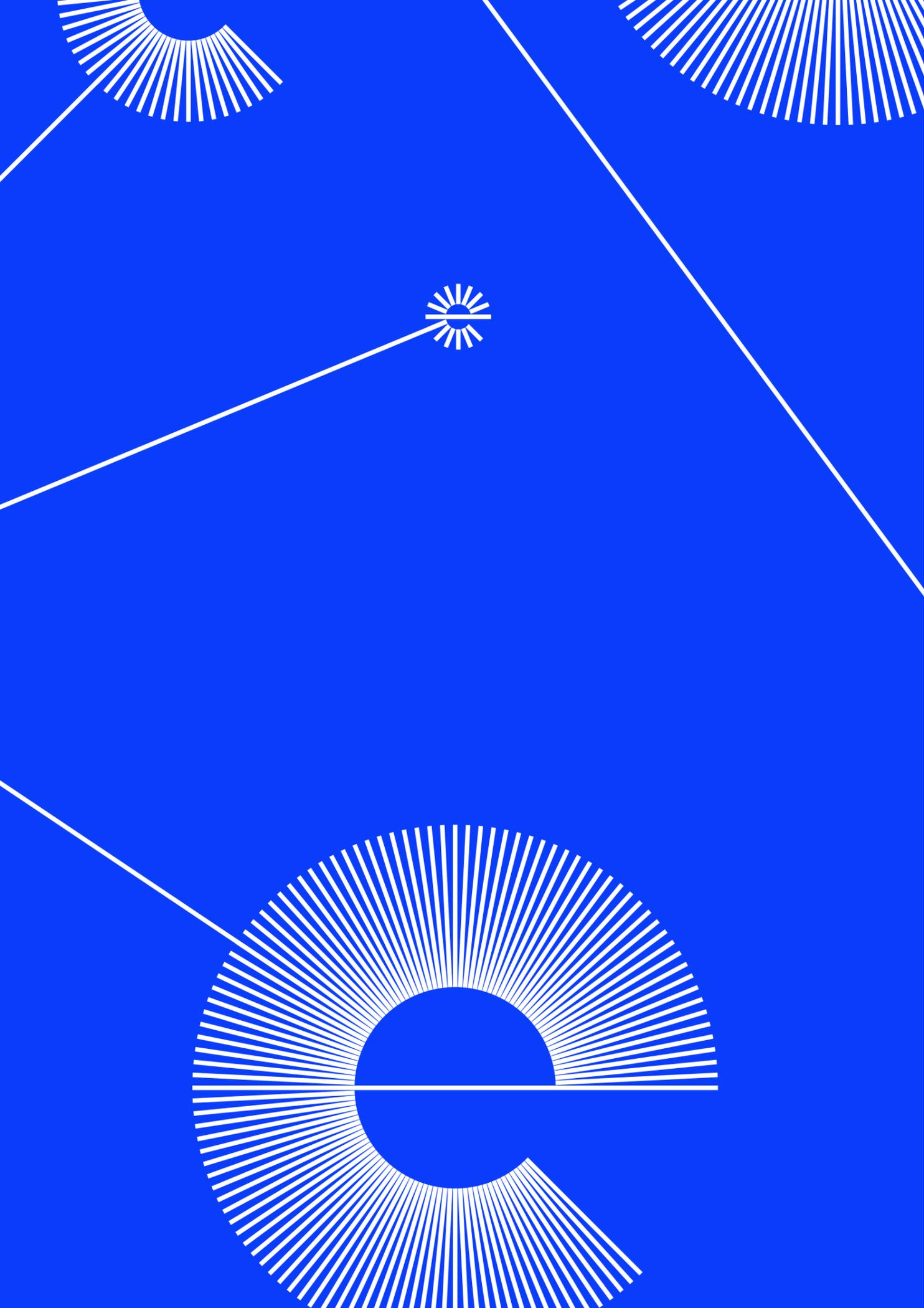




# National Digital Heritage Strategy

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the Ministry of Education, Culture and Science



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# 1. Foreword

This is an update of the 2015 National Digital Heritage Strategy, something that was necessary due to the ongoing digitisation of our society and the impact this is having on our heritage. The new strategy covers the period 2021–2024 and provides better digital access to our heritage, placing the user at the centre.

Proper and independent access to our heritage and our culture are and remain of vital importance. Heritage can be found everywhere in our country, with stories about where we come from and who we are. This offers a footing and the basis for a conversation about our collective past – even if these conversations are sometimes uncomfortable. The new National Digital Heritage Strategy therefore links heritage collections together, as a result of which users can better relay all these stories about and with heritage.

In 2021, the Netherlands leads the way in terms of internet use. Our digital infrastructure is easily accessible for almost everyone and people spend a lot of time online. For many people, this offers new opportunities for heritage experiences. Not only for the wider public that wants to know more about the history of their own area, but also for example for artists, scientists, journalists and volunteers who use heritage objects for their work. The updated strategy makes it easier for all these people to find their way in our digital heritage collections.

