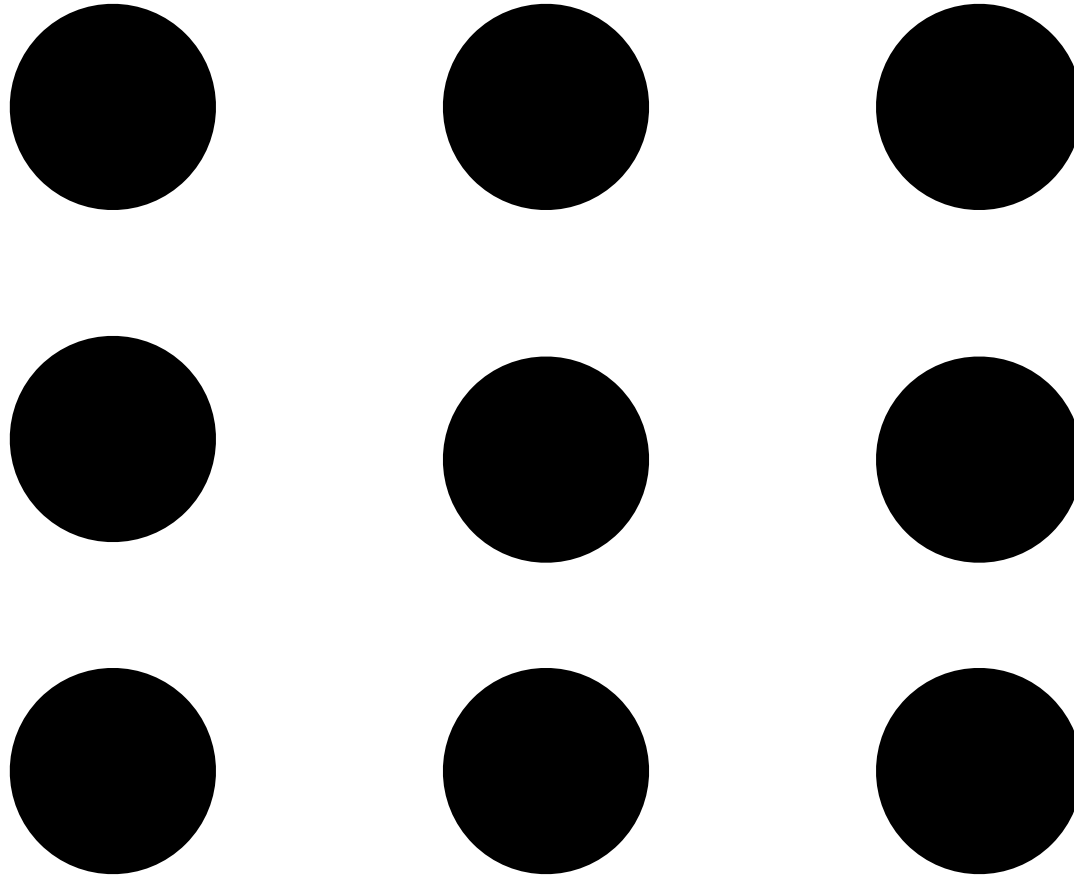


# Targeting Integrity

Connecting the Dots

WCO IT Conference & Exhibition 2018

# Connecting the Dots



# What Are the Dots?

- Physical Assets
- Supply Chain Data Elements
- Infrastructure
- Interrelation of Trade and Customs
- Tamper Evident Physical Filters
- Geo-temporal Meta Data
- Validated & Reconciled Transactions

# Example Constraints

- High Risk Environments
- Finite Infrastructure
- Restrictive Velocity
- International Crew Processing
- Data Integrity Elements for Cargo Pre-clearance Concepts
- Partner/Customer Interchange Compliance
- Emerging E-Commerce Pressure

# Types of Anomalies

- Conveyance Life Cycle
- Dwell, Demurrage, Delay
- Penetration Attempts
- Detectable Seal Anomalies
- Structural Conveyance Alterations
- Shifted Loads
- Deep Concealment
- Transload and Terminal History to Carrier

# What Has Been Done

- People
  - Complete HR Vetting with Constant Due Diligence
- Process
  - Documented Internal Controls
- Technology
  - Application of Leading Edge Technology

