

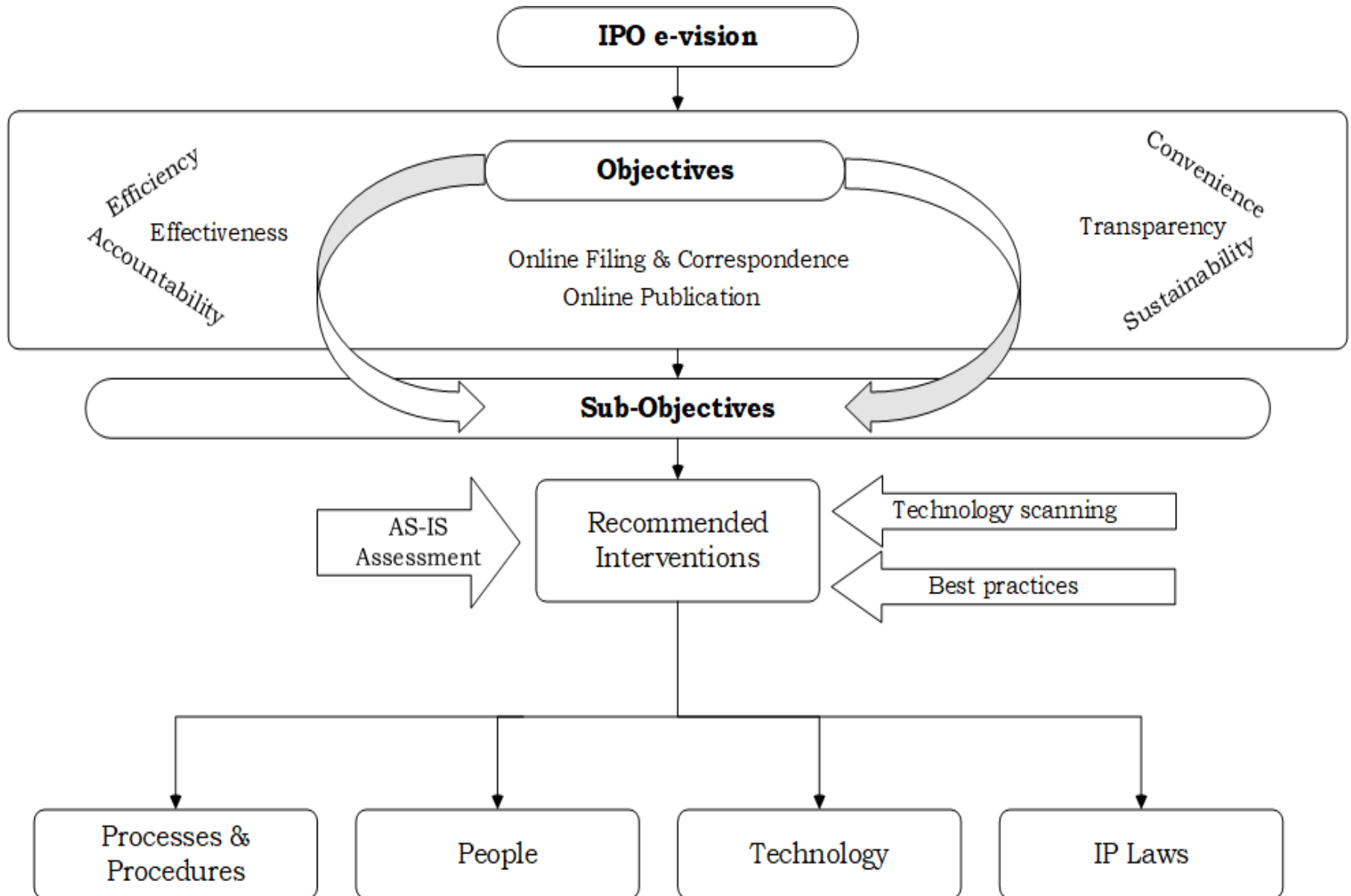
Topic 16 - Overview of IP Data Quality and Digitization Effort in Africa

IP Office Business Solutions Division

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Data Quality and Digitization Objectives



Objectives

- IP Register with reliable information on all IP rights
 - Complete historical coverage
 - Regular and timely data updates
 - Legal status information
- Streamline national data dissemination processes with data quality control measures
- Data quality standards

