



How Open Science infrastructure exposes
undisputed African data in the global
knowledge economy

Represents **18 %** of the world population

Produces **1%-2%** of global research and innovation

8% of African patent data is accessible in global databases



Vision

**“Securing the future of African
Indigenous knowledge and
cultural heritage and supporting
African scientists and inventors
to realize their research and
innovations.”**

Launching African Partners



Community Engagement Drivers



**African Library &
Information Associations
& Institutions**



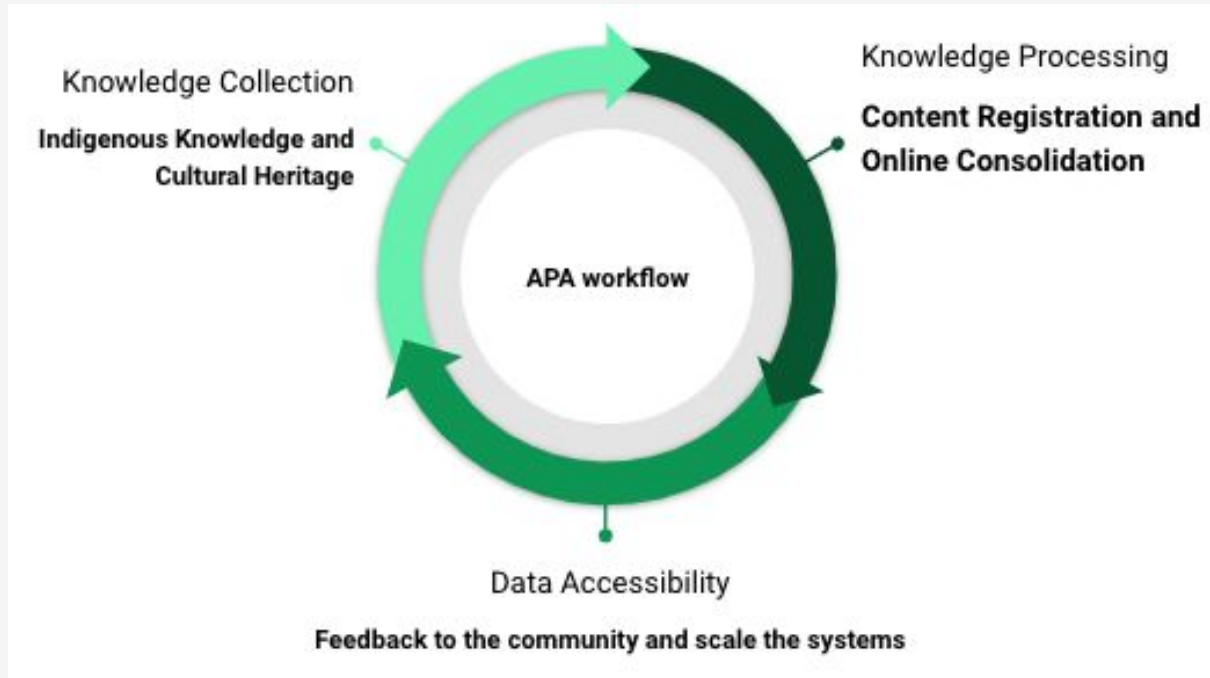
Pipeline Infrastructure Partners



airiti DOI 華藝 DOI 註冊中心

DOI is the researcher's trekking guide to create a new research experience.

What we do



Since 2023

How?



An African Open PID Infrastructure that leverages existing technology and:

- Ensures creation , storage, governance and management of African research content,
- Promotes African content and output
- Connects African research output to citation analytics service providers

How?



Building a Community of Early and Mid Level Careers in Data Science & Artificial Intelligence in scholarly infrastructure

- Increase the number of African researchers in Information Science & Knowledge Management, Data Science, Data Management and Artificial Intelligence in Academic and Scholarly Infrastructure
- Increase machine Learning in Academic and Scholarly Infrastructure
- Build a pipeline of practitioners of **Data Scientists in scholarly infrastructure**

How?



Infrastructure development:

Objective: Supporting the development of research infrastructure in Africa

Capacity strengthening and training:

Objective: Allocate resources to strengthen research capacity in Africa

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Objective: Allocate resources to strengthen research capacity in Africa

Seed funding for projects:

IOR will provide seed funding for innovative research projects and startups led by African researchers and entrepreneurs.