# Risk Mitigation of Flows

- Material
  - Claims Ratio and Incidences Almost Zero
- Finance
  - Tightly Controlled and Investigated Financial Transactions
- Information
  - Assessed and Filtered with **Opportunities**

# Production and Supply Chain Management

**Supply Based Management**

- Materials Sourcing
- Commodity Focus
- Supplier Negotiations
  - Unit Price
  - Delivery terms
  - Min Order Quantities

Sourcing Strategies Commodity Managers

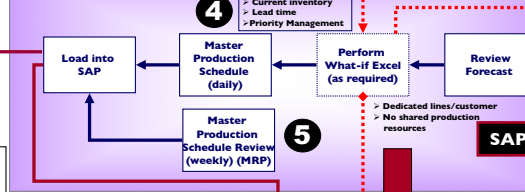
## Demand Management

- Collaborates with CAR/Planner/KAM on demand forecast and priorit.
- Primary production interface
- Interprets forecast of demand profile for Material Planning

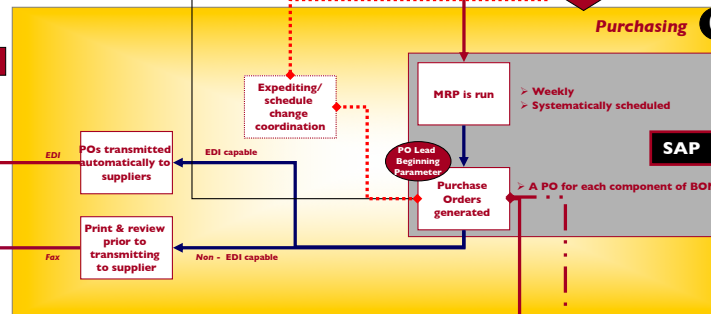
## Production Schedule – End product is Run Schedule

- Forecast and Planned Order Release
- Scheduling Agreements
- STOs

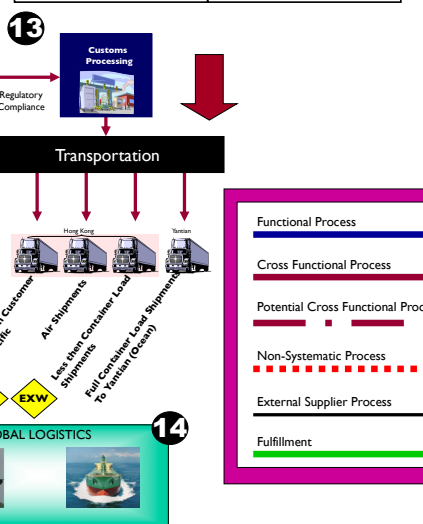
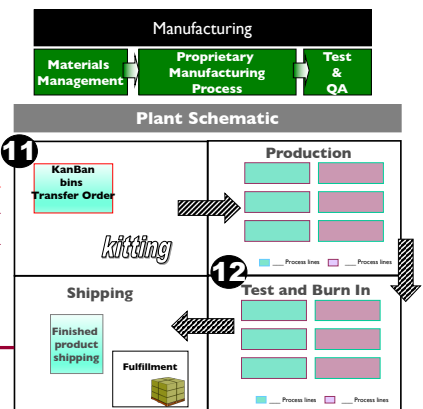
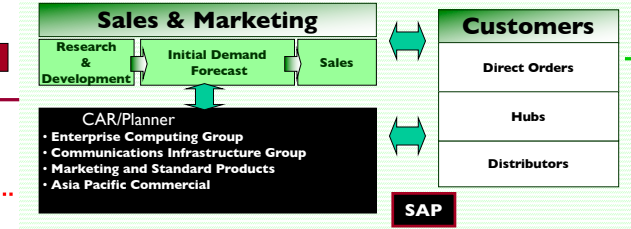
## Demand Planning



