

ign fi

Making LIS the cornerstone of FELA implementation in Africa

Feedback from IGN FI

International Workshop on challenges in relation to the UN Framework for Effective Land Administration (FELA)

17th June 2025



INTRODUCTION

01

The Group's Companies

Presentation

Each of our companies brings its own history and expertise to the table, complementing the Group's range of services to provide comprehensive solutions covering the entire geographic data cycle, as well as specific business themes.

geofit

Geospatial
data



ign fi

International
Development



igo

Digital
twins



neogeo

Geo-
platforms



sintegra

Aerial survey and
mountains



Land surveying
in Canada



Geomatics in
Brittany



PMA and
urban planning



Real estate
expertise



Over 25 years in the LIS domain

Snapshot of Worldwide IGNFI LIS Projects



LIS: FELA vs Fit for Purpose Land Administration ?

	FELA	Fit to Purpose
Nature	Strategic Framework for Governance and National Transformation	Pragmatic methodological approach for field implementation (low-cost, inclusive, etc.)
Approach	Normative, structural, aligned with the SDGs – Focused on institutional sustainability	Pragmatic, context-specific (adapted to the context) – Focused on quick and accessible results
LIS vision	Strategic tool for integrating land functions (legal, fiscal, spatial)	Operational tool for collecting, recognizing, and then managing rights
Scale	Systemic, state-led, often multi-institutional	From local to national level (including rural or informal settings)
Key principles	<ul style="list-style-type: none">• Transparent governance• Inclusive legal framework• Financial sustainability• Standards, innovation, open data	<ul style="list-style-type: none">• Usefulness over precision• Methodological flexibility• Inclusion of all types of rights• Community participation
Data Magt	Validated, interoperable data, international standards (LADM...)	Included Community data, participatory sources, low costs tools

Institutions vs Donors

Project-based approach versus long-term institutional support approach

LIS Key Pitfalls



INITIAL SIF



INTEGREGED SIF



Learning from Implementation Realities

Q2



Case study: Uganda

Three Stages of UgNLIS

DeSILISOR Project

2010-2013

- LIS implementation across 6 pilot sites (MZOs) covering Uganda's most densely populated areas
- Use of COTS software (ESRI platform) for the cadastral component
- Digitization of approximately 500,000 existing land titles and their associated cadastral plans
- Around 80 types of land transactions digitalized

DeSINLISI Project

2015-2020

- Full system redesign using 100% open-source software, aligned with the Land Administration Domain Model (LADM)
- Hardware upgrade across all facilities
- Nationwide deployment across all 22 Ministry Zonal Offices (MZOs)
- Launch of the first version of the public access portal
- Digitization of all remaining land records
- Significant technology transfer, with approximately 700 people trained

NaLISEP Project

2023-2024

- Redesign of the public portal with integrated online payment features
- Development of dedicated portals for institutional users (banks, surveyors, etc.)
- Launch of mobile applications for broader accessibility
- Interoperability with other government agencies and national systems
- Custom transactions designed for large-scale registration campaigns
- Deployment of a hyperconverged IT architecture for scalability and resilience

UgNLIS Components



A Few Key Stats...

A national LIS that has reached maturity

123 Land Transactions

"60 Document Types & 20 Report Formats Configured in the System

1.500.000 titles

Managed by the System

4,400,000 Land Transactions Recorded Since 2013

800+ people trained

At the National Level and Across 22 Regional Centers

272.000.000 \$

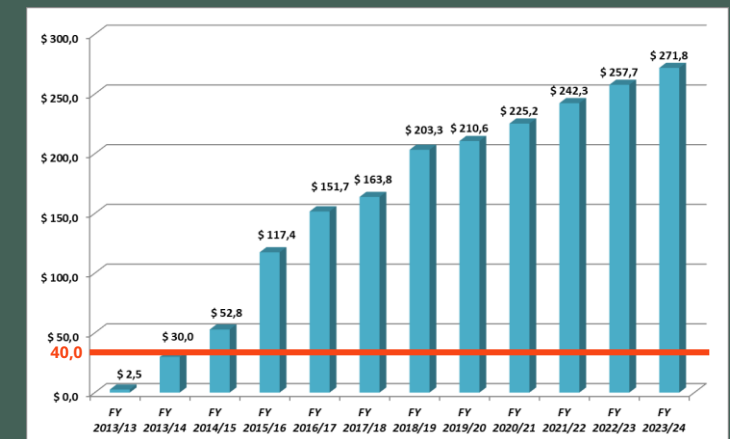
LIS-Related Revenue for the Ugandan Government vs. an Investment of ≈ 40.000.000 \$



