AVLINO

Enhancing Container Flow Efficiencies Across the Global Supply Chain

Powered by an innovative
Objective Oriented Operating (3-O) System

Feb 2026

www.avlino.com

Avlino developed PortLink Solutions to realize Objective-Driven operational optimization

Numerous global Container Terminals have realized 25% KPI improvement with PortLink

We deliver **intent-driven solutions** that enhance operational systems and decision-making, to increase **Container Terminals productivity and efficiency**

PortLink Solutions combines domain knowledge and intent based optimization to **eliminate re-planning** and **TOS parametric configurations**

PortLink Solutions natively integrates with the existing TOS, and **guarantees** the desired **operational KPIs**

AVLINO

Headquarters
New Jersey, USA

Design Centers
Bengaluru, India
Porto, Portugal

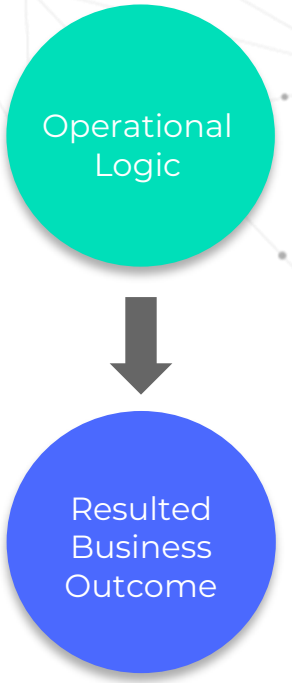
Expertise
Objective-Oriented Design
Optimization Techniques
Algorithmic Enhancement
Big Data Engineering
Cloud Infrastructure

Revenue Model
Software-as-a-Service

Avlino pioneered the 3-O systems to alter the Enterprise Workflow Paradigm

Desired business objectives will dynamically generate operational logic

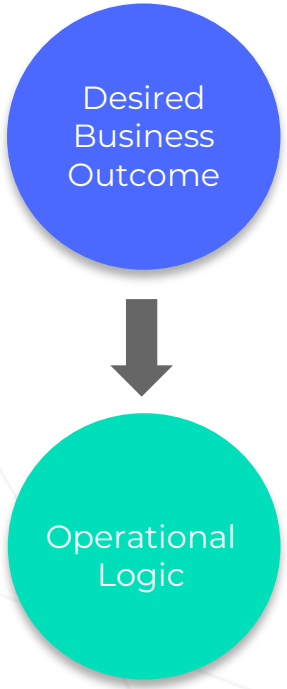
Traditional workflow Systems



Preconfigured rules determine the operational logic. Human capital handles exceptions, leading to static business outcomes.

Avlino’s proprietary Objective Oriented Operating (3-O) Systems enable Enterprises to dynamically alter the Operational Logic to accomplish the desired business outcomes, without any manual intervention

Avlino Solutions



Business KPIs defined by management drive the 3-O systems enabled operational logic. Human intervention is not required.

Implementing the 3-O Reference Architecture

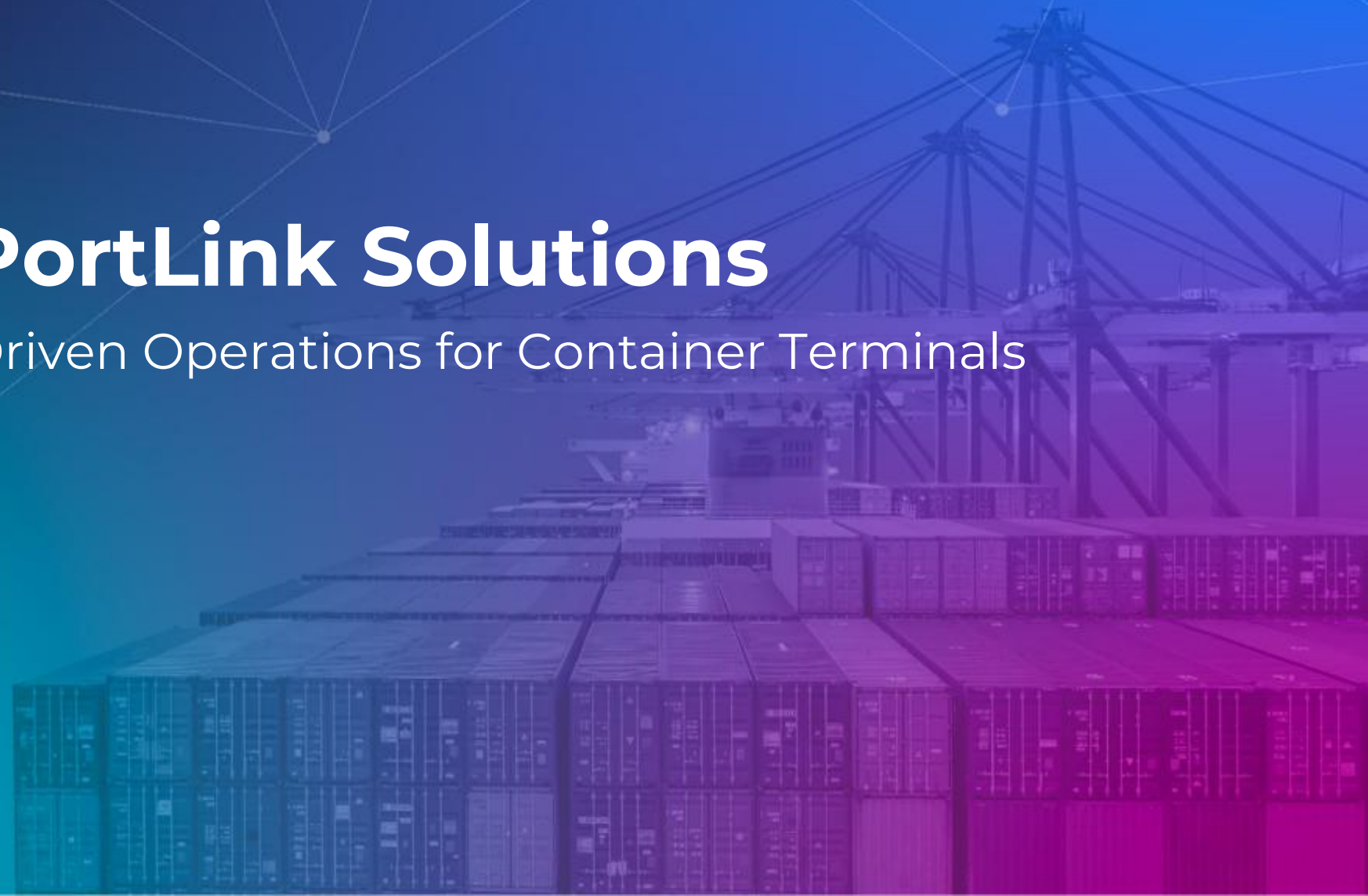
PortLink Solutions is the first Vertical SaaS solution suite developed using the 3-O System Architecture