ARIPO Regional Database Data Gaps and Quality Issues



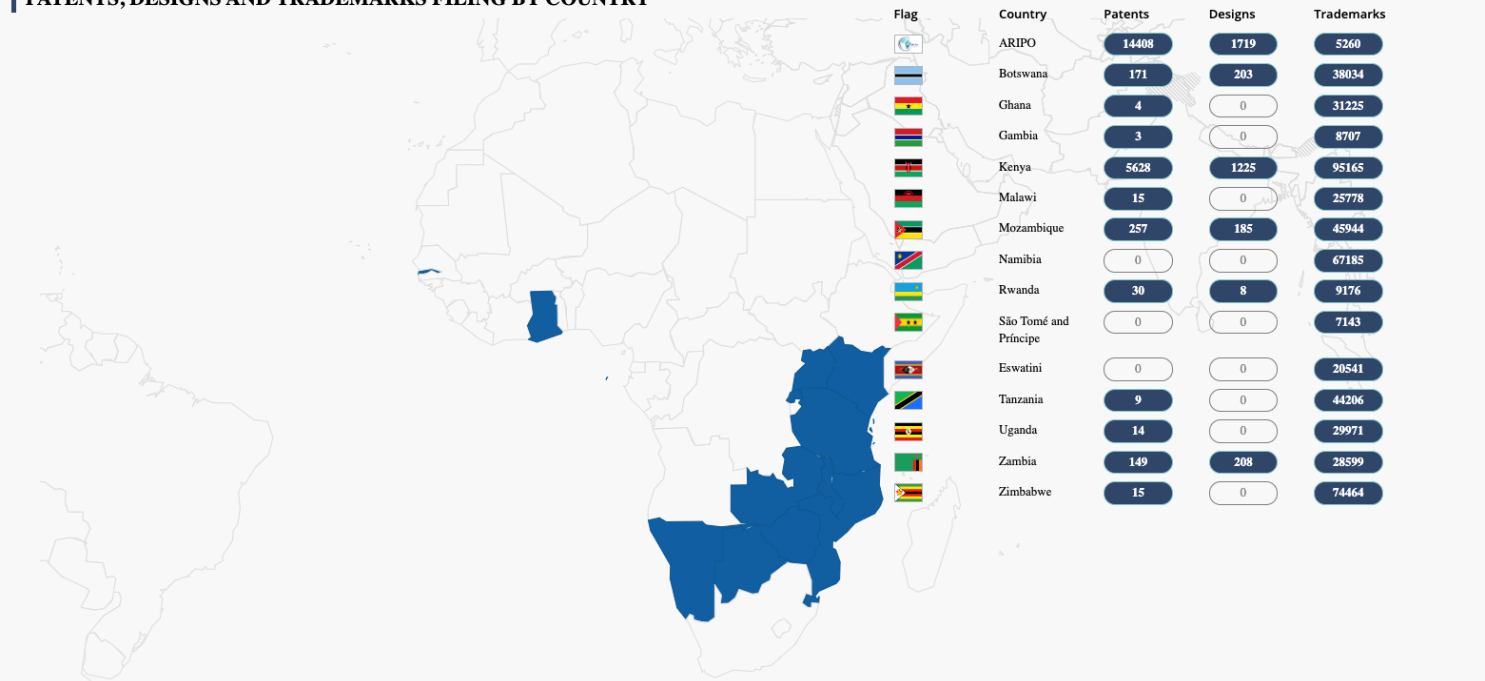
About English ▼ 🇺🇸 (0)

Designs Patents Trademarks

African Regional Intellectual Property Organization Search System

All you need to know about patents, trademarks and designs in your region

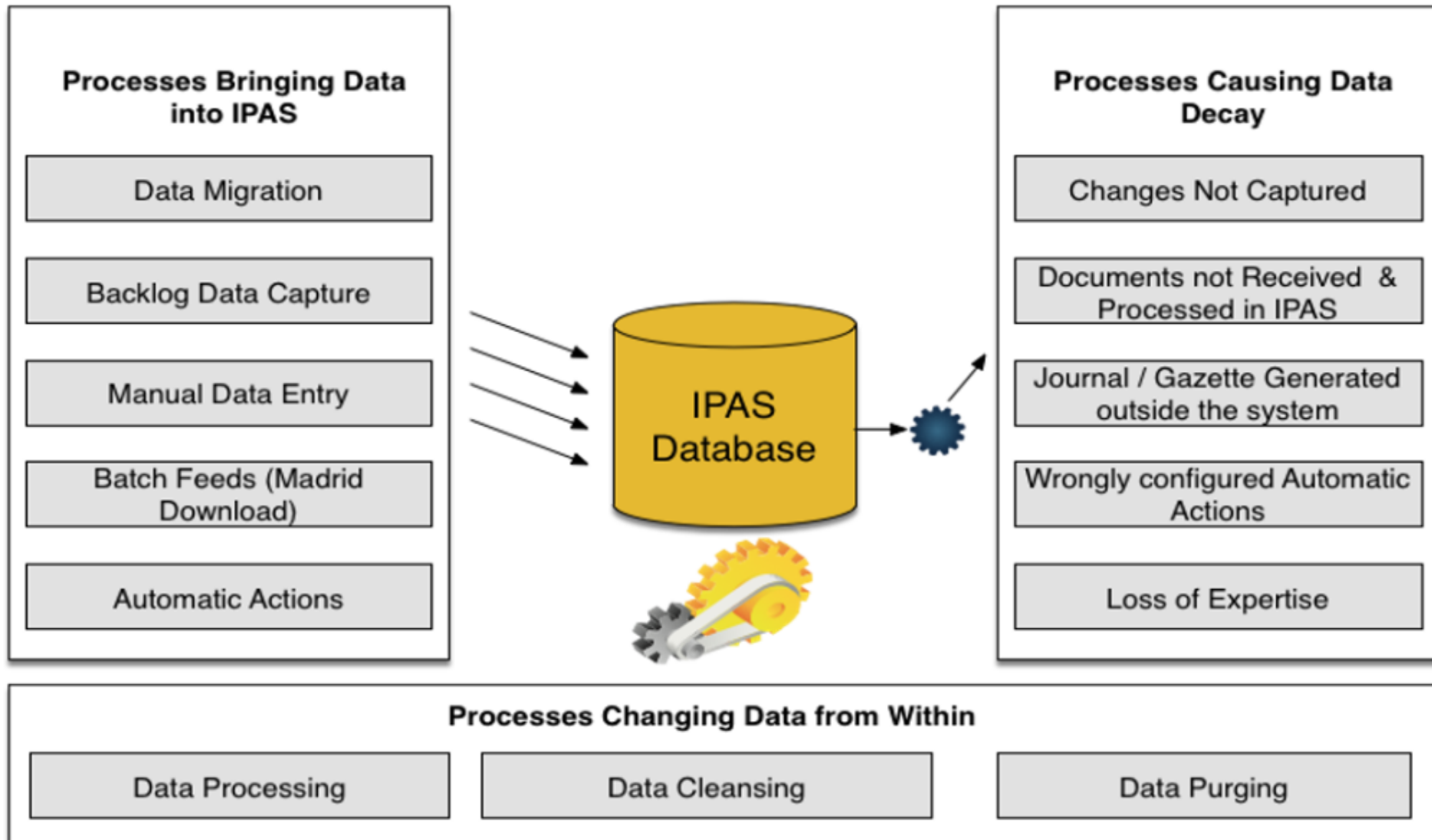
PATENTS, DESIGNS AND TRADEMARKS FILING BY COUNTRY



