# MIDNA DISC

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

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.



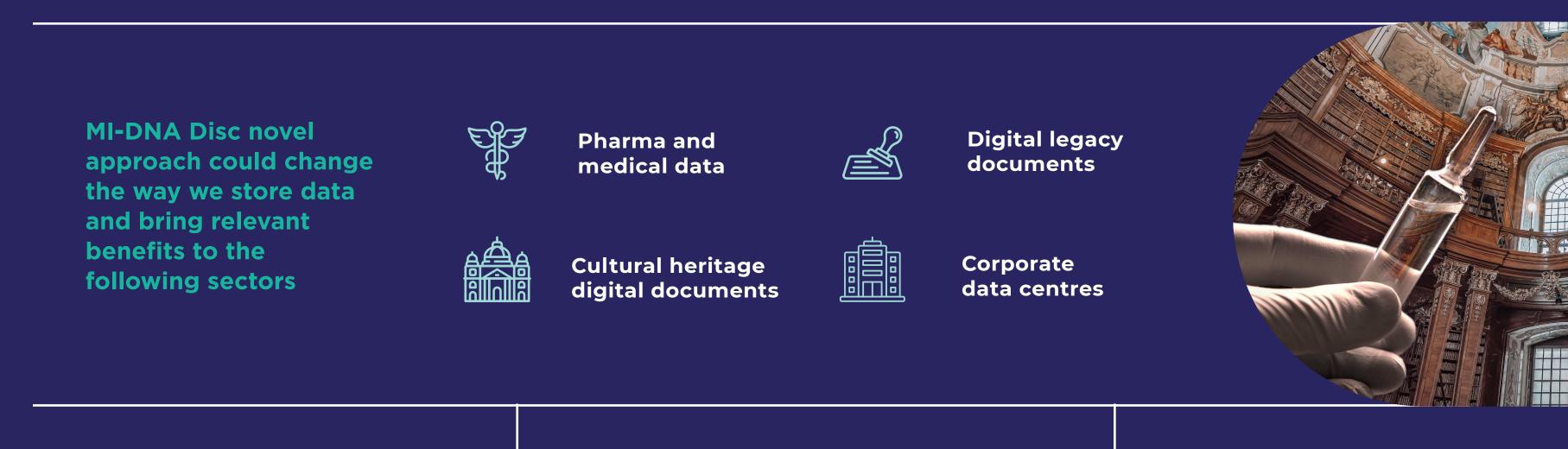
# RELIABILITY

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.







with **MI-DNA** Disc

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The MI-DNA Disc Project was funded by the EU Commission in the framework of the Horizon Europe - EIC Transition Open programme.