Leveraging the 3-O reference architecture, Avlino developed PortLink Solutions to enhance operational efficiencies of Marine Terminals.

Marine Terminals, where the containers are stored and handled for an exchange between high-sea vessels and hinterland transportation, play a key role in the Container handling value-chain.

PortLink Solutions

Objective-Driven Operations for Container Terminals



AVLINO

The conflicting business goals in Container Terminal Operations

Container Terminals struggle to balance

Throughput

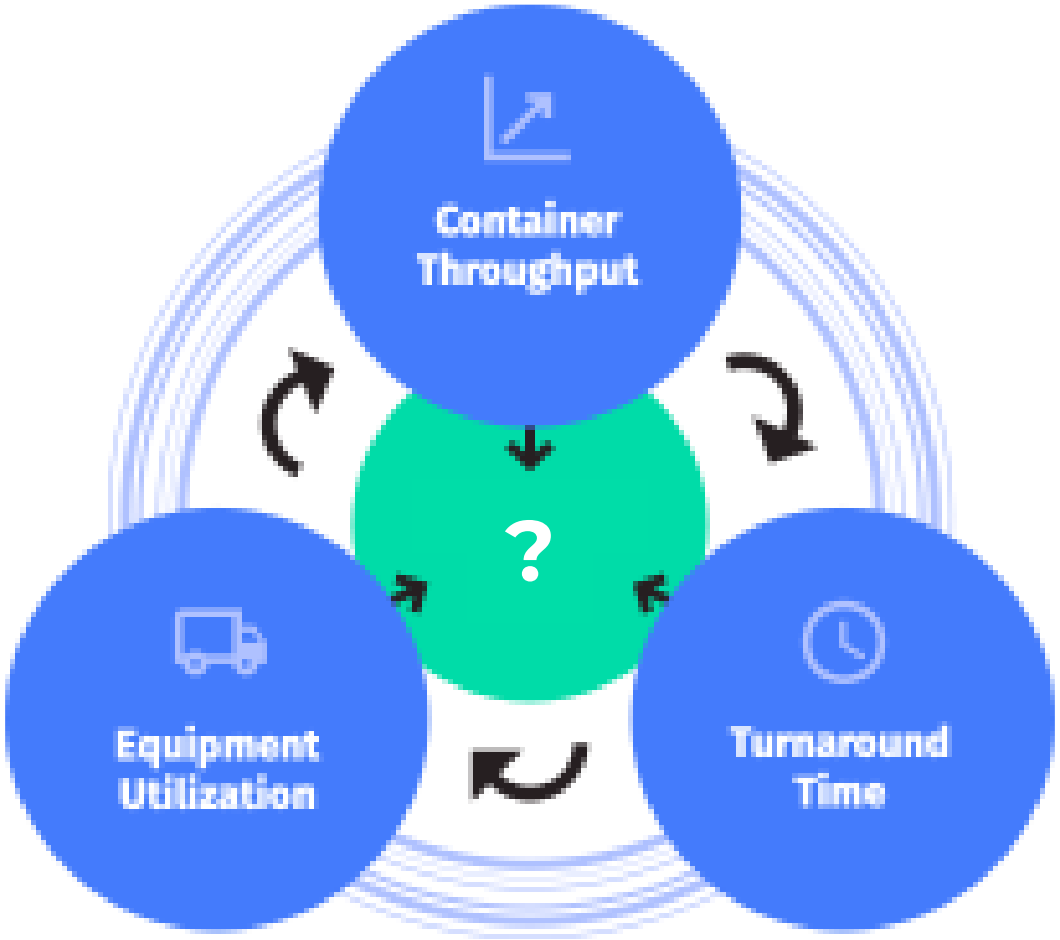
Revenue

Resource Utilization

Profitability

Turnaround time

Velocity

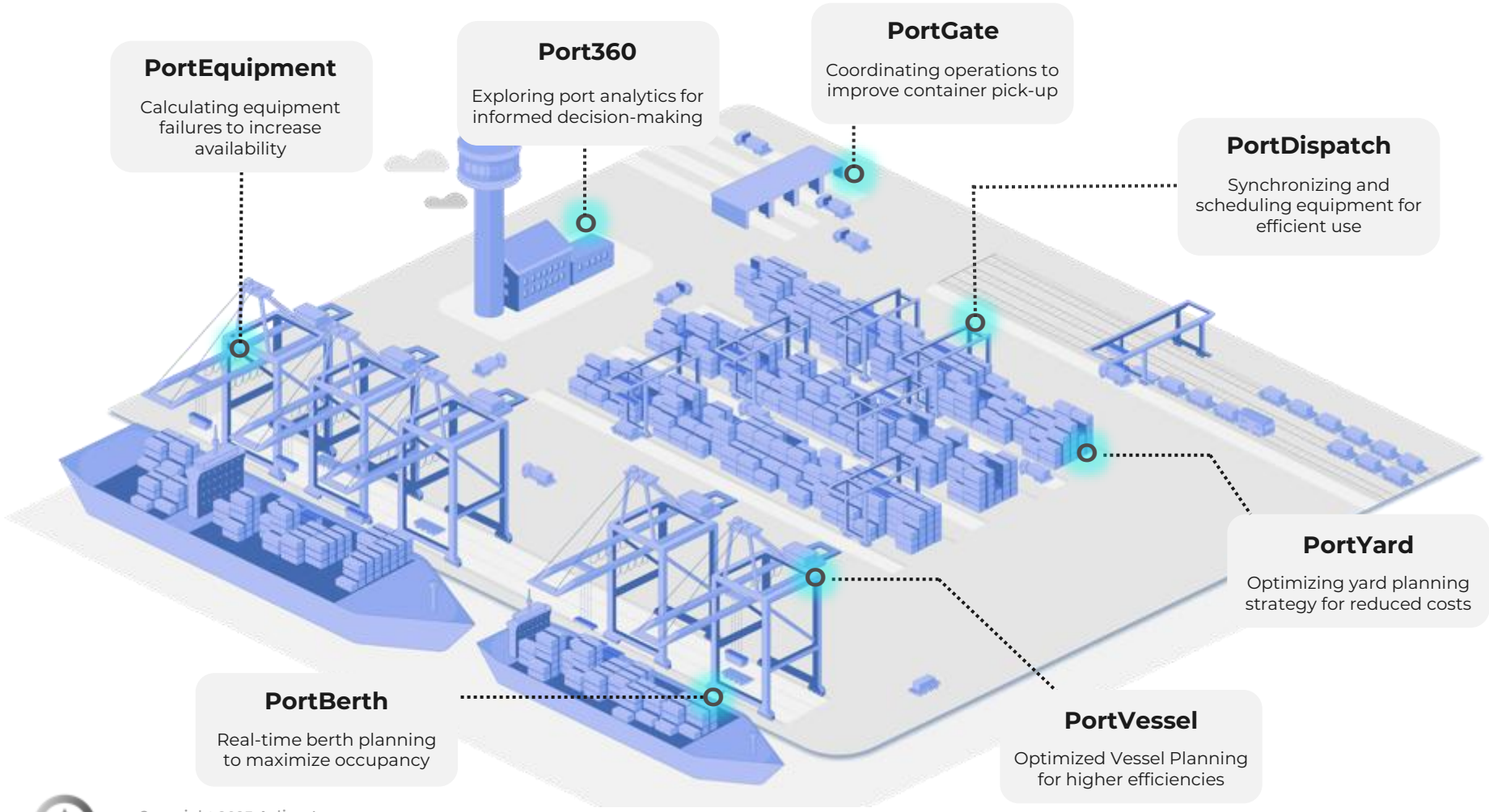


PortLink SOLUTIONS

