

images of the past

**7 years of images
for the future**

foreword

Stop to consider the numbers and it's hard not to be impressed: over 90,000 hours of video, 20,000 hours of film, some 100,000 hours of audio and 2,500,000 photos were restored, preserved and digitised in this seven-year project: Images for the Future. For seven years hundreds of people worked painstakingly to achieve this goal. From the World War II bunkers turned into nitrate film vaults in the dunes of Overveen and Scheveningen to digital 'production lines' for film, video, audio and photography, set up in Amsterdam, Hilversum and The Hague.

The material, most of which is now preserved for the future, spans a period of eighty years. It emerged in an era when for the first time in history we recorded our lives in image and sound. It encompasses the earliest Dutch cinema, the films of Bert Haanstra and the photos and letters of 19th century photographer and global explorer Alexandrine Tinne, but also film, video and photographs from the second half of the last century. These are just a few examples of collections full of sometimes forgotten treasure. Without Images for the Future, large parts of our audiovisual history would be lost.

In addition to this rescue operation, the project has actively given shape to that future by experimenting with new applications for the predominantly audiovisual material. At the start of Images for the Future, innovation in the heritage sector was still in its infancy – the project was seen mainly as a one-off effort to catch up. The innovation that Images for the Future has brought about is now one of its most defining

results and the descriptions in this publication provide quite an anthology of them.

So, have we finished? Images for the Future has been an important driver for the heritage sector in the past seven years, but the digitised heritage could – even more so than now – be accessible to all Dutch people. There is still much to be achieved in that respect. We urgently call on you – the sector, government and politicians – to make this our joint responsibility in the coming years. Seven years of Images for the Future has yielded a wealth of knowledge and experience that can be used in this context.

We hope you enjoy reading this final report,

Jan Müller

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Sandra den Hamer

Director of EYE Film Institute

Marens Engelhard

Managing Director of the National Archives

Paul Keller

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facts and figures

duration

1 July 2007-31 December 2014

project partners

- Sound and Vision (510 FTE financed by the project)
- EYE Film Institute (101 FTE)
- The National Archives(22 FTE)
- Kennisland (12 FTE)
- Centrale Discotheek Rotterdam (3 FTE up to 2010)
- Dutch National Association of Public Libraries (1 FTE up to 2010)

budget

The original project budget was EUR 173 million, of which:

- EUR 19 million was financed by own earnings of the consortium partners (2007-2014)
- EUR 64 million was an obligation to raise revenue (projected earnings from 2015-2026 results)
- EUR 90 million was the net subsidy

In 2011 the project budget was adjusted on the basis of an interim evaluation.

The obligation to raise revenue was scrapped.

The new project budget was EUR 121.6 million, of which:

- 3.7 million was financed by the own earnings of the consortium partners
- 117.9 million was the net subsidy

project objectives

To restore, digitise and provide access to:

- 137,200 hours of video (adjusted to 91,183 hours in 2011)
- 22,510 hours of film (adjusted to 22,086 hours in 2011)
- 123,900 hours of audio (adjusted to 98,734 hours in 2011)
- 2.9 million photos (adjusted to 2.5 million in 2011)

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1

introduction

Over a period of seven years Sound and Vision, EYE Film Institute, the National Archives and Kennisland preserved over 90,000 hours of video, 20,000 hours of film, some 100,000 hours of audio and 2,500,000 photos. The digitised material is now being reused for numerous purposes, from lesson material and Wikipedia to apps and services for the creative industry. **Images for the Future** has played a pioneering role in both the development of large-scale digitisation processes and the thinking on the role of heritage organisations in our digital society.





At the beginning of the 21st century, the state of the Dutch audiovisual heritage was a cause for concern, to say the least. Many thousands of hours of film, video and audio, and millions of photos were stored in the archives of Sound and Vision, EYE Film

Institute and the National Archives of the Netherlands. Many of the carriers of this culturally historic material was seriously degraded and in danger of perishing in the short term. Additionally, by far the majority of these collections were not accessible to third parties and certainly difficult to search through.

The Images for the Future project changed this. Over a period of seven years a consortium consisting of Sound and Vision, EYE Film Institute, the National Archives and Kennisland worked to restore, preserve and digitise vast quantities of film, video, audio and photographic material. Much of this was made accessible to different target groups, including the education sector, the creative industry and the general public. In performing this ground-breaking work, Images for the Future has put the Netherlands on the audiovisual map and played a decisive role in how we think about the role of heritage organisations in our digital society – in which media and the internet play a key part.

The results

The results of Images for the Future say it all. The quantitative digitisation objectives in the 2006 project plan have been met and were even exceeded in some respects. Section 2 discusses in detail the production process in which this large-scale digitisation effort succeeded.

To be able to make this transition from analogue to digital collection management, an extensive digital infrastructure was created,

which is described in section 3. The heritage organisations involved entered into partnerships with external companies and invested in their own scan facilities to meet the latest standards in the world of archiving. The high-quality digital files that this yielded have been stored safely for the long term and linked to the catalogues of the heritage organisations, so that the collections can be made freely available. The Images for the Future partners allow third parties to use the entire digital infrastructure that has been developed so that other archives, regional broadcasters and heritage organisations have the opportunity to digitise their audiovisual material.

To increase accessibility to our digitised audiovisual legacy, different platforms and services have been developed for the education sector, the creative industry and the general public. Section 4 describes how in the first phase of the project the Images for the Future consortium invested a great deal in developing these services, under the assumption that they could use them to generate earnings. When this model for using the material proved unrealistic, the focus shifted to generating social benefits in the form of promoting access to and the reuse of the digitised material. This approach seems to have worked; the archived material is more accessible than ever before and used significantly by different user groups through different channels.

The lessons

The Images for the Future project started in 2007, in a time when the increasingly digitalised society was still searching desperately to find suitable standards. DVDs were gradually disappearing from Dutch homes, YouTube had just started to become popular and the Dutch version of Wikipedia contained barely more than a hundred thousand articles - this number is around



two million today. These changes in society also called for a different role for heritage organisations. Images for the Future had a ground-breaking and guiding role in this process.

Section 5 zooms in on the various problems that ensued from these developments, for which during the course of Images for the Future solutions had to be found. Projects formed a useful space for experimenting in the search for possible answers. Sometimes they were found; sometimes no satisfying answer was forthcoming.



One of the biggest hurdles to making the digitised material accessible in Images for the Future proved to be current copyright regulations. The project consortium partners devoted considerable attention to this issue and played a pioneering role by making significant

parts of their collection available under Creative Commons licences. Images for the Future also resulted in the Open Culture Data network, which encourages other heritage organisations to do the same.

Another obstacle - one that has yet to be fully overcome - is long-term storage for the digitised material now that the Images for the Future project has drawn to a close. A digital infrastructure requires structural management and maintenance, which costs money. These activities were funded by Images for the Future while the project was on-going, but no structural solution has been found yet for the subsequent period.

The partners within Images for the Future gained a great deal of knowledge on all aspects of the project, from restoring, preserving and digitising audiovisual material and developing a digital infrastructure to making digital collections accessible. And they gladly share this knowledge and experience with other parties in the heritage sector, as was seen during the three-part international conference Economies of the Commons. In this publication the consortium shares the successes, pitfalls and lessons of the past seven years with you.



We are not there yet. Large parts of the digital collections – which in many cases were created with the aid of public money – are still not accessible to the general public owing to copyright restrictions or conflicting interests of the parties involved. There are also just as many highlights of our audiovisual legacy in local and regional archives that could not be preserved within the context of Images for the Future. In around fifteen years' time it will no longer be possible to play these and it will be too expensive to digitise them. Over the past seven years Images for the Future has caused a seismic shift within the heritage sector, but there is still much to be achieved.



2

production

Images for the Future was a project of unprecedented scale for the national and international heritage sector. The plan on the table included an agreement to restore, preserve, digitise and make accessible more than 200,000 hours of film, video and audio recordings and 2.5 million photos within a period of seven years. This section describes the first three steps; the last – making the material accessible – is described in the subsequent sections.





The plans for Images for the Future were forged in 2005. Digital archiving was still in its infancy at the time, many collection descriptions were far from adequate and heritage organisations

did not yet have the knowledge and skills to digitise the material themselves. The first step therefore was to make changes to the organisations so that the agreed objectives could be achieved. The heritage organisations also had to map out the activities that they themselves could carry out and those that required the engagement of external suppliers.

Preparation

The first change to be implemented by all the project partners was to their corporate culture. New employees were recruited, both for management tasks and for the specialist activities related to preservation, digitisation, cataloguing and copyright. The predominantly younger project staff members were able to benefit from the knowledge and experience of the older staff, for example with regard to analogue formats and their properties.

In addition, all of the partners worked with groups of volunteers to complete many of the descriptions for photos and other audiovisual material. The relationship that developed with this group of volunteers is still warm today, now that the project has finished. In addition to staff changes, investments in technology were also essential. New work processes and technical infrastructures were set up so that the huge quantity of material to be processed in this project could be processed. These include automated systems, developed to keep a record of the current status of the material being restored, preserved and digitised.

The project partners also bought state-of-the-art equipment that made it possible to digitise large volumes of materials at high quality. A great deal of work also went into improving and updating the various catalogues, so that the digitised material could be linked to the right information.

