



## Terms of Reference

<b>Position Title:</b>	ICT Advisor DRIVE Project
<b>Type of appointment:</b>	Individual Consultant
<b>Project:</b>	De-risking, Inclusion and Value Enhancement of Pastoral Economies Project (DRIVE-176517)
<b>Duration:</b>	12 months
<b>Reporting to:</b>	Director General, Ministry of Commerce and Industries.
<b>Duty Station:</b>	Mogadishu, Somalia, with some travel to beneficiary's project, upon request.

### Position Summary:

The Ministry of Commerce and Industry (MoCI) is responsible for trade promotion, investment climate, and industrial and private sector development. It is entrusted with formulating and implementing several policies such as trade, industrial and SME policies as well as activities related to multilateral and bilateral commercial relations, state trading, and export promotion, and feasibility studies. The Ministry has prioritized private sector development, trade, and investment reforms as a key reform initiative towards creating a more enabling business environment of key recommendation from stakeholders and the need to enhance coordination and information transparency as part of the efforts to streamline trade logistics and improve trade facilitation. The Ministry is working on an overall objective that contributes to the strengthening of trade and economic bodies common market and the integration of Somalia and East African region into the international economic and trading system.

### DRIVE Project

Under the Horn of Africa Initiative, the World Bank is financing the De-Risking, Inclusion and Value Enhancement of Pastoral Economies Project (DRIVE). DRIVE aims to protect pastoralists against drought shocks, using a package of financial services including drought insurance, payment, savings and possibly credit, and to connect pastoralists better to markets by upgrading the livestock value chains and facilitating the regional livestock trade. This is a regional project is with Djibouti, Ethiopia, Kenya and Somalia participating. The development objective is to enhance de-risking, financial inclusion and value addition of pastoral economies in the HoA.

## **The Project Will Have Two Components.**

**Component 1:** De-Risking and Finance that will involve scale up financial protection for pastoralists across the HoA with a cost-effective package of financial products and services, including insurance, savings and (contingent) credit. To meet the needs of the pastoralists and

provide cost-effective protection, the best financial products would be a mix of insurance and banking (savings and credit) products.

**Component 2:** Livestock Value Chains and Trade Facilitation - this component intends to connect pastoralists better to markets, by upgrading the livestock value chains and facilitating trade. The targeted beneficiaries are pastoralists who already have some connections to markets but derive limited value from their livestock-rearing activities. The production groups who benefit from component 1 would be linked to investment opportunities generated under component 2. The component will also support private investment in the livestock value chains that will lead to higher incomes for pastoral producers. This component is intentionally focused on complementing existing interventions on pastoral production systems, facilitating livestock trade and mobilization of private investment into the livestock value chains

### **The National Somalia National Single Window System, Livestock Market Information System, Livestock Information and Traceability System and Somalia Trade Information Portal.**

The National Single Window System (NSWS) and Trade Information Portal initiative is a key strategic priority for the Ministry of Commerce and Industry, aligning with the government's vision of improving transparency, reducing bureaucracy, and promoting global competitiveness. The successful integration and utilization of these systems will significantly enhance the overall trade ecosystem in Somalia, enabling seamless interactions, efficient processing, and real-time information sharing among trade stakeholders.

To ensure the effective implementation and management of the National National Single Window System (NSWS) and the Trade Information Portal, the ministry is seeking an experienced and qualified ICT Specialist to take on this critical role. The ICT Specialist will be responsible for overseeing the planning, development, implementation, and maintenance of these systems, ensuring their alignment with national policies, international standards, and best practices in trade facilitation.

The ICT Specialist will work closely with various stakeholders within the ministry, including relevant departments, technical teams, and trade partners. Through their expertise and leadership, the ICT Specialist will drive the successful adoption and utilization of the National Single Window System (NSWS) and Trade Information Portal, transforming trade operations, promoting efficiency, and fostering economic growth in Somalia.

