) *[Return comment]*

- **Artificial intelligence for analytics augments and bolsters business intelligence**

(Source: Techtarget) *[Return comment]*

- **Artificial intelligence is combatting counterfeit luxury goods**

(Source: Racked) *[Return comment]*

- **Artificial intelligence-powered homes and buildings**  
(Source: Construc Tech, 13 Nov 2018) *[Return comment]*  
“Our homes and buildings are becoming connected—way back when the term used to describe this was AHT (automated home technology). Today, the IoT (Internet of Things), AI (artificial intelligence), and machine learning are set to change the way buildings communicate—and thus are built.”
- **Customers expect artificial intelligence-powered engagement**  
(Source: Venture Beat) *[Return comment]*
- **Deepmind's Artificial Intelligence (AI) learned to turn flat images into 3D scenes**  
(Source: The Next Web) *[Return comment]*
- **How Artificial Intelligence (AI) is driving business model change: the Internet of Things (IoT) and analytics-at-the-edge edition**  
(Source: SAS) *[Return comment]*
- **How IBM Watson is revolutionizing 10 industries**  
(Source: Tech Republic) *[Return comment]*
- **LG takes a load off with artificial intelligence-controlled exoskeleton**  
(Source: New Atlas) *[Return comment]*
- **Machine learning: the next evolution in fraud defense**  
(Source: Venture Beat) *[Return comment]*
- **MIT's Deep Angel erases objects from your photos with artificial intelligence**  
(Source: Fast Company) *[Return comment]*
- **New crime fighting algorithm could predict reoccurring illegal activity**  
(Source: Science Daily) *[Return comment]*
- **Schools are using Artificial Intelligence (AI) to track their students**  
(Source: Quartz) *[Return comment]*
- **The five key areas where artificial intelligence and automation could most impact business**  
(Source: Oracle) *[Return comment]*
- **Understanding machine learning's role in payments**  
(Source: Opus Consulting) *[Return comment]*
- **Using Artificial Intelligence (AI) to improve your predictive capabilities**  
(Source: Forbes) *[Return comment]*
- **Virtual reality reinventing education and training in organisations**  
(Source: Mining Weekly, 14 Nov 2018) *[Return comment]*  
“Business Science Corporation (BSC) is reinventing itself as the world moves into the Fourth Industrial Revolution (4IR) and is focusing on the use of virtual reality (VR) as a cost-effective method of training people.”
- **Watch this amazing artificial intelligence security camera spot a shoplifter**  
(Source: Digital Trends) *[Return comment]*

## Blockchain

[\[Back to Quick links\]](#)

- **187 things the blockchain is supposed to fix**  
(Source: Wired) *[Return comment]*
- **Blockchain easy-button alert: Say hello to automated security audits**  
(Source: Silicon Angle, 19 Oct 2018) *[Return comment]*  
“The goal is to basically make it very easy for developers to understand the state and health of the smart contract, and then they can go find consultants and experts to fix those vulnerabilities and issues”
- **Blockchain explained: what it is and isn't, and why it matters**  
(Source: McKinsey) *[Return comment]*
- **Blockchain is how we can protect our privacy in a world of ubiquitous surveillance**  
(Source: Entrepreneur) *[Return comment]*
- **Blockchain: a new frontier in supply chain management**  
(Source: JD Supra) *[Return comment]*

- **Deloitte announces plans to place digital identity on the blockchain**  
(Source: Crypto Disrupt, 7 Nov 2018) *[Return comment]*  
“Deloitte announced a partnership with Attest Inc to facilitate government digital identity on the blockchain. Users will be able to store government and corporate identities on a distributed ledger.”
- **How blockchain can help you start, grow and protect your business**  
(Source: Entrepreneur) *[Return comment]*
- **How blockchain could help fight cybercrime**  
(Source: Techacute) *[Return comment]*
- **How blockchain will herald a new era of security for your business operations**  
(Source: TechRadar) *[Return comment]*
- **IBM’s blockchain patents: From food-tracking and shipping to IoT and security solutions**  
(Source: Coin Telegraph, Oct 2018) *[Return comment]*  
“The adoption of blockchain technology is slowly taking shape across a multitude of industries. At the forefront of the amalgamation of payment systems and logistics is US tech giant IBM, which has established itself as a leader in terms of blockchain-based products and offerings.”
- **Police to get bitcoin training amid money-laundering worries**  
(Source: Telegraph) *[Return comment]*
- **Smart contract technical underpinnings**  
(Source: Clean Technica) *[Return comment]*
- **Tackling counterfeit goods through blockchain**  
(Source: Digital Journal) *[Return comment]*
- **The promise of the blockchain technology**  
(Source: Economist) *[Return comment]*
- **The strategic business value of the blockchain market**  
(Source: McKinsey) *[Return comment]*

## Cyber security

[\[Back to Quick links\]](#)

- **5 tips to secure your supply chain from cyberattacks**  
(Source: Tech Republic) *[Return comment]*
- **Behavioural analysis used to predict cybersecurity threats**  
(Source: Beta News) *[Return comment]*
- **Cybercrime: 15 top threats and trends**  
(Source: Bank Info Security) *[Return comment]*
- **Cybersecurity and the internet of things: time for biometrics?**  
(Source: Global Banking and Finance) *[Return comment]*
- **Disrupting the economics of cybercrime**  
(Source: Bank Info Security) *[Return comment]*
- **Eight reasons more CEOs will be fired over cybersecurity breaches**  
(Source: Tech Republic, 11 Nov 2018) *[Return comment]*  
“Security is everyone’s problem, but CEOs should make sure their organisation doesn’t block its success. Gartner offers eight situations for CEOs to avoid if a breach occurs within their organisation”
- **Five cyber security trends to prepare for: Gartner**  
(Source: IT World Canada, 6 Nov 2018) *[Return comment]*  
“Business leaders are finally getting the importance cyber security, but that doesn’t mean working with management is any easier for infosec pros, says a Gartner consultant. An Ottawa-based Gartner executive partner told a conference of municipal infosec workers that senior business executives are now aware that cyber security has a significant impact on the ability to achieve business goals and protect corporate reputation.”
- **How much money South Africans lose to cybercrime**  
(Source: My Broadband) *[Return comment]*
- **IoT poses special cyber risks**  
(Source: FCW) *[Return comment]*



- **New tool helps directors manage cyber security risks**  
(Source: Reseller, 1 Nov 2018) *[Return comment]*  
“The Institute of Directors has teamed with Aura Information Security to develop and launch a guide to cyber security reporting for company boards. The guide, “Reporting cyber security to boards”, sets out principles on reporting to boards, key questions to help identify and develop metrics, and sample dashboards.”
- **Researchers see improvements in vehicle cybersecurity**  
(Source: Security Week) *[Return comment]*
- **The potential costs of cybercrime that can't be calculated**  
(Source: CSO Online, Sep 2018) *[Return comment]*  
“Analysis of the cost of cyberattacks often comes with a price tag attached. We regularly read reports highlighting the average and cumulative costs of data breaches, and those figures can be staggering, such as in a Juniper Research report that asserts the global cost of breaches could exceed \$2 trillion by next year.”
- **These dogs sniff out cybercrime**  
(Source: CNET) *[Return comment]*
- **Why 51% of SMB leaders don't think their company is a target for cybercriminals**  
(Source: Tech Republic) *[Return comment]*
- **Who's winning the cybercrime battle?**  
(Source: Security Week) *[Return comment]*

