



## **EXPRESSION OF INTEREST**

### **AUTHORIZATION OF VENDORS FOR VIDEO MONITORING, VIDEO ANALYTICS & AI/ML-BASED COUNTING SYSTEMS/SOLUTIONS ACROSS VARIOUS SECTORS UNDER CHAPTER XIV-BA OF THE SALES TAX RULES, 2006**

Federal Board of Revenue (FBR), Government of Pakistan, invites applications from qualified Software/IT companies providing video surveillance systems, video analytics solutions, Artificial Intelligence/Machine Learning based production monitoring systems, for the grant of three-year authorization/approval under the *Sales Tax Rules, 2006* (as amended from time to time).

The authorization will cover the electronic monitoring of production of:

- goods specified in Third Schedule appended to the Sales Tax Act, 1990; or
- any other goods notified by the Board through a specific order:

#### **Scope of Work**

The approved vendor shall be responsible for the video surveillance systems, video analytics solutions or Artificial Intelligence/Machine Learning based video production monitoring systems connecting all manufacturing units/production lines with the FBR Central Control Unit (CCU).

The solution shall include:

1. Real-time video surveillance and capture of the production process through approved production-line monitoring equipment;
2. Real-time object detection and object counting of products (e.g., tiles) to capture accurate production data;
3. Real-time transmission, storage, and archiving of production data to the FBR's Central Control Unit;
4. Detection of unexpected production stoppages and abnormalities;
5. Quantitative analysis of production volumes for tax and compliance purposes;
6. Data analytics to support enforcement and other legal actions;

#### **Instructions/ToRs for Grant of Authorization**

Instructions/ToRs for grant of authorization documents may be collected from the office of the undersigned between 09:00 to 15:00 hours on any working day through a written application. The instructions document may also be downloaded from the FBR website.

Further details can be obtained from **FBR House, Constitution Avenue, Islamabad**, during office hours (09:00–15:00 hours).

### **Submission of Proposals**

All applicants shall submit their technical proposals along with indicative costs for the components of the solutions (in PKR) in sealed envelopes, which will be evaluated as per the criteria specified in the Sales Tax Rules, 2006, and the Terms of Reference (ToRs) document.

Each applicant shall explicitly identify the sector(s), product category(ies), and notified goods for which authorization is being sought, as applications shall be evaluated strictly in accordance with the declared scope.

Sealed proposals must be delivered on or before 15<sup>th</sup> of every month, at the address given below.

### **Pre-Authorization Conference**

A pre-authorization conference will be held at:

*Conference Room, FBR (HQ)  
FBR Headquarters, Islamabad  
1100 hours, on 22nd of each month*

### **Rights Reserved**

The FBR reserves the right to accept or reject any application in accordance with the Sales Tax Rules, 2006 (as amended from time to time).

This advertisement and detailed ToRs are also available on the FBR website.

**Project Director (Track and Trace)**  
Room No. 402, 4th Floor, FBR-HQ,  
Constitution Avenue, Islamabad  
Email: [pdtnt@fbr.gov.pk](mailto:pdtnt@fbr.gov.pk)  
Phone: +92 51 9215108



## **TERMS OF REFERENCE (TOR)**

### **FOR AUTHORIZATION OF VENDORS FOR VIDEO MONITORING, VIDEO ANALYTICS & AI/ML-BASED COUNTING SYSTEMS/SOLUTIONS**

(For Goods in Third Schedule of the Sales Tax Act, 1990 and any Other Goods Notified by FBR)

#### **1. Introduction**

The Federal Board of Revenue (FBR), Government of Pakistan, intends to authorize qualified companies, consortiums, or joint ventures for the deployment, operation, and maintenance of a standalone video surveillance & analytics and AI/ML-based counting system across manufacturing and packaging facilities producing:

- Goods specified in the Third Schedule to the Sales Tax Act, 1990, and
- Any other goods notified by FBR through specific orders.

These goods may include, without limitation: tiles, cement, beverages, sugar, ghee/oil, steel products, paper products, fertilizers, tobacco alternatives, and other notified items requiring production monitoring.

The deployed system must operate independently and also function complementarily with Digital Marking / Track & Trace systems (where applicable) to ensure synchronized production verification, deterrence of tax evasion, and enhanced audit/enforcement capability.

#### **2. Objectives**

The primary objectives of this assignment include:

- Ensuring real-time visual oversight of production and packaging operations.
- Implementing AI/ML-based automated counting of manufactured units.
- Detecting anomalies and irregular production behavior and reporting thereof.
- Generating audit-ready evidence supporting compliance verification.
- Enhancing transparency and traceability across different product categories.

#### **3. Scope of Work**

##### **3.1 Visual Oversight of Production**

Vendors shall:

- Provide continuous high-definition video coverage of critical production points such as forming, filling, rolling, pressing, packaging, stamping, labelling, palletizing, and dispatch and any other process related to any other sector notified by the Board.
- Support multi-line, multi-SKU, and multi-facility environments.
- Provide real-time and historical playback for verification, audits, and incident analysis.

- Ensure equipment withstands harsh industrial conditions (dust, heat, humidity, vibration, lighting variations etc.).

### **3.2 Independent Operation**

The video monitoring/analytics and AI system must:

- Operate fully independently of any other system.
- Include its own servers, storage, networking, and application stack.
- Continue functioning during network outages.
- Provide uninterrupted recording and data retention.

