

Terms of Reference For Institutional Consultancy

Title:	Immunization Information System Expansion in Tajikistan	
Consultancy Mode:	National ☒ International ☐	Page 1
Type of Contract:	Institutional	
Mode of Selection:	Competitive ☒ ☐	
Location	Tajikistan	
Duration of Contract:	6 months	

1. Background

Despite the fact that Tajikistan has made important progress in strengthening its health system, significant gaps remain in the digitalization of key public health programmes, including immunization. Historically reliant on paper-based data management, the country lacked an Electronic Immunization Registry (EIR) until the COVID-19 pandemic. In response, a basic web-based immunization system was rapidly developed under the Tajikistan Emergency COVID-19 Response Project (TEC-19) with World Bank support. This system enabled electronic registration and certification of individuals vaccinated against COVID-19, collection and storage of vaccination data, and the issuance of digital and paper certificates featuring QR codes. Although the system was highly effective for pandemic response, it remained siloed, lacking modular architecture, interoperability, and scalability to support a comprehensive, integrated Immunization Information System (IIS).

In the post-pandemic period, the Ministry of Health and Social Protection (MoHSP), through its Agency for Medical Statistics and Information (AMSI) and with technical leadership from the Republican Centre for Immuno-Prophylaxis (RCIP), has prioritized the development of a full-fledged Immunization Information System. The expansion of the current digital platform Tandurusti.tj has emerged as a strategic initiative to improve immunization coverage, enhance vaccine logistics monitoring, support real-time data use, and ultimately reduce the number of zero-dose children in the country. The envisioned IIS will serve as a digital backbone for routine and campaign immunization tracking, adverse event monitoring, automated reminders, and evidence-based programme management. It must be interoperable with key national systems such as the Civil Registration and Vital Statistics (CRVS) platform, Vaccine Stock Management Information System, and health data aggregators like HMIS which is based on DHIS2.

To realize this vision, UNICEF – building on its longstanding technical engagement in Tajikistan’s health sector – is supporting the MoHSP in the design, development, and implementation of the additional features and functionalities required to transform the Tandurusti.tj platform into a fully-fledged IIS. While UNICEF plans to contract a software development firm or team of software developers to carry out the actual platform development, UNICEF CO in Tajikistan needs relevant ICT and digital health capacity required to provide technical leadership, ensure adherence to best practices, and guarantee quality assurance across all stages of the project lifecycle.

Accordingly, UNICEF seeks to hire a team of qualified software developers to develop, test, and deploy the additional modules and enhancements necessary to expand Tandurusti.tj into a comprehensive, user-centred Immunization Information System. This work will be guided by UNICEF’s technical leadership, supported by specialized consultants and digital health experts who will provide quality assurance, verify all deliverables, and ensure seamless integration with existing national systems.

2. Purpose and specific objectives

UNICEF, as the Client, is looking to contract a qualified Software Development Team with proven experience in the development and implementation of health information systems of comparable scale and complexity to support the expansion of the national digital health platform Tandurusti.tj into a fully functional Immunization Information System (IIS).

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The assignment includes enhancement of IC (vLMIS) at RCIP with a Cold Chain Inventory Gap Analysis function to compute required vs. available cold volume (facility/district/region), prioritize deficit/surplus sites, and generate actionable recommendations (repair, redistribution, procurement). The module will align with national CCE standards, interoperate with IIS (Tandurusti.tj), and use the national facility registry and catalogues.

Description of Tandurusti.tj platform

The Tandurusti.tj platform represents the national digital health ecosystem of the Republic of Tajikistan, developed as a comprehensive and modular information system designed to integrate and manage key processes across the health sector.

Shared services

Tandurusti.tj is built on a modular and service-oriented architecture, where each component fulfills a specific functional role while remaining fully interoperable within the unified platform. The system integrates multiple core shared services, including:

- National Patient Registry (Master Patient Index / MPI): Stores unique demographic and identification data for all patients and serves as the foundation for linking patient records across all health modules.
- Master Facility Registry: Contains institutional profiles of both medical and social service providers, ensuring consistent organizational data for all integrated systems.
- Master Health Workforce Registry: Maintains detailed information on health professionals, including education, employment history, and credentials.
- Identity and Access Management (IAM/IdP): Provides centralized authentication, authorization, and role-based access control for all users within the ecosystem.
- Medical Terminology Service: Integrated with WHO's international classifications, including ICD-10 and ICD-11, ensuring alignment with global coding standards.