Setting up the organisations and systems for the production process took more time than planned. Many of the tasks were new for the organisations and had not been achieved anywhere else in the world; therefore this pioneering work took longer than expected. Before the tendering procedures could be started, a number of preconditions also had to be met. Was the material ready to be digitised or did it need to be traced, repaired or cleaned first? Was the metadata in order, so that the files could be linked to the right information in the databases? This also proved to be a time-consuming process.

Do it yourself, with others or outsource

A large part of the preservation and digitisation activities were outsourced to external suppliers in the Netherlands and abroad. They were selected via various tendering processes, in accordance with EU regulations. One of the advantages of tendering is that it compels the client to describe the needs and requirements regarding the services required as clearly as possible. This means that clients have to think very carefully about the desired result, the quality and the associated costs. In this process use was made of the knowledge available at the consortium partners, expertise institutes and affiliated archives.

Where possible the partners worked together on a tender, resulting in lower digitisation costs. For example, all of the organisations responsible for managing collections had photos that needed to be digitised, so a joint approach to this seemed the obvious choice. As such they could make optimum use of the



the city that never sleeps f. von maydell, 1928 eye film insitute

In 2010 EYE Film Institute completed the unique restoration of *The City that Never Sleeps* (1928). To mark the 600th anniversary of Rotterdam, Andor von Barys – a highly sought-after cameraman at the time – filmed a dynamic modernist impression of life in the port city. The aim of this commissioned film, which was directed by Friedrich von Maydell, was to find new investors for the ports of Rotterdam.

the objective was to reconstruct the original version, as shown at the première in 1928, as accurately as possible. The film was given a new soundtrack, by Charly van Rest and Pierre Bastien, and presented during the Rotterdam International Film Festival in 2011.

The restoration was carried out in cooperation with the Rotterdam City Archives and



j'accuse

a. gance, 1919

eye film insitute

The only remaining colour copy of Abel Gance's acclaimed anti-war epic *J'accuse* from 1919 forms part of the EYE Film Institute collection. This classic was restored using the latest software, which included removing dust and marks and filling holes. Since the point of departure was for any traces of time to remain visible, it was decided not to clean the film spotlessly, but just to remove the worst erosion.

The original copies were coloured with the aid of a tinting and toning process that was popular at the time. The original colour scheme was restored using the nitrate copy and copies from the archives of Lobster Films (Paris) and Narodni Filmovy Archiv (Prague)

coloured by these same organisations. This eventually resulted in an optimally restored version of 170 minutes in length – the most complete version of *J'accuse* since 1922.

The new copy of *J'accuse* was presented in festive style at the Stadsschouwburg theatre in Amsterdam during the 2009 Holland Festival, complete with new music by Gary Lucas and Reza Namavar, in a live interpretation by the EnsembleCaméléon.



knowledge of specialists from the National Archives, Sound and Vision and EYE Film Institute. For the film material, which both Sound and Vision and EYE Film Institute have in their collections, a similar collaboration proved unrealistic because the requirements that both organisations set for the end result differed too much to make a joint tender possible.

The intensive cooperation with both the project partners and the external suppliers yielded a lot of new knowledge and deepened existing knowledge. Ensuring that the outsourced work was overseen by the partners proved essential in this. The work was prepared and the activities closely monitored, which meant that the knowledge gained could be retained within the organisation.

Execution

After a six-month start-up phase, the wheels were set in motion in 2009. The preservation and protection of our national audiovisual legacy could begin. In the beginning some aspects were slow to start, but gradually the project got off the ground.

The following sub-collections make up Images for the Future:

- Film (at Sound and Vision and EYE Film Institute)
- Video (at Sound and Vision)
- Audio (at Sound and Vision)
- Photography (at the National Archives, EYE Film Institute and Sound and Vision)

In practice, the partners with the same types of collections often encountered the same preservation and digitisation issues. Knowledge on these problems and possible solutions were shared within work groups.

Film

Sound and Vision has thousands of nitrate

films, including news reports, commercials and amateur films, stored in in a former war bunker in the dunes at Scheveningen. EYE Film Institute also has thousands of film canisters containing films of cinematographic importance on this flammable and sensitive material in its collection. These films are stored in similar bunkers in the forests at Overveen, Heemskerk and Castricum.

In the nineteen-fifties nitrate film started to be replaced by acetate film, which is not flammable but is susceptible to 'vinegar syndrome'. When exposed to moisture and heat, the acetate starts to decay causing the material to become brittle and shrink. This process also releases the characteristic vinegar odour from which the decomposition gets its name. A film with vinegar syndrome decays quickly and should be copied onto a new medium as soon as possible.

Since neither nitrate nor acetate film are able to stand the test of time, these were restored, digitised and preserved within Images for the Future. This included the entire Dutch nitrate collection and a selection of foreign material. Mainly colour films from the early sixties to the eighties were selected from the acetate collection. These



discolour quickly and are acutely in danger.

Preservation

The nitrate and acetate films from the archives of EYE Film Institute and Sound and Vision were preserved in three steps.



1. In 2015 the film labs with the knowledge and facilities required for this closed their doors. In 2011, Sound and Vision switched almost entirely to digital preservation to preserve its nitrate and acetate films. This involves scanning each film image one by one at high resolution. From 2012, EYE Film Institute also started to preserve a select number of films digitally.

3. Making copies for accessibility

Copies are made of the archive master so that access can be offered to the collection. These copies may be for presentation in a cinema, on a video-on-demand platform or on the internet.

Preserving with separation negatives

The use of tri-separation is the most reliable method of saving the original colours of a film for the long term. Images for the Future offered the restoration specialists from EYE Film Institute the opportunity to further develop their knowledge and skills within their field and thus also explore this area of preservation. After colour correction, the first step is to make a positive (print) of the film's original colour negative as a reference. This positive can be used to check whether the result has the right colour balance.

Separate strips are then made for the negative: three panchromatic black and white films with red, green and blue information. Printing from these three separation masters then creates a new colour print without the risk of discolouration – even over hundreds of years.



Preservation using tri-separation is an expensive process that was carried out within Images for the Future by the Cineric laboratory in New York. Due to the high costs involved in this technique, a selection was made of the thirteen most important colour

sky over holland j. fernhout 1967

sound and vision

Sky over Holland is the highpoint of the career of John Fernhout, filmmaker and descendant of the famous artists' dynasty. The documentary, made at the request of the World Exhibition in Montreal, shows the relationship between Dutch painting and the Dutch landscape. Fernhout took impressive aerial photos with a camera fixed to the nose of a Hunter fighter jet.

preserve all of the visual material. Later this extremely high resolution was reduced to 4K. Then the digital restoration could begin. Special restoration software was used to polish away scratches, grain and other image damage. A colour correction was also carried out to improve the images that had turned red through age.

This film is the only one in the Sound and Vision collection in the unique, larger 70mm format. The only facility that can scan this film format is located in Los Angeles, where Fotokem digitised the film in 8K, in order to



The selection

The film restorer puts together a copy of all the available material, which is seen as the source material. Ideally, he/she uses the original negative for this. A film in poor condition requires a lot of work and for him/her to take on the role of film archaeologist to create a good copy from the remains. He/she contacts producers and directors to find missing parts of films or sections of sub-optimal quality. The expectation was that this would no longer be a problem for films made in the seventies and later, but quite a lot of searching was required for later-date films too. During this phase, a record was made of what exactly the bunkers contained and how often this had been preserved to date.

2. Analogue and digital preservation

Analogue film preservation involves material and technical repair, followed by which the source material is duplicated onto a new medium (usually polyester) that is stored in the depot as the archive master. For reasons relating to museum use, EYE Film Institute used analogue preservation for the majority

maha cycle

i.a. ochse, 1925-1928

sound and vision



Isidor Arras Ochse had a relatively short career as filmmaker, but in that ten or so year period he made no less than 23 films. He also worked as a cameraman and made many items for the Polygoon journal. In 1925 he travelled to the Dutch colony, where he shot many kilometres of film on daily life in the Archipelago for the Dutch-Indonesian Film Society.

Once he was back in Haarlem, he edited the forty kilometres of film negatives to six thousand metres, which he used to create three films *The Maha Cycle*. Maha is Sanskrit for 'highest, best, most precious'.

A selection from the films *Mahasoetji* (about Java and Bali), *Mahamoelia* (about Borneo and Sumatra) and *Mahakoeasa* (about Celebes, the Moluccans and New Guinea) was shown during the première in October 1929 in The Hague.

The original nitrate films have been tinted, while the preservations had been performed in black and white to date. In *Images for the Future* the films were represerved according to the Desmet method, which involves reproducing the tinting and toning process of the old films. They were then digitised.

films. Among the films preserved using tri-separation is *Abel*, the début feature film of Alex Warmerdam from 1986. This film attracted over 300,000 visitors and won a Golden Calf for Best Film and for Best Director at the Netherlands Film Festival. Due to the importance of *Abel* for Dutch film history and the unique use of colours, the film was a good candidate for this method of preservation.

Digitisation

As described briefly at the beginning of this section, Sound and Vision and EYE Film Institute decided to employ their own approach to preserving and digitising the film material. One of the reasons for this is that the film media and ratios are different: the television programmes in the archives of Sound and Vision are mostly 16mm film, while the films of EYE Film Institute are usually 35mm. In addition, the organisations used different metadata formats in their catalogues.