## Big data and analytics

[\[Back to Quick links\]](#)

- **Apple is building an online tool that lets police request user data**  
(Source: Venture Beat) *[Return comment]*
- **Big data + analytics = irresistible customer experiences**  
(Source: Oracle) *[Return comment]*
- **Big data processing techniques to streamline analytics**  
(Source: Search CIO) *[Return comment]*
- **Business analytics is being leveraged to prevent school shootings**  
(Source: ZD Net) *[Return comment]*
- **Business intelligence and analytics software market outlook**  
(Source: Empowered News) *[Return comment]*
- **Data analytics as a risk management strategy**  
(Source: Natlaw Review) *[Return comment]*
- **How to choose the right modern BI and analytics platform**  
(Source: IT Protoday) *[Return comment]*
- **In the emerging world of risk-based contracting, data analytics is a foundational necessity**  
(Source: Healthcare Informatics) *[Return comment]*
- **Rethinking personal data**  
(Source: World Economic Forum) *[Return comment]*
- **The future of the data centre: the walls come tumbling down**  
(Source: Silicon Angle) *[Return comment]*
- **Using advanced analytics for fraud management**  
(Source: McKinsey) *[Return comment]*
- **Watch these data and analytics challenges and trends**  
(Source: Gartner) *[Return comment]*
- **What is big data analytics?**  
(Source: Techtargert) *[Return comment]*
- **Which analytics do you really need?**  
(Source: Entrepreneur) *[Return comment]*
- **Who should own data analytics in your company and why**  
(Source: Dataconomy) *[Return comment]*

**Detection, recognition, tracking, imaging and biometrics**[\[Back to Quick links\]](#)

- **Analogic TSA luggage-scanning machine will speed up security lines**  
(Source: CNBC) *[Return comment]*
- **Anima smart location based reminder system**  
(Source: Gadget Flow) *[Return comment]*  
“Do all your important tasks always strike at the wrong time? Get the right reminders at the right time with the Anima Smart Location Based Reminder System. This functional device helps you organize your time according to your location.”
- **Are businesses prepared for the voice revolution?**  
(Source: CIO Dive) *[Return comment]*
- **Asset-tracking technology gains traction**  
(Source: Waste360) *[Return comment]*
- **Axon's new body cameras can live-stream and detect gunshots**  
(Source: Fast Company) *[Return comment]*
- **Biometric access: convenience vs security**  
(Source: IT Web) *[Return comment]*
- **Border patrol catches imposter 3 days after biometrics system installed**  
(Source: Digital Trends) *[Return comment]*
- **Can you be identified by DNA and location alone?**  
(Source: Neatorama, 15 Oct 2018) *[Return comment]*  
“A Columbia University computer scientist wanted to know if they could identify a person if they only had a piece of DNA and geographical location”
- **DNA From Elephant Tusks Exposes the Cartels Killing Them**  
(Source: Focusing on Wildlife, 13 Oct 2018) *[Return comment]*
- **Do the police have your biometric digits?**  
(Source: BBC) *[Return comment]*
- **Emotion recognition market growth technological advancement and future opportunities 2025**  
(Source: Empowered News) *[Return comment]*
- **Engineers develop a new cloaking material that can hide hot objects**  
(Source: Trend in Tech) *[Return comment]*
- **Engineers discover a glaringly simple way to detect bombs and hidden weapons**  
(Source: Science Alert) *[Return comment]*
- **Face recognition**  
(Source: Professional Security) *[Return comment]*
- **Facial recognition gives police a powerful new tracking tool**  
(Source: NBC News) *[Return comment]*
- **Facial recognition is becoming one of the 21st century's biggest public space issues**  
(Source: Curbed, 19 Oct 2018) *[Return comment]*  
“Automation and artificial intelligence (AI) are often marketed as wondrous and futuristic technologies that will help us live more convenient lives. But beyond the idealistic marketing hype the reality is far more malignant.”
- **Facial recognition software coming to an airport near you e-discovery trends**  
(Source: eDiscovery) *[Return comment]*
- **Fake fingerprints can imitate real ones in biometric systems**  
(Source: The Guardian, 15 Nov 2018) *[Return comment]*  
“Researchers have used a neural network to generate artificial fingerprints that work as a “master key” for biometric identification systems and prove fake fingerprints can be created. According to a paper presented at a security conference in Los Angeles, the artificially generated fingerprints, dubbed “DeepMasterPrints” by the researchers from New York University, were able to imitate more than one in five fingerprints in a biometric system that should only have an error rate of one in a thousand.”
- **First to market: facial recognition start-ups**  
(Source: Wired) *[Return comment]*

- **Heathrow's facial recognition tech could make airports more bearable**  
(Source: Wired, 18 Oct 2018) *[Return comment]*  
“It’ll soon be quicker to move through airports. Heathrow is rolling out a facial-recognition system to let passengers check in, drop off bags, get through security and board planes.”
- **Here’s a video game that uses face recognition to check ages**  
(Source: Fast Company) *[Return comment]*
- **How to find hidden cameras in your Airbnb rental**  
(Source: Digital Trends) *[Return comment]*
- **How voice can deepen user engagement and future-proof your product**  
(Source: ED Surge) *[Return comment]*
- **Lawmakers will look more closely at facial-recognition software after being mistaken for criminals**  
(Source: MIT Technology Review) *[Return comment]*
- **Lightcam is a wires-free security camera that’s also a smart bulb**  
(Source: PC Authority) *[Return comment]*
- **Location intelligence and location analytics market 2018**  
(Source: My News Desk, 9 Nov 2018) *[Return comment]*  
“The Location Intelligence and Location Analytics Market is anticipated to hit \$28.17 billion by 2023 at a CAGR of 23.40%”
- **New technology out of MIT could detect mass shooters**  
(Source: Forbes, 31 Oct 2018) *[Return comment]*  
“An Atlanta-based start-up backed by a wealthy Canadian is preparing to market a security system developed by MIT that could detect public shooters before they fire. Researchers at MIT’s Lincoln Labs developed the technology, which uses radar energy to detect 3D images of weapons and explosives through clothing and baggage in real time.”
- **New technology sought to help police spot knives**  
(Source: Banbury Cake, 30 Oct 2018) *[Return comment]*  
“The Home Office is seeking new technology to help tackle surging levels of knife crime. Initial funding of up to £500,000 is available for research projects that could help police spot suspects who are carrying blades in crowded areas.”
- **New York police body-worn cameras recalled after explosion**  
(Source: BBC, 22 Oct 2018) *[Return comment]*  
“Police in New York have been told to stop using some of their body-worn cameras after one of them exploded. On Saturday, a night officer noticed smoke coming out of their camera and took it off. It then exploded, the NYPD said in a statement. It ordered officers to stop using the Viewu LE-5 camera out of “an abundance of caution””
- **Polarized thermal light gives soldiers detailed night vision**  
(Source: New Atlas) *[Return comment]*
- **Police bodycams can be hacked to doctor footage**  
(Source: Wired) *[Return comment]*
- **Police trial of Amazon facial recognition tech doesn't seem to be going very well**  
(Source: Mashable, 29 Oct 2018) *[Return comment]*  
“Amazon’s facial recognition technology, Rekognition, continues to cause controversy”
- **Redefining track and trace technology**  
(Source: Manufacturing) *[Return comment]*
- **Researchers develop new spectral invisibility cloak like nothing we've seen before**  
(Source: Trend in Tech) *[Return comment]*
- **Retailers deploy facial recognition to battle shoplifters**  
(Source: McClatchy) *[Return comment]*
- **Surveyors turn to satellites for ground mapping**  
(Source: The Construction Index) *[Return comment]*

