Inntri Labs
n2n Solutions

Integrated Supply Chain & TIEP Facilitation Platform

HANSHIN
SHIPPING AND LOGISTICS

BNS
BNS TRANSPORT PVT.LTD

MμTU WMS
mutualizations

MμTU TRANS
mutualizations

MμTU HRIS
mutualizations

Inntri Labs
n2n Solutions

Introduction

In Sri Lanka, exporters operate under the TIEP (Temporary Import for Export Purposes) scheme, gaining tax exemptions on raw materials (TIEP 1) and machinery (TIEP 4) to boost export competitiveness. Yet, managing compliance, reporting, stock tracking, and customs coordination remains a manual, fragmented, and risk prone process. We present a digitally integrated system that aligns logistics and regulatory compliance from import value addition to re-export. While assisting to manage business management process. Been logistic service provider we had identified the need of solution for burning issue

What We Solve

• Disconnected data between warehouse, customs, and production

• Manual stock and wastage tracking

• Delayed document reconciliation

• Lack of real-time insight into liabilities, guarantee status, and re-export obligations

Connecting Data Across Operations

Warehousing, production, customs, and finance often work in silos, resulting in mismatched figures, shipment delays, or penalty charges.

Our Solution:

We connect all departments under one integrated platform. Whether it's a shipment delay in transport or an issue in raw material conversion, all modules speak to each other enabling real-time visibility and proactive decision-making.

Stock and Wastage Tracking

Most exporters still rely on spreadsheets or paper-based logs to monitor raw material usage and wastage. This creates room for errors, makes audits difficult, and leads to compliance risks.

Our Solution:

A virtual warehousing system that automatically records material movement, links it to export orders, and calculates wastage per batch in real time. No more guesswork or manual tallies.

Document Reconciliation

Exporters often face delays when reconciling import data with customs declarations, MUD documentation, or bank guarantees especially when multiple departments handle different parts of the process.

Our Solution:

All data imports, exports, liability usage, guarantees is captured in a single system. MUD files, CusDec entries, and other reports are auto-generated and linked to transactions, speeding up reconciliation and reducing dependency on back-and-forth communication

Real –Time Insight into Liabilities, Guarantees &
Re –Export Obligations

Without a live system to track liabilities against guarantee values and export commitments, businesses often overrun timelines or breach compliance unintentionally.

Our Solution:

Our dashboards track liabilities, remaining guarantee value, pending export amounts, and deadlines—automatically flagging issues before they escalate. This ensures exporters stay within TIEP compliance and avoid financial or legal penalties.

What We Offer – System Modules

Each module is designed to work independently or as part of a fully integrated system offering real-time visibility, seamless data flow, and full traceability across your TIEP operations.

How we mange Import

- Separate dashboards for direct and indirect imports
- ASYCUDA file integration OR manual entry
- Raw material tracking by batch (based on the assigned BOM) and
   Warehouse location
- Unlimited transaction history for audit purposes
- Real-time material consumption monitoring

Import Tracking & Management

Effective import tracking is the foundation of TIEP compliance. Our system offers a dedicated module for managing and monitoring all inbound shipments whether raw materials or capital goods under TIEP I and TIEP IV. Here's how it works.

Separate Dashboards for Direct and Indirect Imports

We understand that direct and indirect import transactions follow different workflows. Our platform provides two clearly separated dashboards one for direct imports (used by the exporter themselves) and one for indirect imports (used on behalf of another exporter or BOI customer). This distinction ensures clean reporting, accurate liability tracking, and streamlined approvals.

ASYCUDA File Integration OR Manual Entry

To minimize data duplication, the system allows you to upload ASYCUDA XML or Excel files directly from Sri Lanka Customs. For importers not using ASYCUDA export files, we also provide manual entry forms that map to the same structure. This flexibility ensures 100% compatibility while reducing repetitive work.