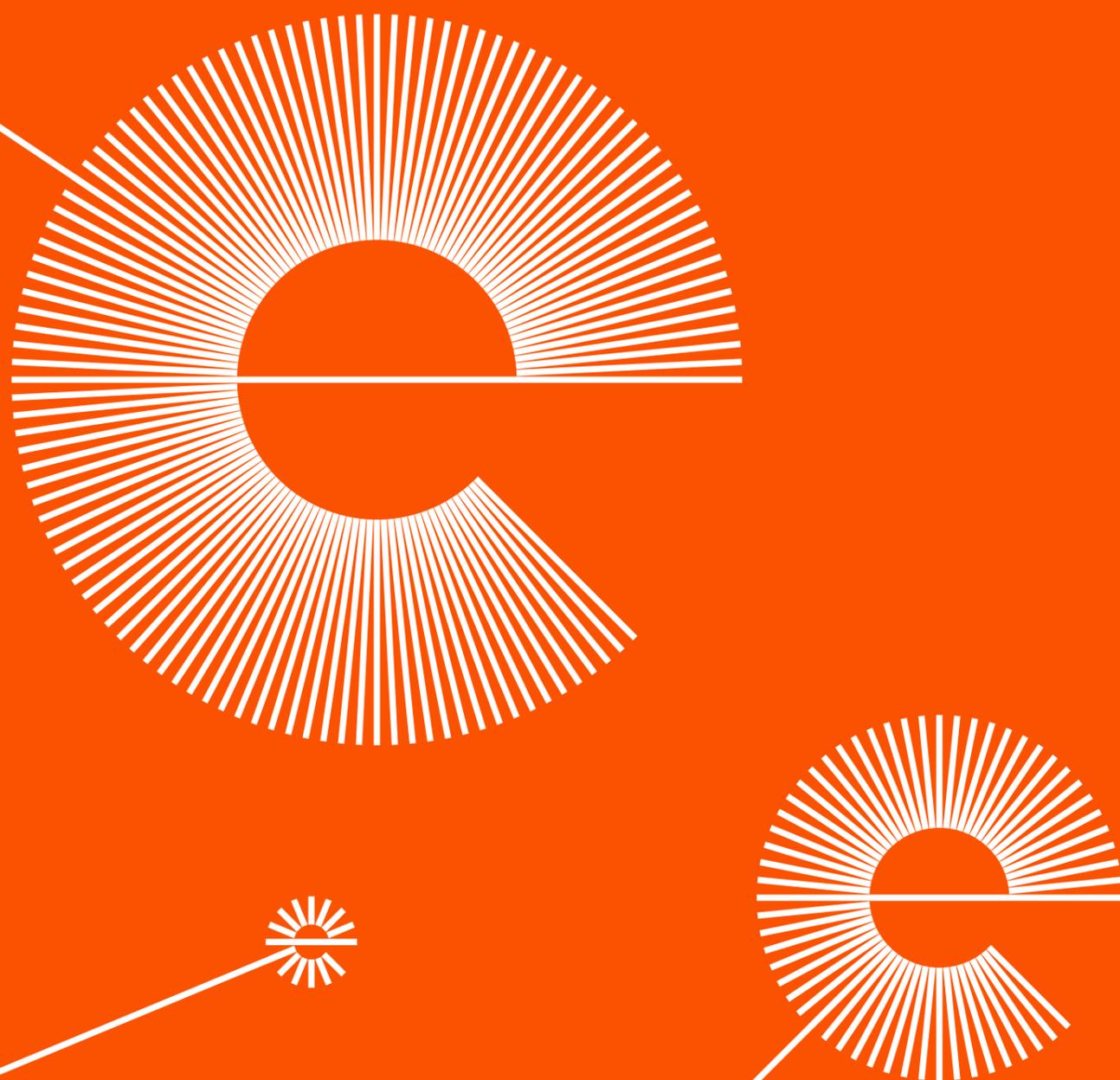
In addition, the aim is for various tools and standards - that have been developed in recent times - to be shared more widely. Therefore, the updated strategy establishes a link with the heritage from the arts sector and the creative industry. This offers producers material for new work and it gives other producers, researchers *and* the public at large insight into their creative process as well as sources of inspiration. The strategy also explores the possibilities for heritage collections of new technologies, such as artificial intelligence (AI) and the application of big data.

Digitisation is a task that cannot be achieved by individual institutions alone; it is one that the heritage sector must tackle as a whole. The Ministry of Education, Culture and Science is supporting the heritage sector in this, with this updated National Digital Heritage Strategy. Since 2015, the implementation of the strategy has been entrusted to the Dutch Digital Heritage Network, and this network of heritage institutions has accepted the challenge of further developing the new strategy together with parties of all sizes from the heritage sector. I look forward to seeing the results of this hard work.

This new National Digital Heritage Strategy is therefore not only a strategy for digitisation, but also very much a strategy for further collaboration. This latter factor is of crucial importance to its success!

Ingrid van Engelshoven  
Minister of Education, Culture and Science

# 1. Heritage and digitisation



## 1. Value of heritage

Heritage is of great importance, as it shows where we come from and is a source of stories about ourselves and our surroundings.