- **Suspicious packages spotlight vast mail surveillance system**  
(Source: Fast Company, 25 Oct 2018) *[Return comment]*  
“As law enforcement investigates possible mail bombs sent to prominent Democratic Party figures and liberal activists, the tools available at their disposal include digital images and delivery metadata commonly associated with mail sent in the United States.”
- **Swann launches two new cameras for national crime prevention month**  
(Source: Digital Trends) *[Return comment]*
- **Texan pilots use Oculus Go for in-flight navigational guidance**  
(Source: VR Scout, 17 Oct 2018) *[Return comment]*  
“Texas-based AR and VR contract development and consulting company Thrust Vector, has begun utilizing VR technology inside the cockpit to assist in real-time navigational guidance”
- **The advantages of a biometric identification management system**  
(Source: Barbour-ABI) *[Return comment]*
- **The best facial recognition cameras you can buy today**  
(Source: CNET) *[Return comment]*
- **The new cameras targeting drivers using their phones**  
(Source: AU News) *[Return comment]*
- **The problem with using ‘super recognisers’ to spot criminals in a crowd**  
(Source: The Conversation, 18 Oct 2018) *[Return comment]*  
“People often say that they never forget a face, but for some people, this claim might actually be true. So-called super recognisers are said to possess exceptional face recognition abilities, often remembering the faces of those they have only briefly encountered or haven’t seen for many years.”
- **The science of the sniff: Why dogs are great disease detectors**  
(Source: Wired, 29 Oct 2018) *[Return comment]*  
“In November 2016, a team of scientists from the Medical Research Council in Gambia visited primary schools armed with hundreds of beige-coloured nylon socks. Handing them out to children there aged five to 14, the researchers instructed them to wear the socks overnight, only taking them off if they were washing their feet for prayer.”
- **Ticketmaster might use facial recognition at concerts**  
(Source: Spin) *[Return comment]*
- **Tiny tags and a broad research network help track small animal movements**  
(Source: South Africa Today) *[Return comment]*
- **Track and trace solutions market**  
(Source: Empowered News) *[Return comment]*
- **Tracking industrial assets for better business decisions**  
(Source: IIoT World) *[Return comment]*
- **Under a millimetre wide and powered by light, these tiny cameras could hide almost anywhere**  
(Source: TechCrunch) *[Return comment]*
- **Want to succeed with speech recognition in retail?**  
(Source: RIS News) *[Return comment]*
- **Wisenet's indoor security camera IDs faces, shows you who's there**  
(Source: CNET) *[Return comment]*

## Digital identity

[\[Back to Quick links\]](#)

- **Digital authentication: the past, present and uncertain future of the keys to online identity**  
(Source: Geek Wire) *[Return comment]*
- **Digital IDs are more dangerous than you think**  
(Source: Wired) *[Return comment]*
- **How improving identity authentication optimizes customer experiences**  
(Source: PSFK) *[Return comment]*
- **Touch ID and face ID don't make you more secure**  
(Source: How To Geek) *[Return comment]*

- **World Economic Forum launches shared platform for good digital identity**

(Source: Pata) *[Return comment]*

## Digital transformation

[\[Back to Quick links\]](#)

- **5 reasons companies struggle with digital transformation**

(Source: MIT) *[Return comment]*

- **Africa vs rest of world in lively digital revolution debate**

(Source: University World News) *[Return comment]*

- **Digital business transformation: how to survive and thrive**

(Source: McKinsey) *[Return comment]*

- **Digitally influenced spends in emerging markets to more than double by 2022**

(Source: TechCircle) *[Return comment]*

- **Emerging and disruptive technologies: At work and home**

(Source: The Internet of Things, 24 Oct 2018) *[Return comment]*

“In this conference UNICOM sets out the perspective of how technology is impacting the societal aspects of (i) the individual and (ii) the markets of large enterprises.”

- **How to use cloud computing and big data to support digital transformation**

(Source: ZD Net) *[Return comment]*

## Drones

[\[Back to Quick links\]](#)

- **4 app smart programmable drones**

(Source: iPhoneness, 27 Oct 2018) *[Return comment]*

“There are plenty of drones that let you capture aerial videos like a pro. If you are new to drones, you may want to pick up a programmable, hackable drone to gain a better understanding of aerial vehicles.”

- **A drone alone is not enough**

(Source: AOPA) *[Return comment]*

- **A drone-flinging cannon proves UAVs can mangle planes**

(Source: Wired) *[Return comment]*

- **A single police drone has seriously impacted crime in a Mexican city**

(Source: Digital Trends) *[Return comment]*

- **A wearable counter-drone jamming device**

(Source: Drone Below) *[Return comment]*

- **Africa is helping the drone industry get off the ground**

(Source: World Economic Forum, 19 Oct 2018) *[Return comment]*

“A recent critical report into the civilian use of drones in the US came to the damning conclusion that restrictions were so stringent they were actually stifling the commercial development of this fledgling industry. Yet, thousands of miles away, some of the world’s poorest countries have embraced this technology, and in doing so have not only spawned a new market – drones for development – but are also helping boost the industry by stimulating innovation.”

- **Ainstein announces new customizable ultra-long range airborne and ground-based drone detection radar sensors**

(Source: Directions Magazine) *[Return comment]*

- **Anti-drone market analysis and value forecast snapshot by end-use**

(Source: My News Desk) *[Return comment]*

- **Are delivery drones commercially viable? Iceland is about to find out**

(Source: IEEE Spectrum) *[Return comment]*

- **Asset inspection drones**

(Source: Drone Below) *[Return comment]*

- **Autonomous drones for surveillance**

(Source: Drone Below) *[Return comment]*

- **Behind the lens: What drones do beyond images**

(Source: Construction Dive, 31 Oct 2018) *[Return comment]*

“Frequently used to capture images and video to show clients and use in marketing materials, drones are becoming more commonplace on jobsites, with 57% of respondents to a recent JB Knowledge 2018 ConTech survey indicating their firms use the technology. Beyond capturing images and video footage, however, drones have tremendous data-collecting capability. According to DroneDeploy, construction is the fastest-growing commercial industry adopting drones, with use surging 239% in the past year, with project and technology managers and superintendents reaping the most benefit from drone data”

- **British Army undertakes autonomous warrior experiment, drones and unmanned vehicles**

(Source: Drone Below, 14 Nov 2018) *[Return comment]*

“The British Army is poised to commence its largest test of robots during simulated battles in the upcoming exercise on Salisbury Plain – a project known as ‘Autonomous Warrior’. The Defence Secretary stated that the exercise is set to last four weeks and will involve enhanced surveillance drones and unmanned vehicles.”