How?

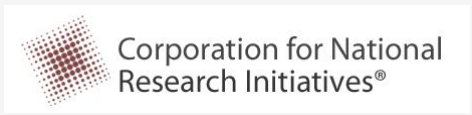
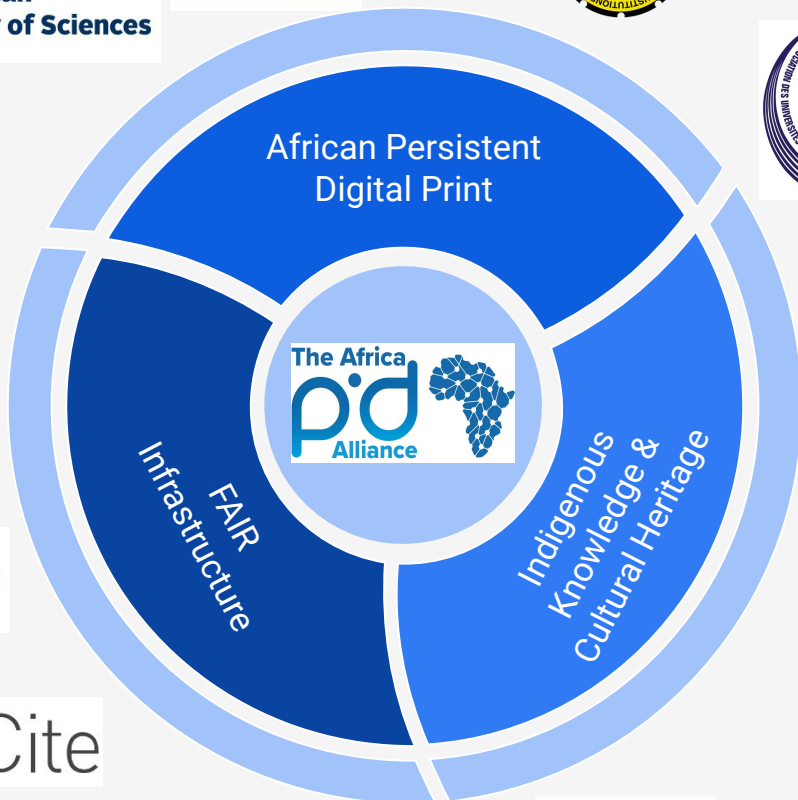


Solving an African Challenge By:
Preserving African **indigenous**
knowledge, innovation and
cultural heritage under a dedicated
persistent infrastructure





African Library & Information Associations & Institutions



Since 2023



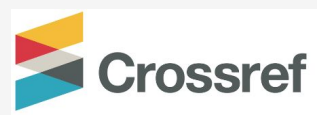
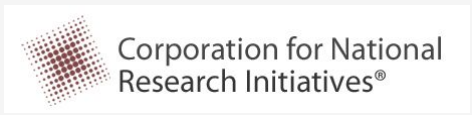
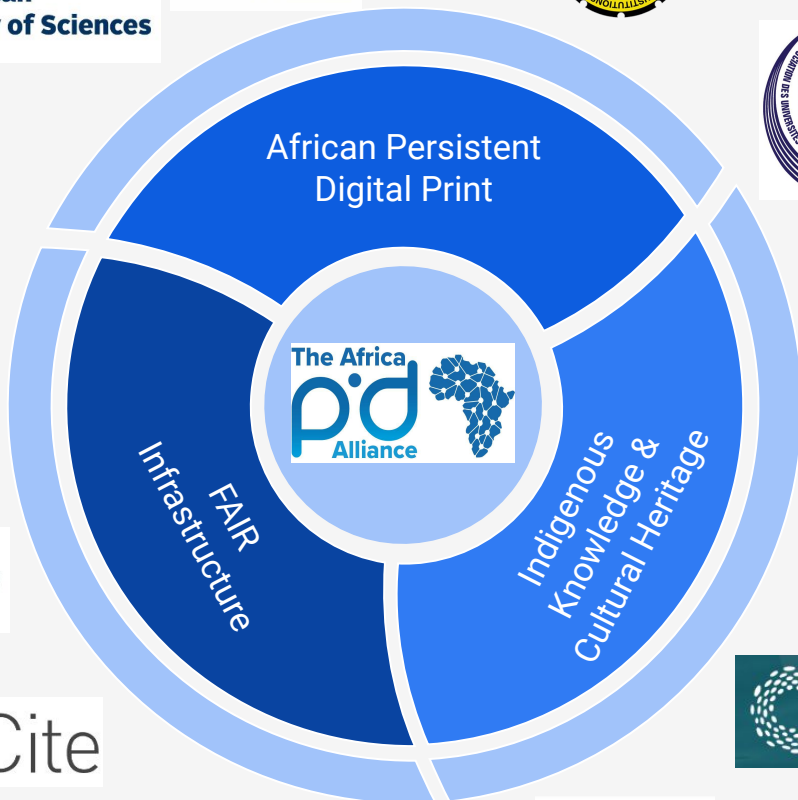


