

# UNLOCK TOMORROW

WITH RFID TECHNOLOGY

Build Today. Perfect Tomorrow. With RFID







# GLOBAL STANDARDS EMPOWERING SUPPLY CHAIN TRANSFORMATION

One global language of data
 Barcodes → RFID → digital IDs

• Ensuring accuracy, connectivity, and traceability

 Supporting Vietnam's journey toward smart, transparent supply chains





## UNLOCK TOMORROW WITH RFID TECHNOLOGY

# CONNECTING THE PHYSICAL AND DIGITAL WORLDS





- Delivering automation, efficiency, and real-time visibility.
- Each RFID tag carries a GS1 Electronic Product Code (EPC).
- Bridging physical products with their digital identities.
- Enabling global item-level tracking and verification.

03





# BUILDING SMARTER SUPPLY CHAIN TOGETHER

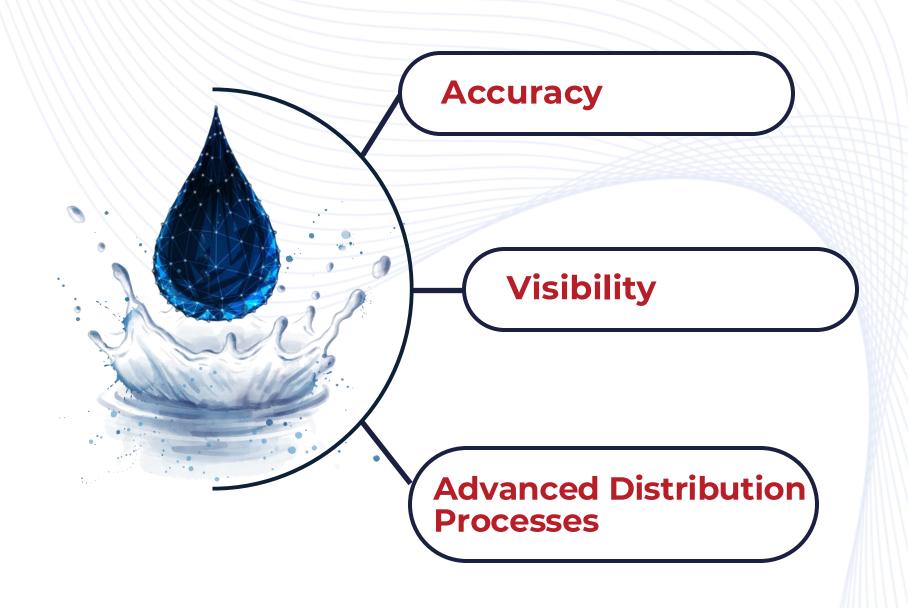






# TECHNOLOGY ADVANCING THE GLOBAL SUPPLY CHAIN

TradeLink Technologies is a supply chain technology solutions provider for global brands and retail companies. We provide complete set of First Mile (Factory) solutions and can go upstream to track Raw Materials and downstream to track and trace shipments.



**TECHNOLOGY ADVANCING THE GLOBAL SUPPLY CHAIN** 





## TRADELINK TECHNOLOGIES INTRODUCTION

#### **INCLUSIVE**

- Founded in 2000
- GS1 Certified
- Buyers, Suppliers, Buying Agents, Forwarders, Consolidators, Trade Finance, **Custom Brokers**

#### **INNOVATIVE**

- Technology driven workflows
- Integrated processes
- Data mining
- Cost effective solutions

#### **CUSTOMER SUPPLY CHAIN**

RALPH LAUREN



MICHAEL KORS

PRIMARK NORDSTROM





#### COMMUNITY **BEST PRACTICES**

- 12,000+ Vendors
- Vendors in 70 Countries
- 500+ Buyer/ Logistic Customers



## UNLOCK TOMORROW WITH RFID TECHNOLOGY

GLOBAL REACH, LOCAL EXPERTISE.

