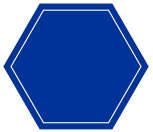# GSI BORDERCONNECT NETWORK

Secure Global Trade Connectivity & Messaging Infrastructure
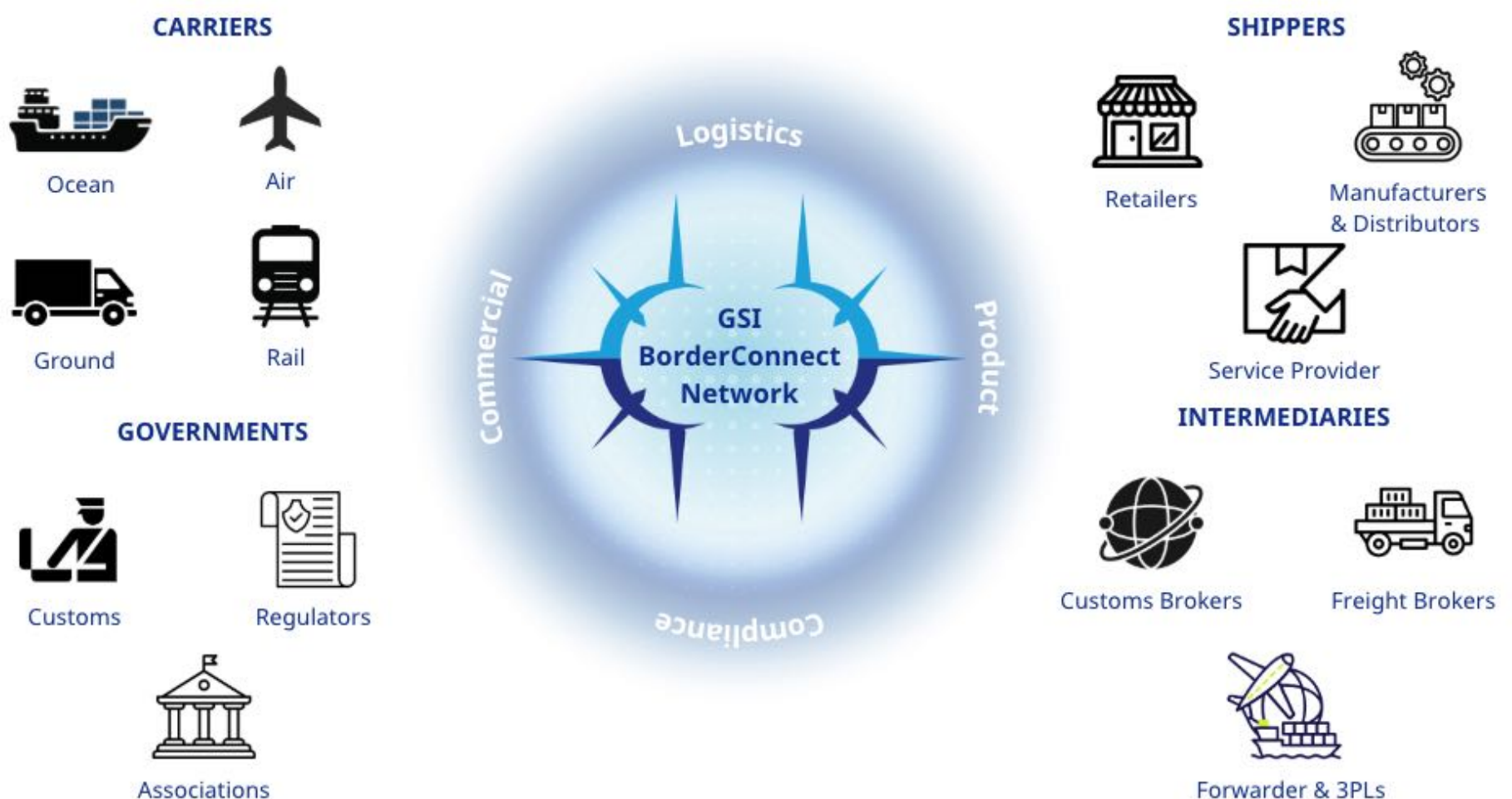Developed by General Storm Industry (GSI)

Executive Overview

GSI BorderConnect Network is an enterprise-grade, managed global trade connectivity and messaging platform that digitally interconnects customs authorities, border control agencies, freight forwarders, customs brokers, carriers, ports, terminals, and multinational enterprises through a unified, GSI-operated secure network.

Functioning as the strategic communications backbone for cross-border trade, BorderConnect enables seamless, real-time exchange of customs declarations, regulatory filings, manifests, commercial documents, shipment status updates, and exception alerts across air, ocean, road, and rail corridors. The platform serves as the foundational connectivity layer that integrates with GSI CustomsXchange for declaration processing and GSI TradeContent Intelligence for tariff enrichment, forming a comprehensive end-to-end digital trade ecosystem.