At the outset of *Images for the Future*, digitisation was still seen mainly as a process of improving accessibility to the films. However digital developments were taking place at an accelerated pace at the time. Techniques were improving and prices falling, making high resolution digitisation a real possibility. Sound and Vision and EYE Film Institute both bought the same type of scanner, which made it possible to scan the films at 2K. Later in the project it also became possible to scan at 4K or even 8K (at external parties). These high-quality scans make digital preservation possible: the scans of the original film elements are stored in uncompressed format and for the long term. The larger films however have exponentially higher requirements in terms of storage,



which had consequences for how the digital infrastructure was set up (see section 3).

Sound and Vision had an additional challenge to overcome in its film digitisation. In contrast to cinema films, where the sound is printed along the edge of the film, the sound of the television material was recorded on separate magnetic tapes (sepmag) that has to be played synchronously with the picture. These many hundreds of hours of tape were decaying and shrinking fast, and therefore had to be converted into other media. During digitisation it became clear there was a risk that shrinking could cause the sound to be played ahead of the image. So Sound and Vision worked with manufacturers to develop a measurement system based on laser technology that digitally corrects shrinkage during tape conversion.

Initially, EYE Film Institute outsourced the digitisation activities. This work was stopped earlier than expected when the project partners realised that they would be unable to meet the obligation to raise revenue (see section 4). To compensate the company that had invested in the film scanner, EYE Film Institute bought the film scanner at its present value. An added bonus of this was that the museum now had the knowledge and facilities to digitise the material itself.

Video

In the nineteen-seventies many television makers moved from acetate film to video. Sound and Vision digitised and encoded over 137,000 hours of video material within *Images for the Future*. These were different types of magnetic tapes, including:

- BCN media, which were



standard in the media world in the nineteen-seventies

- DigiBeta, which was the standard for supplying, broadcasting, archiving and retrieving audiovisual material from the eighties up to 2005
- VHS, on which from 1987 to 2005 two weeks of open-net registrations were recorded annually



itself, in house. The magnetic tapes on which, for the most part, spoken word is recorded have the same composition as video tapes and are therefore subject to the

same physical decay. The life of the tapes depends to a large extent on the conditions they are stored in. At the correct temperature and humidity, the quarter-inch tape can last for more than fifty years. The sound on the DAT cassettes is stored digitally, rather than in analogue form. Although these cassettes are not as old as the audio tapes, their quality is often poorer. This is caused by the high density of information on the tapes, which makes them very fragile and storage-sensitive.

A magnetic tape is made up of different layers, which all have a different service life. An adhesive layer (binder) is used to attach an emulsion with magnetisable material to a synthetic medium, which is usually made of polyester. The polyester in the medium generally does not wear quickly, but is however sensitive to use and climate changes. The emulsion can be damaged by other materials, moisture or magnetic fields, resulting in less clear recordings and the loss of high frequencies. The most fragile aspect is the adhesive layer, which loses its quality within a few years and can cause the information on the magnetic layer to become damaged or even disappear.

Together with its Hilversum supplier, Technicolor, Sound and Vision converted the selected video material into HighRes MXF files (Material eXchange Format), the recommended format for archive masters of digitised video. The quality of these files was then checked and the details recorded in the catalogue and search interface of the Sound and Vision archive.

Audio

Sound and Vision digitised close to 100,000 hours of audio material almost entirely

The quarter-inch tape was digitised with a sample rate of 48kHz and a bit depth of 24 bits. This sample rates and bit depth are of a better quality than regular CDs and form the standard for audio archiving. The DAT cassettes were converted into BWF files, the original format that is also on the medium.

In addition to tapes, Sound and Vision's audio collection includes some 25,000 gramophone records. Much of these contained spoken word as well, such as radio recordings from the nineteen-thirties up to the nineteen-sixties. The records in the archive are made of various types of material, including glass and aluminium, but also plastic and heavy steel. Their quality was assessed first; some records were too damaged to be digitised. After being cleaned with petroleum to remove the oily plasticiser, the salvageable records were then digitised with a sample rate of 96 kHz and a bit depth of 24 bits. This high quality ensures that the audio files can be restored again in the future.

Photography

Photos form the only collection of images that are present at all three of the collection-holding organisations within Images for the Future. Sound and Vision manages



van maarseveen photo collection eye film institute

Dick van Maarseveen (1905-1990) began his career as a portrait photographer in the 1920s. In 1927 he set up his own studio in The Hague. Influenced by glamour photography, which had blown over from the international fashion and film industry, Van Maarseveen brought about innovation within portrait photography. These portraits were characterised by dramatic lighting.

In 1931, Van Maarseveen began to focus predominantly on still photography. After each scene, he captured the essence of the scene in a photo and made portraits of the film

stars in positions and with expressions that were characteristic of their role. In 1989 Van Maarseveen gave his collection to EYE Film Institute. Comprising 600 nitrate negatives, a number of glass negatives and hundreds of still prints, this collection was digitised within Images for the Future. The nitrate negatives were also transferred onto new negatives for the purpose of preservation.

merckelbach photo collection

eye film institute and
national archives

Jacob Merkelbach (1877-1942) opened his Merkelbach Photo Studio, which specialised in portrait photography, in 1913 in Amsterdam. After his death, his daughter Mies Merkelbach took over his work until the studio closed in 1969. In addition to normal customers, the studio also photographed many stars from the Dutch theatre and film industry. It also made stills on film sets.

Part of the Merkelbach Collection was donated to EYE Film Institute in 1969. The National Archives also has some of Merkelbach's photos. The 1400 glass negatives from the period 1935-1953 were digitised within Images for the Future. The more than 1900 rolls of film negatives from the period 1935-1964 were repackaged in strips and partially digitised.

a wide, extensive collection of photos that includes photos from the early days of radio, and pictures of the first devices and their listeners. The collection also includes two million negatives, and slides of programmes and their actors and presenters.

The photo collection of EYE Film Institute is similar, but divided into cinematographic heritage. Portraits of stars from the world of Dutch theatre and film, stills that cap-



tured the essence of a recently played scene - all intended to promote the films. The collection of the National Archives comprises a total of around fourteen million

photos, negatives and slides, including the photo archives of the Netherlands Government Information Service, Anefo (Dutch press photo agency) and Elsevier. The majority of images digitised from this collection for Images for the Future are press photos and photos from government archives. Various photo archives of companies, noble families and famous travel photographers were also digitised.

Since the National Archives has the largest collection and the most knowledge in this area, this organization took the lead in preserving, digitising and packaging the total of 2.9 million photos that were selected for Images for the Future.

Prints

On old photos, the image is generally formed by small silver particles that are very sensitive to chemical damage. Large collections of prints were preserved within the project, including highly prestigious pieces such as the 19th century photos by The Hague explorer Alexandrine Tinne.

Clear requirements were defined for the tender for digitising the photographic material. The goal was to obtain the best result possible in a process that had to have minimal impact on the originals. Generally speaking, all three of the organisations used the same resolution for the digitisation: 300 ppi (pixel per inch) in A4 format. The consortium partners checked the test cards to see whether the images met all the quality requirements.

To prevent further damage to the photographic material, the collections were wrapped carefully in special packaging material to protect them from dust, friction and damage through use. The National Archives and EYE Film Institute used 'breathable' paper for this which prevents harmful gases from penetrating the images. Sound and Vision chose transparent polyester to allow easy viewing of the photographic material.

Acetate negatives

Like acetate film, acetate negatives are sensitive to vinegar syndrome. The acetate decays, releases acetic acid and starts to bubble and warp. To slow this process, the negatives are stored at -2°C. Vinegar syndrome can distort a negative to such an extent that it is no longer possible to copy it. The gelatine layer with silver particles that form the image is however often left intact. The negative can then be restored, which involves replacing the deformed acetate medium with a stable polyester layer. This is a very expensive process that has to be carried out by hand. Images for the Future selected the most important negatives for this treatment.

The acetate negatives were then digitised using the standard procedure for negatives, based on an output of 300 ppi on A4 format. The acetate negatives that were not restored were digitised with a higher resolution and bit depth



(48) in connection with their transience. The unprocessed masters were then securely stored for the long term, to keep the information on the originals in the best possible condition.

Glass negatives and positives

EYE Film Institute and the National Archives both have a collection of glass negatives and positives. Since this material can be damaged very easily in transportation, the decision was taken to carry out the digitisation at the National Archives, instead of at the supplier's premises. This removed the risk that they would be damaged en route. The digitisation company set up a temporary digitisation facility at the National Archives, which was dismantled after the glass collections of EYE Film Institute and the National Archives had been digitised.



experience in new techniques related to digitisation, preservation, storage and access.

At the start of the project the organisations were largely dependent on external parties for the complex digitisation processes. Where possible these processes were organised internally, so that the project staff could learn from the external specialists. In the area of film preservation, staff from EYE Film Institute were thus able to

gain knowledge on and experience in the creation of pan separates – the best analogue technique for long-term storage. In practice, however, safeguarding the new knowledge did not always prove feasible. The pressure to produce and perform was often high during the digitisation processes, and on completion the external partners sometimes left straight away. The deliberate incorporation of a fade-out phase would help safeguard knowledge properly in such situations.