ARIPO Regional Database – Data Coverage

Country / Office	Designs	Last publication	Patents	Last publication	Trademarks	Last publication
ARIPO	1719	2022	14408	2022	5260	2022
Botswana	203	2018	171	2016	38034	2018
Eswatini					20541	2015
Gambia			3		8707	2011
Ghana			4		31225	2012
Kenya	1225	2016	5628	2017	95165	2021
Malawi			15	2003	25778	2013
Mozambique	185	2007	257	2007	45944	2017
Namibia					67185	2018
Rwanda	8	2016	30		9176	2015
Sao Tomé					7143	2022
Tanzania			9		44206	2017
Uganda			14		29971	2016
Zambia	208	2017	149		28599	2017
Zimbabwe			15		74464	2018

Back Office Data Quality Issues



Efforts and Way Forward to Achieve Better Quality Data

- Need for a modular, configurable software tool designed to audit and assess data quality and workflow configurations within an IPAS database. It identifies issues such as:
 - - Missing data
 - - Incorrect/inconsistent entries
 - - Non-standardized values
 - - Misconfigured workflows (e.g., office actions, automatic actions, user requests, and notifications)
- The tool generates a detailed diagnostic report along with actionable recommendations to correct the issues.

Core Features and Functional Modules

- Configuration Engine: Define validation rules, field mappings, lookup tables, and standard formats.
- Data Extractor: Connects to IPAS DB (Oracle/PostgreSQL) and
and
- Spreadsheets.
- Validation Engine: Checks nulls, formats, range, data relationships etc.
- Workflow Checker: Detects incomplete or illogical workflow setups.
- Reporting Engine: Outputs reports in PDF/Excel/HTML.
- Recommendation System: Proposes fixes or standardizations.
- Audit Log: Logs execution history and detected anomalies.

Supported Checks

■ 3.1 Data Validation:

- - Missing data (e.g., null applicant names)
- - Incorrect formats (e.g., text in date fields)
- - Duplicates (e.g., file numbers)
- - Reference errors (e.g., invalid foreign keys)
- - Non-standard data (e.g., ISO country codes)
- - Date inconsistencies (e.g., filing after publication)

■ 3.2 Workflow Checks:

- - Office Actions (missing outcomes, deadlines)
- - Auto Actions (non-triggered, circular logic)
- - User Requests (unlinked or incomplete)
- - Notifications (bad templates or events)

Input/Output

- Input:
- - DB connection, validation rules, external tables
- Output:
- - Executive Summary
- - Categorized Issue Logs
- - Recommendations
- - Formats: PDF, HTML, Excel, JSON

Example Output

- Report Date: 2025-05-05
- Database: IPAS_Malawi
- Issues Identified: 354
- - Missing Applicant Names: 42
- - Invalid Filing Dates: 15
- - Non-standard Country Codes: 27
- - Misconfigured Office Actions: 12
- - Broken Transitions: 5
- Recommendations:
- - Apply ISO mapping to country_code
- - Update 42 null applicants
- - Fix 'Formality Examination' workflow

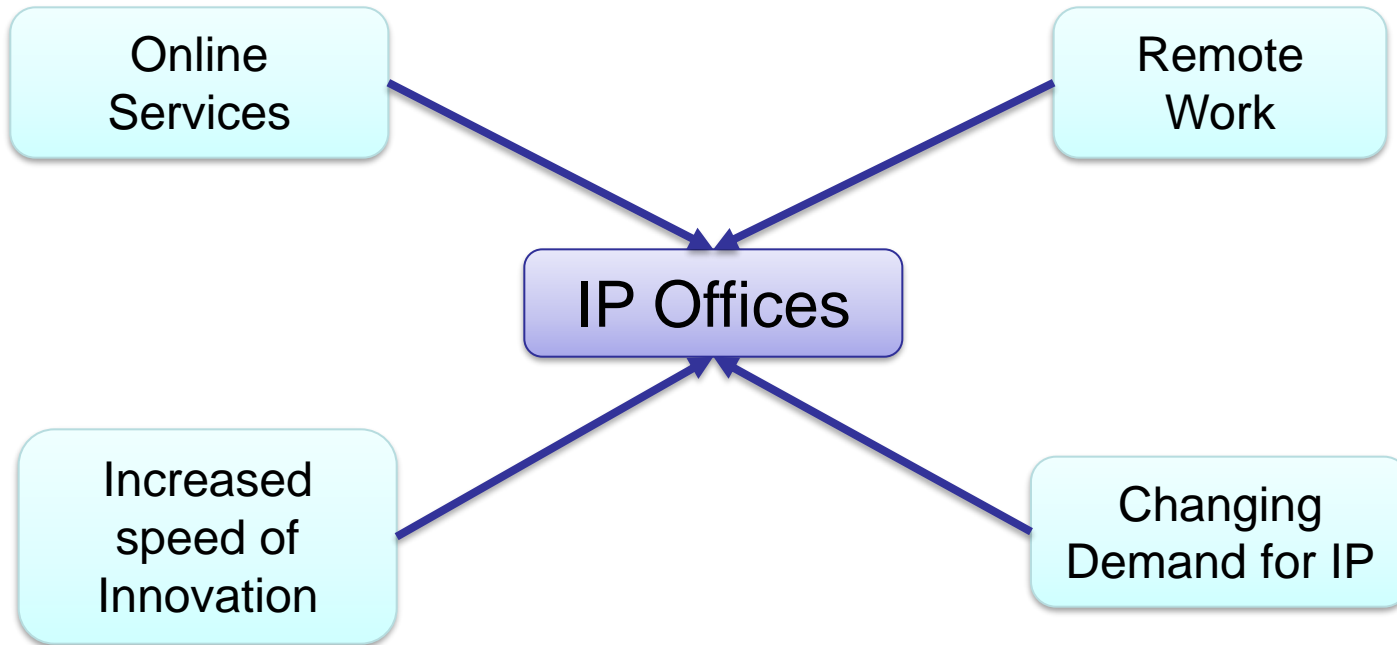
10. Implementation Roadmap

- Phase 1: Design (1 month)
- Phase 2: Core Modules (2 months)
- Phase 3: UI + Reports (1 month)
- Phase 4: Testing (3 months)
- Phase 5: Deployment (1 week)