This architecture ensures data consistency across all levels of the health system, from primary healthcare facilities to national-level analytics and reporting. The modular design allows the platform to scale flexibly and integrate new national or international digital services without disrupting existing components.

Platform structure and Core modules

Tandurusti.tj unifies a wide range of interlinked functional modules under a single digital ecosystem, each contributing to comprehensive health sector management. The platform includes, but is not limited to, the following key modules:

1. Medical Registration of Births and Deaths
2. Immunization (Routine and Supplementary Campaigns)
3. Laboratory Services (including MRI, CT, and cervical cancer screening);
4. Emergency Notification and Telemedicine;
5. HIV/AIDS Case Registration and Monitoring;
6. Cashless Payment Module for Medical Services;
7. Reporting and Analytics Tools.

All modules operate within a shared information space with a common data repository and unified authorization interface.

The Patient Registry acts as the central data source, serving both as a national master patient index (MPI) and as a data provider for external governmental entities, such as the Ministry of Justice, the Agency for Social Protection and Pensions, and the Agency for Innovation.

All reference data and classifiers (geographical units, healthcare services, vaccine schedules, laboratory test codes, etc.) are centralized, consistently managed, and made available according to user roles and access rights.

Desired To-Be Architecture for the IIS

At present, within the Tandurusti.tj ecosystem, the base element of the immunization workflow is the Preventive Vaccination Card (Form No. 063) / Карта профилактических прививок (форма № 063).

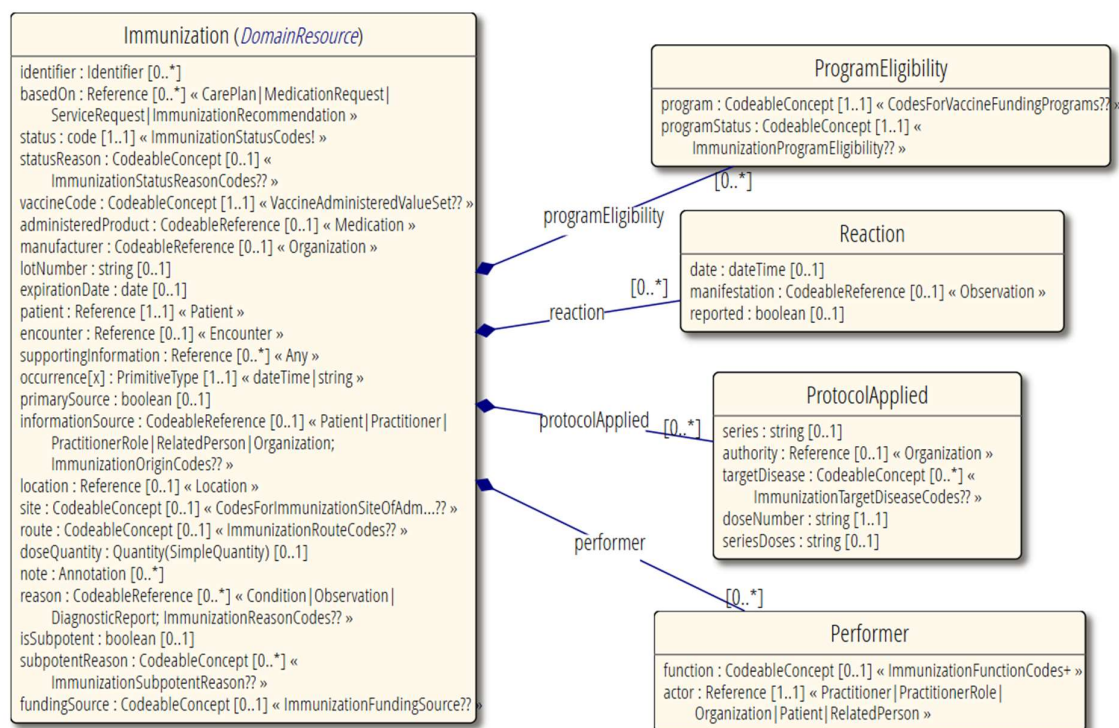
This register represents an aggregated record of vaccination data, essentially a digitized version of the paper-based workflow traditionally used across healthcare facilities in Tajikistan. Each entry in this form consolidates multiple vaccination events for a patient over time, serving primarily administrative and reporting purposes rather than transactional or analytical ones.

