TOC EUROPE

Rotterdam, 11th – 13th June 2024

“Human Potential and limitations of artificial intelligence applications in container logistics ”

An analysis of the risks and benefits that the application, in marine terminals and in the container logistics chain in general, the most advanced techniques of today's information technology could bring

Prof. Giambattista Ravano
DSP Chairman

12th June 2024 – 13:30 pm

Part 01

Meet DSP

Who we are

DSP DSP LAB DSP TALUMIS DSP AMERICA

4 Business Entities

380+ Projects completed worldwide

50+ Industry Experts

14+ Languages

38+ Years in the shipping and port industry

20+ Navis Certified consultants

24/7 Global help desk and support services

+40% DSP Products Installation in 2023

DSP is compliant with ISO 27001-2022 certification to grant Information security, cybersecurity, and privacy protection to its customers

Our core business

TOS CONSULTING

DSP team supports the Terminal Operations in all the phases of the Terminal Operating System implementation, optimization, support and training.

BUSINESS INTELLIGENCE

Product: DATAVIEW

DATAVIEW is a DSP product. It's a Business Intelligence solution for your terminal showing you any data everywhere in one view.

DIGITAL TWIN

Product: GEMINI

GEMINI is a Digital Twin solution. GEMINI is a platform, bespoke on the characteristics of every single terminal organization, able to mirror decisions, strategies and show workers practice during real operations.

SYSTEM INTEGRATOR

DSP is a System Integrator Company with a well-established network specialized in connecting specific solutions to address individual cases.