- **Businesses and private operators to prepare for stricter drone regulations**

(Source: IT News Africa) *[Return comment]*

- **Cape and Skyfire consulting team up to support end-to-end drone integration for public safety**

(Source: Police One) *[Return comment]*

- **Countering rogue drones using mini-sodar technology**

(Source: Drone Below) *[Return comment]*

- **Disney made a drone that can paint buildings**

(Source: Nerdist) *[Return comment]*

- **DJI updates geofencing system to better protect airspace around airports**

(Source: DP Review, 24 Oct 2018) *[Return comment]*

“DJI has announced Geospatial Environment Online Version 2.0 (GEO 2.0), a geofencing update for its drones that improves their ability to avoid restricted airspace near airports. The improvements are “based on a more finely-tuned evaluation of risks associated with aircraft approaching and departing different types of airports”

- **Drone analytics start-up Sensehawk raises \$2 million**

(Source: Drone Below) *[Return comment]*

- **Drone boats filled with explosives used to strike Saudi Arabia**

(Source: UK Business Insider) *[Return comment]*

- **Drone deliveries in Nigeria**

(Source: Ventures Africa) *[Return comment]*

“Arone is a Nigerian start-up that is changing the personalised drone delivery system in Nigeria, particularly in the area of healthcare”

- **Drone gripes mount as homeowners complain of breached privacy**

(Source: USA Today) *[Return comment]*

- **Drone sensor market is expected to grow from \$134 million**

(Source: My News Desk) *[Return comment]*

- **Drone study reveals potential and limits**

(Source: AOPA) *[Return comment]*

- **Drones and thermal cameras can protect endangered marine wildlife**

(Source: Drone Life) *[Return comment]*

- **Drones being used to monitor sacred and culturally significant sites**

(Source: Drone Below, 25 Oct 2018) *[Return comment]*

“There is absolutely no doubt that the use of drones nowadays is massive. ABC Radio Darwin has reported on how drones are being used for monitoring sacred areas as well as culturally significant sites which lack accessible terrain and are usually located in isolated areas.”

- **Drones could stay airborne longer with help from microwave beams**  
(Source: The Engineer, 17 Oct 2018) *[Return comment]*  
“Researchers are developing technology that could power drones with microwave beams. However, powering the unmanned aerial vehicles has so far been limited to small battery packs, giving them a flight time of only around 20 minutes.”
- **Drones for avalanche search and recovery**  
(Source: Drone Below) *[Return comment]*
- **Drones help spot poachers in action**  
(Source: Drone Below) *[Return comment]*
- **Drone project aims to combat illegal fishing in the Seychelles**  
(Source: Drone Life) *[Return comment]*
- **Drones that dive: Kerala start-up Eyerov creates India’s first underwater drone**  
(Source: The Tech Panda) *[Return comment]*
- **Drones used to track shark movements around Australia’s Heron Island**  
(Source: Drone Below, 14 Nov 2018) *[Return comment]*  
“The study of the aquatic environment is highly complex in nature due to the abruptly changing environment in terms of flow of layers of water varying with depths, predators moving around prey and prey inviting predators from a far.”
- **Eye-tracking glasses are all you need to control this drone**  
(Source: IEEE Spectrum) *[Return comment]*
- **Fish out of water: Using drones to help African nations spot illegal fishing**  
(Source: Nvidia, 5 Nov 2018) *[Return comment]*  
“The undulating western coast of Africa is one of the most diverse fishing zones in the world, with more than 1,000 identified fish species. It’s also one of the most at risk. One of the World Wildlife Fund’s “Critical Regions of the World,” the West African marine region has been overfished for decades, with rampant illegal fishing threatening marine ecosystems and the millions who depend on them.”
- **Future of drones: In-flight charging via lab-grown diamonds**  
(Source: Drone Below, 8 Nov 2018) *[Return comment]*  
“A small lab-grown diamond measuring a few millimetres per side could one day enable civilian drones to be recharged in mid-flight through a laser. Thanks to the diamond, the laser beam can remain strong enough over a long distance to recharge photovoltaic cells on the drones’ surface.”
- **GPS precise point positioning for photogrammetry via drone**  
(Source: Drone Below, 12 Nov 2018) *[Return comment]*  
“Just like many other industries, unmanned aerial vehicles (UAVs) or drones have recently become a popular platform for photogrammetric data acquisition. This is mostly because they are flexible and affordable when compared to manned aerial platforms.”
- **Henderson Fire Department to start using aerial drones**  
(Source: Las Vegas Sun) *[Return comment]*
- **How Canberra's drone delivery service will actually work**  
(Source: Canberra Times, 15 Nov 2018) *[Return comment]*
- **How drones are changing the world as we know it**  
(Source: Trend in Tech) *[Return comment]*
- **How to get an in-house drone program 'off the ground'**  
(Source: Construction Dive) *[Return comment]*
- **In-flight charging gives drones unlimited autonomous range**  
(Source: New Atlas) *[Return comment]*
- **Laguna Beach builds its drone police force, with an eye on the future of law enforcement**  
(Source: OC Register) *[Return comment]*

- **Life-saving deliveries will get drones flying the skies**

(Source: Wired, Oct 2018) *[Return comment]*

“Delivery drones are real and they’re operating on a national level, but they’re not dropping off impulse purchases, and some of the most important applications are not in the United States. Zipline, a Bay Area start-up, inked a deal with the government of Rwanda in 2016 and now uses small, autonomous planes to deliver medical supplies, and in particular blood, to rural communities across the African country.”

- **Like it or not, police drones are coming**

(Source: Yanko Design, 18 Sep 2018) *[Return comment]*

“The concept called Audi Patrone aims to provide police officers with the advantage of virtual visibility via drone from the comfort of the department.”

- **Mexico thief used drone surveillance to execute home robberies**

(Source: StLucia Times) *[Return comment]*

- **Mobilicom to present the SkyHopper holistic solution for drones**

(Source: Drone Below, 7 Nov 2018) *[Return comment]*

“Mobilicom Ltd. Will present its full SkyHopper product suite, including the communication data links (SkyHopper PRO and SkyHopper ONE), the Integrated Video Processing solution (SkyHopper PRO V), the Viewers (SkyHopper VU) and Controller (SkyHopper ControlAIR) at the Commercial UAV Show in London.”

- **Mydefence receives funding to develop next-gen anti-drone technology**

(Source: My News Desk) *[Return comment]*

- **NASA adopts Nextnav’s 3D geolocation technology for urban drone operations**

(Source: Drone Below, 9 Nov 2018) *[Return comment]*

“In looking for solutions to refining its (UAM) platform, a transportation management system for drone deliveries NASA has chosen geolocation leader Nextnav’s Metropolitan Beacon System (MBS). According to a press release, Nextnav’s MBS is unique in its ability to facilitate drone missions where GPS signals aren’t reliable enough to locate a UAV’s horizontal and vertical location.”

- **New IBM patent for drone delivery system**

(Source: Drone Below, 26 Oct 2018) *[Return comment]*

“Attempts to use drones for commercial package delivery are being tackled by the likes of Amazon, Uber and UPS, however, the usage of drones in the logistics sector primarily depends on tentative operative procedures.”

