

GEM Portal Tender Participation Workflow

Draft Version 1.0

Executive Summary

This document outlines the comprehensive workflow for participating in tenders through the Government e-Marketplace (GEM) portal. The workflow integrates automated discovery, AI-powered analysis, and systematic bid preparation processes for the AVGC Group comprising 12 firms.

1. Pre-Requisites and Initial Setup

1.1 GEM Registration Requirements

- **Primary Registration**
 - Organization registration on GEM portal
 - PAN card verification
 - GST registration validation
 - Bank account verification
 - Digital Signature Certificate (DSC) setup

1.2 Firm Profile Management

- **For Each of 12 AVGC Firms:**
 - Complete vendor assessment
 - Upload statutory documents
 - Obtain vendor assessment certificate
 - Configure product/service catalogs
 - Set up authorized user accounts

1.3 System Integration Setup

- **API Configuration**
 - GEM API credentials
 - Webhook endpoints for notifications
 - Authentication tokens
 - Rate limit configurations

2. Tender Discovery and Monitoring

2.1 Automated Tender Search

Step 1: Configure Search Parameters

- Categories: [List relevant categories]
- Keywords: [Tender-specific keywords]
- Location preferences: [State/District]
- Value range: [Min-Max tender value]
- Exemption criteria: [MSME/Startup/Women]

Step 2: Real-time Monitoring

- Polling interval: Every 30 minutes
- New tender alerts: Immediate
- Modification alerts: Within 1 hour
- Corrigendum tracking: Real-time

2.2 Tender Data Extraction

Automated Extraction Process:

1. Download tender documents
2. Extract using OCR/LLM module
3. Parse structured data:
 - Tender ID and reference
 - Publishing date/time
 - Bid submission deadline
 - Pre-bid meeting schedule
 - Technical specifications
 - Financial requirements
 - Eligibility criteria

3. Eligibility Analysis and Firm Selection

3.1 Automated Eligibility Check

26-Parameter Assessment Matrix:

Parameter Category	Specific Checks	Weight
Financial	• Annual turnover • Net worth • Profit margins • Credit rating	25%
Technical	• Past experience • Technical capacity • Certifications • Quality standards	30%
Legal	• No blacklisting • Litigation status • Compliance certificates • Valid licenses	20%
Operational	• Geographic presence • Delivery capacity • Resource availability • Current workload	15%
Special Status	• MSME registration • Startup recognition • Women owned • SC/ST enterprise	10%

3.2 Firm Ranking Algorithm

```
FOR each firm in AVGC_12_firms:
  eligibility_score = calculate_weighted_score(firm, tender_requirements)
  IF eligibility_score > threshold:
    qualified_firms.add(firm)

RANK qualified_firms BY:
  1. Eligibility score
  2. Past performance on similar tenders
  3. Available capacity
  4. Special exemptions applicable

RETURN top_3_firms WITH reasoning
```

3.3 Recommendation Output

Format:

Tender ID: GEM/2024/B/XXXXX

Top 3 Recommended Firms:

1. [Firm Name]

- Eligibility Score: 92/100
- Key Strengths: Technical expertise, MSME benefits
- Exemptions: Earnest Money Deposit waiver

2. [Firm Name]

- Eligibility Score: 87/100
- Key Strengths: Past experience, competitive pricing
- Exemptions: None

3. [Firm Name]

- Eligibility Score: 85/100
- Key Strengths: Local presence, startup benefits
- Exemptions: Prior turnover relaxation

4. Document Preparation Workflow

4.1 Technical Bid Preparation

Step 1: Document Collection

- Firm registration documents
- Experience certificates
- Technical compliance sheets
- Resource deployment plan
- Methodology and approach

Step 2: Auto-generation Process

1. Load tender-specific template
2. Populate firm data from database
3. Map technical requirements
4. Generate compliance matrix
5. Create technical proposal document
6. Apply digital signatures

4.2 Financial Bid Preparation

Step 1: Price Discovery

- Query historical price database
- Analyze market rates by location
- Check competitor pricing patterns
- Apply AI-based price optimization

Step 2: Cost Calculation

Base Cost Calculation:

- Material cost (from BOM)
- Labor cost (from resource plan)
- Overhead allocation (%)
- Margin application
- Tax computation (GST)
- Final quoted price

Step 3: Financial Document Generation

- Price bid format as per GEM template
- Supporting cost breakdowns
- Payment terms compliance
- Bank guarantee drafts

4.3 Supporting Documents

Automated Checklist:

- ☐ PAN Card
- ☐ GST Registration
- ☐ Incorporation Certificate
- ☐ Audited Financial Statements (3 years)
- ☐ Bank Solvency Certificate
- ☐ Experience Certificates
- ☐ ISO/Quality Certifications
- ☐ MSME/Startup Certificate (if applicable)
- ☐ OEM Authorization (if required)
- ☐ Undertakings and Declarations

5. Internal Review and Approval

5.1 First Level Review - System Validation

Automated Checks:

- ✓ All mandatory documents present
- ✓ Technical specifications matched
- ✓ Price within acceptable range
- ✓ Compliance matrix complete
- ✓ Digital signatures valid

5.2 Second Level Review - Department Heads

Purchase Department:

- Validate pricing strategy
- Confirm vendor assessments
- Approve payment terms
- Check competitive positioning

Technical Department:

- Verify technical compliance
- Validate resource planning
- Confirm delivery timelines
- Assess execution risks

Finance Department:

- Approve margin structure
- Validate financial commitments
- Confirm bank guarantee availability
- Check working capital requirements

5.3 Final Approval - Management

Management Dashboard View:

Tender Details:

- Expected value: ₹XX,XX,XXX
- Proposed margin: XX%
- Risk assessment: Low/Medium/High
- Competition analysis: X bidders expected
- Win probability: XX%

Decision: [Approve/Reject/Modify]

6. Bid Submission Process

6.1 Pre-Submission Checklist

24 Hours Before Deadline:

- ☐ All documents digitally signed
- ☐ File sizes within GEM limits
- ☐ Encryption certificates valid
- ☐ Test upload completed
- ☐ Backup submission ready

6.2 Technical Bid Submission

1. Login to GEM portal with authorized credentials
2. Navigate to specific tender
3. Select "Submit Technical Bid"
4. Upload documents in specified formats:
 - PDF for certificates (max 5MB each)
 - Excel for compliance matrix
 - ZIP for multiple documents
5. Verify successful upload
6. Generate submission receipt

6.3 Financial Bid Submission

1. Access financial bid section
2. Enter price details in BoQ format
3. Upload supporting price documents
4. Apply digital signature
5. Encrypt financial bid
6. Submit and obtain acknowledgment

6.4 Post-Submission Activities

- Save all submission receipts
 - Set reminder for bid opening date
 - Monitor for any corrigendums
 - Prepare for technical presentations
 - Arrange for bid security submission
-

7. Bid Opening and Evaluation

7.1 Technical Bid Opening

Monitoring Process:

- Attend virtual bid opening
- Download comparative statement
- Analyze competitor submissions
- Identify technical gaps/advantages
- Prepare clarification responses

7.2 Financial Bid Opening

For Technically Qualified Bids:

- Monitor L1 position
- Calculate price variations
- Assess negotiation possibilities
- Prepare for reverse auction (if applicable)

7.3 Reverse Auction Participation

If Applicable:

Strategy Configuration:

- Minimum bid decrement: X%
- Maximum discount limit: Y%
- Auto-bid parameters
- Manual override triggers

8. Post-Tender Activities

8.1 Award Stage

Upon L1 Selection:

1. Receive Letter of Award (LoA)
2. Submit performance security
3. Sign contract agreement
4. Obtain work order
5. Initialize project setup

8.2 Analytics and Learning

Data Capture:

- Win/loss analysis
- Price competitiveness metrics
- Technical score comparison
- Competitor analysis
- Update historical database

9. System Integration Points

9.1 API Integrations

yaml

GEM Portal APIs:

- Tender Search API
- Vendor Dashboard API
- Bid Submission API
- Status Tracking API

Internal System APIs:

- Document Management API
- Pricing Engine API
- Workflow Management API
- Analytics Dashboard API

9.2 Notification Framework

Email Notifications:

- New tender matching criteria
- Approaching deadlines
- Bid status updates
- Award notifications

SMS Alerts:

- Critical deadlines
- Submission confirmations
- L1 status updates

In-App Notifications:

- Task assignments
- Approval requests
- Document updates

10. Compliance and Audit Trail

10.1 Audit Log Structure

json

```
{
  "tender_id": "GEM/2024/B/XXXXX",
  "activity": "Bid Submission",
  "timestamp": "2024-07-25T10:30:00Z",
  "user": "authorized_user_01",
  "details": {
    "documents_submitted": 15,
    "technical_score": "Pending",
    "financial_quote": "Encrypted"
  },
  "ip_address": "xxx.xxx.xxx.xxx",
  "status": "Success"
}
```

10.2 Compliance Checkpoints

- Data privacy compliance
 - Digital signature validity
 - Document retention policy
 - Access control verification
 - Change management tracking
-

11. Exception Handling

11.1 Common Scenarios

Scenario 1: Portal Downtime

IF portal_unavailable:

- Switch to manual backup process
- Document downtime evidence
- Prepare offline submission
- Request deadline extension

Scenario 2: Document Rejection

IF document_rejected:

- Identify rejection reason
- Correct and re-upload
- Update document repository
- Notify relevant teams

Scenario 3: Last-Minute Changes

IF corrigendum_issued:

- Parse changes immediately
- Update bid documents
- Recalculate pricing if needed
- Re-submit before deadline

12. Performance Metrics

12.1 KPIs Dashboard

Tender Participation Metrics:

- Tenders identified: XXX/month
- Tenders qualified for: XX%
- Bid submission rate: XX%
- Win rate: XX%
- Average turnaround time: XX hours

Financial Metrics:

- Average tender value: ₹XX lakhs
- Total wins value: ₹XX crores
- Average margin achieved: XX%
- Cost per tender: ₹XXXX

12.2 Continuous Improvement

- Monthly win/loss analysis
 - Quarterly process optimization
 - Pricing strategy refinement
 - Vendor performance review
 - System enhancement requests
-

Appendices

Appendix A: Document Templates

- Technical bid template
- Financial bid template
- Compliance matrix template
- Experience certificate format
- Authorization letter format

Appendix B: Checklists

- Pre-qualification checklist
- Document submission checklist
- Technical compliance checklist
- Financial validation checklist

Appendix C: Emergency Contacts

- GEM helpdesk: 1800-XXX-XXXX
- Technical support team
- Legal advisory contacts
- Senior management escalation

Version Control

Version	Date	Author	Changes
1.0	25-07-2024	AVGC Team	Initial draft

Note: This is a living document and will be updated based on GEM portal changes, regulatory updates, and process improvements.

Document Status: DRAFT - For Review and Approval

Next Steps:

1. Review by all department heads
2. Incorporate feedback

- 3. Pilot testing with selected tenders
 - 4. Full implementation rollout
-