## Hong Kong (Headquarters)

- Shenzhen, China
- Shanghai, China
- Macau
- Vietnam
- Cambodia
- Thailand
- New Delhi, India
- Bangalore, India
- Jakarta, Indonesia
- Semarang, Indonesia
- Bangladesh
- Lahore, Pakistan
- Taiwan (A)
- South Korea (A)

## Charlotte, NC (Headquarters)

- Milford, CT
- Oakland, CA
- Seattle, WA
- San Francisco
- Dominican Republic
- Turkey
- Egypt
- United Kingdom

#### Website Email

www.tradelinkone.com support@tradelinkone.com



#### **WE SPEAK YOUR LANGUAGE**

20+

Offices

24/7

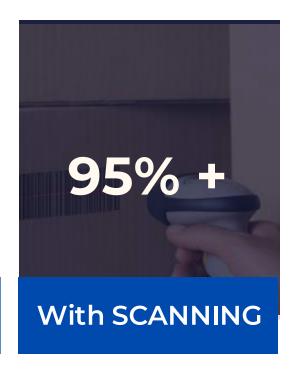
Customer support

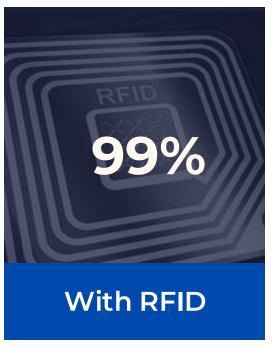


## UNLOCK TOMORROW WITH RFID TECHNOLOGY

#### SHIPMENT ACCURACY

# 31%\* 2 112345 678900 > With CARTON LABEL only









- Label Pre-Gen\* GS1-AUBURN 2017
- Scan Verification
- Pack & Scan
- Scan & Pack
- Scan & Load
- ·Standard Carton
- & Carton Type
- Integrated Scale
- Standard Weights

RFID Scan
 Chamber/ No
 Chamber

- PO
- PO Collaboration
- eMail Alerts
- Order Status
- Advance Ship Notice
- MLinkOne
- Cloud-based application for labels and messaging

- Decision Support
- Standard Reports
- Report Writer
- Control Tower
- Raw Materials Tracking
- WIP Tracking





## 2D & RFID bar coding differences

**Line of Sight**: As mentioned, RFID readers do not require line of sight to detect a tag. They can read data through packaging or materials and scan multiple tags simultaneously. Barcodes require a direct line of sight for scanning, meaning each barcode must be individually aligned with a scanner.

**Read Range**: RFID tags can be read from a greater distance, sometimes up to several meters, depending on the type of RFID used. In contrast, barcodes typically need to be scanned from a much closer range.

**Data Storage and Capacity**: While RFID tags are capable of storing more data than barcodes, they're most commonly used for serialization, such as with an EPC or unique LPN. Rather than storing large amounts of data directly on the tag, it's often more efficient to use the RFID tag to point to external data sources. This approach helps keep tag costs lower while still enabling access to detailed item information like history, condition, or location.

**Speed of Scanning**: RFID enables bulk scanning at high speed, which significantly speeds up processes like inventory tracking and management. Barcode scanning is a sequential process that takes more time. **Security and Data Access:** RFID can offer enhanced data security, as tags can be encrypted and require authorized readers to access the information. In contrast, barcodes are openly readable by any compatible scanner, which can make them more vulnerable to unauthorized access or tampering.

**Cost**: Generally, RFID technology is more expensive to implement than barcode systems, which is one of the main reasons barcodes are, and will continue to be, widely used. However, the cost of RFID has decreased significantly in recent years, and the ROI can be significant, making it more accessible for businesses looking to scale or automate their operations.





## RFID BETTER TECHNOLOGY

## THE COST OF BUSINESS

## RFID CAN SAVE MONEY

## RFID COSTS ARE COMING DOWN

- US Retail Companies make about \$45 billion in Profit
- US Retail Companies chargeback about \$33.8 billion globally in eCommerce chargebacks (2025 estimate)
- Supply chain data & shipments can be more accurate and timely.

- 93% of US retailers are moving to RFID.
- Non RFID tagged items are 7 times more likely to be incorrect or miscounted.
- Average chargeback for these items is about \$9 to \$10
- RFID tags cost on average about \$0.04 to \$0.30 and could drop a bit more (These are usually paid by customers).
- RFID equipment costs are trending down and are scalable.



