

HORIZON-EIC-2022-PATHFINDERCHALLENGES-01-05



Project No. 101115115

Interoperable end-to-end Platform of scalable and sustainable high-throughput technologies for DNA-based digital data storage

Deliverable 6.1 Project website and logo

WP6 – Communication, dissemination and exploitation

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Partner short names

No.	Organisation	Short name
1	BioSistemika	BioSis
6	accelopment Schweiz AG	accelCH

Abbreviations

Abbreviation	Term
CMS	Content Management System
DoA	Description of Action
EC	European Commission
EU	European Union
EIC	European Innovation Council
HEU	Horizon Europe
KPI	Key Performance Indicator
SERI	State Secretariat for Education, Research, and Innovation
VI	Visual Identity
WP	Work Package

Executive summary

Background

As part of Work Package (WP) 6: Communication, dissemination and exploitation task 6.2 “Multi-media communication”, this deliverable presents the PEARL-DNA project website and logo, describing its main aims and objectives, technical implementation as well as structure and plans for evaluating the impact of the website.

Objectives

The project website presents a key measure for communicating, informing and raising awareness on the efforts and progress of the project, enabling the PEARL-DNA consortium to reach a variety of audiences. The website provides up-to-date, consistent and comprehensive information on the project. This deliverable is structured in and covers the following chapters: 1 Key facts, 2 Roles and responsibilities, 3 Strategy, 4 Logo, 5 Website (including implementation, design and responsiveness), 5.2 Website structure with impressions from the website, 6 Outreach and evaluation, 7 Outlook.

Methodology and implementation

The PEARL-DNA website www.pearl-dna.eu was developed and launched in September 2023, before the project started. To ensure not only easy maintenance but also a user-friendly platform the website was created using WordPress and Elementor. The PEARL-DNA social media channels, as well as the projects partners’ websites will facilitate further outreach and sharing of information to existing audiences.

Outcomes

This deliverable describes the PEARL-DNA project website, available under www.pearl-dna.eu and the project logo. The website serves as the primary source of information on the project, and together with the project logo builds the foundation for the consistent outreach and visibility of the project. The website will be updated continuously to maintain relevant content.

Impact

The expected impact resulting from the PEARL-DNA website and logo is increased impact of the PEARL-DNA project, stakeholder activation, further reach and uptake of results and increased awareness about DNA-based data storage in general, as well as the EIC Pathfinder Challenge Portfolio. The website functions as a key platform for highlighting the projects’ innovations and achievements.


Next steps

The next steps include the creation of the dedicated “Portfolio” sub-page, as well as other relevant pages, keeping the content updated with news and results from all partners. Furthermore, with the upcoming Deliverable 6.2 - Plan for dissemination and communication activities - metrics will be defined to assess and evaluate the website's performance.

1 Key facts

PEARL-DNA is a new Horizon Europe project funded under the **HORIZON-EIC-2022-PATHFINDERCHALLENGES** call topic. Under the title: **“Interoperable end-to-end platform of scalable and sustainable high-throughput technologies for DNA-based digital data storage”**, the project is set out to develop and assess a novel high throughput, end-to-end PoC platform for DNA-based digital data storage built on scalable and interoperable systems for block-by-block assembled DNA. The project started on 01.10.2023 and will run for **36 months** until 30.09.2026. PEARL-DNA received **5.04 million Euros** in funding and brings together three renowned research groups and three innovative SMEs to anchor the European innovation ecosystem into the global DNA-based digital data storage space. The project is coordinated by BioSistemika (BioSis), based in Ljubljana, Slovenia.

This deliverable describes the project website and logo. The [PEARL-DNA website](#) functions as the main source of information on the project, its progress and partners. Some key facts are listed below:



- The PEARL-DNA website is available at www.pearl-dna.eu
- The project website has been set up in September 2023, before the project start
- accelCH created and securely maintains the website via WordPress and Elementor on their server
- The website will be updated continuously

2 Roles and responsibilities

PEARL-DNA partner and **Work Package (WP) 6: Communication, dissemination and exploitation** lead accelCH is an expert in the management, communication and dissemination of EU-funded projects and was responsible for the creation of the project website, as well as for securely hosting it on their server. accelCH is also the first point of contact for the technical maintenance of the website. Nevertheless, maintaining and updating the PEARL-DNA website is a **joint effort of all partners**, who provide content for relevant updates as well as contribute their input and feedback throughout the duration of the project. An overview of roles and responsibilities is described in Table 1 below:

Table 1: Roles and responsibilities for the PEARL-DNA website




Structure	The structure of the website was drafted by accelCH in collaboration with BioSis, all partners are encouraged to provide input on structure changes.
Design	The design of the website is based on the Visual Identity of the project (see section 4.1) which has been selected by BioSis and implemented by accelCH.
Content	The content of the website is based on the PEARL-DNA Description of Action (DoA). The website text has been re-written in a laymen-friendly language by accelCH and reviewed and edited by BioSis. All partners continuously provide new input for the website.
Technical maintenance	accelCH is responsible for the technical implementation and maintenance of www.pearl-dna.eu .

3 Strategy

The PEARL-DNA website strategy serves as a plan of action to help the project maximise its impact by using the website as a main source of information on the project for all PEARL-DNA stakeholders. The strategy encompasses the following aspects:

- ✓ **Objectives:** What do we want to achieve with our website?
- ✓ **Approach:** How do we achieve this?
- ✓ **Key performance indicators:** How will we measure our success?

More information on our approach to assessing the impact of the project website can be found in chapter 7: Outlook. Our objectives and approach can be summarised as follows:

 <p>Attract visitors: To attract visitors, we cross-link to the website on partner websites and social media channels. The different pages make use of the PEARL-DNA Visual Identity and engaging images to create an interesting and inviting user-interface.</p>	 <p>Provide information: The main aim of the website is to provide relevant, accessible and up-to-date information about the project. The use of different forms of text layout, buttons, and info-boxes allows visitors to easily gain all relevant information – both at surface-level and in detail.</p>	 <p>Implementing a user-friendly platform: The website is designed to be intuitive and user friendly. Visual elements, widgets and page-anchors allow visitors to jump directly to the desired destination, containing the specific information they are looking for.</p>
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4 Logo

The aim of a logo is to serve as a **visual representation** of a company, brand, or project, encapsulating its identity, values, and mission in a simple and memorable design. Logos are crucial for establishing visibility, recognition and fostering a connection with the target audience. The PEARL-DNA logo has been designed and agreed upon by all project partners already during the proposal stage and is thus incorporated in the projects' DoA and following documents. The PEARL-DNA logo is a visual representation of the **DNA's double-stranded helix** made up of a string of **pearls**, representing the project's acronym. The colours and fonts used in the logo have been taken up in the project's Visual Identity (see section below). The DNA symbol included in the logo also serves as the PEARL-DNA favicon, a small 16x16-pixel icon that serves as branding for the project website. The PEARL-DNA logo is to be used consistently by all partners across various project materials, such as presentations, reports, as well as the website, providing a cohesive and unified visual identity for the project.

