ShipFlow Roles & Decision Authority

Warehouse & Aviation Parallel

ShipFlow relies on clearly defined roles to ensure smooth flow of operations. Each role has specific responsibilities and decision authority, ensuring efficiency, safety, and flexibility. This framework applies to warehouse operations first, with parallels in aviation for future expansion.

Warehouse Role	Responsibility	Key Decision Authority	Aviation Parallel
WIP Tool Operator	Places codes into lanes; manages lane capacity dynamically	Which lane to assign a code based on availability	Cargo Load Planner / Ramp Agent
DCM (Direct Cart Mover)	Moves carts from staging to trailers	Prioritize which carts to move first	Ground Handler / Loader
TDR (Team Dock Rep)	Coordinates with drivers, sends requests to DCM	Decides which trailer/cart to assign per driver	Dispatcher / Ramp Supervisor
Water Spider	Scans carts, confirms placement in staging area	Approves cart readiness for trailer	Gate Agent / Cargo Scanner
Ship Clerk	Tracks staging area & trailer assignment; communicates with DCM & driver	Adjust staging for overflow; assign trailers dynamically	Load Master / Ramp Coordinator

In ShipFlow, each role has clearly defined authority to make decisions within their scope. This ensures efficiency, reduces errors, and allows for real-time adjustments. By applying these rules, warehouse operations run smoothly, and the same principles can later be applied to aviation cargo and ramp operations.

Role	Decision Scope	Examples / Rules
WIP Tool Operator	Assigning codes to lanes	Place codes in available lanes, follow staging limits; reassign if a lane becomes full
DCM	Moving carts to trailers	Prioritize high CPT carts; follow TDR requests; avoid blocking trailers
TDR	Coordinating with drivers & DCM	Decide which trailers get which carts; handle delays or overflow
Water spider	Verifying staging readiness	Approve carts for trailer; scan codes; alert if errors occur
Ship Clerk	Overall staging & trailer assignment	Adjust trailer parking order; communicate changes; resolve conflicts

To fully understand ShipFlow, it’s important to visualize how roles interact in real-life scenarios. This includes moving carts from lanes to staging areas, assigning trailers, and coordinating all roles efficiently.

ShipFlow Real-Life Scenarios
From Staging to Trailer – Step by Step

Scenario	Role Interaction	Action	Outcome
High CPT Cart Arrives	Wepto → DCM → TDR → Water Spider → Ship Clerk	Wepto assigns lane, DCM moves cart to staging, TDR assigns trailer, Water Spider verifies, Ship Clerk tracks	Cart loaded efficiently, trailer full on time
Lane Full / Overflow	Wip Tool → ShipClerk	Wepto attempts to assign code, lane full → Ship Clerk reallocates to another lane	No delays, carts flow without bottleneck
Trailer Change / Delay	TDR → DCM → Ship Clerk	TDR redirects carts to new trailer, DCM moves carts, Ship Clerk adjusts staging	Trailer loading optimized, driver on time

Dynamic Lane Assignment (Real-Time Rules)

- Codes are not fixed to lanes
- Each lane can hold 2–3 rotating codes based on demand
- Assignment is based on:
  - -Current CPT urgency
  - -Open lane capacity
  - - Distance to active staging areas
- When volume shifts, codes rotate automatically
- Prevents lane overload and staging chaos

Lanes adapt to flow, flow does not adapt to lanes.

Smart Staging Area Allocation

- Staging areas grouped by destination cluster, not random availability
- Same-code carts staged together whenever possible
- CPT-critical carts always staged closest to outbound trailers
- Overflow rules activate when primary staging is full
- Reduces search time for DCM & Ship Clerks

Staging becomes predictable, not reactive.

Operational Roles Aligned by Rules

- **WIP Tool**
  Feeds codes into lanes based on live capacity
- **Water spider**
  Closes & stages carts following grouping rules
- **Ship Clerk**
  Controls trailer assignment & CPT priorities
- **DCM**
  Pulls carts with zero guesswork

Every role follows the same logic engine.

CPT-First Execution Model

- CPT priority overrides distance rules
- Red-zone CPT carts flagged automatically
- Ship Clerk assigns trailers based on CPT windows
- DCM receives clear pull sequence
- Late CPT risk reduced before it appears

CPT becomes engineered, not chased.

Distribution Logic Behind ShipFlow

- Limited lanes vs high code variety
- Dynamic grouping > fixed mapping
- Minimize:
  - Travel distance
  - Cart re-handling
  - Decision time
- Optimize:
  - Flow continuity
  - Predictability
  - On-time departure

A physical distribution problem solved with rules, not headcount.

Example: 16 Lanes, 120 Codes

- Codes rotate every shift
- Volume unknown in advance
- ShipFlow adapts in real time:

  High CPT → closest lane + staging

  Low CPT → flexible grouping
- No need for 120 lanes
- No staging scatter

Flexibility replaces brute force.

Expected Operational Impact

- Time Savings: 20–35% reduction in cart handling & travel
- CPT Reliability: +15% on-time CPT fulfillment
- Labor Efficiency: DCM & Ship Clerk focus on execution, not searching
- Scalability: Works for 16–31 lanes, 120+ codes, variable volumes

Data-driven rules turn chaos into predictability.

Scaling ShipFlow Across Warehouses

- Configurable for any number of lanes & staging areas
- Rules engine adapts to:
  - Daily volume fluctuations
  - Temporary lane closures
  - High-priority CPT overrides
- Future-ready for airline cargo operations

One rule set fits many warehouses.

Applying ShipFlow Logic to Airline Cargo

Lanes → Gates / Cargo Holds
Staging Areas → Ramp / Trailer Pickup Points
Codes → Flight Cargo IDs / Shipment Types
Rules Engine adapts to dynamic flight volumes & cargo priorities
Crew roles similar to warehouse roles (DCM → Load Team, Ship Clerk → Ramp Manager)

Rules and flow logic transcend industries.

Future Certification Programs

Self-paced online course (Warehouse & Airline Ops)
Learn ShipFlow methodology & rules engine
Cost: $50 (pilot phase)
Target: Logistics leaders, ops managers, aviation ground staff
Outcome: Operational standardization & CPT reliability expertise

ShipFlow becomes both a tool and a teaching platform.

Founder & Vision

Founder: Melat Mekonnen
Vision: Transform warehouse flow & CPT reliability into a teachable, scalable standard
Mission: Reduce chaos, optimize human & cart efficiency, create training & certification programs
Next Steps: Certification courses, educational platform, airline logistics integration

Operational excellence is the standard, not the exception.