Government of India
Ministry of Commerce & Industry
Department of Commerce
Directorate General of Foreign Trade
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Vanijya Bhawan, New Delhi
Dated: November 09, 2026

## INVITATION FOR PROPOSALS

The Directorate General of Foreign Trade (DGFT), Department of Commerce, Ministry of Commerce & Industry, Government of India, invites proposals from NICSI empaneled agencies/firms for providing 04 Nos. of specialized technical resources for development of the pilot phase of BharatTradeNet (BTN). BharatTradeNet (BTN) is being developed as a Digital Public Infrastructure to facilitate secure, trusted and interoperable exchange of trade-related information and documents across the trade ecosystem.

2. The selected agency/firm will be required to provide a multidisciplinary technical team for design, development, deployment and implementation support for the BTN pilot, in accordance with the detailed skill set specifications enclosed at **Annexure-I**.

3. Interested NICSI-empanelled agencies/firms are invited to submit their proposals along with relevant organisational credentials and profiles of the proposed technical resources, as per the requirements specified in the enclosed document titled "**Detailed Skill Set Specifications – Technical Resources for BharatTradeNet (BTN) Pilot Development.**" The proposals shall be evaluated on merit and in accordance with the selection criteria prescribed in the said document.

4. Proposals shall be submitted by e-mail at (tradefinance-dgft@gov.in) within **21 days** from the date of issue of this notice. Proposals received after the prescribed deadline shall not be considered. For any further information or clarification, interested agencies/firms may contact: [Shri Harshvardhan Shyam, Tel: 011-23038814, Directorate General of Foreign Trade, Vanijya Bhawan, 16 Akbar Road, New Delhi - 110011].

5. The Directorate General of Foreign Trade (DGFT) may accept or decline any or all proposals, depending on its suitability and requirements. Agencies/firms are encouraged to refer to the enclosed document for the detailed scope of work, resource requirements, deliverables, eligibility conditions and proposal submission

requirements.

This issues with the approval of the competent authority.

Harsh
09/11/2026

(Harshvardhan Shyam)
FTDO, DGFT

(Issued from File No. 01/02/23/AM-27/EG&TF)

**Annexure-I**

# DETAILED SKILL SET SPECIFICATIONS — TECHNICAL RESOURCES FOR BTN PILOT DEVELOPMENT

## 1. Background

BharatTradeNet (BTN) is being developed as a digital public infrastructure for secure, interoperable exchange of trade-related information and documents across the trade ecosystem. The Directorate proposes to engage four specialised technical resources through NICSI-empanneled agencies/firm to undertake foundational and pilot development activities, pending establishment of the BTN Special Purpose Vehicle. The proposed team will develop core BTN components including an Event Registry, Verifiable Credential issuance and verification services, a reference wallet application, and associated integration and developer tooling, with export factoring as the primary operational use case for pilot demonstration.

The resources are required for an initial period of twelve months, extendable subject to performance, availability of funds, and requirements of the Directorate. All development shall be hosted on NIC Cloud and code ownership shall vest with the Directorate General of Foreign Trade.

## 2. Resource requirements

### 2.1. Resource 1 — Identity and Credentials Architect (Technical Lead)

(*Number of positions: 1)*

**Role Overview**

This resource will serve as the technical lead for the BTN pilot development team. In addition to specialised identity and credentials architecture work, the resource will coordinate activities across the team, maintain the development roadmap and milestone-based work plan, interface with ecosystem stakeholders, and ensure that technical outputs are documented and reported to the Directorate. The resource will be the primary point of contact between the development team and the Directorate.

**Essential Qualifications**

- Bachelor's or Master's degree in Engineering in Computer Science, Information Technology, or a related discipline

- Minimum eight years of experience in software development, with at least four years in identity systems, digital trust, or cryptographic credential infrastructure
- Demonstrated hands-on experience with W3C Decentralised Identifiers (DID Core 1.0) and W3C Verifiable Credentials Data Model 2.0
- Working knowledge of OpenID for Verifiable Credential Issuance (OpenID4VCI) and OpenID for Verifiable Presentations (OpenID4VP)
- Experience with OAuth 2.0, OpenID Connect (OIDC), and JSON Web Tokens (JWT) including Selective Disclosure JWT (SD-JWT)
- Familiarity with credential schema design, Trust Anchor registries, and credential lifecycle management including issuance, revocation, and status list mechanisms
- Understanding of digital wallet architecture — both custodial and non-custodial models
- Experience in API-led integration and microservices architecture