The increasing realisation of the material's value and importance led to structural changes within the organisations. For example, EYE Film Institute acquired the archive scanner and associated processing equipment that the US company T3 Media used to digitise and encode films. From now on the museum can digitise films itself, as it

An extremely fragile 19th century glass collection of the Van Houten chocolate factory was preserved within Images for the Future using protective packaging that had been made especially for the task. The glass negatives contain images of products, adverts and the production process of the then world-famous chocolate factory in Weesp. Every glass plate, measuring up to thirty by forty centimetres, has been stored separately in a protective box.

Collaboration and safeguarding

Thanks to Images for the Future and the collaboration required for this project, all of the parties involved were able to expand and deepen their knowledge. Within a relatively short period, the project staff gained



van houten photo collection national archives

In 1972 the chocolate maker Royal C.J. van Houten & Zoon N.V. transferred its glass plate collection to the State Archives in Noord Holland. At the end of 1996 the collection came into the hands of The National Archives. The collection comprises a chest containing 160 glass photo negatives and positives of interiors, employees, products and adverts of the chocolate factory in Weesp. The names of the photographers are unknown. The Van Houten collection

is interesting and important, because the visual quality is good or very good and there are few comparable images in other collections. Besides taking photos, Van Houten also made company films; these are kept by Sound and Vision.



broadcasting archive photo collection sound and vision

Sound and Vision has a broad and rich collection of photographic material. The earliest photos are from the early years of radio, with pictures of the first devices and the first listeners. There are also photos of the radio studios in Hilversum, broadcasting stations being built in Indonesia and professional equipment in the studios.

The most extensive is the photo collection of two million negatives and slides of over fifty years of broadcasting history. The many images in this collection form an important source of information on television pro-

grammes of which no images were kept at the time, in particular from the early days of Dutch television, or of which the images have been lost, such as *Ja zuster, nee zuster* and *'t Schaep met de vijf poten*. The photo collections are an important addition to the image and sound material. They give more context and background information on how radio and television was produced and the history of amateur filming.

Sound and Vision digitised more than 200,000 photos in the context of Images for the Future.



now has all the knowledge and experience required to do so. The National Archives created space for a permanent photo preservation expert and a photo manager. A curator is responsible for further developing the collection, which is easier to use because of the results of this project. Sound and Vision has set up a unique 'digitisation line' for cut plates. It has also developed a new technique for digitising 16mm magnetic acetate sound film that has shrunk, without distortion and at the right speed. Additionally, the institute bought the same film scanner as EYE Film Institute for this project.

Owing in part to Images for the Future, EYE Film Institute, the National Archives and Sound and Vision are now seen as centres of knowledge in their respective fields of expertise. The employees of these organisations share their knowledge at national and international level.





3 infra- structure

An extensive digitisation project like **Images for the Future** requires an extensive infrastructure. The first part of this infrastructure is the specialised scan facilities that convert analogue recordings into digital files. In the previous section we saw how a procedure was developed for each medium. Special hardware and software is needed to preserve the enormous quantity of audiovisual data produced for the long term: storage facilities, a catalogue system with technical, substantive and copyright metadata, and software to be able to download and distribute the material.



32 Ambitions for digital collaboration

In the project plan, drawn up in 2006, the Images for the Future consortium suggested setting up this digital infrastructure as a joint facility for Sound and Vision, EYE Film Institute and the National Archives. This was envisioned to be the most efficient option in terms of investment and exploitation, and would create a coherent collection of all the material.

This was an ambitious plan, because at the start of Images for the Future the development of such facilities was still in its infancy. Only a handful of organisations across the world had any experience with large-scale audiovisual digitisation projects. None of the organisations involved in the Netherlands had the infrastructure needed to store and manage so much digitised material. The digitised film and video collections in particular would require an enormous amount of storage capacity.

The expectation was that iMMix – Sound

and Vision's multimedia catalogue – would form a good basis for the development of the central facility for Images for the Future. Sound and Vision was, through iMMix, already connected to the public broadcaster's digital broadcasting infrastructure: television programmes were archived and made available at Sound and Vision directly after being on air.

However, it proved complicated during the start-up of the digitisation processes to accommodate the different working processes of the project partners into one system. The film industry productions were mainly analogue at the time, and analogue was the standard means of archiving and distributing films at EYE Film Institute. There was also insufficient standardisation in film digitisation to facilitate automation.

What's more, Sound and Vision's catalogue had been developed primarily for the storage and distribution of digital files for the broadcasting process at the Media Park. As a result, it lacked many of the functionalities required by EYE Film Institute for the digital distribution of films. Nor did it prove possible to incorporate the National Archives' large quantities of photos into this system, as this would place too great a demand on the import capacity.

In the end, the consortium partners decided to depart from the original plan to integrate the audiovisual material and the non-audiovisual material, such as paper documents and photos. Instead, the National Archives used its own eDepot to manage the photo collection. EYE Film Institute and Sound and Vision did continue their efforts to create a shared infrastructure for the film and broadcasting material. The new multimedia catalogue (successor to iMMix) will meet the specific requirements for managing film distribution.



Storing the digital audiovisual collection

When digitising analogue audiovisual material, as much information as possible is transferred from the analogue medium to a digital file. When played, ideally this digital file should then produce exactly the same results and quality as the analogue medium. This results in very large files, but also extremely complex digital objects. Audiovisual material has hundreds of different modalities when it comes to frame rates, image proportions, standards and formats. These choices, which are made prior to digitisation, have an enormous impact on the end result. Given the poor condition and fragility of a lot of analogue material, there was often only one opportunity to get the digitisation right. Moreover, in a few years the knowledge relating to analogue AV formats and facilities for playing the mediums will no longer be available or will be unaffordable. Therefore keeping the door of opportunity open to digitise further down the line – and perhaps with better quality results – was not an option.

It was important to digitise at the highest possible quality immediately. Thanks to the technological developments, this quality improved as Images for the Future progressed, resulting in even larger digital files than anticipated. This underlined the urgency for an infrastructure in which large quantities of data could be preserved for the long term.

The tape robot

At the outset of Images for the Future, Sound and Vision was still using an external party for the storage of its broadcasting archives and paying by storage unit. However these costs increased linearly during the project due to the large volumes of data. Since knowledge in the area of storage also



grew at the institute, it proved much cheaper for the institute to accommodate and manage the storage infrastructure itself.

A tape robot was chosen on which large quantities of data (petabytes) could be stored. This data is contained on data tape. This is a solution that, unlike discs, has no moving parts and thus requires no energy, making the system very energy efficient and cost effective. The disadvantage of a tape robot system is that the data is not immediately available for display: it has to be read from the tape first, which can take a while. Consequently Sound and Vision decided to combine the tape storage with disc storage. Large archive files that are rarely consulted remain stored on tape and data that has to be accessed quickly, for example for digital distribution via the internet, are also kept on disc.

Sound and Vision's state-of-the-art infrastructure makes use of systems that are also used by much larger companies. This guarantees that expertise will be available to maintain the infrastructure or to guide migrations to newer systems in the long term too.

Data migration

In 2012 Sound and Vision and EYE Film Institute entered into a contract for the long-term storage of EYE Film Institute's digital collection at Sound and Vision. As part of the project Data Migration, which started in 2013, more than one petabyte of digital film archive files that were previously stored at an American provider is moved to Sound and Vision. This operation will be



completed mid-2015.

Joint catalogue

Another major infrastructural challenge within Images for the Future was the linking of all digitised material to the existing catalogues. Originally, these systems were developed to facilitate analogue processes, such as the retrieval and lending out of analogue media. The descriptions of the collection material were based on use within the organisations themselves and professional reuse. Integration with online platforms was not possible, initially because these did not exist and later also because different standards were used. The original plan to work from the basis of a joint catalogue proved to be unrealistic as well, especially not during the large digitisation processes that were ongoing at the time. The partner organisations had their hands full keeping track of the material that had been sent away for digitisation and when it would return following digitisation. During this process it proved more useful for the relevant parties to maintain their own practices and catalogues.

34

Nevertheless, in the final year of the programme, EYE Film Institute and Sound and

Vision still investigated whether Sound and Vision's Media Asset Management (MAM) system – which is still used primarily to distribute broadcasting material – can be used in

the future for digital film distribution. The results of this study will be factored into the continued development of this MAM system, which means that eventually EYE Film Institute will probably be able to distribute its digitised films directly from the Sound and Vision infrastructure. Combined with the joint storage at Sound and Vision, much

of the material of EYE Film Institute that was digitised within Images for the Future will therefore also be more readily available to broadcasters for broadcasting.



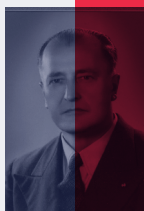
35





4 access

Thanks to the intensive activities within **Images for the Future**, the digital collections of the organisations involved have now been significantly expanded. The value of these audiovisual collections can only be exploited once the material is accessible to pupils, students, teachers, designers, producers, ad makers and other stakeholders. In a time when our digital society was gradually taking shape, **Images for the Future** played a key role in the exploration of possibilities for – and the obstacles in – making digitised material available.



