



Companies and Intellectual
Property Commission

a member of **the dtic** group

ANNEXURE “B”

BUSINESS REQUIREMENTS SPECIFICATIONS

Business Requirements Specification for Digitization of CIPC Records

SUMMARY: **THIS DOCUMENT OUTLINES BUSINESS REQUIREMENTS
SPECIFICATION FOR DIGITIZATION OF CIPC RECORDS**

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1. Definitions, Acronyms, and Abbreviations

Acronym/Term	Description
CIPC	Companies and Intellectual Property Commission
DTIC	Department of Trade, Industry and Competition
ECM	Enterprise Content Management
JPEG	Joint Photographic Experts Group
ISO	International Standards Organisation
NARS	National Archives and Records Service
OCR	Optical Character Recognition
PDF	Portable Document Format
QA	Quality Assurance
RECORD	A number of related items of information which are handled as a unit
RECORDS MANAGEMENT	A process of ensuring the proper creation, maintenance, use and disposal of records throughout their lifecycle with a purpose of achieving efficient, transparent and accountable governance
TIFF	Tagged image File Format

2. Background

The Companies and Intellectual Property Commission (CIPC), a member of the “**the dtic group**”, (Department of Trade and Industry and Competition) is responsible for the registration of companies, external companies and co-operatives; registration of intellectual property rights; maintenance of information on its registers; promotion of education and awareness of company and intellectual property law; promotion of compliance with relevant legislation; and efficient and effective enforcement of all relevant legislation.

Records are some of the key operational outputs produced by CIPC. These records are created and retained for a purpose, they are created as evidence of business transaction, and they have an on-going use as a means of management, accountability, operational continuity, legal evidence and disaster recovery. Majority of CIPC records are paper-based, estimated at more than 7.2 Million (files, documents, microfiche, etc.) and are currently stored at the offsite storage with the service provider for further references.

CIPC's Executives have taken a decision to transition from the current way of record management to a digitised system in compliance with the legislative framework NARS Act 43 of 1996 Section 13(2) (b) and ISO/TR 15801, as well as a form of response to the COVID-19 pandemic and telecommuting policy. As a result, CIPC requires an end-to-end long term solution for digitisation of records that will cater for all records created by the organisation.

Records digitisation will yield the following benefits to the organisation over time:

- Provide improved information security and reduce the risk of lost/misplaced records.
- Provide an immediate response to a query, bypassing the long process of a record search and retrieval.
- Provide multipoint access to archived information across the organisation.

This digitization effort will be outsourced and would have to comply with the following legislations, standards and guidelines respectively: Electronic Communications and Transactions Act 25 of 2002, International Organisation for Standards – ISO 9000, National Archives and Records Service Act (SA) and International Council of Archives (ICA).

3. Purpose

The purpose of this document is to define business requirements for acquisition of a suitable solution and services to enable the digitization and electronic archival of records across the entire organisation.

4. Scope

The scope of this project is to enable the digitisation of all records that are onsite (if any) and offsite and archive them electronically into CIPC identified Enterprise Content Management (ECM) system.

5. Business Requirements

The table below specifies records digitization requirements that must be met by the service provider:

No.	Requirements	Description
a.	Lifecycle management	This function manages the process of moving content through stages such as reviewed, approved, published, archived, and retired.
b.	Rendition verification	The processes of verifying that content automatically transformed into universal formats such as, TIFF, TDF, ETC, comply with the set criteria. Support all kinds of files including images and multimedia files.
c.	Verification by full-text searching	This requirement enables administrators and users to retrieve and navigate sets of information scanned and check for correctness. It ensures that text can be electronically searched.
d.	Enforce version control	This function enables the tracking of document versions to ensure that team members are working from the most recent draft of documents such as trademarks, chemical drawings and contracts.
e.	Digitised records must be assigned metadata	Two types of metadata must be captured: <ul style="list-style-type: none">• Metadata specific to the particular image.• Metadata about the record.
f.	Quality assurance procedures should be documented	Quality assurance should address the following: <ul style="list-style-type: none">• Any acceptable variations from normal procedures.• Scanner operation quality control.• Verification that digital output matches the quantity of original input.• Extent and frequency of sampling of digitised records.• Criteria for checking records quality.