Benchmarking & Best Practices

- Advanced Data Profiling: Detect patterns and anomalies
- Rule-Based Validation: Field-level rules, formats, and checks
- Data Lineage: Visual traceability of data changes
- Workflow Automation: Scheduled tasks and auto-remediation
- Dashboards: Visual metrics and trend analysis

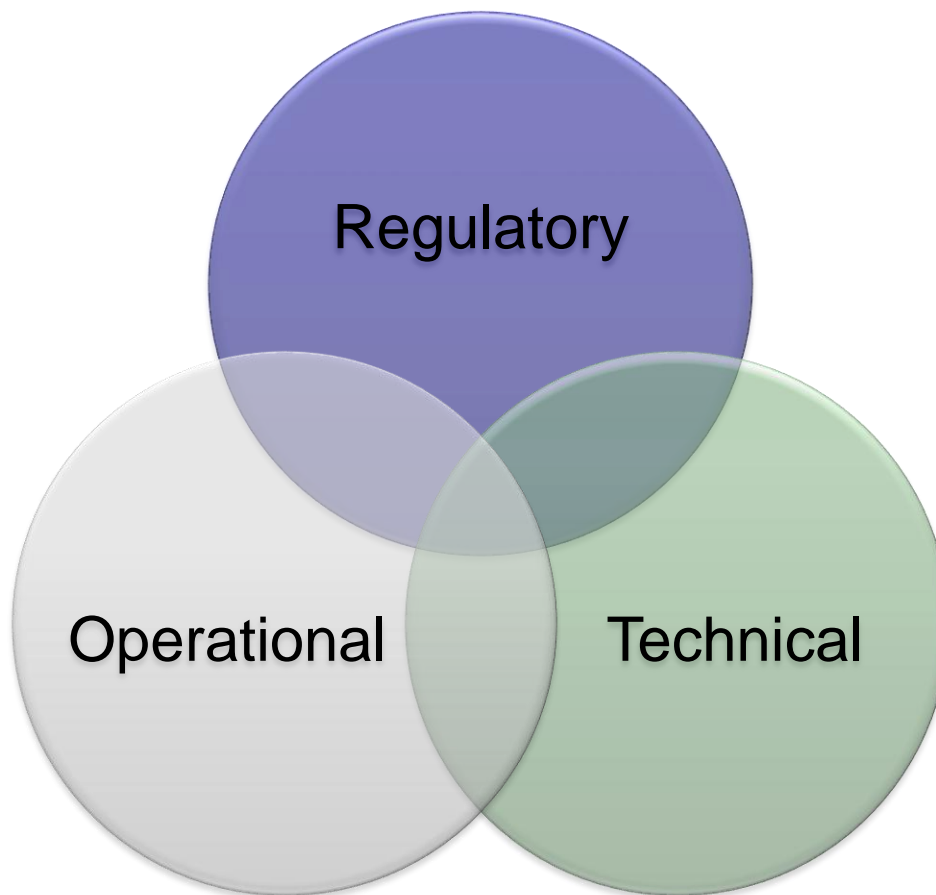
IP Offices - Challenges



IP Offices need to have a *Digital Transformation* strategy

- To respond to demands from users and public
- To improve quality and efficiency of service delivery
- To adapt to changed usage patterns of the IP system
- To maintain business continuity

Digital Transformation Policy for IP Offices – 3 Dimensions



Regulatory Modernization

Electronic records and transactions

Electronic payments

Reform paper-based processes
(especially publication)

Sustainable funding models

Regulatory Modernization for Consideration...

Current Paper or PDF publication vs Public Interest

- Formats not easily readable or searchable
 - IP office fee schedule and funding should be based on services to users
- IP information is for the dissemination of technical and commercial information to the public
 - Increased demand for information about status of IP rights
 - Publication can be fully digital

