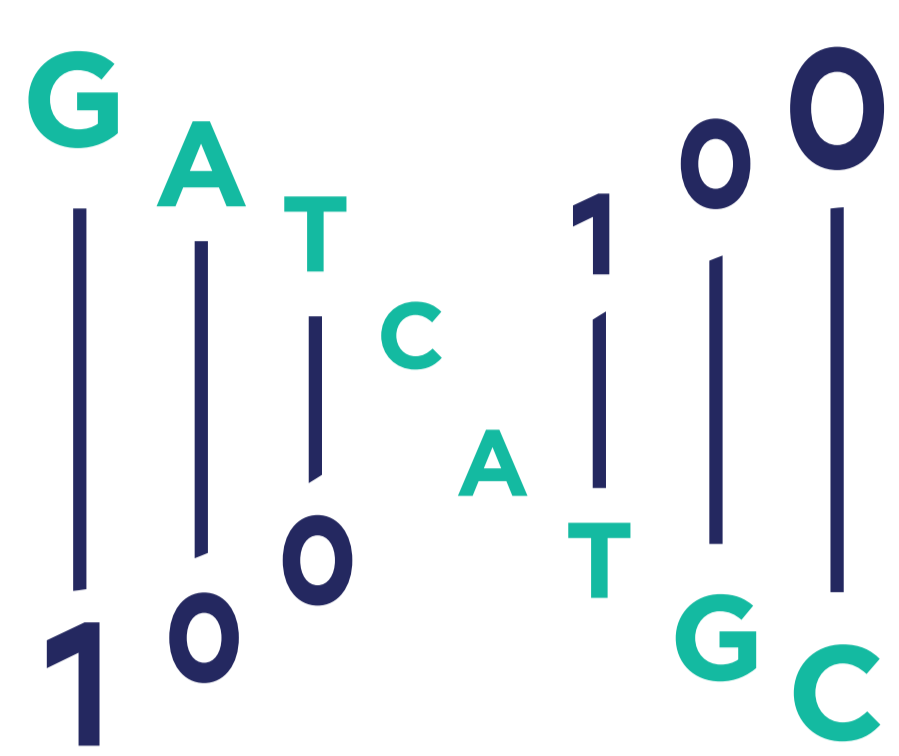# The first *in vivo* system to store and edit DNA-based data

MI·DNA DISC

MI-DNA Disc aims to bring a **low-cost, energy-efficient**, and **fast data driven** that can write, edit, store, and retrieve DNA-based data, more efficiently compared to current technologies.

MI-DNA Disc features the first in vivo system combining simple and easily available hardware components with ability of **bacterial cells** to store and edit DNA-based data.

MI-DNA Disc Advantages

POSITIVE ENVIRONMENTAL IMPACT
The cultivation of bacteria requires little energy, no rare-earth elements, and other toxic compounds.

INTEGRITY
Writing and storage cartridges can be used independently from each other. The two cartridge types can be combined with other DNA writing and storing concepts due to the simple inlet and outlet interfaces.

SCALABILITY
MI-DNA Disc uses data drive that are mass products. Displays and filter cartridges are essential in several sectors such as the biotech, pharma, food, and beverage industry.

RELIABILITY
Introduction of checksum and hashing function elements into the DNA data in combination with a data duplicate encoded as reverse complementary sequence will allow to perform in silico data corrections necessary due to mutations during DNA replication and amplification.

SUSTAINABILITY
Bacteria can use an almost infinitive reservoir of organic and inorganic compounds as power and nutrition source. They can be even autotrophic meaning that the power themselves directly from sunlight. Compared to in vitro DNA synthesis systems, there are not required chemicals, plasticware (e.g., pipette tips, tubes), and sophisticated liquid handling instruments.

MI-DNA Disc novel approach could change the way we store data and bring relevant benefits to the following sectors

Pharma and medical data

Digital legacy documents

Cultural heritage digital documents

Corporate data centres

Get in touch with MI-DNA Disc

www.midnadisc.eu

Partners

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY

TLM

PMF SVEUČILIŠTE U ZAGREBU PRIRODOSLOVNO - MATEMATIČKI FAKULTET

EKO Refugium

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