## DC RF AUDIT

#### **CASE STUDY**

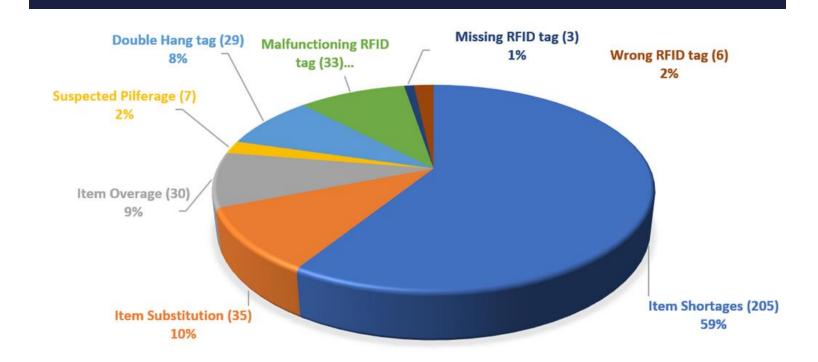
- Pilot program with a well-known apparel brand at their destination distribution center.
- Objective of the study is to determine overall shipment accuracy and also to gain insights as to how the process could be increased to scale.
- The RF tunnel is utilized to initially verify the cartons while keeping the contents sealed. If any discrepancies are detected, the shipping carton is redirected to the RF audit station for further assessment. A final diagnosis is conducted through an open-carton examination.
- The study revealed that RF packing method at the factory has lower carton error. Additionally, the study identified various types of errors associated with tagging issues and item inaccuracy.

#### **Audit Summary**

- Over 6,500 cartons (close to 190K units) have been auditedsince July 2022 :
- In Summary RFID increased shipment accuracy to 99 percent

## UNLOCK TOMORROW WITH RFID TECHNOLOGY

#### Confirmed item errors by category



Pack Method	Total Cartons Audited	% of All Cartons Audited	Total Cartons With Errors
Pregen	153	2.34%	9
Scan & Pack	4324	66.02%	135
RF Pack and Scan	2073	31.65%	28



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# RFID BETTER WORKFLOW



Process improvement via RF technology should provide benefits in these areas based on usage

- Improve order fulfillment for your customers
- Anti-counterfeiting/GreyMarket deterrence
- Support Serialization workflows
- Detect "non-compliant" tags at origin
- Verify Outbound and Inbound Shipment information visible on the cloud

- Precise Item Level
  Tracking in the form of the EPC List & view
- Reduce Packing & Labor Costs approximately 40 percent savings
- Reduce Inventory
  Shrinkage Audit has
  pinpointed where
  shrinkage maybe
  happening, Asset tracking
- Minimize Chargebacks from poor quality shippers





## RFID FORECAST

#### **SERIALIZATION TODAY**

A number of companies are serializing their items for brand authenticity and gray market minimization.

Serialization enhances inventory accuracy, supply chain transparency, and fraud prevention by assigning unique identifiers to individual products.

#### **DPP – Europe 2027**

Digital Product Passport (DPP) - The Ticket to the EU Market.

The upcoming EU regulation, Ecodesign for Sustainable Products Regulation (ESPR), introduces a new concept for many: DPP which sets to redefine the environmental and social impact transparency of consumer products.

A recent GS1 conference produced a first set of guidelines. We would be happy to pass along that information.

#### **GS1 SUNRISE 2027**

This initiative marks the industry's transition from traditional 1D to 2D barcodes by the end of 2027. Some implementations may supplement 2D barcodes with RFID technology. The shift enables:

- Improved inventory management
- Enhanced recall readiness
- Greater sustainability and ethical sourcing
- Better product authentication
- Greater brand trust





#### RFID TECHNOLOGY

Radio-Frequency Identification (RFID) is the use of radio waves to read and capture information stored on a tag attached to an object.





#### **BARCODE**



Line-of-sight scan only

Single capture

No serialized capture

#### **RFID**



Scan without line-of-sight

Batch capture

Serialized capture





## RFID TECHNOLOGY

PackOne would read the Electronic Product Code (EPC) Memory bank of the RFID Inlay, the EPC is in SGTIN-96 format and has 2 useful information:





2843161918



EPC (or SGTIN)

UPC CONTAINING GTIN UNIQUE SERIAL NUMBER

#### >Item Reference

This is the UPC same as the barcode. PackOne would use it for scan verification.

#### >Serial Number

Unique number that identify that piece of item. PackOne would store this information and is capable of returning in ASN.