Figure 1: The PEARL-DNA logo

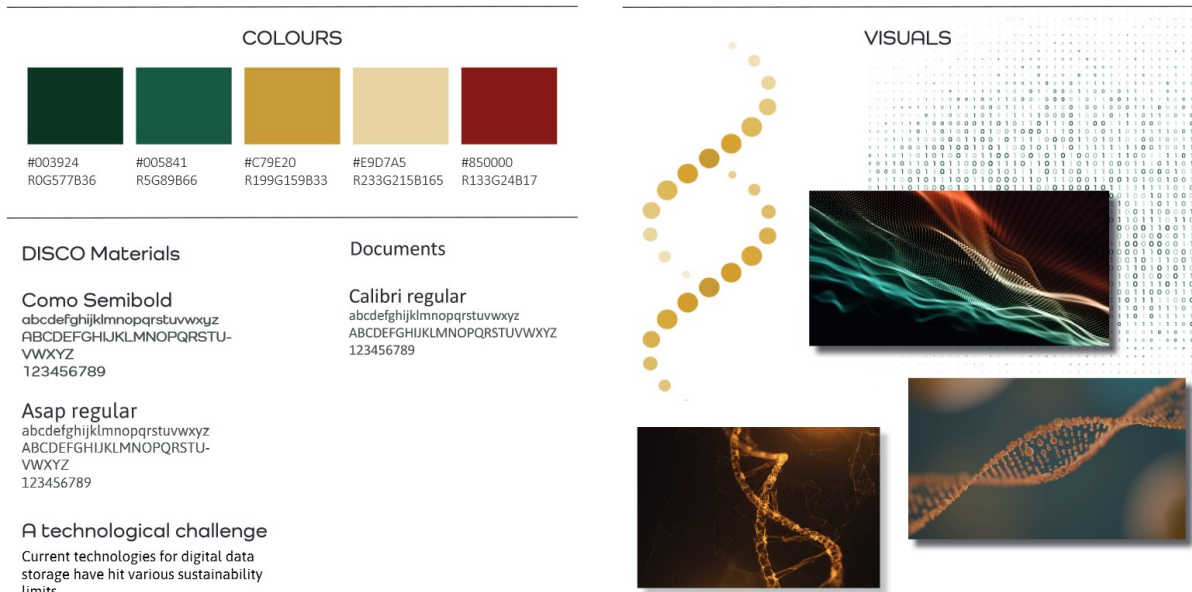


The upper left PEARL-DNA logo is the standard logo with the defined colour to be used throughout the project. Where needed (e.g., on darker visuals or materials) the logo can be adapted and included in the light grey version (bottom left). The PEARL-DNA favicon (bottom right) is used on the website.

4.1 Visual Identity

The project's Visual Identity (VI) has been created to achieve a **recognisable design** for the project across its communication channels. The PEARL-DNA VI was defined based on the project logo and fed into the design of the website. The VI includes a **colour guide, fonts** and a “mood board”, a **collection of visuals** that represent the essence of the project and that are used throughout various communication materials that come out of the project.

Figure 2: PEARL-DNA Visual Identity



The fonts used on the website are, as defined in the VI, are “Como Semibold”, which has already been used for the project logo, as well as “Asap regular”. For documents, presentations and reports the preferred font is “Calibri”, since it is easily accessible and interchangeable between all partners.

5 Website

The PEARL-DNA website is available under www.pearl-dna.eu and has been online since September 2023. As stated in chapter 3: Strategy, The PEARL-DNA website serves to provide relevant, accessible and up-to-date information about the project for all interested stakeholders. Attracting (new) visitors and providing a user-friendly platform is paramount for achieving our aim to maximise the impact of the website. The following sections will provide an overview of the technical implementation of the website, its structure and design.

5.1 Website implementation

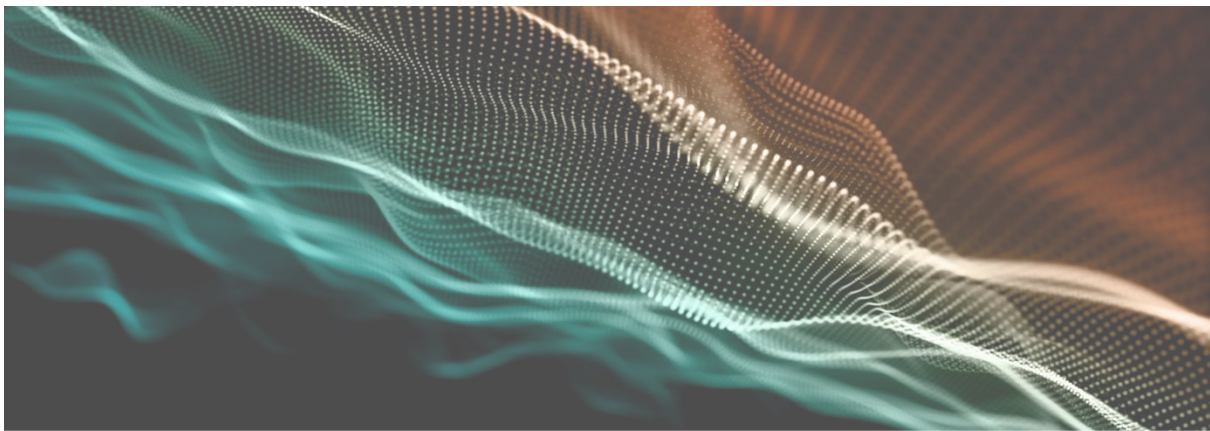
The PEARL-DNA website was created and is maintained by accelCH, hosted securely on their webserver. The website was set up with the Content Management System (CMS) **WordPress** and the plugin “**Elementor**”, which is the leading website-building platform for WordPress. The tool includes an intuitive visual builder which enables building professional, pixel-perfect websites. Furthermore, it offers flexible and professional layouts, and various additional plugins to integrate interactive features to adjust the website to the project's needs. By default, it also offers responsive designs, i.e., website layouts that adapt to different screen sizes. The website is based on the scroll-down movement to simplify navigation through the broad content that will be made available in the future. Posts are displayed in reverse chronological order so that the most recent news entry is shown at the top of the

