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PREDICTION TIME OF STEEL PART DELIVERY DASHBOARD

GCC Steel Parts | Power BI Insights
Aug 2025

PREDICTION TIME OF STEEL PART DELIVERY DASHBOARD

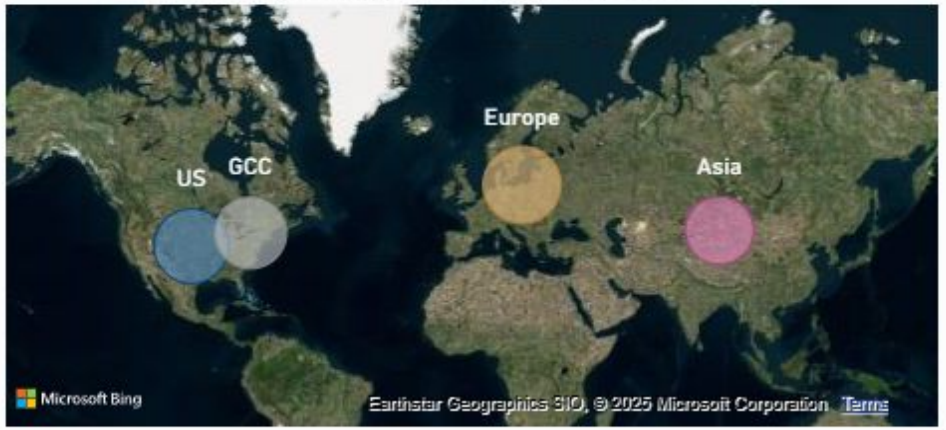
Date Hierarchy: 2025

Product ID: All

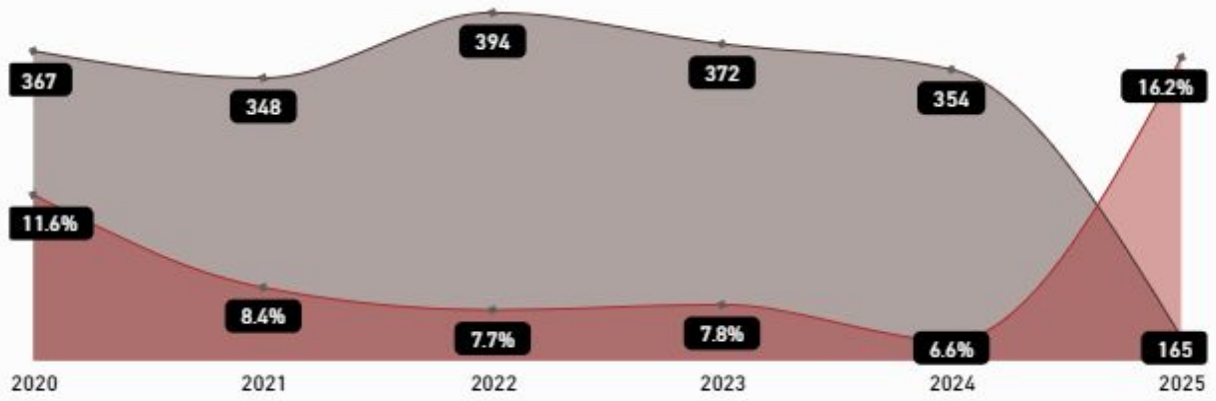
On Time Delivery % in 2025	Late Orders % in 2025	Total Orders in 2025	Avg Delay Days in 2025	Machine Utilization in 2025
54.5%	45.5%	165	18	69.9%

Avg Estimated Delivery Days by Product Type in 2025

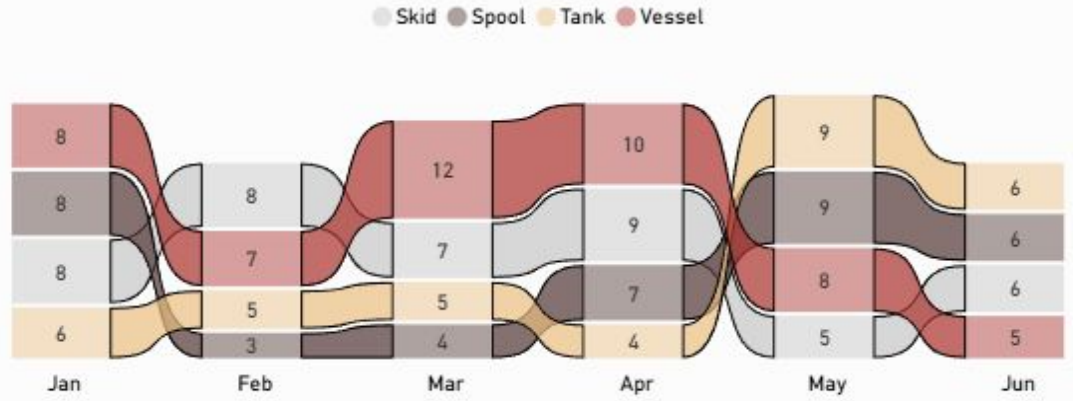
Late Orders % by Region in 2025



Total of Orders Trend



Total of Orders by Product Type in 2025



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Dashboard 1: Summary

Dashboard Summary – This interactive Power BI dashboard provides an end-to-end view of steel part delivery performance as It helps manufacturing, logistics, and operations teams monitor on-time delivery rates, identify delay causes, track machine utilization, and analyze regional performance trends.

Key Metrics Displayed:

On-Time Delivery %: 54.5% – Proportion of orders delivered within the planned schedule.

Late Orders %: 45.5% – Proportion of orders that missed delivery timelines.

Total Orders: 165 – Overall order volume recorded in 2025.

Average Delay Days: 18 – Mean number of days orders are delayed.

Machine Utilization: 69.9% – Extent to which production machines are in active use.

Filters Available:

- Interactive slicers for Date Hierarchy, and Product ID to allow tailored analysis.

Drill-Through Analysis

- A detailed drill-through table has been added to this dashboard to provide insights, supporting deeper analysis.

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Dashboard 1: Core Visual Insights

Average Delivery Days by Product Type: on average in 2025, Estimated orders for Spool, Tank, and Skid products each take about 31 days to deliver, while Vessel orders take slightly longer at 33 days

Late Orders % by Region: Visual distribution shown across US, GCC, Europe, and Asia to pinpoint geographic performance issues.

Total Orders Trend: The percentage change year-over-year (e.g., 11.6% in 2020, dropping to 6.6% in 2024, then jumping to 16.2% in 2025).

Orders by Product Type: A Sankey diagram tracks month-wise order distribution for Skid, Spool, Tank, and Vessel products, showing changing product demand patterns.

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Model Implementation

Goal: Predict delivery times in advance so that operations can run smoothly and customers get accurate delivery updates`.

How We Did It:

- Collected past delivery data
- Built an AI prediction model (Lasso Regression)
- Checked results (actual vs predicted delivery times)

What It Gives:

- Accurate delivery time prediction (close to reality)
- Easy to use for planning and scheduling

Benefits:

- On-time delivery → fewer customer complaints
- Smarter scheduling → staff & machines used better
- Cost savings → less idle time, fewer urgent shipments
- Customer trust → improves brand reputation.

Model Implementation

This chart compares the actual delivery time vs. the predicted delivery time for a sample of customer orders.

- The blue bars show how many days it actually took to deliver each order.
- The orange bars show how many days our prediction model estimated for the same order.
- The closer the orange and blue bars are, the better the model's prediction.
- In most cases, the orange bars are very close to the blue bars, which means the model is doing a good job of predicting delivery times.


Thank
you!!!