

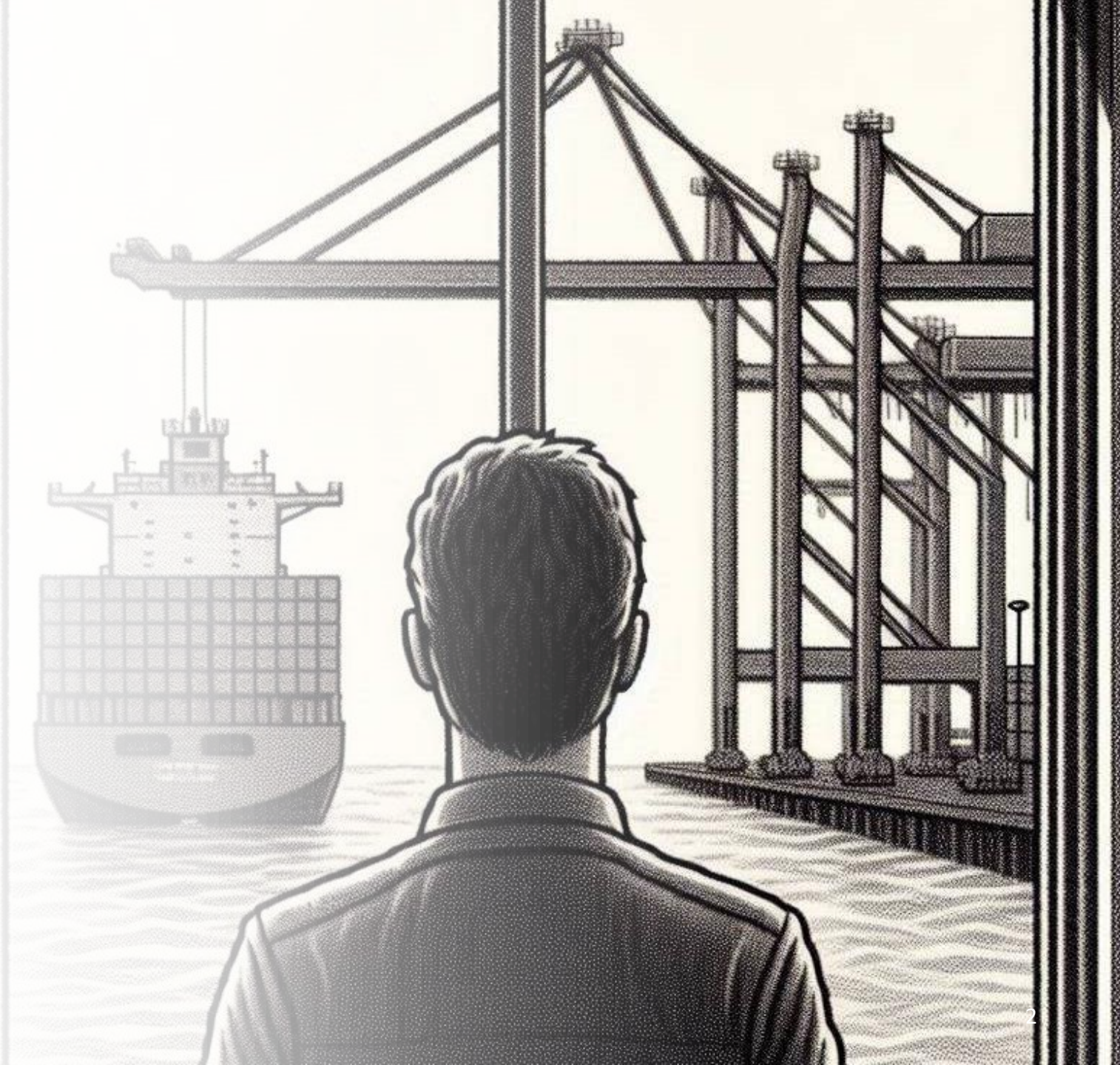
# Leveraging Data at Terminals to augment Human Intelligence