The Netherlands has a rich cultural heritage that offers a historically shaped reflection of our society through the ages. Digitisation offers opportunities to enhance the size, diversity and inclusivity of this national collective memory. Through heritage, we share stories about our neighbourhoods and cities, as well as our country's place in Europe and the world. These are stories about us all and for us all, and change over time.

This is the connecting effect of heritage. It brings people together and creates familiarity in a rapidly changing environment. In a time of increasing divergence, the connecting power of heritage has a value that should not be underestimated. It is therefore important that as many people as possible – from an early age – experience, are involved with and can reflect critically on heritage. This involvement, by broad groups in society, will eventually also lead to more diversity in the stories that are told, which in turn will result in better-informed participants in the public debate and a greater understanding of other people's viewpoints and narratives. Heritage has an additional meaning for creative artists, designers and producers. As a source of inspiration, it offers them the opportunity to look back and build on their own and others' artistic developments.

These stories are told by professionals such as writers, journalists, artists and scientists, as well as by heritage volunteers and the wider historically interested public. Research carried out by SCP shows that 25 percent of the Dutch population is actively involved with heritage<sup>1</sup>. The stories of heritage are alive and enjoy broad social support. Digitisation lowers the threshold for getting involved in heritage. Anyone can find out more about their family, surroundings or a subject of their interest via the web.

## 2. Digitisation

Digitisation is changing people's behaviour. We spend hours online and almost all of us have a laptop and a smartphone that make this possible.

Digitisation creates new connections and opportunities, also for heritage. Dutch people, of all ages, are among the most active internet users in the world. Research carried out by CBS (Statistics Netherlands) in 2018 shows that only 20 per cent of Dutch people have never used the internet<sup>2</sup>. With such a huge reach, it is logical that this version of the National Strategy focuses on the internet as a 'technical connector' as well. The Netherlands leads Europe in terms of heritage in the digital domain. Research by the European Commission shows that 83 per cent of Dutch people use the internet to find out about it. In Europe, the average is around 50 per cent, which is significantly lower<sup>3</sup>. The Digital Heritage Baseline Study reveals that this use continues to grow<sup>4</sup>. The increased availability of digital heritage has led to the emergence of new forms of use by journalists, humanities researchers, producers, publishers and, of course, the general public.

<sup>1</sup> SCP 2015 Gisteren vandaag (Yesterday today) ([https://erfgoedmonitor.nl/sites/default/files/views\\_filebrowser/gisteren\\_vandaag.pdf](https://erfgoedmonitor.nl/sites/default/files/views_filebrowser/gisteren_vandaag.pdf), consulted January 2021)

<sup>2</sup> CBS (Statistics Netherlands) 2018

<sup>3</sup> Eurobarometer 466 Cultural Heritage, December 2017 ([https://data.europa.eu/euodp/nl/data/dataset/S2150\\_88\\_1\\_466\\_ENG](https://data.europa.eu/euodp/nl/data/dataset/S2150_88_1_466_ENG), consulted January 2021)

<sup>4</sup> Kwink 2019 Nulmeting Digitaal Erfgoed (Zero measurement Digital Heritage) (<https://www.rijksoverheid.nl/documenten/rapporten/2019/03/18/onderzoek-stand-van-zaken-digitale-toegankelijkheid-en-gebruik-nederlands-erfgoed>, consulted January 2021)

The digitisation of heritage is not a recent phenomenon in the Netherlands. In the early 1990s, the heritage sector saw the opportunities that digitisation offers in terms of how heritage is used and preserved. With large digital collections and catalogues, Dutch heritage has always had a strong presence on the internet. In the first version of the National Digital Heritage Strategy, published in 2015, linking these digital collections from the user's point of view was central. This is still of great importance today and, given the growth of the digital world, perhaps even more so than in 2015. With linked collections, new forms of use can be stimulated and the strategy creates building blocks for new stories.

In the digital world, space for heritage diversity is not a given. Large tech companies and internet platforms focus on the icing on the heritage cake and in doing so, generate a lot of traffic – which is the basis of their revenue model. Lacking independence, diversity and opportunities for active participation, this approach undermines the value heritage holds for society. Connecting a wide range of known and unknown collections, of different sizes, creates space for all stories – not just the most popular ones. With the help of linked open data (LOD), a local collection such as that of the Historical Society for Cultural History Lisse tells the story of the flower bulb-growing area in a much richer information context. The focus on personal stories on platform Oorlogslevens.nl (War Lives) is another approach to illustrating the new possibilities of linked digital heritage. This internet portal connects the many digital sources of our war history, creating a rich picture of different lives during World War II – something that was previously considered impossible.

Heritage institutions have to deal with ever-changing end-user requirements regarding findability and interactivity. New technologies enable them to offer services that meet these needs and expectations. Image recognition helps to find images, to reinstall vanished buildings, and to reconstruct landscapes of times gone by. New handwriting recognition technology makes it easier to search through old archives. The application of new technologies such as linked open data and artificial intelligence (AI) and the emergence of big data help to increase the possibilities for use, as well as improve the digital heritage experience. Digital data on the history of a village or town, its inhabitants and its visitors can be linked and connected to historical maps and 3D models. With the increased availability of digital heritage, researchers are able to develop algorithms that create new possibilities for use. This also makes it possible, for example, to better research the multi-voiced nature of the collections. In short, the ongoing digitisation of heritage is expanding its use.