PortLink Solutions constantly balance the conflicting goals without the need for replanning or parametric changes.

PortLink Solutions: a Plug-N-Play TOS-Overlay solution suite

PortLink modules can operate in stand-alone mode to deliver a specific KPI improvement, or can be cascaded to deliver a terminal wide KPI improvement



PortLink Optimization Modules

Integrates with TOS and sub-systems to make improved operational decisions

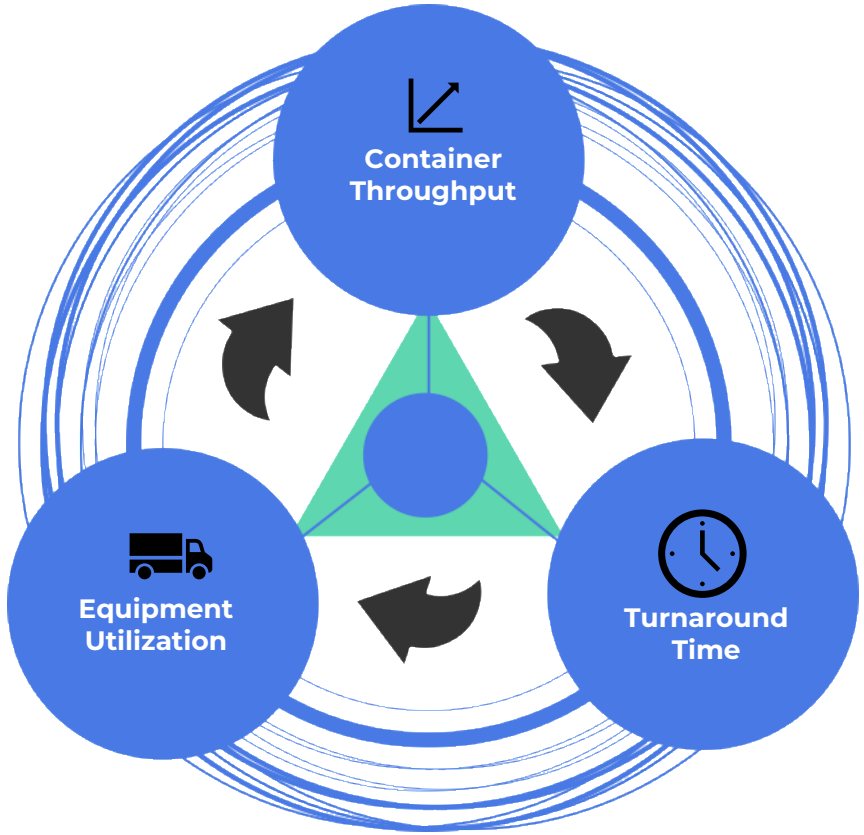
Adapts dynamically to changing conditions

Learns from the past and eliminates inefficiencies before they arise

Avlino's PortLink has resulted to a newer paradigm

Before PortLink

- Business KPIs were static
- Software and operational logic drove business outcomes