As part of this initiative, the ministry is committed to hiring an ICT Specialist with a strong background in systems development, project management, and trade facilitation. The incumbent should possess extensive knowledge of trade processes, customs regulations, and international standards, along with proven experience in delivering successful ICT projects. With a focus on innovation and collaboration, the ICT Specialist will shape the future of trade in Somalia, positioning the country as a regional leader in trade facilitation.

The ICT Specialist will play a pivotal role in the successful implementation of the National Single Window System (NSWS) and Trade Information Portal for the Ministry of Commerce and Industry in Somalia. The ICT Specialist will be responsible for leading and managing all aspects of these systems, ensuring their seamless integration with existing trade processes and systems.

The ICT Adviser will play also a fundamental role on The Livestock Information and Traceability System (LITS) as it is a digital platform designed to register, monitor, and track livestock throughout the value chain. It enables accurate identification and movement tracing of animals from farms to markets and export points. By improving transparency and disease surveillance, LITS supports Somalia's compliance with international livestock trade and health standards. Also The Livestock Market Information System (LMIS) which is a digital platform that collects, analyzes, and shares real-time market data for livestock across key markets and regions. It provides information on livestock prices, market volumes, demand trends, and trade flows to help producers, traders, exporters, and policymakers make informed decisions. And finally, the support given to the upcoming Integrated Management Information System (IMIS) is a digital platform used by national standards bodies to manage and automate their core functions, including standards development, metrology, conformity assessment, and certification services. It centralizes data, streamlines workflows, and improves traceability and access to services for businesses and regulators. For SOBS, IMIS enhances efficiency, transparency, and coordination across all quality infrastructure operations.

## **1. Key Tasks and Responsibilities**

The ICT Specialist will be responsible for the following key activities and tasks in relation to the National Single Window System (NSWS), Trade Information Portal (STIP), Logistics Management Information System (LMIS), Integrated Market Information System (IMIS), and Legal/Regulatory Information and Trade System (LITS):

Conducting a thorough analysis of existing trade and information systems:

- Identify current workflows, procedures, and documentation requirements across NSWS, STIP, LMIS, IMIS, and LITS.
- Analyze the strengths, weaknesses, opportunities, and threats of the existing systems and trade processes.
- Conduct stakeholder consultations to gather input and understand the requirements and expectations for each system.

Developing a detailed project plan and implementation strategy:

- Define the scope and objectives for the implementation and integration of NSWS, STIP, LMIS, IMIS, and LITS.
- Develop a comprehensive project plan with timelines, milestones, and deliverables for all systems.
- Create an efficient implementation strategy outlining the steps and activities required for successful deployment and system integration.

Managing and coordinating the efforts of a project team:

- Recruit and manage a team of experts, including IT professionals and subject matter specialists for NSWS, STIP, LMIS, IMIS, and LITS.
- Allocate tasks and responsibilities to team members based on their skills and expertise.
- Maintain effective communication channels within the team, ensuring collaboration and knowledge sharing across all systems.

Overseeing the technical aspects of the project:

- Collaborate with IT teams to ensure NSWS, STIP, LMIS, IMIS, and LITS are implemented using the most suitable technologies and platforms.
- Develop technical specifications and requirements for system development, customization, and interoperability.
- Ensure compliance with industry best practices, security standards, and data protection regulations.

Collaborating with internal and external stakeholders:

- Engage relevant departments, government agencies, and trade partners to understand their needs and requirements for each system.
- Build strong relationships with stakeholders and maintain effective communication throughout the implementation process.
- Facilitate workshops, seminars, and training sessions to raise awareness and gather feedback on all systems.

Providing training and support to end-users:

- Develop comprehensive training programs and materials for end-users of NSWS, STIP, LMIS, IMIS, and LITS.
- Conduct training workshops to ensure users are familiar with system functionality and processes.
- Provide ongoing technical support to address challenges and system issues.

Monitoring the performance of the systems:

- Continuously monitor and evaluate NSWS, STIP, LMIS, IMIS, and LITS against defined key performance indicators (KPIs).
- Conduct regular system audits to identify potential areas for improvement.
- Address technical issues or bottlenecks to ensure smooth operation and system availability.