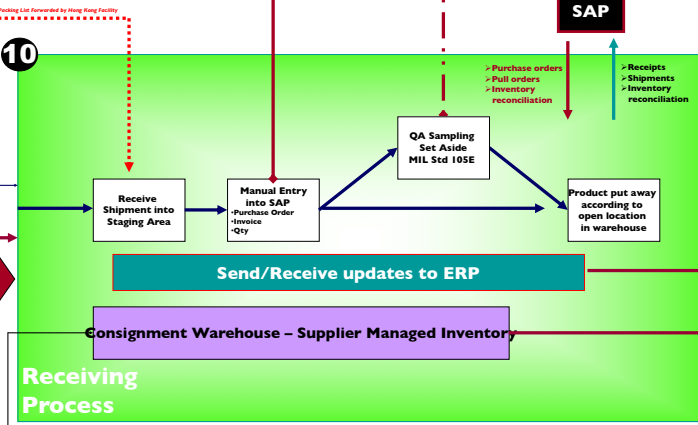
## Purchasing



## 1 Demand Creation



- Key to Major**
- 1 Supplier processes that drive demand
  - 2 Strategic program management
  - 3 Source selection – commodity focus
  - 4 Master Production Scheduling - repetitive demand planning
  - 5 Strategic materials management
  - 6 Purchase order coordination
  - 7 Supplier production scheduling, materials and build processes
  - 8 External logistics – freight movement between supplier and Hub
  - 9 External logistics – Hong Kong receipt through shipment
  - 10 Kanban and Consignment Warehouse Staging
  - 11 Internal logistics – receipt, staging, kitting, delivery to line
  - 12 The build process
  - 13 External logistics – demand confirmation, and delivery coordination to customer
  - 14 Global Logistics – Customer Fulfillment



# Information Security Risk

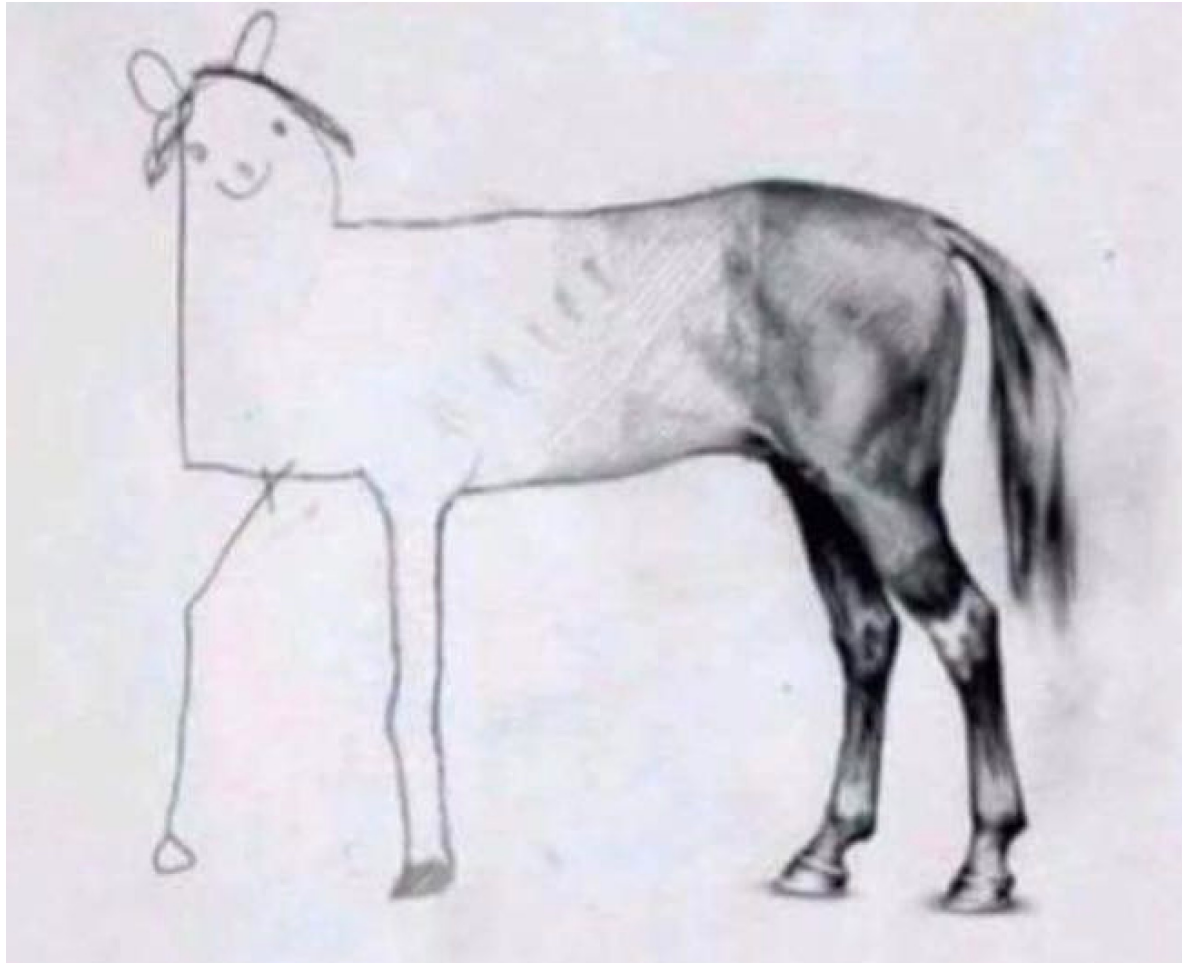
- Cyberattack against Energy Services Group (ESG)
- Customer transactions for natural gas pipelines owned by several energy firms
- Company has stated that its electronic data interchange (EDI) will be down until further notice
- The FBI/DHS alert noted attacks using spearphishing emails, watering holes, credential gathering, open-source and network reconnaissance in their campaigns
- “If ESG has been taken offline by a cyberattack, then whatever cybersecurity investment they made has, regrettably, proven to be insufficient,” said Andrew Lloyd, president of Corero Network Security

