



Empowering Organizations,
Enriching Lives



CICS DIGITAL PLATFORM FOR TRADE FACILITATION

2025

BRIEF



MAAIF
Ministry of Agriculture,
Animal Industry and Fisheries




swisscontact
Swiss Foundation for Technical Cooperation



thinkIT

Table of Contents

	List of Tables	2
	List of Figures	3
	Acronyms	5
01	Executive Summary	6
02	Problem Statement	10
03	Our Approach	11
04	Impact & Results	14
05	Platform Demonstration	16
06	Implementation Roadmap & Next Steps	18
07	Conclusion	20

Table of Tables

Table 1: Progress of the development cycle.	14
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Table of Figures

Figure 2 SPS Digital System Development Sprint Phases

14



Acronyms

API	Application Programming Interface
CICS	Crop Inspection & Certification System
CI/CD	Continuous Integration / Continuous Development
CPU	Central Processing Unit
CIC	Crop Inspection & Certification
FAQ	Frequently Asked Questions
GPS	Global Positioning System
HTTP	HyperText Transfer Protocol
IPPC	International Plant Protection Convention
ISPM	International Standard for Phytosanitary Measures
JSON	JavaScript Object Notation
MAAIF	Ministry of Agriculture, Animal Industry & Fisheries
NIN	National Identification Number
NPPO	National Plant Protection Officer
SOP	Standard Operating Procedure
SPS	Sanitary and Phytosanitary
SQL	Structured Query Language
UAT	User Acceptance Testing
YAML	Yet Another Markup Language

Executive Summary



THE CONTEXT:

Uganda's agricultural exporters supplying fruits, vegetables, and flowers to international markets were being held back by an outdated, paper-based sanitary and phytosanitary (SPS) certification system. Manual processes, fragmented communication, and days-long inspection delays were undermining Uganda's competitiveness and threatening its reputation as a reliable export source.

WHAT WE DID:

thinkIT partnered with Swisscontact and Uganda's Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) under the Global Alliance for Trade Facilitation to design and build a comprehensive SPS Digital Platform. Using human-centred design, agile sprints, and multi-stakeholder co-creation, the platform digitises the entire inspection and certification workflow from online request submission to tamper-proof e-certificate issuance.

WHY IT MATTERS:

The platform transforms what once took days into a process measured in hours. Exporters, inspectors, packhouses, farmers, and customs officials are now connected in real time through a single digital system. This improves transparency, reduces costs, eliminates errors, and strengthens Uganda's compliance with international phytosanitary standards opening the door to new markets and greater agricultural export value.



Introduction



Uganda's agricultural exporters once relied on an outdated, paper-based system to obtain sanitary and phytosanitary (SPS) certification for products such as fruits, vegetables, and flowers. Every inspection meant cumbersome paperwork, manual routing between offices, and long waits, undermining the cost, speed, and reliability of Uganda's export supply chain.

Through the Global Alliance for Trade Facilitation initiative, thinkIT partnered with Swisscontact and the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) to design and deliver the CICS Digital Platform a human-centered, cloud-based system that has since digitized the entire inspection and certification workflow, cutting turnaround time by 60% and helping unlock a 40% rise in certified exports within its first year of operation.



Problem Statement

Prior to digitization, every phytosanitary inspection required for Uganda's export crops involved cumbersome paperwork and manual processes. MAAIF had difficulty storing and reviewing stacks of paper records, making systematic data analysis nearly impossible.

Exporters routinely faced long wait times as inspectors worked through repetitive form-filling with no real-time exchange of information between stakeholders.

Prior to our intervention, the crop export process was a labyrinth of manual paperwork, physical inspections, and disconnected regulatory bodies.

— **Project Team**

Transcription errors crept in easily, and communication between farmers, packhouses, inspectors, and airport officials remained fragmented.

Beyond the operational cost, these gaps posed a direct risk to Uganda's credibility in international markets, where trading partners expect fast, verifiable, and tamper-proof compliance evidence.

High Operational Costs

Manual logistics and processing delays added as much as 15% overhead onto the total value of export shipments a direct drag on farmer and exporter margins.

Compliance Risks

Paper-based certificates were vulnerable to forgery, transcription error, and loss, weakening MAAIF's ability to guarantee the integrity of Uganda's SPS regime.

In short, the manual SPS inspection regime had become a structural bottleneck to trade facilitation one that required a comprehensive digital overhaul to restore efficiency, transparency, and confidence across the export chain.