While this approach has enabled the initial digital transition of immunization records, it has inherent limitations. Because Form 063 is a static and hard-coded structure, the system requires IT modifications whenever the national immunization policy or vaccine list changes (e.g., the introduction of new vaccines, schedule adjustments, or changes in dosage requirements). Moreover, the current design does not easily support integration with external systems or detailed event-level analytics.

The recommended approach is to transform the IIS from an aggregated record-based model to an event-based data model that captures each individual vaccination or immunization event. Each vaccination event, whether routine (preventive) or ad-hoc (on-demand, custom, or booster), should be recorded as a discrete data entity in the IIS. This event-level granularity will serve as the cornerstone (“brick”) of the immunization architecture, providing a more flexible, scalable, and accurate basis for analysis and reporting.

From these atomic vaccination event records, the IIS can automatically generate the traditional Preventive Vaccination Card (Form No. 063) / Карта профилактических прививок (форма № 063) per patient, facility, or Register of preventive vaccination (Form 064) / Журнал профилактических прививок (Форма 064) per facility, etc..

The Vaccination Event should be modeled on the HL7 FHIR “Immunization” resource (<https://hl7.org/fhir/immunization.html>), adapted and extended to comply with the regulatory, clinical, and operational requirements of the Republic of Tajikistan.



3. Scope of the review (Description of the assignment)

The scope of this assignment is to design, develop, test, and deploy an enhanced Immunization Information System (IIS) integrated within the existing Tandurusti.tj digital health platform. The upgraded system will serve as the central digital tool for managing immunization information across all administrative levels of the health system of the Republic of Tajikistan.

The IIS will ensure that immunization services are recorded and monitored electronically, facilitating data-driven decision-making and improving reporting timeliness and accuracy. The system will support registration of immunization events, refusals, contraindications, and adverse events following immunization (AEFI), as well as generation of automated dashboards, aggregated forms and reports. The objective is to gradually replace or significantly reduce paper-based workflows, strengthening data accuracy, timeliness, and completeness, improve the monitoring of immunization coverage, and contribute to reducing the number of zero-dose and under-immunized children.

The system must be interoperable with existing healthcare information systems and services and capable of exchanging information with relevant national digital platforms through secure and standardized interfaces.

The Contractor (Firm or Development team) will be responsible for delivering the full system solution, including software development, testing, deployment, training, and preparation of comprehensive technical and user documentation.

Key deliverables	Key tasks
<u>Deliverable 1</u> Phase 1: Core IIS (incl. vLMIS)	1.1 Requirements validation & implementation plan (first 2 weeks). Confirm scope and functional priorities (patient admin, vaccination event capture, notifications, initial reporting, interoperability). Produce a detailed