UgNLIS Interoperability



Cumulative Revenue Generated (in Millions USD)



UgNLIS and FELA's key strategic pathways

Assessment of current progress applied to Uganda



Strong collaboration between Ministry of Lands, Housing and Urban Development and other agencies.

1 Governance, Institutions and Accountability



UgNLIS operates under a solid legal mandate through the Land Act and related regulations.

2 Law and Policy



Funded initially by development partners (e.g., World Bank), significant efforts for sustainable financing are ongoing with 240MUsd cumulated revenue generated

3 Finance



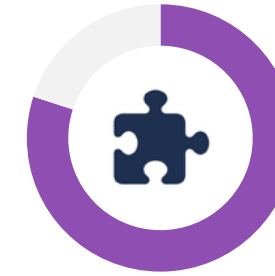
*Full up to date urban high resolution digital cartography
Digitalization and integration of textual and spatial land information
Data sharing with institutions and partner agencies*

4 Data (and Processes)



*Integration of state of the art geospatial data and processes
High capacity digitalization processing chain integrated in the LIS
New geodetic reference system integrated into ITRF
Acquisition of high technology tools for survey, mapping and land processes*

5 Innovation



*Various foundational standards established and applied :
LADM
IDUFCI (unique parcel identifier)
Exchange of information between land administration institutions
Precision classes for topographic surveys and geodetic operations
New geodetic reference network*

6 Standards



*Joint actions between MCLU and finance ministers for the modernization of land administration processes
Involvement of all relevant agencies for the establishment of norms and standards
Participation of boards of surveyors, urbanists, notaries, banks*

7 Partnerships



*Group of 600 personnel from land administration entities trained on the principles and usage of the LIS
Training of professionals on the use of new techniques and ability to benefit from the system
Sustainability and retention of skilled personnel is still a challenge*

8 Capacity and Education



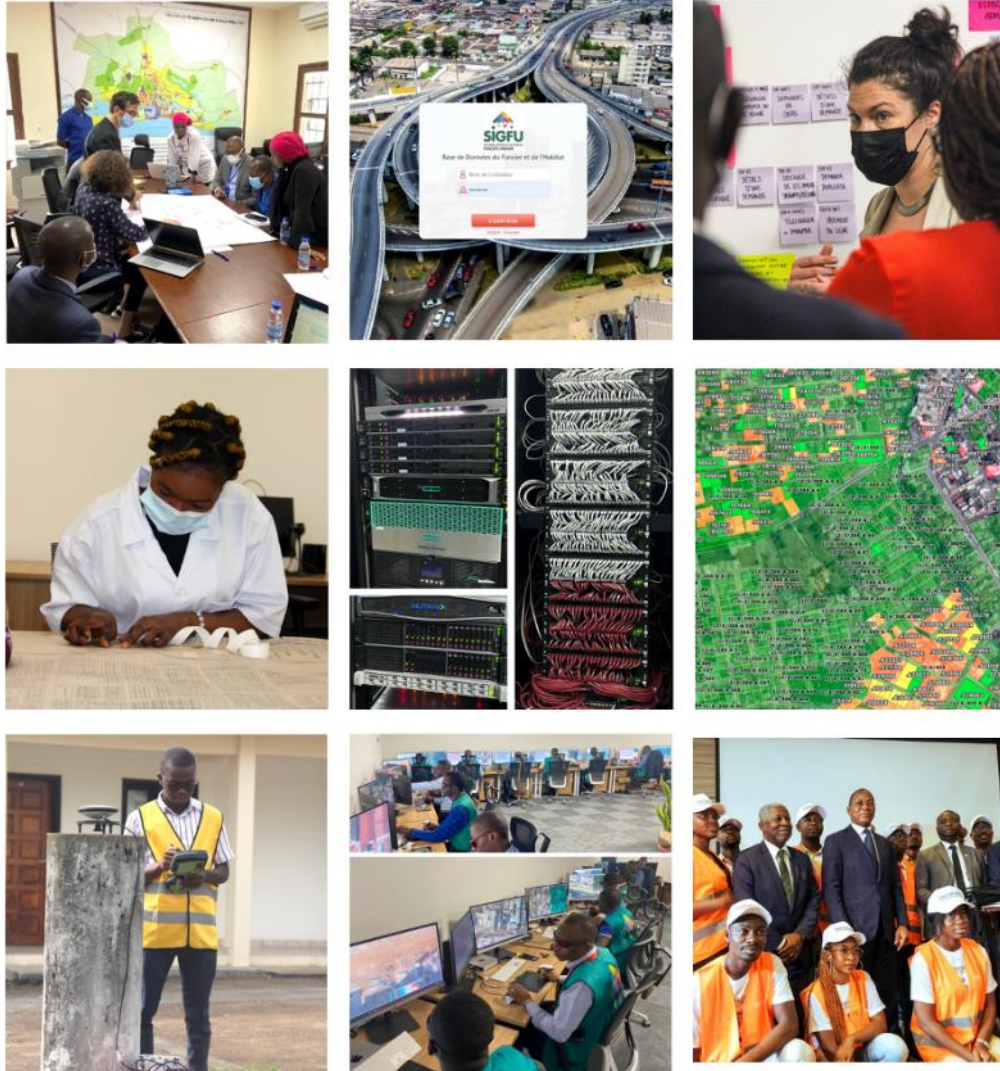
*Many communication campaigns and awareness activities have been realized
Internal communication still to improve
Engagement and adoption of the new processes and system by the land administration personnel – work in progress*

