



EINSTEIN'S EYE

Enterprise Smart Glasses Update

Many industry observers deemed smart glasses to be a failure when Google famously stopped developing them in 2015. This move came after a series of public relations incidents where people objected to Google Glass being used to record movies and people in public places. And while there certainly are serious privacy concerns associated with smart glasses, Google restarted development for enterprise use in 2017. Since then, advances in Augmented and Mixed Reality services have reinvigorated the market for smart glasses use in the enterprise and the devices are set to make a comeback in 2019.

As proof of this, Microsoft recently announced a major deal to supply its HoloLens to the U.S. military in November 2018 for a total value of up to US\$480 million. The deal will equip American troops with up to 100,000 AR headsets which will be used both for training purposes and in active combat situations. Microsoft has admitted that up to now enterprise sales of HoloLens have been relatively slow, as less than 50,000 units have been sold, but deals like this show that there is tremendous potential (and budget) for smart glasses to be deployed beyond the consumer space. As new technologies such as AR/MR (Augmented Reality/Mixed Reality), voice control, embedded sensors and even 5G start to become used in smart glasses, the industry is expected to be a major focus of many industry use cases in 2019.



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Profile:
Marc Einstein has over 10 years of telecommunications and digital media industry experience, with domain knowledge covering markets, management consulting and business analysis. An experienced speaker and presenter, he has spoken at major telecommunications conferences in addition to being featured on both print and broadcast media such as CNN, CNBC, BBC Global and Channel News Asia. He has advised key telecom operators and ICT vendors on several projects. He graduated with both a Bachelor of Arts and a Bachelor of Science in Business Administration with concentrations in Finance, Marketing and Spanish from Washington University in St. Louis and was a visiting student at Rangsit University in Thailand. In addition to English, Marc speaks Spanish, French, Portuguese and Thai and is a basic speaker of Japanese and Mandarin.

Who Are the Leading Smart Glasses Vendors?

While there are dozens of smart glasses vendors in the market today, IT departments need to use caution when selecting a vendor. Some smart glasses companies which are startups are in a precarious financial position and have folded, such as the US-based Osterhout Design Group (ODG), which was working with KDDI. Even some of the bigger players have decided to exit the market, such as Intel, which cancelled its Vaunt smart glasses project in April 2018. These are the five leading smart glasses vendors currently in the market:

Google – Google has restarted selling its Google Glass headset, this time focused on the enterprise. The device now includes an AI assistant and voice control. Google has demonstrated use cases for its product in several industries including manufacturing, healthcare and logistics.

Microsoft – The HoloLens MR headset is arguably the market leader in the segment in terms of sales and enterprise adoption. The device features integration with other Microsoft products and has demoed use cases in industries such as education, healthcare, retail and manufacturing.

Magic Leap – Magic Leap is a secretive startup based in the US creating MR glasses.

The company has big investors such as Google, Alibaba Group and AT&T, but has only recently unveiled a prototype. The company is focused on the infotainment sector and has made deals with content creators such as the National Basketball Association and Lucasfilm.

Vuzix – Vuzix is an American startup and is one of the leaders in the smart glasses space. The company has a major investment from Intel and partners with enterprise software companies such as Blackberry. The company has demoed smart glasses use cases in several industries such as healthcare, field work and manufacturing.

Epson - Epson is the leading Japanese vendor with its Moverio line of smart glasses. The company has shown several use cases but is most noteworthy for creating integration between smart glasses and drones.

How Are Smart Glasses Being Used by Enterprises?

There are literally dozens of potential use cases for enterprise smart glasses currently being tested, but below is a list of the most common eight industry use cases being trialed:

Physical Security – Police in Beijing, China,



Exhibit: Top Industry Use Cases for Smart Glasses, 2018

Industry	Use Case	Outcome
Physical Security	Facial Recognition of Criminals	Better Public Safety
Healthcare	Mixed Reality in Surgery	Less Errors During Surgery
Manufacturing	Remote Support	Higher Workforce Productivity
Logistics	Field-of-vision instructions	Paperless Work Environment
Education	Mixed Reality Teaching	Cost-Effective Education
R&D	Virtual Prototyping	Elimination of Physical Models
Government	Group Collaboration	Better and Cheaper Teamwork
Retail	In-Store Mixed Reality	Better Customer Experience

Source: ITR.

are using smart glasses with facial recognition technology to identify wanted people and also to be able to identify and scan automobile license plates. The hardware vendor in this trial was the Chinese smart glasses maker LLVision.

Healthcare – At the Alder City Hospital in the UK, HoloLens is being used during surgeries to assist doctors while performing operations. By using HoloLens, surgeons are able to make a 3D image of a patient’s organ in order to perform a less risky operation.

Manufacturing – General Electric uses Google Glass in its manufacturing operations in the United States. By using smart glasses, workers are able to get guided work instructions from supervisors if they need to troubleshoot. The company reports a 34% increase in productivity since adopting smart glasses.

Logistics – DHL uses Google Glass in its warehouses in the United States to guide logistics workers with instructions on which items to move in their field of vision. This eliminated the need for recording items on paper and allows employees to work hands-free. DHL reports a 15% increase in productivity by using the service.

Education – Smart glasses are being used in the education field with a prominent example being Case Western Reserve University in the USA using HoloLens. Smart glasses are used to train

medical students on human anatomy, replacing the traditional use of cadavers.

R&D – Rapid prototyping is one of the strongest use cases for smart glasses as they can remove the need to create physical prototypes. Ford Motor Company is using HoloLens to create virtual prototypes of new car models, eliminating the need for physical models.

Government – Smart glasses are also being used by local governments to improve efficiency. For example, the English county of Bedfordshire is using HoloLens to create MR maps of crime scenes, which allows for better and more efficient collaboration among team members.

Retail – In the USA, home improvement store Lowe’s is using HoloLens to give customers an improved retail experience. By using smart glasses in their stores, Lowe’s is able to let customers visualize home improvements before purchasing products.

Summary & Conclusions

Smart glasses for enterprise use are expected to be one of the hottest areas for IT testing in 2019. Advances in AI, voice control, 5G and AR/MR will create new opportunities for use cases and better operational efficiency. Therefore, IT departments should consider testing in short-term and medium-term technology plans.



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