

Developing a National Aggregator of Open Access Repositories in Algeria

Project Proposal

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Survey of Repository Aggregators

COAR–FECYT global study · 24 aggregators worldwide

What are repository aggregators?

There is a growing number of national and regional repository aggregator networks that harvest metadata — and in some cases full text — from repositories and other data sources.

Services provided:

- Tracking open access content
- Discovery of national research outputs
- Standardized usage statistics
- Interoperability services

These aggregators also help define standardized practices, determine policies, and develop a shared vision for repositories.

Study Partners

COAR

Confederation of Open Access Repositories

FECYT

Fundación Española para la Ciencia y la Tecnología

Scope of the Survey

🌐 International, national & regional initiatives

📊 24 aggregators analyzed worldwide

🔍 7 dimensions examined per aggregator

DZ Clear roadmap derived for Algeria

COAR–FECYT Survey: Key Insights from 24 Aggregators

Seven dimensions analyzed — with implications for Algeria

1. Governance & Funding

Government-led initiatives dominate; public funding is the main model

DZ Strong national coordination and sustainable public support are essential

2. Geographic Scope

National aggregators are the dominant model; Sweden showed the highest number

DZ A national aggregator is the right model to maximize local impact

3. Content Sources

Literature repos (92%), institutional repos (88%), data repos (50%)

DZ Institutional repositories should be the core content providers

4. Core Services

Metadata validation (83%), usage statistics (67%), metadata curation (58%)

DZ Quality control, statistics and enrichment services are key priorities

5. Standards & Interoperability

OpenAIRE Guidelines most recommended; BIBO Ontology & Driver Guidelines also used

DZ Adopt international standards to ensure interoperability and long-term sustainability

6. Main User Groups

Researchers (96%), General Public (92%), Research Funders (46%)

DZ Services should be designed around the needs of researchers and the public

7. Software Used

Locally developed (42%), LA Referencia (29%), D-Net (13%)

DZ Use open-source solutions and benefit from proven platforms and communities

KEY TAKEAWAY · Repository aggregators have evolved into strategic national infrastructures that improve visibility, discoverability, interoperability, quality and impact.

Problem Statement

Why Algeria needs a national repository aggregator



Fragmentation

Research output — theses, datasets, preprints, conference papers — is scattered across dozens of individual university repositories with no unified entry point.



Poor Visibility

Local repositories suffer from low indexing on global search engines, directly reducing citation rates and international recognition for Algerian researchers.



