

RBS & TOPX Intelligent 3D

A revolutionary product for the logistics industry



Realtime Business Solutions

RBS is an Australian owned company with its headquarters residing in Sydney and multiple local offices worldwide:

- EMEA
- Indonesia
- Americas
- Vietnam
- Malaysia



RBS Global Achievements



(Past and Current)



EUROPE

GERMANY

- Hof, Germany
- Hamburg, Germany (2 x terminals)
- Osnabruck, Germany

CYPRESS

- Limassol, Cypress

FRANCE

- Marseille, France
- Le Havre, France

ROMANIA

- Constanza, Romania

LITHUANIA

- Klaipeda, Lithuania

ITALY

- Taranto, Italy

AFRICA

TOGO

- Lomé, Togo

EGYPT

- Cairo, Egypt
- Damietta, Egypt

MORROCCO

- Tangier, Morocco

AMERICA

BRAZIL

- Santos, Brazil

PANAMA

- Colon, Panama

AUSTRALIA

- Australia-wide (5 x terminals)

ASIA

JAPAN

- Yokohama, Japan
- Tokyo, Japan

TAIWAN

- Taichung, Taiwan (2 x terminals)
- Kaohsiung, Taiwan (3 x terminals)

INDONESIA

- Kuala Tanjung, Indonesia
- Semarang, Indonesia
- Teluk Lamong, Indonesia
- Surabaya, Indonesia
- Medan, Indonesia

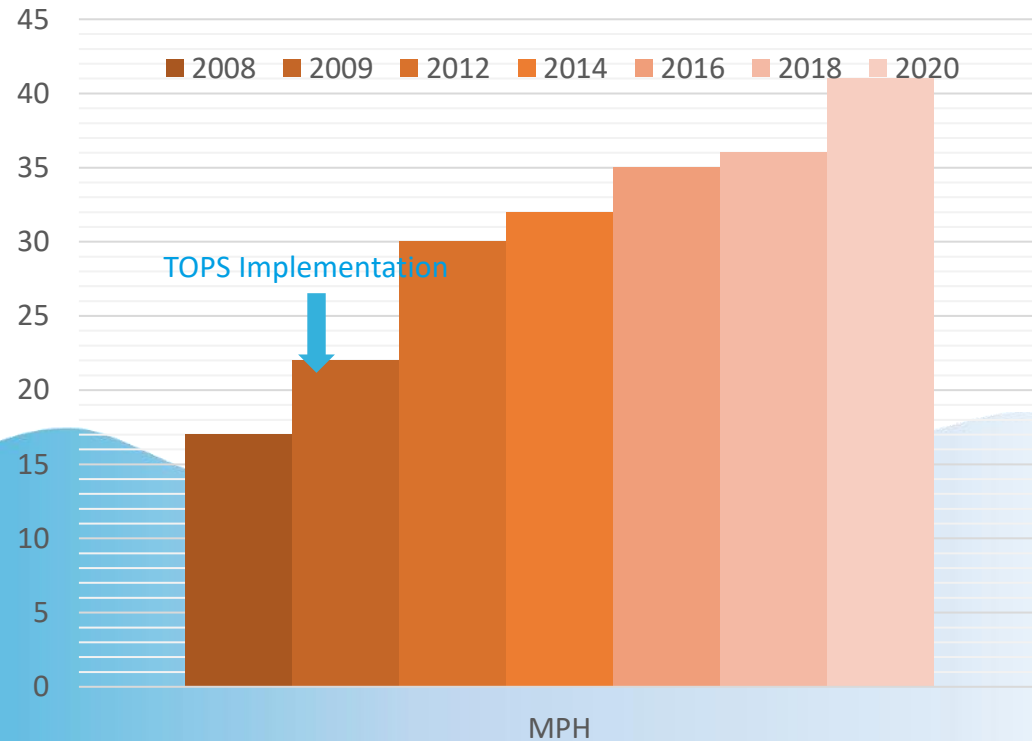
VIETNAM

- Cai Mep, Vietnam (3 x terminals)
- Ho Chi Minh City, Vietnam (3 x terminals)
- Hai Phong, Vietnam

