



Samanvay 2025 &

McKinsey  
& Company



## Consularium -

### The McKinsey Consulting Event

**Striking the Balance – Supply Chain - Transformation for AeroSports Inc.**

**Team - Radiants**

**Parth Jain**

**Kaushal Raj Soni**

**Tatpar Sundaria**

**AeroSports Inc.** is a leading global sportswear and athleisure brand headquartered in Amsterdam, generating **€15 billion** in revenue. The company offers products like sports shoes, apparel, and accessories through direct-to-consumer, e-commerce, and wholesale channels.

The multi-echelon structure, comprising 18 distribution facilities (**3 Global DCs and 15 Regional Warehouses**) supported by a global supplier base, introduces significant complexity in coordination, transportation, and inventory management. With multiple storage points across tiers, the system likely drives up overall carrying costs, increases the risk of obsolescence, and results in higher working capital consumption due to dispersed and often redundant inventory holdings.

The supplier network is concentrated in Asia, comprising **10 suppliers in total – 4 based in China, 5 in Vietnam, and 1 in Indonesia**. This regional clustering provides sourcing flexibility within Asia but also creates exposure to geographic and logistical risks concentrated in the same region.

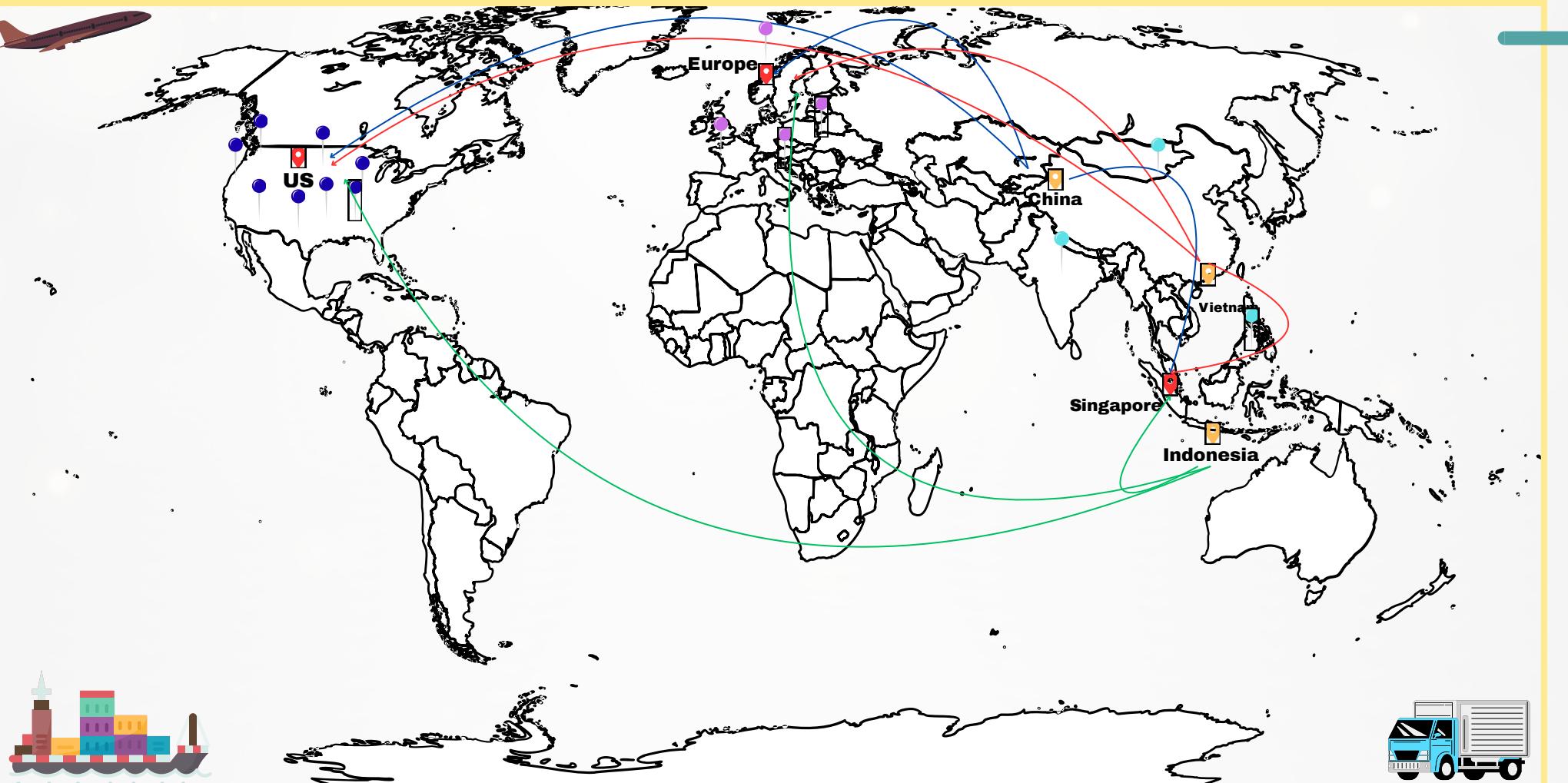


- **Outbound Logistics:** Products are transported from DCs to 15 regional warehouses via air and non-air freight.
- **Regional Warehouses (WH):** These warehouses hold inventory to fulfill demand from the various sales channels within their respective regions.