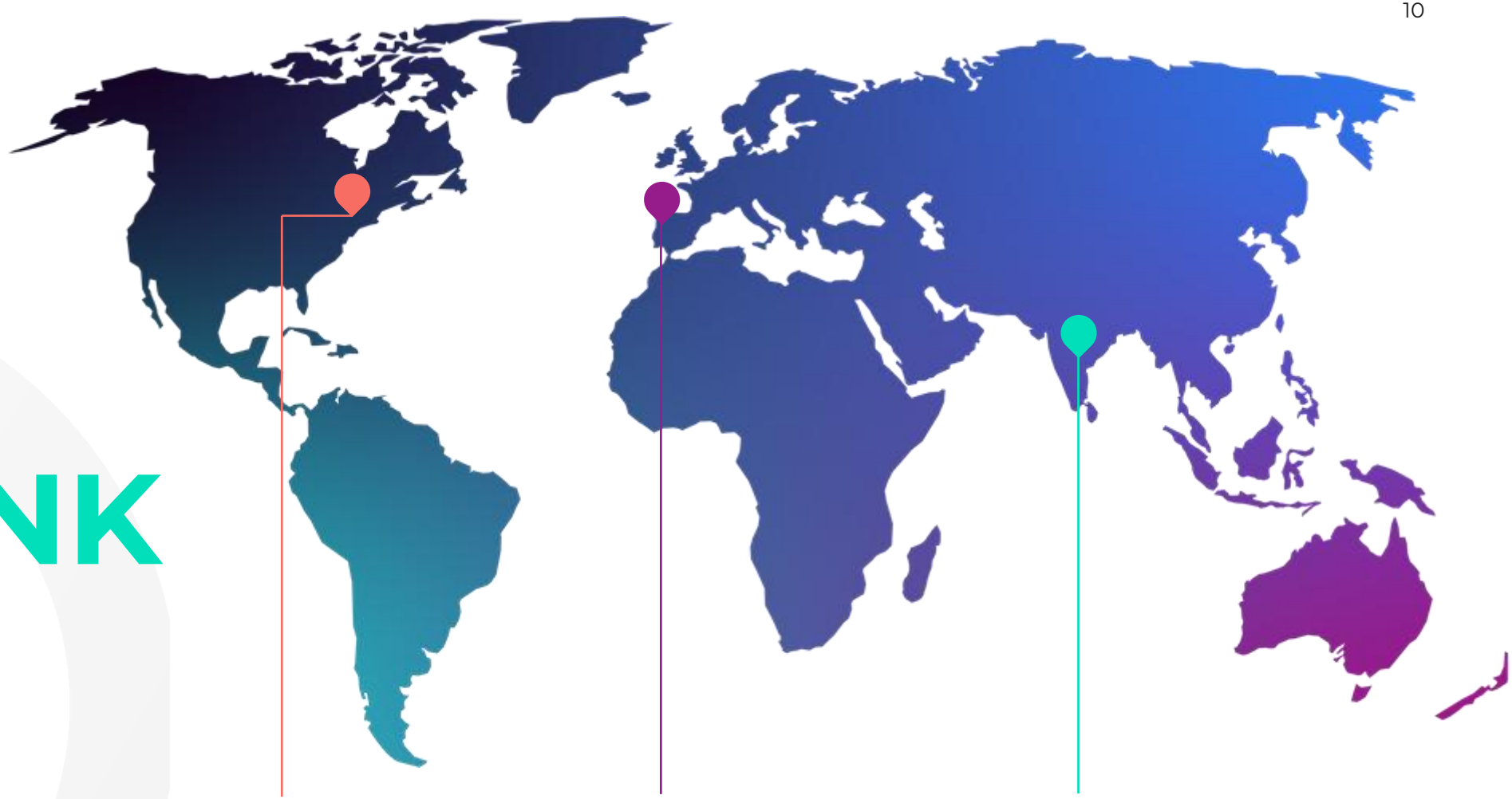
With PortLink

- Business KPIs are dynamic and can be varied
- Business objectives drive the operational logic

Objective-Oriented Optimization vs. Traditional TOS Software

Objective-Oriented systems are outperforming current systems:

- Adjusting performance continuously
- Delivering advanced optimization modeling
- Reconfiguring parameters with algorithmic refinement
- Replacing the penalty approach with an objective functional realization approach



THANK YOU

Contact us

www.avlino.com

Headquarters
100 Matawan Road
Matawan, NJ 07747
+1 732 946 0472

Porto Office
Rua Sá da Bandeira, n°605
4000-437 Porto, Portugal
+351 221 145 999

India Office
Orbis, 1st Floor, #61
2nd Cross, Residency Rd
Bengaluru, Karnataka 560025

Appendix A

Implementation Timeline &
Client Team Responsibilities/Involvement

AVLINO

PortLink Solutions Implementation Timeline

- Easy as 1-2-3 with Measurable ROI in 16-20 weeks

1 4-6 Weeks

Date Ingestion & Model Tuning

- Upload TOS and other data to a secure cloud instance.
- Remotely run an audit on Operational data.
- Operational audit and analysis results presented to the Management team.

2 8-9 Weeks

Prototype Delivery

- Choose the relevant PortLink modules and customize the models.
- PortLink connectors will enable real-time data feeds to these modules.
- Deploy the modules in 2-4 Blocks.
- PortLink dashboards will measure KPI improvements.

3 4-5 Weeks

Go-Live

- Expand the module functionality from a few Blocks to the entire terminal operations.
- Algorithmic processes continuously tweak calculations and recommendations adjusting to the business objectives.
- Measurable continuous performance improvement!

Client Resources Involvement

IT Team

Active Involvement: 16 Hours
Elapsed Time: 4 Weeks
Stage: Set-up & Data Ingestion

- VPN Access to Avlino Team
- Support for Real-time data streaming to Avlino Cloud Instance
- Network configuration for security setup. IP address-based restrictions
- Team Avlino access provisioning to the Test infrastructure

Operations Team

Active Involvement: 24 Hours
Elapsed Time: 8 Weeks
Stage: Prototype Delivery

- Review pre-PortLink terminal operational performance analysis
- Validate the pre-PortLink bottlenecks identified by Avlino business analysts
- Review and approve the KPI measurements dashboard post PortLink implementation

Management Team

Active Involvement: -8 Hours
Elapsed Time: 4 Weeks
Stage: Go-Live & Post-production

- Quantify the financial impact of the post-PortLink KPI improvement
- Validate post-PortLink ROI