TOC Americas 2024



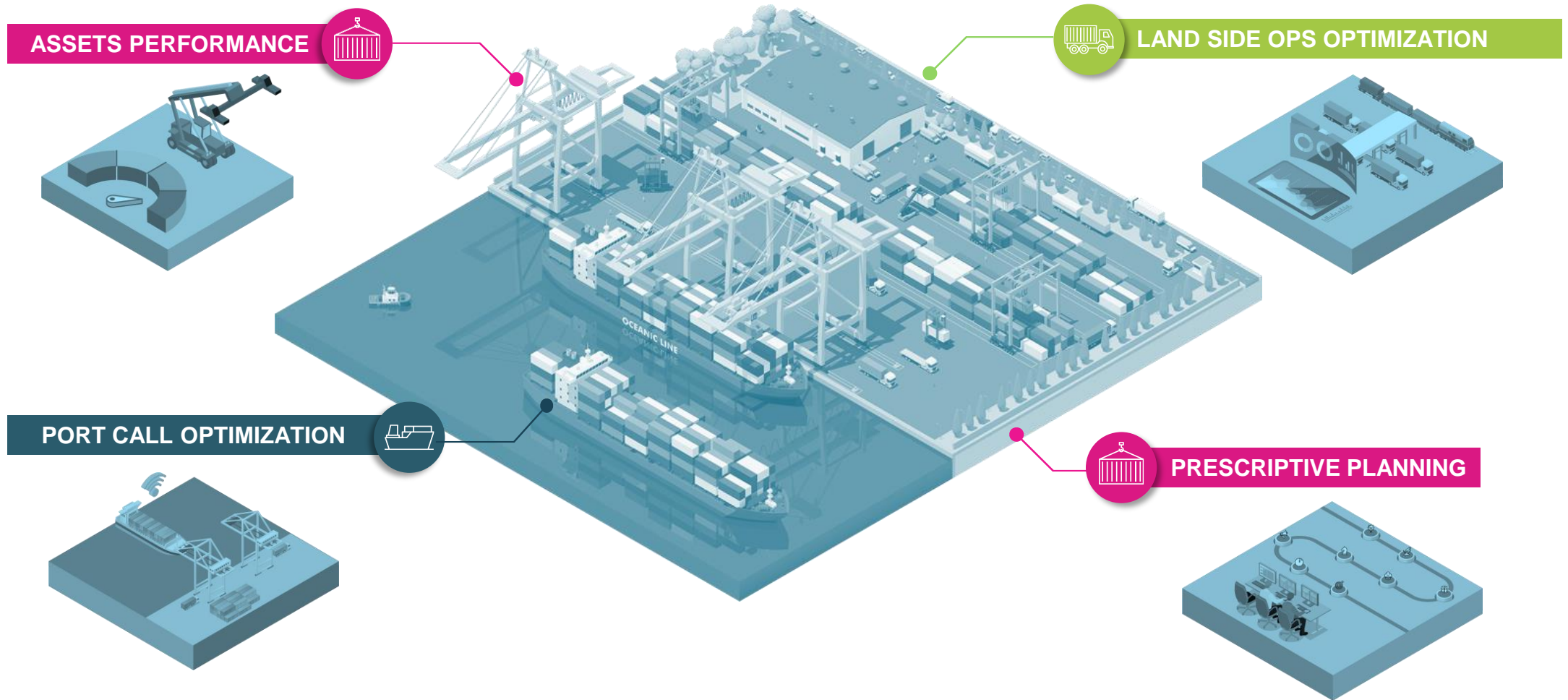


# The Digital Twin; a tool, not just the goal



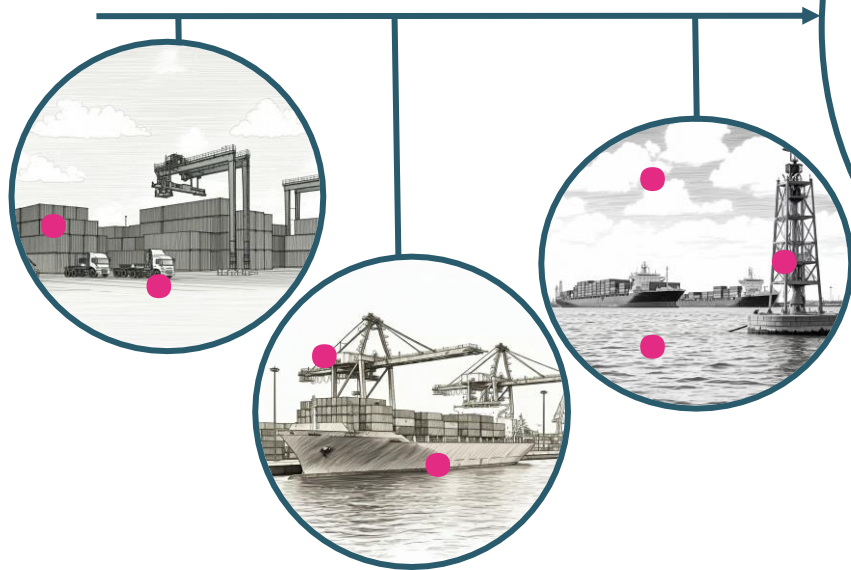


# NextPort Key Focus Areas



# The NextPort Data platform

Ingest from multiple data  
sources  
(TOS, IoT, Meteo, PMS...)