RBS TOPS Case Study

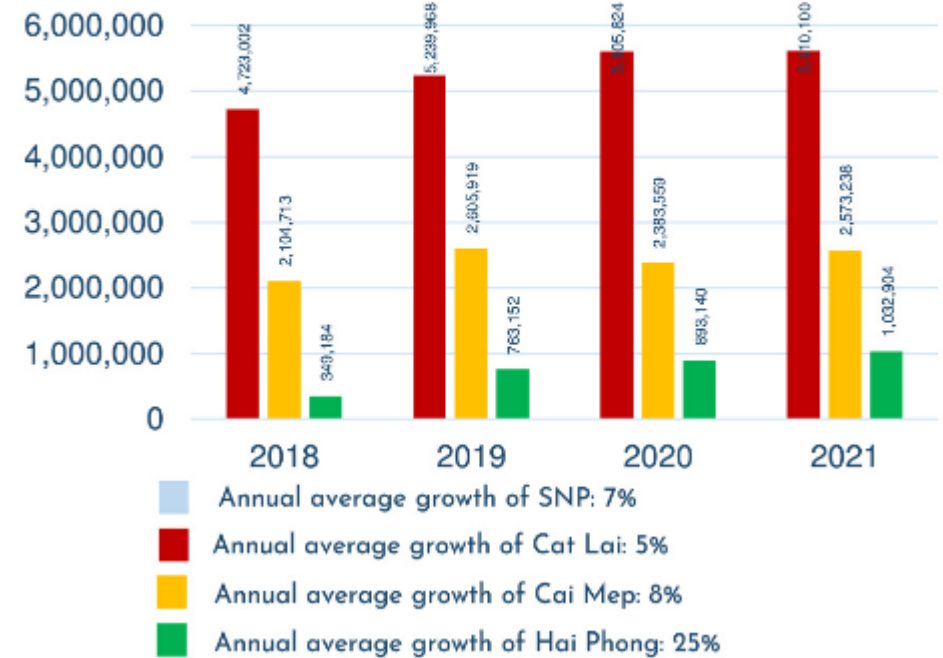
Saigon New Port

SNP – PRODUCTIVITY



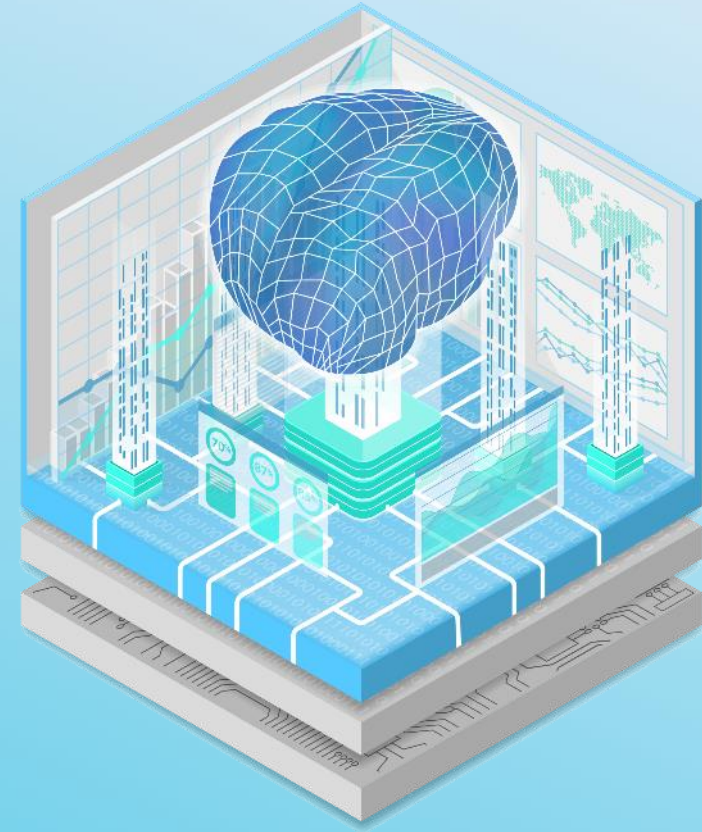
Container Throughput (excluding barging service)

Ranked No. 1 in Vietnam and 19th of the World



TOPS was implemented in 2008 at 1.6 Mil TEUs

TOPS Intelligent



THE POWER OF AI AND ML IN RBS TOS

What is a Digital Twin?

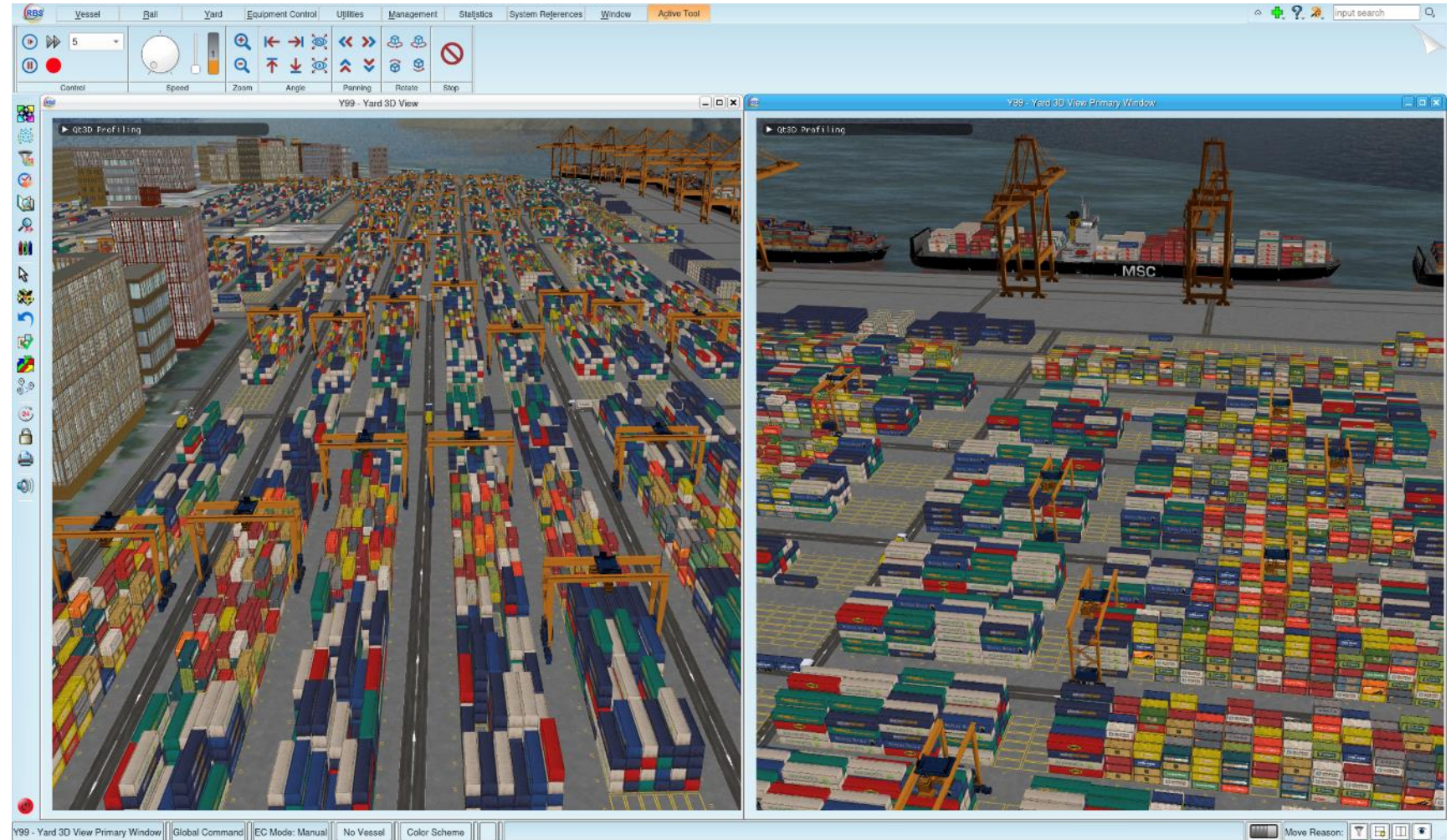
A 3D digital simulation of a port terminal. The scene is filled with rows of colorful shipping containers (blue, green, red, white) stacked in neat piles. Yellow gantry cranes are positioned over the stacks, ready for loading or unloading. In the background, there are modern buildings and a clear sky. The overall image has a slightly hazy, digital aesthetic.

