Transported Asset Protection Association – Americas
Webinar Presentation August 3rd, 2022

"Emerging Technology Trends"
Supply Chain Asset & Cargo Theft Protection

Presenters
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Emerging Technology Trends
(Identification of Trends & Options to Address Them)

- **Supply Chain Cargo Theft Trends Domestically & Internationally**

- **Enhanced Approach to Address Locking System Breach Methods**

- **Tracking & Monitoring Solutions Resistant to GPS Jamming Technology**

- **Digitizing Bills of Lading, Proof of Delivery, Gate Activity & Other Key Data**

- **Related Impacts on Security, Investigation & Regulatory Compliance**

From BSI Supply Chain Services & Solutions

2021 Top Countries for Cargo Theft

Brazil 39%, Mexico 29%, followed by USA, Argentina, Chile, Columbia, Peru & Paraguay

- **The USA saw the highest percentage increase in 2021 cargo theft incidents over 2020**

- **Grew from 4.37% in 2020 to 12.3% in 2021**

- **An Increase of Nearly 200%!!!**

Supply Chain - Special Reports downloads | BSI America (bsigroup.com)

bsi-supply-chain-risk-insights-report-nov-2021.pdf (Discusses key risk areas for 2022 and beyond)

Emerging Technology Trends
(Security Budget Impact of Increased Organized Crime Cargo Theft Internationally)

- U.S. & international security organizations indicate "Cargo Theft" more organized, on the rise

- BABACO® uses this information to design hardened asset & cargo security solutions

- More solutions are being integrated with tracking & monitoring capabilities

- Will discuss the ROI of such solutions with examples today

From Security Magazine: Security budgets may double or triple in 2022

- The COVID-19 pandemic decreased worldwide security budgets as businesses shuttered

- Global Guardian CEO, 2022 security budgets have potential to double / triple

- Two-thirds of security budgets increased in 2021, have yet to reach 2019 levels

- 2022 has the potential to change that. Link

"Pilfering" now the crime of choice among cargo thieves, especially in the *"Last Mile"*

Fleet Owner Magazine, June 10, 2022

- **Pilferage (stealing of portions of a load vs entire trailer loads) is trending upwards**

- **Pilferage theft is often not reported and there is no record of where or when it happened**

- **Drivers may not know a pallet is missing from a full truckload until unloaded / counted**

- **Tracking & monitoring integrated with hardened locking systems, shipment tampering verification tools and cooperation with law enforcement mitigates these issues**

https://www.fleetowner.com/safety/cargo-securement/article/21243973/pilfering-now-the-crime-of-choice-among-cargo-thieves

Emerging Technology Trends

(Supply Chain Asset & Cargo Security Models Need to Change! "*Reaction is Not Prevention*")

Excerpts from December 2021 Union Pacific Railroad letter to LA County District Attorney

- Over 160% increase in rail cargo theft in LA county since December 2020

- On average, more than 90 containers compromised each day

- In months during that period, increases over prior year surpassed 200%

- For October 2021, estimated an increase of over 356% compared to the year before

- **Actual Tool Kit Recovered From Cargo Thieves**

- Power Saw Defeats Hardened Lock in Seconds

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- Power Saw Not Cutting Enhanced Metals

- Defeating Commonly Used Breach Methods (Power Saw)

GPS Jamming & Signal Detection Tools

- The FCC fined a man nearly $32,000 after concluding he interfered with Newark Airport's satellite-based tracking system.

- He used an illegal GPS jamming device in his pickup truck to hide his whereabouts from his employer. He was fired.

- Disrupting satellite signals can hinder air traffic control ability to receive accurate plane location information in the air and on the runway.

https://www.scientificamerican.com/article/truck-driver-has-gps-jammer-accident-2013-08/#:~:text=As%20the%20New%20Jersey%20Star,also%20fired%20for%20his%20misdirection

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Industry Blog Comments – Defeating GPS Jammers

- **GPS Jamming Detection**

GPS modules in newer units have jamming detection functions that trigger the device to report a debug log. Fleet managers can see this in the log details.

- **Set up Alerts for GPS Jamming**

Users can automate detection by creating Log Data & Collisions reports setting it to be sent only when at least one event is detected. When GPS jamming occurs, these reports can be sent via email as an alert, prompting further investigation.

Important to note that when a GPS jammer disrupts GPS receiver functionality, all other functions are unaffected. Despite the lost GPS connection, newer device will continue to gather and send critical vehicle-related data such as engine data, error codes and auxiliaries.

Track & Locate Assets & Cargo
Resist GPS Jamming & Detection!!!