**Desirable Qualifications**

- Prior experience with government digital identity or digital public infrastructure projects
- Familiarity with India Stack components (DigiLocker, eSign, UPI) and their integration patterns
- Knowledge of EIDAS 2.0, EBSI, or other national/regional VC ecosystem implementations
- Understanding of trade finance, trade documents, or customs processes
- Experience in technical project coordination or team leadership

**Indicative Deliverables**

BTN DID method specification; IEC Credential schema and Shipping Bill VC schema; Trust Registry design and implementation; OpenID4VCI issuance endpoint; OpenID4VP verification endpoint; technical documentation; stakeholder integration specifications; milestone and progress reports to the Directorate.

### 2.2. Resource 2 — Backend and Platform Engineer (*Number of positions: 1)*

**Role Overview**

This resource will design and develop the core backend services of the BTN pilot — primarily the Event Registry, the credential issuance and verification services, and the integration layer that connects existing government data (IEC, Shipping Bill and Bill of Entry feeds) to the BTN credential issuance pipeline. The resource will also be responsible for API development, data modelling, and platform reliability.

**Essential Qualifications**

- Bachelor's or Master's degree in Engineering in Computer Science, Information Technology, or a related discipline
- Minimum six years of experience in backend software development
- Proficiency in Python and/or Java for product backend development
- Experience designing and implementing REST APIs conformant with OpenAPI 3.0 specifications
- Hands-on experience with PostgreSQL and Redis for data storage and caching
- Familiarity with event-driven architecture; working knowledge of Apache Kafka or equivalent message brokers
- Experience with microservices design patterns, Docker containerisation, and Kubernetes orchestration
- Understanding of API Gateway configuration, rate limiting, and API versioning
- Familiarity with hash-chaining or append-only ledger patterns for tamper-evident audit logs

**Desirable Qualifications**

- Prior experience building credential issuance or verification backends
- Knowledge of Indian Customs EDI data formats and standards
- Experience with NIC Cloud or MeitY-empanelled cloud infrastructure

- Familiarity with CI/CD pipeline setup (GitLab CI, Jenkins, or equivalent)
- Understanding of trade finance workflows or trade document processing

**Indicative Deliverables**

BTN Event Registry (append-only, hash-chained, API-accessible); VC issuance backend integrated with DGFT IEC data and ICEGATE Shipping Bill feed; VC verification and status service; Trust Registry backend; integration APIs for partner ecosystem participants; API documentation and test collections.

### 2.3. Resource 3 — Cloud Infrastructure and DevSecOps Engineer

*Number of positions: 1*

**Role Overview**

This resource will establish and maintain the secure cloud infrastructure for BTN pilot development on NIC or MeitY-empanelled Cloud. The resource shall be responsible for ensuring the continued availability of security baseline, CI/CD pipeline, monitoring and alerting, audit logging, and the foundational public key infrastructure required for the BTN trust architecture. The resource will also coordinate with the concerned agency for cloud provisioning and with DGFT's IT and security teams for compliance with applicable government security standards.

**Essential Qualifications**

- Bachelor's or Master's degree in Engineering in Computer Science, Information Technology, or a related discipline
- Minimum six years of experience in cloud infrastructure, systems engineering, or DevOps roles
- Hands-on experience with Kubernetes for container orchestration in production or staging environments
- Experience with CI/CD pipeline design and implementation — GitLab CI, Jenkins, or equivalent
- Working knowledge of Public Key Infrastructure (PKI), X.509 certificates, certificate authority operations, and key lifecycle management
- Experience with TLS/mTLS configuration for API security and inter-service

communication

- Familiarity with Hardware Security Module (HSM) or Key Management Service (KMS) concepts and configuration
- Understanding of API security — OAuth 2.0 token validation, API Gateway policy enforcement, rate limiting, and DDoS mitigation
- Experience with security audit logging, log aggregation (ELK stack or equivalent), and monitoring (Prometheus/Grafana or equivalent)
- Basic familiarity with Vulnerability Assessment and Penetration Testing (VAPT) processes and remediation

**Desirable Qualifications**

- Prior experience of working on NIC Cloud, MeghRaj, or other MeitY-empanelled government cloud environments
- Knowledge of STQC or MeitY security compliance requirements for government applications
- Experience with secrets management tools (HashiCorp Vault or equivalent)
- Familiarity with DevSecOps practices and secure SDLC frameworks
- Understanding of network security, firewall policy, and VPN/ private network configuration in cloud environments

**Indicative Deliverables**

NIC or MeiTY-empanelled Cloud environment provisioned (development, staging, production separation); CI/CD pipeline operational; API Gateway and TLS/mTLS configuration; KMS/HSM integration for credential signing keys; audit logging infrastructure; monitoring and alerting baseline; VAPT coordination and remediation log; operational run-book for handover to DGFT's designated operations team.