Foundation & Initial Interoperability	implementation plan with milestones, RACI, risk log/mitigations, and a Gantt for Phase 1. Obtain UNICEF/MoHSPP approval. 1.2 Technical architecture & data design. Document system architecture, data model for person and immunization records (including versioning/no-deletion policy), unique identifier strategy (birth cert/UPI), privacy & security controls, audit trails, and environment strategy (dev/test/stage/prod). 1.3 Interoperability specifications. Define interfaces and standards to connect with Master Patient Index, health-facility and workforce registries, and terminology services (code systems, vaccine catalogue, lots). Include API specs, message formats, authentication, and error handling. 1.4 Product backlog & sprint plan. Develop user stories with acceptance criteria for: registration/demographics, vaccination event capture, status tracking, notifications, and initial analytics. Define Definition of Ready/Done, iteration calendar, demo cadence, and counterpart engagement points. 1.5 Vaccination event capture design. Specify data elements (recipient, vaccine type, lot, dose, date, facility, vaccinator, manufacturer), schedule logic for automatic dose validation, pre-filled forms to reduce errors, and certificate generation (QR/barcode). 1.6 Status tracking & notification logic. Define rules for due/overdue identification, catch-up planning, target lists, and broadcast reminders; specify channels (SMS/email), consent/opt-in, templates, and throttling/frequency. 1.7 Reporting & analytics plan (initial set). List priority dashboards and statistical reports, real-time/geo-mapping needs, data sources, KPIs, and export formats; document how Tandurusti.tj capabilities will be leveraged and any gaps to address. 1.8 Quality assurance & testing strategy. Provide plans for unit/integration, performance, security testing, and UAT. Define entry/exit criteria, roles of MoHSPP/RCIP/UNICEF in test cycles, and defect management workflow. 1.9 Deployment & release plan (end of Phase 1). Outline integration of modules, controlled production rollout, rollback strategy, configuration management, and go-live checklist for Phase 1 scope. 1.10 Training & change management plan. Prepare training approach, audience matrix (national/regional), schedule, and materials outline (user/admin guides). Define support arrangements and knowledge transfer to government teams. 1.11 Governance & approvals. Detail decision-making forums, documentation review cycle, and formal approval steps by UNICEF and MoHSPP for designs, sprint plans, and the inception report itself. 1.12 Inception report compilation. Consolidate all above into a single report: objectives, methods, architectural/design specs, interoperability, backlog & sprints, QA/UAT, deployment, training, risks/assumptions, and timelines—submitted for UNICEF/MoHSPP endorsement.
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<u>Deliverable 2</u> Phase II: Full Functionality, Interoperability & Rollout Readiness	2.1 Lessons learned & inception workshop. Review Phase 1 findings; run a short inception workshop to confirm technical priorities, interoperability extensions, testing strategy, and delivery schedule; document and obtain UNICEF/MoHSPP approval. 2.2 Updated Phase 2 plan & governance. Issue the refined implementation plan (scope, milestones, RACI, risks/mitigations, dependencies), change-control process, and approval gates with UNICEF/MoHSPP. 2.3 Vaccination scheduling & appointments. Maintain national immunization calendar; enable provider-driven individual schedules aligned to guidelines; implement appointment booking; add forecasting algorithms for demand and proactive stock planning (document logic and parameters). 2.4 1C (vLMIS) Cold Chain Inventory Gap Analysis module. Configure data model and validations aligned to the national CCE tool; build role-based dashboards; set up secure IIS interoperability with tandurusti.tj; deliver SOPs, training and handover. 2.5 VxLMIS integration for stock management. Integrate IIS with the upgraded Vaccine LMIS (1C→VxLMIS) for facility-level stock visibility, usage/wastage tracking, auto-replenishment requests, and min/max/reorder visualization; define APIs, payloads, auth, and error handling. Note dependency: delivery contingent on successful external upgrade of 1C to VxLMIS. 2.6 Vaccination campaign events. Enable capture of SIAs/campaign sessions beyond routine, including target groups, locations, doses administered, and linkage to stock movement and reporting. 2.7 AEFI notification & case management. Implement AEFI registration with auto-population of patient/vaccination data; workflows for triage, investigation, and closure; alerting for serious/unexpected events; standard reporting outputs. 2.8 Reporting & advanced analytics. Expand dashboards and drill-down/filters; define KPI catalogue; enable exports; assess and, if approved, integrate a BI tool for large-scale analysis (architecture, access, and governance). 2.9 Interoperability enhancements. Finalize interfaces for seamless data exchange with EHRs and vaccine logistics; align with health-facility and workforce registries and terminology services; publish updated API specs. 2.10 Iterative development & user validation. Deliver features via sprints with analysis/config/coding/testing; conduct interim demos for usability and acceptance within approved scope. 2.11 Testing & acceptance. Execute functional/integration, performance, and security tests; run UAT with MoHSPP/RCIP/UNICEF; track defects to closure; record acceptance results. 2.12 Deployment & nationwide rollout. Prepare rollout plan (environments, configuration, migration where applicable), go-live checklist, rollback strategy. 2.13 Training, documentation & handover. Provide updated user/admin manuals and training materials; conduct sessions for national/regional users; confirm operational readiness and support arrangements for steady-state operations.
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<u>Deliverable 3.</u> Phase III: Warranty, Stabilization & technical Support	3.1 Warranty activation & scope confirmation. Confirm start/end dates (12 months post-acceptance), in-scope items (defects, performance issues, security vulnerabilities), and “no-cost” remediation terms. 3.2 Service levels & triage. Define severity levels (S1–S4), target response/restore times, escalation path, support hours, and communication channels (service desk/email). 3.3 Defect management. Establish logging, root-cause analysis (RCA), fix prioritization, regression testing, and patch release cadence; maintain a live defect register shared with UNICEF/MoHSPP. 3.4 Performance & availability monitoring. Set KPIs (uptime, latency, throughput), thresholds, monitoring dashboards/alerts, and routine tuning to sustain agreed performance baselines. 3.5 Security monitoring & remediation. Run periodic vulnerability scans, apply security patches, track CVEs, and implement hardening fixes; document incidents and preventive actions. 3.6 Hotfix/patch management. Package and deploy hotfixes and cumulative patches to test→stage→prod with rollback plans and change logs; obtain approvals as per governance. 3.7 Backups & continuity checks. Verify backup schedules, restoration tests, and disaster-recovery runbooks to ensure data integrity and rapid recovery. 3.8 Documentation updates. Keep user/admin manuals, runbooks, API specs, data dictionaries, and architecture diagrams current with each patch. 3.9 Reporting & reviews. Provide monthly warranty reports (incidents, RCAs, fixes, performance/security metrics) and conduct quarterly service reviews with UNICEF/MoHSPP/RCIP. 3.10 Enhancement intake (out-of-scope). Operate a change-request pipeline for new functionalities identified by the Client; size/estimate and, subject to mutual agreement and budget, schedule additional sprints outside warranty scope. 3.11 Knowledge transfer & capacity building. Offer targeted refresh trainings and admin hand-holding as needed to stabilize operations. 3.12 Warranty closure & handover. Complete final health check, resolve open issues, deliver closing report, and obtain formal acceptance of warranty period.
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4. Methodology