Our Approach

We adopted a phased, stakeholder-driven approach to digitize Uganda's SPS inspection and certification process, ensuring each stage built on validated outcomes before scaling.

01 Discovery & Mapping

Mapped the end-to-end export workflow across MAAIF, UCDA, packhouses, and airport checkpoints to identify bottlenecks, redundancies, and digitization opportunities.

02 Platform Design

Co-designed the digital platform architecture with stakeholders, prioritizing real-time data exchange, mobile-first inspection tools, and tamper-proof certificate generation.

03 Iterative Development

Built and deployed in agile sprints, with continuous user testing at inspection points to refine usability and ensure adoption across all skill levels.

04 Training & Rollout

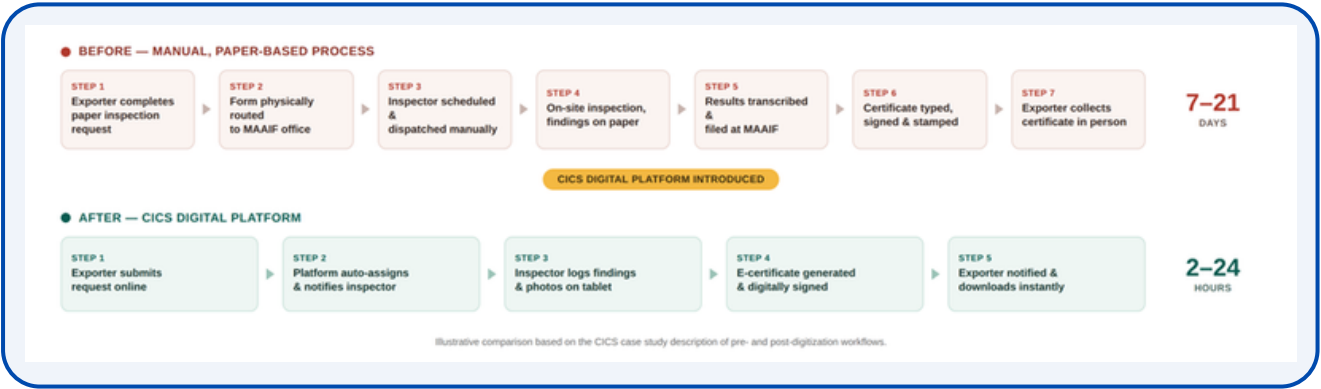
Conducted hands-on training for inspectors, exporters, and administrators, with phased rollout from pilot regions to nationwide coverage.

Key Platform Modules

- Exporter Registration & Licensing
- Inspection Scheduling
- Digital Phytosanitary Certificates
- Real-time Dashboard & Analytics
- Compliance Audit Trail
- Stakeholder Communication Portal

Technology Stack

Built for national scale on cloud-native infrastructure, targeting 99.9% uptime with enterprise-grade security for sensitive trade data, secure API connectivity for third-party verification, and real-time data pipelines feeding MAAIF's central reporting layer.





Impact and Results

The CICS Digital Platform has fundamentally transformed Uganda's SPS inspection landscape, delivering measurable results within its first year of operation. By digitizing documentation and workflows, the system has eliminated redundant paperwork and cut inspection-to-certificate turnaround from as much as three weeks to a matter of hours.



Exporters can now submit and track SPS certificate applications online, receiving approvals in hours instead of days. MAAIF inspectors conduct inspections using tablets, upload results with photographic evidence, and issue e-certificates that are tamper-proof and instantly verifiable giving MAAIF, for the first time, a centralized database for oversight and data-driven decision-making.