Part 02

Potential and limitations of AI applications in container logistics

COMPUTER vs HUMAN BRAIN: Yes <> No

FASTER

LONGER

BIGGER

VS

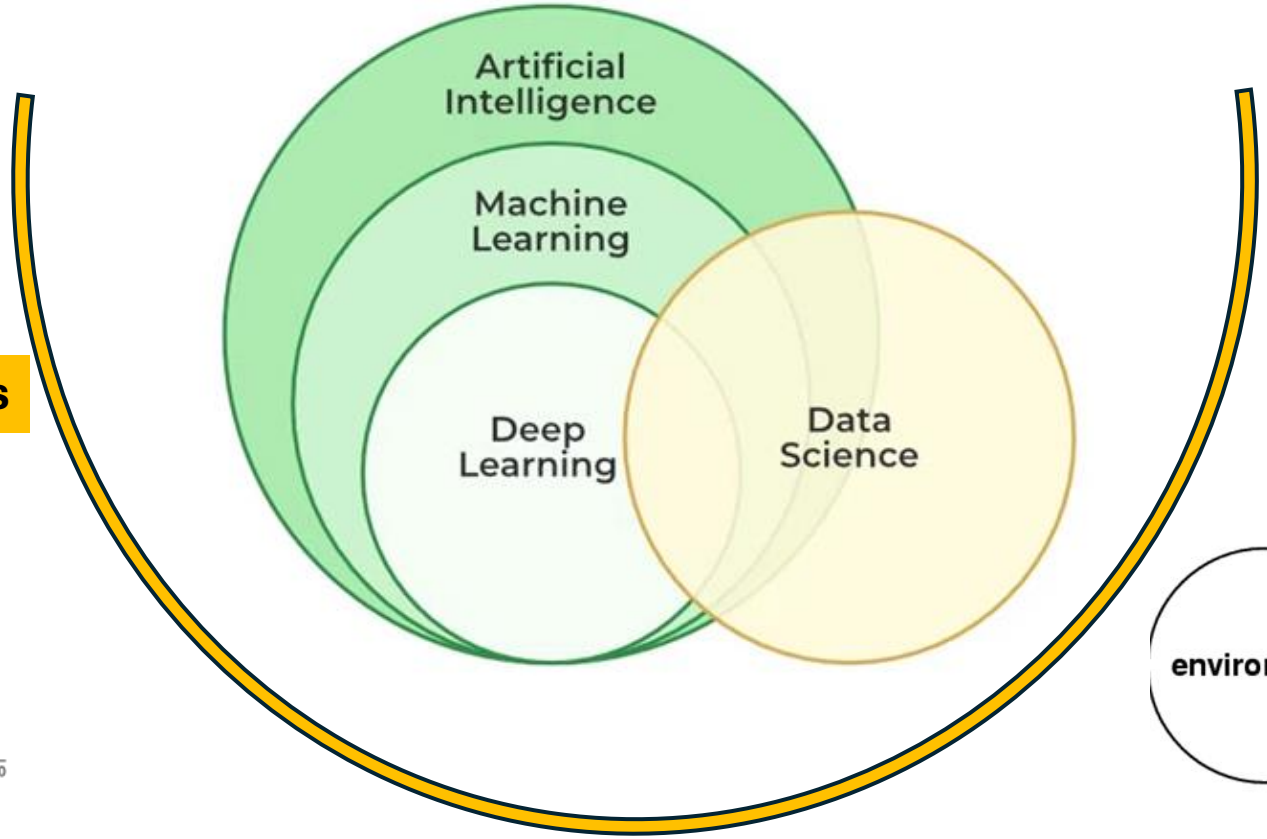
UNCERTAINTY WITHOUT DATA

NEURO PLASTICITY

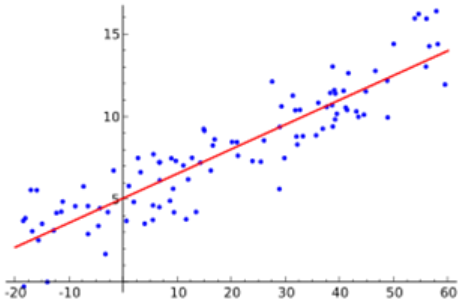
EMOTIONS, ...

New Technologies? Be aware of the right use (or misuse)