With the requirement to deliver a complete and operational system at a fixed cost while ensuring flexibility to refine functionalities through user feedback, the development should follow a hybrid approach, combining the structured planning and control of the Waterfall model with the adaptive and incremental implementation principles of Agile. This approach will ensure that UNICEF and the Ministry of Health and Social Protection of Population (MoHSPP) of the Republic of Tajikistan receive a complete, high-quality product within a clearly defined cost and timeline, while still benefiting from continuous validation and stakeholder engagement during development.

Development will be organized in two main phases, each comprising three sub-stages:

- 1) Planning,
- 2) Development and Iterative Implementation, and
- 3) System Integration, Acceptance, and Deployment.

The methodology will be further refined based on the findings of the inception report.

Ethical considerations

The consultancy will be guided by UNEG Ethical Guidelines¹ and UNICEF Procedure for Ethical Standards². Only adults (age 18+) should be invited to participate in both qualitative and quantitative study. The common guiding principles will be used to ensure ethical safety during the review process:

- Privacy and confidentiality
- Informed consent
- Harm and benefits
- Conflict of interest

The institution will explain to the participants the purpose and use of the study; they will also make it explicitly clear to the participants that their participation is voluntary, and they can withdraw at any moment. Throughout the process, the interviewers should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relationships with all stakeholders.

5. Work plan

The detailed workplan and technical proposal to be provided by the potential vendor and finalized after consultations with the UNICEF Health focal team.

6. Deliverables and payment schedule

Deliverables	Duration (number of days counted from the day of contract signing)	Schedule of payment (% of total contract amount)
Phase 1: Core IIS Foundation & Initial Interoperability	60 days	40%
Phase II: Full Functionality, Interoperability & Rollout (except the training)	50 days	40%
Conducting of trainings	10 days	15%
Maintenance period	12 months	5%
TOTAL	120 working days	100%

7. Management and supervision

The contract will be managed by UNICEF Tajikistan. The institution will work under direct supervision of Health Officer, with technical support and guidance provided by other staff with

¹ <http://www.unevaluation.org/document/detail/102>

² UNICEF PROCEDURE FOR ETHICAL STANDARDS IN RESEARCH, EVALUATION, DATA COLLECTION AND ANALYSIS, April 2015

overall guidance of the Chief of Health and Nutrition. Relevant support will be sought from the UNICEF Europe and Central Asia Regional Office as well.

8. Reporting requirements

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The Software Development Team shall provide the following reports during the course of the assignment:

- a) **Sprint Reports** – submitted after each sprint, including:
 - Release notes summarizing new features, fixes, and enhancements;
 - Breakdown of tasks completed during the sprint, with duration and resource allocation;
 - Velocity metrics and progress against planned deliverables;
 - Identified issues, risks, and proposed mitigation or corrective actions.
- b) **Next Sprint Backlog** – submitted at the end of each sprint, outlining:
 - Breakdown and estimated duration of tasks planned for the upcoming sprint;
 - Dependencies, expected inputs, or resources to be provided by the Client;
 - Actions or decisions required from the Client to ensure timely implementation.
- c) **Training Reports** – submitted following each training session, including:
 - List of participants (with institutions and roles);
 - Training agenda and session objectives;
 - Copies of training materials (presentations, exercises, labs, etc.);
 - Summary of trainee evaluations or test results, where applicable.