No.	Requirements	Description
		<ul style="list-style-type: none"> • Frequency and criteria for checks on metadata. • Processes for re-digitising. • Operator training
g.	Storage media and back-up	Maintain technology-dependent records in networked storage to ensure continual accessibility of such records over time.
h.	Enable collaboration	Allow multiple users to access the same records any time without the risk of losing the original version.
i.	There must be capability for multiple and batch scanning.	
j.	Technical specification for digitisation of records must address the following (Refer to Annexure B): <ul style="list-style-type: none"> • File formats. • Resolution. • Colour resolution or bit depth. • Compression. • Colour management 	
k.	Quality checking must be completed before the digitised records are accepted as a master copy.	
l.	There must be compliance to set CIPC policies and procedures on records management.	
m.	Equipment and software aligned to the digitisation requirements must be implemented.	

6. Solution Overview

6.1 Required Business Environment

The envisaged solution must be enterprise-wide and must be able to address the following in relation to digitisation of physical records and the electronic archival thereof:

- All logistical requirements including but not limited to the acquisition of applicable hardware and software.
- The service provider shall bring quality and sufficient numbers of scanners, computers and other applicable items required for efficient and effective scanning and digitization.
- The service provider shall bring their own software and manpower to carry out digitization of CIPC records.
- The service provider should impart skills and knowledge to internal staff within the set timelines.
- The reliability, authenticity, trustworthiness and legal admissibility of digitised records.

- The accessibility of digitised records for as long as they are required.
- Measures to assist in creating digitized records fit for long-term retention.

6.2 Record Digitisation Stages

The table below outlines different stages that have to be undertaken in order to have records digitized in CIPC:

No.	Stages	Description
a.	Identify records to be digitized	Ensure that there is identification and collection of records that need digitization, as well as their storage location, i.e. onsite or offsite. This has to be in accordance with CIPC's requirements and priorities.
b.	Prepare records to be digitized	Ensure records are ready for digitization in accordance with set CIPC requirements.
c.	Scan records	Convert the original paper document into electronic/digital format using effective, cost efficient, and technologically advanced document digitization solution (onsite or offsite).
d.	Perform quality assurance	Perform quality assurance on scanned records in accordance with set quality standards.
e.	Deliver digitized records	Delivery of digitized records and associated metadata through an agreed upon delivery media.
f.	Store digitized records	Loading of digitized records and associated metadata into CIPP's ECM or any Identified system.
g.	Re-archival of retained records	Return all retained records to active archiving or disposition where applicable.
h.	Perform ongoing scanning of newly created records	Adoption of digitization as a new way of archiving records. This is aimed at ensuring compliance to digital recordkeeping requirements.

6.3 Records Management Requirements

The following are records management requirements to be addressed by the proposed solution:

- The system should have no limit in creation of folders and sub folders.
- The system should have a public repository where users can only view the uploaded/created record in assigned public folder.

- c) The system should have a private repository where only permitted users and groups are allowed to view and edit a record.
- d) The system should have lock feature for folder.
- e) The system should be capable to assign user and groups to specific folder.
- f) The system should have a workflow management for automating a process per folder.
- g) The system should have a conditional process in workflow management such as:
 - i. Workflow process should have condition in getting the file name.
 - ii. Workflow process should have condition in getting the index.
 - iii. Workflow process should have condition in getting the authors name.
 - iv. Workflow process should have condition in getting the date uploaded.
- h) The system should be capable to upload a single or bulk scanned document.
- i) The system should be capable to index in each record.
- j) The system should have no limits in index field.
- k) The system should have a field for upload date and expiry date for archiving purposes.
- l) The system should have an automatic archive feature.
- m) The system should be capable to set the parameters for archiving.
- n) The system should be capable to capture specific index in uploaded document and automatically fill up the designated fields.
- o) The system should be capable to sign a document using digital signature.
- p) The system should be capable to view the previous document uploaded.

6.4 Search and Retrieval Management Requirements

- a) The system should be capable to search data such as index, file name, date, author name, uploader name, document type and content of the scanned document (Meta data).
- b) The system should have an advance content search that can search optical character recognition (OCR) of the scanned documents, content of the digitized document must be searchable (within the digitized documents).
- c) Shall display search output.
- d) The system should have a filtering in search result to easily track the documents.

7. Security Requirements

The table below specifies requirements that need to be satisfied by the envisaged solution:

No.	Requirements
a.	Digitized records must be unaltered in all storage media.
b.	Security and access control for storage media must be capable of detecting and logging unauthorised attempts at access, i.e. standard audit trail capability.
c.	There must be compliance to set CIPC policies and procedures on information security.

