

Introducing Africa PID Alliance

Implementing PID for Indigenous Knowledge and Cultural Heritage in the Emerging FDO Ecosystem

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Abstract. The Africa PID Alliance, supported by the Training Centre in Communication (TCC-Africa) at the University of Nairobi, was established to put the FAIR data principles into practice. In addition to communication, teaching and training, the provision of infrastructure and the dissemination of the emerging PID ecosystem across the country and the African continent are important goals. Building on this work, we present recently developed PID types for innovation, indigenous knowledge and cultural heritage. These newly created PIDs span the scientific and socio-economic data spaces, can serve as a blueprint for PID types with cumulative creators, and can be optimally integrated into the emerging FDO landscape and its flavors.

Keywords: Africa PID Alliance, Indigenous Knowledge, Cultural Heritage, DOCID™, FAIR Digital

1. Overview

The Africa PID Alliance [1] is a visionary initiative spearheaded by the Training Centre in Communication (TCC-Africa). Our mission is to lead and realize the FAIR (Findable, Accessible, Interoperable, and Reusable) sharing of data through the use of Persistent Identifiers (PIDs) in various fields including innovation, research, and technology. This project encompasses a community of PID enthusiasts from Africa, dedicated to securing the future of African innovation, indigenous knowledge, and cultural heritage. We aim to support scientists and inventors in disseminating and commercializing their research.

2. Alignment with UNESCO's Recommendation on Open Science

In accordance with UNESCO's recommendations, transitioning to open science ensures that scientific information, data, and outputs are more widely accessible and reliably harnessed with active engagement from all relevant stakeholders. A significant challenge in Africa is the lack of digitized research output. The Africa PID Alliance strives to bridge this gap by providing access to knowledge and metadata about digital objects, including indigenous knowledge and patent metadata, starting from Africa. Our goal is to produce persistent, accessible, and affordable PIDs across the continent.

3. Importance of PIDs for Patent and Traditional Knowledge Data

Persistent Identifiers are crucial for an interoperable and reliable Open Research Persistent Identifiers are crucial for an interoperable and reliable Open Research Infrastructure. Our goal is to develop and implement PIDs for patent, indigenous knowledge, and cultural heritage data, thus creating a sustainable and inclusive scholarly infrastructure that meets the diverse needs of African communities. This will significantly contribute to long-term socio-economic development by making access to knowledge and metadata more widespread.

4. Data Usage and Infrastructure

Given the increasing need for scholarly data infrastructures in Africa and the continent's diverse economic landscape, many universities and institutes can afford DOIs for only some of their scholarly outputs. Most research content remains in gray literature. The Africa PID Alliance aims to specialize in indigenous knowledge, cultural heritage, and patent digital object containers.

4.1 Digital Object Identifier Container (DOCID™)

The DOCID™ is a container compatible with the DONA Foundation Handle and all DOI Foundations' PIDs. Due to its multilinear nature, DOCID™ can accommodate infrastructural and resolution workflows.

Prototype test site: See [2].

An inclusive approach to integrate local handle identifiers and other identifiers (DOIs, etc..) into one FAIR data registry.

Why a Multilinear Approach? The Africa PID Alliance proposes a hybrid digital object identification container (DOCiD™) linking locally created handles (prefix 20) and DOIs (prefix 10) from DataCite, Crossref, and the Corporation for National Research Initiatives (CNRI). The inclusion of Datacite, Crossref and respective regional DOIs would allow the DOCiD™ to offer a diverse choice for users and institutions and those already having existing subscriptions and membership with those Registration Agencies. We intend for DOCiD™ to offer an end-to-end workflow for those aiming to use (20.) handles only.

For patents, a digital object identifier container will consolidate DOIs and locally created handles to provide a comprehensive view of the research lifecycle, innovations, and related works, documents, and media.

4.2 User Experience Interface Expectations

The DOCID™ user interface supports multiple African Union languages and can adapt to include indigenous or national languages. The design prioritizes ease of use, facilitating the assignment of a variety of PIDs throughout the lifecycle of a digital object, including indigenous knowledge and cultural heritage.

4.3 Overall benefit of DOCiD™

The DOCID™ user Research Dissemination and Commercialization: Support scientists and inventors in disseminating and commercializing their research.

Enhanced Open Research Infrastructure: Develop a sustainable scholarly infrastructure tailored to the diverse needs of African communities.

Indigenous Knowledge and Cultural Heritage Preservation: Contribute to preserving and promoting indigenous knowledge and cultural heritage through reliable and persistent identification of digital objects.

5. Conclusion

The Africa PID Alliance represents a significant step forward in addressing the challenges of digitizing research outputs in Africa. By adopting a multilinear approach to digital object identification, we aim to create a robust and inclusive research infrastructure that supports the diverse and unique needs of African communities.

Data availability statement

Not applicable.

Underlying and related material

For further information please refer to the links below: Concept Note Document [3]. Please get updates from us on X- @AfricaPID [4], LinkedIn- The Africa PID Alliance [5], and Facebook- The Africa PID Alliance [6].

Author contributions

Conceptualization (JO, NK); Data curation (N/A); Formal Analysis (N/A); Funding acquisition (N/A); Investigation (N/A); Methodology (N/A); Project administration (N/A); Resources (N/A); Software (N/A); Supervision (N/A); Validation (N/A); Visualization (N/A); Writing – original draft (JO, NK); Writing – review & editing (JO, NK).

Competing interests

The authors declare that they have no competing interests.

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