The project plan created high expectations as regards to providing access to the digitised collections. Three of the five goals concerned access to the material:

2. *Providing access to (contextualising) the material, in particular for educational use but also for the creative industry and the general public.*

3. *Making available a basic collection of digital film and sound free of royalties or under a Creative Commons licence. Educational use will be given priority.*



5. *New services related to the audiovisual collection in the Netherlands for the educational sector, heritage organisations, the creative industry and society.*

(p.7)

In line with the assumptions from the cost-benefit analysis carried out by SEO Economic Research in defining the scope of the programme, there was a strong focus on educational services in the project plan. It was estimated that this would generate two-thirds of the earnings: 60 of the 92 million euro total. There was also expected to be substantial demand for the digitised material from the creative industry and society.

These assumptions were based largely on expected future developments. It was 2005 and large-scale online AV services like YouTube were just taking shape. The expectation was that such services would soon grow substantially – their development was also planned within Images for the Future itself, but the corresponding business models had yet to be created.

In particular, the consortium expected to generate income with payment services, such as subscription-based educational

platforms and video-on-demand consumer services. In addition, providers of digital television channels would start paying to use the digitised material in their programming.

When drawing up the project plan, the Images for the Future consortium did not see copyright as a structural obstacle to providing access to the collections accessible. The only limitation identified was that access would not always be free:

The point of departure is to make the audiovisual material as widely available as possible for everyone. Accessibility will not be free in all cases. In addition to copyright issues, this includes weighing up restricting use of the general resources by having users pay for access on the one hand against the importance of making the material as widely and easily available as possible. (p.7)

In other words: the project plan was based on the assumption that the copyright owners would provide permission for the digitised material to be used in return for payment. This presumed 'clearing of rights' is mentioned in the cost-benefit analysis, which is based on the assumption that fifty percent of the earnings to be made will be paid to the copyright owners.

During the first phase of Images for the Future, the above assumptions concerning potential revenue models and dealing with copyrights proved to be infeasible.

In search of a revenue model for our audiovisual heritage

In the first phase of the project the emphasis – and the main focus for the investments – was primarily on developing services that would be offered by the project partners to different user groups. For education, these



copyright

The copyright conditions had to be met before the digitised material from Images for the Future could be made available online. Although the organisations actually owned the physical works, often they did not own the copyrights to them. Permission is required from the copyright owners for these works to be made public.

Approach within Images for the Future

The original project plan was based on the assumption that the copyright owners would give permission for the digitised works to be used, in exchange for fifty percent of the budgeted proceeds. In practice, however, it was often unclear who these copyright owners were, making it impossible to obtain the necessary approval. As a result, Images for the Future devoted a lot of attention to copyright issues and fulfilled a pioneering role in finding solutions for them. In 2010 the National Archives entered into a generic agreement with Pictoright, the collecting society for photographs for photographers. This makes it possible to display parts of the collection online to which the National Archives does not hold the copyrights or for which the copyright owners are not known, without damaging the interests of the copyright owners. EYE Film Institute and Sound and Vision developed a model for distributing the earnings expected from the video-on-demand platform Ximon. This takes into account the individually identifiable copyright owners, the collectively represented copyright owners and the platform itself. EYE Film Institute also mapped out the legal status of 7,090 film works. In some cases it was established that these were works in the public domain. The EYE Film Institute obtained permission for free online use for around twenty percent of the films. For the majority, the copyrights owners have to be consulted for each new use. In cases where not all of the copyright owners could be identified, the search procedure produced sufficient information to be able to register the films as orphan works, so that they can still be made public in accordance with the regulations for orphan works that took effect in 2014.

General contribution to the developments

In addition to these specific activities, the project partners also started working on heritage-wide solutions for these problems from the word go. In

2010 Kennisland, the KB and DEN set up the Copyright working group for Dutch heritage organisations. This working group sets itself the task of increasing the knowledge on copyright within the heritage world, coordinating heritage organisations' activities in this area and representing the interests of the sector at policy level. Together with umbrella organisations of copyright owners, the working group called for a statutory implementation of Extended Collective Licensing (ECL) in the Netherlands. ECL makes it possible for collective management organisations to enter into agreements with heritage organisations authorising the use of works of non-authorised copyright owners as well. The heritage organisations are therefore no longer at risk of being held liable for breaching the Copyright Act in the event of works for which the copyright owners are unknown or unable to be traced. The working group also called for more fundamental reforms of the copyright frameworks on behalf of the heritage organisations, so that heritage organisations would be entitled to provide online access to works in their collection that are no longer commercially available. Images for the Future therefore made an important contribution to increasing awareness and positioning in the area of copyright – not only for the partners within the consortium, but for the entire Dutch heritage sector.



open images

Open Images is an open media platform offering access to audiovisual collections that can be easily reused. The 'remixing' of archive material into new work is an example. Users can then add these new works to platform. Open Images also offers an API, which facilitates automated forms of reuse – for example, in applications. Open Images was launched at the end of 2008 with the aim of "offering online access to a selection of archive material and thus encouraging the creative reuse of this material" (Open Images Plan of Action, 4 August 2008). Earlier that year, an inventory was made of the requirements for such a platform during an expert meeting. After further investigation, a start was made on developing the platform in April 2009 and

a first version of the platform was demonstrated at the Open Video Conference in New York. The platform launch, at PICNIC, followed in September 2009. At the end of this year some 500 Polygoon newsreel items were available for reuse (under CC BY-SA). Access to the material on Open Images is based on the Creative Commons licence model. Creative Commons gives authors, artists, scientists and educators the freedom to be flexible with their copyright and to make works available to others in a manner they themselves choose. This 'open' approach is also implemented in the platform technology through the use of open formats, standards and software components. Additionally, all the software that is developed in the context of

Open Images is made available as open source software as well. Open Images is an initiative of the Netherlands Institute for Sound and Vision and Kennisland. More than three thousand Polygoon items from the Sound and Vision archive can currently be found on Open Images. The platform comprises a total of almost five thousand reusable items, which in addition to Sound and Vision have been contributed by parties such as EYE Film Institute, the University of Amsterdam and the Stichting Natuurbeelden.

www.openbeelden.nl

were ED*IT for primary level and LES 2.0 for secondary level and senior secondary vocational education (MBO). In addition, work was carried out on Ximon for consumers and Dutch Footage for the international creative industry.

In this way an attempt was made to meet the obligations to generate revenue, the obligation to generate income during the course of the project and to earn back the advance payment afterwards.



During this period a start was also made on developing a platform for audiovisual material in the public domain or with a Creative Commons licence. The limited collection that became available via this platform,

called Open Images, was selected very carefully and only accessible in low resolution. The platform would thus compete as little as possible with the commercial services that had been set up in the context of Images for the Future. For reasons related to the obligations to raise revenue, the project partners employed a conservative strategy in this phase of the project with regard to providing open access to the material.

Although from the outset great effort went into the educational services in particular, and later also the Ximon video-on-demand service for consumers, there proved during the course of the project to be insufficient paying customers. Also playing a role in this was the competition with existing market parties, such as educational publishers. Slowly it became clear that the willingness of all the target groups to pay for access to the digitised material had been overestimated.

While these large services were being developed, the first successes were achieved with different highlights ("Pearls") from the

collection. For instance, in 2008 the National Archives was the first Dutch heritage organisation to sign up to Flickr The Commons – a platform for photo archives of heritage organisations on the international photo website Flickr. This enables the National Archives to share its historical photo collections with a wide audience, who may add descriptions to the photos and thereby enriching the data.

From economic to social benefits

Commissioned by the Ministry of Education, Culture and Science, in 2010 TNO carried out an interim evaluation of Images for the Future. This looked in-depth at the accessibility of the digitised material, the performance of the services developed and the capacity of the project to raise revenue.

In its report, TNO concluded that it would be unrealistic to maintain the obligation to generate revenue to the level anticipated at the start of the programme. The main argument for this is that the heritage organisations usually do not possess the copyrights to the material in their archives. To develop services, the organisations were therefore largely dependent on the cooperation of the copyright owners. This went reasonably well in some areas, but elsewhere cooperation could not be achieved, for example with works whose copyright owners could not even be traced or for broadcasters that did not want competition for their own consumer platform NPO Gemist and were therefore reluctant to consent to the use of the broadcasting material in other consumer services.

Another reason why the feasibility of this obligation was challenging was the disappointing earnings from the services developed. There was less demand than anticipated from the educational and creative sectors (except broadcasting). Furthermore, the general public was not willing enough to pay to access audiovisual heritage through video-on-demand services. After all, the

growth of broadband and the arrival of services like YouTube meant that there were many other, largely free sources of audiovisual material available. The revenue model that used such services, with adverts related to the content of the videos, did not prove desirable or applicable for the platforms developed within Images for the Future.

Against this background, TNO also raises the role of the heritage organisations as service providers in its evaluation:

More pressing is the question of to what extent [...] public organisations are the most appropriate parties to develop and commercially exploit services for a general public. It would be more logical for them to supply semi-finished products based on which others (publishers, broadcasters, media companies, etc.) can develop new services. (p.79)

TNO concludes that the obligation to raise revenue is putting an unreasonable amount of pressure on the project and should therefore be drastically revised. The focus for the service development must be shifted from achieving economic benefits to achieving social benefits. Instead of raising revenue

to cover the costs incurred, access to and reuse of the digitised material have to be promoted wherever possible.

Based on this TNO report, among other things, the financial

assumptions of Images for the Future were reviewed at the end of 2010. The project budget was revised and the obligation to raise revenue was scrapped. Instead, a change of strategy ensued as regards to making the digital collections accessible, in line with the recommendations of TNO.