Form Factor
Small / Easily Concealed
3" L x 2.9" W x 0.9" H

On demand location

- Finds assets on demand
- No waiting for device check-in
- Replaces hours or days to report location

Multiple technologies result in reliable locations

- Unlimited use cases
- Inside or outside
- Wi-Fi, Polte, GPS, BLE
- **Immune to GPS Jamming & Detection**

2+ year battery life per battery

- Power optimization for long life battery
- Low battery alerts & configured sensors
- Motion, temperature, humidity & more
- Multiple battery options

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Emerging Technology Trends
(ODL Device Location Steps – Importance of Easy-to-Use Interfaces)

- **Ability to highlight the device to be located**

- **Selector buttons that provide a more precise location and or a quicker response**

- **Highlight the device(s) to locate press the appropriate 'locate' buttons.**

- **'Command Sent' notification at bottom right of the screen.**

- **When device found, device row indicates status, and location on the map.**

- **Zoom in and out capabilities, change the map type with various functionality buttons**

- **"Device State Block" to confirm battery status and other key elements**

Emerging Technology Trends
(How to Locate an ODL Device & Determine Status)

Emerging Technology Trends
(Device State Block Characteristics)

The Device State Block:

- This displays attributes for selected devices

Longitude	-73.982967°
Speed	0.0 km/h
Accuracy	16.00 m
Time	2022-01-25 17:14:53
Device Temperature	24.4 °C
Battery	3.48 V
Address	305 5 Avenue, New York, New York, US
Latitude	40.673073°
Battery Level	86.2 %
Course	N
Valid	Yes
Altitude	0
Location Source	wifi

Emerging Technology Trends
(Digitizing Key Supply Chain Data Elements – Supports Security & Compliance)

Mobile applications support iOS, Android & web browsers, easy-to-use digital platforms

- **Digitize "Bills of Lading" at terminal, gatehouse, or distribution center**

- **Provide real-time & historical insight into inbound & outbound process**

- **Verifies that assets get to destinations on time with matching documentation**

- **Notification to administrators of unexpected changes or possible loss while in transit**

- **Support internal & governmental regulatory compliance**

- **Maintain & integrate critical historical data to systems for analysis**

- **Easily configured to match specific needs**
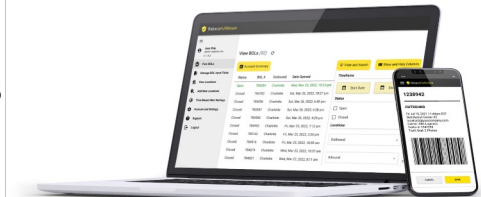
Emerging Technology Trends
(Digitize Bills of Lading & Proof of Delivery)

Quickly digitize delivery information & retrieve records for various purposes

- **Legal**

- **Insurance**

- **Compliance**

- **Investigations**

- **Chain of custody verification**

- **Early identification of fraudulent activities**

- **Real-time awarness of in-field variences**
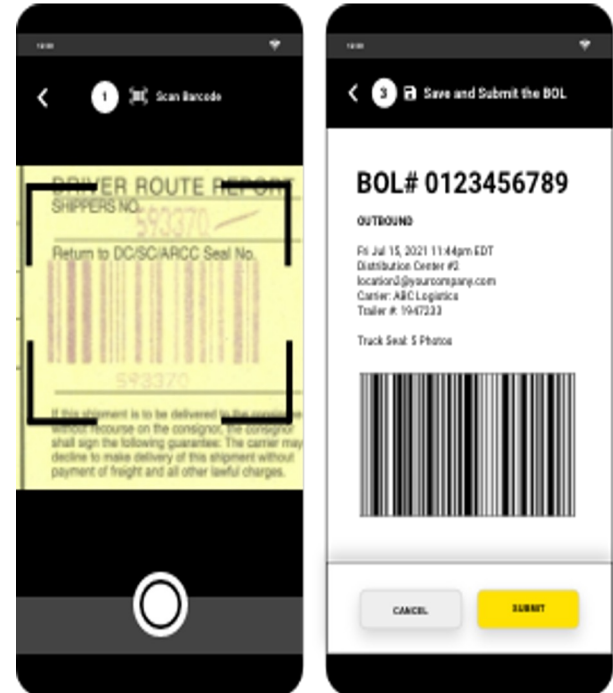
Emerging Technology Trends
(Verify Safe & Secure Delivery)

