

# Enabling Digital Environmental Impact Assessment (EIA) in Nigeria



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# Research Report: *Enabling Digital EIA in Nigeria*

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- **Research Context**
- **Research Findings**
- **Case Example & Progress Update**



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Research Report

## Enabling Digital Environmental Impact Assessment (EIA) in Nigeria



# Research Report - A Willend Associates Ltd review of digital approaches to EIA in Nigeria, undertaken through research led by our partners at **Fothergill Training & Consulting Ltd.**

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Study approvals and collaborative engagement with Nigerian Government:



FEDERAL MINISTRY OF ENVIRONMENT  
OFFICE OF ENVIRONMENTAL  
ASSESSMENT DEPARTMENT



Study financial support of UK Government and Willend:



Department for  
International Trade



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The study recognises the collaborative engagement of the following organisations:



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**IEMA** Transforming the world  
to sustainability



Netherlands Commission for  
Environmental Assessment

# Context and Basis of the Research Report

2020	Concept feasibility Study by University of Uyo, Nigeria for Willend Proposed Waste Facility in Nigeria – <u>Challenges with obtaining data</u> (COVID made situation worse)	Problem
2021	Scotland's EIA Conference 2021 Session 3: Digital Transformation & EIA	Ideas
	<ul style="list-style-type: none"> <li>Willend organised a webinar hosted by IEMA - presentation by Federal Ministry of Environment and Netherlands Commission Environmental Assessment over 500 registered</li> <li>Willend engages in FothergillITC global digital IA work (grant funded by IAIA)</li> </ul>	Consolidation of ideas
2022	Willend secures matching grant from UK government for the research	Problem and Implementation ideas
	EIA for Willend Waste Facility in Nigeria <ul style="list-style-type: none"> <li><u>Challenges with obtaining baseline EIA data</u></li> <li>Engagement with FMEnv to undertake Pilot Digital EIA concurrently with traditional EIA</li> </ul>	
	Willend and FothergillITC agreed to collaborate on the Digital EIA research project <ul style="list-style-type: none"> <li>Willend secured approval for the research</li> <li>Engagement with research participants</li> <li>Willend and FothergillITC - define and agree scope of research, research commenced</li> </ul>	Find Solution to Problems Approvals Engagement Participation
2023	Research completed <ul style="list-style-type: none"> <li>IFC <i>Next Steps</i> opportunity implemented – Workshops Dec’23</li> <li>Association for Environmental Impact Assessment of Nigeria – Conference October’23</li> </ul>	
2024	<ul style="list-style-type: none"> <li><b>Report Launched</b> (17 January via IAIA) 600 registrants, 249 attendees</li> <li>IFC Beta Testing of MALENA AI software with Federal Ministry of Environment, Nigeria</li> <li>IAIA 2024 Conference</li> </ul>	<i>Next Step Partnerships</i>

# Research Findings



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# Digital EIA - Existing Approaches & Ambition



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- Digital archive of EIA documents exists & GIS Investment
- EIA Portal Phase 1: Online Registration of a developer's EIA.

**Legislative Driver** - Sect 57(1) archive, management of live steps throughout the EIA process.

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- Digital approaches more integrated in staffing and approach.
  - Greater application of digital data + GIS systems to coalesce oil spills data.
  - Stated Ambition: Digital approaches to Biodiversity benchmarking
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## Developers & Consultants

- Considerable increase over decade adoption: **Drones, GIS** and **PDF EIA Reports**
- Feeling of "*unmet potential*" - limited availability / access / coordination of digital E&S data
- There is appetite and active exploration of far digital EIA approaches for developments