page. As the number of posts grows, specific tags, such as the month of publication or the topic, will be added to each post so that the users can filter them according to their needs and interest.

5.1.1 Design and visuals

The design of the website is based on the defined Visual Identity of PEARL-DNA and utilises the defined colours as shown in Figure 2: PEARL-DNA Visual Identity. Furthermore, the website makes use of the **F-shaped pattern** in the design and layout of the content on all pages. The F-shaped pattern makes it easier for visitors to read and follow the content provided on the website, as it replicates the natural eye movement when reading. The visuals used on the website are stock images which have been downloaded from image database [Freepik](#). The visuals aim to take up elements of both, **DNA as well as data (storage) and match the PEARL-DNA colours**. A header image has been selected (see below), which is used throughout all sub-pages of the website, as well as other communication materials.

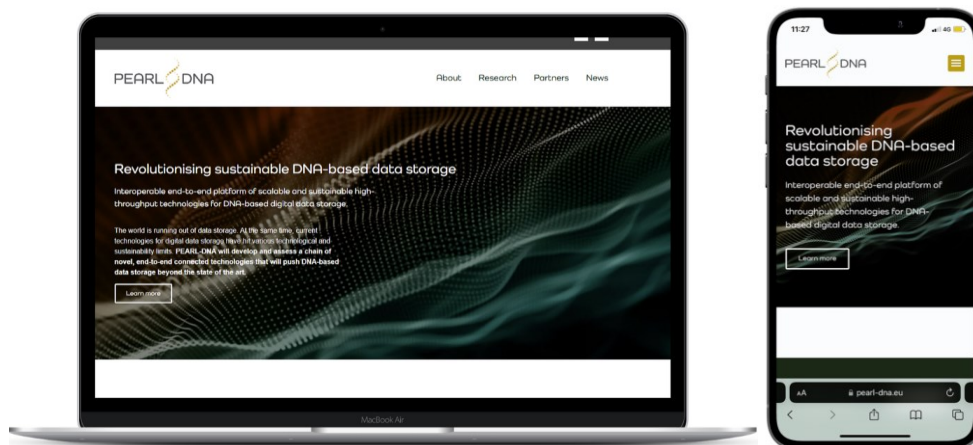
Figure 3: The PEARL-DNA header image (Image by kjpargeter on Freepik).



5.1.2 Responsiveness

www.pearl-dna.eu has been set up implementing a **responsive website design**. This ensures that the website is accessible and provides an optimal viewing experience across a wide range of devices and screen sizes, including desktop computers, laptops, tablets, and smartphones. The primary goal of responsive web design is to ensure that the layout and content of a website **adapt and respond fluidly** to the user's device, screen size, and orientation, providing a seamless and user-friendly experience.