- **Sales Channels:** AeroSports sells products through Direct-to-Consumer (D2C) channels, e-commerce, and wholesale partner
- **Distribution Centers (DCs):** These three central hubs receive and store products before distributing them to regional warehouses.



- **Global Suppliers:** Primarily located in Asia (China, Vietnam, Indonesia), manufacturing apparel, shoes, and accessories.
- **Inbound Logistics:** Product is shipped from suppliers to three global Distribution Centers (DCs) located in the US, Europe, and Singapore, utilizing a mix of ocean, air, and other transport modes.



#### Interpretation of Map

The **orange** arrows denote the movement of goods from **Vietnam** to other Distribution Centers (DCs), the **blue** arrows represent flows from **China**, and the **green** arrows show shipments from **Indonesia** to various DCs.

The map clearly depicts cross-border transportation routes, providing a visual understanding of material flow direction, sourcing spread, and approximate transit distances between supplier origins and DCs.

This also helps to identify geographical concentration of suppliers and potential dependency risks (e.g., over-reliance on Asia).

The network must simultaneously support three very different fulfillment profiles: small-parcel e-commerce shipments, case-level D2C store replenishments, and pallet-level wholesale orders. **This can lead to operational inefficiencies** if processes are not tailored for each channel.

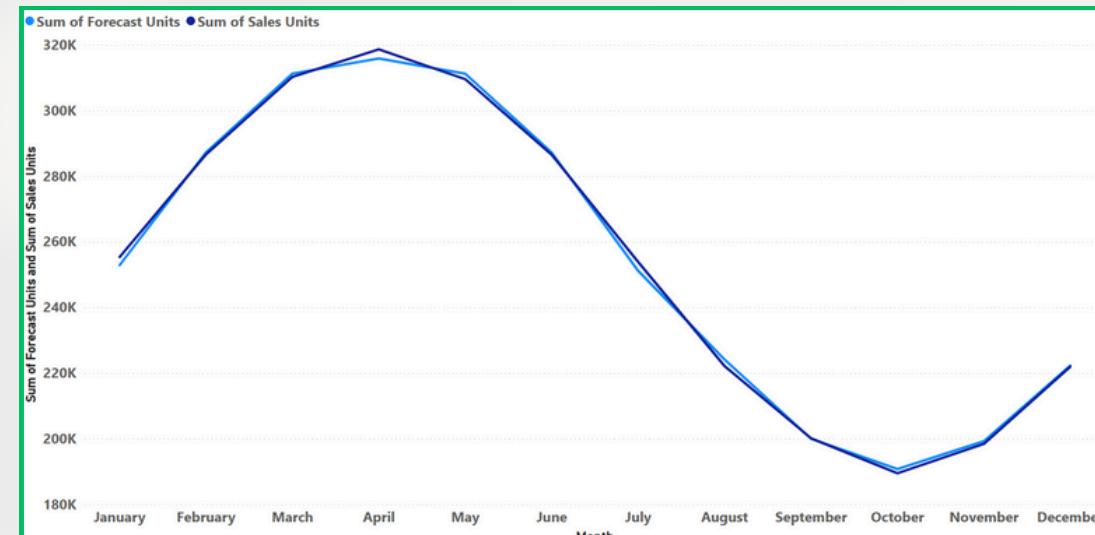
$$\text{Profit} = \text{Revenue} - \text{Cost}$$

**Revenue remains strong, but profitability is constrained by rising supply chain and logistics costs driven by inefficient management.**