Raw Material Tracking by Batch and Warehouse Location

Every item imported under TIEP is tracked by batch number, arrival date, and storage location. The system maps raw materials to virtual warehouse zones, allowing users to view what's stored where, when it arrived, and how much has been consumed. This helps with:

- BOM Management
- FIFO material selection
- Stock expiry alerts
- Seamless export linkage

Unlimited Transaction History for Audit Purposes

Exporters are required to maintain up to 5–10 years of records for audit and customs reviews. Our system stores an unlimited history of all import transactions, edits, approvals, and consumption logs. These records are time stamped and version controlled, ensuring full transparency and traceability.

Real Time Material Consumption Monitoring

Once raw materials are issued to production or exported, their quantities are automatically deducted from the available stock. This provides managers with a live view of what has been consumed, what remains, and what is nearing expiration. Simultaneously, the system updates material status in accordance with customs requirements classifying them as raw material, quality reject, or damaged. Once materials are transferred to production, their status is updated and their location is changed to finished product. As goods are prepared for export, their status is further updated. Based on the Bill of Materials (BOM) and the quantities specified in the commercial invoice, production batches are broken down into corresponding customs declarations. A system-generated MUD (Materials Utilization Declaration) is then created, aligned with the export declarations. In the case of export cancellations, the system accounts for the cancelled quantity, ensuring the MUD remains accurate. After shipping, the export status changes to "Pending Cancellation" until the process is fully closed. This seamless linkage between production, export, and documentation ensures full compliance with customs regulations and TIEP requirements.

- Guarantee value limits
- MUD documentation
- Value-addition ratios

Guarantee & Liability Dashboard

Exporters operating under the TIEP scheme are required to furnish guarantees to Sri Lanka Customs as a form of financial security. These guarantees cover the duties and taxes exempted under the scheme until the exporter fulfills their re-export obligations. Our dashboard gives users full visibility and control over this process.

Our system allows users to input and manage different types of guarantees:

- Bank Guarantees (full value or partial)
- Personal or Corporate Guarantees, depending on the exporter's credibility and history with Customs

Each guarantee is digitally linked to the TIEP approval and import transactions, enabling seamless monitoring and reporting.

Automatic Deduction Based on Import Receipts

Whenever an import is recorded, the corresponding value is automatically deducted from the available guarantee balance. This ensures:

- Accurate liability reflection always
- Reduced risk of over-committing against available guarantees
- Transparent visibility for Customs officers and internal audit teams

Dashboard View: Liability vs. Guarantee, VAT Flows, Direct/Indirect Export Values

The dashboard provides real time insight into:

- Remaining Guarantee vs. Utilized Amount
- VAT and PAL movements over time
- Direct and Indirect Export values, including pending and fulfilled obligations

These insights help finance, operations, and compliance teams stay aligned and avoid lapses.

Duration & Renewal

Guarantees are typically valid for one calendar year. The system:

- Tracks expiry dates
- Sends automated reminders before expiration
- Flags non-compliance or overdue exports that may affect renewal

Renewals are made easier with built-in summaries of exporter performance, including:

- Conversion ratio history
- Wastage trends
- On-time MUD submission

Export Management

TIEP-compliant exporters must prove that imported raw materials have been properly used and re-exported within approved timeframes. Our system simplifies this complex process through automation, traceability, and user-level controls ensuring smooth, compliant export operations.

- FIFO-based material selection
- Automated MUD file generation (multiple in case of indirect exports)
- Manual overrides and write-off authority for senior users
- Real-time wastage visibility (material & financial)
- MUD tracking by export order

FIFO-Based Material Selection

Our platform automatically issues materials for export based on the First-In-First-Out (FIFO) principle. This ensures that materials are rotated correctly and used in the proper sequence. All materials are maintained according to their HS codes and Bill of Materials (BOM) requirements. Unlike traditional systems that manage inventory purely by HS classification, our platform prioritizes the BOM structure. This approach addresses a key challenge faced by exporters during shipment cancellations where materials managed only by HS code cause mismatches and delays. By aligning material management with the BOM, we reduce the risk of discrepancies and ensure smoother export processing, especially in compliance heavy environments like TIEP.