Reuse and openness as a social asset

Following on from the evaluation, in the second phase of Images for the Future the emphasis was placed on free public services, open access to the collections and promoting reuse. Eventually, the TNO evaluation resulted in an improvement of the internal policy concerning accessibility at all of the project partners.



These developments within the project tie in with the general trend in the thinking on access to digital heritage in the sector. The

Open Culture Data network – an initiative of Kennisland, Sound and Vision and the Open State Foundation (then 'Hack the Government') – was launched at the end of 2011. Open Culture Data supports cultural organisation in making their collections available as open data. The network collects and shares knowledge on open culture data and promotes the development of new applications based on this data. In this way Open Culture Data wants to embed the cultural sector strongly within the international open-data movement.

After the evaluation, Sound and Vision gives a lot more attention to further developing the Open Images platform. More than three thousand items are now available via this platform including, in particular, material from the Polygoon newsreel collection, to which Sound and Vision itself holds the rights. The decision is also taken to increase the quality of the files in Open Images to the resolution in which the material has originally been digitised.

The facilities on Open Images are further expanded with 'channels' that allow different parties to make their collections openly available via the Open Images infrastructure. For example, the VPRO shares a num-

les 2.0

LES 2.0 was an online education platform where audiovisual material from the archives of Sound and Vision and from other Dutch museums and heritage organisations was made available for secondary education. Teachers use the material as media enrichment for their lessons. The material on LES 2.0 was developed and selected es-

pecially for the target group and was geared towards the leaving requirements for secondary education. LES 2.0 was an initiative of Sound and Vision, in conjunction with EYE Film Institute, The National Archives, NCB Naturalis, the National Museum of Ethnology, the National Museum of Antiquities and also sources of Kennislink.nl, the Na-

tional History Museum, Stichting Natuurbeelden, the Amsterdam Museum and Eindhoven Regional Historic Centre. The service has not been offered since July 2014, because not enough licences were bought to fund it. The existing services for educational intermediary parties have been transferred to the Teleblik environment.



ed*it

ED*IT offered a vast wealth of audiovisual material from Dutch museums and archives that was selected especially for primary education. Teachers and pupils could use fragments from television programmes, film and sound fragments, articles and photos online to create installations, digital lessons, time lines,

files and presentations. ED*IT was an initiative of Sound and Vision. The material on ED*IT came from Sound and Vision, the Amsterdam Museum, Images for the Future, EYE Film Institute, Kennislink.nl, Kennisnet, the National Museum of Ethnology, the National Archives, the National History

Museum and NCB Naturalis. Since only a limited number of licences were purchased and this number did not increase sufficiently, the decision was taken to end the service in August 2013. Part of the collection can still be accessed via Teleblik, a platform for primary and secondary education.



dutch footage

In September 2009 Sound and Vision launched a new paid online clip service for professionals in the creative industry. Dutch Footage contains around 600 clips from the collections of Sound and Vision that can be used after online payment. The typically Dutch images are divided into five categories: cities and landscapes, nature, the Royal House, WWII and general.

Besides historical images, Dutch Footage has clips on current themes such as Gay Pride, Geert Wilders and the marriage between Princess Maxima and Prince Willem-Alexander. Dutch Footage is targeted towards the creative industry within the Netherlands and abroad. It gives programme makers, broadcasters, ad makers, directors and producers

access to a user-friendly and fast source of unique image material. Insufficient requests are received via Dutch Footage each year, so the decision has been taken to add no more new material to the service. Sound and Vision keeps the site as a showcasing channel.

www.dutchfootage.com

ber of documentaries via its own channel and the University of Amsterdam's Theatre Sciences programme manages a portal with registrations of theatre and dance performances from the period 1990-2010. EU-screen uses the Open Images infrastructure to provide access to videos from the history of European television. The channel of Stichting Natuurbeelden contains more than 750 clips of nature recordings.

Work also continues on the technical development of Open Images, both in front of and behind the scenes. An important move

in this is the implementation of open standards, making it possible to share the collections with other applications and platforms,

and therefore reuse them on Europeana and Wikimedia Commons, the media archive of the Wiki projects, including Wikipedia. The results of this implementation are impressive: there are now thousands of articles on Wikipedia, divided between dozens of language versions, enriched with audiovisual material originating from Open Images. These articles were viewed 40 million times in 2014 alone.

The success of the reuse of the Open Images material on Wikipedia results in a similar approach to other sub-projects of Sound and Vision. Material from the Sound and Vision wiki (photos) and the Sound of the Netherlands is now also being eagerly reused, in particular on Wikipedia.

In 2014 Sound and Vision decides to release all the material to which the institute holds the rights, without noteworthy restrictions, in the highest possible quality – unless there

are substantive or ethical objections. The previous reluctance to release the material, based on the obligation to raise revenue, is now no more.

EYE Film Institute joined Open Images in the second phase of Images for the Future. The museum used the infrastructure to provide access to over two hundred collection items for two editions of Celluloid Remix, projects in which professionals and amateurs were challenged to remix film fragments into short, new films.

The Film in Nederland website, a dedicated YouTube channel and innovative exhibits in the museum building, including PODS and the 360° interactive installation, marked the start of EYE Film Institute's journey of providing access to its digital collection. Film in Nederland contained some 270 complete films and 49 clips. The website attracted an average of 17,000 unique visitors per month. The release of the underlying collection information for reuse also made the museum a partner in the Open Culture Data network. This website has now been absorbed into the museum's general website: eyefilm.nl.

The National Archives also joined Open Culture Data in autumn of 2011. Initially the National Archives released modest amounts of data (images and metadata), for example via the 'NA & Spaarnestad Join Wikipedia' project, in which a selection of more than a thousand photos was donated to Wikimedia Nederland.

This was followed in 2012 by the project 'The NA opens data'. In the context of this project, the National Archives made some 142,500 photos from the ANEFO press agency available under a Creative Commons licence (CC BY-SA). The way in which such a large quantity of data was made accessible, without too many problems,



was an inspiring example for other heritage organisations. The release of the material was accompanied by a host of activities such as hackathons, blogs, media attention and a competition. This drew the attention of among others the Wikipedia community. Around 12,500 of the photos have now been placed in the Wikimedia Commons, Wikipedia's media repository. Six thousand of the images illustrate Wikipedia articles and are visited some 22 million times a month.

These special projects were also an eye opener for the National Archives; a different way of adding value to the collections. The National Archives was able to experiment from an early stage and therefore able to gain a considerable amount of knowledge and experience. As was the case with Sound and Vision, Images for the Future was part of the reason that the National Archives decided to provide free access to all of the data to which access could actually freely be given.

Where are we now?

Images for the Future has brought about internal learning processes at all of the project partners and changes to the policies on the publication of data and material for reuse. Nevertheless, the original objectives regarding accessibility have not all been met now that the project is complete.



The majority of the digitised audiovisual material is only available for internal use and accessible to the general public within the walls of the organisation or on request for professional users, such as broadcasters, museums and film producers. New audiences are reached via new productions, from television programmes such as *Andere Tijden* (Other Times) and *Shownieuws* to the online radio platform *woord.nl*. A larger

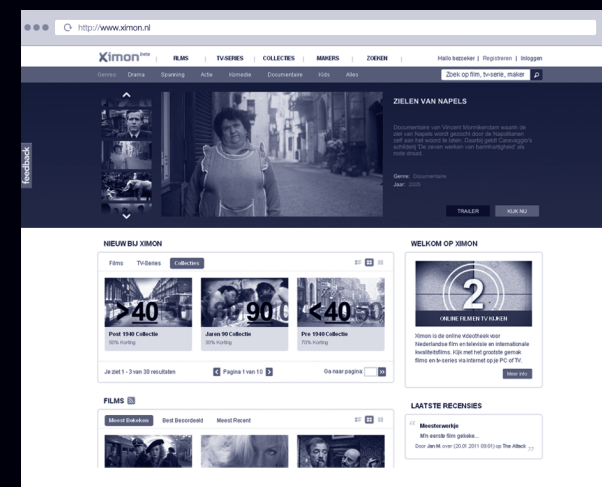
quantity of content can be accessed – via a login account – for educational and research purposes.

Of the 138,982 hours of digital audiovisual material, 15% is currently available for education and just 2.3% on demand for the general public. The current status as regards the photos is much more positive: half of the 2.4 million digitised photos can be accessed directly via the project partners' portals.

This provisional end result is not what the project partners had in mind at the start of the project. The current reality demands greater accessibility to the material. Certainly in a time when internet users can access large quantities of audiovisual content at any time, either for free via platforms like YouTube, or for a charge via for example Netflix or NLziet, the online video service of the NPO, RTL and SBS.

The biggest problem in terms of accessibility proves to be the rights to most of the material. Competing interests between Sound and Vision and the NPO are also problematic, and the unclear legal status of (partly) orphan film works makes it difficult to provide free access to the images. However, various encouraging developments are underway in relation to these last aspects.

For instance, the efforts of EYE Film Institute in combination with the regulations on orphan works that recently took effect will result in more openly accessible film works. In addition, there is currently no clear division of tasks between Sound and Vision and the NPO with respect to making archive material accessible. These discussions could potentially lead to much of the digitised television material as yet being made directly accessible.