- Digital twin is “a digital representation of a physical object, person, or process, contextualized in a digital version of its environment.”
- Digital twins are immensely useful for learning about a terminal and its landscape
- Moreover, it offers unprecedented visibility and control over the operations of a terminal

What is TOPX Intelligent 3D?



- TOPX Intelligent 3D is much more than just an average digital twin.
- TOPX Intelligent 3D combines the digital twin concept with actual operational and executional features to bring vast & unique benefits to terminals.
- TOPX Intelligent 3D also has Super Intelligent capabilities which allow it to predict and resolve incoming problems.
- Hence, it becomes a tool to optimize, perfect and boost a terminal's performance in completely new ways



Digital Twin VS Modelling

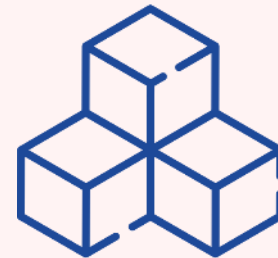
Digital twin

- ✓ Displays real-time data, coordinates, and objects
- ✓ Represents real-time and the current situation
- ✓ Continues to be adaptive to changes in the environment



Modelling

- × Often does not display real-time coordinates and data
- × Represents states at a singular moment
- × Is not adaptive to any changes in the environment

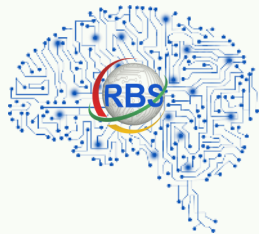


TOPX Intelligent 3D VS Digital Twin

All the advantages of digital twin, and more

TOPX Intelligent 3D

- ✓ Can be used to pre-execute moves and for other operational purposes
- ✓ Has super intelligent capabilities to boost performance, evaluate moves and eliminate inefficiencies
- ✓ Ability to predict and resolve incoming problems
- ✓ Incredibly fast, light and accurate
- ✓ Can run at over 100x the real-time speed



Digital Twin

- × Cannot be used for operational purposes
- × Has NO intelligent features that help with increasing performance or deal with inefficiencies
- × Cannot predict and see incoming problems
- × Often very slow and heavy
- × Can only run at the real-time speed



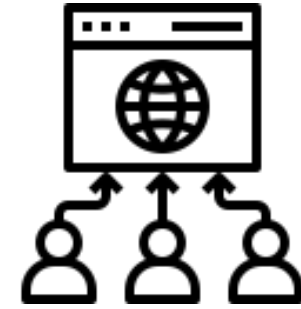
Common problems in a terminal



Congestion and traffic (especially at corners and intersections)



