5

facts about data storage you didn't know

→

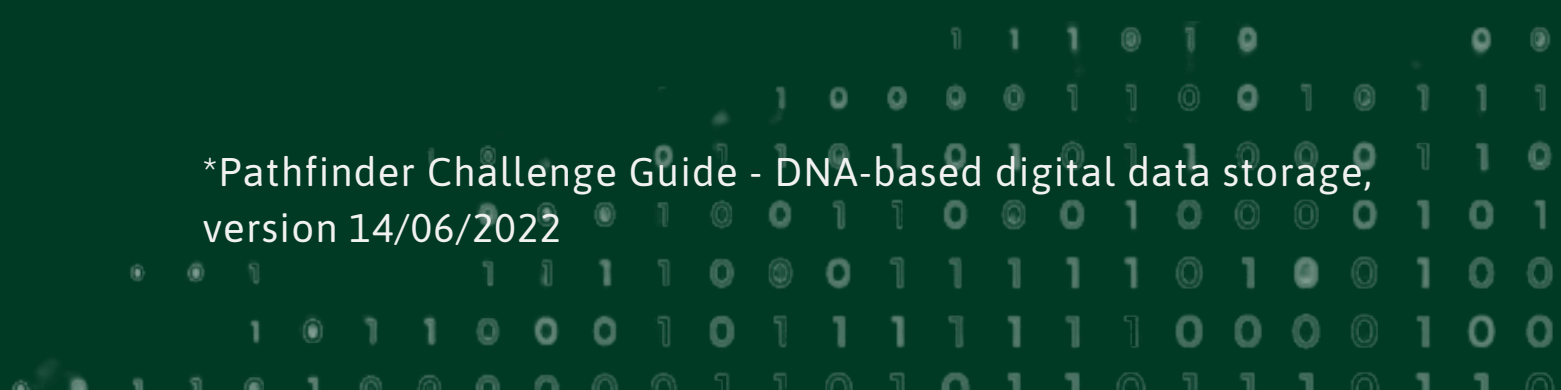(and why it is important)

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Why is data storage awareness important?

Our digital era is characterised by technology that increases the speed and breadth of knowledge turnover within the global economy and society. Researchers in fields as diverse as artificial intelligence, healthcare, astronomy, and climate science seek to store massive data sets for future data mining to remain competitive and drive scientific discovery, while billions of smartphone users are generating constant streams of location data, photos, and videos with data storage demand.

The amount of new data grows rapidly, while current technologies for digital data storage (e.g., hard disc drives) have hit various sustainability limits. Longer-term projections forecast that the overall demand for digital storage will exceed supply by up to three orders of magnitude by 2040, creating a need for new sustainable data storage solutions.*

1

Data Generating Devices

In 2023, there were 15.14 billion Internet of Things (IoT) connected devices generating data worldwide.

This number is expected to grow to 29.42 billion by 2030.*

*https://www.statista.com/statistics/1183457/iot-connected-devices-worldwide/

2 Data Growth

In 2010, 3 zettabytes of data were generated.

From 2017 to 2020, newly created data more than doubled from 30 zettabytes to 64 zettabytes.

According to predictions, data generated globally is expected to grow at a 23% compound annual growth rate from 2020-2025, reaching 180 zettabytes in 2025.*

*IDC, Worldwide Global DataSphere Forecast, 2021–2025: The World Keeps Creating More Data — Now, What Do We Do with It All?, IDC Doc #US46410421

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3 Energy Consumption

According to the estimates, data centers consumed around 1% of total global electricity in 2018.

If improvements in energy efficiency do not continue, electricity usage dedicated to data centers could grow to 3-13% of total global electricity consumption by 2030.*

4 Data Storage Costs

In 2023, the data storage industry's global value exceeded $247 billion.

This figure includes data storage units, hosting, cloud services, and information archiving. These high costs significantly impact businesses that require data storage or archiving solutions.*

https://www.fortunebusinessinsights.com/data-storage-market-102991

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5 DNA as a Storage Medium

DNA-based data storage offers a sustainable and cost-effective solution for long-term data archiving. It significantly reduces physical and carbon footprints, and cuts down the total cost of ownership. This method is highly durable, lasting thousands of years with minimal power and maintenance.

Unlike traditional storage media that come empty and pre-manufactured, DNA storage encodes data directly into the structure of synthetic DNA molecules, creating a compact and efficient way to preserve data for the future.*

www.pearl-dna.eu/

*https://dnastoragealliance.org/dev/wp-content/uploads/2021/06/DNA-Data-Storage-Alliance-An-Introduction-to-DNA-Data-Storage.pdf

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learn more at
www.pearl-dna.eu