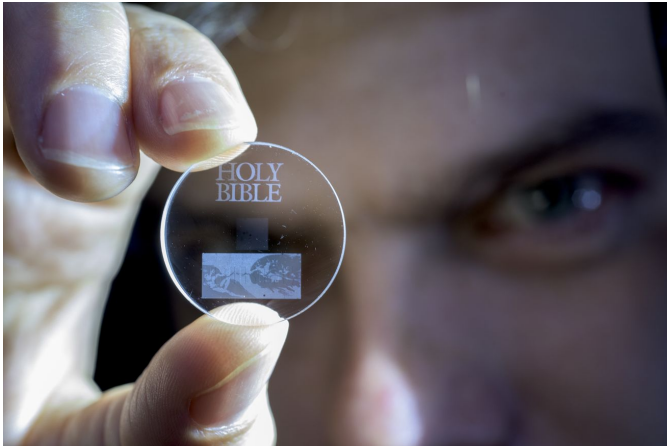


## Eternal Storage, Via 5D Glass

Written by Marco Attard  
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The hand in the picture might look like it is holding a simple engraved glass disc, but what it actually shows is a device able to store up to 360TB of "five dimensional" data.



Developed by University of Southampton researchers, 5D data is stored in 5 dimensions-- height, width, depth and two other dimensions produced by glass nanostructuring. Writing data on the glass requires a femtosecond laser able to emit incredibly short (280 femtoseconds, or 280 quadrillionths of a second) optical pulses. In turn the laser burns three layers of nanoscale dots on the glass.

Reading the data on the glass requires the a microscope and a polariser, but the the result, the researchers claim, is so strong it can "out-survive the human race." How so? The glass can survive temperatures reaching up to 1000 degrees celsius, and has a "virtually unlimited lifetime" at room temperature.

The technology already stores a number of important documents from human history, including the Universal Declaration of Human Rights (UDHR), Newton's Opticks, Magna Carta and Kings James Bible. It might also be useful for organisations, archives or libraries wanting to store their information and records for, well, ever.

"It is thrilling to think that we have created the technology to preserve documents and information and store it in space for future generations," the researchers say. "This technology can secure the last evidence of our civilisation-- all we've learnt will not be forgotten."

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