- **New DJI patent for method and system for drone navigation**

(Source: Drone Below) *[Return comment]*

- **Optimization of drones in border intelligence, surveillance and reconnaissance**

(Source: Drone Below) *[Return comment]*

- **Prison smuggler busted by his own drone camera**

(Source: Naked Security) *[Return comment]*

- **Professional security drone consultation**

(Source: Professional Security, 30 Nov 2018) *[Return comment]*

“The UK Government is consulting on drone use and safety enforcement. Suggestions include a minimum age for drone pilots; 1km restrictions near protected aerodromes (compared with a 400ft height and flying restriction near aerodromes restrictions that comes into force on July 30); operators of small drones of a mass between 250g and 20kg inclusive to have to register; and pilots to meet ‘competence requirements’.”

- **Scottish mountain rescue adds drones to its operations**

(Source: Drone Below, 29 Oct 2018) *[Return comment]*

“Drones will be used to find people in the most inaccessible places by Search and Rescue Aerial Association Scotland (SARAA-Scotland) state latest inputs from the Dumbarton reporter UK. A new search and rescue association-Scottish Mountain Rescue carried out a feasibility study with the aim of examining the role of drones – which are also known as Small Unmanned Aircraft or SUAs for short – could help in search and rescue operations reportedly calling drone use the biggest breakthrough in mountain rescue since search dogs were introduced in the 60s.”



- **Search and rescue under forest canopy using multiple drones**  
(Source: Drone Below, 5 Nov 2018) *[Return comment]*  
“Lost hikers in forests are always a challenge for the searchers. In times when helicopters cannot get through forests and woods due to the thick tree canopy, researchers have started using autonomous drones which can bob and weave through trees and aid these searchers.”
- **Social acceptance of traffic enforcement drones**  
(Source: Drone Below, 6 Nov 2018) *[Return comment]*  
“There are a numerous technological innovations in the traffic control sector each and every year, but every new technological solution that primarily involves interaction with humans must be socially acceptable for the public to cooperate with it and use it effectively.”
- **Some law enforcement drones are dropping out of the sky**  
(Source: TechCrunch, 31 Oct 2018) *[Return comment]*  
“The UK’s Civil Aviation Authority is cautioning police departments and other emergency services to suspend operations of a specific drone model after some of the devices lost power unexpectedly and fell while in flight.”
- **Spry is waterproof drone that flies like a plane and submerges like a sub**  
(Source: My Modern Met) *[Return comment]*
- **Surveillance drone systems: The privilege that becomes a common need**  
(Source: Drone Below) *[Return comment]*
- **Swarm technology for drone photography over large areas**  
(Source: Drone Below, 2 Nov 2018) *[Return comment]*  
“Photogrammetric analysis of a flat landscape is quite simple as a drone simply needs to take pictures at different locations flying over the area specified. This process, however, can get extremely complicated when an analysis of a spatially complex area is required; such as one with buildings or a disaster site.”
- **Teenage victim found by police drone with thermal imaging camera**  
(Source: Independent) *[Return comment]*
- **Terra Drone opens branch in South Africa to provide cutting edge mining drone solutions**  
(Source: International Mining, 1 Nov 2018) *[Return comment]*  
“Following its acquisition of a significant stake in Inkonova AB, which was one of the few companies worldwide developing underground mine drone technology, Japan’s Terra Drone Corporation has now established a new branch in South Africa specialising in drone solutions for underground and surface mining.”
- **The biggest threat to drone innovation is a group you’ve never heard of**  
(Source: TechCrunch, 25 Oct 2018) *[Return comment]*  
“A little-known but highly influential group of attorneys from across the country will soon meet in Detroit and could change our skies forever. They claim their draft model legislation concerning drones will help protect privacy.”
- **The top rated drones of 2018**  
(Source: Dragon Blogger, 30 Oct 2018) *[Return comment]*  
“Today, technology development has come up with the must-have top-notch drones. Many of these super quality drones come with sporting portable form factors and 4k cameras. The drones have also taken video production to a higher level with its hallmark super steady video stabilization.”
- **The US Army is building drones that never need to land**  
(Source: MIT Technology Review, 4 Sep 2018) *[Return comment]*  
“It’s using lasers to power the aerial machines. The news: According to New Scientist, the US Army is firing lasers at photovoltaic cells on drones to deliver power from a distance. Eventually they hope to power the devices from 500 metres away.”
- **Tiny drones team up to open doors**  
(Source: IEEE Spectrum, 24 Oct 2018) *[Return comment]*  
“In a move inspired by natural engineering, robotics researchers have demonstrated how tiny palm-size drones can forcefully tug objects 40 times their own mass by anchoring themselves to the ground or to walls.”

- **Travelers broadens claims-by-drone insurance with strategic investment**  
(Source: ZD Net) *[Return comment]*
- **US border patrol flew more drone missions last year than ever before**  
(Source: Gizmodo) *[Return comment]*
- **US hospital trials medicine delivery by drone**  
(Source: Disruption Hub, 30 Oct 2018) *[Return comment]*  
“Few things require such urgent delivery as medical supplies. Adequate provision of medicines and medical equipment to hospitals can be a matter of life and death for patients, particularly in trauma centres and emergency care. Hospitals typically rely on couriers to deliver medical supplies, but this is expensive – and can waste time if the driver gets stuck in traffic. As with many last mile delivery dilemmas, this territory is ripe for disruption from drones”
- **Using drones for automated external defibrillator delivery in Seattle**  
(Source: Drone Below, 2 Nov 2018) *[Return comment]*  
“Believe it or not, using automated external defibrillator (AED) in order to deliver a shock to the cardiac arrest patient before emergency medical services arrive can increase the likelihood that the patient will survive.”
- **Use of drones in search and rescue ops**  
(Source: Drone Below) *[Return comment]*
- **Uvision showcases new capabilities of Hero-30 lethal loitering system**  
(Source: Drone Below) *[Return comment]*
- **What happens when a prison is attacked by drug-smuggling drones**  
(Source: Vice) *[Return comment]*
- **World’s first drone-equipped motorcycle features a special space for the spark**  
(Source: Digital Trends, 23 Oct 2018) *[Return comment]*  
“Sidecar specialist Ural has just motored into the world of aerial photography with a somewhat quirky addition to its range of bike attachments. The clue is in the name of its latest offering — Ural Air — and an even bigger hint comes by way of the “DJI” letters plastered on the sidecar.”
- **You can now control Skydio's obstacle-dodging self-flying drone with your Apple watch**  
(Source: CNBC, 27 Oct 2018) *[Return comment]*  
“Earlier this year, Skydio launched its self-flying Skydio R1 drone. The R1 can take 4K video while tracking and following a person between obstacles, all without any controller. Now with a new Apple Watch app, users can select autonomous flight modes, choose which person the R1 tracks, rotate the drone and bring it in for landing.”