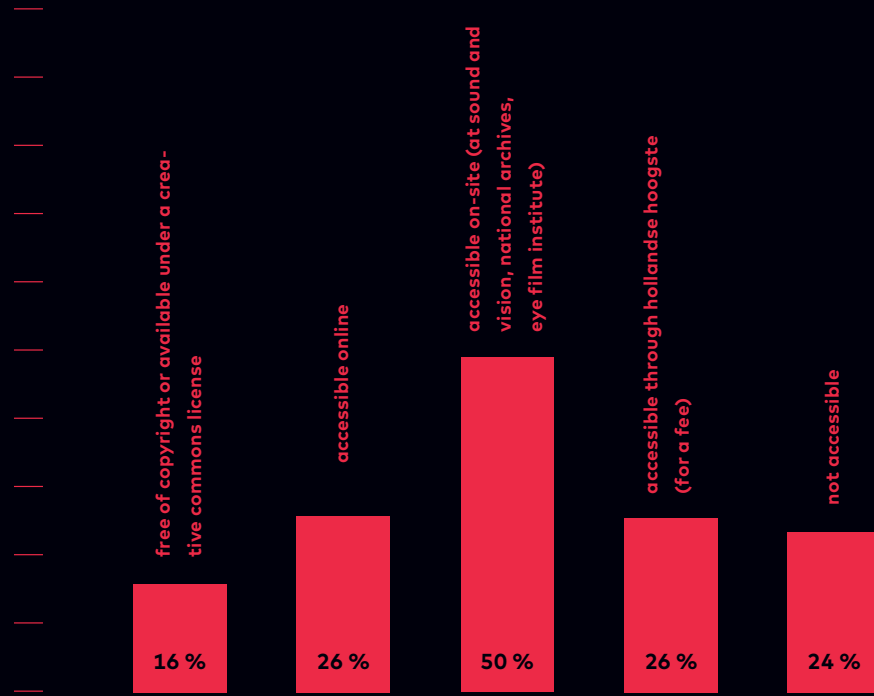
ximon

Ximon was an initiative of the Netherlands Film Producers (FPN: the association that looks after the interests of film producers), EYE Film Institute and the Netherlands Institute for Sound and Vision. Whilst it was active, between the launch of its video-on-demand (VOD) service in April 2011 to when it discontinued its services at the end of January 2014, Ximon made important progress. Ximon was seen as the VOD provider of quality films and series in the Netherlands and Belgium. With over 4,300 films, documentaries and TV series in its online catalogue, it was also one of the biggest providers in the Benelux region. Ximon was a non-profit organisation: the majority of Ximon's earnings were paid to makers and copyright owners of videos in the Ximon catalogue. Ximon needed the remainder to fund its platform, organisation,

the streaming and storage of videos and online payments. Ximon also paid to have the video material made suitable for internet distribution (known as 'transcoding and segmenting'). Despite sudden growth in the market for VOD services at the end of 2013, from 2009 – when Ximon was set up – growth was slower than expected. For this reason, in the second half of 2013 Ximon started looking for a financial investor or strategy partner to help bridge the period until consumers started using VOD services on a wider scale. An agreement with such a partner seemed to be on the table right up to the last moment, but in the end the company was unable to find extra funding. So Ximon decided to stop its services on 29 January 2014. The Ximon management is now searching for alternative solutions so that it can offer the catalogue to the public.

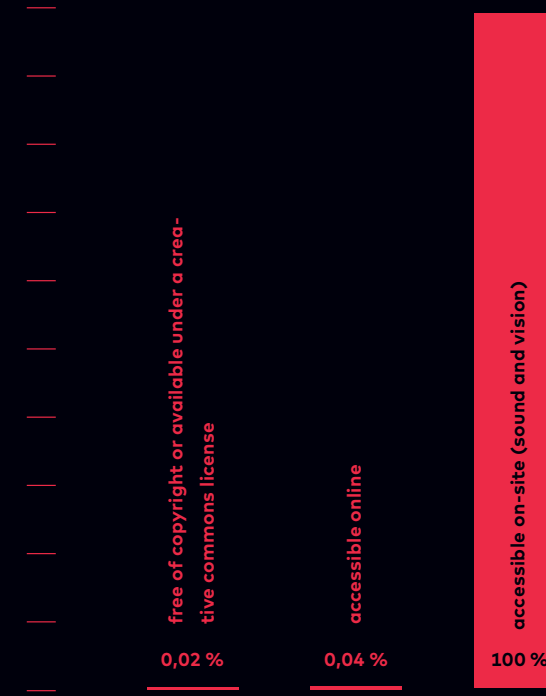
photography

total digitised: 2,418,872 pieces



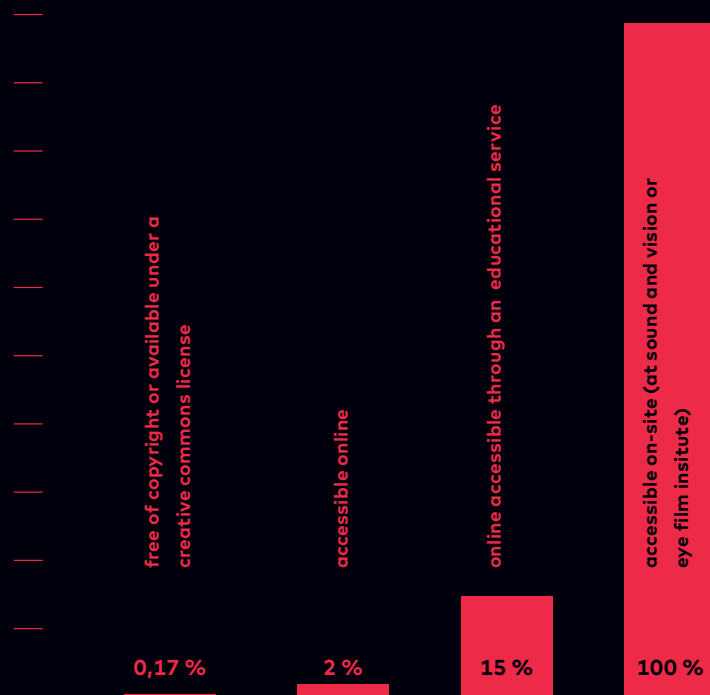
audio

total digitised: 310,566 hour



film and video

total digitised: 138,932 hour





5

future challenges



Images for the Future has demonstrated that it is possible to play catch-up when it comes to preserving and digitising (at-risk) audio-visual heritage. It is now clear that this work resulted in a series of fundamental changes in the Dutch heritage sector. Society as a whole is digitising, which demands drastic changes in how we access and enjoy our heritage as a society.





These social changes have caused many cultural organisations to redefine their mission statement. The relationship with their public is changing and the digital services require a new infrastructure. In

addition to space for brick and mortar archives, exhibition rooms and ticket desks, this digital infrastructure needs other options for storage, management, accessibility and service provision. Lastly, the new approach to cultural heritage also requires amendments to the legal frameworks, for example in the area of copyright.

Relationship with the public

The digitisation of collections – and of society in general – increases interaction between heritage organisations and their public. Besides the traditional roles of collector, manager and guardian of collections, heritage organisations are increasingly positioning themselves as facilitators of collection material reuse, and conversations about the collections. Organisations can make large parts of their digital collections available online and involve the public, for example by helping them make the material accessible or by offering them the opportunity to reuse the material or to add extra metadata. Heritage organisations measure their reach not only via physical and online visitors, but also via the use of their collections elsewhere, such as on Wikipedia, Europeana and in television broadcasts.

Images for the Future has been an important breeding ground within the entire heritage sector for many sustainable innovations. Several smaller innovation projects offered ample space for experimentation and innovation, and the Open Data network shares its knowledge and promotes the development of new applications on the

basis of open data. Important progress has also been made with knowledge institutions in the development of innovative methods for making material accessible. These investments have led to easier access and reuse of the material, more efficient services for new target groups, and the development of structural follow-ups and spin-offs. Continuous investment in renewal of the field for such developments is, however, vital.

Rights and obligations

A key recurring element in many experiments and an important pillar in strengthening the relationship with the public is the making of collections available as open data. However, this strategy is at odds with the interests of the copyright owners on the one hand, and the assignment to generate income on the other. Public investments in the digitisation of heritage collections can only be justified in the long term if these translate into as wide as possible open online access to the digitised material.

During Images for the Future, it was found that the copyright legislation contained a restriction on making digitised material available to the public – which was the most important project objective. The copyright owners must of course be respected. But without changes to the legal frameworks, the cost and effort involved in making the digitised audiovisual heritage widely accessible to the Dutch public would be out of all proportion. Possible solutions are to be found at national level, via the introduction of Extended Collective Licensing, as well at European level, through an expansion of the legal exceptions to the copyright for heritage organisations, so that works that are no longer commercially available may be made available online too.

Similar questions were raised about the extensive archive collection of the public broadcasters at Sound and Vision. Du-

ring the project, it was found that no clear agreements existed between Sound and Vision and the NPO in particular with regard to online access to the digitised broadcasting material. As a result, this material is only accessible to a limited target audience. However, in 2014 Sound and Vision and the NPO took the initiative to find a solution to make the digitised broadcasting material more widely available online. This is expected to yield results in 2015.

