3D cancer cells | Photo source Shutterstock

Innovation > Science & Environment > 3D model uses VR to virtually examine cancer cells

3D MODEL USES VR TO VIRTUALLY EXAMINE CANCER CELLS

🇬🇧 SCIENCE & ENVIRONMENT

Researchers have developed a VR map of a tumour to allow scientists to observe cells from all angles and for greater diagnostics.

Spotted: Tumours are varied and complex, and a cure for cancer remains elusive. However, technology is already having a major impact on medicine and research. At Springwise we've seen how machine learning algorithms are assisting in Alzheimer's diagnoses and, more pertinently, we've seen AR being used to design better operating theatres.

Now, scientists at Cancer Research UK Cambridge Institute are taking VR technology and applying it to cancer research. To build a virtual map, scientists begin by taking a tumour biopsy from a patient. This is photographed under a microscope. Next, researchers divide the sample into wafer-thin slices. They then run multiple analyses to gain insight into the cells and the genetic material. This enables the researchers to create a virtual three-dimensional map of the tumour. Within the system the scientists can generate avatars that can fly around the 3D map, functioning much like Google Earth VR, allowing them to hone in on specific areas.

This is a breakthrough in how tumours are studied. Scientists usually study certain cells at a time. However, by taking multiple biopsies over time, scientists will be able to see how groups of different cell types interact with each other. Therefore, researchers will discover more about the role of cell interaction. Additionally, the digital VR tumour maps could be shared with other groups, enabling a greater level of collaboration and teaching opportunities.

The research is funded by Cancer Research UK's Grand Challenge Award. The team has secured funding of €23 million over a six-year period.

Takeaway:

The next generation of biomedical research will be forwarded by collaboration with experts in software and new technologies. Machine learning algorithms and automation will lead to faster breakthroughs. AR and VR will enable greater, 3D visualisation. Perhaps there are other technologies out there that can assist researchers in solving complex medical problems. Could your company offer technological solutions to biomedical researchers?