**University research** – ahead of practice on use of *satellite derived E&S*

# Barriers exist to rapid broad scale Digital EIA

- **Commitment to Digitisation of EIA** - direction for success vs incremental steps.
- **Lack of Digital environmental and community Data** – considerable limitations exist on what environmental data is gathered, stored and available digitally.
- **Capacity challenges skills + systems** – within Government the need for ICT skills not previously recognized and EIA recruitment not caught up, thus current approach is build-up from within staff.
- **Co-ordination across Government bodies and systems** – Linked to digital data is the multiple organisations and limited coordination on environmental data between + across levels of Government.
- **Learning from previous investments** - budget to upgrade / replace, risks in contracting 3<sup>rd</sup> party ICT support.
- **Moving from adopting Digital Technology to Digital Systems** – Government and Practice making clear progress with specific digital EIA technology advances, but meeting **ambitions** will require more systematic change.
- **FUNDING...** - Budgets are limited and multiple linked focussed investments are required, additional sources are likely to be needed to untap the potential.

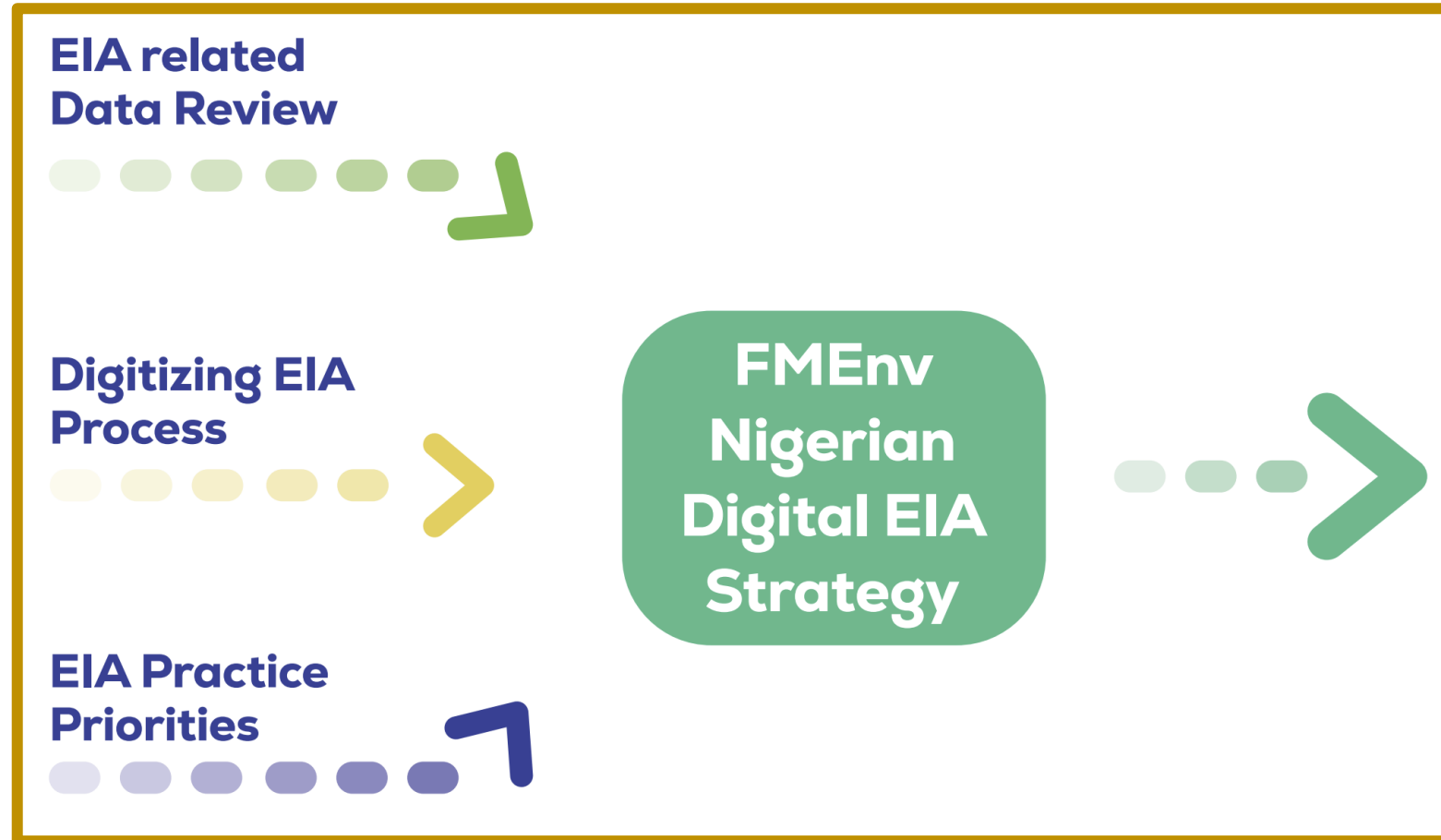
# Significant Ambitions and Appetite for Digital EIA