Bottlenecks at blocks as trailers wait for service

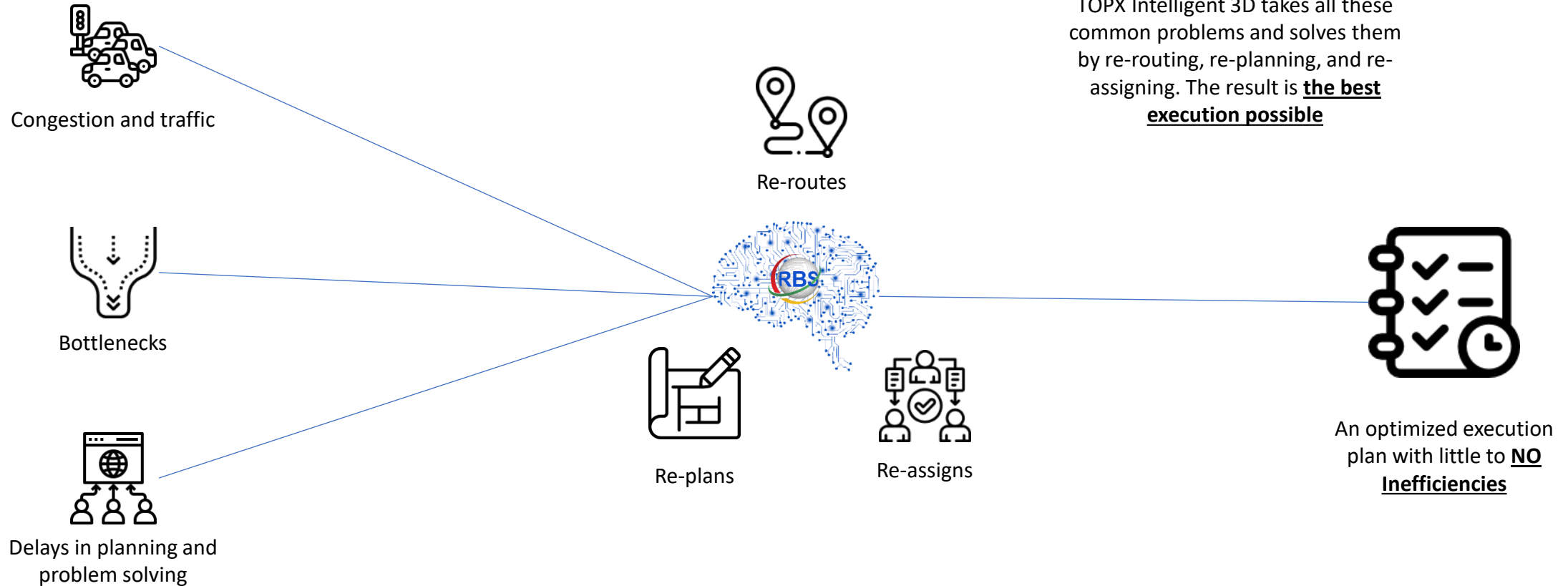


Delays in planning and problem solving



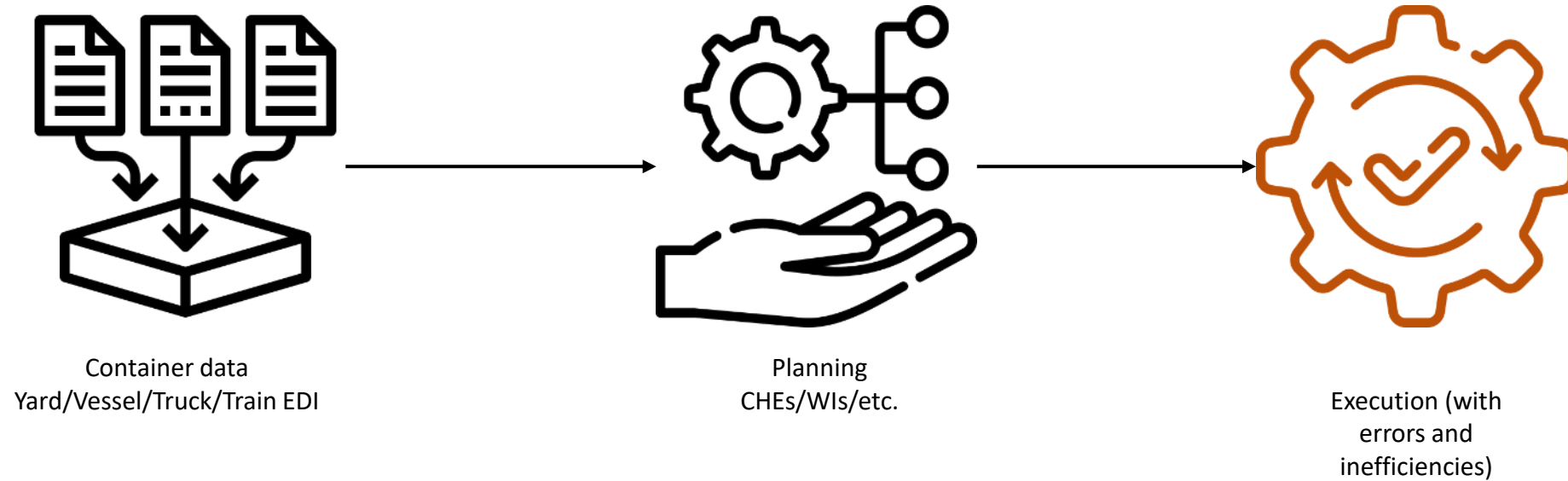
TOPX Intelligent 3D in action

TOPX Intelligent 3D takes all these common problems and solves them by re-routing, re-planning, and re-assigning. The result is **the best execution possible**