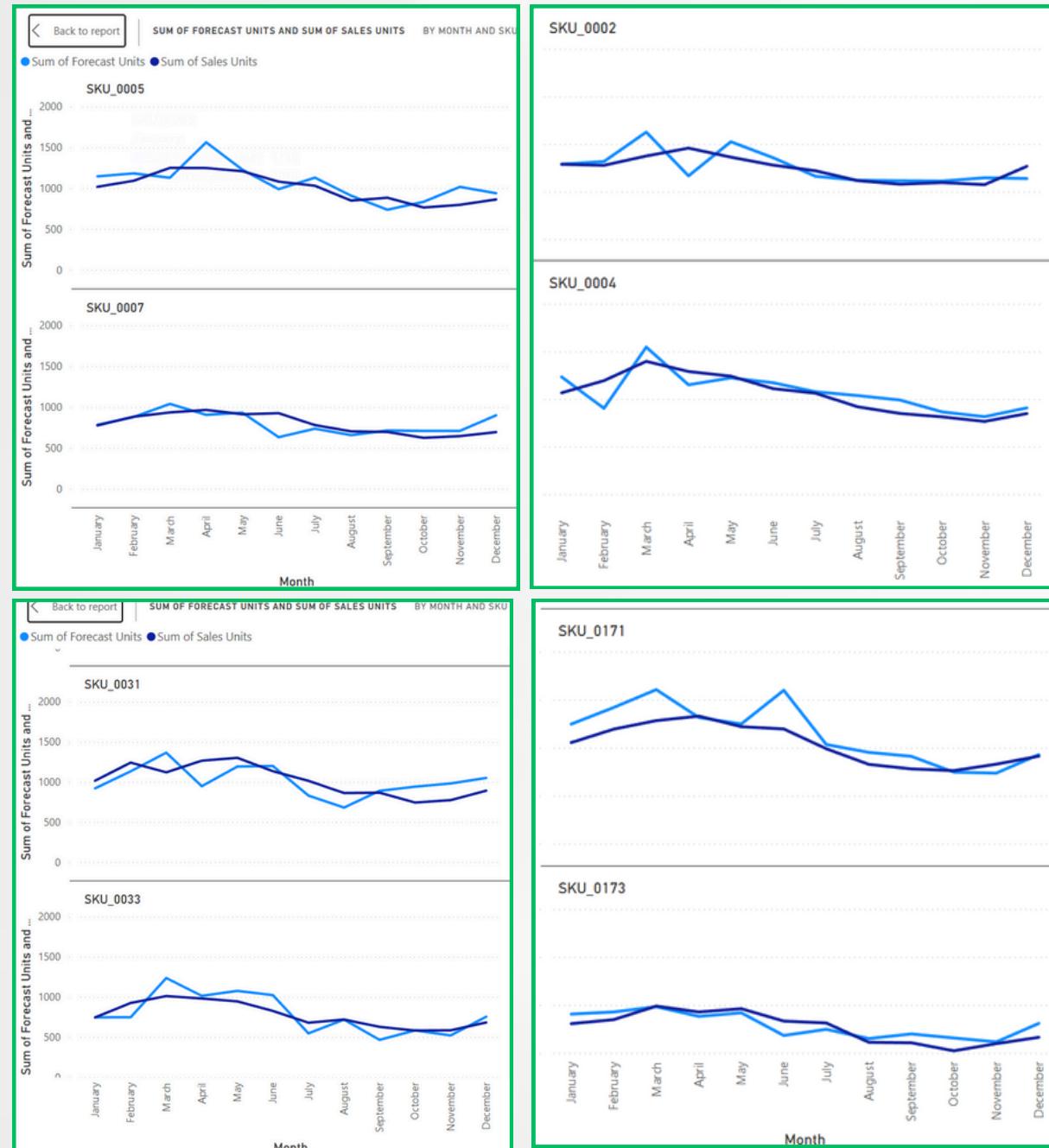


**Multiple Handoffs:** Each step in the chain—from supplier to global DC, to regional warehouse, to the final customer—adds lead time, handling costs, and a potential point of failure or delay.





Total Forecast units VS Sales Units



SKU wise Forecast units VS Sales Units

## Key Insights

The aggregate (all-SKU) data shows a strong alignment between forecasted and actual sales, confirming that the company's demand forecasting process is accurate and reliable at a macro level.

### SKU-Level Variation:

However, at an individual SKU level, noticeable deviations are observed between forecast and sales. This indicates pockets of over- and under-forecasting, likely caused by SKU-specific demand variability or regional assortment differences.

### Interpretation:

While the overall forecasting process performs well, there is a need to enhance SKU-level accuracy through finer segmentation, historical trend analysis, and more dynamic forecasting adjustments.