#### Journalists get the scoop with heritage data

Journalists from the Dutch TV programme Pointer set to work with an open dataset of the *Verkaufsbücher*, an overview of transactions of Jewish properties and pieces of land expropriated by the German occupiers during World War II. The dataset was compiled by the National Archives during the 2019 HackaLOD. Information from the dataset was combined with our own research to uncover, among other things, stories of people whose homes had been expropriated. This journalistic perspective and the combination of data have led to new insights. Moreover, the results have prompted municipalities to use the data to research their own information sources and establish their role in the expropriation of Jewish homes.

### 3. Cultural institutions and digitisation

#### Heritage from the arts sector provides more value to producers and audiences when digitally linked as well.

Practices at cultural institutions (from theatre producers and musicians to designers and architects) are aimed at artistic creation, presentation and reaching an audience with new productions or products. Unlike at heritage institutions, there is usually no structured collection, and any vision there might be on digitisation is often still in its early stages. The focus is primarily on production. Building an archive or a collection is less urgent, and not yet a standard part of operations.

But this is changing. The digital archive is increasingly seen as a source of new artistic products, insights into the creative process, and inspiration for producers. It offers cultural institutions opportunities to tell new stories about their own history and practices, with the digital archive serving as the memory of the organisation and the producers involved. Setting up and developing practices in these sectors for engaging with what is and has been created will require greater attention in the coming years.



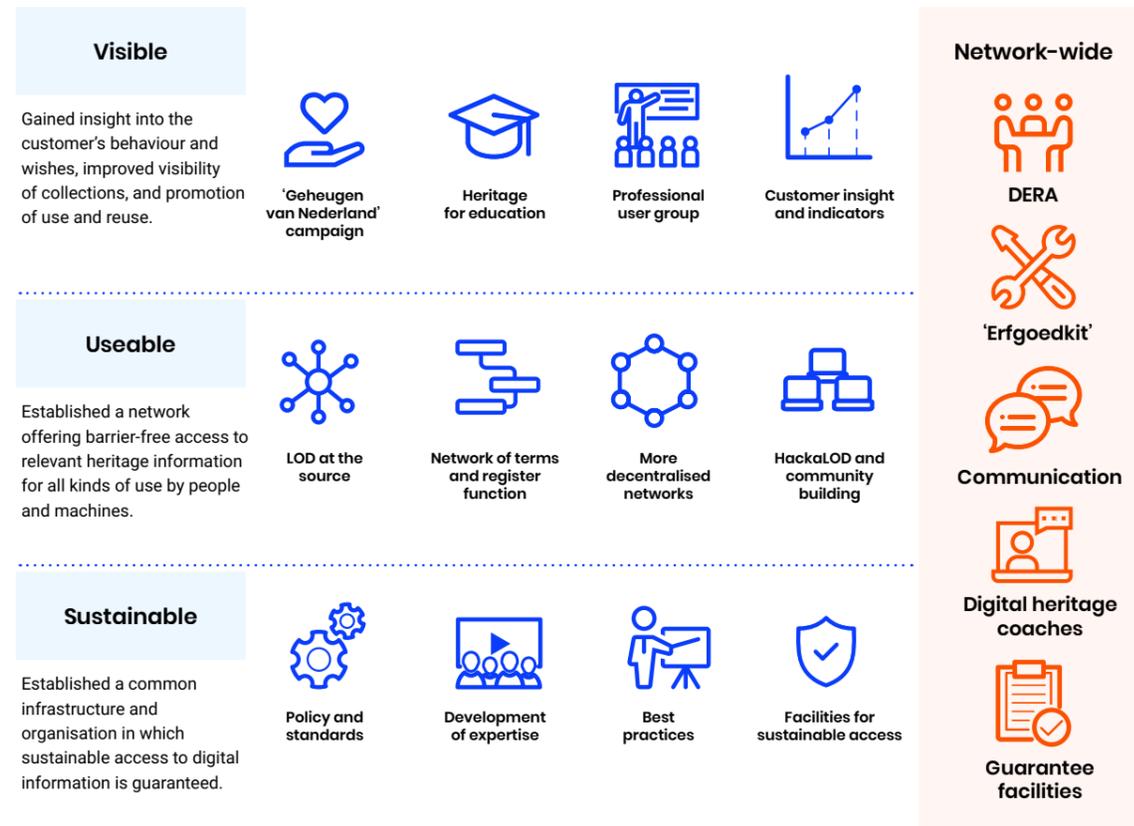
#### Nederlands Dans Theater's 60th anniversary

In September 2019, the Nederlands Dans Theater (NDT), based in The Hague, celebrated its 60th anniversary. For this and other reasons, the dance company decided to take steps to make its rich archive digitally accessible. An archiving team managed to archive the lion's share of performances from the NDT's six-decade history, making them better accessible for internal use. This exercise also resulted in an anniversary book and a performance. Since the end of 2019, the NDT can be found on the online platform Google Arts & Culture, with six exhibitions showing a large part of its history in photos, videos and stories. In this way, the NDT has made a vast number of performance video clips available online to a larger audience. This process has contributed to a more structural approach to archiving, and there is now an archive plan in place to determine what the various departments should keep and discard. This also applies to the physical archive. In the future, the NDT wants to make short 'overview clips' of all recordings available, including credits showing the producers, performers and designers involved.