Following successful completion and acceptance of all deliverables, the Contractor shall provide a warranty period of 12 months, during which the development team will identify, analyse, and fix any defects, performance issues, or security vulnerabilities at no additional cost to the Client.

If new functionalities are identified by the Client during the warranty period, such enhancements may be implemented through additional development iterations (sprints), subject to mutual agreement and availability of budget.

Subject to satisfactory performance and continued project needs, the contract may be extended under the same fee rates and terms, with prior written approval from UNICEF.

9. Qualification requirements/specialized knowledge/experience required to complete the task

The Contractor shall furnish documentary evidence demonstrating that it meets the following qualification and experience requirements. Such evidence shall include, but not be limited to, information on completed contracts, detailed project descriptions, and contact information of previous clients who may be approached by the Client for references or, where necessary, visited to review systems implemented by the Contractor.

- The Contractor shall have been in continuous operation for at least five (5) years, with the principal area of business focused on the design, development, and implementation of information systems, preferably within the health sector.
- The Contractor shall demonstrate experience in successfully executing at least two (2) projects of comparable size, scope, and complexity, involving the development and implementation of web-based information systems. These projects shall have reached completion (development phase finalized) within the last five (5) years. For any ongoing

projects, the Contractor shall provide official acceptance or completion certificates confirming delivery of the fully developed software solution.

- Proven experience in applying Agile software development methodologies (as described in the Scope of work and Development approach section of this ToR) shall be considered an asset. This shall be demonstrated through submission of a project methodology description, including the role of the Client in iterative development, testing, and acceptance cycles.
- Demonstrated expertise and previous experience with the required technology stack (as defined in the Technology stack requirements of this ToR) shall be considered an asset. The Contractor shall provide examples of projects where similar technologies were applied successfully in production environments.

Development team qualifications requirements

The Development Team shall consist of qualified national specialists with proven experience in the design, development, and deployment of large-scale digital health or public-sector information systems.

All experts must:

- Be fluent in Tajik (mandatory). Knowledge of English or Russian is an advantage.
- Have familiarity with the Tandurusti.tj platform (mandatory).
- Have experience working with the Information System Electronic Registration Immunization (IS ERI) (mandatory).
- Familiarity with the Electronic Database of Routine and Supplementary Immunization of Children in the Republic of Tajikistan is an advantage.
- Knowledge of District Health Information System 2 (DHIS2) is an advantage.
- Have participated in at least one software development project in the last three (3) years using an Agile approach (mandatory for all technical roles).
- Certifications in any technology from the required technology stack (React, Next.js, Node.js, PostgreSQL, or related tools) are considered an asset.

Key roles listed under this section may be performed by the same individual, provided that the person demonstrates sufficient qualifications and proven experience covering all mandatory requirements (for example a Full-stack developer can cover the positions for Front-end and Back-end Developers). Such combination shall be acceptable only if it aligns with the proposed resource allocation and implementation schedule.

For each proposed team member, the Contractor shall include references demonstrating experience relevant to the specific role. Where one person performs multiple roles, the Contractor shall provide separate references supporting the individual's experience for each role combined. References shall include contact details for potential verification by the Client.

For all proposed experts, the Contractor shall submit detailed CVs demonstrating compliance with the minimum qualification requirements as specified below. Each CV shall clearly indicate education, relevant professional experience, certifications, and roles performed in comparable assignments:

1. Project Manager (1 position)

- University degree in Business Administration, Computer Science, or a related field.

- At least 5 years of professional experience in managing software development projects, including a minimum of 3 years in government digital transformation projects.
- Proven experience managing at least two (2) projects of similar complexity and scale, preferably in health, social protection, or e-government systems.
- Demonstrated experience in Agile project management, including backlog management, sprint coordination, and stakeholder reporting.
- Strong understanding of Tandurusti.tj and IS ERI platforms (mandatory).
- Certification in Agile, Scrum Master (CSM/PSM) or Project Management (PMP/Prince2) is an asset.
- Fluency in Tajik (mandatory), English or Russian is an advantage.