9 Advocacy and Awareness



Case Study: Côte d'Ivoire

SIGFU



Full name

- Integrated Urban Land Management System (SIGFU)

Implementation period: Since 2021

Geographic coverage (Phase 1)

- Abidjan and Assinie (4,500 km²)

Objectives

- Secure urban land tenure
- Streamline administrative procedures
- Improve the business environment

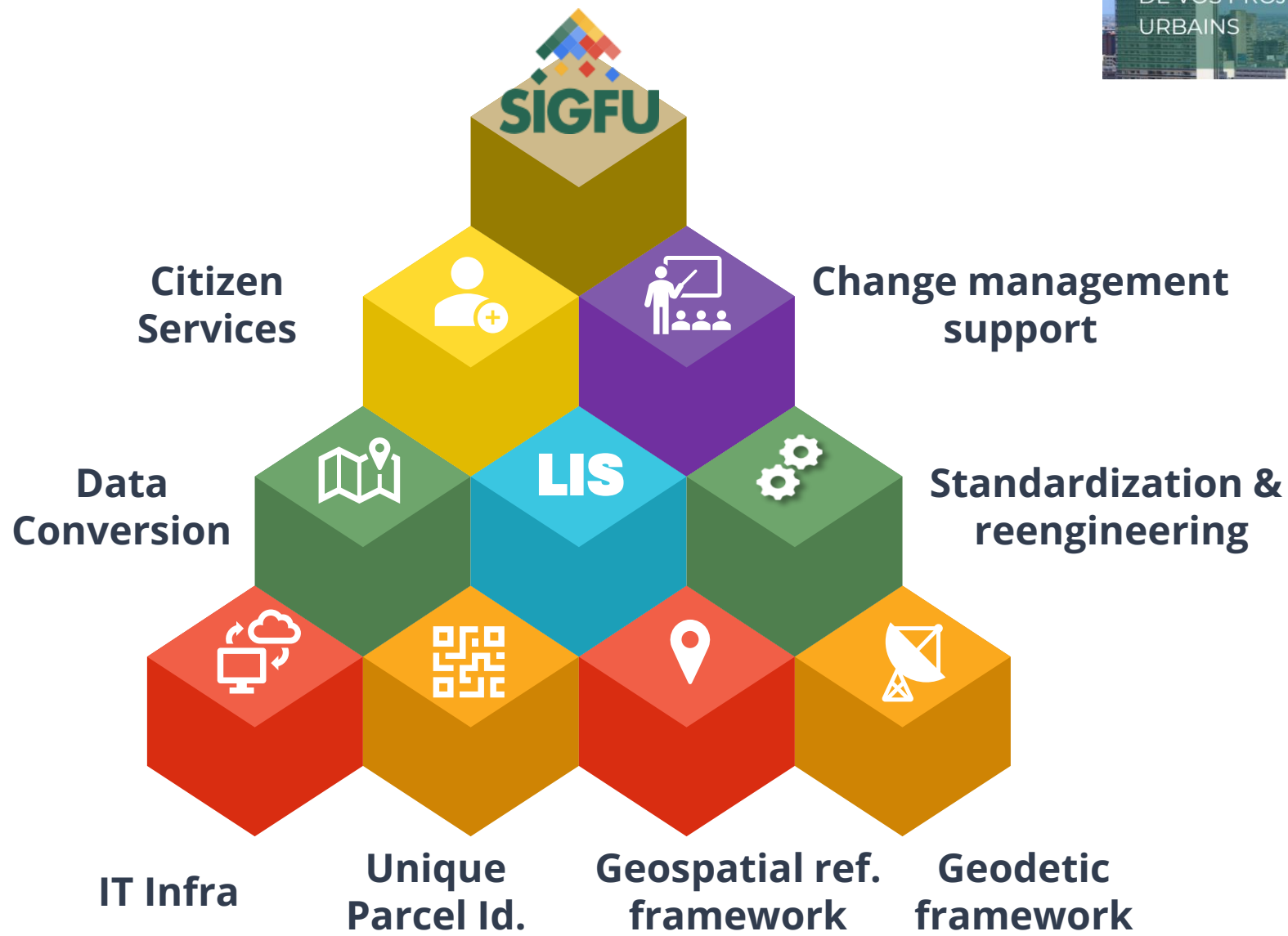
Key achievements (Phase 1, completed in 2024)

- Creation of a comprehensive land and geographic data base
- Deployment of digital tools to automate procedures
- User interfaces for real-time application tracking

Next steps (2025–2026)

- Extension to five major secondary cities in Côte d'Ivoire

SIGFU COMPONENTS



A Few Key Stats...

A Land Information System for Greater Abidjan

49 Land Transactions

Land Information System
IDUFCI Platform
Web & Mobile Portal for Users &
Professionals

1 000 000 land parcels converted

120,000 physical land records digitized
1,600 subdivision plans converted