Source: SC Media US > Network Security > Cyberattack knocks Energy Services Group offline



# Opportunity

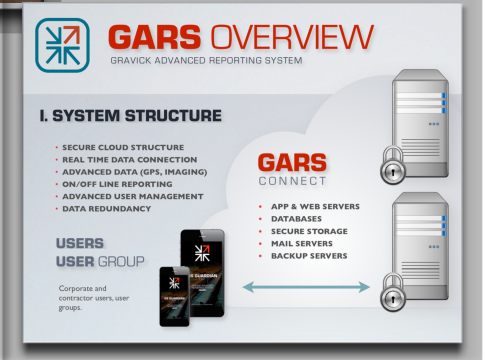
- Higher Volume and Velocity Despite Constraints
- Upstream Data Reporting and Analysis
- Vetted and Reconciled Data
- Conveyance Event Management
- Stitching Assets with Transactions
- Customized Algorithms for Anomalies



# Execution Matters

# Requirements

- Tamper Evident Physical Transit Management
- Deterrent Technologies
- Geo-temporal Security Reporting
- Database of Methods and Patterns
- Vetted And Reconciled Event Supply Chain Management
- High Data Velocity & Volume
- A Trusted Distributed Registry
- Encrypted Secure Data Store e.g. IPFS Cluster, Ceph, Distributive Storage Types
- Scalability By Reducing Bloat, Speed Latency and Cost
- AI and ML Driven Algorithms and Analytics
- Containers (Assets) Not Compromised and Vetted and Reconciled Transactions



# Build to Suit - Advance Data Sets

- Think Metadata:
  - How Was the Data Created
  - Purpose of the Data
  - Time and Date the Data Was Created
  - Who Created or Authored the Data
  - Location Where the Data Was Created (IP, IMEI)
  - Standards Used
  - File Size
  - Data Quality
  - Source of the Data
  - Process Used to Create the Data