2. Technical Lead / Solution Architect (1 position)

- University degree in Computer Science, Software Engineering, or a related field.
- At least 8 years of professional experience in full-stack software design and system architecture.
- Proven expertise in React, Next.js, Node.js, and PostgreSQL.
- Demonstrated experience leading development of health information systems or equivalent enterprise-level platforms.
- Experience integrating systems using ESB middleware (e.g., X-Road/SmartBridge) and REST/AsyncAPI standards.
- Certifications in any technology from the required technology stack are an asset.
- Experience in Agile project delivery (mandatory).
- Fluency in Tajik (mandatory), English and Russian is an advantage.

3. Business Analyst (1 position)

- University degree in Public Health, Information Systems, or a related field.
- At least 5 years of professional experience in analysis of information systems and business processes.
- Demonstrated experience with IS ERI and Tandurusti.tj platform (mandatory).
- Knowledge of BPMN 2.0 process modelling (mandatory).
- Knowledge of DHIS2 and data exchange standards (advantage).
- Experience working in Agile teams (mandatory).
- Fluency in Tajik (mandatory).

4. Back-End Developer (2 positions)

- University degree in Computer Science or equivalent field.
- At least 4 years of experience in Node.js / TypeScript development.
- Strong knowledge of PostgreSQL, database design, and optimization.
- Experience working on the Tandurusti.tj platform (mandatory).
- Familiarity with IS ERI data structures (mandatory).
- Knowledge of DHIS2, SmartBridge, or ESB-based integrations (advantage).
- Certifications in technologies from the required stack are an asset.
- Experience in Agile development (mandatory).
- Fluency in Tajik (mandatory).

5. Front-End Developer (2 positions)

- University degree in Computer Science, Information Technology, or related field.
- At least 3 years of professional experience in front-end development.
- Expertise in React, Next.js, JavaScript/TypeScript, and UI frameworks.
- Experience with Tandurusti.tj platform (mandatory).
- Familiarity with IS ERI and immunization workflows (mandatory).
- Experience in Agile projects (mandatory).

- Certifications in relevant front-end technologies are an asset.
- Fluency in Tajik (mandatory).

6. Interoperability Engineer (1 position)

- University degree in Computer Science, Information Systems, or related field.
- Minimum 5 years of experience in system integration and interoperability.
- Strong understanding of SmartBridge ESB, RESTful APIs, and event-driven systems.
- Familiarity with Tandurusti.tj and IS ERI (mandatory).
- Knowledge of HL7 FHIR (mandatory).
- Experience with Agile methodologies (mandatory).
- Fluency in Tajik (mandatory).

7. Database Engineer (1 position)

- University degree in Database Administration, Computer Science, or related field.
- At least 4 years of experience with PostgreSQL administration and optimization.
- Experience with Tandurusti.tj and IS ERI (mandatory).
- Knowledge of DHIS2 data structures and health data analytics (advantage).
- Certification in PostgreSQL is an asset.
- Experience working in Agile development teams (mandatory).
- Fluency in Tajik (mandatory).

8. Software Tester (1 position)

- University degree in Computer Science or another relevant domain.
- At least 3 years of experience in software testing in projects of similar complexity.
- Proven experience in test analysis, design, and automation.
- Proven experience in performance (load/stress) and security testing.
- Certification in software testing or any technology from the required stack is an asset.
- Experience working in Agile development teams (mandatory).
- Fluency in Tajik (mandatory).

9. DevOps Engineer (1 position)

- University degree in Computer Science or related field.
- At least 4 years of experience in DevOps engineering.
- Proficiency in Docker, GitLab CI, Kubernetes, and Linux administration.
- Familiarity with Tandurusti.tj deployment standards (mandatory).
- Knowledge of SmartBridge infrastructure (advantage).
- Certification in DevOps tools or any technology from the required stack is an asset.
- Experience working in Agile software projects (mandatory).
- Fluency in Tajik (mandatory).

10. Trainer (1 position)

- University degree in Computer Science or a relevant domain.
- Proven experience in conducting training sessions in at least two (2) similar projects.
- Proven experience in developing technical and user documentation.
- Experience in e-learning systems (mandatory).
- Experience with IS ERI and Tandurusti.tj (mandatory).
- Fluency in Tajik (mandatory).