Reduce the time it takes to verify requirements

- **Assets are intact & untampered with**

- **Arrived at the correct location with documentation**

- **On time given route characteristics**

- **Consolidated view of selected verfification data**

- **Retention of historical data as needed**

- **Assists in "Fraud Dectection"**
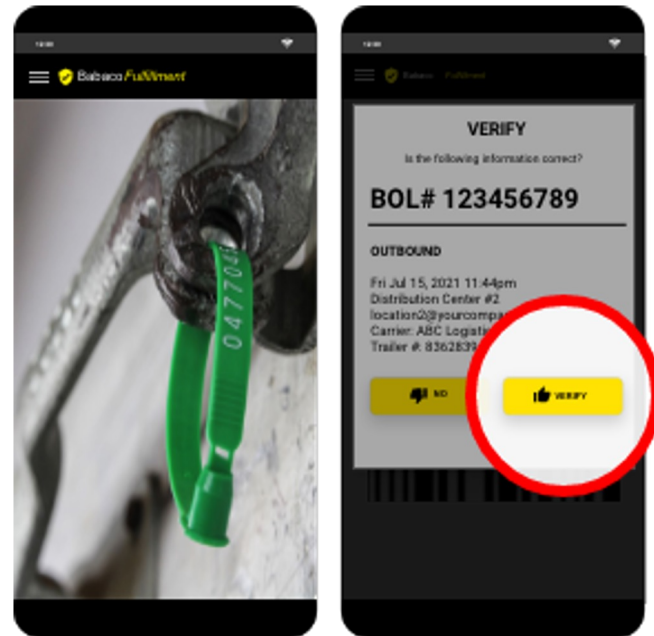
Emerging Technology Trends
(Digitized Supply Chain Mobile Application Elements Features & Benefits)

Digitize Bills of Lading

Verify Secure Shipment & Delivery

Customize Data Input

Set Time-Based Alerts

Receive Email Notifications & Alerts

End-to-End Team & Asset Oversight

Business Intelligence & Deep Search Capabilities

Easy-to-Use Interface

Secured Data Encryption

Use Your Devices / No Expensive Hardware

Asset & Document Storage

Integrated Cloud Based Web-to-Mobile Platform

Flexible Payment Plans

Supports internal & regulatory compliance
(Emerging environmental regulations – ISR)
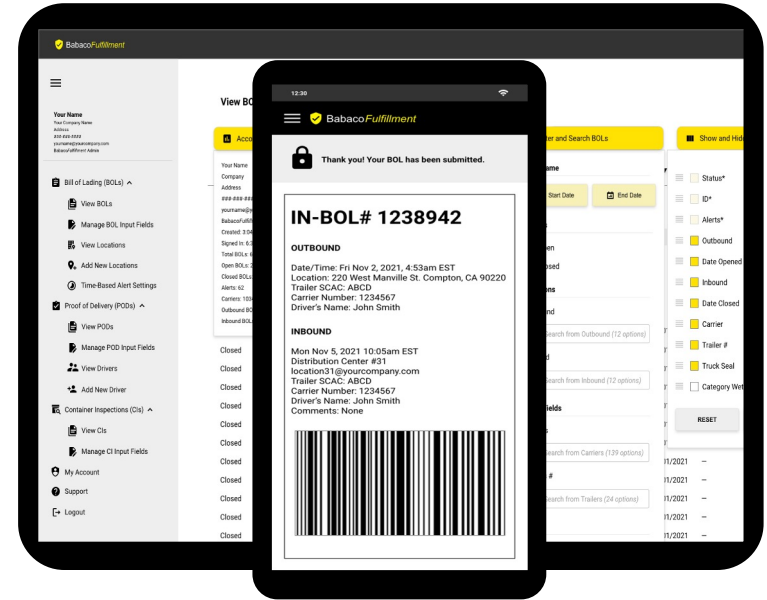
Emerging Technology Trends
(Additional Features & Technology of Mobile Application to Support Digital Conversion)

Features

- Trailer, Container & Vehicle Inspection Reports
- Digital Proof of Deliveries (PODs)
- Driver & Contractor Management
- Time-Based Alerts for Issue Tracking
- Distribution Center & Gatehouse Oversight
- Download & Email Reports
- Indirect Source Rule (ISR) Reporting Compliance

Technology

- Deep Search & Data Filtering
- Cross-Platform Syncing with Instant Notifications
- Android, iOS, Tablet, & All Web Browsers
- Geo-Location
- Photographic Proof of Proper Loading Practices
- Signature Verification
- Barcode Scanning
- Security and Encryption
- 24/7 Availability