- Proper rotation of raw material batches
- Avoidance of material expiry
- Accurate conversion reporting for MUD documentation

FIFO logic is critical for both compliance and inventory control,

Automated MUD File Generation (Multiple in Case of Indirect Exports)

The Materials Utilization Declaration (MUD) is a required compliance document under TIEP. Our system:

- Auto-generates MUDs based on real-time data from import, production, and export modules
- Supports multiple MUD generations for each export, especially where indirect imports are involved (e.g., BOI suppliers or multi-party manufacturing chains)
- Ensures that all liability, conversion, and value-addition data are pre-filled and accurate

This feature greatly reduces manual work and eliminates errors during submission.

Manual Overrides and Write-Off Authority for Senior Users

In exceptional cases (e.g., damaged stock, reconciliation corrections), senior management may need to manually adjust material usage or export values. Our system includes:

- A controlled manual override function
- A secure audit trails
- Role-based access for senior decision-makers
- Write-off features to settle minor imbalances or expired stocks with appropriate authorization

This balances system automation with the flexibility needed for real-world operations.

Real-Time Wastage Visibility (Material & Financial)

Each export entry is linked to:

- The exact quantity of raw material consumed
- The declared product output
- The value of the wastage, in terms of both materials and missed guarantee recovery

Users can:

- Compare wastage across product lines
- Detect abnormal trends early
- Justify losses to auditors and customs

This transparency is key for renewal evaluations and process optimization.

MUD Tracking by Export Order

Instead of treating exports in bulk, our system tracks MUD compliance per individual export order. This means:

- You can trace which materials were used in each shipment
- Track whether MUD has been filed, submitted, or flagged for delay
- Know at any point which orders are pending closure for TIEP

This approach ensures tighter control, audit readiness, and clear accountability.

Custom Reports & Documentation

Accurate reporting is the foundation of compliance under the TIEP scheme. Our system is equipped with a robust documentation engine that generates actionable, audit-ready reports tailored to the needs of exporters, customs officers, and internal stakeholders.

Stock Reports – Available Material by Category/Batch

The system tracks raw materials across multiple parameters:

- Category (e.g., aluminum, flavoring agents, shrink wrap)
- Batch number
- Date of arrival
- Quantity in stock
- Warehouse location

Users can filter reports by TIEP batch, supplier, or expiry risk, enabling proactive decision-making and avoiding stock losses due to material lapse.

Liability Reports – Real -Time Tracking of Value to Be Settled

Every import under TIEP creates a corresponding customs liability, which must be cleared by an equivalent export or settlement. The system:

- Calculates the current liability at any point in time
- Compares it against the remaining guarantee
- Flags under-fulfilled obligations for customs officers and exporters

This ensures no hidden risk or last-minute surprise when submitting MUDs or applying for guaranteed renewal.

Wastage Reports – Per Export or Cumulative

Wastage is monitored in two forms:

- Per export order – showing exact loss per batch
- Cumulative trend – comparing historical wastage averages by material type or product line

This helps:

- Maintain transparency with customs
- Improve production efficiency
- Justify discrepancies during audits

MUD Documentation – Downloadable & Printable

The system auto-generates Materials Utilization Declaration (MUD) documents using real-time data on:

- Imported materials used
- Final product exported
- Conversion ratios and wastage
- Export invoice value and CusDec details

All MUDs are downloadable in standard formats accepted by Sri Lanka Customs and easily printable for submission or archive.

Custom Reports – Configurable to User/Company Needs

While core reports are standardized for compliance, our system also allows companies to build custom reports, such as:

- Department-level material usage
- Delayed export order aging
- Monthly conversion efficiency scorecards
- Vendor performance on delivery timelines

These can be set up as automated schedules or triggered manually for internal review.

DOWNLOADING

Conversion & Wastage Management

Under TIEP, exporters must declare a conversion ratio for each approved product a measure of how much raw material is required to manufacture one unit of output.

How Our System Helps:

At the start of the approval process, users can submit expected conversion ratios and wastage for each material. These ratios are then used by the system to:

- Monitor actual usage during production
- Compare forecasted vs. real wastage
- Flag significant deviations for review

Each export automatically logs the material issued, final product, and deviation from expected norms providing a full audit trail for customs review and ministry evaluation.