## UNLOCK TOMORROW WITH RFID TECHNOLOGY

## RFID CAPABILITIES IN OUR SOLUTION SET

RFID technology has been implemented in diverse workflows and settings to help customers improve efficiency, visibility, traceability, and transparency throughout the supply chain.



#### From first-mile automation



#### PackOne RF Pack & Scan

(Item level scanning)
Capture serialized items via
RFID or QR code scanning
during packing in the factory.

#### PackOne RF Scan to Verify

(Item level verification)
Confirm packed items' identity
and accuracy before ex-factory.

#### **PackOne EPC reports**

(Item level report)
Reports such as packing list and
ASN with granular detail such as
EPC, scan activities.



To shipment accuracy at the distribution center





#### ShipOne RF Scan & Receive

(Origin DC consolidation)
Factory EPC data is already available in our systems and therefore DC can easily scan and receive with RF equipment.

#### ShipmentOne RF Scan to Verify

(Destination DC RF audit)
To diagnose and provide analysis on packing errors.

WWW.TRADELINKONE.COM Video: Regent QR Scan





## RAW MATERIAL MANAGEMENT



RM1 is a cloud-based solution that can be used as an in-house Inventory Management solution or expanded to become a powerful **Supply Chain Traceability and Visibility solution** to collaborate with the customer's Raw Materials Suppliers, manage their orders, shipments, invoices, and monitor the Inventory status of all the raw materials warehouses in their factories.

Key features include PO collaboration with RM suppliers and tracking the in-transit inventory. It can also track inventory among multiple warehouses in different locations. Many of our factory customers have RM stock in different countries. The warehouse in/out activities, on/off shelf storage, stock taking of raw materials are all automated by the scanning of 2D barcodes and / or RFID labels tagged on items.



## UNLOCK TOMORROW WITH RFID TECHNOLOGY

# JUST-IN-TIME INVENTORY

#### **Key Benefit**

- Reduced Waste
- Lower Costs
- > Improved Cash Flow
- Reduced Waste

TradeLinkOne's Just-in-time (JIT) raw material inventory is an automated manufacturing strategy where less materials are ordered and delivered only shortly before they are needed for production, minimizing holding costs, and optimizing shipping costs. The solution requires accurate demand forecasting, automated/connected suppliers, and forwarders.

Key benefits include reduced storage costs, improved production efficiencies, improved cash flow, and optimized shipping costs. In today's world with tariffs, the need to minimize disruptions to the supply chain, and agile manufacturing practices to meet unexpected demand spikes.



## UNLOCK TOMORROW WITH RFID TECHNOLOGY

## JUST-IN-TIME HIGHLIGHTS

## Demand-Driven Production

Raw materials are ordered in smaller quantities with more frequency.



#### Minimal Inventory Holding

One goal is to eliminate unnecessary inventory, thereby reducing warehousing, handling, and potential obsolescence costs

#### Synchronized Supply Chain

JIT relies on a tightly integrated supply chain, with close partnerships with raw material suppliers and forwarders to ensure they can deliver accurate quantities on a timely basis.

## Integrated Shipping Workflows

With many large manufacturing concerns in multiple location it is key to integrate that forwarder partner to ensure shipment accuracy of the smaller quantities. Additionally with smaller quantities it is imperative to optimize container and shipping costs and the solution covers those requirements.



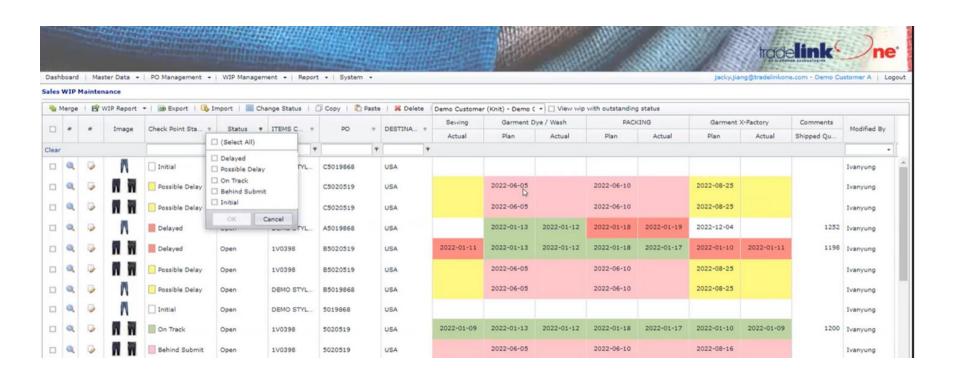
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# WIP361 – WORK IN PROCESS (WIP) MANAGEMENT

- Facilitates big factory group / sourcing agent to increase visibility of contract factories' manufacturing environment for optimal production and inventory management for multi-customers under different workflows.
- Incorporates the messaging and synchronization of various electronic data interchange, including PO, the import/update for commitment charts and sales orders, WIP lines management, WIP template establishment, WIP tracking and customized WIP Report creation, etc. Also pipeline for DPP data.