## Home security

[\[Back to Quick links\]](#)

- **5 ways burglars can break into your home**  
(Source: Daily Hive) *[Return comment]*
- **7 indoor security cameras to monitor your home when you're away**  
(Source: Gadget Flow) *[Return comment]*
- **7 of the best home security cameras to bring you peace of mind**  
(Source: Mashable, 25 Oct 2018) *[Return comment]*  
“We all want homes that are safe and secure. Yet, according to the real estate listings we definitely skimmed, fortress inventory is at an all-time low. Additionally, the landscape architect we totally interviewed informed us that moats haven’t been *en vogue* since the Middle Ages.”
- **8 innovations in home security technology**  
(Source: My Kukun) *[Return comment]*
- **12 best-reviewed home security cameras**  
(Source: Family Handy Man) *[Return comment]*
- **A study says kids and security spur people's smart home purchases**  
(Source: Digital Trends) *[Return comment]*

- **Are the police using smart-home internet of things devices to spy on people?**  
(Source: Schneier, 22 Oct 2018) *[Return comment]*  
"IoT devices are surveillance devices, and manufacturers generally use them to collect data on their customers. Surveillance is still the business model of the Internet, and this data is used against the customers' interests: either by the device manufacturer or by some third-party the manufacturer sells the data to"
- **Do you really need smart home security cameras?**  
(Source: Real Homes) *[Return comment]*
- **For smart home owners, convenience tops privacy concerns**  
(Source: Trib Live) *[Return comment]*
- **Google will use your Roomba's house map to improve your smart home cleaning smart home**  
(Source: TechRadar, 1 Nov 2018) *[Return comment]*  
"The company behind the Roomba robot vacuum, iRobot, has announced a partnership with Google that will allow the tech giant to utilize the autonomous vacuum's ability to digitally map its user's home."
- **Home security 101 - Protecting your house what it'll cost**  
(Source: Facelift) *[Return comment]*
- **Is your wi-fi good enough for your smart home?**  
(Source: CNET) *[Return comment]*
- **Locking systems: a smart house needs smart locks**  
(Source: GIT Security) *[Return comment]*
- **Lockly's smart locks promise better security through algorithms**  
(Source: Engadget) *[Return comment]*
- **Mum's voice makes better smoke alarm for children**  
(Source: BBC, 25 Oct 2018) *[Return comment]*  
"Adding a recording of a mother's voice to smoke alarms could save lives, according to US scientists. The study, published in the journal Pediatrics, found the modified alarms were more effective at waking children than conventional alarms"
- **Nearly a quarter of households now have smart speakers**  
(Source: Retail Dive) *[Return comment]*
- **The best home security system you can install yourself**  
(Source: The Verge) *[Return comment]*
- **The security flaws in smart city technology**  
(Source: IHLS) *[Return comment]*
- **This crazy new system can detect motion anywhere in your home using nothing but wi-fi**  
(Source: BGR) *[Return comment]*
- **What does modern door entry and access control look like?**  
(Source: Barbour-ABI) *[Return comment]*

## Internet of things (IoT) and sensors

[\[Back to Quick links\]](#)

- **A winning Internet of Things (IoT) strategy**  
(Source: McKinsey) *[Return comment]*
- **Aerial lidar and photogrammetry: Which makes sense for your construction project?**  
(Source: Expo UAV) *[Return comment]*
- **Antenna in a can: These transceivers could be sprayed on to any surface**  
(Source: IB Times) *[Return comment]*
- **End-to-end security "a must" for smart city IoTs**  
(Source: Information Age) *[Return comment]*
- **Four ways to improve your home's security with the Internet of Things (IoT)**  
(Source: Gemalto) *[Return comment]*

- **Internet of things opening doors to new security challenges**  
(Source: Mobile World Live, 26 Oct 2018) *[Return comment]*  
“Growth in the internet of things market is paving the way for new types of security risk, with no single approach likely to be able to address all of the issues, executives here said.”
- **Internet of things security: Follow these rules to protect your users from hackers, gadget makers told**  
(Source: ZD Net) *[Return comment]*
- **Internet of things security solution identifies and mitigates threats in real-time**  
(Source: Facility Executive, Oct 2018) *[Return comment]*
- **IoT analytics guide: what to expect from internet of things data**  
(Source: Network World) *[Return comment]*
- **IoT security: Why it will get worse before it gets better**  
(Source: ZD Net, 7 Nov 2018) *[Return comment]*  
“There are billions of connected devices in use around the world, in our homes, our offices, even inside our bodies as medical devices are connected to an ever-growing internet of things (IoT). Vendors rush to add to the range of devices available, with many looking to gain a hold in the market as quickly as possible, delivering cheap, easy-to-use devices into the hands of users”
- **Navigating the internet of things security minefield: The cloud portal**  
(Source: Internet of Things Agenda, 25 Oct 2018) *[Return comment]*  
“Not a week goes by without another IoT-related security story in the news, with most of the coverage still focusing only on the hardware. However, unlike Wi-Fi routers, phones and other standalone things, IoT devices like a Nest thermostat that regularly communicate back to the cloud and allow the user to entirely manage his individual thermostats via a convenient web cloud portal have complicated the security landscape.”
- **New lidar driving system lets vehicles “gaze” like humans**  
(Source: Engineering) *[Return comment]*
- **Next-generation sensors take to the field**  
(Source: TD World) *[Return comment]*
- **The biggest mistake companies can make when adopting Internet of Things (IoT)**  
(Source: Tech Republic) *[Return comment]*
- **The rise, fall and return of RFID**  
(Source: Retail Dive) *[Return comment]*
- **The state of Internet of Things (IoT) intelligence, 2018**  
(Source: Forbes, 4 Nov 2018) *[Return comment]*  
“Sales, marketing and operations are most active early adopters of IoT today. Early adopters most often initiate pilots to drive revenue and gain operational efficiencies faster than anticipated. 32% of enterprises are investing in IoT, and 48% are planning to in 2019.”
- **These new super-thin antennas are made from metallic nanomaterials**  
(Source: Science News) *[Return comment]*
- **These tags turn everyday objects into smart, connected devices**  
(Source: UCSD) *[Return comment]*
- **This mini sensor can instantly detect 31,000 colours**  
(Source: Interesting Engineering) *[Return comment]*
- **UHF RFID inlays market: global industry analysis, segmentation, organization size and forecast to 2026**  
(Source: Culrav) *[Return comment]*
- **What is the future of internet of things (IoT)**  
(Source: Dataconomy) *[Return comment]*