### 2.4. Resource 4 - Full-Stack and Interoperability Engineer

*Number of positions: 1*

**Role Overview**

This resource will develop the reference BTN wallet application (web and mobile), the developer portal, and the conformance and interoperability test suite. The wallet application will serve as a reference implementation enabling pilot participants (exporters, MSMEs) to hold and present DGFT-issued Verifiable Credentials without requiring them to build their own wallet infrastructure. The developer portal will enable ecosystem participants - banks, factors, logistics providers, and others — to self-onboard onto BTN APIs. The resource will also be responsible for ensuring automated testing, API conformance validation, and developer documentation.

**Essential Qualifications**

- Bachelor's or Master's degree in Engineering in Computer Science, Information Technology, or a related discipline
- Minimum five years of experience in full-stack web development
- Proficiency in React and TypeScript/JavaScript for frontend development
- Experience with React Native for cross-platform mobile application development (Android and iOS)
- Familiarity with REST API integration and OpenAPI 3.0 specifications
- Working knowledge of OAuth 2.0 and OpenID Connect for application-level authentication and authorisation
- Understanding of WebCrypto API for browser-based cryptographic operations
- Experience with QR code-based data exchange and deep link protocols for mobile credential presentation
- Experience writing automated API tests and integration test suites
- Ability to write clear, accurate technical documentation for developer audiences

**Desirable Qualifications**

- Prior experience with digital wallet UI/UX design or implementation
- Familiarity with W3C Verifiable Credentials presentation flows and wallet-to-verifier interaction patterns

- Experience building developer portals or API documentation platforms (Swagger UI, Redoc, or equivalent)
- Knowledge of conformance testing frameworks for identity or credential standards
- Understanding of trade finance workflows or export documentation processes
- Experience with push notification integration for mobile applications

**Indicative Deliverables**

BTN reference wallet — web application (React) and mobile application (React Native, Android first, iOS thereafter); QR-based credential presentation flow; developer portal with interactive API reference, schema browser, and sandbox environment; conformance test suite for BTN API and credential schemas; integration test harness for bank partner onboarding; end-user and developer documentation.

**3. General terms and conditions**

(1). All resources shall work under the overall technical direction and supervision of the Directorate General of Foreign Trade and shall be physically or virtually available as required by the Directorate.

(2). All code, documentation, schemas, and technical artefacts developed by the proposed team shall be the sole property of the Directorate General of Foreign Trade, Government of India. Resources shall maintain confidentiality of all data, documents and information accessed during the engagement.

(3). Resources shall adhere to applicable Government of India data security, IT security, and information classification guidelines, including NIC Cloud security policies.

(4). Engagement shall be at applicable NICSI empanelled rates and terms and conditions, subject to availability of funds and completion of prescribed financial and procurement formalities.

(5). The proposal submitted by the agency/firm shall include the following documents:

(a) Company Profile: Brief profile of the agency/firm.

(b) CVs of Proposed Resources: Detailed CVs of the technical resources proposed for deployment.

(c) Proof of NICSI Empanelment: Documentary evidence confirming that the agency/firm is empanelled with NICSI as on the date of issue of the Invitation for Proposals.

(6). The evaluation criteria and methodology shall be determined by the Technical Evaluation Committee and may be modified as considered necessary. The assessment may include scrutiny of CVs, qualifications, experience, technical interactions/interviews, presentations, or any other suitable mechanism. DGFT reserves the right to seek alternate/replacement candidates or additional information, as required. Further process for evaluation shall be shared with applicants through e-mail.

(7). The selected agency shall provide replacement personnel of equivalent or superior qualifications within a specified period (15 days) whenever required by DGFT on account of resignation, non-performance, absence, or any other reason.

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