Appendix B

Customer Implementation Results

AVLINO

Client #1

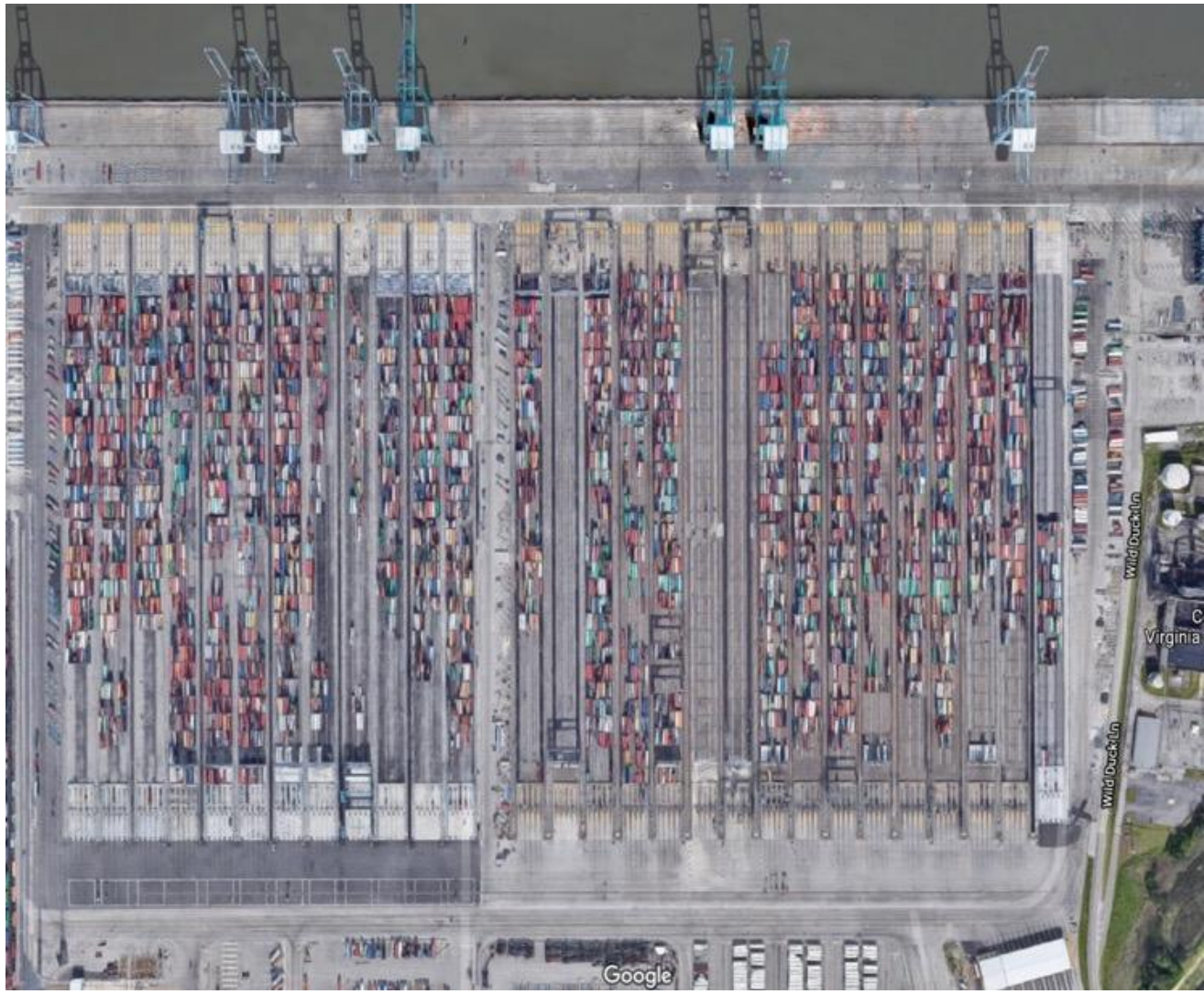
2.5M TEU ASC Terminal

Client Challenges

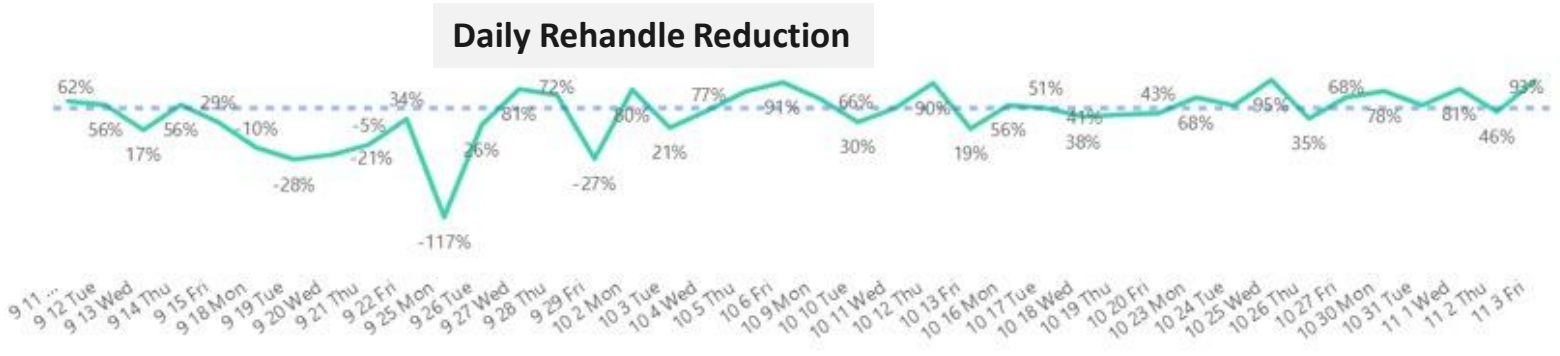
1) Gate Throughput was significantly constrained, especially during peak-time
2) Rehandle ratio, especially for import container delivery, was high

