

WATCH: HOLOGRAPHIC STORAGE DEVICES

Relevant for: Science & Technology | Topic: Computer Technology incl. 3-D Printing

Microsoft estimates that about 125 zettabytes of data will be generated annually by 2024. A zettabyte is about one trillion gigabytes.

Storing this data in a cost-effective way is a big challenge. Conventional cloud storage systems use a mix of hard disk drives and flash storage. HDDs have slow data transfer speeds. Flash storage is faster but more expensive.

Microsoft is exploring holographic storage devices for the cloud, to address these issues. The concept of holographic storage dates back to the 1960s, when laser was invented.

It is a method of recording data in the form of holograms or three-dimensional images inside an object using light. Holographic storage uses green lasers to write data pages. These pages have hundreds of kilobytes of data in the form of a hologram.

The method involves two laser beams. One projects the data encoded in an image. The other known as the reference beam, meets the first beam to create a hologram.

The data pages can be read by shining the reference laser beam. The holograms can also be erased with UV light.

These holograms occupy a small area. Multiple data pages can be written or accessed just by changing the angle of light. More data can be stored in holographic storage when compared with HDDs.

The data can be accessed at much higher speeds, according to Microsoft.

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The AI-enabled sensors can process and react to pain caused by external pressure, and also help the robot to detect its own minor damages and repair itself.

END

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