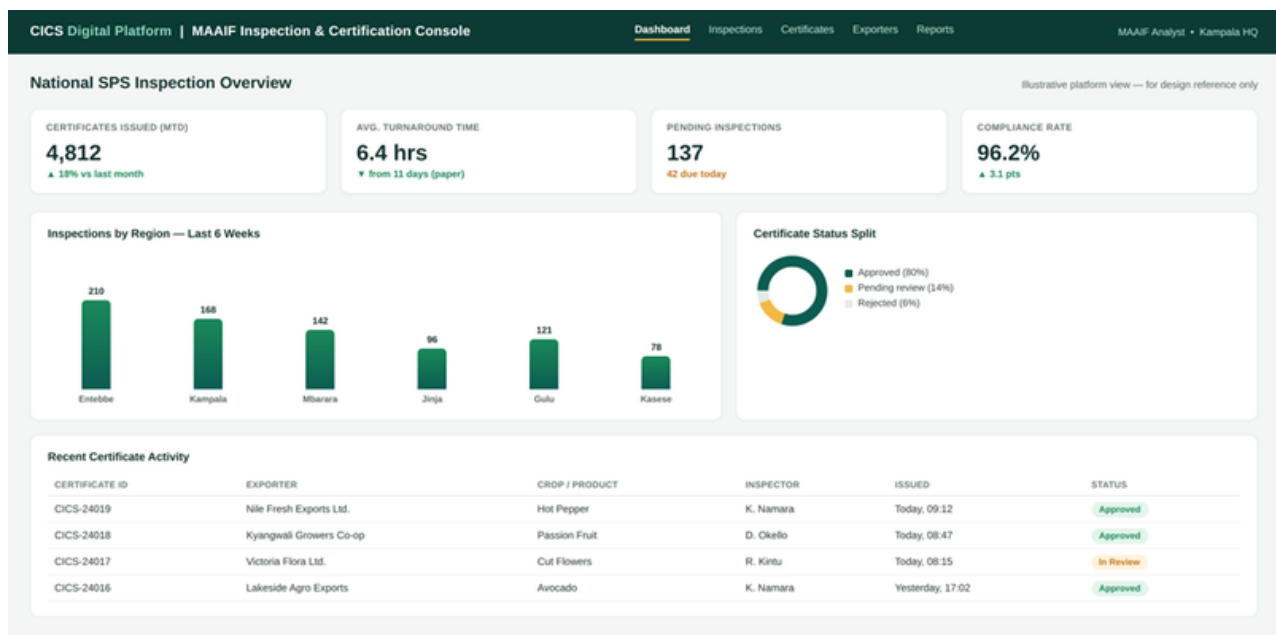


Figure 2. Illustrative view of the MAAIF inspection and certification console, showing real-time throughput, regional inspection volumes, and certificate status.

The platform also fosters better communication across the value chain: farmers, packhouses, and airport officials are now connected through shared, real-time updates.

An exporter who might once have lost a shipment to a misplaced paper form can now track every step digitally. As confidence in Uganda's SPS compliance regime rises, trading partners abroad have more reason to trust the integrity and speed of Uganda's inspection process a trust dividend that helps open doors to new markets.

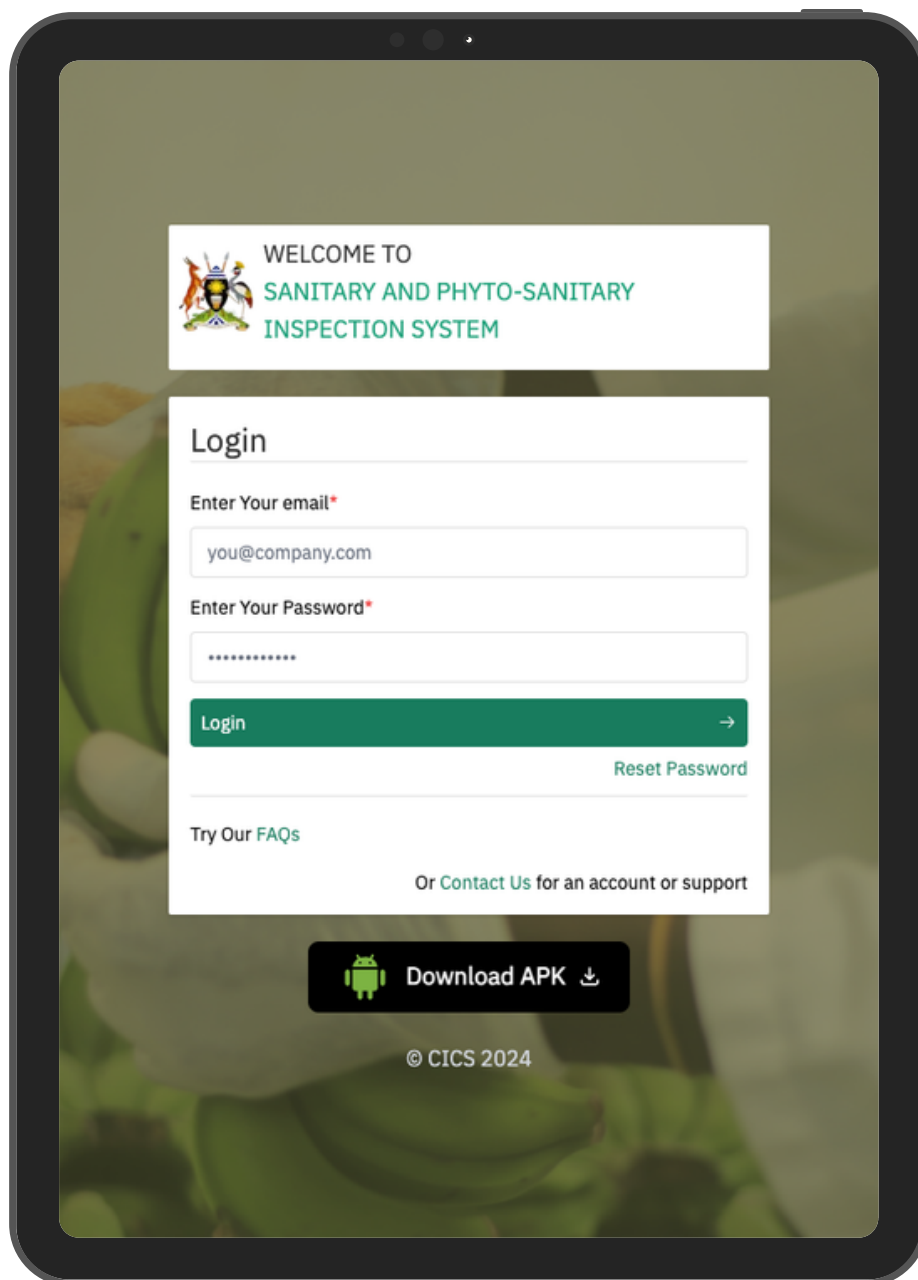
"The CICS platform is a game-changer. It has brought order to chaos, restored trust in our national exports, and empowered our farmers to reach global markets faster than ever before."