CARRIERS

Ocean   Air

Ground   Rail

GOVERNMENTS

Customs   Regulators

Associations

Logistics

Commercial

GSI
BorderConnect
Network

Product

Compliance

SHIPPERS

Retailers   Manufacturers & Distributors

Service Provider

INTERMEDIARIES

Customs Brokers   Freight Brokers

Forwarder & 3PLs

Global Trade Connectivity Challenges

Modern global logistics and custom operations face persistent obstacles that constrain efficiency, increase costs, and elevate compliance risk:

- Fragmented IT Systems: Organizations operate through disconnected systems that do not communicate seamlessly, requiring manual data re-entry and reconciliation
- Inconsistent Standards: Varied EDI formats, proprietary data structures, and country-specific regulatory interfaces create integration complexity
- Manual Document Workflows: Paper-based and email-driven document exchanges introduce delays, errors, and audit risks
- Siloed Visibility: Disconnected data flows between shippers, carriers, brokers, and government agencies prevent real-time operational transparency
- Regulatory Friction: Repeated submission of identical data to different customs jurisdictions and agencies creates redundant workloads and misalignment risks

GSI BorderConnect Network was engineered to eliminate these inefficiencies by providing a unified, standardized, and continuously monitored trade messaging infrastructure that securely connects the entire cross-border trade ecosystem.

Strategic Positioning within the GSI Portfolio

GSI BorderConnect Network functions as the secure connectivity layer of the GSI Digital Trade Infrastructure. It operates in native integration with:

- GSI CustomsXchange: A government-grade customs declaration platform for managing import, export, transit, and advance security filings across multiple jurisdictions
- GSI TradeContent Intelligence: Comprehensive tariff reference, HS/HTS code classification, and landed cost analysis tools
- GSI Sanctions & Denied Party Screening: Real-time compliance screening and risk assessment for trade partners and consignees

Together, these platforms form a fully integrated ecosystem for end-to-end digital customs automation and cross-border trade governance.

- Comprehensive Data Source: GSI TradeContent Intelligence is your single source for comprehensive trade research across several countries, featuring advanced Harmonized Tariff Schedule (HTS) code search, tariff code lookup, regulations updates, landed cost calcula ERP systems, Transportation Management Systems (TMS), Warehouse Management Systems (WMS), carrier platforms, port community systems, national single windows, and GSI proprietary applicationstor, and built-in collaboration tools.
- Authoritative Content: Provides up-to-date HS/HTS Codes, Rulings, Explanatory Notes, Trade Policies, and Regulations.
- Tariff Risk Mitigation: Offers insights into strategies that can help businesses cope with rising tariff unpredictability, driven by retaliatory trade actions, shifting geopolitical alliances, and recessionary fears.

Multi-Channel Connectivity & Data Translation

BorderConnect Network supports multiple communication protocols and integration methodologies, ensuring compatibility across diverse IT environments and trading partner networks.

Flexible Integration Options:

- Integrated EDI: Enterprise Data Interchange functionality embedded directly into ERP systems, warehouse management systems, and logistics applications, enabling automated, compliant data exchange with full audit trails.
- Web-Based EDI: A browser-accessible platform for trading partners who require secure document exchange without deep system integration.
- RESTful APIs & Web Services: Modern API architecture for real-time data synchronization with cloud-based logistics platforms, port community systems, and national single window environments.
- Traditional EDI Protocols: Support for EDIFACT, X12, and ANSI standards for integration with legacy systems and established trading partner networks.
- File Transfer Methods: Secure SFTP, FTPS, and encrypted file exchange capabilities for batch processing and bulk data transfer.

Advanced Messaging Solutions:

- Intelligent Message Transformation: Automatic translation and conversion between EDI formats, XML structures, and JSON payloads ensures data consistency across heterogeneous systems.
- Schema Validation & Compliance Checking: Real-time verification of message structure, regulatory completeness, and data quality before transmission.
- Protocol Conversion Engines: Seamless translation of communication protocols (HTTP/HTTPS, AS2/AS4, OFTP, WebServices) without requiring custom middleware development.

Security & Connectivity Standards:

- Multiple Connectivity Options: The network supports a wide range of secure communication protocols, including HTTP(S), AS2/AS4, API, sFTP, FTPs, Webservices, OFTP, and many others.
- Certified Security Level (SOC 2/ISO27001 Compliance): The system is designed to provide robust security, with comprehensive security policies and compliance with global data protection regulations (such as GDPR).
- Online Message Monitoring Tool: Provides an online message portal for accessing all information related to message processing and real-time shipment tracking.

Customs Declarations & Security Filings Gateway

BorderConnect provides a single secure connection for submitting regulatory filings to multiple customs administrations simultaneously, eliminating the need to navigate disparate government portals and inconsistent filing requirements.

