

Introduction to Global Logistics

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Key concepts, components, and strategic considerations for moving goods across international borders.

1. What Is Global Logistics?

Aspect	Description
Definition	Planning, execution, and control of the flow of goods, information, and finances across international borders.
Goal	Deliver the right product, to the right place, at the right time, at the lowest total cost while complying with regulations.
Scope	Includes transportation, warehousing, customs clearance, inventory management, packaging, and information systems.

2. Core Elements of Global Logistics

1. Transportation

- Modes: ocean freight, air freight, rail, trucking, multimodal.
- Decision factors: cost, speed, cargo characteristics, route reliability, environmental impact.

2. Warehousing & Distribution

- Types: bonded warehouses, cross-dock facilities, fulfillment centers, cold-storage.
- Functions: inventory buffering, order consolidation, value-added services (kitting, labeling).

3. Customs & Trade Compliance

- Documentation: commercial invoice, packing list, bill of lading, certificate of origin, import/export licenses.
- Duties & taxes: tariff classification (HS code), valuation, preferential trade agreements.

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- Regulatory bodies: customs authorities, export control agencies, sanitary/phyto? sanitary agencies.

4. Inventory Management

- Strategies: Just?in?Time (JIT), safety stock, vendor?managed inventory (VMI).
- Tools: ERP systems, demand forecasting, RFID/barcode tracking.

5. Information & Technology

- Systems: Transportation Management System (TMS), Warehouse Management System (WMS), Global Trade Management (GTM) platforms.
- Data exchange: EDI, API integrations, blockchain for traceability.

6. Risk Management

- Risks: geopolitical instability, natural disasters, carrier insolvency, currency fluctuations.
- Mitigation: insurance, diversification of routes, contingency planning, hedging.

3. The Global Logistics Process Flow

1. Order Receipt ?
2. Demand Planning & Forecasting ?
3. Sourcing & Supplier Selection ?
4. Production (if applicable) ?
5. Export Preparation ?
6. Transportation to Port/Airport ?
7. Customs Export Clearance ?
8. International Transit ?
9. Import Clearance ?
10. In?country Transportation ?
11. Warehousing/Distribution ?
12. Final Delivery to Customer

(Each step generates data that feeds back into the information system for visibility and continuous improvement.)

4. Key Performance Indicators (KPIs)

KPI	Typical Target	Why It Matters
On?Time Delivery (OTD)	? 95?%	Customer satisfaction & service level

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KPI	Typical Target	Why It Matters
Freight Cost per Unit	? trend annually	Cost control & competitiveness
Customs Clearance Time	? 48?h (average)	Reduces dwell time & inventory holding
Inventory Turnover	6–12 turns/yr (industry dependent)	Efficient capital use
Order Accuracy	? 99.5?%	Reduces returns & re?work
Carbon Emissions per Shipment	? (aligned with ESG goals)	Sustainability compliance

5. Strategic Considerations

Consideration	Impact on Logistics Design
Trade Agreements (e.g., USMCA,	