

SAICE Volunteer Project

# Motivation for MOU with Transnet Freight Rail (TFR)

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Motivation for signing a Memorandum of Agreement between SAICE and Transnet Freight Rail for the digitization of the image collections of the Transnet Heritage Library (Version 2).

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## Background: Electronic image archives

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The computer age brought about a revolution in the way in which archives and libraries, all over the world, are conducting their business of capturing and preserving our heritage. For the past three decades experts have not only grappled with the problems posed by changing modes of communication, but also started to exploit the opportunities offered by cheap, almost limitless electronic storage and the organizational power of electronic databases. We have now reached the point where there is common consensus on best practices of employing computers for practical archival management, articulated by detailed guidelines agreed upon by the International Council on Archives (ICA). There is a firm body of knowledge and best practice available, for example, at <http://archivehistory.jeksite.org>.

The electronic capturing of written or printed documents, and photographs in particular, is one of the most spectacular examples of the benefits brought about by the digital age. Properly applied, digital technology allows:

- The **preservation** of the images, should the physical collection be compromised by fire, loss, breakage, repeated handling or time-related deterioration.
- A higher level of **data security** than previously. Once in digital form, copies can be made and backed up in different forms and locations.
- The **linking of metadata** with each image (for example date, subject, physical size and type of image, location), invaluable information for proper interpretation and appreciation of the images.
- The **electronic searching** for images (for example “Harbour” AND “Durban”) which would narrow an archival search from hundreds of thousands of images to a few hundred with the click of a mouse.
- The **universal accessibility** of the image catalogue to allow researchers from anywhere in the world to find images of interest. (See for example the NAAIRS catalogue of the National Archives of South Africa which is available online.)
- The **integration** of the image catalogue with those of other institutions. The catalogue may be combined with catalogues of other image collections making it possible to search for “Harbour” AND “Durban”, for example, at more than one museum or archive at the same time. (See for example the collective effort of numerous collections in the Smithsonian at <http://www.loc.gov/pictures/> ).
- The effortless **distribution** of images from the repository to interested researchers all over the world. Requests for digital copies are sent by email or platforms like Dropbox within seconds, obviating the need for hours of physical searching, copying, packaging, mailing and postage charges.

## Background: The Transnet image collection

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The Transnet Heritage Library (THL) is the custodian of an impressive, important collection of images collected over more than a century. This priceless collection is a compelling candidate for digitization for all the reasons advanced above. When the South African Railways (SAR) was formed in 1910 after Unification, it inherited all the records of the previous railway authorities, namely:

- The Cape Government Railways (CGR) of the Cape Colony from 1875 to 1910.
- The Natal Government Railways (NGR) of the Natal Colony during the same period.
- The Oranje Vrij Staat Spoorwegmaatschappij (OVSS) of the Orange Free State Republic to 1899.
- The Nederlands Zuid Afrikaanse Spoorweg Maatschappij (NZASM) of the Transvaal Republic to 1899.
- The Imperial Railways, running the railway systems of the Transvaal and Orange Free State Republics during the South African War from 1899 to 1902.
- The Central South African Railways (CSAR), managing the OVSS and NZASM railway systems between 1902 and 1910.

Moreover, the strength of the THL image collection attracted the donation of numerous other photographic albums and collections from private railway enthusiasts and collectors. The AE Durrant collection, for example, occupies a room of its own and holds many unique images and artefacts. There are, of course, much more than just images in the THL. Thousands of documents, old reports, surveys and engineering drawings are held, all demanding proper digitization and preservation. The project proposed here only deals with the image collection, but could very well establish a digital platform for digitizing and adding other important parts of the THL collections as well.

The THL image collection is about much more than trains and rails. From its start in 1910, the SAR systematically added to the image collection through its permanent staff of professional photographers. The first General Manager of the SAR, William Hoy, took the lead to market South Africa as a tourist destination to increase the volume of passenger traffic. The SAR photographers strived to capture the natural beauty of the country, its scenery, wildlife, architecture, heritage, the diversity of its citizens and its technological development. From these photographs, a constant stream of calendars, photographs, postcards and brochures flowed, with most of the original images still residing in the THL image collection. The growth of the collection came to an effective end in the 1980s when the photographic unit was disbanded. The collection, as it remained since, consists of an estimated 250 000 images, excluding later slides and video material.

Sadly, there are no reliable catalogues of the image collection anymore. The maintenance of the old card catalogue and other written index books were discontinued and partly discarded when a computer-based catalogue was introduced in the late 1980s. When the THL was closed for a few years in the early 2000s, the computers were removed and the electronic catalogue lost. A reliable catalogue is an absolute necessity to access the collection, as the images are not physically stored by theme or chronology.