Africa PID Alliance Traditional Working Group





African Library & Information Associations & Institutions

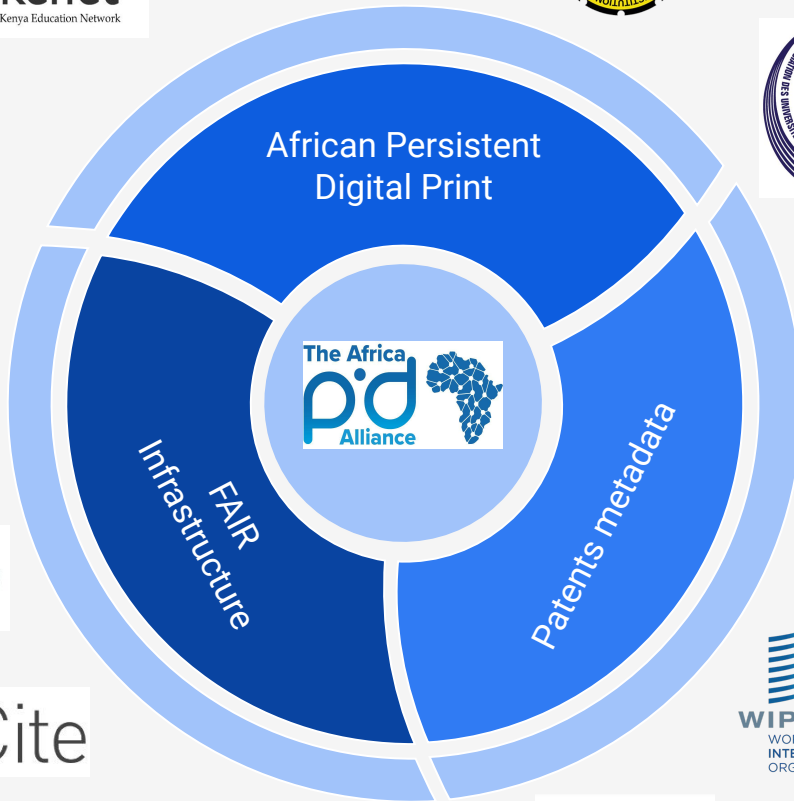
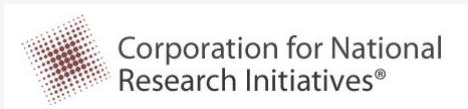


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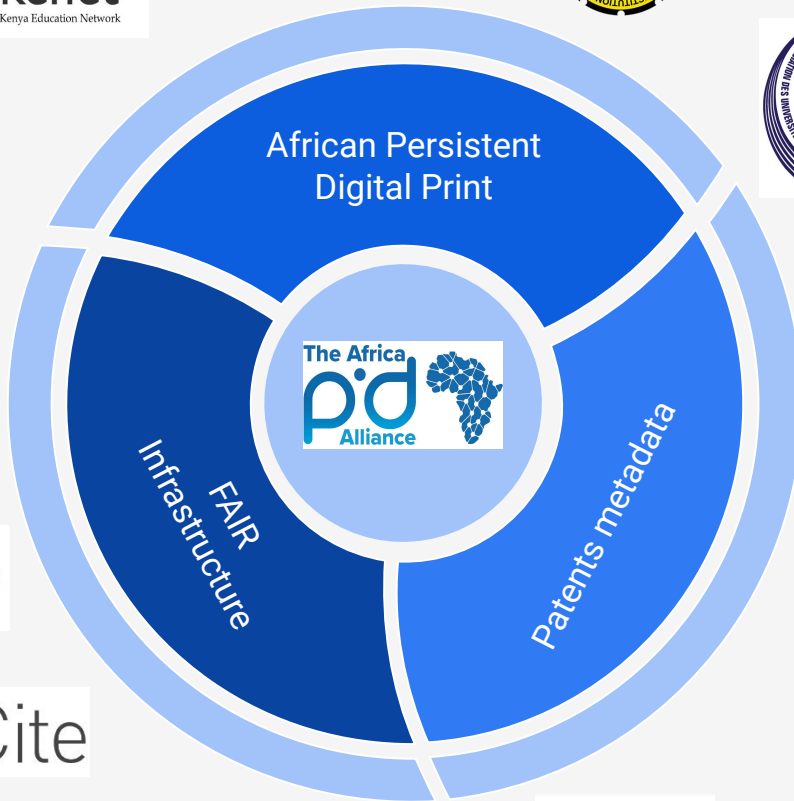
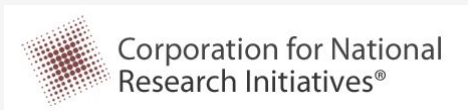