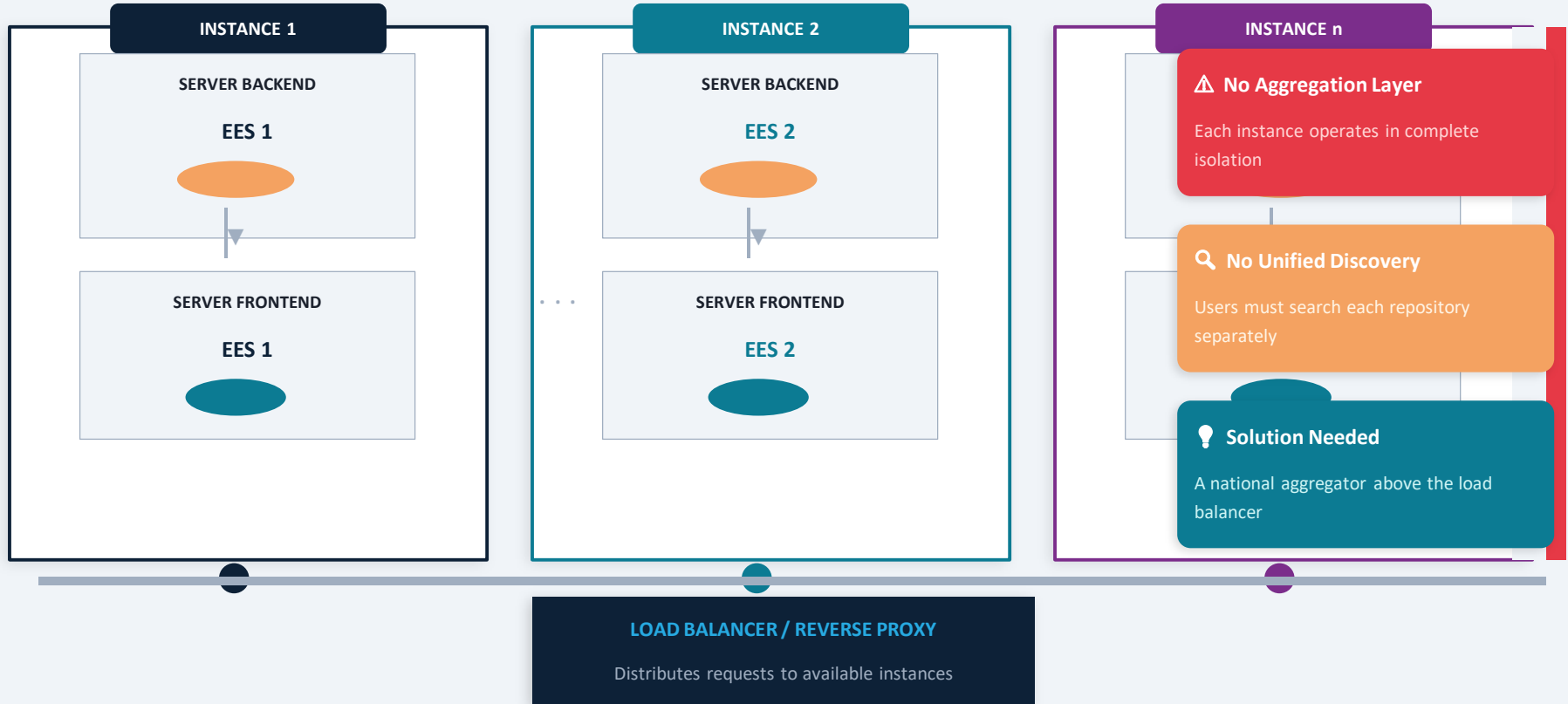
Policy Gaps

Without centralized infrastructure, enforcing national open access mandates and tracking institutional compliance is nearly impossible.

Architectural Analysis of the Current State

How Algerian institutional repositories are structured today

Current Architecture: Fragmented Instances



Outline

01

Current Landscape

Open access repositories in Algeria

02

Project Vision & Services

Goals, services, and value-added features

03

Technical Architecture

Software ecosystem & working groups

04

Implementation Plan

24-month roadmap in four phases

05

Budget & Stakeholders

Investment options and key institutions

06

Future Directions

Building national open science infrastructure

Current Landscape of Open Access Repositories in Algeria

Analysis of 71 digital repositories

71

Total Repositories

98%

Running DSpace

28%

ORCID Integration

7%

High Metadata Quality

Key Findings

- ✓ Strong DSpace adoption — 70 of 71 repositories
- ✓ OAI-PMH widely available for harvesting
- ✓ Growing national repository network
- ⚠ Limited ORCID/ROR identifiers · Very few CC licenses
- ⚠ Weak usage statistics · Metadata mostly moderate
- ✗ Only 3 repos in BASE · 7 in CORE · 6 in OpenAIRE

THE MAIN GAP

Algeria has 71 repositories but lacks a national aggregation infrastructure to ensure interoperability, visibility, analytics, and unified discovery.

Project Vision & Services

A national knowledge ecosystem — not just a harvesting service

Centralized Discovery

01

A single web portal to search across all Algerian institutional repositories simultaneously.

Metadata Standardization

02

Uniform Dublin Core guidelines across all participating institutions to ensure data interoperability.

Global Integration

03

Compatibility with OpenAIRE, BASE, and Google Scholar to maximize global visibility of Algerian research.