- High Forecast Accuracy: Across all SKUs, forecasted and actual sales lines are closely aligned, indicating strong forecast precision and minimal variance.
- Consistent Trends: Both forecast and sales follow similar seasonal patterns, suggesting the forecasting model effectively captures demand seasonality.
- Limited Deviations: Minor differences observed in a few months (e.g., peaks in Q2) reflect short-term demand fluctuations rather than structural forecast errors.
- SKU-Level Stability: Individual SKUs (e.g., SKU\_0005, SKU\_0124, SKU\_0171) show parallel movement, reaffirming the consistency of the forecasting approach across product categories.
- Aggregate Alignment: At the total volume level, the overall forecast and sales trends are nearly identical, confirming strong top-down forecast accuracy.

## IMPACTS

### Impacts of SKU-Level Misforecasting:

#### 1. Inventory Imbalances Across Network

Over-forecasted SKUs lead to excess stock at regional warehouses, driving up carrying costs and working capital. Under-forecasted SKUs cause stockouts, backorders, and lost sales opportunities, especially in high-demand regions. This imbalance creates operational inefficiency, as inventory is stuck in the wrong place.

#### 2. Increased Redistribution and Logistics Costs

To rebalance mismatched stock, the company may need inter-warehouse transfers or urgent replenishment shipments, often via air freight, inflating logistics costs.

This undermines cost savings achieved through centralized global DC sourcing.

#### 3. Longer Fulfillment Lead Times

Misalignment at SKU level leads to delays in serving regional demand, since some regions face shortages while others hold excess.

This affects service levels and customer satisfaction.

#### 4. Higher Working Capital and Obsolescence Risk

Slow-moving SKUs remain unsold in warehouses, tying up cash in non-moving inventory.

For short life-cycle products, this increases the risk of obsolescence and write-offs.

#### 5. Distorted Inventory Strategy Decisions

Decision-makers may incorrectly assume certain regions or SKUs are "high demand" due to over-forecasting, leading to misguided replenishment and allocation decisions.

Over time, this weakens trust in the forecasting system despite strong overall accuracy.

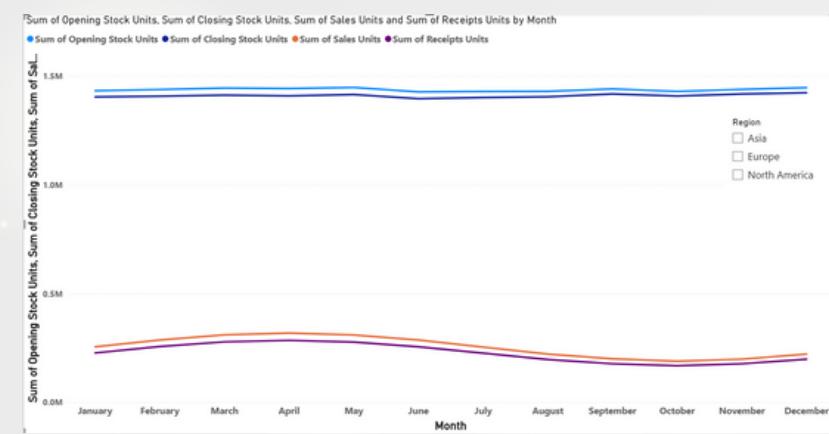


Figure 1

**Figure 1** shows the plot for sum of opening stocks, sum of closing stocks, sum of forecast units, sum of sales units **Of All Regions**.

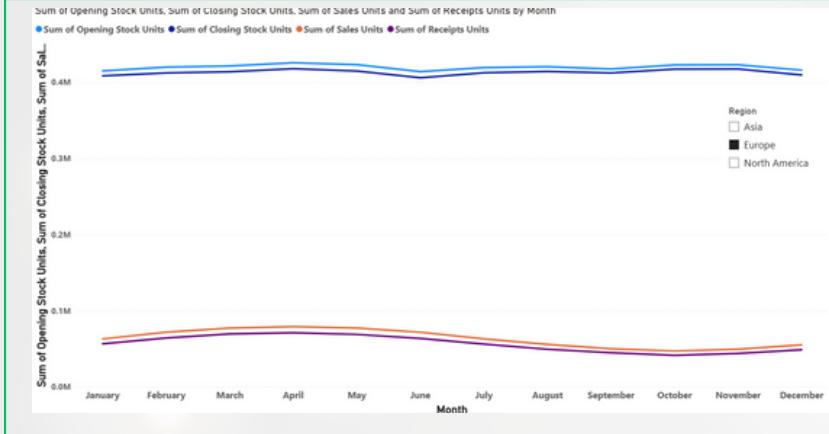


Figure 2

**Figure 2** shows plot for sum of opening stocks,sum of closing stocks,sum of forecast units,sum of sales units for **Europe region**