Operational Effectiveness

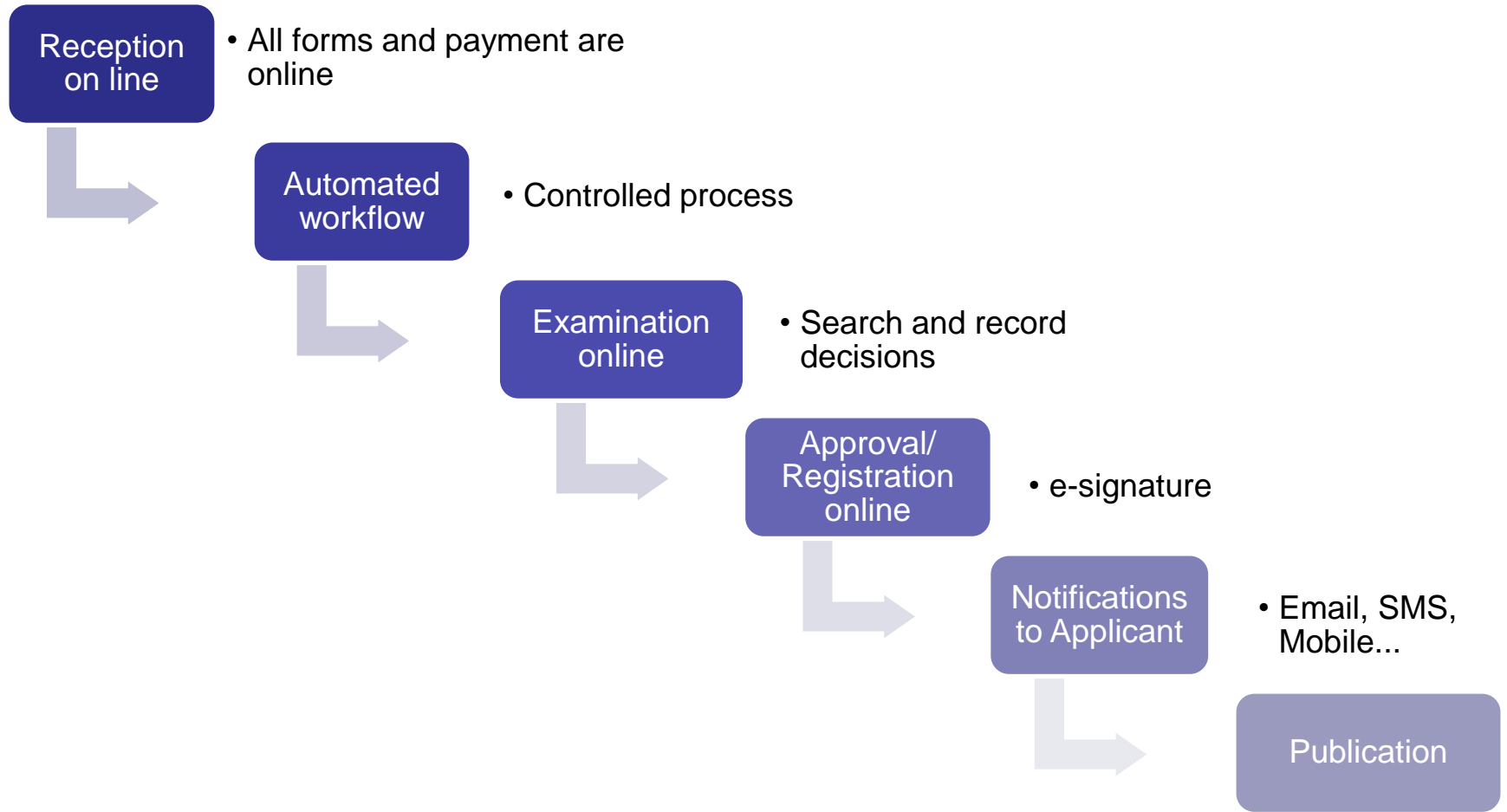
Fully digital business processes

Customer-focused service delivery

Quality metrics and quality processes

Data Quality


Digital Business Process



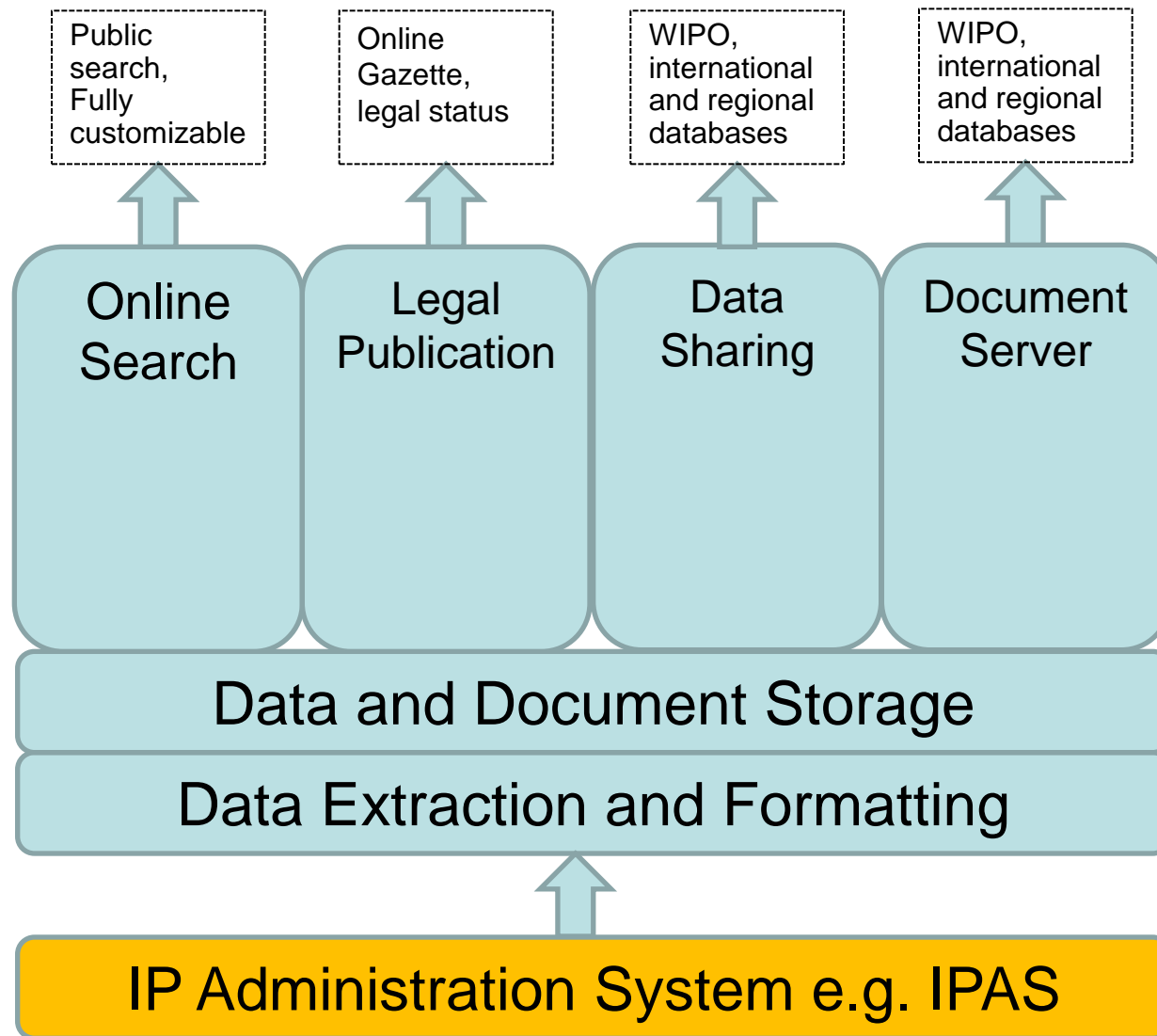
Cloud Migration for ARIPO Member States

- ❖ **Service Delivery:** fully online services, remote working, new/advanced features, frequent upgrades.
- ❖ **Reliability:** provide system which is 99.99% available.
- ❖ **Security:** best available security controls and tools.
- ❖ **Cost:** reduce the cost of purchasing and maintaining IT infrastructure.

 Less time dealing with IT infrastructure

 More time focussing on service delivery.
Enabling e-government.

