Supply Chain Control Tower and Digital Supply Chain: Visibility, Track-and-Trace and Exceptions

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Introduction:

Orders, stock positions and shipments usually sit in separate systems owned by shippers, suppliers, carriers and third-party logistics providers, so late consignments and stock gaps surface only when a customer complains. A supply chain control tower connects these signals into one live view, flags deviations from plan and routes each exception to the partner who can act. This Core Concept course prepares managers to assess digital supply chain maturity, specify track-and-trace data flows, design event and exception rules and choose a visibility platform without vendor bias. Participants produce a Control Tower Design and Digitalisation Roadmap for a case network.

Course Objectives:

- Assess the digital supply chain maturity of a network and define the target control tower scope, tier and operating model
- Specify the order, inventory and shipment milestones a control tower must capture, with the event structure and partner data feeds behind each
- Configure track-and-trace inputs from GPS telematics, RFID, barcode scans and carrier status messages into predicted arrival times and milestone alerts
- Design exception rules, severity tiers, escalation paths and response playbooks shared with suppliers, carriers and logistics providers
- Evaluate visibility platforms and integration options against a neutral scorecard covering data coverage, partner onboarding and master data fit
- Produce a Control Tower Design and Digitalisation Roadmap with phased releases, service measures and governance roles

Target Audience:

- Managers who run inbound, outbound or international logistics and answer for on-time delivery to customers and plants
- Managers who lead supply and distribution planning and need early warning when execution drifts from plan
- Managers who oversee transport, carrier and third-party logistics performance under service agreements
- Managers who own supply chain digitalisation or transformation programmes and their technology investment
- Managers who coordinate supplier delivery performance and inbound material flow for production or projects
- Managers who lead customer service or order fulfilment teams handling delivery queries and delay escalations

Course Outline:

Day 1: Digital Supply Chain Maturity and Control Tower Concepts

- Digital Supply Chain Maturity Stages: Siloed Records, Connected Partners and Autonomous Response
- Control Tower Tiers: Visibility and Monitoring, Operational Response and Predictive Decision Support
- Blind-Spot Mapping Across Suppliers, Plants, Warehouses, Carriers and Customers
- Control Tower Value Drivers: Expediting Cost, Detention Charges, Buffer Stock and Lost Orders
- Current-State Visibility Audit Template for a Multi-Partner Network

Day 2: Operating Models, Visibility Data Architecture and Event Standards

- Control Tower Operating Models: Central Hub, Regional Nodes and Outsourced Logistics Provider Tower
- Roles and Shift Structure: Tower Analysts, Exception Owners and Partner Liaison Desks
- Order-to-Delivery Milestone Model: Purchase Order, Advance Ship Notice, Pickup, Transit and Proof of Delivery
- GS1 EPCIS Event Structure: What, When, Where and Why of Each Supply Chain Event
- Integration Patterns: Carrier APIs, EDI Messages, Portal Uploads and Flat-File Feeds

Day 3: Track-and-Trace, Event Management and Partner Collaboration

- Telematics and GPS Position Feeds, Geofences and Dwell-Time Capture at Yards and Ports
- RFID and Barcode Scan Points for Pallet, Case and Container Identification
- Predicted Arrival Time Recalculation from Carrier Status Codes and Live Positions
- Exception Rule Design: Thresholds, Severity Tiers, Alert Routing and Response Playbooks
- Supplier and Logistics Provider Onboarding: Data Sharing Agreements and Collaboration Portals

Day 4: Platform Selection, Master Data, Tower Measures and Digital Twin

- Vendor-Neutral Visibility Platform Scorecard: Carrier Coverage, Partner Onboarding Effort and Data Ownership
- Master Data Alignment for Locations, Item Identifiers, Carrier Codes and Unit Conversions
- Alert Fatigue, Missing Scans and Stale Positions: Diagnosing Weak Visibility Signals
- Tower Performance Measures: Milestone Capture Rate, Exception Closure Time and Arrival Prediction Error
- Supply Chain Digital Twin Overview: Network Replica, Disruption What-If Runs and Data Refresh Needs

Day 5: Case Study: Control Tower Design and Digitalisation Roadmap

- Case Network Brief: Multi-Tier Suppliers, Two Distribution Centres and Mixed Road and Sea Carriers
- Milestone and Exception Catalogue Drafting for the Case Network
- Tower Screen Wireframes: Shipment Map, Exception Queue and Partner Performance Panel
- Phased Digitalisation Roadmap: Pilot Lanes, Partner Waves and Governance Forum
- Design Defence Before a Peer Operations Steering Panel

Skills You Will Gain:

- Visibility Gap Assessment
- Milestone Event Modelling
- Telematics and Scan Data Interpretation
- Exception Playbook Design
- Partner Data Onboarding
- Visibility Platform Evaluation
- Logistics Master Data Alignment
- Digitalisation Roadmap Planning

Why Attend This Course:

- Take back a Control Tower Design and Digitalisation Roadmap tested against a realistic multi-partner case network
- Replace delay discovery by customer complaint with milestone alerts that reach the partner able to fix the problem
- Question visibility platform sales claims on carrier coverage, onboarding effort and data ownership before contracts are signed
- Compare control tower practice with logistics and planning managers from manufacturing, retail, energy and healthcare networks

Conclusion:

A control tower earns its cost only when shared milestone data triggers a timely response from the right partner. The course moves from digital supply chain maturity and control tower tiers, through operating models, milestone structures, GS1 EPCIS events and integration patterns, to telematics, RFID and carrier status tracking, exception rules and partner onboarding. It then covers platform selection, master data, weak-signal diagnosis, tower measures and the digital twin, before the final day produces a Control Tower Design and Digitalisation Roadmap for a case network.