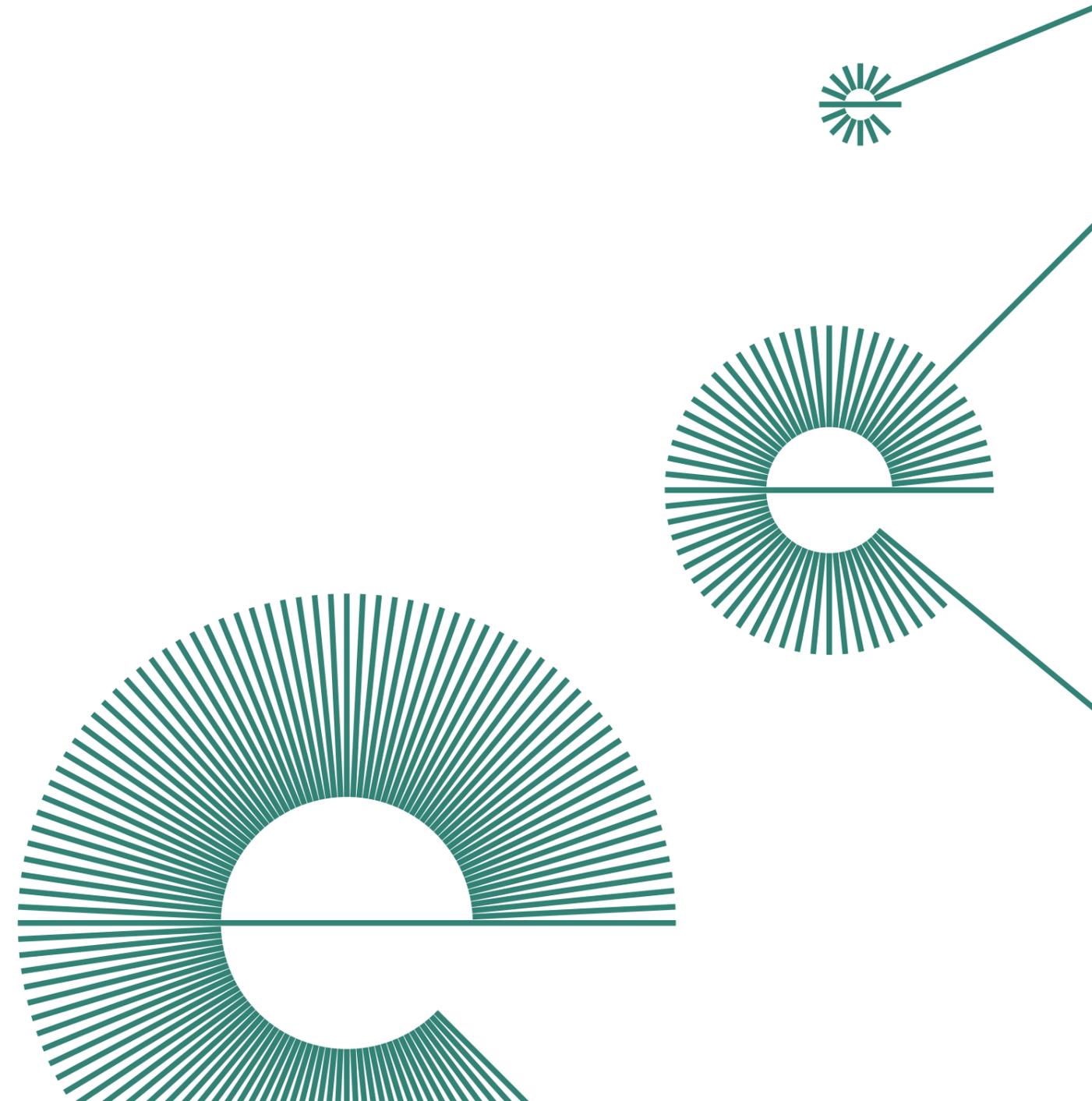
## 4. National Digital Heritage Strategy six years on

The Dutch Digital Heritage Network has developed around twenty facilities such as software tools, glossaries and knowledge products for the heritage sector, and made them available via the online Erfgoedkit.nl (toolkit digital heritage). These are tools for heritage institutions that want to improve the way they handle their digital heritage. In addition, a large network of organisations and people has developed over the past six years, in which knowledge exchange and cooperation are central.