Online Publication and Data Sharing



Digital Production at National Level

Archives



Files

Data Capture



Digitization

IPAS



e-Certificate



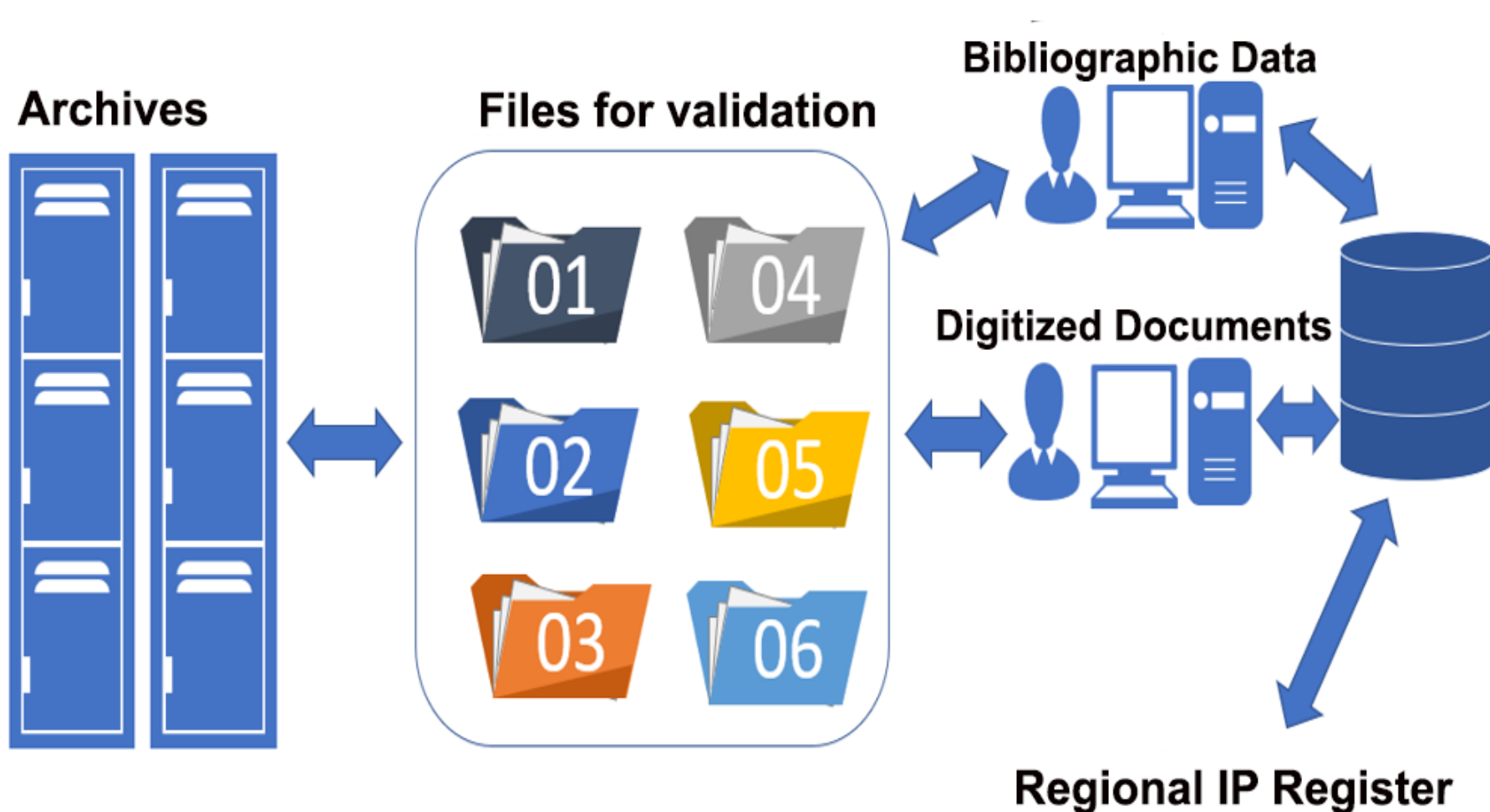
WIPO Publish



WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION

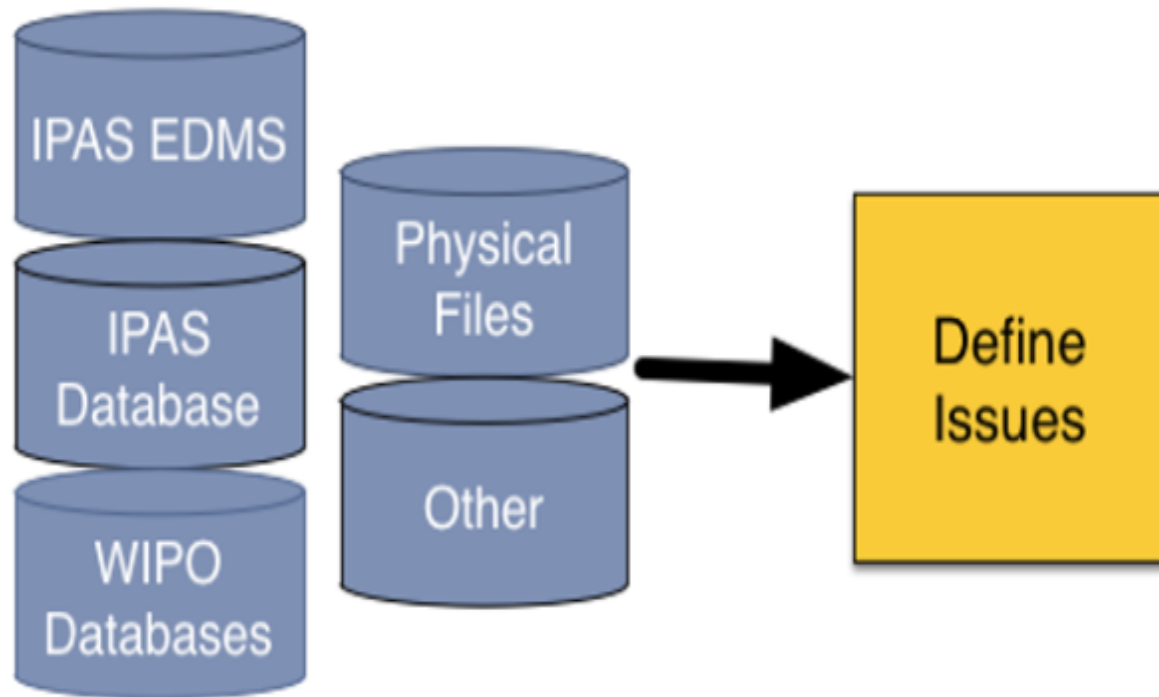