Figure 4: Responsive website design

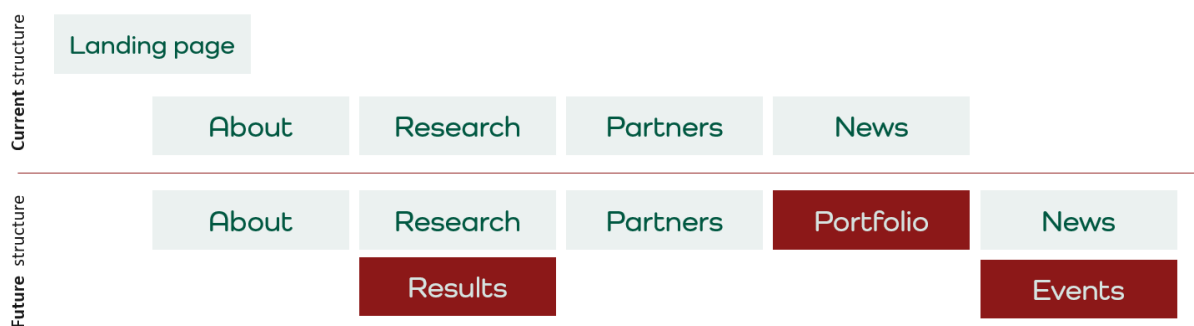


5.2 Website structure

The website follows an intuitive and cohesive structure, with currently four thematic pages as well as the landing page implemented. A consistent layout is maintained throughout all pages, including a main header image and page/content title at the top, followed by text and visuals organised in smaller sections. Additionally, the PEARL-DNA website has a static header and footer implemented consistently throughout all the pages. Besides the navigation menu, the header includes links to the PEARL-DNA social media channels on [Facebook](#) and [LinkedIn](#). The footer includes the defined funding acknowledgement in line with the requirements of the EIC as well as SERI.

The website structure will be adapted as the project progresses and results become available. For example, as defined in the project DoA, a key feature of the website will also be to provide information on the **portfolio activities** PEARL-DNA is involved in alongside other funded DNA data storage projects. Furthermore, different sub-pages for different results and publications, and a separate events page will be implemented in the future.