600 staff trained

15 events organized to support stakeholders
& raise awareness
5 newsletters published

+ 200 000 transactions processed to date

Including 40,000 since 2023



Few KPI

Digital transformation of urban land administration significantly increases direct revenues

■ Before SIGFU
■ Transition phase after SIGFU (2025 - 2026)
■ After transition phase

Annual direct land administration revenue from titles (M€)



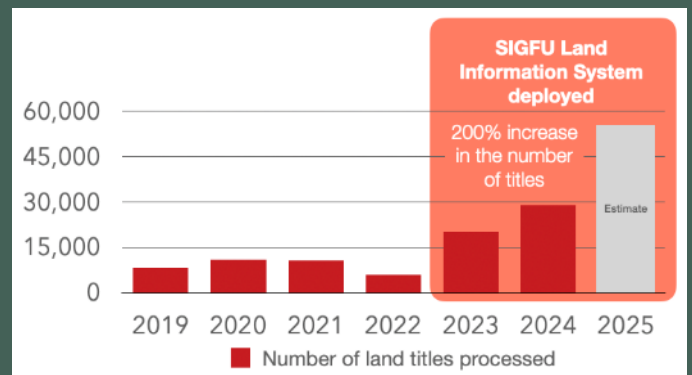
Re-engineering the land titling process and digitizing the administration reduce delays by a factor of 10

■ Before SIGFU
■ After SIGFU

Time to issue a land title on a prereform lot (days)



Time to issue a land title on a reformed lot (days)



SIGFU and FELA's key strategic pathways

Assessment of current progress applied to Ivory Coast Urban Land Administration



Facts

SIGFU Decree: implementation of institutional land administration policy through the implementation of SIGFU