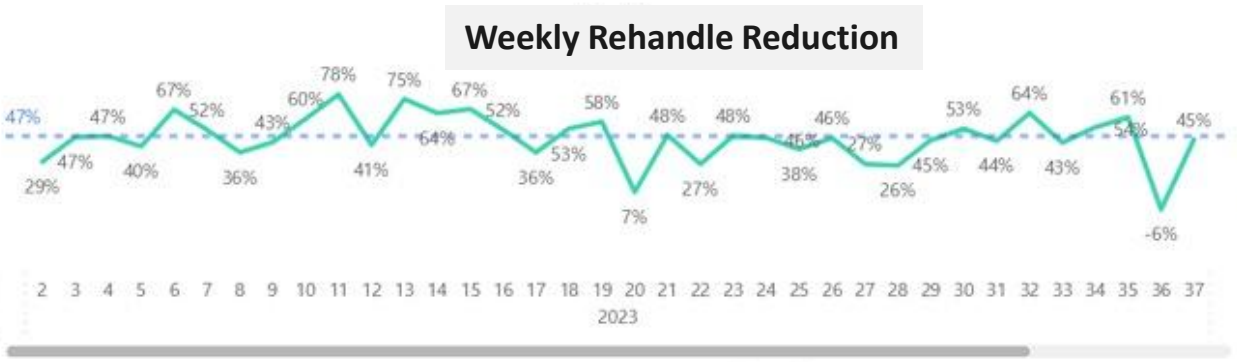
Avlino Solution

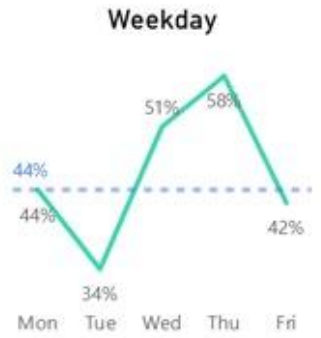
1) Avlino deployed PortYard

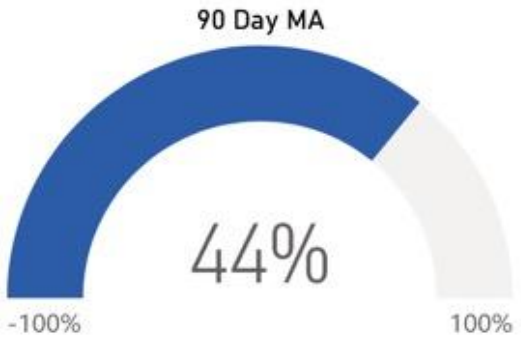


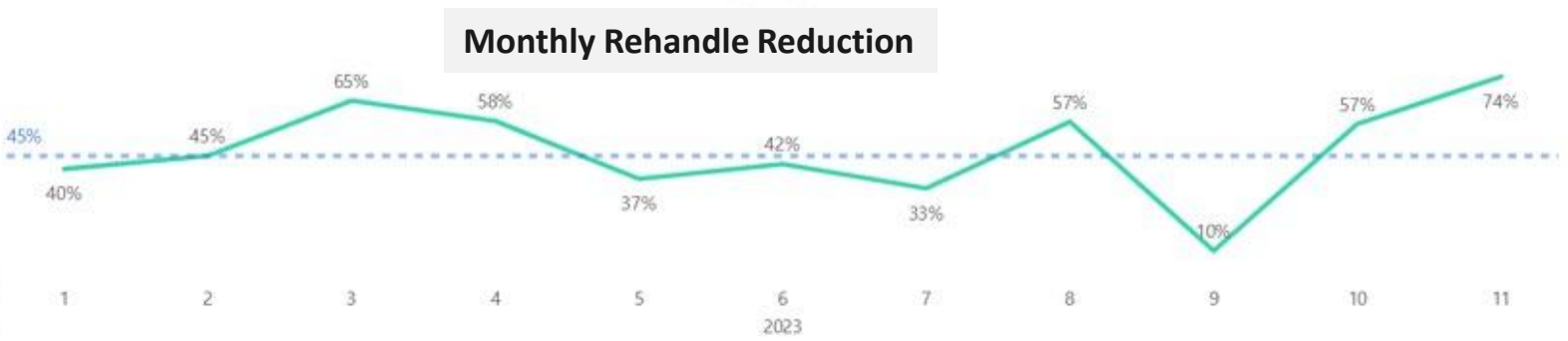
PortYard Reduced Rehandle Rate by 45% consistently in the last 18 months