National Strategy for Data Validation



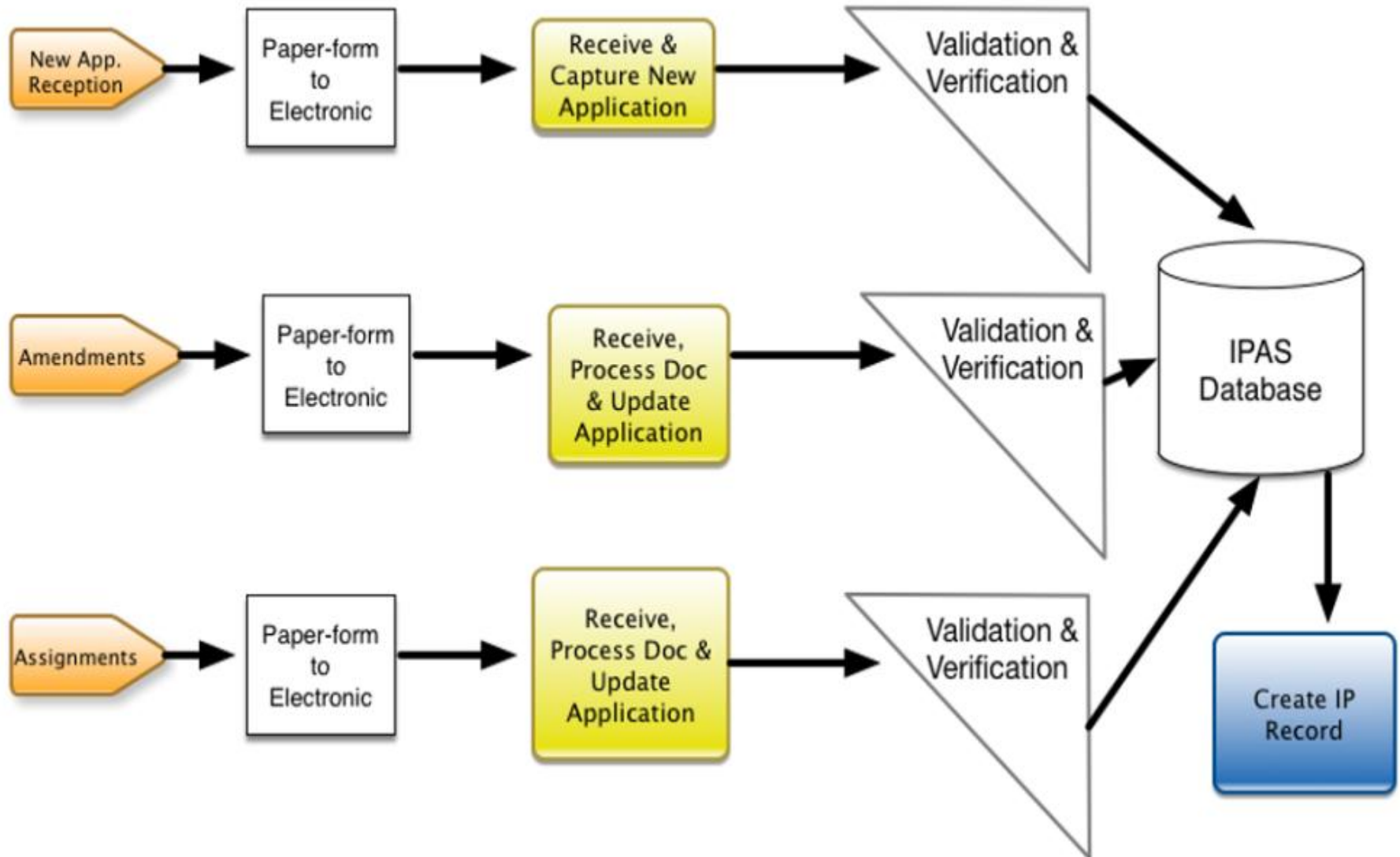
Data Quality Issues for Validation

Data Sources

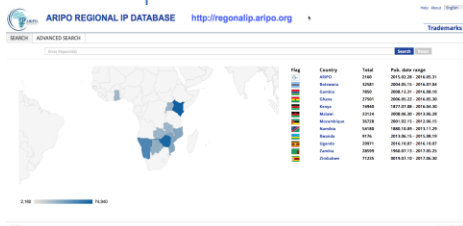
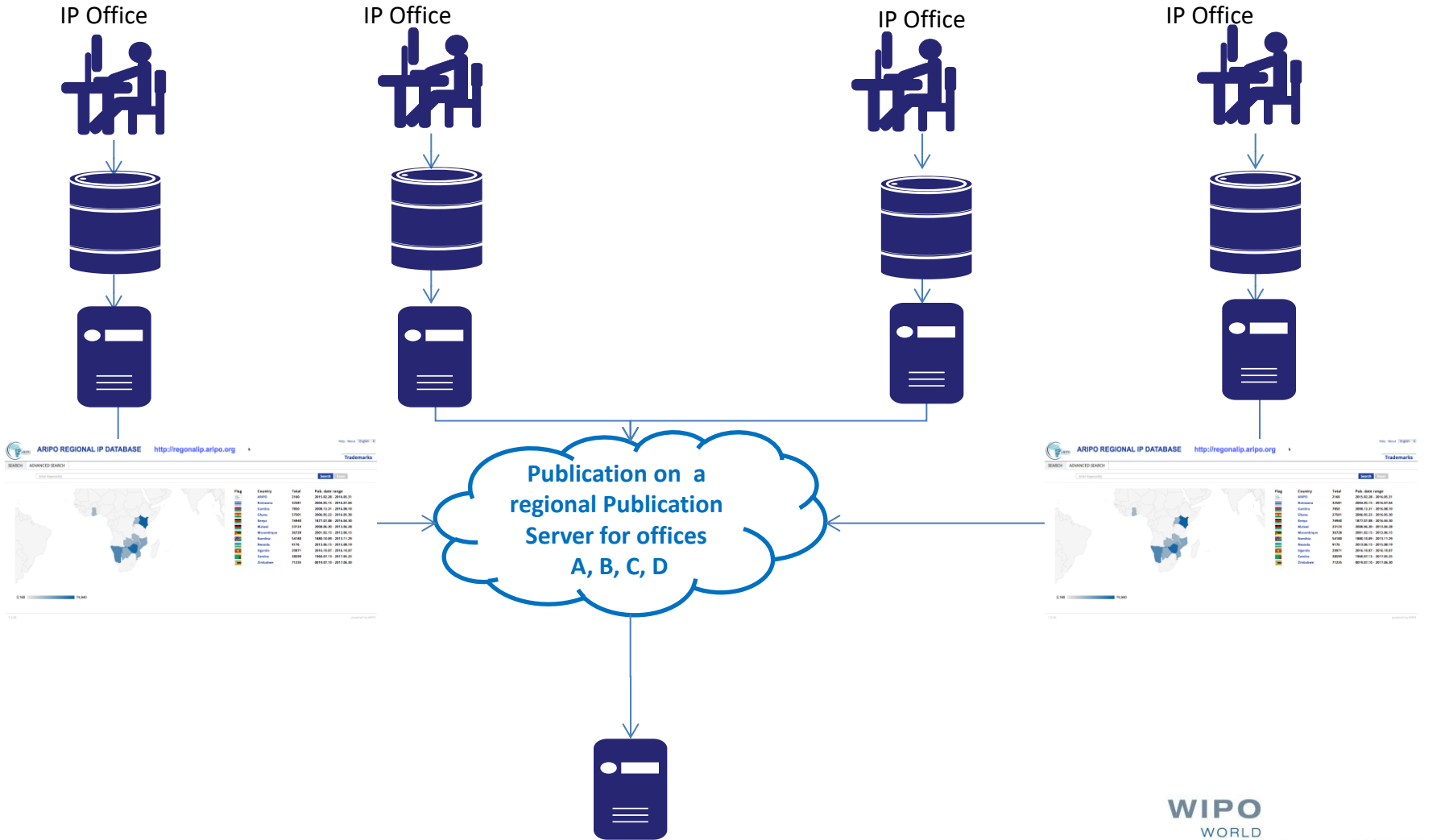


Potential Duplicates
Files in Wrong statuses
Wrong Automatic Actions
Out of Range Values