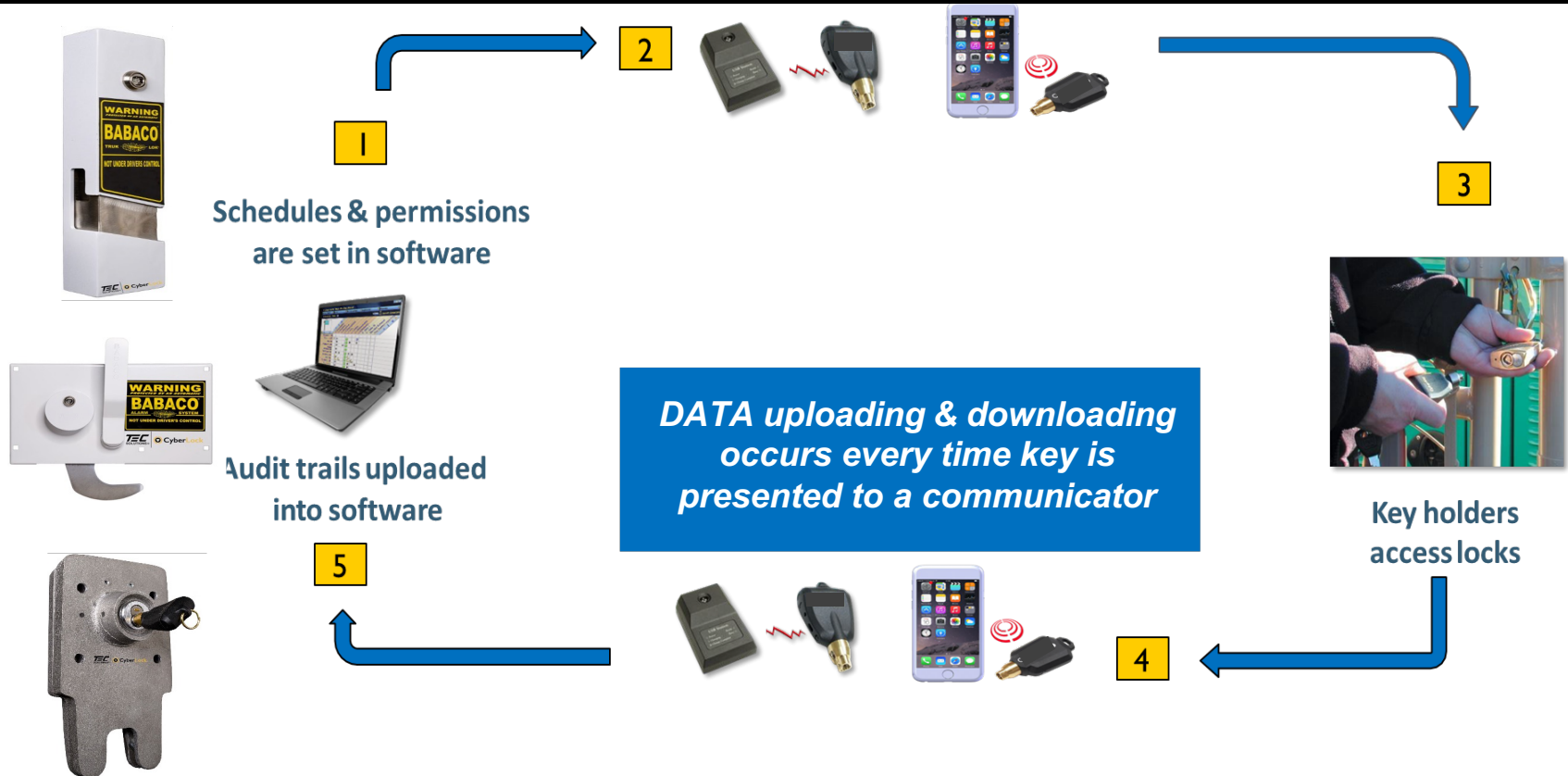*Create functionality and reports specific to needs*

Emerging Technology Trends

(Integrated Supply Chain Asset & Cargo Electronic Locks & Keys – Function Like Programable Key Cards)
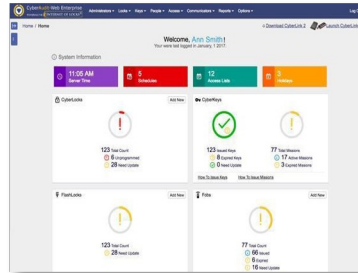
- Lock & Key unique ID
- Decreased risk due to lost keys
- Compliance audit trail
- Key control
- Configurable apps & reports
- Authorization via Bluetooth & USB
- On demand access & programing
- Encrypted codes
- Android & iOS compatible
- Data integration
- Programable controls & security
- Van, truck, trailer, container, & cargo
- Facility doors

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Emerging Technology Trends

(Integrated Supply Chain Asset & Cargo Electronic Locks & Keys – Function Like Programable Key Cards)

1 Schedules & permissions are set in software

2

3

Key holders access locks

4

DATA uploading & downloading occurs every time key is presented to a communicator

5 Audit trails uploaded into software

TAPA AMERICAS
Transported Asset Protection Association

THANK YOU

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WARNING
PROTECTED BY AN AUTOMATIC
BABACO
ALARM SYSTEM
NOT UNDER DRIVER'S CONTROL