Figure 5: Overview of the PEARL-DNA Website structure

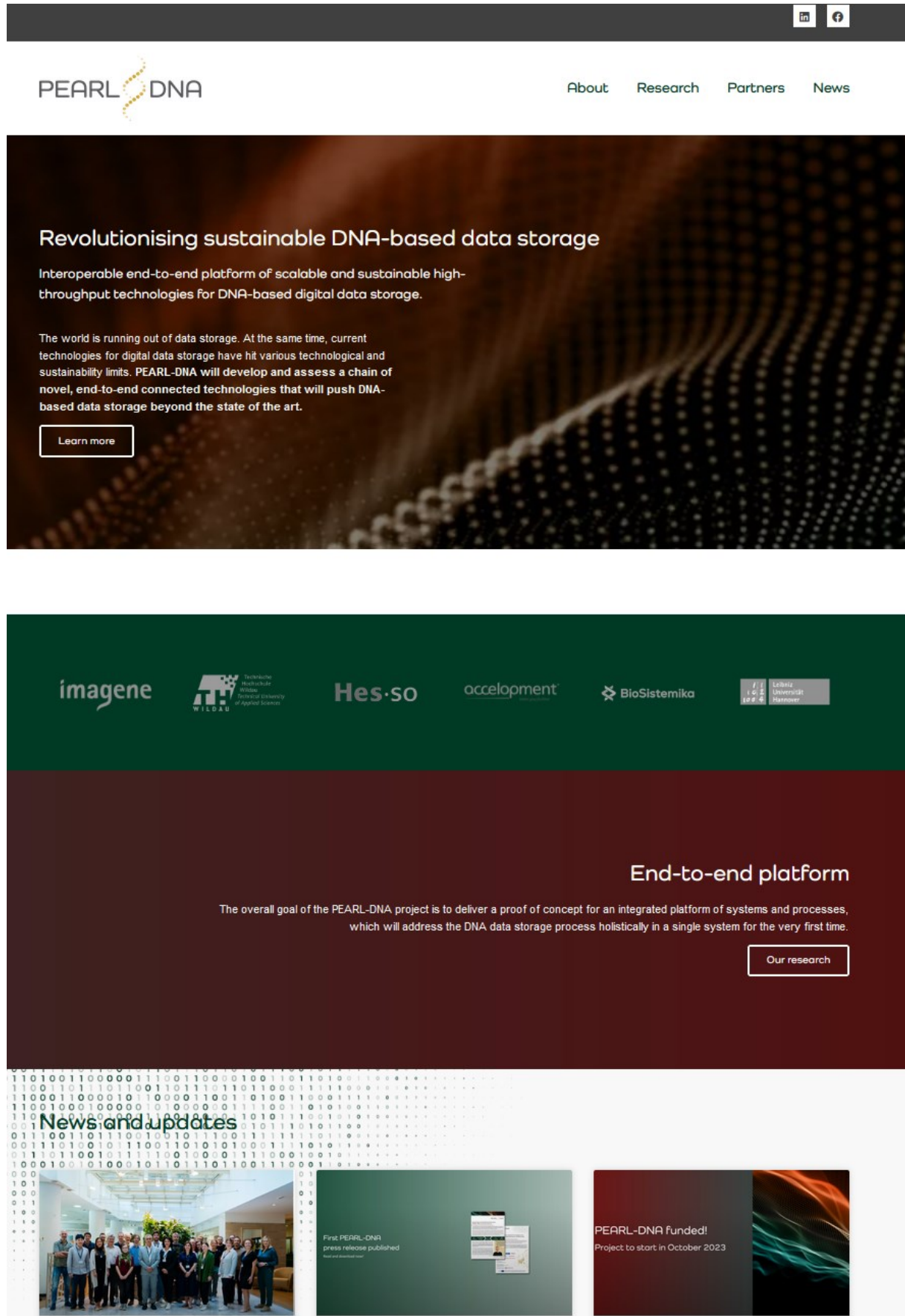


The following sections will provide more in-depth information on the different website sub-pages.

5.2.1 Landing page

The landing page is the first page visitors see when accessing www.pearl-dna.eu through their web browsers (e.g., Google Chrome) or search engines (e.g., Google). The main purpose of the landing page is to attract visitors (including potential stakeholders), provide information about the project in a concise manner, and enable visitors to access the different (sub)-pages easily.

Figure 6: PEARL-DNA landing page



5.2.2 About

[About](#) [Research](#) [Partners](#) [News](#)

The “**About**” page aims to provide detailed but still laymen-accessible information on the challenge, aims and overall goal of PEARL-DNA. The page is divided into three short sections, with an introduction highlighting the need for the project, a quote by PEARL-DNA project coordinator Tomaž Karčnik and a key facts bar providing a summary of the project program, team, budget and timeline.

Figure 7: PEARL-DNA About page



THE CHALLENGE

In a world driven by data, the need for innovative and sustainable data storage solutions has never been more pressing.

Advancements in artificial intelligence, healthcare, astronomy, physics to climate science, pharmacy and genetics – all depend on the storage of massive data sets to remain competitive and drive scientific discovery. Meanwhile, more than 6 billion smartphone users are generating constant streams of location data, photos and videos with data storage demand.

The challenge: The world is running out of data storage. And more, current technologies for digital data storage addresses various technological and sustainability limits. A significant share of new data is not yet stored beyond the short term, and conventional storage media do not have the capacity, longevity, data density or cost efficiency to meet global demand.

PEARL-DNA is on a mission to develop and assess a chain of novel, end-to-end connected technologies that will push DNA-based data storage beyond the state of the art.



“

“PEARL-DNA pushes the technological boundaries in data recording technology and storage, aiming to make DNA-based data storage readily available and setting the stage for global adoption”

Tomaž Karčnik



The project

HORIZON-EIC-2022-
PATHFINDERCHALLENGES



The team

6 industry and research partners
from 4 European countries



The budget

5.04 million euro in funding



The timeline

36 months, starting October 2023 until
September 2026

5.2.3 Research

About [Research](#) Partners News


The “**Research**” page builds on the general information included in the “About” pages and provides more in-depth information on the project’s research. Clustered into three easy-to-grasp sections “DNA-based digital data storage”, “Our vision” and “Our approach”, the page functions as the main page to inform readers about the content of the project as well as some general background information on DNA data storage.

Figure 8: PEARL-DNA Research page



DNA-based digital data storage

Dedicated to pioneering a novel, high-throughput, end-to-end proof of concept (PoC) platform that leverages the power of DNA, PEARL-DNA will develop and assess a complete end-to-end chain of innovative solutions – contributing to improving speed, accuracy, energy efficiency and costs associated with DNA digital data storage.

A dark red background for the "Our vision" section. On the left, there are several white, stylized DNA double helix structures. On the right, the text "Our vision" is followed by a paragraph of text.

Our vision

Our innovative platform is poised to rewrite the rules of data storage. Imagine achieving data-to-DNA writing speeds comparable to hard disk drives and doing it in a sustainable way and virtually without consumables. The PEARL-DNA project doesn't stop there. Success of any storage media depends on reliability and data integrity. We're pioneering error correction, compression, and data standardization modules, alongside a cutting-edge storage container system. This system will ensure a maintenance-free, long-term preservation of DNA without any energy requirements. Our fully modular and interoperable platform aims to transform data storage and foster collaboration across the DNA-based storage industry, propelling this technology into the future.