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Where are we now? Product Development



Datacenters



Digital Object
Management



API and Registry



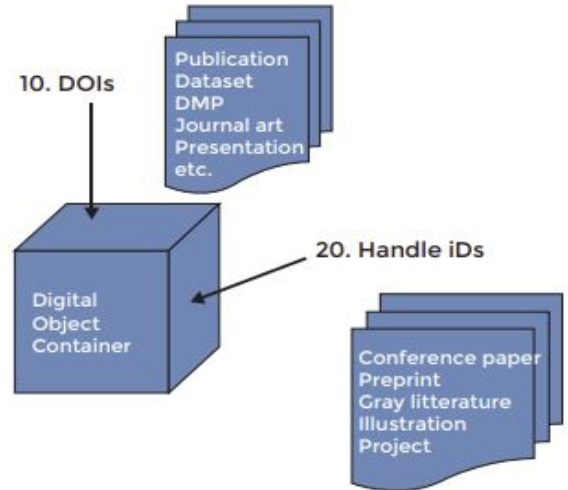
RDM (Research
Data Management
System) & User
Interface



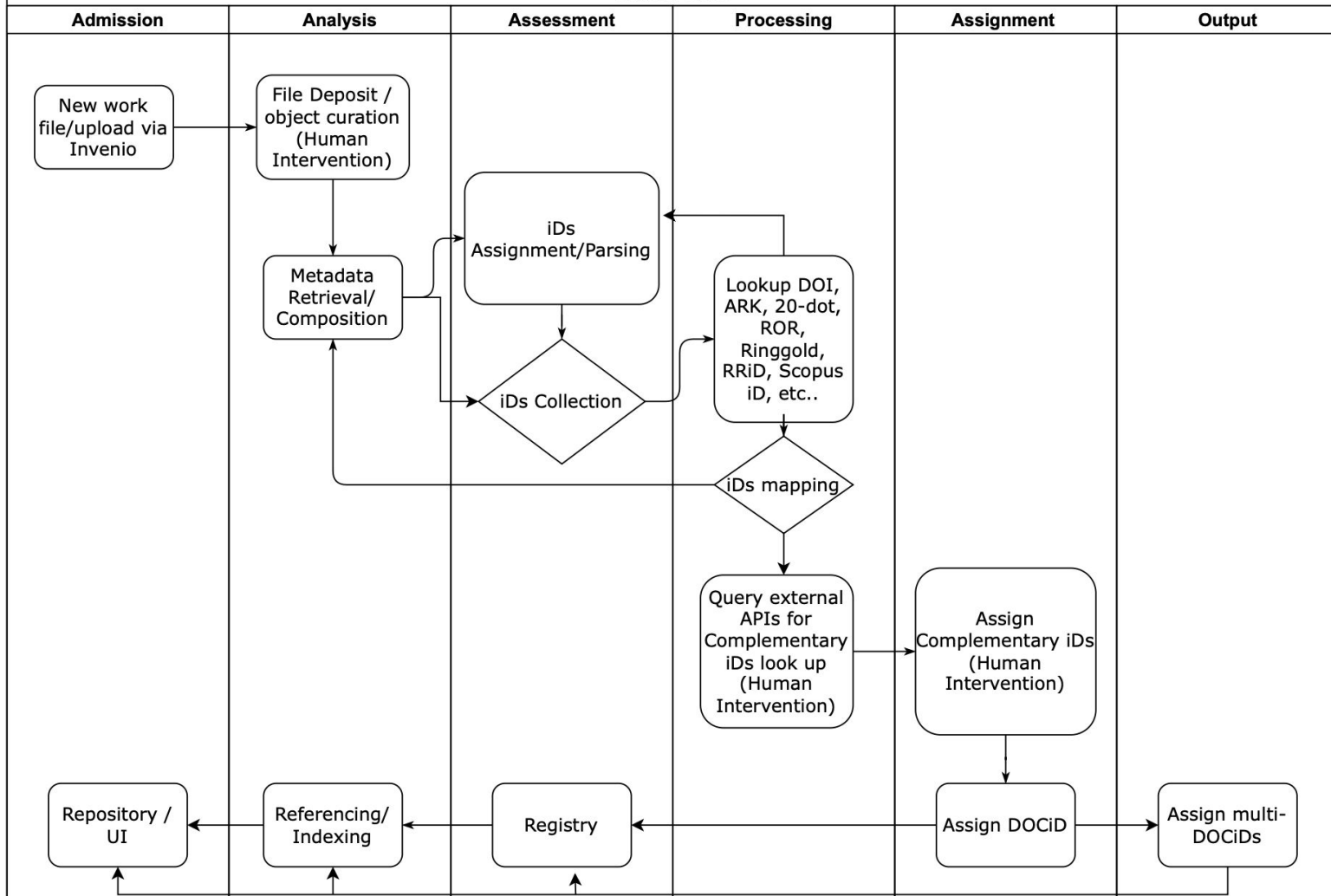
Infrastructure and Resolution Workflow



ARK Keys, ROR, DOIs, RAiD



DOCiD Pool



DOCiD
™ Pool

UX of DOCiD™ in African Union Languages



🏠 Nyumbani

☰ Orodha ya Machapisho

👤 Kuhusu



Karibu kwenye DOCiD

Kuunganisha teknolojia na mila barani Afrika, tunaangazia maarifa asilia na vyombo vya hakimiliki vya dijiti ili kuhifadhi urithi wa kitamaduni.