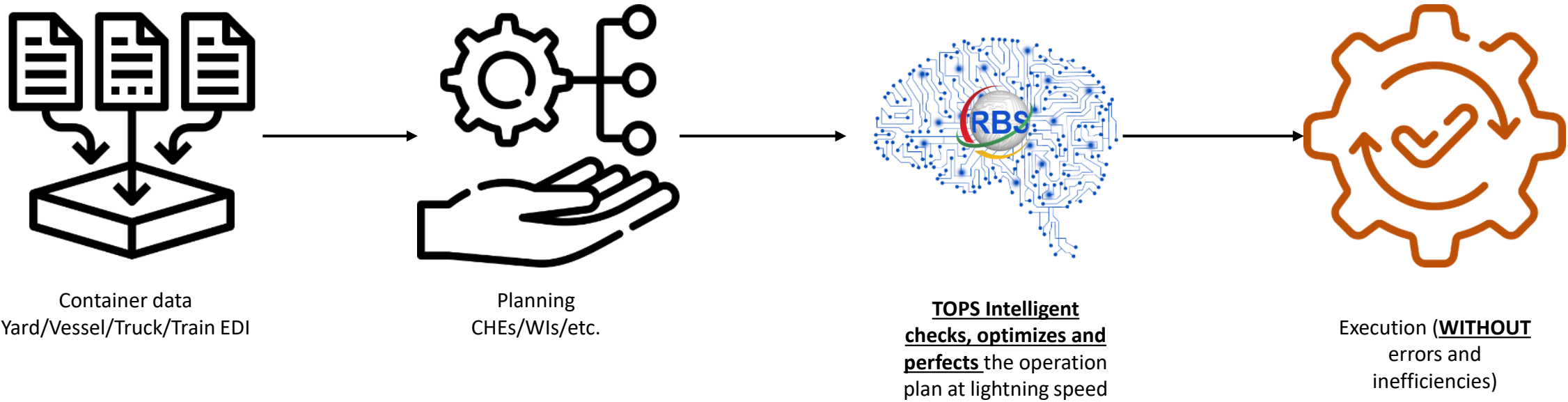
TOPX Intelligent 3D in action

The historical way of operating a terminal



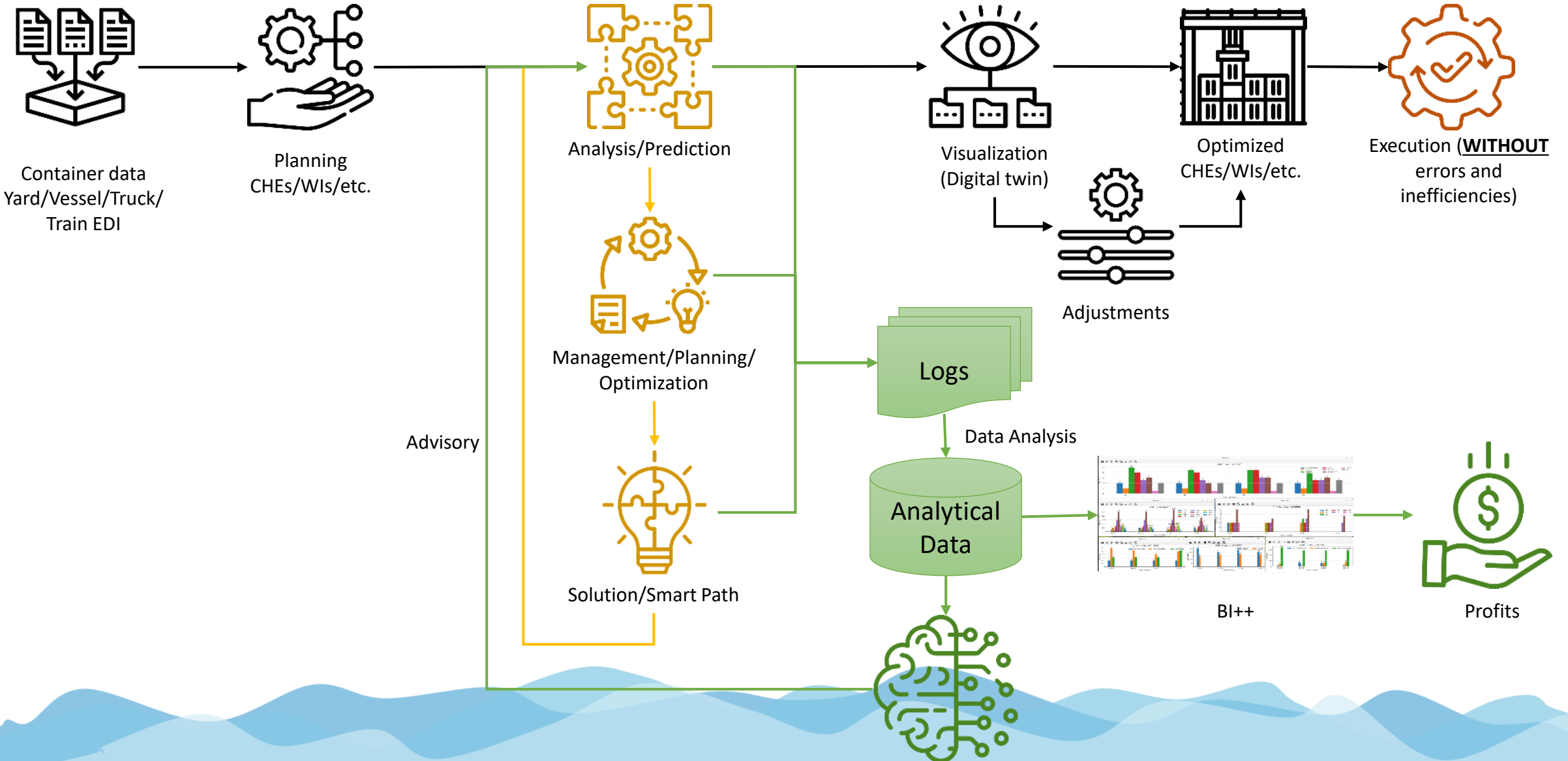
TOPX Intelligent 3D in action

The intelligent way of operating a terminal

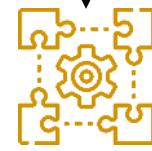


TOPX Intelligent 3D in action

The intelligent way of operating a terminal – with details



TOPX Intelligent 3D Predictive/Preventive scenario



Analysis/Prediction



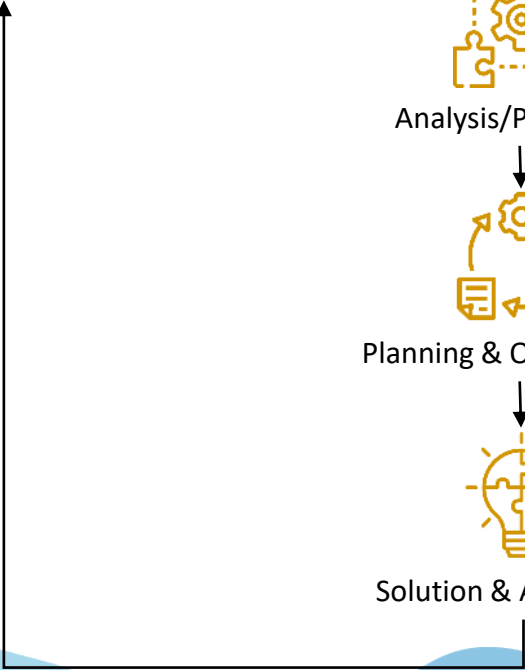
Planning & Optimization



Solution & Assignment

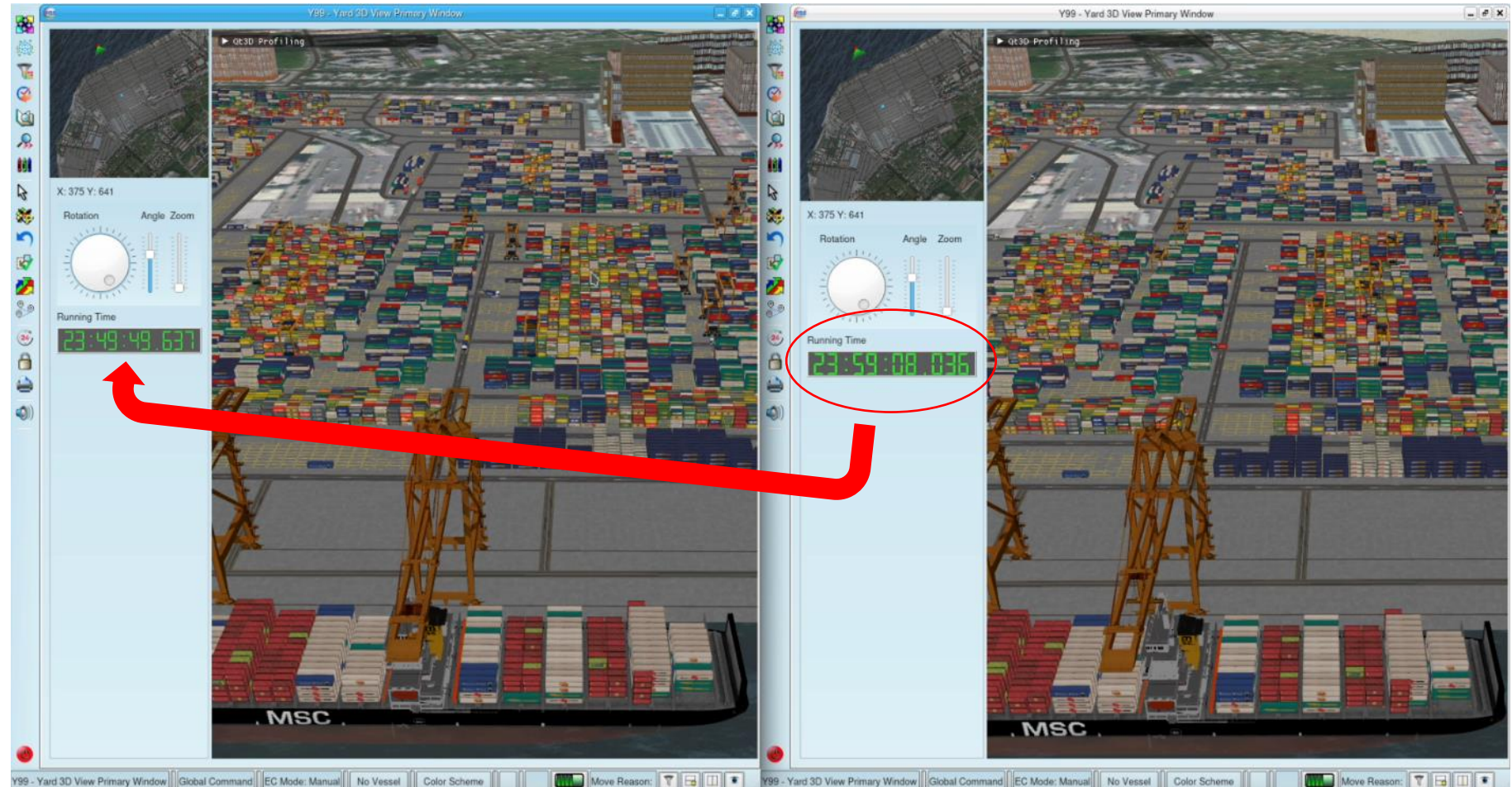
Note: the future time of 10 minutes ahead is given as an example only. TOPX intelligent 3D may look further ahead in time to resolve conflicts.