**Other security applications**[\[Back to Quick links\]](#)

- **Airport security mistakes**  
(Source: UK Business Insider) *[Return comment]*
- **Amazon sets traps for drivers**  
(Source: UK Business Insider) *[Return comment]*
- **Best dispatch software providers: Trucking and field service**  
(Source: Tech, 26 Oct 2018) *[Return comment]*  
“Being able to scale your business, take on more clients and improve your customer experience in one go sounds like an unbelievable proposition, but this is exactly what dispatch software can help you do.”
- **Can we trust digital forensic evidence?**  
(Source: Science Daily) *[Return comment]*
- **Cash-in-transit heists**  
(Source: News24) *[Return comment]*
- **Channel your inner spy with these night vision binoculars**  
(Source: Interesting Engineering) *[Return comment]*
- **Considerable improvements in the electronic security market**  
(Source: Barbour-ABI) *[Return comment]*
- **Cover your assets: the rise of the super-intelligent supply chain**  
(Source: Forbes) *[Return comment]*
- **Crime fighting gets high-tech advances Palantir, Axom and more**  
(Source: Wired) *[Return comment]*
- **Emerging economies and the companies that propel them to higher growth**  
(Source: McKinsey) *[Return comment]*
- **Experts warn, terrorists could weaponize highly infectious diseases and use planes to spread**  
(Source: Off Grid Survival) *[Return comment]*
- **How the US war on drugs helped fight poaching and corruption in Africa**  
(Source: lol, 3 Nov 2018) *[Return comment]*  
“The US Drug Enforcement Administration just brought down one of Kenya’s biggest drug organisations and at the same time struck a blow against corruption and the illegal ivory trade that is killing off African elephants.”
- **How to investigate and understand the complex world of fraud**  
(Source: Gulf Business) *[Return comment]*
- **Key security system with an array of tools for fleet managers**  
(Source: Facility Executive, 14 Nov 2018) *[Return comment]*
- **Pepper spray for prison officers 'a real risk'**  
(Source: BBC) *[Return comment]*
- **Poaching the poachers: How Kenya is saving elephants with night vision tech**  
(Source: Wired, 17 Oct 2018) *[Return comment]*  
“In the last decade, Africa’s elephant population has declined by around 110,000, primarily due to poaching. The slaughter of African rhinos has also skyrocketed — 1,175 were killed in South Africa in 2015 alone, compared with 13 in 2007.”
- **Police officers test new restraint technology**  
(Source: Foxnews) *[Return comment]*
- **Police professionals welcome new technologies but require training and enhanced workforce planning to reap benefits**  
(Source: Accenture) *[Return comment]*
- **Police raid spazas for fake goods**  
(Source: News24) *[Return comment]*
- **Preparing for financial crime risk**  
(Source: Brink News) *[Return comment]*
- **Protecting data assets critical amid increased technology acquisitions**  
(Source: Inside Big Data) *[Return comment]*

- **Security think tank: start outcomes-based security with asset identification**  
(Source: Computer Weekly) *[Return comment]*
- **South Africa crime: Can the country be compared to a 'war zone'?**  
(Source: BBC) *[Return comment]*
- **Super tensile building block to counter terror attacks**  
(Source: The Construction Index, 6 Oct 2018) *[Return comment]*  
"Tarmac has produced a new building block that is claimed to have unrivalled blast protection qualities. BBX is a construction system that provides dual protection against blast and ballistic threat, uniquely achieving C15 blast resistance and BR7 ballistic resistance."
- **Tanzanian rangers harness new technology to fight poachers**  
(Source: Channel News Asia) *[Return comment]*
- **Text-based lie detector can help cops filter out fake robbery reports**  
(Source: Digital Trends, 29 Oct 2018) *[Return comment]*  
"Computational spell checkers and grammar checkers have been around for decades, but what if software was also able to act as a lie detector for text-based documents? That might sound crazy, but it's a subject that researchers from the U.K.'s Cardiff University and Spain's Charles III University of Madrid have been working on — and it's apparently paying off."
- **The autonomous police car: RoboCop or reverse ATM?**  
(Source: Auto News, 9 Oct 2018) *[Return comment]*  
"Motorola's patent for an autonomous police car packs quite a few functions of the criminal justice system into a vehicle, enough not only for Uber drivers but for police officers to worry about job security in the age of autonomy. And it looks like it's only a few years away from reality, as most of the tech presented in the patent looks 80% ready with current technology"
- **This incredibly simple privacy app helps protect your phone from snoops with one click**  
(Source: Fast Company, 11 Nov 2018) *[Return comment]*  
"In the United States and many other countries, there are no legal protections to stop internet service providers—landline or mobile—from tracking where you go online. (A 2017 act of Congress enshrined that right to snoop in the U.S.)"
- **Tiny spy gear that fits in a USB cable widely available in China**  
(Source: Abacus News, 7 Nov 2018) *[Return comment]*

## Robotics and automation

[\[Back to Quick links\]](#)

- **Are killer robots the future of war? Parsing the facts on autonomous weapons**  
(Source: New York Times, 15 Nov 2018) *[Return comment]*  
"Battlefield robots already exist today in an early form. Milrem Robotics, a company based in Estonia, has developed a robot called THeMIS (Tracked Hybrid Modular Infantry System), which consists of a mobile body mounted on small tank treads, topped with a remote-weapon turret that can be equipped with small or large-calibre machine guns"
- **Automation and the workforce of the future**  
(Source: McKinsey) *[Return comment]*
- **Eight signs you could be automating more of your data centre**  
(Source: ZD Net, 1 Nov 2018) *[Return comment]*  
"Organizations with existing data centres can save time and money by adopting automation tools for data centre management. Here are eight signs you can do more to lighten your day-to-day workload."
- **How to make your business more efficient with smart automation**  
(Source: Make Use Of) *[Return comment]*
- **Model helps robots navigate more like humans do**  
(Source: RD Magazine) *[Return comment]*
- **Robotics play an active role in the Fourth Industrial Revolution**  
(Source: IT News Africa) *[Return comment]*
- **Technique could enable robots to navigate pushy crowds, congested streets**  
(Source: ZD Net) *[Return comment]*

- **The imperative to automate business processes**

(Source: McKinsey) [\[Return comment\]](#)

- **This robot transforms itself to navigate an obstacle course**

(Source: IEEE Spectrum, 31 Oct 2018) [\[Return comment\]](#)

“When you’ve got a hammer, everything looks like a nail, but the world starts to look more interesting if your hammer can change shape. For the builders of a class of robots called modular self-reconfigurable robots (MSRR), shape-shifting is the first step toward endowing robots with an animal-like adaptability to unknown situations.”

## Telecommunications, mobile and wi-fi

[\[Back to Quick links\]](#)

- **5G and the promise of a smart home makeover**

(Source: CNET, 5 Nov 2018) [\[Return comment\]](#)

“The coming move to 5G will affect phones, cars, movies and even small-town American government. What about the smart home? A pervasive, high bandwidth, low-latency network sounds great on paper.”

- **5G will let users ditch fixed-line home broadband**

(Source: BBC, 7 Nov 2018) [\[Return comment\]](#)

“5G mobile data will be so reliable and fast most homes will no longer need a separate home broadband connection, according to one of the companies planning to launch a UK service. Three UK’s chief executive said there would be enough capacity on 5G to cope with demand, meaning households would be able to save money by ending their fixed-line contracts.”

- **EMF frequencies used for crowd control weapons form the foundation of 5G network**

(Source: Collective Evolution) [\[Return comment\]](#)

- **Making the most of the next mobile economy**

(Source: IT World Canada) [\[Return comment\]](#)

- **What the future of IoT and 5G may look like**

(Source: Forbes, 1 Nov 2018) [\[Return comment\]](#)

“The upcoming 5G wireless network technology is promised to be responsive, fast and power efficient. And companies, for the most part, are compelled to upgrade their networks to stay on par with the competition, even though they don’t yet see a compelling 5G enterprise use case to do so.”