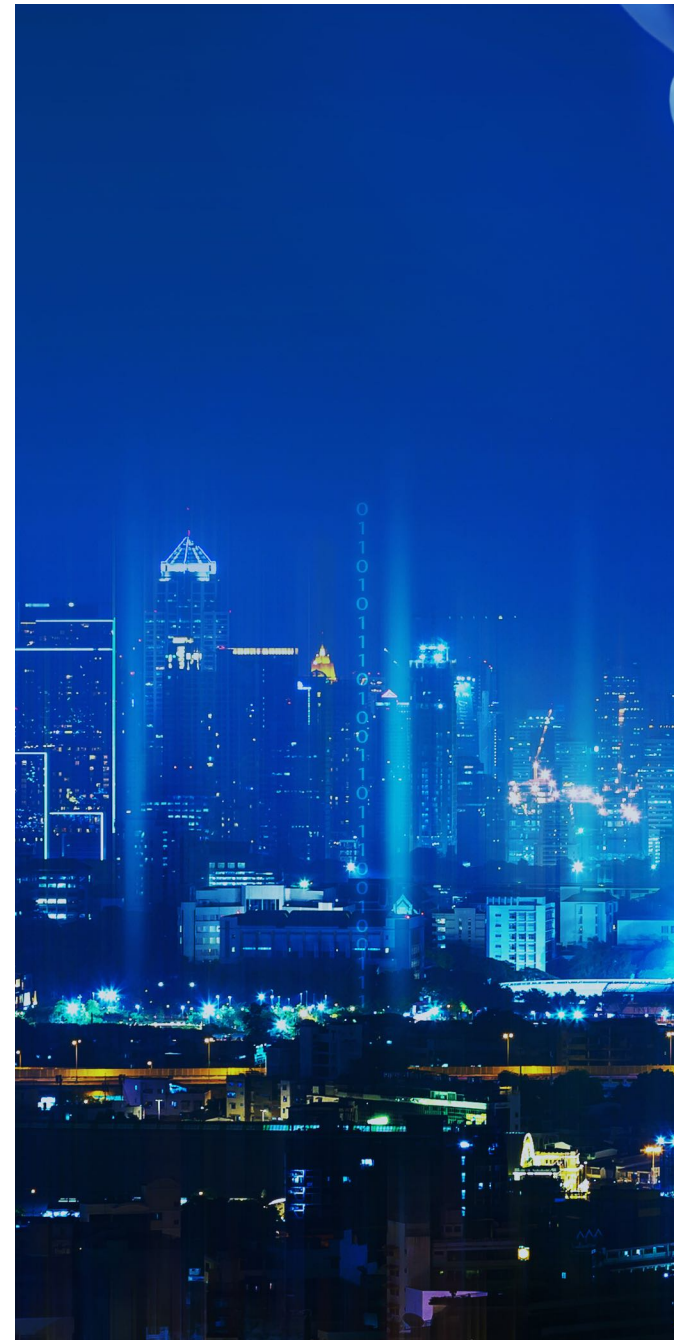Comprehensive Filing Capabilities:

- Import Declarations: Automated submission of import entries to customs authorities with pre-validation of HS codes, tariff classifications, and duty calculations
- Export Declarations: Streamlined outbound shipment filing with origin verification, export control screening, and regulatory rule checks
- Transit Documentation: Seamless carnet and transit declaration management across international corridors
- Advance Cargo Information (ACI): Pre-clearance filing for air and ocean shipments meeting 24-hour advance notification requirements
- Security & Intelligence Filings: Automated submission of Advance Passenger Information (API), Advance Electronic Filing (AEF), and domestic security filings
- Automated Compliance & Quality Assurance:
- Schema Validation: Verifies message structure and format compliance before transmission to customs
- Syntax Verification: Confirms accurate spelling, date formats, code structures, and data type alignment
- Regulatory Rule Checking: Applies jurisdiction-specific business rules, prohibited items lists, and regulatory requirements
- Automated Error Detection: Identifies missing or conflicting data elements and notifies submitters before filing
- First-Time-Right Filing: Reduces rejections, resubmissions, and costly delays through comprehensive pre-submission validation.

Integrated Compliance Controls:

Through tight integration with GSI TradeContent Intelligence and GSI Sanctions & Denied Party Screening, BorderConnect automates critical compliance workflows:

- **Automated HS/HTS Classification:** AI-assisted Harmonized System code selection with access to 190+ country tariff databases, ensuring accuracy and consistency
- **Duty & Landed Cost Calculation:** Real-time computation of applicable duties, taxes, and landed costs based on origin, destination, trade agreements, and product characteristics
- **Denied Party Screening:** Automatic verification of consignees, shippers, and related parties against global government watchlists, sanctions lists, and restricted party databases
- **Regulatory Rule Application:** Jurisdiction-specific compliance rules, trade agreement benefits validation, and special regime determination
- **Data Verification Automation:** Pre-filing validation of all data elements against source systems and regulatory requirements, reducing submission errors by up to 60%

GSI's customs declaration software is an industry-leading solution, utilizing smart automations and prompts to ensure all data is collected, speeding freight to its destination with an intuitive user interface.

- **AI-Enabled Automation:** GSI leverages automation and AI-powered technology to streamline HTS code classification, duty and tariff determination, and landed cost calculations, enabling faster, more accurate decisions.
- **AI-Enabled HTS Code Classification:** Automates HTS/HS code classification with AI to ensure accuracy, compliance, and speed. Access up-to-date trade data across 190+ countries to reduce errors and boost efficiency.
- **Automated Data Verification:** Automates the verification of data elements in your customs entry and declaration documentation, ensuring accuracy before submission to customs—saving time and reducing the risk of errors.