### Results of the Dutch Digital Heritage Network 2015–2020



The heritage field uses these facilities, and will manage them with the help of the network. This is done by the sectoral hubs (Royal Netherlands Academy of Arts and Sciences - Humanities Cluster, the Royal Library of the Netherlands, the National Archives, the Netherlands Institute for Sound and Vision, and the Cultural Heritage Agency) but also by smaller and specialist organisations. The most logical and best equipped organisation for the management is the one with the right knowledge (of the technology too) and the one closest to the users.



# 2. National Digital Heritage Strategy 2021–2024

## 1. Challenges and principles

The aim of the National Strategy is to make heritage easy to find and therefore increase its use.

This is achieved by linking the heritage collections from the perspective of users, such as heritage professionals, scientists, teachers, artists and many others. In this way, digitisation has added value for society. There is currently a wealth of heritage available digitally, but users have to visit many different websites to find it. To lower such barriers to access, we need to ensure that collections continue to be linked digitally in a meaningful way.



### Network of terms as a search engine

How can students, journalists, scientists and other users find online information about the paintings of Rembrandt, regardless of which institutions manage this information? To make this possible, institutions use the same terms to describe the information. For example, 'Rembrandt van Rijn' instead of 'Rembrandt' or 'Rembrant'. The Digital Heritage Network is developing the 'Network of terms' for this purpose, which searches different terminology sources such as RKDartists or the Dutch Thesaurus of Author Names directly, in real time. Institutions can also add their own term lists to the term network. Muziekweb (Music web), for example, has added two term lists with musicians and bands and with music genres and styles. This helps to further enhance the term network for use as a search engine. And it increases the findability of heritage by linking terms.

### The following four challenges are the focus for 2021-2024:

1. Widening the scope of the National Digital Heritage Strategy.
2. Strengthening and deepening the connection with users and producers.
3. Using the opportunities and possibilities of new technologies.
4. Boosting the development and sharing of digitisation knowledge.

These challenges are reflected in the Dutch Digital Heritage Network's work programme, which is described in section 2. The principles of the National Digital Heritage Strategy below form the basis for how these challenges will be tackled.

- **The heritage user is central**

The linking of heritage collection content focuses on the user. Heritage collections and the material from cultural institutions and producers will be placed online in a way that aligns with the needs of various user groups. Only then can different stories be told, constructed and heard.

- **Collaboration is the network's strength**

The world of heritage is very diverse. Large and small museums, archives, monument owners, and local history societies are just a few examples of the parties involved in heritage. Governments, support organisations, educators, software suppliers, researchers, programmers, cultural production institutions, producers and consultants are also part of this world. The network is the means by which these parties collaborate. As a result of this diversity, the network has different speeds.

- **Hubs are an important part of the network**

The sectoral hubs represent the various heritage sectors and offer their sectors support for the digital transition. At the same time, they seek links between the different sectors. Thematic hubs such as Oorlogsbronnen.nl, and regional information hubs such as those established in the provinces, are important parts of the network as well. These hubs will work to make their digital collections further accessible according to the principles of the National Digital Heritage Strategy.

- **The Internet is the technical infrastructure for connecting heritage collections**

This infrastructure is widely available and used by many. Heritage is not automatically visible, usable and sustainable in this environment. The internet makes the technical connection possible, the institutions themselves enable access and ensure the content is linked and preserved. Collection holders are and remain responsible for the sustainable digital management of their collections. The network is working to ensure a clear and comprehensible range of heritage data from the institutions themselves, also via thematic and regional information hubs.

- **The management of facilities will be entrusted to the most logical and best equipped organisation in the network**

The linking of collections requires specific knowledge and facilities that are not available at each individual institution. The Dutch Digital Heritage Network will work on this knowledge and these facilities. Alongside managing the facilities, this most obvious party will be responsible for the facility development and services.

- **The Digital Heritage Reference Architecture (DERA) forms the framework for connecting collections**

The requirements and the relationships between the various players involved in digital heritage are described in the DERA. This is the framework within which the necessary agreements for linking the collections are laid down. The DERA is updated annually based on developments in the field and relevant standards, to ensure it provides a usable framework for further ICT development.

- **Heritage collection content is linked using a three-layer model: sustainable, usable and visible**

For the *sustainability of heritage*, heritage organisations work together to safeguard their digital information. To this end, they use tools and other resources that help prevent the loss of information. In this way, the information sources will remain available to heritage users in the long term.

To ensure the *usability of heritage collections*, heritage organisations work together to standardise and connect heritage information. This is done, for example, by working with linked open data and by describing heritage using identical standardised terms. In this way, heritage organisations make information about their digital collections easier to find and more usable for people and machines.

*Visibility of heritage* aims to ensure that heritage organisations work together to align their digital services as much as possible to the needs of a broad group of users. They do this through collective marketing, joint customer and market research, knowledge exchange, and by developing joint online services. The aim is to stimulate the actual use of their digital collections.

## 2. Organisation

**Collaboration is essential for the digital linking of the heritage collections and to increase their added value for society.**

The managers of the various collections make agreements with each other on how this linking takes place. They cannot do it alone. Collaboration with all those involved is essential – including, for example, software suppliers, heritage volunteers and website builders.