Another interest that conflicts with providing free access to digitised collections is the pressure on cultural entrepreneurship. Many heritage organisations are in a position where they are obliged to meet the expectations of the government (and society) to generate their own income. Therefore, some organisations choose not to release parts of their collection, under the assumption that at some point they will bring in substantial amounts of money. Besides the question of whether it is desirable to commercially exploit material that has been produced with public money, there is also the question of whether it is a feasible revenue model. Despite concerted efforts, the partners within Images for the Future have not been able to develop profitable exploitation models for the digitised collections. Experience shows that the commercial value of heritage collections is often hugely overestimated

and that the merits should now be sought in access and reuse, and the subsequent social and economic benefits this has for society. Indeed, the focus for material that is no longer protected by

copyright or that is no longer used by the copyright owners should be on providing public services. This principle deserves explicit support from the policymakers and subsidy providers. The expectation of cultural entrepreneurship should not impede the availability of material that has been produced, archived and digitised with public money.

Sustainable digital infrastructure

In the absence of an adequate digital infrastructure, digitised collections will only ever have limited value. Access to large-scale digital collections requires a technical infrastructure of a scope that is not manageable for most organisations. While the infrastructure for physical works should ideally be decentralised, there are more arguments in favour of centralisation when it comes to a digital collection. Images for the Future showed that value can be added by setting up and managing such an infrastructure jointly.

An unprecedented amount of audiovisual material was digitised in the context of Images for the Future. To create the digital infrastructure needed for this, the partners built on the technical infrastructure and expertise available at Sound and Vision for the services provided to the broadcasting industry at the start of the project. Large-scale modifications were required and implemented. Sound and Vision now houses a state-of-the-art digital archive, more than half of which is made up of the Images for the Future collection. These infrastructures require constant attention – in terms of management, maintenance and the replacement of hardware and software; as well as the migration of systems, media and files.

During Images for the Future, these costs could be funded from the project budget.





As from 2015, the structural expenses for the long-term management of the collection and infrastructure will be included in Sound and Vision's regular budget. Together with the Ministry of Education, Culture and Science, a solution is being sought to finance these costs.

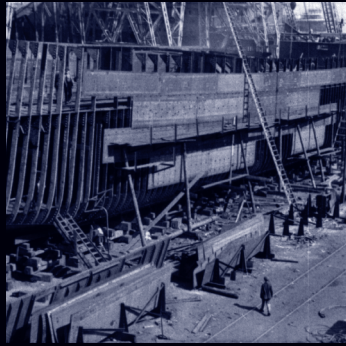
Thanks to Images for the Future, the technical infrastructure available for audiovisual digitisation in the Netherlands has been expanded significantly. These facilities will remain available now that the project has finished and can be used for local archives and regional broadcasters. The government can make good use of these previous investments by working with the relevant organisations, and at all levels, to promote reuse of these facilities for film scanning, high-quality audio and video digitisation and storage.

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The Images for the Future project may be behind us, but the heritage sector is still on the eve of fully embracing the opportunities of the digital age. In a constantly changing media landscape, an infrastructure that functions properly, the freedom to experiment and legal preconditions that allow organisations to provide maximum accessibility to their collections are essential for maintaining the relevance of the entire heritage sector. It would be a waste of capital if no sustainable solution is found to capitalise on the millions in investments made in the past seven years.



credits



the city that never sleeps
f.c.v. van maydell
1928, frame still
eye filmmuseum
all rights reserved



j'accuse
abel gance
1919, frame still
eye filmmuseum
all rights reserved



sky over holland
1967
j. fernhout
film still
sound and vision

56



i.a. ochse
1925-1928
sound and vision



op stap
ernst winar
1935, publicity photo of jopie koopman
photo dick van maarseveen
eye filmmuseum
cc by-nc-nd



Jacob merkelbach in studio
1938, work photo
photo merkelbach
eye filmmuseum
all rights reserved

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factory hall where women sew together the paper bags containing cocoa powder in the tins
van houten collection
national archives



't schaep met de 5 pooten
still
sound and vision
cc by-sa



petrol pump owner with oliebol
rob mieremet / anefo
national archives



tabacconist hajenius in
amsterdam
willem van de poll
national archives



prince carnival lambert i
peter mokveld
national archives/ spaarnestad
photo



players' wives and girlfriends
of ajax
1969
national archives/ spaarnestad



all you need is love
veronica
1992
cc by-sa
sound and vision



robert jongbloed with beautiful
moustache
harry pot
national archives



clockmaker
jvan eijk
national archives/ spaarnestad
photo



wim sonneveld at a carnival
association
1965
hugo van gelderen / anefo
national archives



home exhibition: vacuum clean-
er as hair dryer
1962
jac. de nijs / anefo
national archives



de bertha
louis h. christijn sr
1913, frame still
eye filmmuseum



the dutch singer boudewijn de
groot sits on the floor
harry pot
national archives



shop window of fashion shop
g.a. van der chijs / cevium
national archives/ spaarnestad
photo



poor children in a window
het leven
national archives/ spaarnestad
photo



tv stoffen met plumeau
national archives/
spaarnestad photo



de bertha
louis h. christijn sr
1913, frame still
eye film institute



a toast to 1971
rob c. croes / anefo
national archives



amsterdam butcher shop
r.c. croes / anefo
national archives



students protest for scholarship
1966
jac. de nijs / anefo / national
archives



hanging out the laundry
national archives/ spaarnestad
photo



het mysterie van de mondscheinsonate
kurt gerron
1935, still
photo dick van maarseveen
eye filmmuseum
cc by-nc-nd



sjef van oekel recordings for
christmas
1974
rob mieremet / anefo
national archives



increasing coffee prizes, corner
shop
rob bogaerts / anefo
national archives



flooding in harmelen
1963
harry pot / anefo
national archives



ice shave near urk
national archives



bleeket bet
richard oswald
1934, work photo
photo dick van maarseveen
eye filmmuseum
cc by-nc-nd



portrait of ted de braak
jac. de nijs / anefo
national archives



smoking man in beauty salon
national archives/ spaarnestad
photo



washing in a puddle of mud
national archives/ spaarnestad
photo



big city blues
charles huguenot van der linden
1962, still
sound and vision



malens die juichen en weenen
alfred machin
1912, frame still
eye filmmuseum



toon hermans in carré
hans peters / anefo
national archives



smoking monkey in artis
noske / anefo
national archives



rowing boat used as ferry
1950
jan van eijk



toppop avro
1971
cc by-sa



bleeket bet
richard oswald
1934, still
photo dick van maarseveen
eye filmmuseum
cc by-nc-nd



holiday departure with car and
caravan
jac. de nijs / anefo
national archives



election debate
1966
kroon/ anefo
national archives/ spaarnestad



verkiezingsdebat
1966
kroon/ anefo
national archives/
spaarnestad photo



fabeltjeskrant
vara
de levita collection
cc by-sa
sound and vision



op hoop van zegen
alex benno
1934, still
photo dick van maarseveen
eye filmmuseum
cc by-nc-nd



inauguration in the nieuwe kerk
r.c. croes / anefo
national archives



girl with clog sings sinterklaas
song in front of the fireplace
national archives/ spaarnestad
photo



wim kok during his closing
speech at the pvda party
conference, 1987
roland gerrits / anefo
national archives



pipa de clown
vara
1973
cc by-sa
sound and vision



the beatles
1964
vara
cc by-sa



sinterklaas pours the millionth
glass of beer
r.c. croes / anefo
national archives



girls with a christmas tree
willem van de poll
national archives



prime minister lubbers
1986
rob croes / anefo
national archives



brandpunt, aad van de heuvel
kro
1968
cc by-sa
sound and vision



diving, natalia kusnets
ovaron kroon / anefo
national archives



boy plays with radio controlled
toy bus
w.p. van de hoof
national archives/ spaarnestad
photo



minister smit-kroes during
debate on oosterscheldedam,
1984
rob croes / anefo
national archives



big city blues
charles huguenot van der linden
1962, still
sound and vision



grocer in baskoop
photographer unknown
national archives/ spaarnestad
photo / stuifbergen



children play mens-erger-je-niet
ton nelissen
national archives/ spaarnestad
photo



the candidate minister of
defense, hans van mierlo
1981
rob croes / anefo
national archives



bassie en adriaan
tros
1990
cc by-sa
sound and vision

colophon

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Lessons learned from the project can also be found as videos on www.ecommons.eu.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial statements. This includes not only sales and purchases but also expenses, income, and transfers between accounts.

Next, the document outlines the process of reconciling bank statements with the company's records. This involves comparing the bank's record of transactions with the company's ledger to identify any discrepancies. Common reasons for discrepancies include timing differences, such as deposits in transit or outstanding checks, and errors in recording or transcription.

The document then provides a detailed explanation of the accounting cycle, which consists of eight steps: 1) identifying and analyzing transactions, 2) journalizing, 3) posting to the ledger, 4) preparing a trial balance, 5) adjusting entries, 6) preparing financial statements, 7) closing the books, and 8) reversing entries. Each step is described in detail, including the specific journal entries and ledger postings involved.

Finally, the document discusses the importance of internal controls to prevent fraud and errors. It suggests implementing a system of checks and balances, such as separating duties, requiring approvals for transactions, and conducting regular audits. The document concludes by emphasizing the role of the accountant in providing accurate and timely financial information to management and other stakeholders.