

Managing Science and Technology “The Mozambican Ecosystem”

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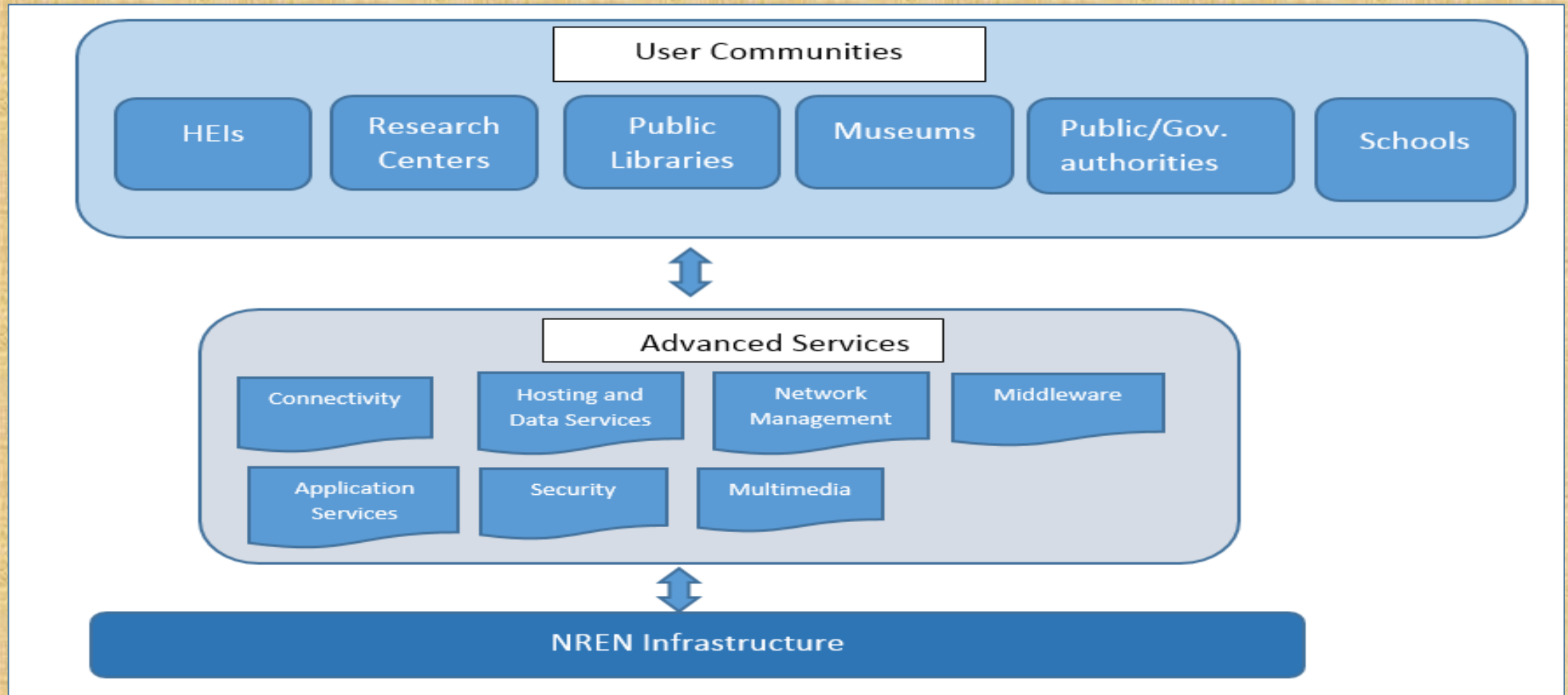
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Why NRENs?