Conducting regular evaluations:

- Develop mechanisms to assess the impact and effectiveness of NSWS, STIP, LMIS, IMIS, and LITS.
- Prepare periodic progress reports and present findings to management and relevant stakeholders.
- Provide recommendations for system enhancements and continuous improvements.

Keeping abreast of emerging technologies and industry trends:

- Stay updated with the latest trends and advancements in ICT, trade facilitation, and market information systems.
- Explore possibilities for integrating emerging technologies into NSWS, STIP, LMIS, IMIS, and LITS.
- Share knowledge and insights with stakeholders to promote innovation and continuous improvement.

More specifically:

### **Livestock Identification and Traceability System (LITS)**

- Diagnostic and design:
  - Define and implement functional requirements, data standards, and governance (unique ID schema, event model, movement recording, health/lab interface, audit trails).
  - Develop and implement enterprise architecture and data model (central registry, role-based access, API layer, offline-first/mobile capture).
- Technology and implementation:

- Design interfaces to veterinary services, labs, border posts, feedlots/slaughterhouses, and residue testing databases.
- Policy and operating model:
  - Advise on regulatory instruments (mandatory tagging/movement reporting, data privacy, compliance), SOPs, and institutional roles.
  - Develop user manuals, training materials, and helpdesk procedures.
- Rollout and sustainability:
  - Pilot in selected regions/value chains; iterate based on user feedback.
  - Define KPIs (coverage, compliance, data quality, timeliness) and monitoring framework.

#### **National Single Window (NSW) Integration** Data exchange and interoperability:

- Map required permits, certificates (e.g., animal health, veterinary export), and risk assessment data to NSW services.
- Specify data exchange standards (REST/JSON, XML, UN/CEFACT) and authentication/authorization (PKI, OAuth2).
- Process digitization:
  - Re-engineer workflows for online applications, e-payment, e-signatures, issuance, and verifiable digital certificates (with QR/secure hashes).
  - Propose master data management (establishment registry, officer registry) and service catalog.
- Governance and cybersecurity:
  - Define SLAs, data sharing MoUs, and incident response plans.
  - Ensure compliance with national cybersecurity and data protection frameworks.

#### **Livestock Market Information System (LMIS)**

- System design:
  - Implement and coordinate data collection methodology (market enumerators, trader submissions, integration with digital platforms), sampling, validation rules, and frequency.
  - Architect data pipeline (ETL), analytics dashboards, and public dissemination channels (web, USSD/SMS, mobile apps).
- Operations and quality assurance:
  - Implement SOPs for data capture, plausibility checks, outlier handling, and version control.
  - Introduce feedback loops with market actors; publish metadata and methodology notes.
- Inclusion and access:
  - Design multilingual, low-bandwidth user interfaces; incorporate accessibility features.
  - Establish open data APIs and licensing for transparent reuse.

#### **Cross-cutting ICT Advisory**

- Infrastructure readiness assessment (connectivity, power, device availability) and mitigation measures (offline sync, solar kits).
- Cybersecurity baseline and controls (encryption at rest/in transit, key management, auditing, role-based access).
- Change management and capacity building:
  - Training plans for officials, vets, enumerators, and farmers; digital literacy modules.

- Communications strategy to drive adoption and compliance.

The ICT Specialist will be accountable for delivering these responsibilities efficiently and effectively, ensuring the successful implementation, integration, and continuous improvement of NSWS, STIP, LMIS, IMIS, and LITS in alignment with the Ministry of Commerce and Industry's goals and objectives.

## 1. Qualifications and Skills.

The ICT Specialist should possess the following qualifications and skills:

- Minimum Master's degree in computer science, information technology, or a related academic and work experience. A master's degree will be an advantage.
- Proven experience in ICT systems and implementation, with at least 5 years of relevant work experience. Experience in trade facilitation or single window projects will be highly beneficial.
- Strong understanding of trade processes, customs regulations, and international standards related to trade facilitation, such as the World Trade Organization's Trade Facilitation Agreement.
- Proficiency in programming languages and database management, with hands-on experience in system integration.
- 8–10 years in designing and implementing sector ICT systems, preferably in agriculture/livestock.
- Proven experience with animal identification/traceability and alignment to international guidance (WOAH/OIE, Codex/food safety) a plus.
- Hands-on with NSW or similar trade facilitation platforms and government interoperability frameworks a plus
- Building LMIS or similar market/price information systems; mobile-first, low-connectivity contexts a plus.
- Systems integration (APIs, microservices), cybersecurity, data governance.
- Experience working with government, donors, and multi-stakeholder environments; strong change management.
- Excellent analytical, problem-solving, and project management skills. Ability to effectively prioritize tasks and allocate resources for timely project execution.
- Strong communication and interpersonal skills, with the ability to effectively collaborate with cross-functional teams and stakeholders at various levels.
- Demonstrated ability to work independently and take initiative, with a high level of self-motivation and commitment to achieving targets and objectives.
- Up-to-date knowledge of relevant ICT frameworks, industry best practices, and security protocols.
- Familiarity with emerging technologies such as cloud computing, big data analytics, and blockchain will be an advantage.
- Ability to adapt to changing requirements and dynamic work environments, demonstrating flexibility and resilience.
- Excellent written and verbal communication skills in English. Knowledge of Somali language will be an added advantage.
- Support the integration and interoperability of systems across the DRIVE Project, including the Single Window, Customs System, LITS, LMIS, IMIS, and other related platforms.
- Experience providing technical support to LITS, LMIS, IMIS, and related digital livestock and market systems.

- Experience in developing and rolling out digital certification systems, including the Digital Unified Export Certificate.
- Experience in strengthening trade portals and supporting National Single Window (NSWS) implementation.
- Ability to integrate and ensure interoperability across multiple systems (NSWS, customs, LITS, LMIS, IMIS).
- Strong understanding of ICT project management, system integration, and digital trade facilitation in government or large-scale projects.

### **Skills and Competencies:**

- Solution architecture, data modeling, and product management.
- Strong analytical and communication skills; stakeholder facilitation.
- Training design and delivery; documentation excellence.
- Creative problem solver with superior ability to conceptualize corporate and technical concepts is needed ability to conceptualize corporate and technical concepts is needed;
- Writing and research skills
- Written and verbal communication skills
- Interpersonal/human relations skills
- Ability to listen and develop information in communication
- Information, Communication an technology skills
- Web Management
- Ability to codify ideas into coherently written text
- Ability to work collaboratively in various disciplines
- Ability to operate personal computer, with various software programs
- Ability to work independently and manage time effectively
- Ability to maintain confidentiality
- Analytical, Organizational, observational, change management, people management, report writing and presentation, and IT skills
- Fluency in verbal and written Somali and English
- Familiar with government priorities

### **8. Performance indicators for the ICT Advisor**

#### **Cross-cutting delivery and governance**

- Delivery milestones on time/on budget: % of planned deliverables submitted and approved by due date; variance to plan (schedule  $\pm\%$ , cost  $\pm\%$ ).
- Requirements coverage: % of agreed functional and non-functional requirements traceable to implemented features (via a requirements traceability matrix).
- Stakeholder satisfaction: average score from end-user/steering committee surveys (e.g., 1–5 scale) per phase.
- Risk and issue management: % of identified high risks with active mitigation plans; mean time to resolve critical issues; audit of risk log updates (weekly/biweekly).
- Documentation quality: % of artifacts accepted without major revision (architecture docs, SOPs, manuals); peer review score against a documentation checklist.

### **LITS (Livestock Identification and Traceability System)**

- System coverage: % of target animals tagged and registered in pilot/rollout zones; % of livestock establishments registered.
- Data completeness and quality: % of movement events recorded within X days; % of records passing validation rules; duplicate rate per 10,000 IDs.
- Timeliness and latency: median time to register an animal/movement; API response times for read/write under normal load; offline sync success rate.
- Compliance and enforcement: % of inspected consignments with valid traceability; reduction in untagged animal movements versus baseline.
- Interoperability: number of live integrations (veterinary/lab, slaughterhouses, border posts); % of API endpoints conforming to agreed standards and successfully tested.
- Security posture: # of critical vulnerabilities found and remediated in <30 days; % of users with MFA enabled; audit log coverage (% of key events logged).