### **3.3 AI/ML-Based Counting & Anomaly Detection**

The vendor shall deploy advanced video analytics for:

- Automated counting of units such as tiles, bags, bottles, cartons, billets, slabs, rods, packets, or other relevant SKUs.
- Handling variations in SKUs' dimensions, shapes & design under different speeds, lighting, dust, or environmental challenges.
- Identifying anomalies including:
  - Double/Skipped counting
  - Manual bypassing
  - Rejected units
  - Jammed lines
  - Unusual stoppages

#### **AI model requirements:**

- Modular structure allowing upgrades without hardware replacement.
- High accuracy under real production conditions.
- Dashboard views showing counts per SKU, line, batch, shift, and time period.
- Automated reporting enabling comparison with marking/ERP/TTS data etc.

### **3.4 Integration with Marking / Track & Trace Systems**

The system must support:

- Time synchronization with digital marking events.
- API-based data exchange with Track & Trace/Digital Marking platforms.
- Ability to overlay stamping/UID events on the video timeline for forensic correlation.
- This provides traceability when verifying production figures and reconciling discrepancies.

### **3.5 Industrial-Grade Equipment Requirements**

**Vendors must use:**

- Industrial-grade IP cameras (minimum FHD; higher preferred).
- Ruggedized mounts and sealed cabling suitable for heavy industrial use.
- 24/7 continuous operation capability.
- Optional edge analytics or GPU-enabled smart cameras for high-speed lines.

### **3.6 Mandatory GPU & CPU Specifications**

Vendors must maintain sufficient AI processing capability at all times during authorization, with GPU hardware that can meet the real-time analytical requirements of manufacturers of all notified goods.

**Minimum GPU Specifications (Indicative but Mandatory):**

- CUDA Cores: 10,000+ (or equivalent compute units)
- Tensor Cores: 300+ (or equivalent AI accelerators)
- RT Cores: 80+
- Base Clock:  $\geq 2$  GHz
- Boost Clock:  $\geq 2$  GHz
- Memory: 16–24 GB minimum
- Memory Bus Width: 256-bit or higher
- Bandwidth:  $\geq 1000$  GB/s
- Cooling: Dual-fan or liquid cooling
- PSU: 1300W Platinum-grade or above

(Note: CUDA cores are NVIDIA-specific; AMD, Intel, Huawei equivalents such as stream processors, execution units, or AI cores are acceptable.)

**Minimum CPU Specifications (Indicative but Mandatory):**

- Processor: AMD Ryzen 9 7950X or equivalent
- 16 cores / 32 threads
- RAM: 32 GB DDR5
- Storage: 2  $\times$  1TB SSD (RAID 1)
- PCIe 4.0  $\times$  16 interface
- 1 Gigabit Ethernet (RJ45)
- Base Clock  $\geq 4.5$  GHz
- Boost Clock  $\geq 5.7$  GHz
- Motherboard: X670 AORUS or equivalent
- Liquid cooling supported

These specifications must be maintained throughout the authorization period.

**3.7 Video Management System (VMS)**

The VMS must support:

- Multi-camera live streaming and playback.
- User access controls and detailed audit logs.
- Health monitoring and uptime analytics.
- Integrated visualization of AI counts and alerts.
- APIs for external system interoperability.

**3.8 Storage & Retention**

- 60 days video retention (expandable).
- Redundant and tamper-evident storage.
- Watermarking or hash-based integrity verification.
- Fast search, retrieval, and export functions.

**3.9 Security & Access Control**

- Role-based access for live and recorded data.

- Encryption of all data streams.
- Logging of:
  - User activity
  - Exports
  - Configuration changes
  - AI model updates

### **3.10 Compliance & Evidence**

The system must produce:

- Tamper-protected audit trails.
- Legally admissible video and analytical evidence.
- Time-stamped logs comparable with TTS/ERP/Production data.

### **4. Eligibility Requirements (Rule 150ZQW)**

**Applicants must submit:**

1. Company profile
2. List of managerial & technical personnel with qualifications
3. Total employee strength
4. List of major clients
5. Technical documents showing capacity of video and AI equipment
6. History and summary of relevant projects
7. Status of existing commitments
8. NTN & STRN certificates
9. Audited financials of last 3 years
10. CNIC copies of directors
11. Undertaking of non-blacklisting and non-involvement in fiscal fraud
12. Any additional documents requested by FBR

### **5. Authorization Criteria (Rule 150ZQX & 150ZQZ)**

**Applicants must:**

- Demonstrate the complete solution with working hardware and software.
- Undergo technical evaluation, hearing (if required), and site inspections.
- Provide a physical, live demonstration of production monitoring capabilities.
- Meet all financial, technical, and operational evaluation criteria.
- Submit an unconditional bank guarantee of 5% of project cost or PKR 5 million, whichever is lower.
- Authorization will be granted only upon approval of the evaluation committee.

### **6. Responsibilities of the Vendor (Rule 150ZQZA)**

Vendor responsibilities include:

- Installing and maintaining all production monitoring equipment.
- Delivering and installing equipment within 90 days of purchase order.
- Assisting FBR's IT teams as required.

- Providing all software upgrades, bug fixes, and patches.
- Ensuring immediate response and repair of system issues (24/7 support).
- Maintaining compliance with all rules throughout the tenure.
- Applying for renewal 3 months before expiration.

Authorization is:

- Valid for 3 years (renewable).
- Non-transferable.
- Not allowed to be subcontracted.

## **7. Duration of Assignment**

Authorization will be for three (03) years, renewable based on compliance and performance evaluations.

## **8. Governing Laws**

All activities will be governed by:

- Sales Tax Act, 1990
- Sales Tax Rules, 2006 (Licensing Rules)
- Relevant SROs and instructions issued by FBR
- PPRA Rules (where applicable)
- National cybersecurity and data protection requirements

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