

'Digital genome' time capsule stored under the Swiss Alps

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Swiss Fort Knox in Saanen/Schweiz.

(PhysOrg.com) -- Scientists in Europe have created a time capsule they call a 'digital genome,' and deposited it in a bunker known as the Swiss Fort Knox, which lies deep beneath the ski slopes of the Swiss Alps. The aim of the project is to ensure future scientists will be able to decipher data stored using obsolete technologies.

The plan is to keep the time capsule at the data storage facility for the next 25 years, locked in a room protected by a 3.5-tonne door. The room is strong enough to survive a nuclear attack. The idea is the culmination

of a four-year, 15m Euro (\$18.7m US), project known as the “Planets” (from *Preservation and Long-term Access through NETworked Services*), which drew expertise and data from 16 major European libraries, research universities, technology companies, and archives to address what they call “core [digital preservation](#) challenges.”

One of the two [computer scientists](#) responsible for the capsule, Dr Adam Farquhar of the British Library, said in 50 years’ time we may not be able to take notebooks off the library shelf and read them as we can today with Einstein’s notebooks, since they are likely to be stored digitally. As the technologies are changing rapidly we may not be able to access them.

The time capsule is dubbed a “digital genome” because it contains the keys to the data formats, or the digital equivalent of the [genetic code](#) of different data formats, and aims to enable future scientists to decode and access data stored using archaic storage systems.

The capsule contains information on the vast range of digital formats used since computers became commonplace, and how the different file formats work, documenting how to tell a processor to retrieve the stored data without access to an operating system or other assembled computer program.

The project organizers say around 1 trillion CDs-worth of data is stored globally and much of this will not be accessible to future technology, any more than data on the old 5.25 inch floppy disks of the 1970s is accessible to most people today. They say the amount of data, which ranges from holiday photographs to clinical trial data and health records, amounts to 100 GB of data (equivalent to 24 tonnes of books) for every person on the planet.

Project organizers estimate the EU loses digital information valued at

over three billion Euros every year because of the ever shorter lifespan of the technology, with digital file formats having a lifespan of 5-7 years, and [data storage](#) devices such as CDs and DVDs only lasting around 20 years.

Professor Andreas Rauber of the University of Technology of Vienna, the second person allowed to handle the time capsule, said digital data has a shelf life of only years, unlike previous data stored as ink on parchment or hieroglyphics carved on stone, which could last for thousands of years. He said if we fail to act now to preserve digital data this could cost billions in the future, but he also said it is impossible to predict what proportion of the data we will not be able to use or access in 25 years' time.

The project should benefit many industries needing to access historical data. The Planet project has made software available [online](#) to help people decipher data stored in obsolete formats.

More information: www.planets-project.eu/

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