- Provide high speed connectivity and advanced services to the research and higher education institutions
 - High tariffs of Internet and need for specific services that commercial ISPs don't provide
 - International connectivity between NRENs (GEANT-Europe)
 - enabling the collaboration among the members
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NRENs Supporting Science



Managing Science and Technology

- Involves understanding the issues related to the national scientific system: players, general framework and relationships
 - S&T management services:
 - technological platforms for submission of research projects or scholarships, open access (OA) repositories, data centres...
 - assist researchers by reducing tasks that absorb their time and may compromise the research itself
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Open Access (OA): Technological issues and policies

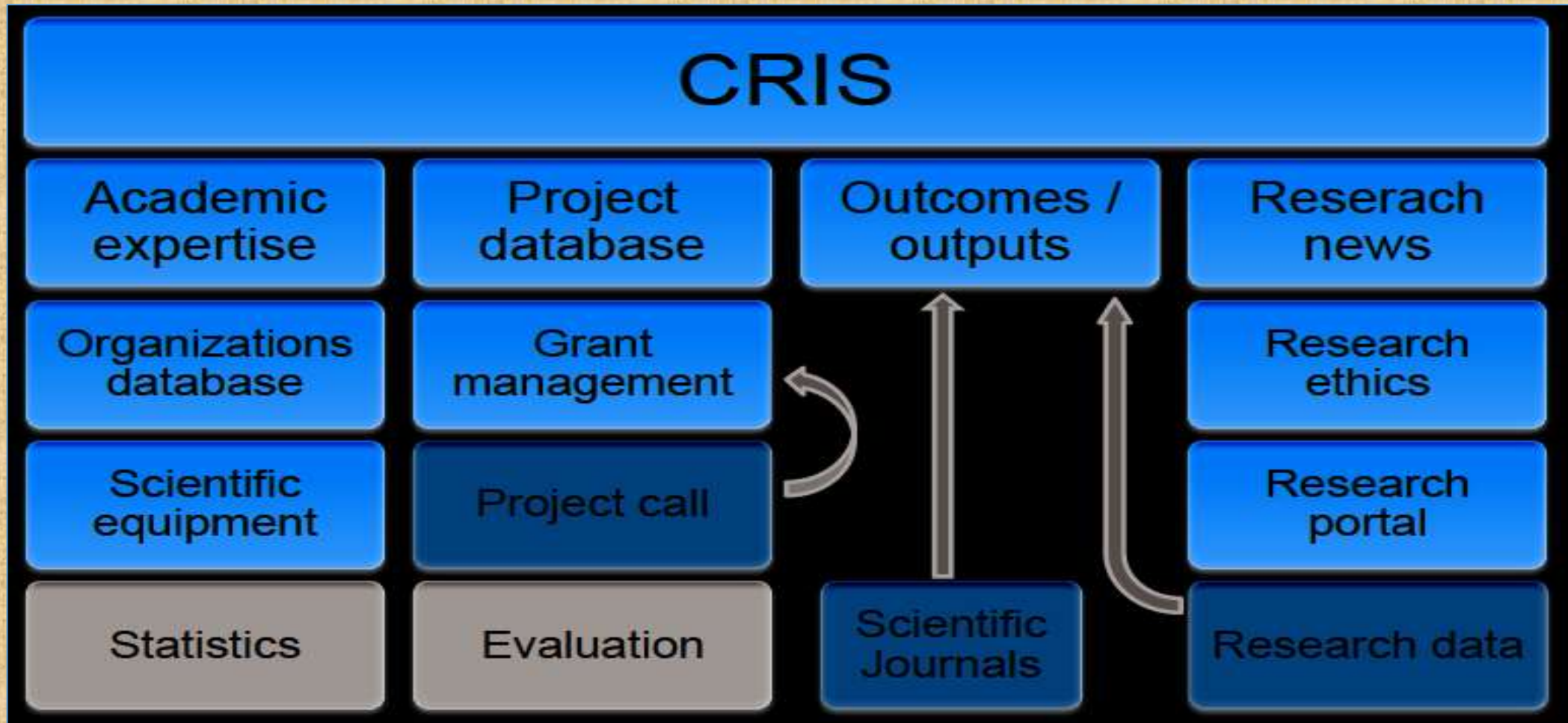
- OA: unrestricted access to scientific literature
 - OA repositories: example of a service that can be provided by NRENs, to promote the electronic access and visibility of the scientific production of a country
 - implementation of OA repositories by open source tools:
 - especially Eprints and Dspace
 - the deposit of scientific production through self-archiving is promoted by several international, national and institutional policies and mandates:
 - mostly in USA and Europe
 - Horizon 2020
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Current Research Information System (CRIS)

Information system that stores data on research carried out by organizations and researchers, usually related to projects under funding programs.