Commissioner of Crop Inspection and Certification, MAAIF

Platform Demonstration

Dashboard Overview

The MAAIF Inspection Dashboard provides real-time visibility into every active inspection request, certificate issuance, compliance flag, and field inspector activity across Uganda. The centralised view enables supervisors to monitor performance metrics, intervene on flagged shipments, and generate compliance reports on demand





Next Steps

Building on the platform's early results, thinkIT and its partners recommend a set of coordinated actions to sustain momentum, protect gains already made, and extend the model's benefits to other parts of Uganda's trade ecosystem.

Deepen deployment and capacity-building

1. Continue structured, hands-on training for MAAIF inspectors, customs officers, and export companies, with particular attention to transitioning long-serving staff from paper-based habits to digital workflows.

2. Track training completion and system-usage data by region to target refresher sessions where adoption is lagging.

Institutionalize maintenance and support

3. Maintain a dedicated helpdesk for user inquiries and continuous monitoring of system uptime, backed by periodic independent security audits to protect sensitive trade data.

4. Establish a transparent, user-driven feature-request process, prioritizing enhancements such as additional local-language support and integration with other trade systems.

Align policy with digital practice

5. Accelerate the update of relevant regulations to formally recognize electronic phytosanitary certificates as legally equivalent to their paper predecessors, both domestically and with key trading partners.

6. Codify data-protection and record-retention standards for the centralized inspection database to reinforce trust among exporters and international buyers.

Replicate and scale the model

7.Explore extending the same digital infrastructure to adjacent certification domains, such as veterinary certificates and broader quality-standard compliance.

8.Position the CICS platform as a reference blueprint for other public agencies pursuing similar digitization of inspection and certification workflows, and document implementation lessons for that purpose.

Strengthen monitoring for continuous improvement

9.Formalize the dashboards' analytics such as common causes of rejection or pest-incident hotspots into a regular reporting cadence for MAAIF leadership and development partners.

10.Use early adoption and turnaround-time data to set measurable year-two targets for further reducing administrative delay and expanding platform coverage nationally.

Conclusion

The CICS Digital Platform demonstrates how a human-centered, phased approach to digital transformation can modernize a critical link in a country's trade infrastructure. By replacing a fragmented, paper-based inspection regime with a connected, transparent, and data-driven system, thinkIT, Swisscontact, and MAAIF have not only cut costs and delays for exporters they have strengthened the credibility of Uganda's agricultural exports on the global stage. As deployment continues and the model is extended to new domains, the CICS Platform stands as a practical blueprint for public-private partnership in digital trade facilitation across the region.

Ready to modernize your systems? Contact us via we@thinkit.africa to discuss how this approach can be adapted to your organization's trade, health, or regulatory certification challenges.



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