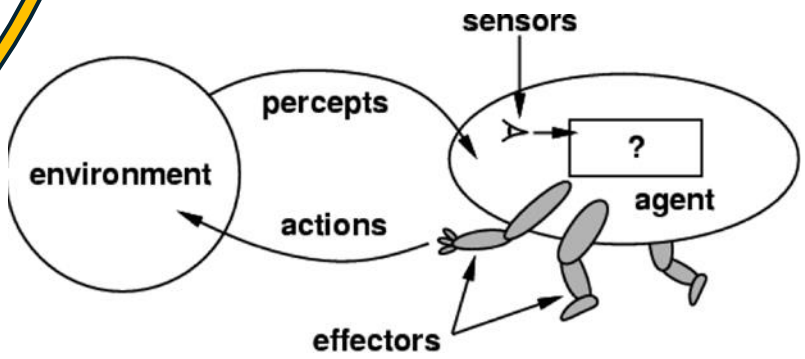
AI Technologies for Terminal Solutions



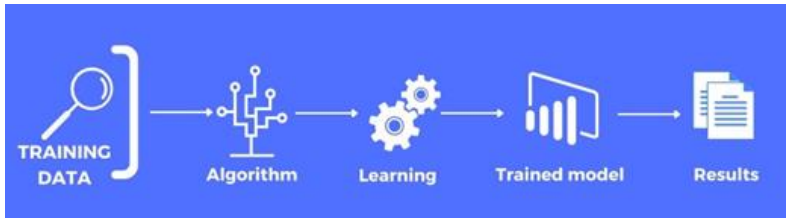
Mathematical Statistics



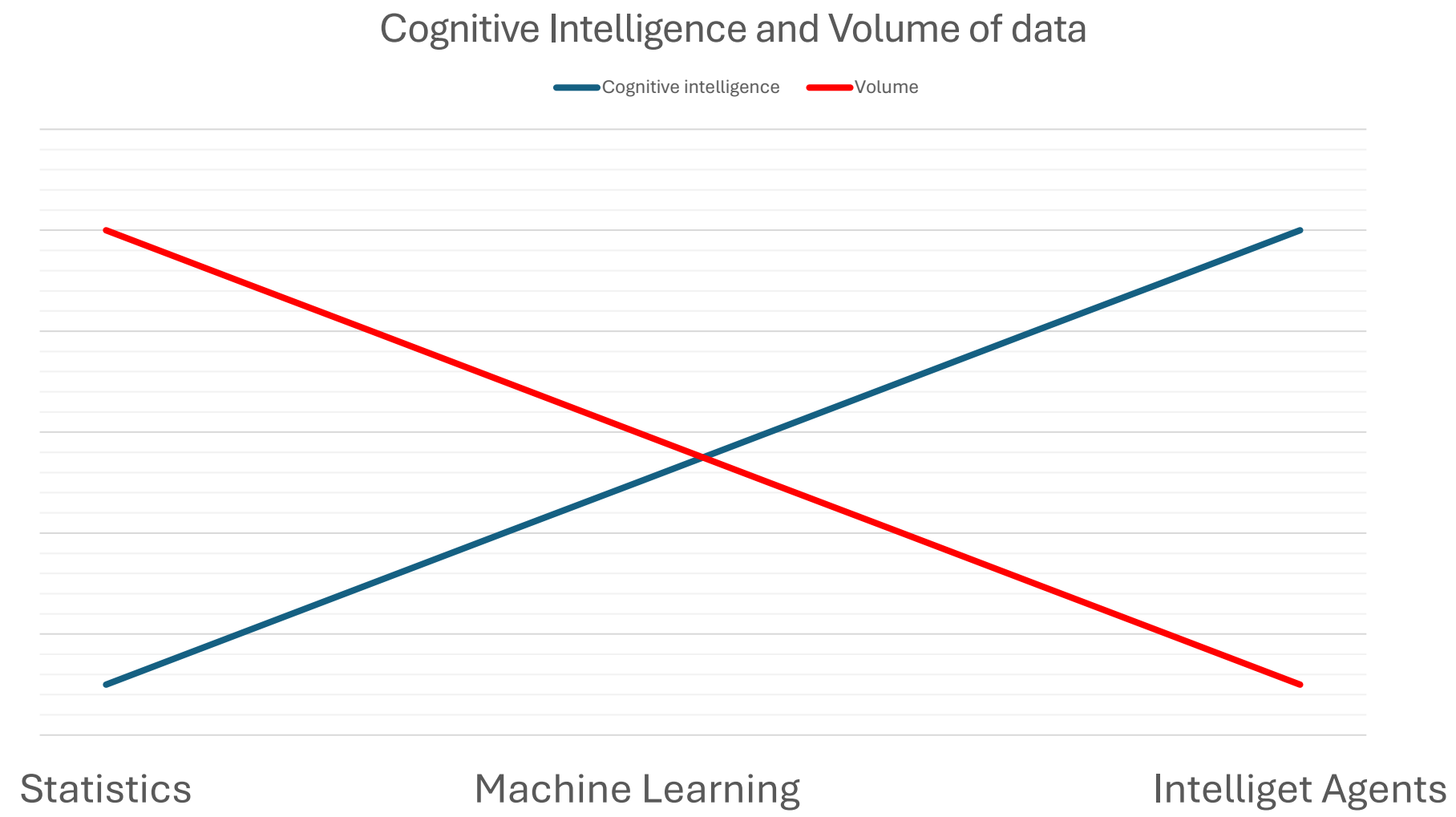