- administrators and science managers
 - researchers and academic community
 - media professionals, technology transfer companies, civil society organizations and individual citizens
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CRIS Ecosystem



New Trends for CRIS: CERIF and Unique Research Identifiers

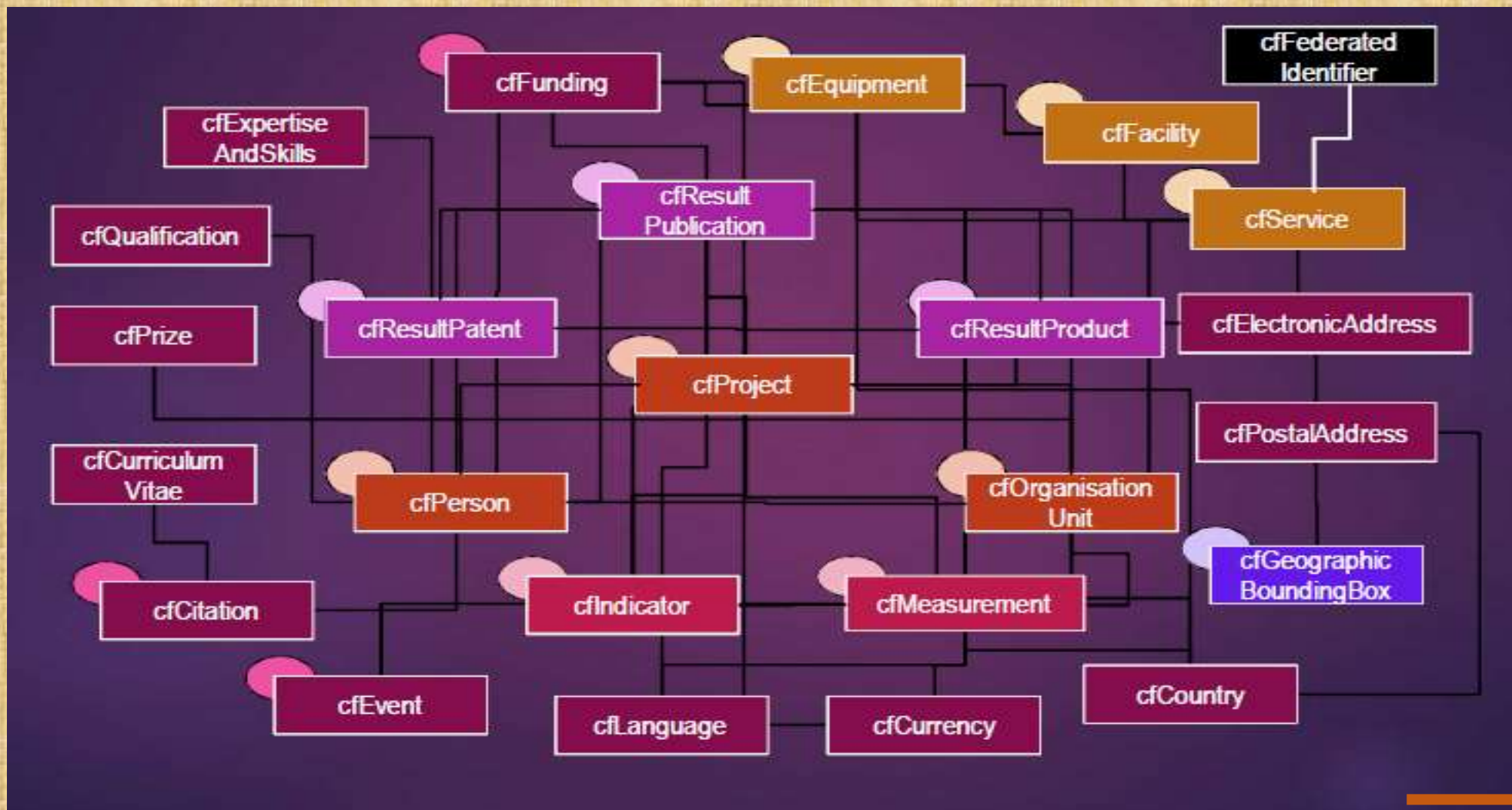
CERIF(euroCRIS): standard model of storage and interoperability of research information