Real-Time Shipment & Document Exchange

BorderConnect enables secure, real-time exchange of shipment data and commercial documents across the entire supply chain, providing stakeholders with unified visibility and reducing manual coordination.

Shipment Event Management:

- Standardized Event Codes: Harmonized milestone definitions across air, ocean, road, and rail modalities enabling consistent visibility
- Real-Time Status Updates: Automated transmission of booking confirmations, pickup notifications, in-transit milestones, delivery confirmations, and exception alerts
- Proof of Delivery: Digital capture and transmission of delivery evidence, signatures, and exception documentation
- Exception Management: Intelligent alert routing for delays, damaged shipments, regulatory holds, and compliance issues

Centralized Digital Document Exchange:

- Commercial Documents: Secure storage and transmission of invoices, packing lists, bills of lading, air waybills, and shipping manifests
- Regulatory Documentation: Certificates of origin, import/export licenses, permits, health certifications, and compliance documentation
- Customs Correspondence: Official customs notices, inspection requests, release authorizations, and regulatory responses
- Unified Document Linking: All documents automatically associated at the shipment level, eliminating fragmented document trails and enabling rapid retrieval during audits or investigations

Multimodal Visibility & Operational Dashboards

BorderConnect provides comprehensive, standardized shipment visibility across all transport modes, enabling operations and compliance teams to monitor cargo movements, predict disruptions, and optimize service delivery.

Real-Time Operational Dashboards:

- Multimodal Shipment Tracking: Unified tracking across air, ocean, road, and rail corridors using standardized event codes and milestone definitions
- Performance Analytics: Real-time visibility into on-time delivery rates, cycle times, cost metrics, and service level compliance
- Exception Management Tools: Automated alerting, escalation workflows, and resolution tracking for delays, damage, and regulatory holds
- Predictive Delay Analytics: Intelligence-driven forecasting of potential disruptions based on historical patterns, current operational conditions, and external factors

Operational Intelligence for Supply Chain Resilience:

- Customs Clearance Monitoring: Real-time tracking of declaration status, customs decisions, and clearance timing
- Regulatory Status Visibility: Automated notification of inspection requests, compliance holds, and release authorizations
- Performance Benchmarking: Comparative analysis of clearance times, error rates, and compliance metrics across corridors and partners
- Proactive Exception Management: Automated workflows for managing shipment delays, damaged goods, and regulatory risks before they impact service levels

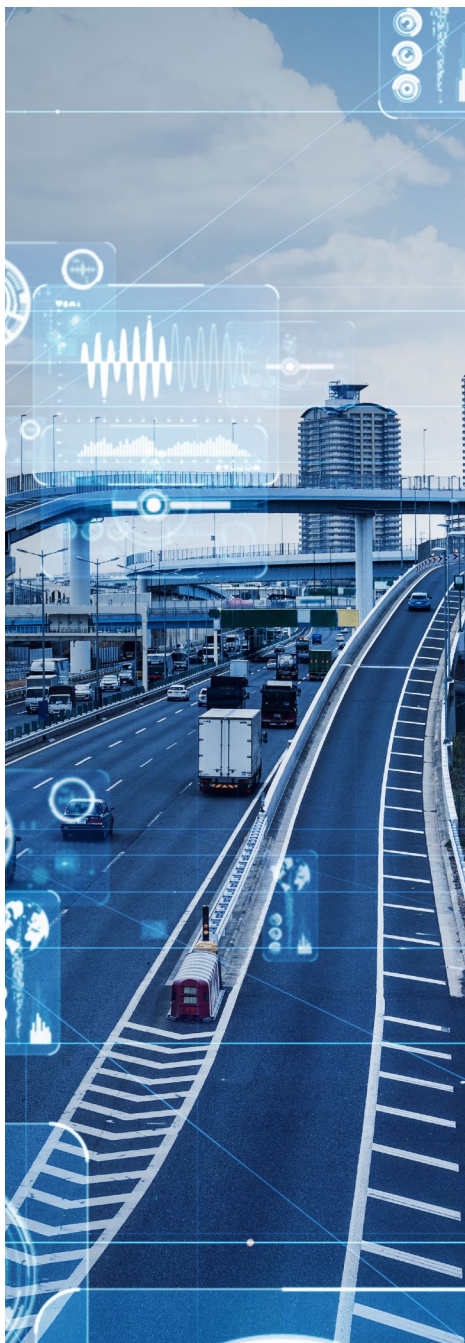# Native Integration with Customs & Compliance Platforms

BorderConnect operates in seamless integration with GSI's comprehensive customs automation and compliance suite, enabling end-to-end digital trade management.

