Benefits Of Virtual Reality, Augmented Reality, Mixed Reality

Virtual Reality

Virtual reality is an environment of scenes and objects generated by computer technology that has a realistic appearance. The user, through virtual reality glasses or helmets and other devices (controls, gloves, suits, or other elements), has the sensation of immersion in the environment from which he receives stimuli and with which he can interact as if reality were.

How Virtual Reality works

In general, virtual reality creates immersive environments, in which the user has the feeling of being there. But, mainly due to the lower cost, in recent years non-immersive technologies have been developed that fulfill the same task, although in a less realistic way from the user's point of view (not so in appearance).

Non-immersive virtual reality is the closest thing to a traditional video game, in which reality is represented on screens and the user interacts with it through, above all, controls. It is used, for example, to train complicated maneuvers with vehicles or in pilot tests; both cases in which its utility increases if the viewing and interaction with other elements that make the experience more realistic are accompanied: simulation of the cabin of an airplane, sound effects, etc.

Immersive virtual reality uses, mainly, virtual reality glasses or helmets, accompanied by other elements that help the user to move and interact within a three-dimensional environment. Realism and freedom of movement, make the user feel truly within that environment as if it were a parallel reality.

The ability to move the user to a totally realistic environment without actually opening up a wide range of possibilities in different areas. For a simple example, in the education sector, you can simulate environments to check physical laws without risk or make virtual visits amid historical facts.

These applications can be valid for an infinity of sectors, from medicine to entertainment, to perform tests, training, simulations, checks, modeling, etc.

In the industry, in addition to training workers, it is a very effective tool to perform models or aesthetic tests, without the need to manufacture a prototype.

Benefits of Virtual Reality

The main benefit is cost savings. For example, in training processes in which it was previously necessary to send several people to the place of training, today they do not need to travel thanks to simulators and other VR tools. Cost savings can also come from the possibility of testing with highly realistic results before creating prototypes, testing new products, performing

performance tests, or simulating the aesthetics of a transformed material.

Another of the fundamental benefits of virtual reality is the increase in security. Performing totally realistic training without compromising the safety of people, materials or machinery is highly beneficial for any company. Similarly, errors in the tests are less harmful (both at the level of resources and for people).

Virtual reality at the business level is also useful to adopt gamification as a training strategy, but also to improve teamwork or motivation. The gamification also has a high capacity to improve the performance of the workers and the connection between the equipment.

Virtual Reality, Augmented Reality, and Mixed Reality

Virtual reality is a technology that already has a few years of development, but in recent times in addition to developing, it has also been transformed. One of the most successful transformations has been in augmented reality (AR).

Augmented reality is viewing the real world through a device that incorporates information added to that reality. In this way, virtual information complements reality in real-time.

Mixed reality (MR) is a hybrid between AR and VR, in which in addition to information and virtual elements in real environments, virtual elements are incorporated with which it can interact in the same way that it is done in virtual reality.

Robotization

The concept refers to the use of machines in production processes, but in common use in environments related to the Fourth Industrial Revolution, it is known as robotization to the action of replacing the human being in certain tasks that machines can perform.

These tasks, moreover, are increasingly given the rapid evolution that robots of any kind are experiencing.

What is a robot?

As mentioned before, every machine that replaces people in a task is considered a robot. The word generally leads us to think about humanoid machines, but a welding arm that assembles cars is a robot too.

Looking for a definition, we can say that a robot is an artificial entity, either mechanical or virtual (bot); but there are robots of many types, according to their degree of complexity or structure.

How does robotization work?

The use of machines for production processes has been developed since the first Industrial Revolution, although the level of complexity and autonomy has experienced an unimaginable development just a few decades ago.

Throughout this process, we can identify different phases that can also coincide with the tasks developed by different types of robots today: mechanization (simple tasks), automation (where the intervention of people is minimal), and robotization (flexible automation, which can even do without human action)

What is robotization good for?

The robot, which is dedicated to the design, construction, operation, structure, manufacture, and application of robots, has a very promising development ahead. Next, we will summarize its implications.

Benefits of robotization

Without entering into philosophical aspects, robots begin to be an important part of our daily lives, reducing our participation in household chores, increasing our productivity at work, eliminating waiting times when we consume certain services, or reducing risks in medical interventions. Its basic credentials are accuracy, time savings, and full availability.

Impact of robots in the industry

The use of robots, mainly in the industry, allows a more efficient production since it reduces material waste, reduces costs, improves product quality, eliminates failures, works accurately always, and, in general, does not need to stop. In this sense, the advantages over human work are obvious.

Damages of robotization

There are professionals who warn that the proliferation of robots in our lives can be harmful. The most relevant is the replacement of people in all types of jobs, which could lead to significant chaos due to mass layoffs in the coming years. Given these opinions, some initiatives are emerging, such as the price of machines to support people; Although the broader current considers that robotization, despite destroying certain types of jobs, will generate many more associated with its boom (mechanics, robotics, engineering, mathematics ... and even philosophy or sociology).

Impact of robots on employment

Robots are (increasingly) capable of replacing people in many jobs; but human intervention will always be necessary, either for collaborative works with machines or for its design and conception.

Therefore, destroyed jobs could be insignificant compared to those that can be created. Of course, restructuring will be necessary that will be traumatic in any case.

At work, robots can become ideal partners. Among other things, they work more accurately without fatigue and without stops, at a faster rate; and they can carry out dangerous tasks, going where the human cannot and taking care of matters that can be mortal for a person.

The future belongs to robots, but they need us for their development much more than we need them. It is necessary to make a deep reflection on the challenges they pose because the benefits are well known and many companies have long been betting on them.