## Characterizing Nigeria's Digital EIA

- *Nigerian EIA practice is recognized as a leader in the adoption and deployment of digital EIA approaches, both locally and internationally.*
- *Advancing digital EIA approaches is achieved through collaborative partnerships with the joint aim of enhancing environmental performance and the delivery of sustainable development.*
- *Government understanding of digital approaches and the use of technology in EIA is ahead of that commonly held by proponents and their consultants.*
- *FMEnv has a strategy to further upgrade its approach, legislation, officers and equipment / technology to enable it to effectively adopt and deploy digital approaches across the EIA process.*
- *Future EIA related capacity building activities take account of how digital systems can play a role in supporting the delivery of more effective and efficient EIA.*



# Opportunities beyond FMEnv's *EIA Portal* Enabling a *Nigerian Digital EIA Strategy*





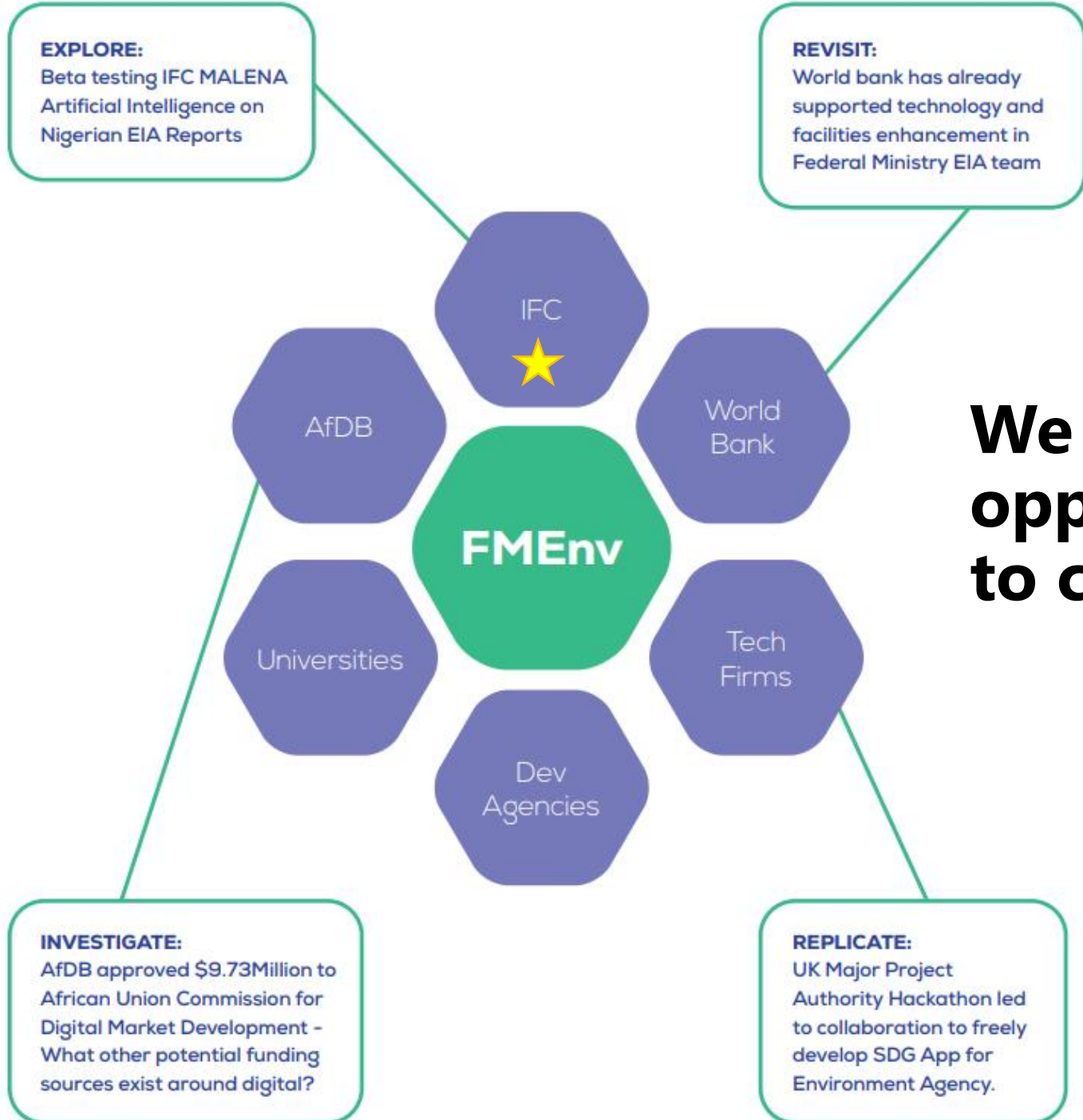
# Next Steps

## Progress & Opportunities



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**We have identified multiple opportunities for collaboration to catalyse Nigerian Digital EIA**



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# Progress Update: Collaboration with IFC on Artificial Intelligence (AI)

FothergillTC introduced Willend to IFC, subsequently Willend facilitated the **Signing of Collaboration Agreement** between FMEnv and IFC for deployment of MALENA-Machine Learning Environment Sustainability Governance Analyst (software).