# Integrity - Critical Mission

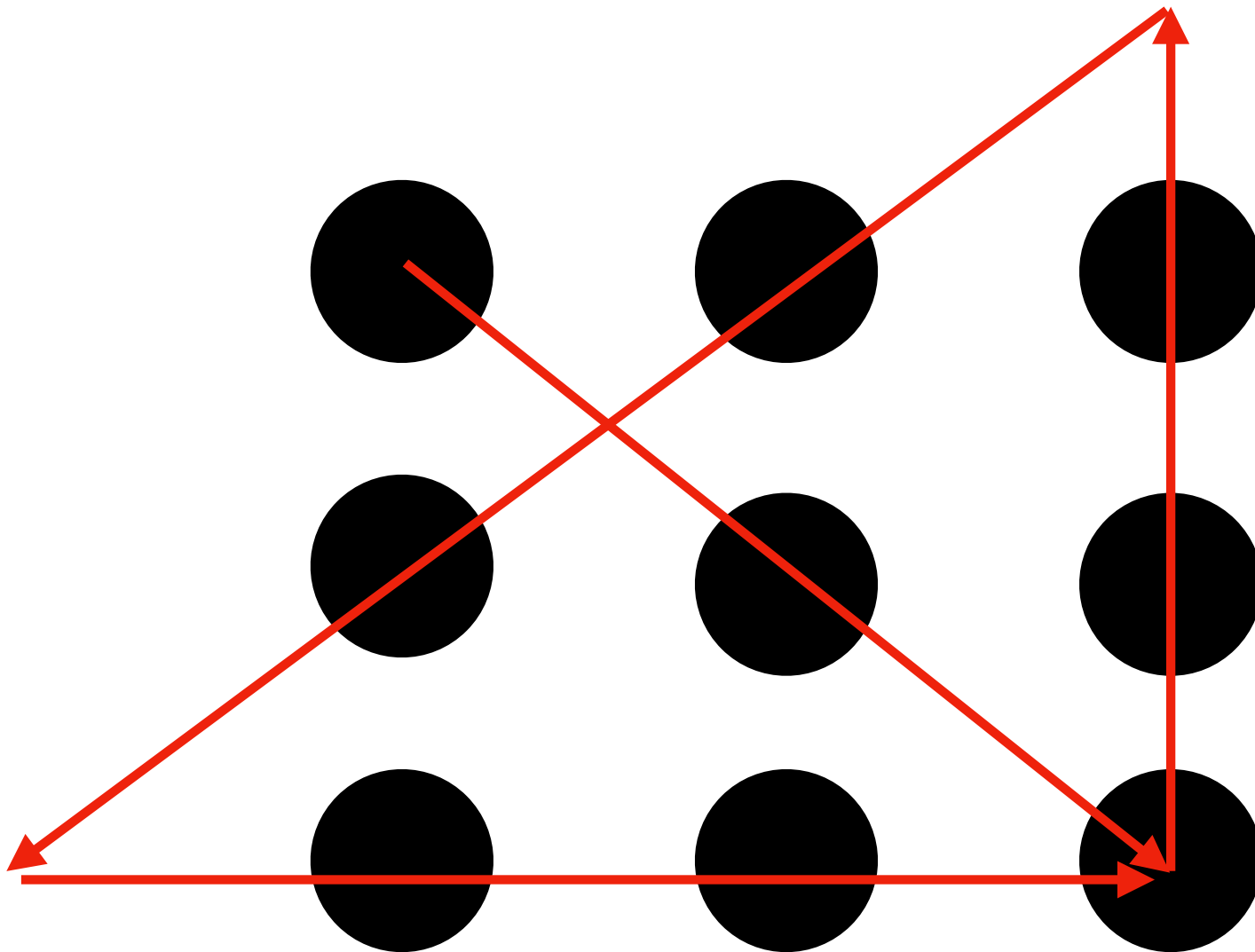
- Asset Management Entails
  - Predictable Outcome - Advance Data Sets
  - Validated Information Management
  - Risk Management
  - Superior Custodial Control
  - Efficiency
  - Tamper Evidence
  - Mitigating Variance
  - Adaptable Escalation Strategies

*'Efficiency is doing things right; effectiveness is doing the right things.'* - Peter Drucker

# Dots Connected

- Tamper Evidence - Ensuring the Integrity of a Conveyance
- Risk Filter Analytics - Applying Algorithms and Supply Chain Metrics with Inflow and Outflow Data Sets
- Early Response - Ability to Detect, Deter and Deny Risk
- Value Chain Milestones - Pulling Assets through the Supply Chain Whilst Filtering
- Validating Supply Chain Events - Decision Support via Vetted and Reconciled Supply Chain Events
- Exception Based Targeting - Green Lane for Validated AEOs, Predictable Efficiencies, Fast Lanes
- Optimization - Effectively Utilizing of Critical Infrastructure
- Example: throughput and volume of **ABC Co.** is ~2550 conveyances per day at ~5 MPH. Our solution with existing infrastructure enables a tripling of that speed. In a 24 hour period starting at 5 MPH per crossing, each 1 MPH increase translates into 500 more conveyances crossing in that 24-hour period.

# Connecting the Dots





# Thank You

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