8. Reporting Requirements

The envisaged solution should have the ability to generate customizable reporting against executed activities as per specified requirements e.g. the solution should be capable to:

8.1 Count all the uploaded records by folder or user.

8.2 Count all the pages in every record uploaded.

9. Maintenance and Support

A Service Level Agreement shall be developed and agreed by CIPC and the preferred service provider addressing as a minimum the following:

- It is imperative that a service provider for the required solution has a valid contact number that is available for third line support during business hours.
- Details of support response times.
- Details on standard hours, required turnaround time and after hours defined for customer service and support service.
- Support and Maintenance documentation.
- Minimum service provided for maintenance (e.g. application upgrade).
- Licencing requirements.
- Escalation procedures.
- The Service Provider will be expected to provide support & maintenance over a period of three (5) years.

10. Training Requirements

- a. Training should be provided to the identified users, and must include both record administrators and technical support users.
- b. Training strategy/approach shall be provided together with training material.
- c. If applicable, there shall be continuous training on new development/features on the solution.

11.Accounts Management

- 4.1 The system should have unlimited creation of user accounts.
- 4.2 The system should have a link to user account profile.
- 4.3 The system should have user management to create new user accounts with specific roles such as employee, manager and administrator.
- 4.4 The system should have a group management to create new groups with specific roles per folder.
- 4.5 The system should be capable to use Active Directory as login authentication.
- 4.6 The system should meet the CIPC User Access Management and Acceptable Usage Policy requirements

12. System Management

- a) The system should be accessible in web browser and can support multiple platforms such as Internet Explorer, Google Chrome, Mozilla Firefox.
- b) The system should be have responsive view from desktop, tablet and mobile phones.

13. Service provider Roles and Responsibilities

- a) Service provider shall provide highly technical personnel for the document digitization project.
- b) Provide a comprehensive training for the technical personnel that will be assigned by CIPC to ensure continuity of operation, maintenance and proper technology transfer.
- c) Must provide a backup and recovery mechanism for the digitized documents.
- d) Document digitization services, includes but not limited to the following:

- i. Scanning, indexing, unfastening and refastening (incases of staple wires, clips and etc.) of documents will be done onsite to be determine by CIPC and the successful bidder, with an 8 hrs. x 5 days a week provision of manpower, high speed scanner and back-up facilities.
- ii. Include three (3) index per document, index data to be entered in should be placed in a separate paper, positioned on the top of each document
- iii. Sizes of document to be scanned but not limited to the following: A4, Short, Legal or A3
- iv. Scanned images will be saved using industry standards, such as, TIFF, G4, PDF/A, searchable PDF or a like.
- v. Digital Images can be viewed and printed using standard PC and Printer
- vi. Uploading of digitized records into a defined storage area –At which point will CIPC define this storage area?
- vii. Scanning of documents will be done at a site to be determined by both the CIPC and the successful bidder.

Annexure B: Technical Specification

The table below specifies recommended technical specifications for digitizing:

Document Type	Resolution	Bit Depth	File Format	Compression
Text only, black & white	Minimum 300ppi	1 bit (bi-tonal)	TIFF PDF/A ⁴ containing TIFF or JPEG 2000 ⁵	Lossless compression
Documents with watermarks, grey shading, grey graphics	Minimum 600ppi	8 bit greyscale	TIFF JPEG 2000 PDF/A containing TIFF or JPEG 2000	Lossless compression
Documents with discrete colour used in text or diagrams	Minimum 600ppi	Minimum: 8 bit colour	TIFF JPEG 2000 PDF/A containing TIFF or JPEG 2000	Lossless compression
Black and white photographs	Sufficient to provide >3000 pixels across long dimensions	8 bit greyscale	TIFF JPEG 2000 PDF/A containing TIFF or JPEG 2000	Lossless compression
Colour photographs	Sufficient to provide >3000 pixels across long dimensions	24 bit colour	TIFF JPEG 2000 PDF/A containing TIFF or JPEG 2000	Lossless compression
Black and white negatives	Sufficient to provide >3000 pixels across long dimensions	8 bit greyscale or 24 bit colour	TIFF JPEG 2000 PDF/A containing TIFF or JPEG 2000	Lossless compression
Colour negatives and transparencies	Sufficient to provide >3000 pixels across long dimensions	24 bit colour	TIFF JPEG 2000 PDF/A containing TIFF or JPEG 2000	Lossless compression

Annexure C: - A: List of possible professional Staff required from the service provider

- The service provider's staff list shall ideally comprise but not be limited to the following:
- Project Manager
- Database Specialist
- Programmer
- Scanner Operators
- Document processors
- Data Entry operators
- Trainer/s
- Support and Maintenance Professionals