- three major entities - person, project, organization
- all components of research information of CRIS
- relationships between entities that are semantically defined.
 - answer several questions, e.g.,

How many PhD students took part in national research projects? In which countries did they obtained their masters degree?

Unique Identifiers (ORCID iD): solve the ambiguity and disorder related to the names of the authors and avoid the dispersion of scientific literature by the same author

euroCRIS: The CERIF model



Mozambique:

Higher Education and Scientific Research

- ~ 50 higher education institutions (18 public and 31 private)
 - Eduardo Mondlane University: leading HEI
 - 2000: emerged the ministry specifically dedicated to science and technology
 - strategic plan was approved for scientific research
 - 2005 was created the National Research Fund (NRF)
 - government agency responsible for funding research
 - programs, projects and actions in the field of scientific research
 - 2006 – 2014: ~ 250 projects
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MoRENet:

Mozambique Research and Education network

- Under the Mozambique Science, Technology and Innovation Strategy (MOSTIS) launched in 2006:
 - began the project MoRENet
 - connect more than 80 institutions
 - 34 Mbps for institutions, 155 Mbps shared Internet connection

Challenges:

- the lack of terminal equipment in the market
 - lack of metropolitan optical fiber, which creates difficulties to carry optical fiber to institutions;
 - contingency plans for infrastructures and natural disasters (specially for power outages, common in the country)
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Accessing Scientific Contents