Intelligent Agents



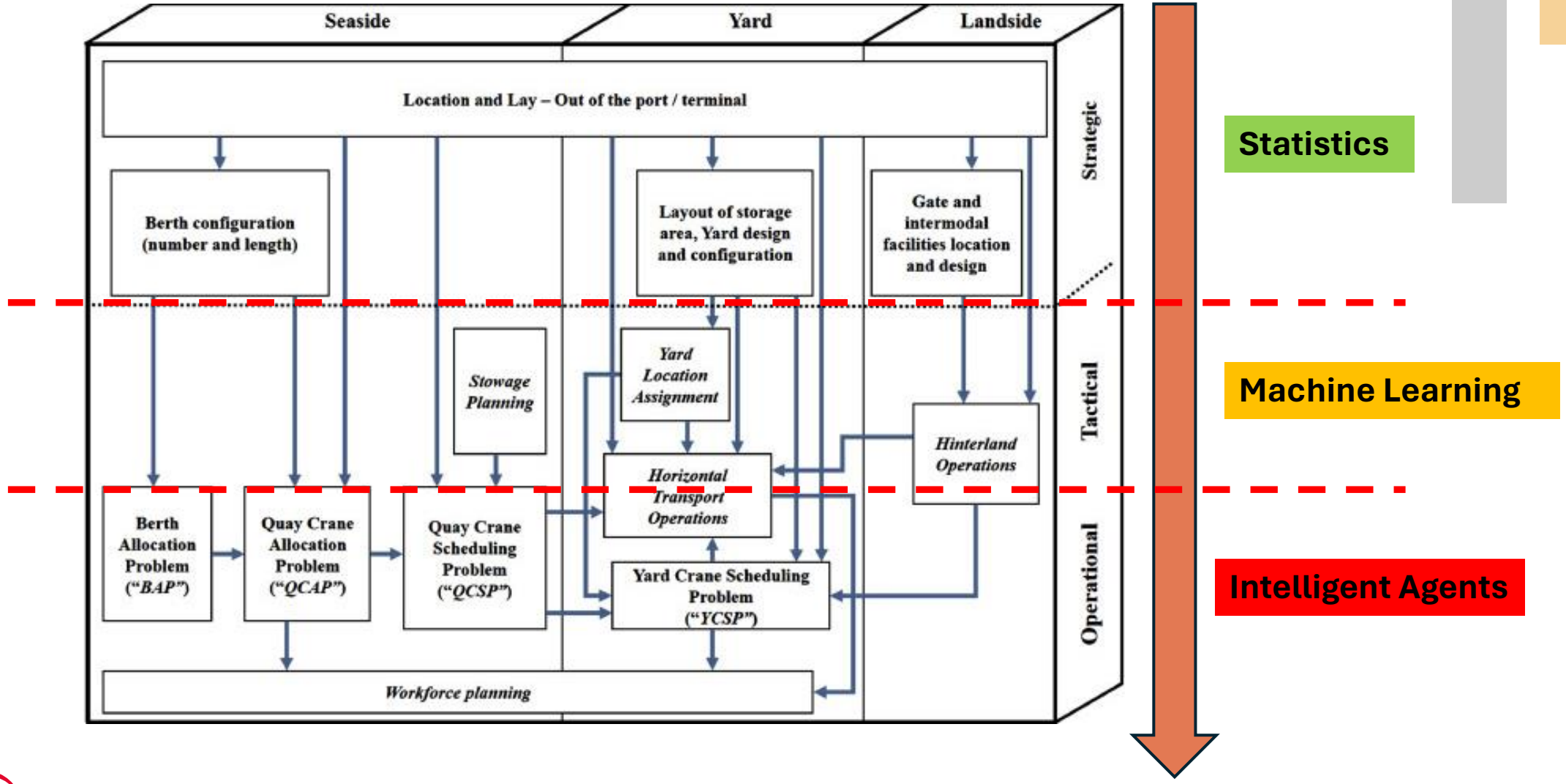
Machine and deep learning



Technology according to the type of problem



Problem Classification in the Container Terminal