## Data Platform

- ✓ Data Ingestion
- ✓ Data Standardization
- ✓ Data Combination & Augmentation
- ✓ Data Securitization

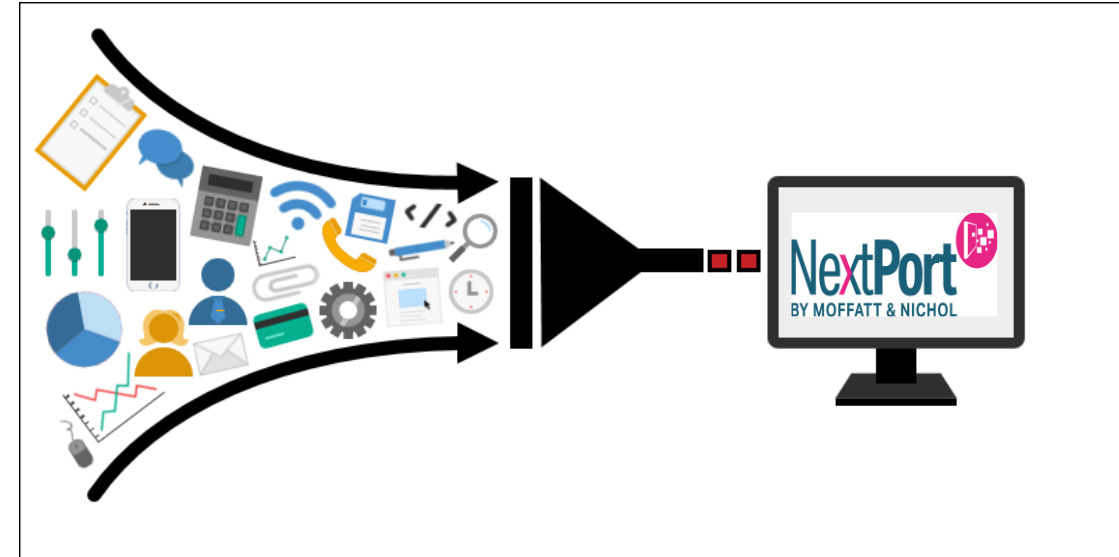


Present and Future data applications  
(**data-driven** decision making, **AI services**)

# Data Integration

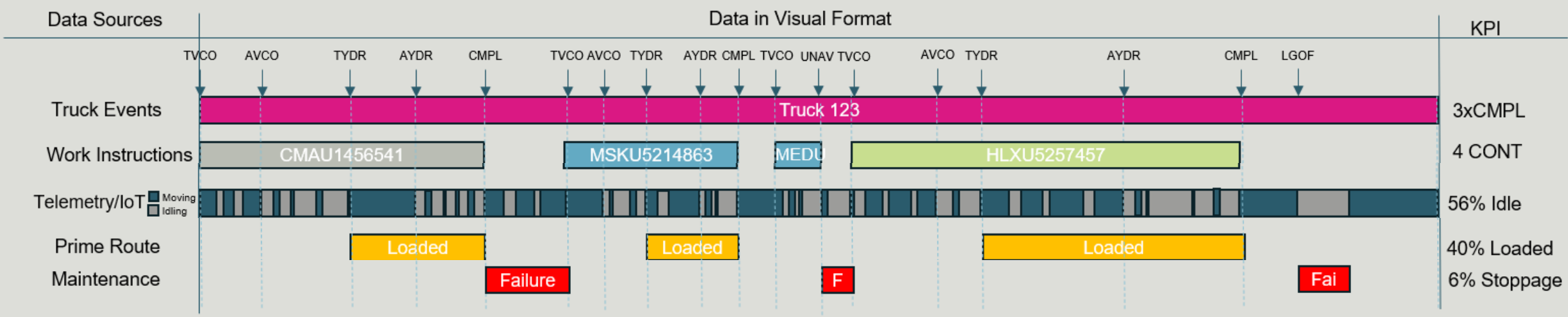
› Makes sense of Data is not trivial:

- A. Data Extraction** - Extract the historical data available that fulfill our Data Catalog.
- B. Data Normalization** - transform its data to a standard **TIC / DCSA** as input to our platform, with the ability to reingest it to Customer.
- C. Data Connection** - Connect live data (e.g. TOS or IOT) in a non-intrusive mode and send it to our cloud.