The Financial Proposal should be presented in separate file and includes the following:

- Budget, with fees listed according to the deliverables outlined in the ToR. Note that data collection will be conducted with MOHSP nominated institute, and the associated cost should be included in the proposed budget.

Request for submission

- A technical proposal with proposed methodology/approach to managing the project, showing understanding of tasks and work plan (no price information should be contained in the technical proposal).
- A copy of the organization profile.
- The proposed technical team curriculum vitae (CV).
- A sample of previous work undertaken in the last two years
- Financial proposal (separate email).

10. Evaluation process and methods

The evaluation methodology is based on a highest combined score (based on the 70% technical offer and 30% price weight distribution).

Each interested institution is requested to submit in a one page brief a proposed approach for such assignment along with a copy of the organization profile, the proposed technical team curriculum vitae, expected budget as well as a sample of previous work undertaken in the last two years. After the opening, each proposal will be assessed first on its technical merits and subsequently on its financial value price. The proposal with the best overall value, composed of technical merit and price, will be recommended for approval. UNICEF will set up an evaluation panel composed of technical and procurement staff and their conclusions will be forwarded to the internal UNICEF Contracts Review Committee or other relevant approving authority. The evaluation panel will first evaluate each response for compliance with the requirements of this Terms of Reference. Responses deemed not to meet all the mandatory requirements will be considered non-compliant and rejected at this stage without further consideration. Failure to comply with any of the terms and conditions contained in these Terms of Reference, including provision of all required information, may result in a response or proposal being disqualified from further consideration.

The overall weighting between technical and price evaluation will be based on the predefined criteria. The technical component will account for 70% of the total points allocated and the financial component (commercial evaluation) will account for 30% of the total points allocated.

11. Technical evaluation:

The proposals will be evaluated against the following technical criteria:

Item	Technical Criteria/Qualifications	Max. Points
1	Overall Response	10
1.1	Completeness of the proposal and responsiveness to the TOR (10 pts)	
2	Capability and Key Personnel	40
2.1	Experience of key personnel in Immunization Information System/digital health & public sector platforms. Depth and relevance of the proposed Project Manager, Technical Lead/Solution Architect, BA, Front-end, Back-end, Interoperability, DB, QA, DevOps, Trainer to: (i) large-scale health/public sector systems; (ii) Agile delivery (backlog/sprints/UAT); (iii) Tandurusti.tj / IS ERI; (iv) ESB (SmartBridge/X-Road), REST/AsyncAPI; (v) security and performance in production. (15 pts)	
2.2	Capability to design governable PostgreSQL data models, optimize performance, manage immunization and AEFI data flows, reporting. (10 pts)	

2.3	Experience in developing governable data models, optimize performance, manage immunization and AEFI data flows, reporting & BI/advanced analytics, and exchange with tandurusti.tj platform, 1C warehouse and DHIS2 where relevant. (15 pts)	
3	Proposed Methodology and Approach	20
3.1	Clear Agile plan for iterations/sprints, Definition of Ready/Done, demo cadence; Phase-wise timeline aligned to Dec 2025–Jun 2026 + 12-month warranty; environment strategy (dev/test/stage/prod), CI/CD (GitLab CI, Docker, Kubernetes), testing (functional, performance, security), data migration (if any), cutover & nationwide rollout, training & KT. (15 pts)	
3.2	Assessment of key considerations relevant to each deliverable, potential risks and threats, and proposed mitigation plans. (5 pts)	
	Total Technical Score	70

Only Proposers obtaining a minimum of 49 points in Technical Criteria evaluation will be considered for the Financial Evaluation.

Commercial evaluation:

The price/cost of each of the technically compliant proposals shall be considered only after evaluation of the above technical criteria. A maximum 30 point assigned to the financial proposal will be allocated to the lowest financial proposal. All other price proposals will receive scores in inverse proportion according to the following formula:

Score for price proposal A = (Maximum score for price proposal * Price of lowest priced proposal)/Price of proposal A.

As a result of the financial evaluation, the points of each proposal will be taken into further consideration in the final evaluation.

The bidders should ensure that all pricing information is provided in accordance with the following:

- a) The currency of the proposal shall be in USD for international companies and in Tajik Somoni for the local Proposers and invoicing must be in the same currency.
- b) All prices/rates quoted must be exclusive of all taxes as UNICEF is a tax-exempt organization

REQUEST FOR INFORMATION

Any request for information or question should be forwarded to dushanbe@unicef.org