The Dutch Digital Heritage Network gives shape to this cooperation through the National Digital Heritage Strategy. By participating in the Dutch Digital Heritage Network, institutions in the Netherlands with a focus on heritage aim to strengthen the social value of heritage for its different users.

Since 2015, the sectoral hubs have been jointly responsible for building the network, as strong parties in a wider field of institutions with the same ambition. As national heritage institutions, they act as role models by making their collections accessible and visible according to the principles of the National Digital Heritage Strategy. This means actively contributing to the Network of terms and the register function, making their own data available as linked open data, and ensuring sustainable storage. The hubs also use their organisational capacity, facilities, knowledge and budget for the heritage sector as a whole.

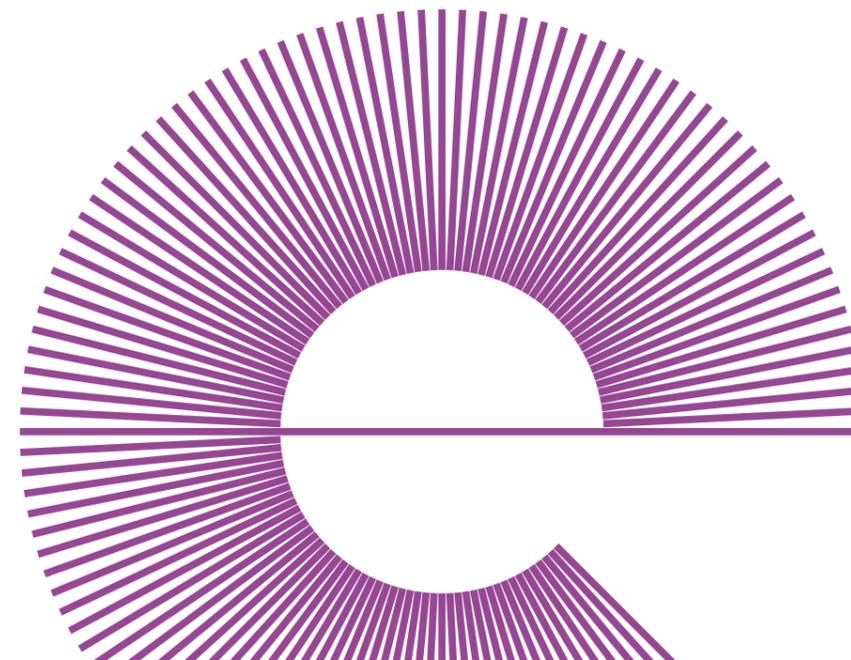
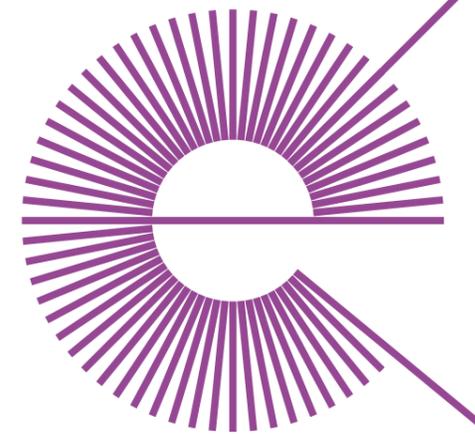
By updating this National Strategy, the link is made with the digital heritage of the arts sector and creative industry. Specifically to support the sector collections of the performing arts and the sector collections of design and digital culture, two network and platform functions have been set up as part of the Cultural Basic Infrastructure 2021-2024. These platforms – Podiumkunst.net (Network of performing arts) and the Network of Archives for Design and Digital Culture (NADD) – stimulate awareness, the development of expertise and the sharing of knowledge on the preservation, management and accessibility of collections. This will improve the digital linking of and accessibility to these collections. These functions are being developed in close consultation with DEN, Knowledge Institute for Culture & Digitisation. The National Strategy and the DERA form both the guideline and the desired situation for these functions. In this way, use is being made of the knowledge and experience already available in the network.

To enable the right connections and coordinate activities, the Dutch Digital Heritage Network has a board of directors. This comprises the directors of the sectoral hubs, the Royal Netherlands Academy of Arts and Sciences - Humanities Cluster, the National Library, the National Archives, the Netherlands Institute for Sound and Vision and the Cultural Heritage Agency. Together, they focus on strengthening

the link between their organisations' activities and managing the joint activities that contribute to the objectives of the National Strategy. The chairmanship rotates annually.

To ensure the practices of the cultural institutions are aligned with an important user group of the digital heritage (the producers), The New Institute will be added to the board as a sectoral hub. It will therefore also act as a role model for cultural institutions by making collections available according to the principles of the National Strategy.

Since 2015, the Ministry of Education, Culture and Science has entrusted the implementation of the National Digital Heritage Strategy to the Dutch Digital Heritage Network. The network draws up an annual work programme to this end. The Ministry supports the network as well as the execution of the work programme. The board of the National Heritage Network consults with the Ministry on the implementation of the National Digital Heritage Strategy. The Ministry also owns the DERA and is responsible for its management and further development.