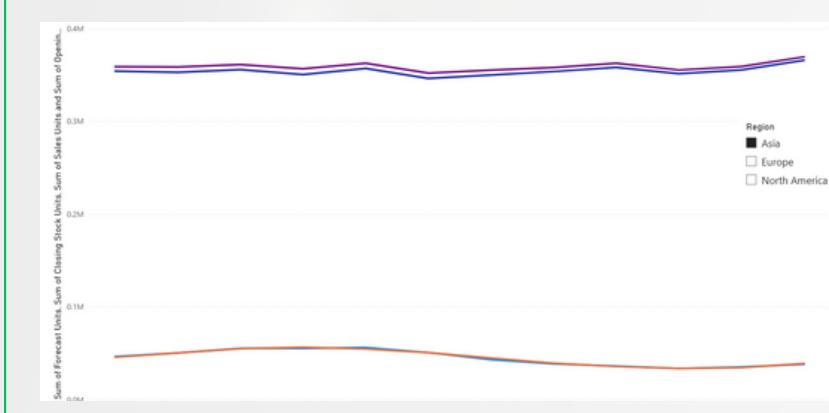


Figure 3

**Figure 3** shows plot for sum of opening stocks,sum of closing stocks,sum of forecast units,sum of sales units for **Asia region**

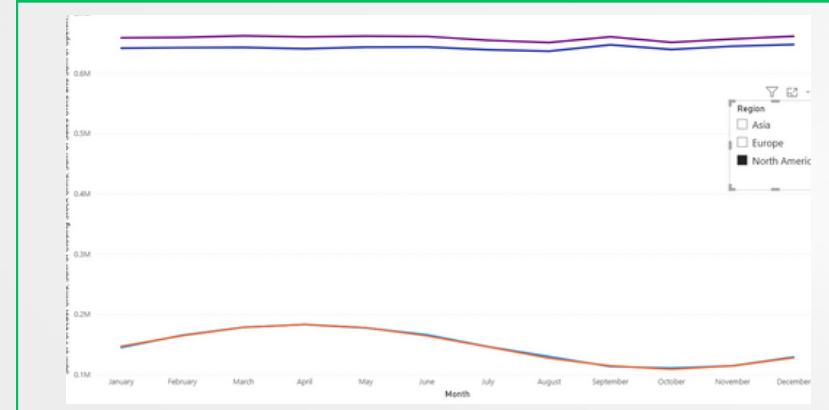


Figure 4

**Figure 4** shows plot for sum of opening stocks,sum of closing stocks,sum of forecast units,sum of sales units for **North America region**