Results measured from Jan 10, 2024

Client #2

1M TEU RTG Terminal

Client Challenges

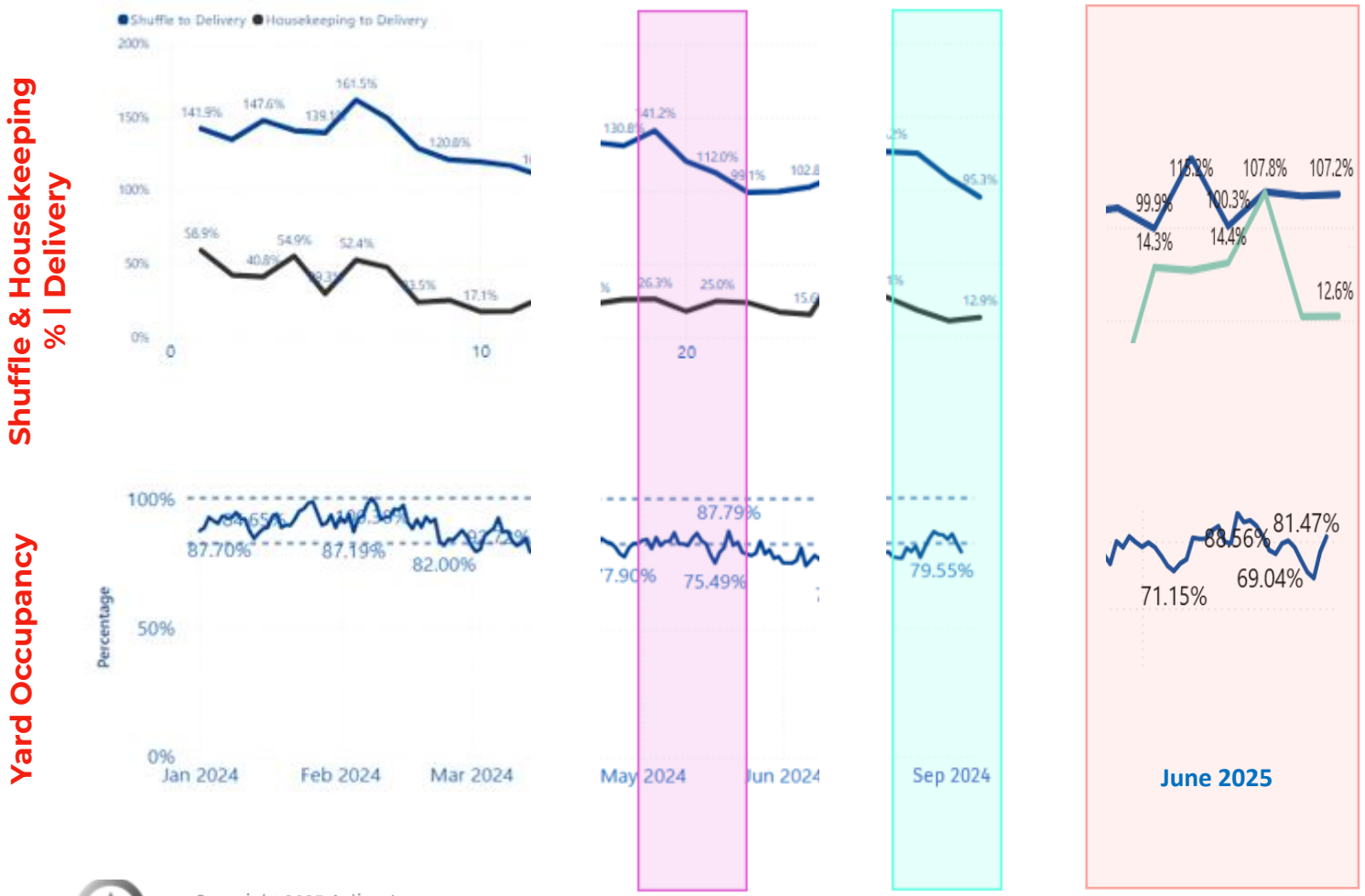
1) High Yard utilization leading to high rehandles and high equipment utilization
2) Low Vessel and QC productivity

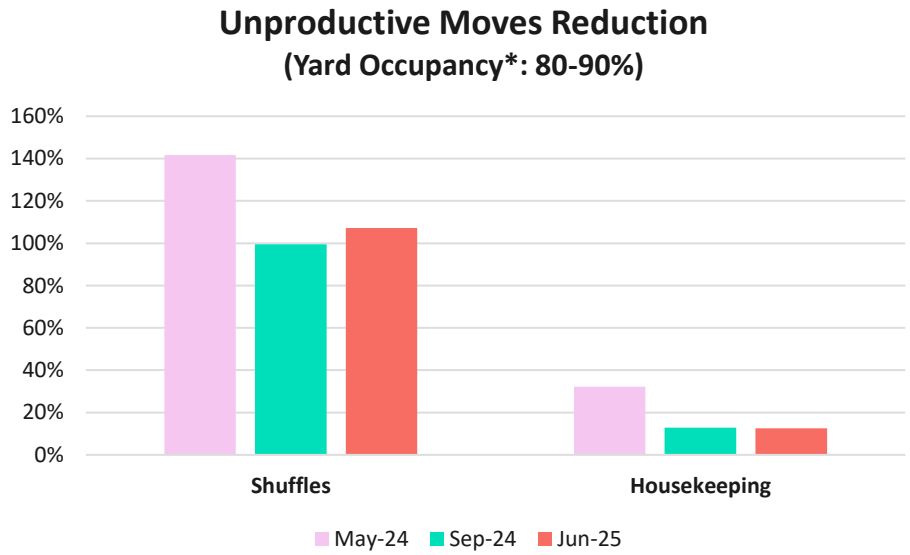
Avlino Solution

1) Deployed PortYard to reduce Shuffles and Rehandles challenge
2) Deploying PortDispatch and PortVessel to improve Vessel and QC productivity

Import Rehandle Metrics

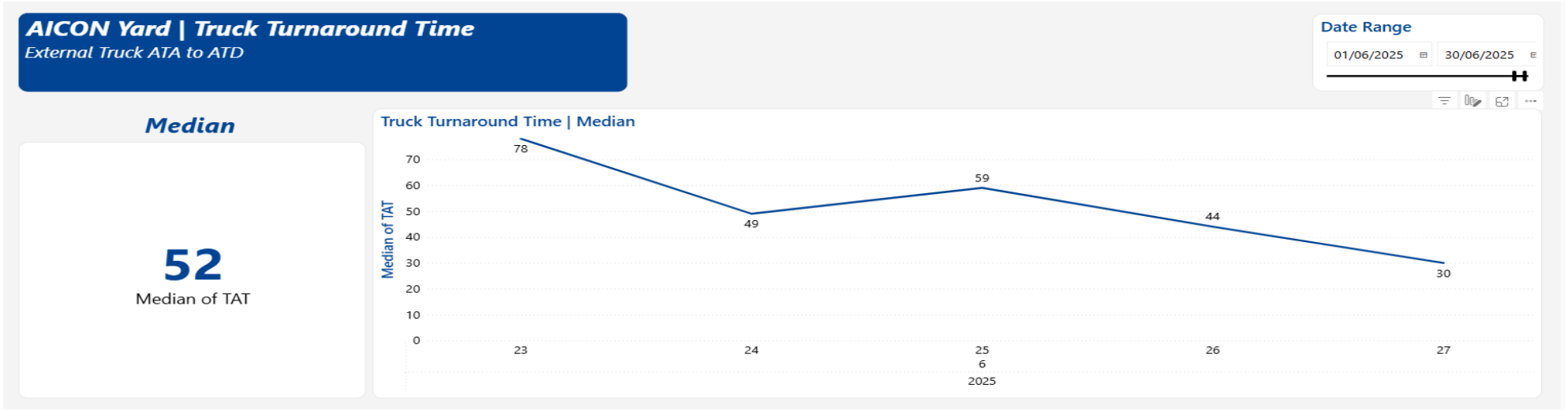
May 2024 versus Sep 2024 & June 2025 – 32% reduction in unproductive moves