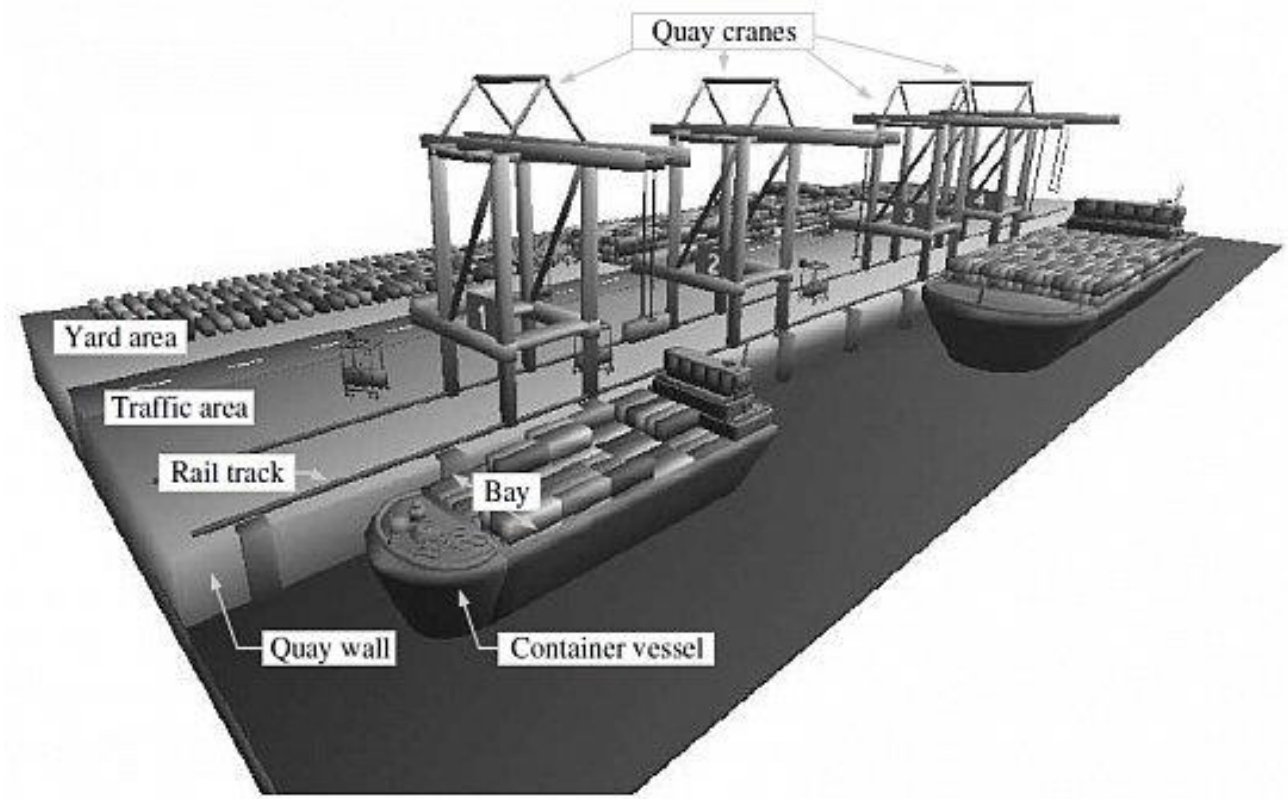
Location and Layout of the Terminal

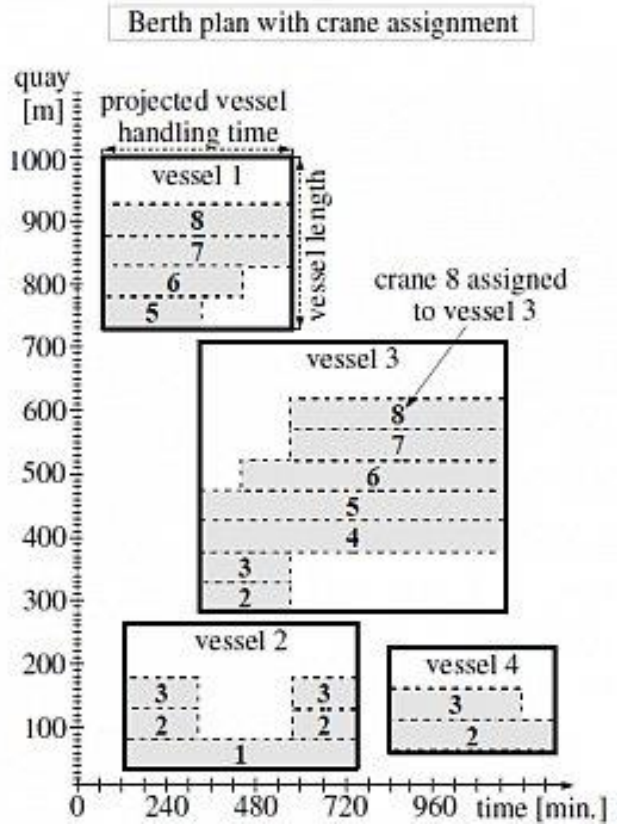
Modeled from statistical data

Berth Allocation (operational planning)

MACHINE LEARNING and HISTORICAL DATA