#### LDX – LOGISTICS DOCUMENT EXCHANGE



Courier is one of the saving in Vendor Portal... and it varies based on distance. We see the benefits to vendors: eliminate sending shipping documents to Newtimes Logistic; reduce time and courier fees; speed up Account Receivables transaction.

**David Pan, Vice President, Newtimes** 

- ✓ Vendors can generate electronic packing lists, shipping notice as well as commercial invoice in Vendor Portal
- ✓ Vendor Portal also serves as a Logistics Document Management central storage to upload other related shipping documents to Vendor Portal
- ✓ 3-way matching to validate the invoice content against PO and packing information
- ✓ Packing list and Validated commercial invoice information can be integrated with client's Epicor ERP
- ✓ Shipment documentation exchange between internal and external parties
- ✓ Central document repository up to 7 years
- ✓ Ability to manage user's access control and permission level
- ✓ Smart alerts for clear and real time status updates, added AI





## PO MANAGEMENT & Track and Trace

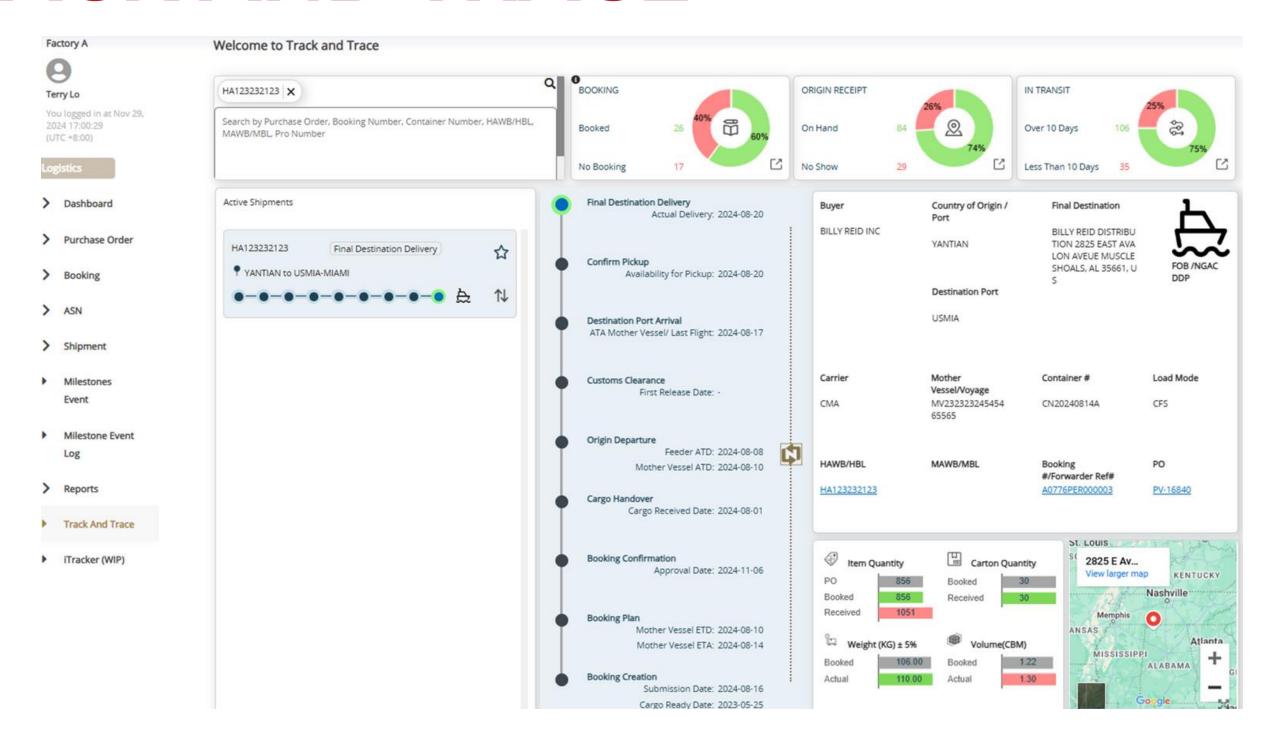
**PO Management** is a critical aspect of supply chain operations, aimed at optimizing the procurement process and ensuring effective order fulfillment. Our solution involves the comprehensive creation, approval, tracking, and oversight of purchase orders, focusing on enhancing inventory management, strengthening supplier relationships, and minimizing costs.