Our approach

In 2012, the work of Church and colleagues marked a significant milestone as they successfully encoded data into DNA for the first time, essentially translating digital data into the four letters of DNA code: A, C, T, and G. Since then, researchers have been advancing the field of DNA-based data storage, developing new methods for coding data into DNA and ways to retrieve it when needed. PEARL-DNA builds upon the shoulders of giants and decades of research from participating partners, who have proved their excellence via numerous contributions to the field of research, and have received numerous grants for their research. Several of the PEARL-DNA project partners are active members of the DNA storage alliance, a global association that sets the standards and pushes for the mass adoption of DNA data storage technology.

5.2.4 Partners

[About](#) [Research](#) [Partners](#) [News](#)


The “**Partners**” page provides a comprehensive overview of the PEARL-DNA consortium. Under the heading “*Bringing together experts from research and technology to shape the future of DNA-based data storage*”, the page includes a short introduction on the composition of the team as well as an interactive map that allows the visitor to locate each partner on the map. Below, all PEARL-DNA partners are listed in boxes displaying their logos and a short description of their departments and expertise in the project. Each box is hyperlinked to forward to the partners' webpages on click. As a next step, we aim to include a sub-page on each partner individually, explaining their role in the project and highlighting the involved team members.

Figure 9: PEARL-DNA Partners page




Bringing together experts from research and technology to shape the future of DNA-based data storage.

Harnessing DNA as a commercially viable and globally applicable data storage medium requires the fusion of diverse expertise from fields such as life sciences, engineering, and information technology. PEARL-DNA brings together three esteemed research groups and three innovative SMEs, creating a synergy that cements the European innovation ecosystem's position in the global DNA-based digital data storage sphere.




BioSistemika is the coordinator of PEARL-DNA and specializes in custom software development, digitalization consulting, and development of laboratory software products.



The Institute for Information Processing at the Leibniz University Hannover, focuses on computer vision & representation learning, signal processing/coding, and automated machine learning.



Imagene SA is a technology provider for DNA conservation with a diverse range of patented solutions for long-term storage.



The Division of Molecular Biotechnology and Functional Genomics at TH Wildau focuses on molecular biology, dealing with the structure, biosynthesis, and function of nucleic acids (i.e., DNA) and their interactions with each other and proteins.



HES-SO is represented by iPrint, an internationally leading institute and competence center focusing on digital printing technologies and processes.



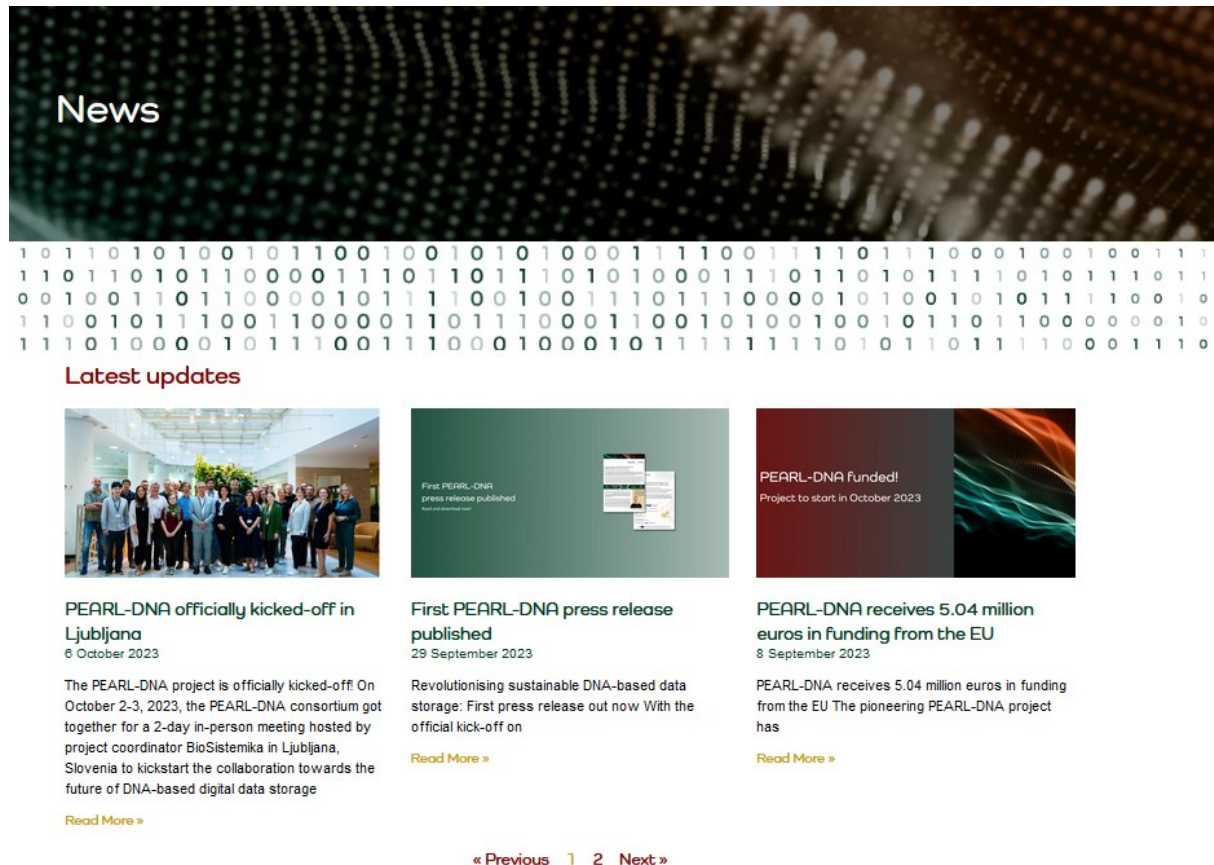
accelopment Schweiz AG is an expert in the management, communication and dissemination of EU-funded projects with expertise in risk and innovation management.