Changes Not Captured
Missing Data Values
Wrong Data Values
Potential Defaults
Journal Processed outside
Invalid Data Values
Documents done outside

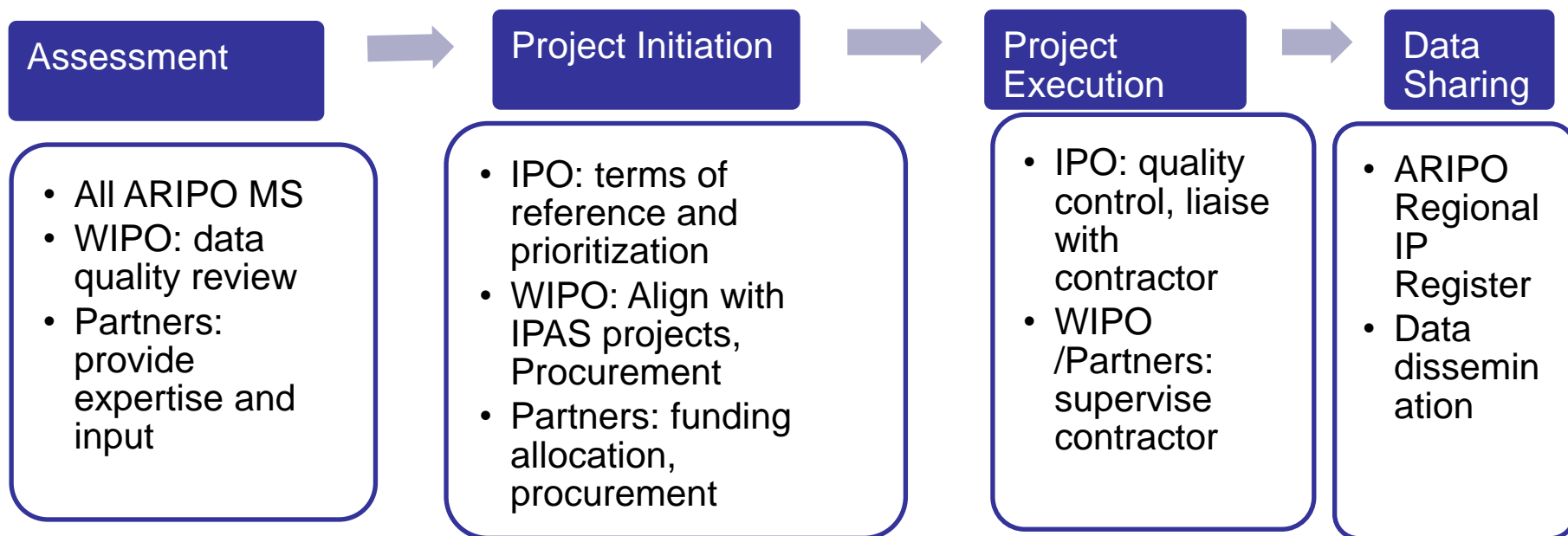
Establish Best Practices at National Level



Establish a Regional IP Register



Work plan – 2025/2027



Thank You