- **Wi-fi 6 is coming: Here's why you should care**

(Source: Gizmodo) [\[Return comment\]](#)

- **Wi-jacking: accessing your neighbour’s wi-fi without cracking**

(Source: Sure Cloud) [\[Return comment\]](#)

- **Will 5G be necessary for self-driving cars?**

(Source: BBC) [\[Return comment\]](#)

## Wearables

[\[Back to Quick links\]](#)

- **Air-conditioned helmet cools biker bonces**

(Source: New Atlas) [\[Return comment\]](#)

- **Army to get high-tech targeting goggles in 2019**

(Source: Breaking Defense, 25 Oct 2018) [\[Return comment\]](#)

“Sometime next year, American infantry will start donning high-tech goggles that show precisely where their weapons are pointing, shaving precious seconds off reaction time in combat. By the end of 2019, they’ll be able to flip a switch and see tactical intelligence from the battlefield network — like pointers to distant friends, enemies, and objectives — superimposed over their field of view like a militarized Google Glass.”

- **Army wants tech to improve exoskeleton fit on soldiers**

(Source: Military, 26 Oct 2018) [\[Return comment\]](#)

“Army scientists are trying to figure out the best way to design hard exoskeletons to fit “fleshy” human bodies so they’re comfortable enough to wear in combat. The US military has been attempting to design futuristic, performance-enhancing exoskeletons for combat soldiers since the late 1990s, but the technology often interferes with the way humans move.”

- **Believe it or not, this fire-proof exoskeleton isn't designed for space marines**  
(Source: Digital Trends, 14 Nov 2018) *[Return comment]*  
"A fire-resistant upper body robotic exoskeleton that's capable of lowering exertion levels by up to 80% when you carry out physically taxing work sounds like the stuff of science fiction. In fact, it's the basis for a real product recently unveiled by Levitate Technologies."
- **Improving the efficiency of wearable tech clothing**  
(Source: Digital Journal) *[Return comment]*
- **Marines to ramp up tests on hearing protection troops might actually wear**  
(Source: Military) *[Return comment]*
- **Materials scientist creates fabric alternative to batteries for wearable devices**  
(Source: Innovations Report, 14 Nov 2018) *[Return comment]*  
"Umass Amherst materials scientists have developed a method for making a charge-storing system that is easily integrated into clothing for 'embroidering a charge-storing pattern onto any garment' A major factor holding back development of wearable biosensors for health monitoring is the lack of a lightweight, long-lasting power supply."
- **This wearable exoskeleton helps relieve back and neck stress**  
(Source: Interesting Engineering) *[Return comment]*
- **Stretchable thermoelectric coils for energy harvesting in miniature flexible wearable devices**  
(Source: Phys, 14 Nov 2018) *[Return comment]*  
"Miniaturized semiconductor devices with energy harvesting features have paved the way to wearable technologies and sensors. Although thermoelectric systems have attractive features in this context, the ability to maintain large temperature differences across device terminals remains increasingly difficult to achieve with accelerated trends in device miniaturization."
- **Willmott Dixon trials bionic vest to aid manual handling**  
(Source: The Construction Index) *[Return comment]*
- **Mate is made to look out for your shoulders**  
(Source: New Atlas) *[Return comment]*
- **The worker in the robot suit: New industrial orders reignite exoskeleton interest**  
(Source: ZD Net) *[Return comment]*



A selection of the emerging technologies continuously monitored by DeltaHedron®

Emerging technologies	Applications	Industries
3D Printing and scanning Artificial Intelligence (AI) and Machine Learning Artificial Reality (AR), Virtual Reality (VR) Automotive Autonomous, flying, hybrid, scooters Electric, petrol, diesel, hydrogen, battery Basic sciences Astronomy, biology, chemistry, physics Mathematics, statistics, geology Biotechnology Blockchain Cryptocurrencies Bots Chatbots, cobots Robotics and automation Biometrics, voice/facial recognition Computers and computing Quantum computing High Performance Computing Memory storage Data Big data, analytics, business intelligence Cybersecurity, data protection Data science Digital and ICT Mobile, cloud, wireless, wifi Broadband, 5G, VOIP Software, SaaS, APIs, digital twinning Drones Electronics and photonics Antennas, radar, lidar, LoRA, sonar Energy Batteries, storage, renewables Electric, fossil, oil/gas, nuclear, hydro Hydrogen, solar, wind, tidal Imaging Holograms, photography, video Internet of Things (IoT) Industrial, sensors, RFID Materials Building, chemicals, bio, graphene, nano Metals, metallurgy, plastics, self-healing Wearables	Asset management Protection, tracking Anti-poaching Cities and communities Real estate Smart cities Smart home, office, factory Customer experience Consumers, UX Digital identity Authentication, identification e-Privacy, GDPR Environment Carbon emissions Climate change, conservation Water, marine, oceans Fraud prevention Anti-counterfeiting Games, toys Geolocation, mapping Navigation, GPS, tracking Health Dental Digital health Diseases/medical conditions Health and safety Hospitals, homecare Mental health, psychology Pharma, medicine ICT Data centres Enterprise systems Phones, tablets, apps Internet, online, web Search Engine Optimisation Management/governance Software development Telecommunications Legal, IP and patenting Maintenance Marketing, branding Packaging Workflow X-as-a-Service (XaaS)	Aerospace Agriculture, food, agritech Animals, crops, plants, fisheries Arts and culture Built Environment, construction Constructechs, housing Facilities management Chemical, biochemical Defence Education Edtech and Corporate learning Higher education and schools Energy Engineering Entertainment, music Fashion, textiles Financial, banking, investment e-Payments Fintechs, insurtechs Insurance, actuarial Health, pharma, cosmetics ICT Logistics, procurement Supply chain Manufacturing Maritime, marine, oceans Shipping, ports Media, journalism, publishing Social media Mining and minerals Philanthropy, CSR Professions Accounting, Auditing Engineering, Health, Legal Public sector, digital government Retail Security and policing Service industries Sport, exercise, leisure Telecommunications Tourism, travel, hospitality Transport, infrastructure Air travel and airports Public transport, rail, road

Business impact and cross-cutting themes

Trends and future thinking Digital transformation Disruption Dynamics of technological change Societies and communities Generational impact World of work and employment Freelance, gig economy HR management, recruitment, training	Risk management Innovation management Business models/platforms Corporate culture Incubators/accelerators Science and techno parks R&D, technology transfer Ventures, startups and entrepreneurship	Leadership and management Change management Decision-making/support Ethics and values National and regional interest Competitiveness Economic impact Fourth Industrial Revolution Innovation systems/policy
--	--	---



DeltaHedron® Ltd is a UK-based consulting firm with a global reach, specialising in the management of technological innovation. Our focus is on supporting our clients to assess and manage the strategic business impact, opportunities, risks and threats presented by emerging technologies and the dynamics of technological change.

*“A company with an engineering soul, an innovation mindset and a business outlook”*



DeltaHedron® Ltd, 31-38 Queen Street, Hull HU1 1UU, United Kingdom

[www.deltahedron.co.uk](http://www.deltahedron.co.uk)

+44 (0) 7540 671 295

[info@deltahedron.co.uk](mailto:info@deltahedron.co.uk)

Registered in England & Wales, Company Number 10532817

Registered address: 31-38 Queen Street, Hull HU1 1UU, UK