### **National Single Window (NSW) integration**

- Service digitization rate: % of prioritized permits/certificates available end-to-end online (apply, pay, approve, issue).
- Turnaround time improvement: median time from application to certificate issuance vs. baseline (target % reduction).
- Transaction success rate: % of NSW-agriculture transactions completed without manual intervention; first-pass approval rate.
- Data exchange reliability: message delivery success rate; average API uptime (%) and error rate (<X per 1,000 calls).
- Adoption and usage: # of unique traders/veterinary officers using services; % of border posts using e-certificates; % of certificates verifiable via QR/digital signature.
- Compliance and auditability: % of transactions with complete audit trails; number of SLA breaches per quarter.

### **LMIS (Livestock Market Information System)**

- Market coverage: # of markets reporting; % of priority regions covered; frequency adherence (% reports delivered on schedule).
- Data accuracy and validation: % of price/volume records passing plausibility and outlier checks; variance against independent spot checks (<X%).
- Dissemination and reach: # of active users (web, USSD/SMS, app); % of bulletins/dashboards published on time; average query response time.
- User value and engagement: user satisfaction score; repeat usage rate; # of data downloads/API calls per month.
- Inclusivity and accessibility: % of content available in local languages; % of users accessing via low-bandwidth channels; accessibility conformance checks passed.

### **Architecture, security, and operations (all systems)**

- Availability: system uptime % (target  $\geq 99.X\%$  for core services); scheduled vs. unscheduled downtime hours.
- Performance: median and 95th percentile response times for key user journeys; background job throughput (e.g., records/hour).
- Scalability: successful load tests at target peak (e.g., X concurrent users/devices) without degradation beyond thresholds.
- Backup and recovery: RPO/RTO targets met in drills; % of backups tested/restored successfully each quarter.

- DevSecOps maturity: % of code covered by automated tests; CI/CD pipeline lead time and deployment frequency; vulnerabilities per release and fix lead time.
- Access management: % of users reviewed in quarterly access recertification; orphaned accounts remediated within X days.

### **Capacity building and change management**

- Training coverage: % of targeted users trained; training effectiveness score (pre/post assessments).
- Support effectiveness: mean time to acknowledge and resolve Level 1/2 support tickets; % of tickets resolved within SLA.
- Knowledge transfer: # of local administrators/developers certified or validated as competent; dependency on external support reduced by X% by project end.
- Communications: # of outreach events; % of priority stakeholders engaged; awareness metrics (e.g., site visits, newsletter opens).

**Duration of Assignment:** The ICT Specialist shall be contracted for One year period with possibility of extension depending on performance and availability of funding.

**Reporting:** The ICT Specialist is hired for the activities on ICT of the DRIVE Somalia project. The specialists will report to the Director General, Ministry of Commerce and Industries as the primary (solid-line) supervisor for day-to-day management and administrative matters. Day-to-day coordination with the Focal Point and the Advisor of DRIVE MOCI, the focal point and livestock advisor of DRIVE MLFR, and focal point and quality infrastructure advisor of DRIVE SOBs. In parallel, the Focal Point will maintain functional (dotted-line) reporting to the, DRIVE Project Implementation Unit, World Bank TTL DRIVE Somalia, World Bank technical teams, for technical guidance, inter-agency coordination, and strategic oversight. This interim reporting arrangement is intended to sustain implementation momentum and whole-of-government alignment of all the systems under the DRIVE project including interoperability, avoiding duplication and ensuring synergies among Livestock Identification Traceability System, the National Single Window, SOBs ICT System, the Livestock Market Information Management System, the electronic veterinary certificate until the final governance and hosting structure of all these systems are formally confirmed, consistent with the governance and sequencing considerations highlighted in the different feasibility/needs assessment report.

**Language:** Reports and other documents shall be submitted in English.

**Location of the assignment:** The duty station is Mogadishu, Somalia. The ICT Specialist will be based in the Ministry of Commerce and Industries.