GSI CustomsXchange Integration:

- Declaration Routing: Automatic transmission of completed declarations to appropriate customs jurisdictions with real-time status tracking
- Response Management: Automated receipt and processing of customs decisions, inspection notices, hold notifications, and release messages
- Risk Management: Integrated risk flagging and compliance alerting for high-risk shipments, denied parties, and regulatory violations

GSI TradeContent Intelligence Integration:

- Tariff & Classification Enrichment: Real-time access to comprehensive trade research, HS code lookup, and tariff determination across 190+ countries
- Landed Cost Simulation: Automated calculation of total landed costs including duties, taxes, freight, insurance, and regulatory fees
- Trade Policy Optimization: Intelligence on trade agreements, preferential tariff programs, and duty minimization strategies

GSI Sanctions & Denied Party Screening Integration:

- Comprehensive Screening Capabilities: Multi-list screening of consignees, shippers, and related parties across global government watchlists, sanctions lists, and restricted party databases
- AI-Driven Accuracy: Advanced matching algorithms reduce false positive alerts while improving detection of high-risk parties
- Configurable Screening Options:
  - On-Demand Screening: Real-time verification of customers, vendors, and business partners
  - Batch Processing: Simultaneous screening of entire contact databases against multiple watchlists
  - Dynamic Rescreening: Automatic periodic verification against updated denied parties lists
  - System Integration: Seamless embedding within ERP, CRM, and existing business systems
- Enhanced Due Diligence: Advanced screening methods including beneficial ownership analysis, IP address screening, address-only matching, politically exposed person (PEP) identification, and adverse media detection
- Compliance Documentation: Detailed audit-ready reporting with complete screening history and decision rationale for regulatory verification

Security Architecture & Data Protection

BorderConnect is engineered with comprehensive security controls meeting or exceeding international cybersecurity and data protection standards.

Security Architecture:

- Encrypted Message Transmission: End-to-end encryption of all data in transit using TLS 1.2+ and industry-standard cryptographic protocols
- Role-Based Access Control (RBAC): Granular permission management ensuring users access only authorized information and functions
- Multi-Factor Authentication (MFA): Mandatory multi-factor authentication for all user access with support for hardware tokens, software authenticators, and biometric methods
- Secure API Gateways: OAuth 2.0 and API key management with request signing and rate limiting
- Complete Audit Trails: Timestamped logging of all system actions, user activities, and data access for forensic investigation and regulatory compliance

Data Protection & Governance:

- Message-Level Logging: Comprehensive logging of all message content, processing steps, and delivery confirmations
- Version Control & Timestamping: All transaction data maintained with version history and precise timestamps to support post-clearance audits
- Data Retention & Archival: Configurable retention policies with secure long-term archival for regulatory compliance and historical analysis

Disaster Recovery & Business Continuity: Redundant infrastructure, automated backups, and recovery procedures ensuring data integrity in all scenarios

High Availability & Network Operations

BorderConnect operates under an enterprise-grade, high-availability architecture designed to support mission-critical national border operations and large-scale logistics networks.
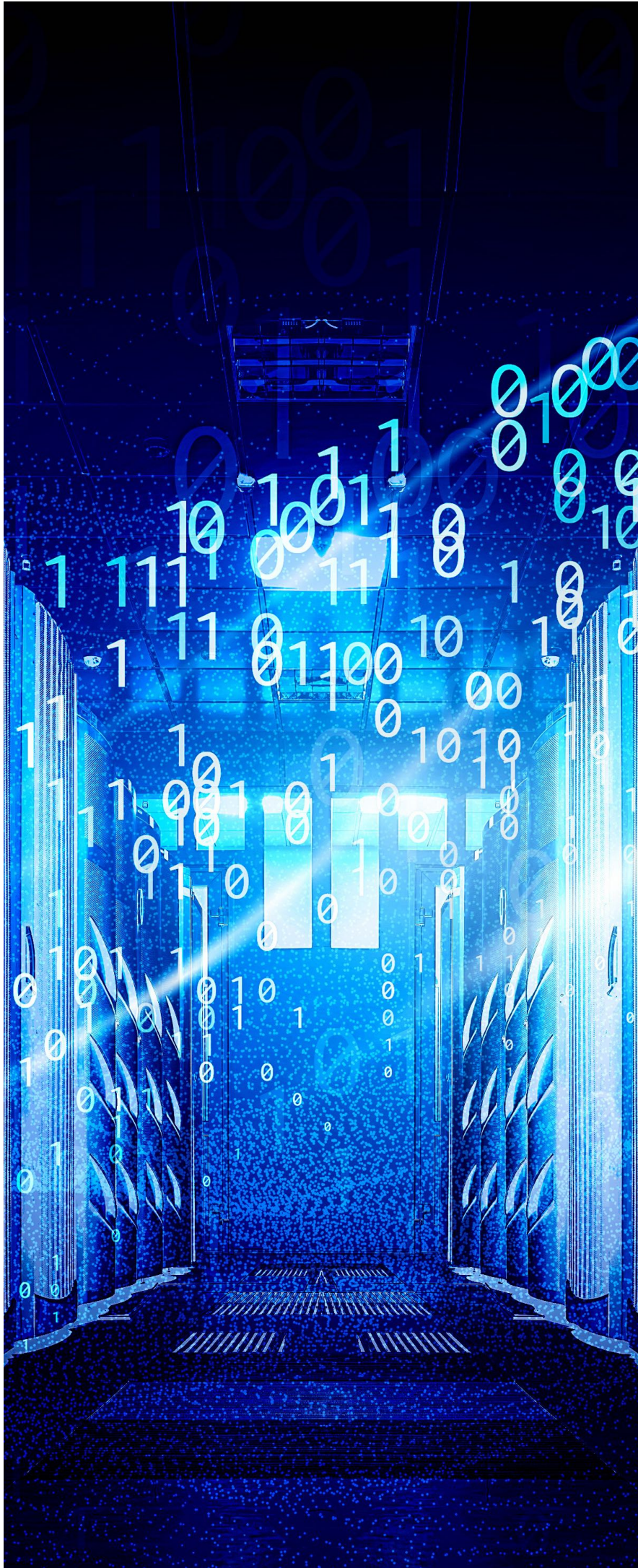
Infrastructure & Availability:

- Redundant Infrastructure: Geographically distributed systems with automatic failover ensuring continuous operation
- 99.95%+ Network Uptime: Service level agreements guaranteeing operational availability across all trade corridors
- 24/7 Network Monitoring: Continuous monitoring of system health, performance metrics, and network traffic with automated alerting
- Automated Failover: Intelligent system recovery mechanisms ensuring no single point of failure impacts operations

Operational Support & Onboarding:

- Structured Onboarding Services: Professional implementation support for customs authorities, carriers, forwarders, and brokers joining the network
- Training & Documentation: Comprehensive user training, system documentation, and best practice guidance
- Dedicated Support Teams: SLA-backed technical support with dedicated relationship management for enterprise and government customers

Continuous Performance Optimization: Regular system assessments, performance tuning, and capacity planning

Data Governance & Regulatory Compliance

BorderConnect operates under strict data governance policies aligned with international government IT security standards, data protection regulations, and trade compliance frameworks.

Compliance Standards:

- Cybersecurity Compliance: Adherence to NIST Cybersecurity Framework, international cybersecurity standards, and government security requirements
- Data Protection Regulations: Full compliance with GDPR, data localization requirements, and national privacy laws
- Trade Security Standards: Alignment with government customs security programs, Authorized Economic Operator (AEO) frameworks, and border security requirements
- Audit & Verification: Regular third-party security audits, penetration testing, and compliance verification

Data Stewardship:

- Transaction Preservation: All cross-border trade data maintained with complete version control and timestamping for regulatory investigation support
- Forensic Capability: Detailed transaction history supporting post-clearance audits, regulatory investigations, and dispute resolution
- Government Collaboration: Secure data sharing protocols enabling customs authorities to access relevant transaction data for compliance verification
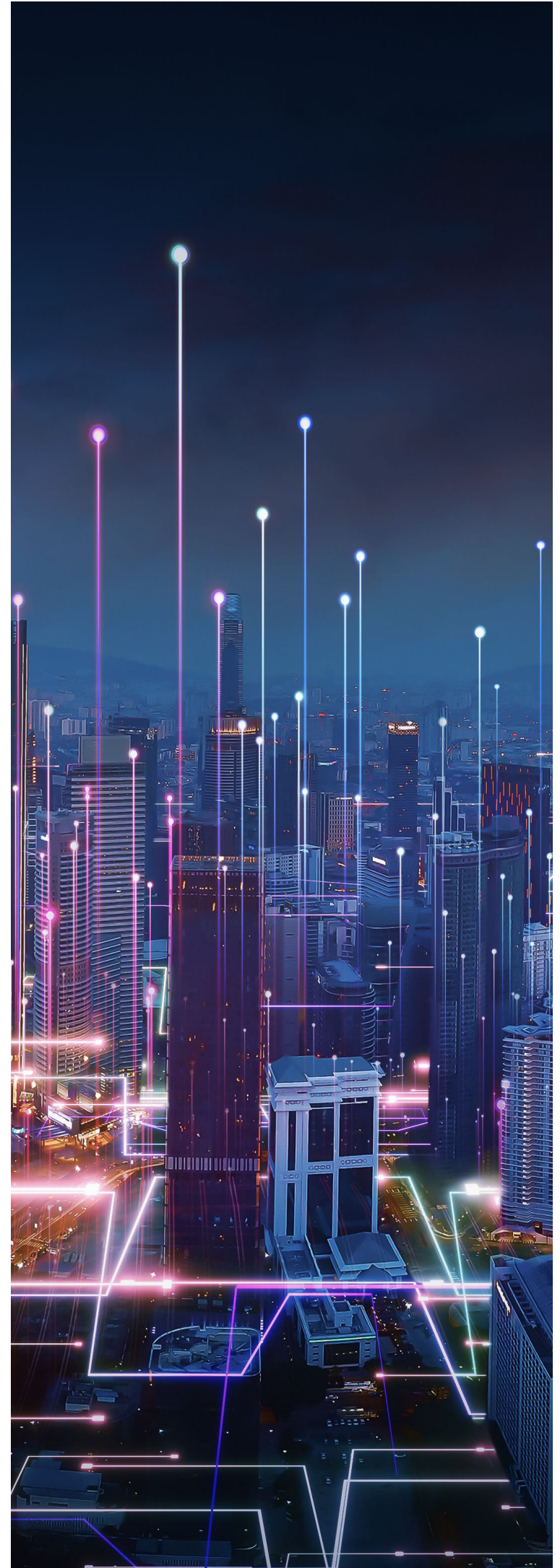
Deployment Models & Scalability

BorderConnect is delivered as a fully managed network service with deployment flexibility aligned with organizational security requirements and national IT policies.