Simulation / Statistical Approach / Expert Systems





Horizontal vehicle dispatching and routing

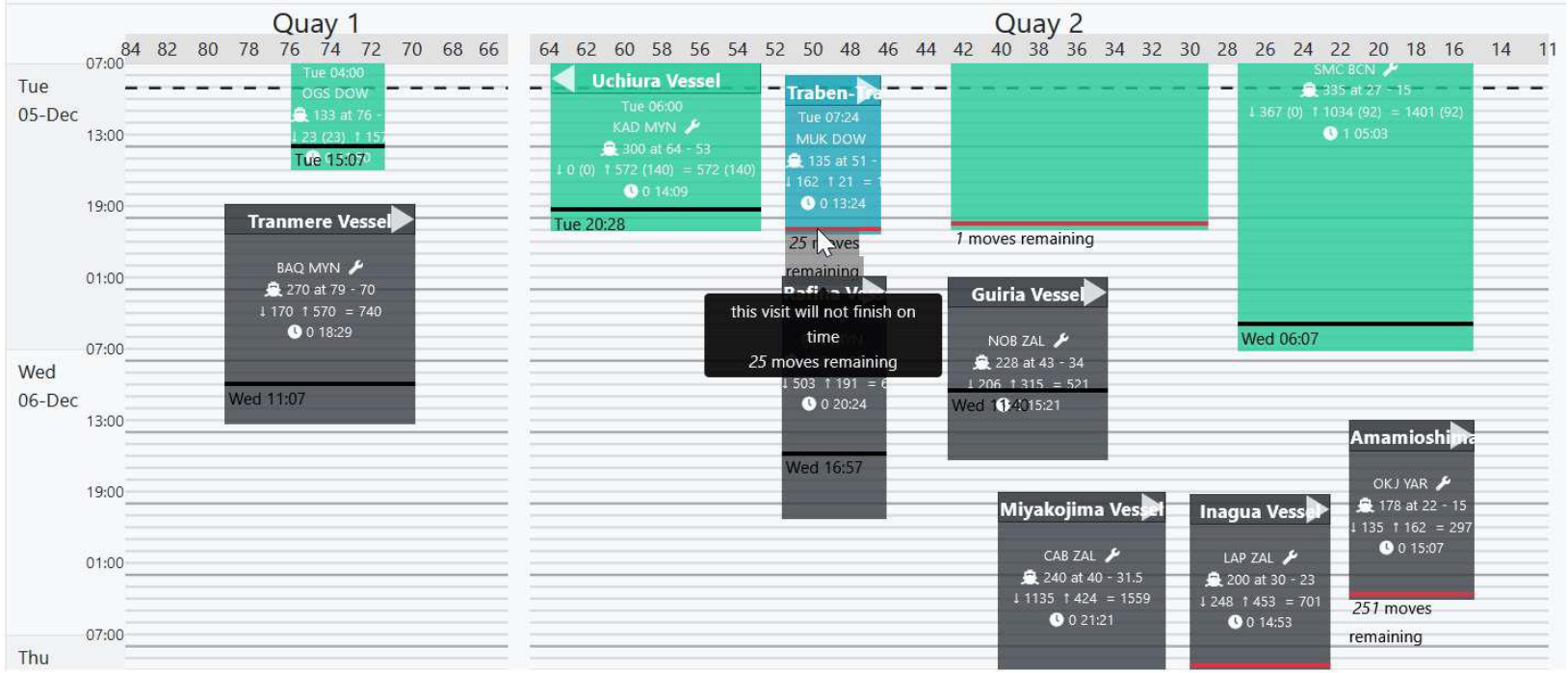
MACHINE LEARNING on UTILITY BASED AGENTS