During execution, TOPX Intelligent 3D is constantly looking ahead to resolve any possible inefficiencies. Furthermore, it is reactive to any changes that may occur. Hence, execution will **ALWAYS** happen in the **most effective way possible**.



Current vs Future

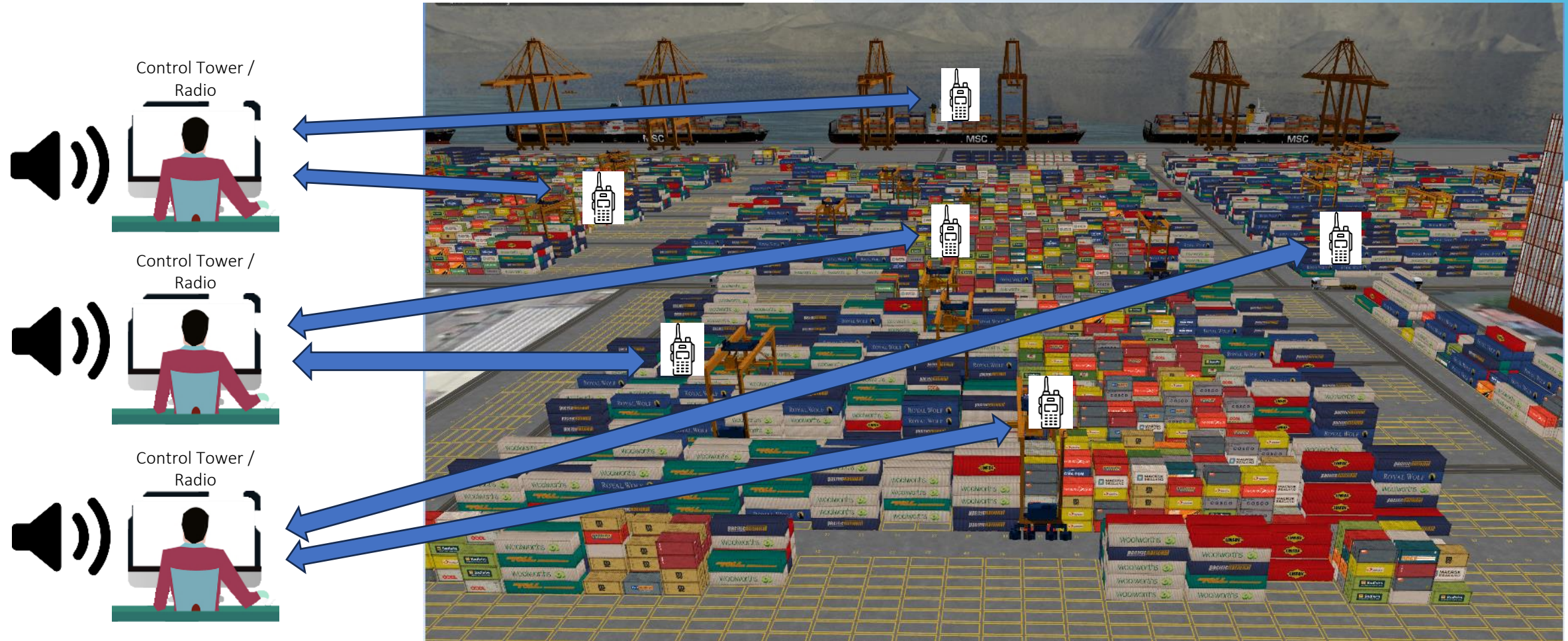
- With the digital twin reality, you can visualize the future execution plan while overseeing your current operations
- This future view, can be played up to 120x faster to see if any inefficiencies will occur
- TOPX Intelligent 3D will help resolve these inefficiencies and create the perfect WIs for real-time operations