## Aims of the proposed project

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The ultimate aim of the project is to place a catalogue of the entire image collection on the internet. In this way, researchers and enthusiasts from all over the world can search and locate images which may be of interest to them, and requests copies of those images from Transnet to use for their own purposes. A number of steps are required to reach this aim:

1. First, digitally scan every image in the collection.
2. Second, collate and record all the metadata (size, medium, number, storage location, notes on photo envelopes, etc) of each image.
3. Third, place both the digital copy and metadata on an archival database, in accordance with internationally recognised archival standards.
4. Fourth, catalogue every image on the database by assigning appropriate, consistent keywords and title.
5. Finally, publish the catalogue with thumbnail images on the internet.

Each of these steps have been carefully researched and piloted since the start of 2014 and the technical details have been studied in close collaboration with the Transnet librarian. It is anticipated that this project, once all permissions and agreements have been obtained, could be substantially completed within three years.

Two distinctly different types of skills are required for the project. The first two steps described above must necessarily be done within the Transnet Heritage Library, under the supervision of the Transnet librarian, as the images may not be removed from the library. These steps are time-consuming and do not require any special skills. It is anticipated that about four young graduates from technical colleges or even high school could be recruited as interns and trained.

Steps three and four require more advanced skills, and must not necessarily be performed on the library premises. It is anticipated that these steps will be performed by volunteer members of SAICE and other knowledgeable volunteers, working from remote locations through the internet.

Step five is a purely technical data entry, data verification and uploading step.

## Progress to now

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This proposal follows a thorough technical investigation. The technical investigation was structured as a pilot project, to test all the steps that will eventually be required for the full project. A sample of roughly 1% of the images in the collection were processed in one way or another to verify the selected procedures. In summary, the pilot project, spanning over almost two years, followed the following steps:

- A survey was conducted of the different images series in the collection – where they are, how they are numbered, how their locations could be described (to remain valid even if the library is physically moved to other locations), which media types were present (glass, negatives, prints, slides and their sizes), how many of each are estimated to be in the collection, the presence and nature of albums, etc.
- A sample of the actual images were individually examined to quantify the time and effort required to record the metadata. The metadata, which had to be extracted from the images themselves, from notes on the envelopes or the backs of the images, were typed into a spreadsheet to be digitally available for later processing.
- Numerous fragments of old, incomplete catalogues were retrieved from wherever they could be found. They were retyped, or retrieved from old digital copies. From these fragments, a systematic index is slowly being pieced together – an ongoing process.

- Digital scanning standards, used by prominent international archives, were examined to select appropriate scanning standards. These standards, now already in use at the Transnet Heritage Library, are to be consistently applied to all scanning done as part of the project. In rough summary, original scans are to be made with at least 4000 pixels in the longest direction and stored in TIFF format. These scans stay with Transnet. Reduced copies (maximum of 800 pixels in the longest direction) are then made for uploading as thumbnails as part of the digital catalogue.
- Different archival standards for the description of items, authorities and holders of archives were examined, and the widely used and authoritative standards of the International Council on Archives (ICA) were adopted for this project.
- A database had to be developed, or obtained from elsewhere to manage the vast amounts of data to be captured, collated and stored. Eventually, the ICA-AtoM archival platform was selected. It aligns smoothly with the ICA standards selected, and offers the further simplification that internet users will be able to interrogate the database directly from their web browsers without any intermediate software.
- A computer with the full power and capacity to deal with the entire collection was donated to the project, and ICA-AtoM was installed, mastered and tested with approximately 2000 digital images.

Equally important, three meetings were held. On two occasions in 2014, the writer met with Ms Yolanda Meyer (Librarian Transnet Heritage Library) and Mr Elvin Harris (Executive Manager Strategic Knowledge) of Transnet Freight Rail, the unit responsible for the Transnet Heritage Library. At these meetings, the project was explored and explained, getting positive encouragement from Transnet Freight Rail. They, however, required a formal Memorandum of Understanding with a reputable institution before officially sanctioning the project. An obvious, reputable institution is SAICE, the voice of roughly 10 000 civil engineering professionals, which hosts a Railway Division, as well as a History and Heritage Group. As a result, a Memorandum of Understanding was drafted with the help of SAICE and submitted to Transnet during June 2015.

A third meeting was held on 26 August 2015 between the same persons, along with Mr Vivek Ramdass of Transnet Freight Rail Legal and Commercial and his assistant Mr Immanuel Burton. The draft Memorandum of Understanding was discussed and accepted without changes by Transnet Freight Rail. The project was given a mandate to start immediately, with the Memorandum of Understanding to be prepared by Transnet Freight Rail for signature by senior executives of both parties in due course.

## Anticipated project needs and execution

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How exactly the project will develop, and what its needs may turn out to be, obviously cannot be foreseen in detail at this early point. However, it is deemed appropriate to present, in pointwise fashion, the broad strokes along which the project will hopefully develop. The obvious starting point is to start the handling and scanning of the images as soon as possible:

- The objective here is to find at least four young persons with some basic administrative and computer skills, to train them in the proper handling and processing of the images and then have them work fulltime in the library. This step is anticipated to run for two to three years.