## Sum of Sales Stocks:

**3.05M**

## Sum of forecasted Stocks:

**3.05M**

## Sum of receipts Stocks:

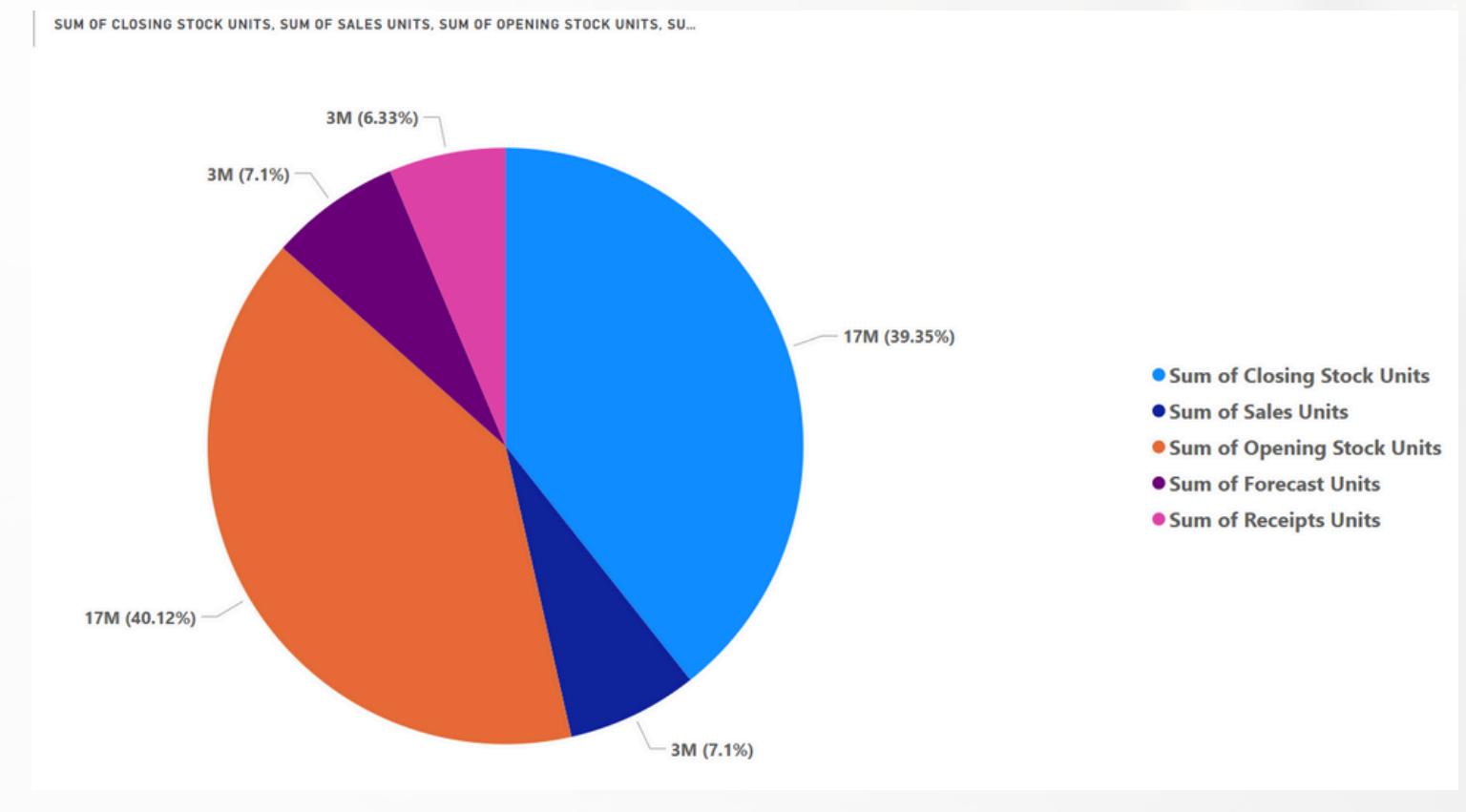
**2.72M**

## Sum of Opening Stocks:

**17.25M**

## Sum of Closing Stocks:

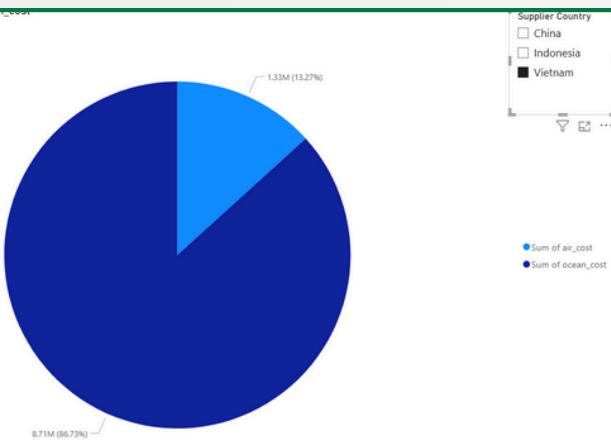
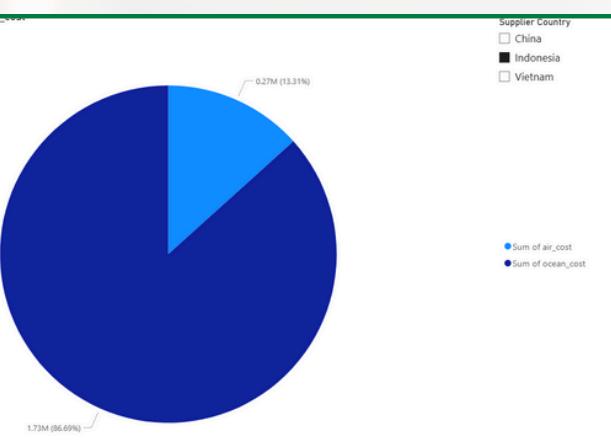
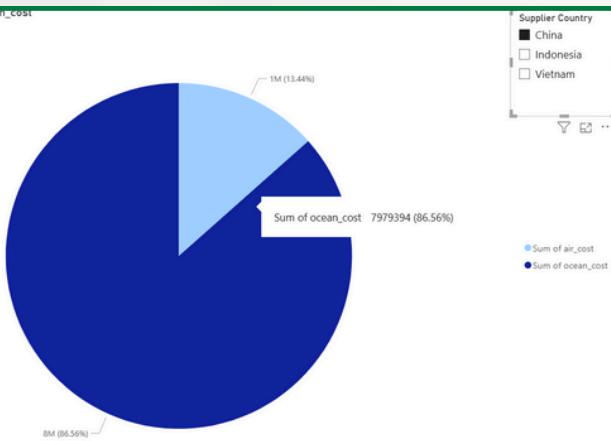
**16.91M**