Current time

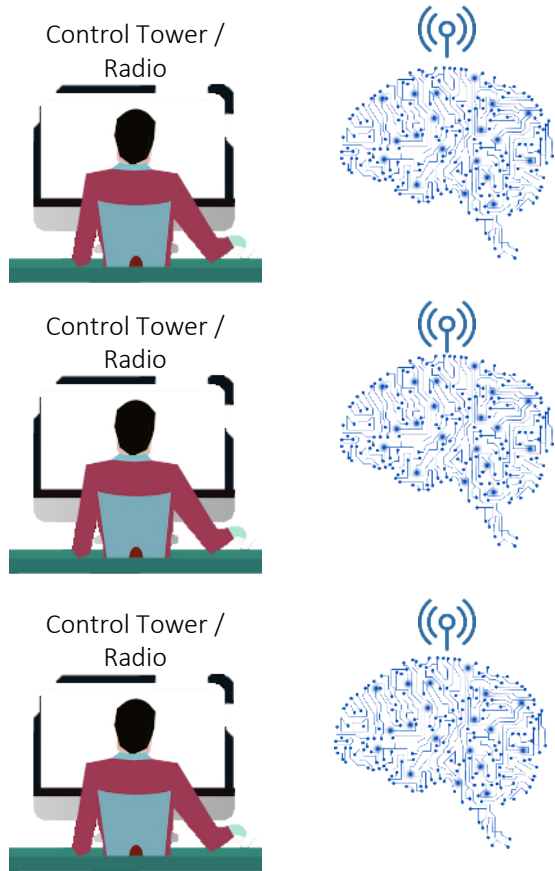
Future time

Without TOPX Intelligent 3D



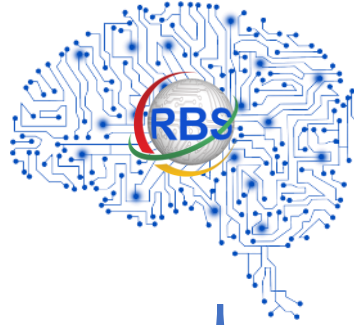
In other TOS systems without TOPX Intelligent 3D, there are often many inefficiencies such as congestions and bottlenecks all across the terminal. This leads to a lot of confusion, noise and delays in the control tower and the yard.

With TOPX Intelligent 3D

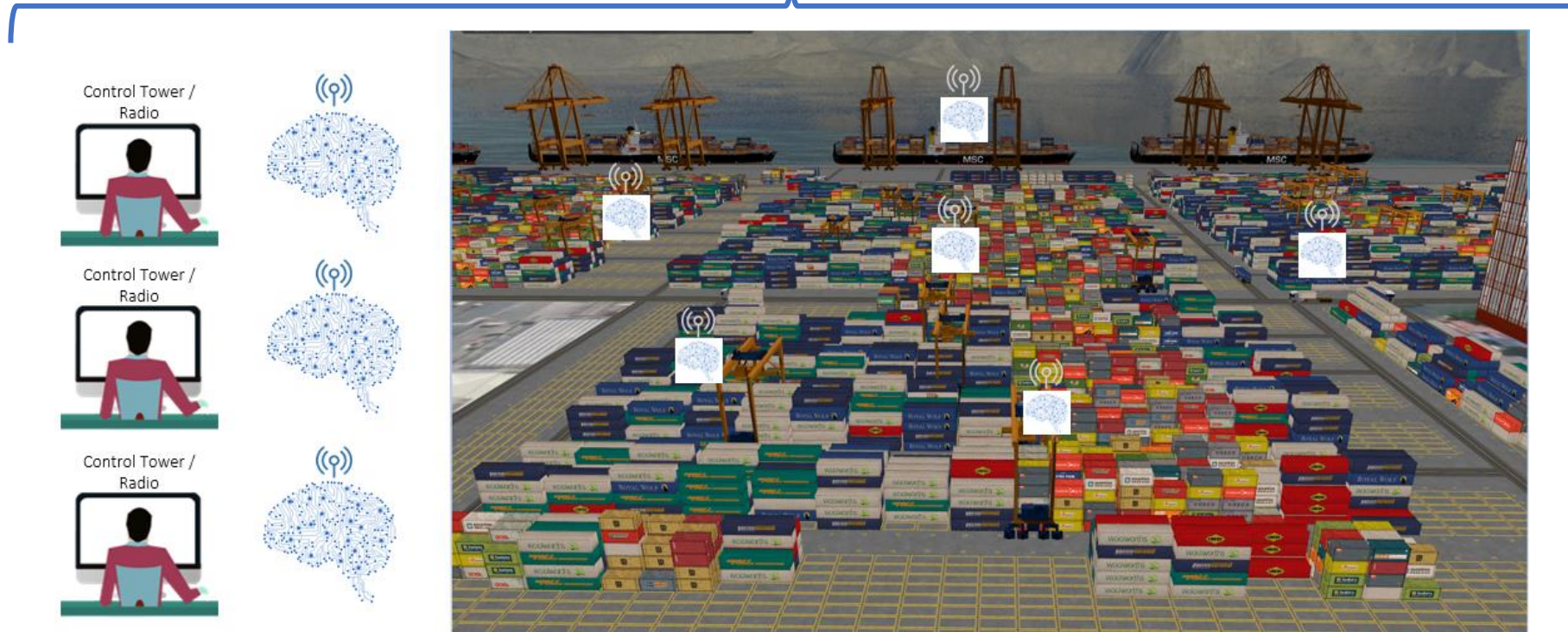


With TOPX Intelligent 3D, all these inefficiencies will be solved and communicated through the system. TOPX Intelligent 3D will think for every trailer, RTG, QC and more. This makes execution much smoother, calmer and simpler for everyone in the terminal.