- These young archival assistants will hopefully be sourced from outside companies or individuals, who will be approached to appoint candidates of their own choice as interns, and then second them for a year to the project. In this manner the candidates will get good training and supervision before they return to the donor companies.
- The requirements for this part of the project is at least two quality scanners with two computers, with adequate desk area to handle and clean the images before scanning. There are already two scanners (one from Transnet, one donated), two computers (one from Transnet, one on loan from a donor) and Transnet has agreed to provide dedicated desk space for the scanning team.

From the primary image collection, the old South African Railways have produced many magazines, calenders, postcards, tourism brochures, annual reports, etc. These materials drew on the primary images with important descriptions as to what they are about, when they were produced, and other contextual information. Parallel to the scanning of the primary images these materials have to be examined and recorded:

- It is anticipated to perform this step partly with the help of volunteers working from remote locations, and partly by the interns working in the library.
- This step will take at least a year.

After about one year, enough images will be available in digital form to start the identification and description of individual images:

- This involves the many, mostly older volunteers and enthusiasts who have specialised areas of expertise to interpret images of say harbour loading cranes, or steam locomotives, or signalling equipment, or lighthouses, or other specialised areas.
- At the same time, the information coming from the volunteers, the metadata and the images coming from the scanning team has to be properly transcribed in formal archival format with appropriate descriptions, keywords and other required data fields. It is anticipated to involve a few librarians to assist with this step. Once started, this will be ongoing for the duration of the project.

Underpinning most of the steps described, is the need for a robust internet platform:

- Lists to be typed have to be sent to volunteers, and returned, by email.
- Images that need to be examined by a specialist sitting far away need to be placed on a distribution platform where volunteers can off-load images, add their comments and upload them in return.
- The catalogue, as it is being completed, will be published in parts to the internet where it would be open to feedback from all the internet users in the world.
- A communication channel has to be set up to communicate fully and openly with all the registered volunteers about the ongoing progress and needs of the project.
- The details of the exact internet needs are being worked out at the moment.

## What it means to SAICE

The signing of the Memorandum of Understanding does not commit SAICE to any specific deliverables, guarantees or financial obligation. The entire project is planned as a volunteer project with no financial

gain, directed by a small steering committee of senior SAICE Members and Fellows drawn from the Railway and Harbour Division, and the History and Heritage Interest Group. An independent fundraising project is planned to acquire the necessary equipment and to fund the interns.

There are, of course, ways in which the project could benefit from the well-developed SAICE infrastructure and member network, for example having access to the SAICE electronic address lists for communicating with willing volunteers, hosting contact details on its website, or reporting its progress through the SAICE Magazine. These are matters to be separately negotiated independent of Transnet Freight Rail.

## What it means to Transnet Freight Rail

The signing of the MOU with a reputable partner is a condition laid down by Transnet Freight Rail to ensure a partnership with clear and fully disclosed motives.

The primary benefit to Transnet Freight Rail would be to end up with a computerised catalogue of most of its digital image collection, electronically searchable on the internet. This will have self-evident benefits to Transnet itself, and the public at large. Transnet, striving to be a leading international transport company, will take its place alongside other transport companies as responsible custodian of its heritage, and railway enthusiasts and historians will become aware of the large and proud role that Transnet had played earlier, and continues to play.

A major concern might be that Transnet might be deprived of potential financial benefits if the catalogue is freely available on the internet. It has to be explicitly stated that Transnet, the current custodian, will not relinquish any of their rights to the collection. The balance between making information available *and* retaining copyright had been carefully considered by archives all over the world and ICA-AtoM encapsulates an internationally accepted solution. In short, the catalogue on the internet contains a thumbnail of the image which does not meet the requirements of publication in print or on the internet. The current international consensus is that the thumbnail should be sized to have no more than 1000 pixels along the longest side of the image (compared to a standard computer screen with about 1900 pixels along the longest side) – the images are automatically reduced by the software and downloads are impossible. Should the users have a need for the high-definition versions of the images that they wish to use or reproduce, they will have to contact Transnet to get permission, to buy a copy of the image, or whichever conditions Transnet chooses. These arrangements are to be made by Transnet at the end of the project, and has nothing to do with the volunteer project.

The MOU has to allow for access to the Transnet Heritage Library by the interns and the volunteers. This access will be subject to the usual conditions to indemnify Transnet against injury or other claims. These conditions are to be separately negotiated afterwards.

It is understood that no activities take place as part of this project on the premises of Transnet without the express permission of the librarian-in-charge of the Transnet Heritage Library. The project therefore would require the presence and leadership of the librarian for the duration of the project.

There are no specific costs or other burdens for Transnet as a result of the MoU. Transnet has a great pool of experts to identify some specialist images, or could second an intern to the project, as examples, but such possibilities pose no constraints to the signing of a MoU.

## Other heritage projects or initiatives

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This project does not intend to take the place, or duplicate any other plans or actions that Transnet might have for the Heritage Library. Neither does it duplicate anything currently underway by the SAICE History and Heritage Group. This project has a clearly defined beginning and end, and could run in parallel with any other activities planned for the Transnet Heritage Library.

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