Project monitoring and audits by the Prime Minister's Office

Potential reduction of corruption through full process automation and securing of land and spatial data

1 Governance, Institutions and Accountability



New laws and regulations :

Urban land code

Massive titling reform

Unique parcel identifier

2 Law and Policy



Fivefold increase in direct revenue thanks to the implementation of new processes and LIS

Strong investment in land administration technology infrastructure

Affordable and accessible land services (portal and e-payment)

3 Finance



Full up to date urban high resolution digital cartography

Digitalization and integration of textual and spatial land information

Data sharing with institutions and partner agencies

4 Data (and Processes)



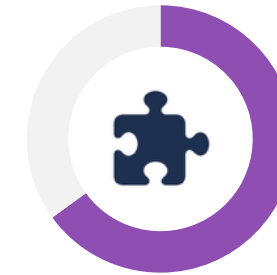
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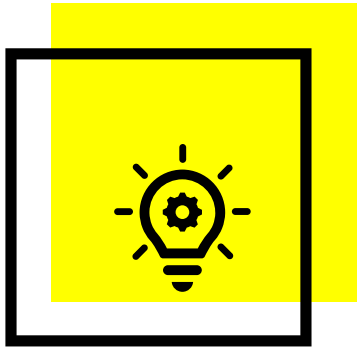
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9 Advocacy and Awareness

Conclusion

03

The LIS of the Future & The Future of the LIS



Innovative Technologies

LIDAR / Drone imagery
3D / BIM / Digital twin
Change detection
AI / Data analytics / Modeling
Blockchain



5 Innovation



4 Data (and Processes)



Citizen Services

Online applications
Fee and tax calculation
Online import/export
Online payment
Single window / Portal



6 Standards



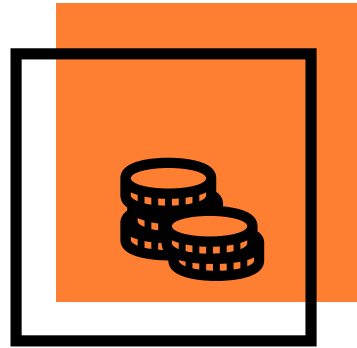
5 Innovation



8 Capacity and Education



9 Advocacy and Awareness



Land valuation

Decision support (banks and insurance companies...)
Fiscal use (valuation and collection)
Automated valuations
Statistical models
Data acquisition



3 Finance



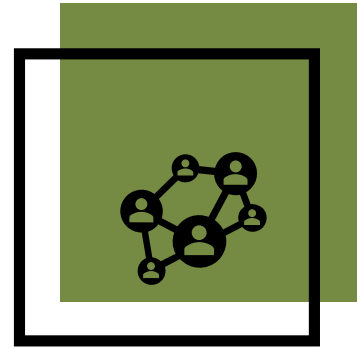
4 Data (and Processes)



5 Innovation



7 Partnerships



Interoperability

Open data
API
E-government (user-facing e-services)
End-to-end services (seamless)
SOA (Service-Oriented Architectures)
Third-party tools (Office...)



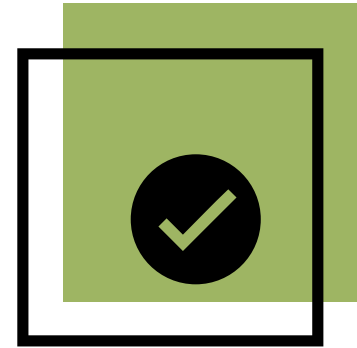
7 Partnerships



2 Law and Policy



4 Data (and Processes)



Security

Strong authentication (users and documents)
Biometric information verification
QR Code
Blockchain
Electronic signature
Information systems cybersecurity



6 Standards



5 Innovation



4 Data (and Processes)



Field Operations Module

Mobile applications
Offline mode
Field data collection / Mobile GIS
Forms / User input
Geo-crowdsourcing / Participatory mapping



6 Standards



5 Innovation



9 Advocacy and Awareness



4 Data (and Processes)



8 Capacity and Education

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Thank you
Feel free to ask any questions!

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