ANZA

← Nyuma

Kiswahili

English

Français

العربية

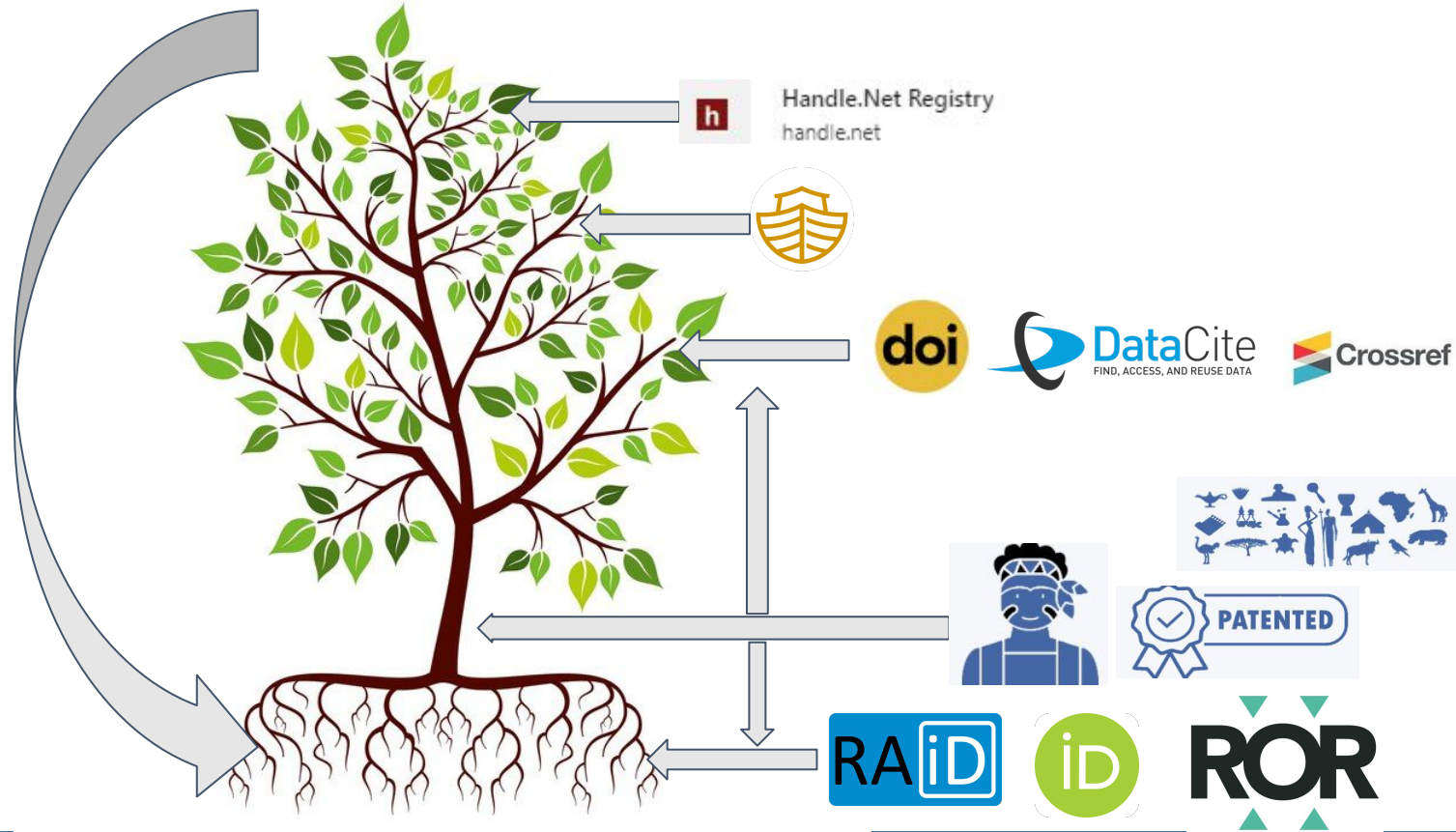
Português

German

What do you expect in DOCiD™ ?



A multilinear PID
supporting the
lifecycle of a
digital object



UX of DOCiD™ interface with options for more related PIDs



DOCiD™

Publications

Documents

Creators & Organization

Funders

Projects



Need: A world with **accessible** scholarly data infrastructures.

Challenge: **Dreaming big** even when facing affordability issues and a sea of gray literature in Africa.

Solution: Proposing a hybrid digital object identification linking local handles and DOIs.

Application: proposing a multilinear data model for patents, indigenous knowledge, cultural heritage and biomedical samples.

Why DOCiD™ – Streamlined Accessibility

- Centralizing articles, datasets, and resources under a single container ID makes it easier for researchers and practitioners to access related information in one place.
- Researchers can navigate through various components seamlessly, enhancing the overall user experience.
- **Holistic Understanding:** A container ID allows for the aggregation of diverse content types, providing a more comprehensive view of a specific topic or research project in biomedicine for example.

Why DOCiD™ – Streamlined Accessibility

- **Improved Citations and Attribution:**

Providing a single container ID for a collection of related content improves the citation and attribution process. Researchers can cite the entire container, ensuring proper credit for the entire body of work.

This approach promotes transparency and recognition for contributors across different types of scholarly outputs.

- **Efficient Metadata Management:**

Managing metadata for a group of related resources becomes more efficient with a container ID.

Why DOciD™ – Streamlined Accessibility

- **Enhanced Data Integration:**

Integrating articles, datasets, and resources within a digital object container can facilitate interoperability, enabling better integration of data and findings from different sources.

Researchers can explore relationships between different types of content, leading to more comprehensive insights.

This approach promotes transparency and recognition for contributors across different types of scholarly outputs.

Roadmap on PIDs in Africa

A roadmap for implementing PIDs in Africa

This roadmap is prepared by the LIBSENSE Working Group on Infrastructure – open access journals, repositories for publications and data and open discovery services.