Berth Schedule

MACHINE LEARNING from STATISTICAL APPROACH

A user can set the start/end of possible delays, change the berth position, the splits by 20’ 40’ full empty and many other settings on the vessel visit.

This allows a user to test possible “what if scenarios”.



GEMINIs predictive analysis will evaluate the new input accordingly and estimate the impact on operations in moves per hour and utilized resources.

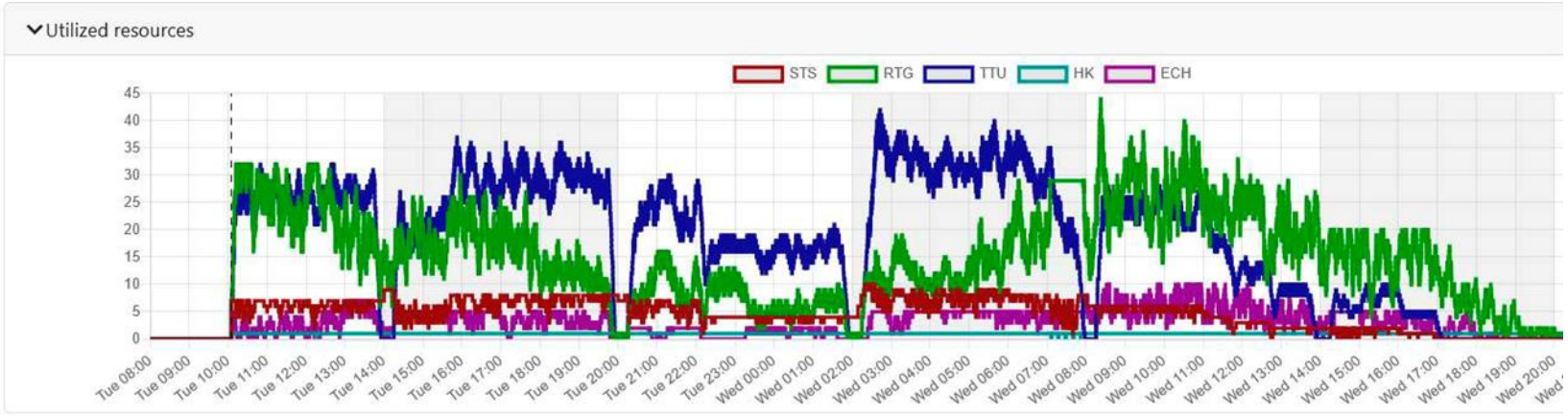
Terminal Resource Planning (and STS Scheduler)

MACHINE LEARNING from STATISTICAL APPROACH

This module is designed for the optimization of equipment, resources, and labor planning, improving visibility, and the planning of the equipment resource.

The users will see the impact on overall productivity using the “what if scenario”.

For example, in a case where a user reduces one RTG or truck, GEMINI AIR will show the impact on overall productivity.



Thank you!

WWW.DSP.TEAM