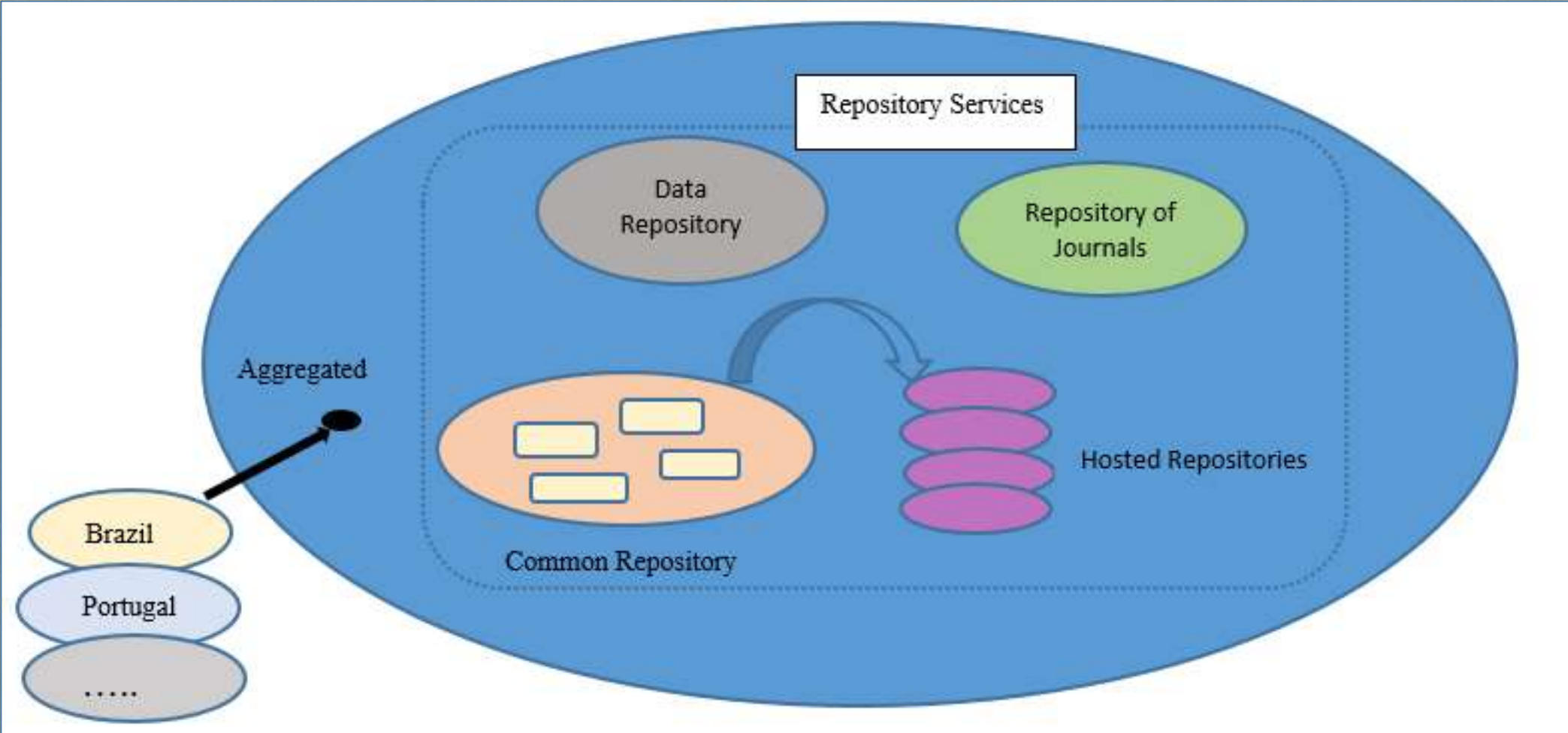
The lack of budget in research and education institutions:

- provide international scientific contents supplied by publishers is a big challenge:
 - INASP program and UEM working since 2001
 - 90% of the publications paying 10% of their real value
 - HEI: access about 23 000 titles
 - other organizations: HINARI (biomedical), OARE (environmental) and AGORA (agriculture).
- the OA movement is recent, mostly driven by UEM initiatives that try to give visibility and preserve the academic and scientific production of national institutions

OA Repositories and Journals: SABER & RC-UEM

- **SABER:** multi-institutional repository
 - created in 2009
 - 6 HEI integrated
 - 3000 documents stored
 - UEM: 97% of documents
 - 2 institutions have no contribution in terms of contents
 - 78% contents report to the time previous to SABER creation
 - **RC-UEM:** biannual OA journal of EMU created in 2010
 - covers eight specific areas
 - the first series of RC-UEM were launched in 2012
 - numerous difficulties due to the research landscape and quality of scientific production in the country.
 - the lack of a national scientific community
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Proposed Model for Open Science in Mozambique



Recommendations

- The guidelines of the ministry of science and technology are not specific in terms of repositories and OA, pointing out the need for dissemination of scientific knowledge.
 - HEIs, through the Rectors Council of the country, the Academy of Sciences, the MST entities and MoRENNet, should be engaged in the debate about OA.
 - The country must invest in training librarians and specific staff to support the academic community and to manage contents.
 - Should be created a national team for dissemination and training on OA, operating in the institutions.
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Recommendations (2)

- Create national and international OA policies and mandates.
 - The collaboration at CPLP level on the issue of OA should also be considered.
 - The NRF needs to create a database of researchers with unique identifiers.
 - MoRENet: analysis of QoS ensuring that institutions already connected may discard existing contracts with commercial operators.
 - UbuntuNet Alliance and African Union: rethink about creating a regional platform to support researchers and research results funded by their supporting programs and projects.
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Obrigada, Thank You, Kanimambo!