- The consistently high opening and closing stock levels reflect a push-based distribution model designed to buffer against long lead times and forecast uncertainty. However, this also indicates potential **overstocking** and higher **holding costs**, especially if sales do not align with the inventory held.
- If sales are consistently much lower than opening/closing stocks:
  - It signals overstocking and excess working capital locked.
  - Can cause high holding costs, obsolescence, or markdowns later.
- Balanced Flow:** The proximity between receipts and sales trends shows good alignment between demand fulfillment and supply inflow,

# 23.56M

Sum of Supplier->DC  
Logistics Cost (€)



Percentage Logistic Share Region wise  
(Supplier to DC)

## Supplier → DC Logistics Cost Insights

Reference charts: Pie charts by supplier country & by air vs. ocean split.

### Interpretations:

**Dominance of Ocean Freight:** Across China, Vietnam, and Indonesia, ~86% of inbound cost is ocean-based, while air contributes ~13–14%.

► **Interpretation:** The network is ocean-heavy — appropriate for bulk movements — but the air portion still represents a high-cost minority share given its premium per ton-km.

### Supplier Contribution to Total Logistics Cost:

Vietnam (47%) and China (43%) together account for ~90% of total inbound logistics spend.

Indonesia (9%) contributes much less volume and cost share.

► **Interpretation:** Any efficiency gains in the China and Vietnam lanes (better consolidation or improved container fill rates) will yield disproportionately large savings.

**Cost-to-Volume Imbalance:** If receiving volume (2.72M vs. 3M forecast) is slightly lower but logistics spend remains high, the effective cost per unit landed has increased, signaling underutilized container space or use of air for urgent replenishment.

**Inbound logistics costs are structurally ocean-driven but tactically inflated by suboptimal utilization and air shipments used as a firefighting mechanism. The top 2 supplier countries drive 90% of logistics cost exposure, offering clear leverage points for renegotiation and freight optimization.**

## DC → Warehouse Logistics Cost Insights

Reference charts: Pie charts by region & air vs. non-air split.

### Interpretations:

**Asia (Primary Region):** Air accounts for ~20% of DC→WH cost, which is disproportionate given short regional distances.

► Suggests last-minute transfers or service-level driven shipments (e.g., to meet unexpected demand spikes).

**Europe:** Air cost share rises to ~22%, likely due to multi-country distribution and lead-time sensitivity.

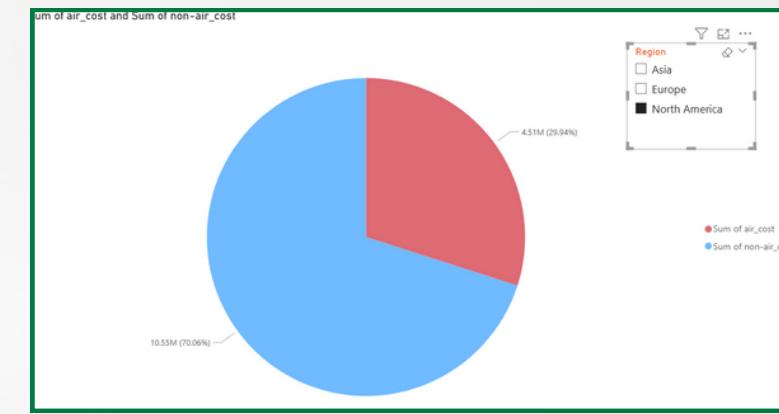
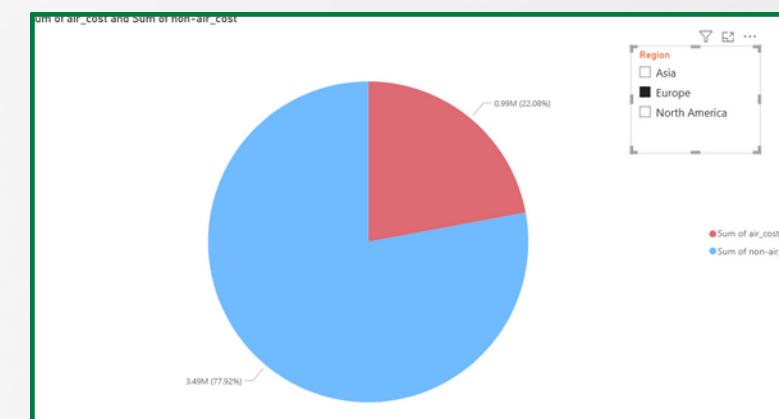
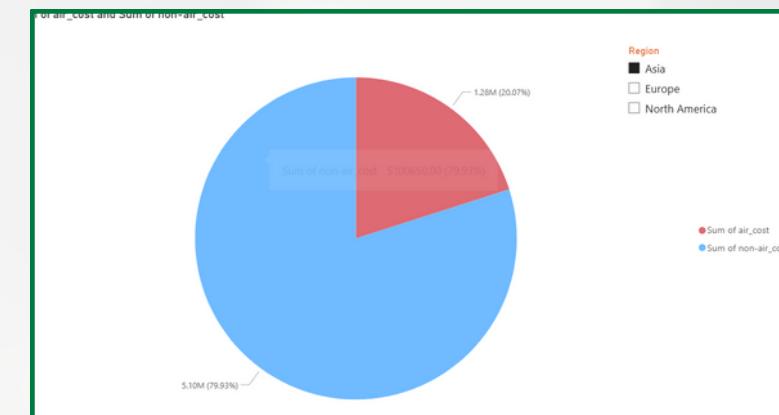
**North America:** Air cost share jumps to ~30%, indicating significant expedited freight or demand volatility at the warehouse level.