5.2.5 News

[About](#) [Research](#) [Partners](#) [News](#)

The “**News**” page is the main resource for updates on the project progress, consortium insights as well as new results and publications. The page contains a sorted list of news items in reverse chronological order and is continuously updated and maintained to ensure a constant and up-to-date representation of the project status, highlights and events.

Figure 10: PEARL-DNA News page



5.2.6 Portfolio activities

As previously mentioned in chapter 5: Website structure, it has been defined that the website should include a dedicated page to the **EIC-Pathfinder Challenge Portfolio** and respective portfolio activities, which are overseen by PEARL-DNA WP7. As defined in the project’s DoA, the page is intended “to share collaborative results with other projects from the portfolio and to link to their respective websites”. Furthermore, we aim to inform ongoing collaborations and synergies as well as joint outreach events like fairs, webinars etc. The portfolio page on the PEARL-DNA website will be set up as soon as possible after the portfolio composition and collaboration has been defined together with the portfolio program manager.

6 Outreach and evaluation

The website’s impact will be monitored and assessed by accelCH using Google Analytics, which offers the possibility to track website traffic (e.g., page views, unique visitors, duration of stay, content downloads), and detect immediate impact of dissemination activities that lead to more page views, for example when a partner presents its results at a conference, we expect to see an increase of new

visitors. The outreach will then be evaluated to see if targets have been reached and, if necessary, to identify new outreach measures. Key Performance Indicators (KPIs), targets and detailed means of monitoring will be defined in Deliverable **D6.2 – Plan for dissemination and communication activities** as part of the project’s comprehensive strategy.

7 Outlook

The PEARL-DNA website will be updated regularly with informative content on the project, the consortium, and milestones achieved. As the project progresses, the PEARL-DNA website will be adapted and dedicated pages will be added to showcase the latest results, address frequently asked questions, further share communication activities implemented by the partners and accommodate any new items that will be of relevance to share with the project’s stakeholders. Besides the previously mentioned “Portfolio” page, we will set up a “Results” page where all project results documented in the form of journal articles, posters, conference presentations, educational material or similar will be linked to their respective source websites. We will share these, as well as all other news items, via the PEARL-DNA social media channels. Furthermore, accelCH will continue its efforts in improving the website regarding accessibility. The upcoming deliverable of WP6, D6.2, will present a thorough plan and roadmap for all upcoming PEARL-DNA communication and dissemination activities including their evaluation metrics, to effectively use these **to maximise the impact and uptake of the PEARL-DNA results.**