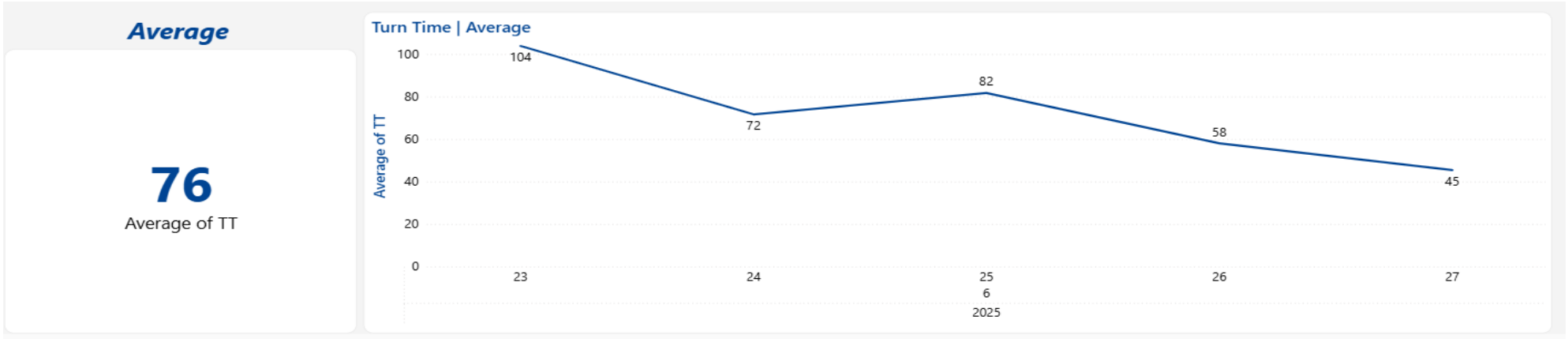




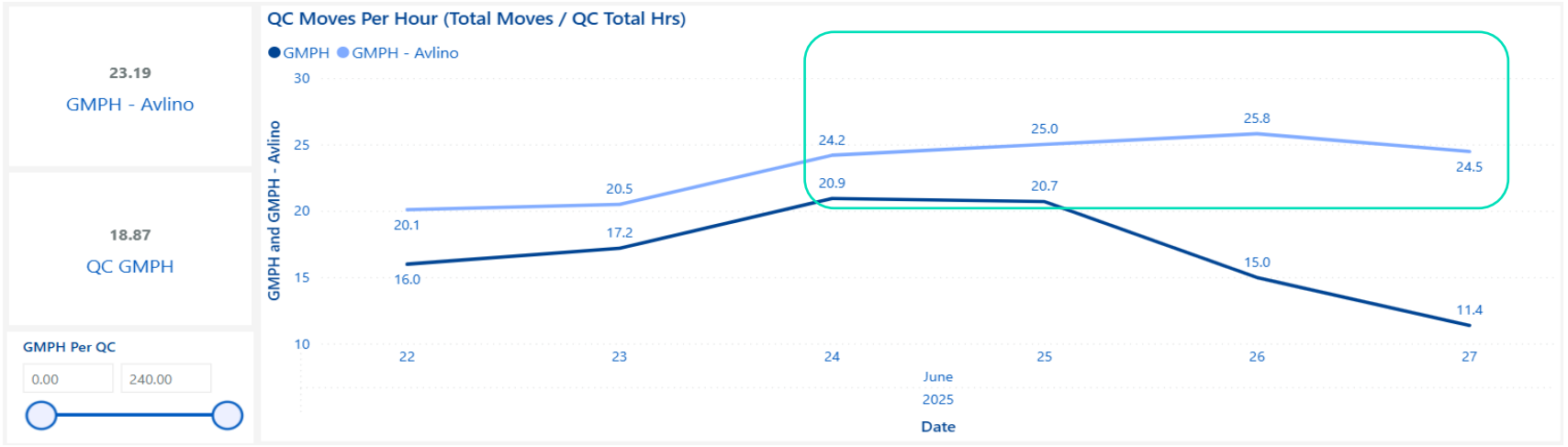
** Container Volume increased from **65,000 TEU** per month in May 2024 to **75,000 TEU** per month in Jun 2025*

External Truck Turnaround Time – 26% reduction, from 101 mins (2024) to 76 mins

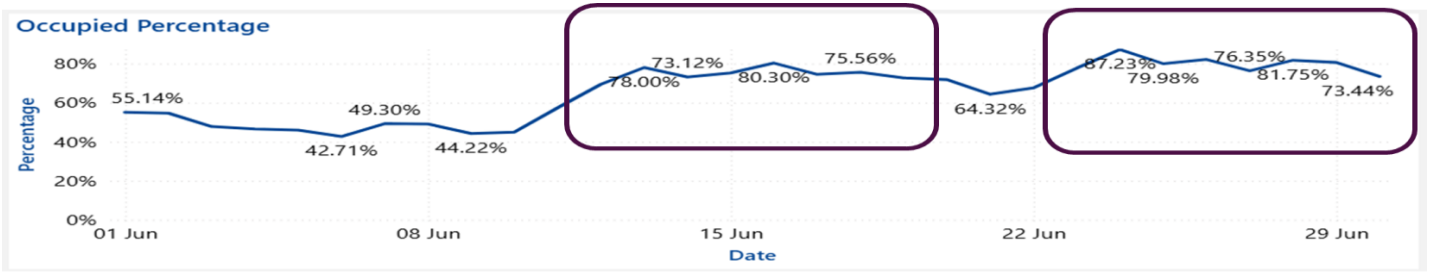




GMPH – Improved by 12% from 22.3 (May 2024) to 24.7 (June 2025)



export



import

Additional Customer Results