Capacity Building

04

Train repository managers and librarians in data curation, maintenance, and Open Access advocacy.

Analytics & Dashboards

05

Real-time institutional dashboards with usage statistics, impact indicators, and FAIR assessment.

AI-Powered Services

06

Semantic search, smart recommendations, knowledge graph, and open science monitoring.

NATIONAL REPOSITORY AGGREGATOR SERVICES

Powering Open Science • Enhancing Visibility • Driving Impact

1

CONTENT DISCOVERY



- Unified Discovery Portal**
Single entry point to search across all repositories
- Recommender System**
Personalized recommendations for researchers
- Advanced Search & Filters**
Refine results by multiple facets
- Browse by Institution, Author, Subject**
Explore content organized by key entities
- Usage Statistics & Analytics**
Track usage, engagement and impact

2

METADATA & INTEROPERABILITY



- OAI-PMH Harvesting**
Interoperable metadata collection from repositories
- Persistent Identifiers**
Integration with ORCID, DOI, ROR and other PID systems
- OAI Resolver**
Resolve and redirect OAI identifiers
- APIs**
RESTful APIs for seamless integration and reuse

3

OPEN ACCESS CONTENT & DATA



- Full-text Access**
Open access to research outputs
- Access to Raw Data**
Datasets and research data made available
- Data Export**
Download metadata and analytics
- Repository Registry**
National registry of repositories and their policies

4

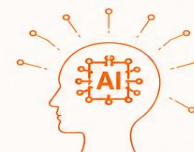
REPOSITORY MANAGEMENT



- Institutional Dashboards**
Real-time insights for repository managers
- Metadata Validation**
Automatic quality checks and error detection
- FAIR Assessment**
Evaluate FAIR compliance of metadata
- Metadata Quality Reports**
Detailed reports and improvement guidance

5

ADVANCED & VALUE-ADDED SERVICES



- AI-Powered Discovery**
Smart recommendations and relevance ranking
- Semantic Search**
Concept-based and context-aware search
- Research Intelligence**
Trends, impact and topic analysis
- Open Science Monitoring**
Monitor openness and research impact



BENEFITS FOR THE RESEARCH COMMUNITY



Greater visibility of research



Increased impact and citations



Open access and reuse



Data-driven decisions



Collaborative research



Stronger national research ecosystem

Technical Architecture

Software ecosystem for the national aggregator

1 Harvesting Infrastructure

- OAI-PMH · ResourceSync
- OAI-ARC · Cronycle
- Standardized metadata collection

2 Search & Discovery

- VuFind · Apache Solr
- Elasticsearch
- Faceted navigation

3 Repository Platforms

- DSpace · DSpace-CRIS
- EPrints · InvenioRDM
- Institutional feeds

4 Metadata & Interoperability

- D-Net · Dublin Core
- OpenAIRE Guidelines
- Schema.org

5 Analytics & Monitoring

- Matomo · Kibana
- Custom Dashboards
- Usage & impact stats

6 Persistent Identifiers

- ORCID · DOI · ROR
- Global persistence
- International visibility

Working Groups

Eight specialized groups connecting, sharing, and empowering Algerian research

1

Governance & Policy

Ministry reps, university leaders, legal experts

2

Technical Infrastructure

Software engineers, sys admins, repo developers

3

Metadata & Interoperability

Metadata librarians, cataloguers, repo managers

4

Repository Services

Repo administrators, library professionals

5

Discovery & User Experience

UX specialists, librarians, researchers

6

Research Analytics

Bibliometricians, data analysts, evaluation specialists

7

Training & Community

Librarians, trainers, community managers

8

International Collaboration

Repository experts, international relations officers

Implementation Plan — 24 Months

Four phases · One goal: Unified Discovery of Algerian Research

01

Preparation
& Governance

Months 1–4

- Governance & Policies
- Standards & Guidelines
- Agreements & Registry
- Working Groups