This ensures exporters remain compliant, transparent, and efficient in their material usage strengthening their case for future TIEP project approvals and faster customs processing.

Now Connected to the Full Supply Chain

While most TIEP systems focus only on compliance and documentation, we go further by embedding TIEP management directly into your core operational ecosystem. This allows you to manage both your regulatory responsibilities and your business operations through a single smart platform.

We've fully integrated the TIEP compliance engine with our 5-module smart supply chain system, enabling exporters to align production, logistics, documentation, and compliance in real time.

- Transport Management Link import/export shipments to TIEP orders
- Warehouse Management Virtualized stock tied to TIEP approvals
- Production Management Material-to-output conversion and BOM-based tracking
- Customs Support System Auto-fill CusDec, GRNs, and MUDs in line with TIEP rules
- HR Support Access control, task assignment, and accountability logs

By combining TIEP with operational systems, we eliminate silos and bring everything under one digital roof. This is not just compliance it's intelligent, connected supply chain management designed for Sri Lanka's modern exporter.

Technology Framework

Our platform is built on a modern, scalable, and secure infrastructure that ensures uninterrupted operations, seamless integrations, and user-specific experiences. It supports both operational excellence and regulatory compliance across your entire supply chain—making it the ideal digital foundation for TIEP-based exporters.

- Cloud-based | 24/7 Access
- Real-time IoT Integration – sensors, RFID, scanners
- Role-Based Permissions – exporters, brokers, customs, ministries
- ERP/API Ready – works with existing systems
- Data Security – full encryption & backup
- Customizable UI – per user or role

Impact

Our platform has been designed not just to meet compliance needs but to transform how TIEP-linked operations are executed and managed across the entire supply chain. The impact extends across all key stakeholders:

- Exporters – Faster operations, reduced errors, easier audits
- Sri Lanka Customs – Real-time visibility, digital audit trails
- Ministry of Industries – Accurate tracking of conversion & value-add
- Freight Forwarders – Shipment mapping to TIEP timelines

Exporters – Faster Operations, Reduced Errors, Easier Audits

For exporters, managing imports, production, and exports under TIEP can be resource-intensive and error-prone. Our platform simplifies this by:

- Automating MUD generation, GRNs, and conversion reports
- Providing real-time stock visibility and re-export tracking
- Reducing manual entry and duplicate documentation
- Ensuring complete traceability, making audits faster and stress-free
- Helping maintain compliance history for future TIEP approvals
- Ultimately, this leads to lower operational risk, reduced manpower costs, and faster decision-making.

Sri Lanka Customs – Real-Time Visibility, Digital Audit Trails

Customs plays a vital role in approving, verifying, and auditing TIEP transactions. With our system:

- Officers can access live dashboards showing liability usage, pending exports, and guarantee status
- All activity is time-stamped, creating a full audit trail
- Pre-formatted MUDs, GRNs, and CusDecs streamline document review
- Data-driven oversight improves compliance enforcement without physical intervention

This creates a more efficient, accountable, and transparent customs environment.

Freight Forwarders – Shipment Mapping to TIEP Timelines

Forwarders are often left out of the compliance loop leading to delays, missed re-export deadlines, or incorrect declarations. With our platform:

- Forwarders can track shipment status in context of TIEP project deadlines
- Know which shipments are linked to pending MUDs
- Plan delivery windows around customs clearance or guarantee expiry
- Get access to digital manifests and export schedules integrated with CusDecs

This results in better coordination, fewer penalties, and optimized logistics aligned with compliance obligations.

What's Next

We propose a pilot launch with a small group of TIEP exporters and coordination with Sri Lanka Customs and the Ministry of Industries.

Inntri Labs

n2n Solutions

Inntri Labs (Pvt) Ltd
No102/3, SrimathAnagarika
DharmapalaMawatha, Colombo07
Sri Lanka

+9477787 8746

www.inntrilabs.com
info@inntrilabs.com