# 3. Dutch Digital Heritage Network Agenda 2021–2024

The agenda for 2021–2024 furthers and contributes to the ambition to bring digital heritage to a large audience, as well as to enhance the diversity of digital heritage and the heritage experience.

Four challenges form the focus of this period:

1. Widening the scope of the National Digital Heritage Strategy.
2. Strengthening and deepening the connection with users, artists and producers.
3. Using the opportunities and possibilities of new technologies.
4. Boosting the development and sharing of digitisation knowledge.

The agenda outlines the results and the actions. In view of the rapid developments around digitisation, this agenda is updated annually.

## 1. Widening the scope of the National Digital Heritage Strategy

### Results

- A. Joint facilities that have made heritage collections sustainably accessible and findable in a connected way according to the principles of the National Strategy.
- B. Linking the digital heritage for the arts sector and the creative industry in the network, according to the three-layer model (visibility, usability, sustainability). The digital user is central to this.

### Work programme

- Set up a flexible group of digital heritage experts who take responsibility for the further development and roll-out of the joint facilities. The size of this group depends on the funding available. This support is complementary to the provincial support via the digital heritage coaches, who will focus on small-scale and local projects.
- Introduce a connection service for the use of facilities such as registers of datasets and the Network of terms. This will be supported by the establishment of a users' council, in order to determine the functioning and use of the joint facilities.
- Develop an approach for digital collection building by cultural institutions. Use will be made of network-wide digital archiving knowledge. DEN will contribute to this development according to its role, as a knowledge institute for digital transformation.

## 2. Strengthening and deepening connections with users and producers

### Results

- A. The Dutch Digital Heritage Network is developing a practice to jointly raise awareness of different perspectives, stories and narratives surrounding heritage.
- B. Institutions, producers and users are supported in the network by standards and joint facilities that facilitate exchange and collaboration.

### Work programme

- Develop frameworks for knowledge sharing that contribute to diverse and inclusive preservation, accessibility, usability and visibility of digital heritage.
- Continuously work on raising awareness around harnessing the power of inclusion and diversity in all activities, projects and communications.
- Use the online media campaign Geheugen van Nederland (Memory of the Netherlands) as a joint label for institutions in the Network Digital Heritage to reach different user groups.
- Actively support heritage and cultural institutions in making their collections accessible in thematic, regional and international networks. This will increase the reach and use of collections and stories.
- Contribute annually to updating the DERA, and thus give direction to the development of the joint facilities.

## 3. Exploiting the opportunities and possibilities of new technologies

### Results

- A. Greater reach and use of heritage with new technologies.
- B. Broader, multi-voiced and participatory ways to make collections accessible using AI and big data technologies.
- C. Wider digital heritage dataset user group, in particular computer scientists and AI researchers, to be able to train algorithms.

### Work programme

- In consultation with stakeholders from the heritage sector, science and technology companies, draw up an agenda for the use of new technologies for the cultural and creative sectors.
- Develop and train new algorithms that focus on broad, multi-voiced and participatory ways to make collections accessible. The ethical aspects of algorithm development will receive specific attention.
- Make datasets suitable for computational and AI research by scientists and knowledge institutions. This will be done according to the international FAIR principles and be in line with the humanities research infrastructure, CLARIAH, among others.
- Set up pilots with heritage and cultural institutions for AI technologies, such as handwriting, image and speech recognition, natural language processing applications, and concept recognition.

## 4. Boosting the development and sharing of digitisation knowledge

### Result

- A. Heritage and cultural institutions with collections increasingly work in networks according to the principles of the National Strategy and the DERA.

### Work programme

- A relevant range of courses will be organised together with educators such as the DEN Academy, ErfgoedAcademie, Reinwardt Academy - Amsterdam University of the Arts and commercial trainers.
- Develop knowledge products on digital archiving and collection building tailored to the performing arts and design sector.
- New toolboxes like Erfgoedkit.nl (The Heritage Kit) and Spoorboekje Digitalisering Erfgoedcollecties (Digitisation guide for heritage collections) will be shared more widely with existing knowledge institutes and sector associations. Furthermore, user communities will be set up to ensure their further development.
- A knowledge platform for the application of heritage in education will be set up.
- Collaboration with Europeana will be strengthened to make even better use of international knowledge networks regarding data exchange and copyright.
- The DERA Architecture Council will be expanded to further develop ICT knowledge in the sector. Initial thoughts are to involve large heritage institutions with a great deal of ICT knowledge.
- Organise knowledge meetings on digital access to heritage, where new opportunities as well as limitations relating to copyright for digital access to heritage are discussed as well.
- Together with the cultural funds, a guide will be created to make the results of projects reusable for the entire cultural sector.

## Colophon

This version of the National Strategy was created on the initiative of the Ministry of Education, Culture and Science, in conjunction with the partners in the Dutch Digital Heritage Network.

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More information can be found: [netwerkdigitaalerfgoed.nl](https://netwerkdigitaalerfgoed.nl).

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