02

Development
& Integration

Months 5–12

- Harvesting Infrastructure
- Metadata Processing
- Search Engine & Portal
- ORCID, DOI, ROR

03

Pilot
& Validation

Months 13–18

- Connect Pilot Repositories
- Test Harvesting & Indexing
- Metadata Quality Assessment
- Beta Portal Launch

04

National
Deployment

Months 19–24

- Integrate All Repositories
- Analytics & Monitoring
- Connect to Intl. Networks
- Public Launch

Budget & Stakeholders

Indicative 24-month investment and key institutional actors

Option A — Pilot (MVP)

\$120,000

≈ 16M DZD

RECOMMENDED

Option B — National (Recommended)

\$275,000

≈ 37M DZD

Option C — Strategic Infrastructure

\$425,000

≈ 57M DZD

Recommended Budget: \$250,000 – \$300,000 USD

Key Stakeholders

Government

MESRS · DGRSDT · National Commission for Open Science

National Technical

CERIST — national hosting, technical coordination, interoperability

Universities

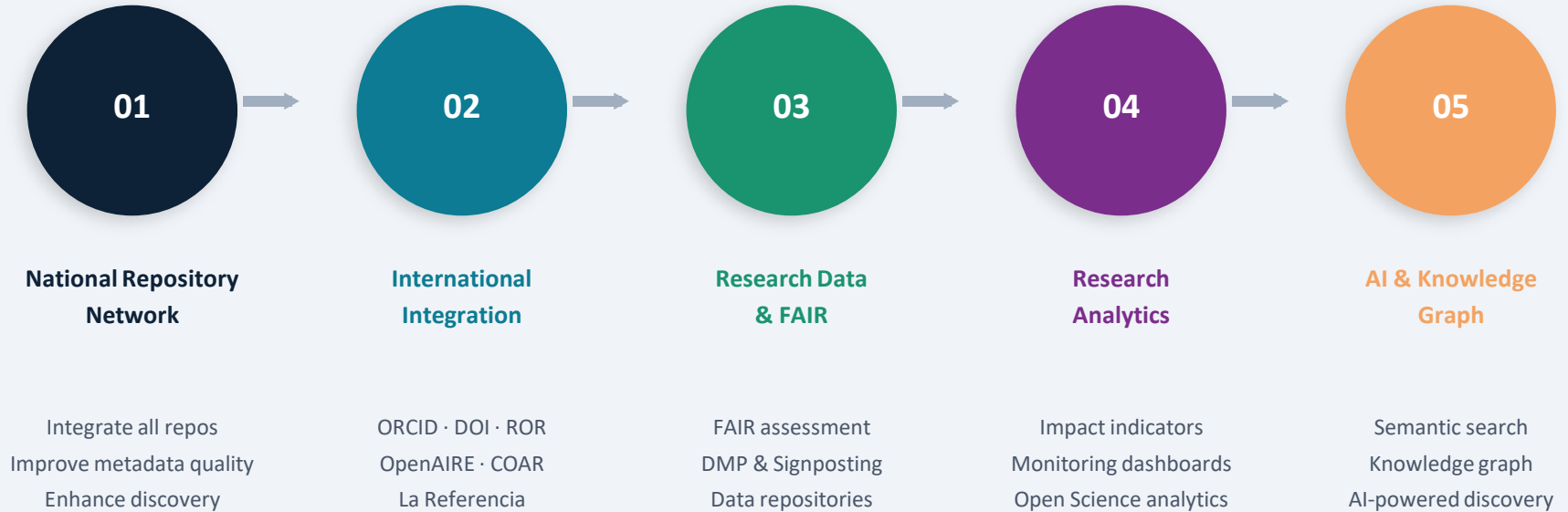
49 public universities · 11 National Higher Schools · 5 Centers

International

COAR · OpenAIRE · LA Referencia · Regional partners

Future Directions

Building the National Open Science Infrastructure



Thank You

Questions & Discussion

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Open Repositories 2026 · 8–11 June