LIBSENSE is a collaborative effort to promote open science, facilitate sharing of resources and knowledge, and advance the development of digital services and infrastructures in African higher education and research institutions. It is led by the West and Central African Research and Education Network (WACREN) in collaboration with sister regional African RENs (ASREN and UbuntuNet Alliance). Other participating partners include NRENs, libraries, library associations, universities and research communities in Africa, in conjunction with international partners such as COAR, EIFL, University of Sheffield, National Institute of

No strategy

<https://zenodo.org/records/7970386>

Observations

- Poor (lack of) data management in universities
- Lack of digitization of outputs in Arts and Humanities and Social Sciences
- Need to connect the dots on the outputs of the research lifecycle
- DOCiD™ is able to support the following departments in a university; Social Sciences, Institutes of Cultural Heritage (*Institute of African/Asian Studies*), Arts and Humanities ,Deputy Vice Chancellor's Research Office, Grants Office , Herbariums, Technical Transfer Office (or related partner Museum)and Library

Recipients of services

- Consortia –University and Research projects
- National University Commissions
- Regional and national Patent Agencies
- Legal patent firms
- Citation databases
- Cultural heritage organisations (Government and Private)
- Museums
- National Research Education Networks (NRens)
- Research Councils

Milestones (3 Phases)

PHASE 1

Community & infrastructure building

- Project set up
- Strategic partnerships and market lead generation
- Setup prototype and infrastructure

PHASE 2

Scaling & Break even

- Extensions of project services
- Service Maintenance of registry and Operations
- Strategic partnerships and market retention

PHASE 3

African Digital Object Print/Reference

- Registration Agency
- Registration service provider of African content via PIDs
- Resolution of DOIs

Product Development



Use Cases

- Universities
- Indigenous Knowledge & Cultural heritage Curators
- National Patent Registration agencies

Aspiration 1

A Prosperous Africa, based on Inclusive Growth and Sustainable Development

Goal 2

Well Educated Citizens and Skills revolution underpinned by Science, Technology and Innovation

Priority Area

Sustainable and inclusive economic growth

Aspiration 5

Africa with a Strong Cultural Identity Common Heritage, Values and Ethics

Goal 2

An Integrated Continent Politically united and based on the ideals of Pan Africanism and the vision of African Renaissance

Goal 10

World Class Infrastructure crisscrosses Africa

Aspiration 7

An Africa as A Strong, United, Resilient and influential Global Player and Partner

Continental Impact- Agenda 2063

4 QUALITY EDUCATION



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



10 REDUCED INEQUALITIES



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



17 PARTNERSHIPS FOR THE GOALS



USING PIDS TO ENSURE INDIGENOUS KNOWLEDGE AND CULTURAL HERITAGE PRESERVATION

Hosted By



19TH March 2024

09:00 AM UTC / 12:00PM EAT
(18:00 JST / 20:00 AEDT)

STREAMING ON LIVE



THE AREAS OF THE COLLABORATION

ation of Persistent Identifiers: Explore potential
ation of services between DataCite, Crossref and
frica PID Alliance.

ness Building: Building awareness of respective
s among researchers and administrators.

le solutions to the inclusion of patent data and
ous knowledge in the global scholarly record,
ng clear provenance for all works.



Encouraging PID Open Infrastructure Usage
the use of persistent identifier services for re
organizations to support public access to res
and resources.

Linking Research Outputs, Researchers, Org
Funding: Supporting simple links between res
and resources, researchers, organisations and



Partnerships & Updates

BARCELONA
DECLARATION ON
OPEN RESEARCH
INFORMATION

Because open science
requires open research
information

How effective FAIR data management aids in the visibility of African funding output



1ST JULY 2024



11 AM EAT

STREAMING ON



Updates



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Dreaming of a Future Empowered by African Innovation, Indigenous Knowledge, and Cultural Heritage

Transforming Dreams into Reality through **Digitization** and **Open Research**:

Ensuring creation, storage, governance and management of African research content in a FAIRly accessible fashion, promoting African content and output, and connecting African research output to citation analytics service providers.

Our ambitious dream

Mission: To turn dreams into reality by **securing** the future of African Innovation, Indigenous Knowledge, and Cultural Heritage.

Objectives: Support **scientists** in realizing their dreams of **disseminating** and commercializing research innovations.

Challenge: Overcoming the dream barrier of digitization in Africa.

The Essence of Dreams

Importance: Dreams drive us to achieve the impossible, just like digitizing research outputs persistently in Africa.

Solution: Fulfilling dreams by providing reliable open research infrastructure services through the Africa PID Alliance projects.

Goal: Making Persistent Identifiers (PIDs) in Africa a dream come true.