Deployment Options:

- Cloud-Based Deployment: Multi-tenant or dedicated cloud infrastructure providing global accessibility, automatic scaling, and simplified operations
- On-Premise Deployment: Self-hosted infrastructure for organizations requiring complete data sovereignty and internal IT control
- Hybrid Deployment: Combined cloud and on-premise architecture balancing flexibility, control, and operational efficiency
- National Implementation: Purpose-built deployments supporting government customs authorities and national single window environments

Scalability & Performance:

- Horizontal Scaling: Architecture scales seamlessly to support national customs operations, multinational logistics networks, and regional trade corridors
- Transaction Volume Capacity: Engineered to handle millions of daily messages and declarations without performance degradation
- User Scalability: Support for thousands of concurrent users across geographically distributed locations
- Multi-Currency & Multi-Language Support: Native support for global operations including currency conversion, regulatory translations, and localized interfaces
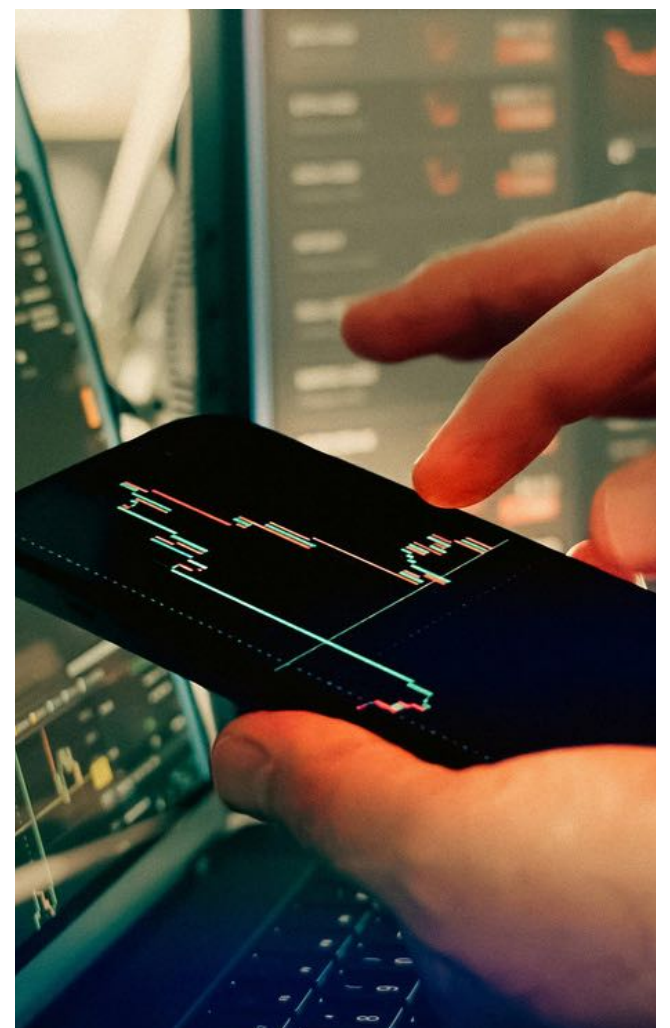
Measurable Operational Benefits

Organizations deploying GSI BorderConnect Network achieve significant, quantifiable improvements across operational efficiency, cost reduction, and regulatory compliance:

Operational Efficiency:

- 30–50% Reduction in Manual Data Entry: Automated data capture and validation eliminate repetitive manual workflows
- 25–45% Faster Customs Clearance: Streamlined declaration processing and regulatory response handling accelerates cargo release
- 60% Reduction in Document Handling Errors: Centralized digital document management and automated validation eliminate paper-based errors and missing attachments
- 70–90% Real-Time Shipment Visibility: Standardized event tracking provides comprehensive visibility across all transport modes
- 40–65% Reduction in Staff Workload: Automation of data entry, document management, and compliance workflows improves staff productivity

Regulatory & Compliance Improvements:

- Near-Zero Regulatory Violations: Integrated compliance screening and automated rule checking eliminate missed regulatory requirements
- Improved First-Time-Right Filing: Comprehensive pre-submission validation increases declaration accuracy and reduces rejections
- Enhanced Audit Readiness: Complete transaction history and detailed audit trails support regulatory investigations and compliance verification
- Faster Regulatory Response: Automated receipt and processing of customs decisions and compliance notifications

