

Press release

The emergence of mixed reality, a market estimated to reach \$6.8 billion in 2024

Paris, April 10, 2017 – After investing \$3 billion in virtual and augmented reality projects in 2016, venture capital companies are now targeting "mixed reality", considered as true augmented reality. For many analysts, 2017 could be the year of mixed reality. Blurring the boundaries between virtual and augmented reality by integrating virtual elements into the user's real environment, mixed reality combines immersion and holography to make the real world and the virtual universe interact.

Alcimed, a consulting company specializing in innovation and the development of new markets, examines the applications of this very promising technology.

From augmented to mixed reality

While augmented reality allows you to insert 2D or 3D elements in a real environment in real time, mixed reality pushes the concept even further and allows you to integrate virtual elements, with which the user can interact.

It was Microsoft, the American IT giant, who induced the concept of mixed reality with its HoloLens glasses. Equipped with cameras, sensors and depth detectors, the Microsoft HoloLens remains lighter than a virtual reality headset and allows easy mobility. Today, it is mainly aimed at professionals and is already used by several companies such as ThyssenKrupp Ascenseurs, Airbus, Saab, Audi, Volvo, and NASA.

However, two competitors are facing this American giant. The first one, Meta, with its Meta 2 helmet, is three times cheaper than HoloLens glasses, and the second, Magic Leap, a Florida start-up, promises to revolutionize the world using mixed reality.

Without having released any prototypes, Magic Leap already raised a total of more than \$1.4 billion. Until now, the company has been particularly secretive, but it is gradually beginning to emerge from the shadows and promises that its helmets will soon be available to the general public. The scope of use is quite broad, as Magic Leap envisions to be used for industrial, commercial, medical, sports and leisure applications.

An infinite range of applications in all business sectors

"Mixed reality is the emerging technology that seeks to bridge the gap between augmented reality and virtual reality. With Magic Leap and Microsoft HoloLens, the market is only at its beginning. According to a study conducted by Grand View Research, it could reach \$6.8 billion by 2024, so it is a technology to be followed very closely." explains Jakub Rams, Project Manager at Alcimed.

It may revolutionize training programmes by proposing a **new pedagogical approach based on a simulated experience**. The trained employee could experience the job directly in action by acquiring the gestures and automatisms necessary for their profession. For example, Japan Airlines uses Microsoft HoloLens glasses to train its mechanical engineers for the tasks to be performed on aircraft engines.

Mixed reality can also accompany employees during various operations on the job. By providing field technicians, warehouse pickers, assemblers and other users with Internet of Things (IoT) applications and content tailored to their unique tasks, companies may be able to boost employee productivity and streamline work processes.

Another of the key uses identified by Microsoft is **remote collaboration on physical objects**. Thanks to mixed reality, it is now possible to share 3D holograms with remote stakeholders, which improves communication and collaboration efficiency beyond the company's walls.



Another area of application is **design and product development processes**. Car manufacturers, such as Volvo, are working on the design of future vehicles by examining holographic representations of their models.

In retail, mixed reality glasses are a way to reinvent the in-store experience. In a car dealership, for example, the customer can visualize their future car, or change some of its features such as the color, helping them make up their minds.

At the marketing level, mixed reality can also play a major role. For example, Moët Hennessy has used mixed reality to offer its clients a unique experience during a commercial event. The experience allowed visitors to explore the world of champagne and wine boxes and access the virtual aspect of the products through animated holographic elements.

In addition, mixed reality devices are also being tested in other specialized areas such as surgical medicine or architecture.

Risks to be considered

The greatest advantage of mixed reality is the infinite number of applications it offers in a wide range of activities and markets. In particular, it allows employees to operate hands-free, contributing significantly to improving the company's productivity. However, the use of glasses also has some disadvantages.

The time required to implement them in the company can be relatively long compared to traditional tools (presentations and conferences, brochures, training documents, etc.). In addition, an update of the operating system may cause the installed applications to malfunction. Technical improvements are also needed in terms of range, comfort, size and brightness of the devices.

In addition, the connected glasses collect a large amount of digital data, the breach of which can expose the company to security and confidentiality risks. It is also important to mention health risks (accidents due to loss of peripheral vision, eye fatigue, visual confusion, headache, nausea), or battery explosion.

Finally, the **price of the glasses is still very high**, which further hinders their large-scale deployment in companies.

"Mixed reality opens up new opportunities for innovation and calls for widespread use, particularly within companies. By promising a wide range of applications, particularly in industrial environments, mixed reality is gradually replacing augmented reality." concludes Jakub Rams.

ABOUT ALCIMED - www.alcimed.com

Founded in 1993, ALCIMED is an innovation and new business consulting firm specialized in life sciences (healthcare, biotech, agri-food), chemicals, energy as well as in aeronautics, space, defense and public policy. Today ALCIMED works with major industrial groups, ETIs and SMEs, investment funds and institutional players. ALCIMED relies on a team of 180 highly-skilled individuals to help its clients in the exploration and development of their unchartered territories: New Technologies, Market Innovation, High-Growth Geographies, and Strategic Foresight. ALCIMED is headquartered in Paris and has offices in Lyon and Toulouse in France, as well as in Germany, Belgium, Switzerland, the United-States and Singapore.

Alcimed is a member of CroissancePlus and the ACI (Association des Conseils en Innovation).

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