# The JobStepping & DataFusion

Data Sources are siloed and with different versions of the reality



NextPort combine all data sources in a single source of truth with all the data available



- CMAU1456541
- Idle 30% - 2 slots
- Distance = 320m
- Speed = 35Km/h
- User = 4512
- Stoppage = 0% - 0 Failures



# Digital Twin is the **Data** and its utilization

Visual Experience



Operational  
Visual Management

Alarms Center



Process  
Orchestration

Data-driven Decision-making



Data  
Analytics



dcso



Data Optimization Platform





# Operational Visual Management



## Simplification

Simplified and visual user experience augments human decision-making.



## Continuous Analysis

Seamless integration with troubleshooting and continuous improvements.



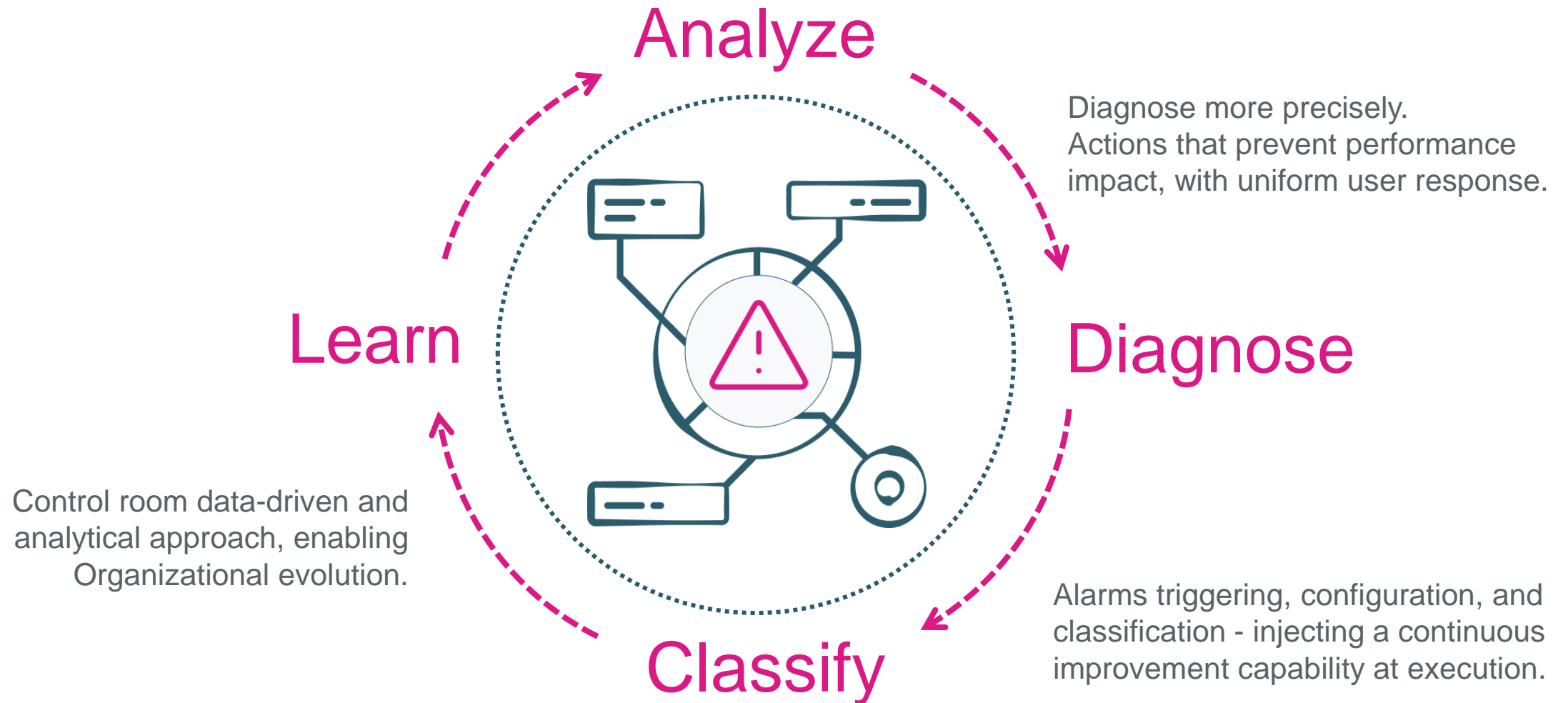
## Augmentation

Enriched data foundation for decision-making - more complete and precise context and visual experience.