Business Value & Competitive Advantage

GSI BorderConnect Network has delivered proven, quantifiable operational and compliance performance improvements across government customs authorities, global logistics providers, and multinational enterprises. Representative results observed across deployments include:

- Customs Processing Acceleration: National customs and border agencies utilizing BorderConnect achieved 25–50% faster declaration processing cycles through automated message validation, standardized data exchange, and real-time status synchronization.
- Manual Workload Reduction: Freight forwarders and customs brokers reduced manual data entry and document handling workloads by 40–65%, significantly improving staff productivity and reducing operational costs.
- Document Error Reduction: Centralized digital document exchange and automated message validation reduced document errors, missing attachments, and rework cases by over 60%.
- Network Uptime & Reliability: BorderConnect Network consistently operates with >99.95% uptime across high-volume trade corridors, supporting mission-critical national border control operations.
- Multimodal Shipment Visibility Improvement: Logistics operators achieved 70–90% real-time shipment visibility accuracy across air, sea, road, and rail flows, enabling proactive exception management and improved service-level performance.
- Regulatory Compliance Strengthening: Integrated compliance checks with CustomsXchange and Sanctions Screening reduced regulatory violations and denied-party incidents to near-zero levels in controlled trade environments.
- Cross-Border E-Commerce Enablement: Platforms integrating BorderConnect APIs reduced clearance delays and consumer delivery disputes by over 55%, directly improving customer satisfaction and international sales conversion rates.

These proven performance indicators demonstrate GSI BorderConnect Network's capability to operate at national digital infrastructure scale while delivering enterprise-grade reliability, compliance assurance, and operational performance optimization

Target Users & Industry Coverage

- Government & Regulatory Agencies: National customs authorities, border control agencies, and regulatory bodies
- Freight & Logistics: Freight forwarders, customs brokers, and logistics service providers
- Transportation Operators: Airlines, shipping lines, trucking companies, and rail operators
- Port & Terminal Infrastructure: Port authorities, terminal operators, and inland cargo hubs
- Enterprise & E-Commerce: Global manufacturers, multinational enterprises, and cross-border e-commerce platforms
- Trade Finance & Insurance: Custom brokers, freight forwarders, and trade finance providers requiring compliance documentation

Commercial Model & Service Framework

GSI BorderConnect Network is delivered under flexible commercial models aligned with organizational size and transaction volume:

Subscription & Licensing:
- Network Access Subscription: Monthly or annual subscription providing secure access to the BorderConnect platform
- Transaction-Based Pricing: Message and declaration submission fees scaled to actual usage volume
- Enterprise SLA Contracts: Custom service agreements for large organizations and government agencies with guaranteed uptime and support response times
- Managed Services Options: Optional operational support, monitoring, and maintenance services for customers preferring fully managed solutions

Commercial Flexibility:
- Scalable Pricing: Cost structure grows with business needs, from single-user access to enterprise-wide deployments
- No Lock-In Commitments: Flexible contract terms supporting business change and evolution
- Transparent Cost Model: Clear pricing structure with no hidden fees or surprise costs

Competitive Positioning & Market Differentiation

GSI BorderConnect Network positions General Storm Industry as a comprehensive global trade partner, not merely a software vendor. Key competitive advantages include:

- Integrated Ecosystem: Unlike point solutions, BorderConnect operates as part of a fully integrated digital trade platform including customs declaration, tariff intelligence, and compliance screening
- Government-Grade Infrastructure: Purpose-built for national customs implementations and large-scale government deployments, not adapted from commercial logistics platforms
- Unified Network: Single connection point for all cross-border trade needs, reducing integration complexity and operational overhead
- Compliance-First Design: Customs compliance and regulatory adherence embedded throughout the platform, not retrofitted
- Enterprise & Government Scale: Proven capability to operate at national scale while maintaining enterprise-grade reliability and security

Future Development Roadmap

GSI BorderConnect Network continues to evolve with planned enhancements addressing emerging trade challenges and operational opportunities:

Advanced Analytics & Prediction:

- AI-Powered Anomaly Detection: Intelligent algorithms identifying unusual shipment patterns, regulatory risks, and compliance anomalies
- Predictive Congestion Analytics: Forecasting of customs bottlenecks and trade corridor delays enabling proactive operational planning
- Dynamic Risk Scoring: Real-time assessment of shipment, party, and corridor risk profiles

Emerging Technology Integration:

- Blockchain-Enabled Document Verification: Distributed ledger technology for securing document authenticity and supply chain provenance
- IoT Sensor Integration: Incorporation of Internet of Things sensors for real-time monitoring of shipment conditions, location, and integrity
- Advanced Compliance Intelligence: Enhanced cross-border trade risk assessment combining government intelligence, sanctions data, and behavioral analytics

Market Expansion:

- Regional Trade Corridor Optimization: Purpose-built implementations for major regional trade routes and economic partnerships
- Industry-Specific Solutions: Vertical-specific enhancements for high-value sectors including automotive, pharmaceuticals, and high-tech manufacturing
- Sustainability & Transparency: Integration of environmental impact tracking and supply chain transparency features meeting global ESG standards