New photonic technologies from the Fraunhofer Institute indicate that there are almost no limits in virtual reality, as the institute prepare to show them at leading broadcasting and electronics fairs IBC and IFA, in September in Europe.
The research organisation say both subjects require further development in relation to production, image capture and streaming.

In the field of high-resolution recording and rendering of 360° scenes around a viewpoint suitable for presenting highly realistic impressions, Fraunhofer have over recent years further developed and refined their OmniCam-360 (photo). It enables, for example, sport or musical events to be rendered in an Ultra High Definition panorama up to 360° around a viewer.

Their latest development now makes it possible to provide UHD panoramic content for VR glasses. The developers say "The ten single camera segments are smoothly merged to an UHD video signal that can be transmitted to VR glasses such that a spectator experiences a truly immersive experience". The image quality of the whole system is significantly improved. Fraunhofer add that the new generation of OmniCam-360 "is now at a cost level that is comparable to other 360° camera systems on the market."

Another highlight in Virtual Reality tech developed by Fraunhofer is 3D Human Body Reconstruction. It captures a real person's 3D image with multiple cameras at the same time and creates naturally-moving dynamic 3D models. Afterwards, these constructions can be integrated in computer graphics, virtual worlds or even real scenes for a variety of purposes. A novel capture and lighting system is under construction that allows 360° volumetric video acquisition and creation of full dynamic 3D Human Body Reconstruction.