- ✓ Unified Order Management: Manage all types of orders—both domestic and international—through a single, cohesive supply chain platform.
- ✓ **Automated Workflow**: Streamline order creation, approval, and invoice reconciliation to enhance efficiency and minimize errors.
- ✓ **Real-Time Tracking**: Monitor purchase orders from initiation to delivery, allowing for proactive issue resolution and improved visibility.
- ✓ Data Aggregation: Collect and analyze data from various stages of procurement to create pre-POs for stakeholder collaboration.
- ✓ **Dynamic Order Adjustments**: Respond to in-season trends by easily splitting orders and managing delivery flows across different markets.
- ✓ Document Management: Store and manage all essential documents, such as invoices and bills of lading, in one centralized system.





### TRACK AND TRACE

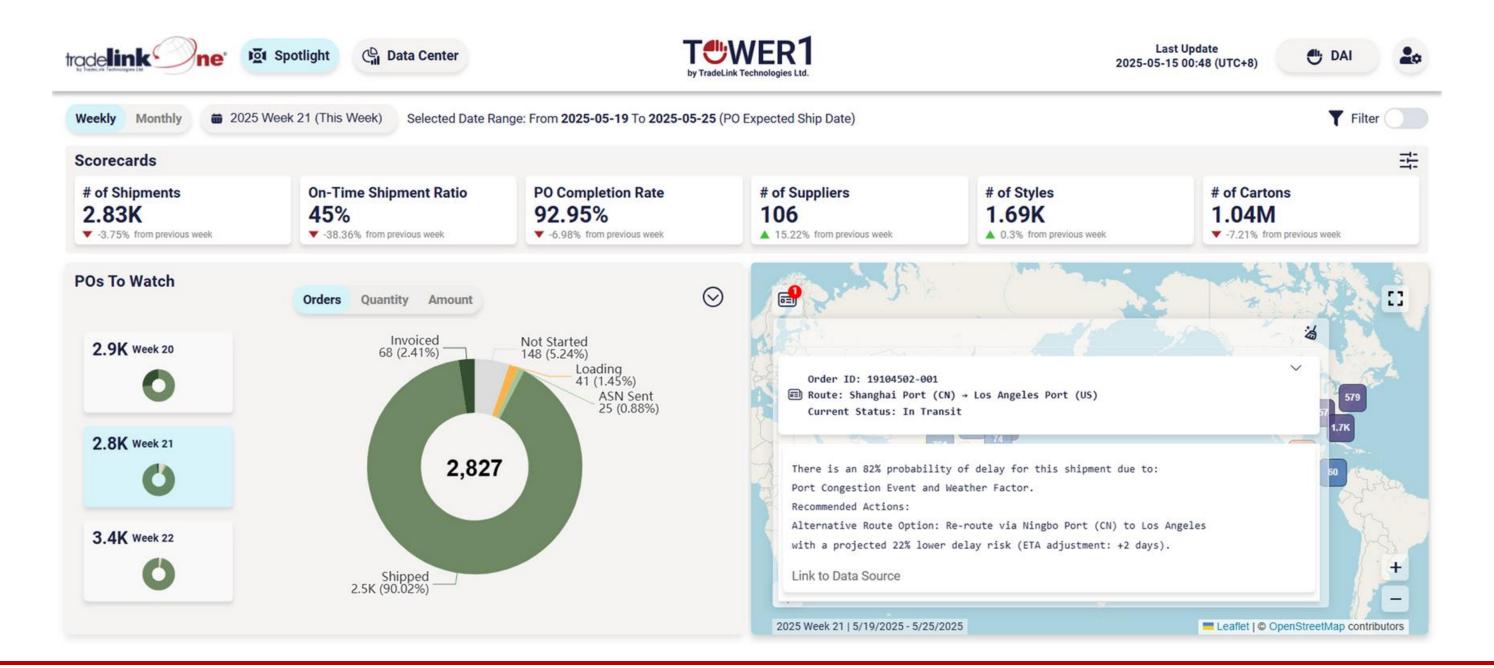






## **TOWERONE**

**TowerOne** is an Al-integrated, personalized online dashboard for seamless data insights.





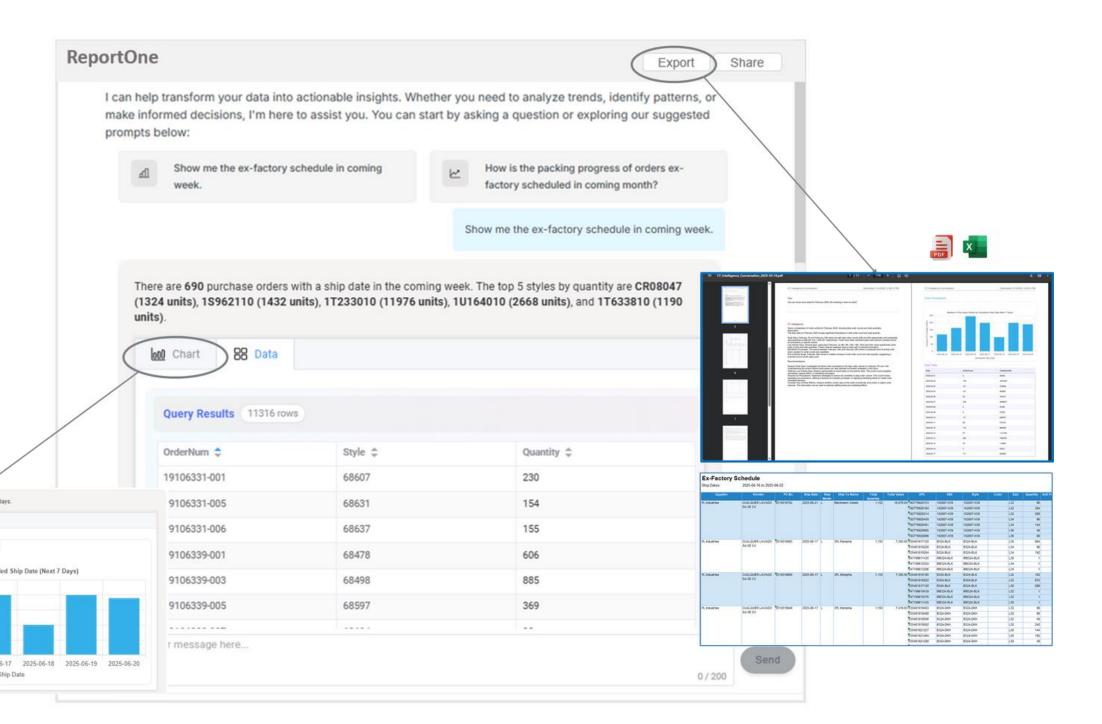
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## REPORTONE

Al-powered report writer that users can generate customized data analysis reports by simply describing their requirements in natural language.

It also supports generation and customization of reports in multiple formats including interactive charts and Al-generated summaries and recommendations.

led Chart RR Data @ Query







# TRADELINK INVESTS IN SUPPLY CHAIN

TradeLink continues to invest in our customer's supply chain. We spend a large percentage of our R&D funds on newer technology and other industries such as food, cosmetics, pharma, etc.

- Added flexibility in how to scan, and now RFID
- Added AI decision support tools including Chat Bot featured report writer
- Added Just In Time Raw Materials
- Adding a Trade Finance solution
- Adding DPP data in our WIP extract

MOSTLY WHAT WE'VE DONE VIA THE TRADELINK CUSTOMER COMMUNITY IS FIND WAYS TO APPLY TECHNOLOGY BETTER IN THE SUPPLY CHAIN AND ADVANCE OUR CUSTOMERS' BUSINESS.



## UNLOCK TOMORROW WITH RFID TECHNOLOGY

# Elevate Your Supply Chain

SupportTHA@TRADELINKONE.COM WWW.TRADELINKONE.COM