# Process Orchestration



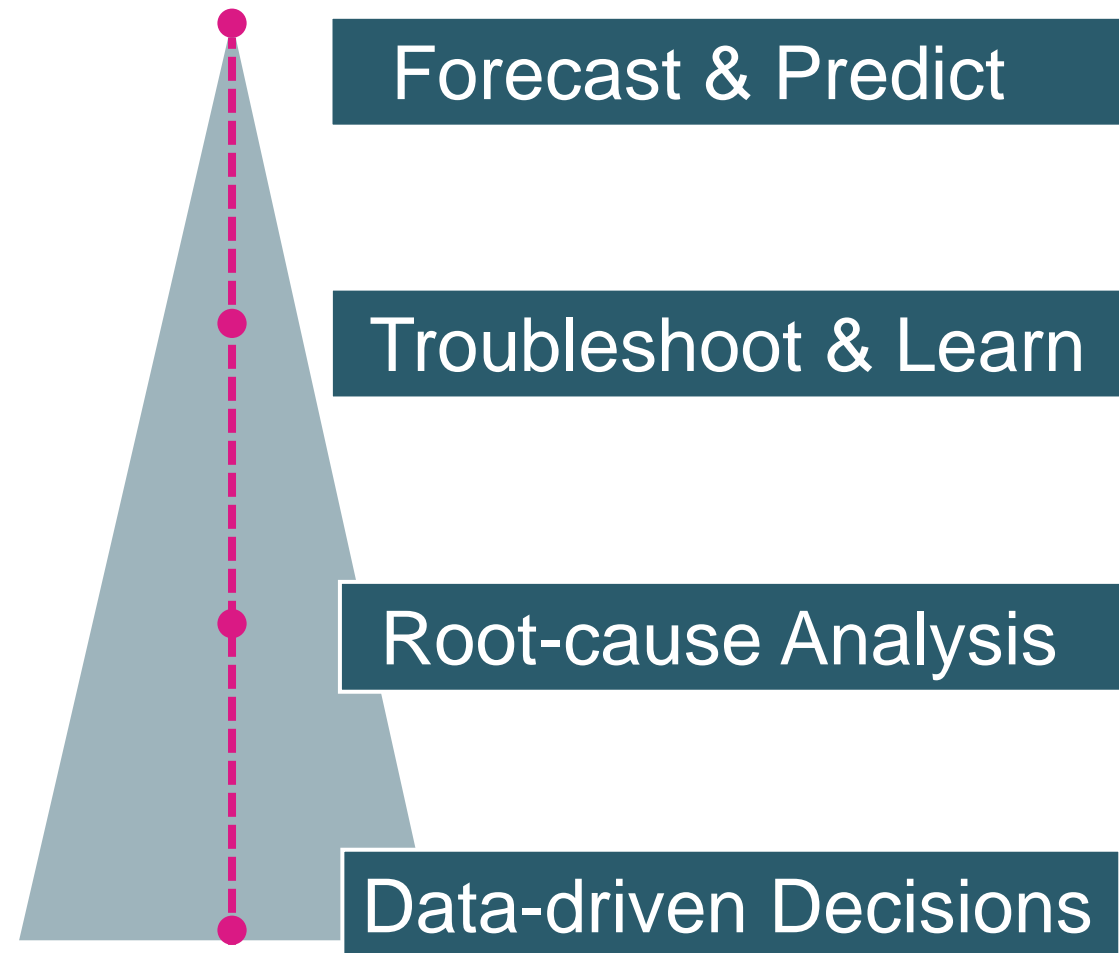
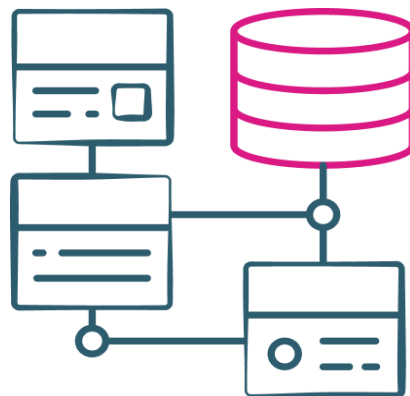


# Data Analytics

Cross-domain data analytics & forecasting, serving both planning and execution.

Deep analysis of troubleshooting and user behavior to improve exceptions handling and contingency management.

Clearly identify efficiency opportunities, including energy usage and emissions.



# Takeaways and conclusions

**Transform and enable Data** is key to establish the Digital Core Foundation that will make Automation and Optimization effective.

**Standardization** is a crucial prerequisite for integrating big data in container terminals

**Data fusion** streamlines the integration of planning and execution by allowing for the creation of digital process replicas using status registers

DigitalTwin as the Data and its usage to transform decision-making, and **AI augments Human Practice** to troubleshoot and to optimize.



# Thanks

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