Reality, Not What it Used to Be: AR & VR in Operations

We have augmented our reality. Each of us every day walk around with devices in our pockets, on our wrists, in our ears with incredible power, that alter the nature of the world around us. They have become the norm, despite the idea of some of these capabilities seemingly like science fiction just decades ago. None of these advances are limited to our persons, they have altered the landscape of business operations at every level, flattening the world and allowing for alway-on communication. The next wave of advancement is upon us, and it lies in virtual and augmented reality. While the consumer side of AR/VR will take some time to become the norm, for various access and cost reasons, the Reality-plus advancements are already drastically altering how things get done in operations.

The US, China, France are the countries at the forefront of these advances, with companies leading in trying out AR/VR systems. Right now, companies like Boeing, GE, BMW, Airbus and Ford are using both, augmented reality especially, in their organizations in areas such as:

- Communication
- Design /Creation
- Training / Instruction / Safety
- QA/Service

Companies can communicate to remote employees all around the world in virtual conference rooms. With growing flexibility in the workforce, this is proving to be an

advantageous adaptation. Virtual reality can increase design and to-market speeds by erasing the need for a physical prototype and making it easier to 'fail fast' and iterate on ideas with no physical materials wasted, and with the ability to make changes rapidly and see them visualized on the digital plane. This can mean the design of a product, but can also be used in designing virtual layouts of machines, of warehouses of what a floorplan could look like redesigned. One can see how things would appear, even have virtual travel and walk-throughs.

Augmented and Virtual have already revolutionized aspects of training, instruction and, therefore safety. Virtual reality allows for testing scenarios and practice with no risk. Employees can simulate processes that would be potentially dangerous over and over again in a safe environment, getting motions down with no risk, and in a way that can be measured and processed by a computer to help maximize learnings. This all serves to make things both safer, and potentially cost-effective. Immersive, digitally/heads-up displays (a la Google Glass - while it failed commercially, the business operations implementations grow and live on) allow for immediate instruction and guidance. In fixing, servicing and quality assurance, displays can demonstrate how to fix something in the field, where items (for example, pipes underground) and can show how things are supposed to fit. These types of advances allow for much faster training - employees can get up to speed in a controlled, safe fashion.

These positives are clear: Things can be safer, done more quickly, even cost-efficiently, allowing companies to test, train, practice & service. These technologies can

help at every stage of operations. From the ground floor of designing something, to laying

out a warehouse or system, all the way through to maintaining and servicing these

products or systems once established.

The difficulties are two-fold: while what is currently being used is remarkable, it is

still a relatively new field. So the unknown makes widespread usage an ongoing process.

More advanced things like the ability to code all the way down to the most basic -

managers not knowing how to best utilize - are still a work-in progress. On top of that, the

available offerings are fairly expensive. While they might help eventually make things more

cost-efficient, the initial price tag could deter people from implementing AR or VR systems

in their processes. Best practices are still being developed, the pool of people who know

how to maintain and code VR/AR systems must still grow for it to be scaled. As with any

new technology there is the always-fear: how safe are the systems from hacking?

Augmented reality systems can help and are on the rise, but they are undoubtedly,

admittedly new.

As with anything in a changing technological landscape, the costs and fear of the

unknown lead to slow adoption and potential hiccups. "The impact will not only improve in

the next one to three years, but it will also become standard in the automotive business,"

says Frantisek Zapletal, of Volkswagen. But these things take time. Just as it was with

new cellular and computing technologies. As the success stories rise and gain traction, we

will no doubt see more and more usage or reality-altering technologies to make work a

safer, more efficient, more connected place.

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