Non-air cost still dominates (~70–80%), but air freight consistently absorbs a significant cost fraction despite smaller volume contribution.

**Outbound logistics is increasingly air-dependent as you move westward, reflecting lead-time pressures and potential demand misalignment. This points to structural issues in planning buffers and DC inventory positioning.**

# 25.90M

Sum of DC->WH Logistics  
Cost (€)



Percentage Logistic Share Region wise  
(DC to Warehouses)

## Conclusion

- The current supply chain network is highly distributed and multi-tiered, which increases coordination complexity and contributes to longer lead times across regions.
- Top-level forecasting accuracy is strong, indicating that the overall demand planning model is structurally sound; however, significant SKU-level deviations lead to localized overstocking and shortages.
- These SKU-level imbalances have resulted in higher working capital consumption, with large volumes of inventory remaining idle across warehouses while high-demand items experience stockouts.
- Logistics costs are disproportionately impacted by air freight usage, particularly in outbound flows from DCs to regional warehouses, which suggests reacting to demand mismatches rather than proactive planning.
- The supplier network is geographically concentrated in Asia, which provides cost advantage but also increases exposure to regional disruptions, affecting supply continuity and reliability.

Overall, the analysis shows that while AeroSports' supply chain supports global scale effectively, operational inefficiencies across forecasting granularity, inventory allocation, and transport mode usage are directly constraining margins and service performance.



### Recommendations

These actions address the key operational bottlenecks identified and support a shift toward a more integrated and responsive supply chain model.

Below are prioritized strategic actions that can be undertaken to enhance profitability and improve overall supply chain performance.



#### Short-Term Horizon (0-12 Months)

- Enhance SKU-Level Forecasting Precision - Introduce SKU segmentation to focus forecasting improvements where demand volatility is highest.
- Align Inventory to Regional Demand Patterns - Rebalance stock across warehouses using demand-driven allocation to reduce excess in low-pull regions and prevent stockouts in high-demand areas.
- Reduce Reliance on Air Freight - Shift urgent shipments from air to sea/road by improving planning buffers and lead-time visibility to lower logistics spend.
- Implement Real-Time Operational Dashboards - Track forecast variance, aging inventory, warehouse capacity, and logistics mode mix to enable quicker corrective actions.

In the short term, we stabilize performance by improving forecasting accuracy, optimizing inventory, and controlling logistics spend.

#### Long-Term Horizon (1-3 Years)

- Develop a Demand-Sensing & Predictive Analytics Model - Move from periodic forecasting to continuous demand sensing using POS data, market signals, promotional calendars, and regional trends to reduce demand variability at SKU level over time.
- Invest in Digital Control Tower for End-to-End Visibility - Build a centralized monitoring & decision-making layer that tracks inventory, logistics flows, supplier status, and service levels across the entire supply chain network in real time.
- Adopt Lifecycle-Based Product Portfolio Governance - Use sales velocity and assortment analytics to standardize product onboarding, scaling, and phase-out processes – minimizing obsolete inventory and maximizing full-price realization.

In the long term, we reposition the supply chain as a strategic growth and sustainability engine through digitization, diversified sourcing, advanced manufacturing, and circularity.

A light gray background featuring a complex network graph composed of numerous small, semi-transparent gray dots connected by thin white lines, creating a sense of data connectivity and global reach.

# Thank You