## Scope of the collaboration

1. Beta test IFC's MALENA on historical Nigerian ESIA reports.
2. Extract insights and benchmark data from the historical ESIA documents.
3. Identify ways to make the FMEnv's review of reports faster more efficient - enabling more comprehensive reviews and quicker project approvals.



Photograph of some attendees at the MALENA Design Thinking Workshop Dec'2023 World Bank Office, Abuja, Nigeria

# Catalysing Progress: Deploying Digital within Nigerian EIA Practice

## Willend - Integrated Waste Facility - EIA Digitisation Approach

### Data collection

- Drones for:
- Aerial surveys
  - Land use
  - Cumulative impacts
  - Air quality sampling

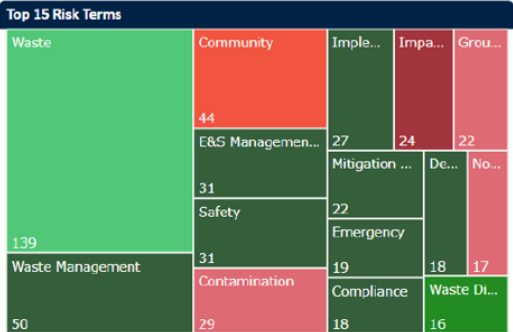


### Data reporting / presentation

- Geospatial data created on Mangomap (temporary) included sample collection points, parameters (temperature, humidity, surface water, ground water, soil, air quality, noise)
- Mangomap link shared with FMEnv and EIA technical review panel
- Online shared drive for review of EIA report, drone footage with EIA Consultant
- EIA report to be hosted on project website (ArcGIS Story Map being considered)

### Data analysis

- Sentiment analysis IFC Malena software



# Let's continue the conversation!

Post questions and comments in the IAIA24 app.



## #iaia24

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