With TOPX Intelligent 3D



It will also be a predictor and problem solver of future issues to ensure seamless operation for **both manual and automated terminals.**



TOPX Intelligent 3D – Analysis Charts

- With TOPX Intelligent, an analysis chart will be outputted to show where inefficiencies occurred
- With this chart, you can view where and how problems occur in your yard
- It will also show how TOPX Intelligent 3D resolve issues when they occur
- Thus, you can use this information to even further improve the design of your terminal



TOPX Intelligent 3D analysis

OUTCOME:



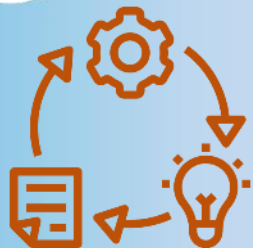
Improved Operational Efficiency



Reduced labor costs



Improved Customer Service



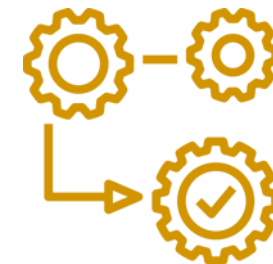
Preventative Measures / Problem Solving



Carbon Friendly



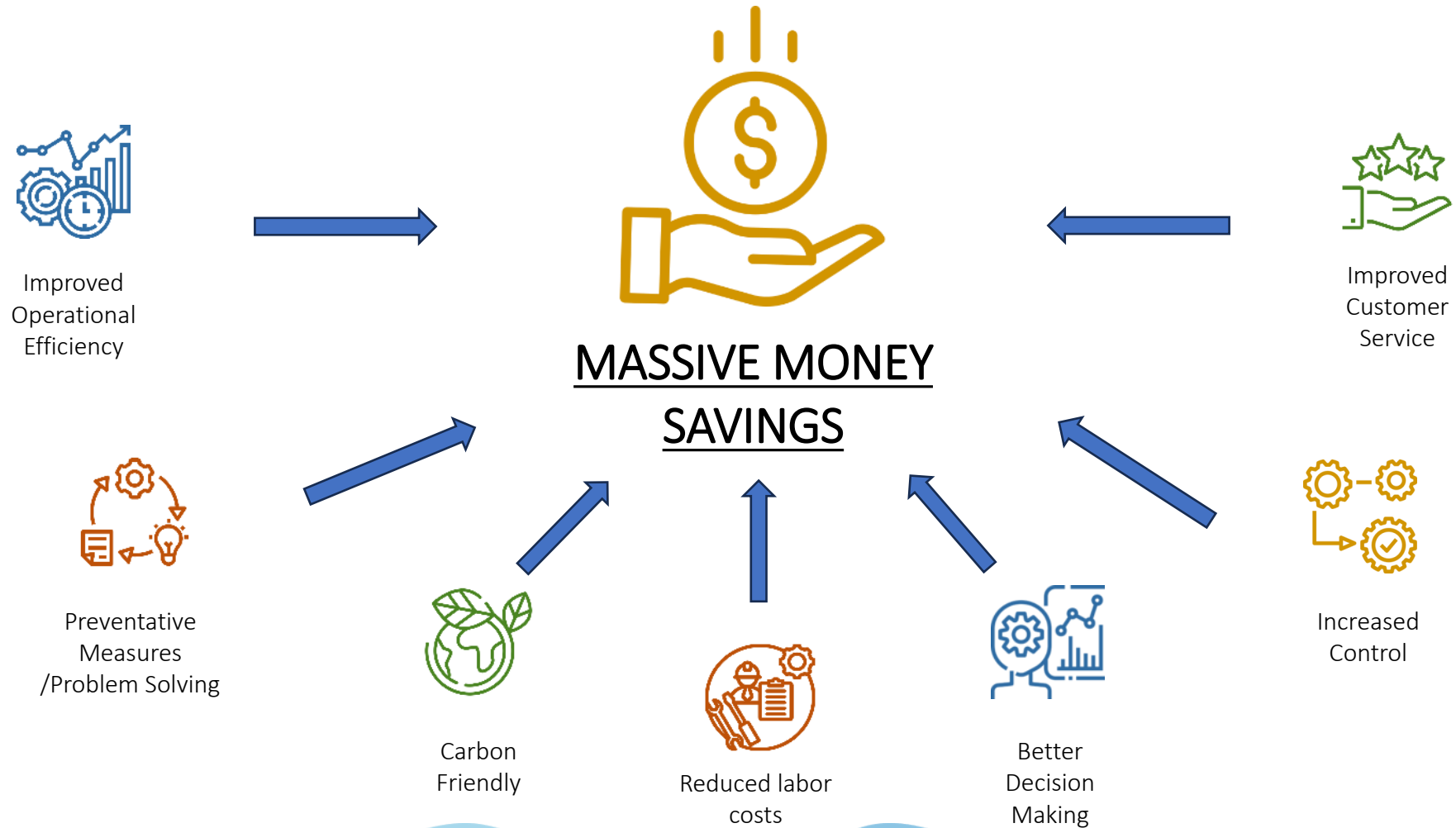
Better Decision Making



Increased Control

And many more benefits...

In the end it does one thing – SAVES YOU MONEY!



TOPX Intelligent 3D Integration



NOW COMPATIBLE WITH ANY TOS

How the base of all TOS works



Foundational TOS system
(similar/equivalent to TOPO Expert)

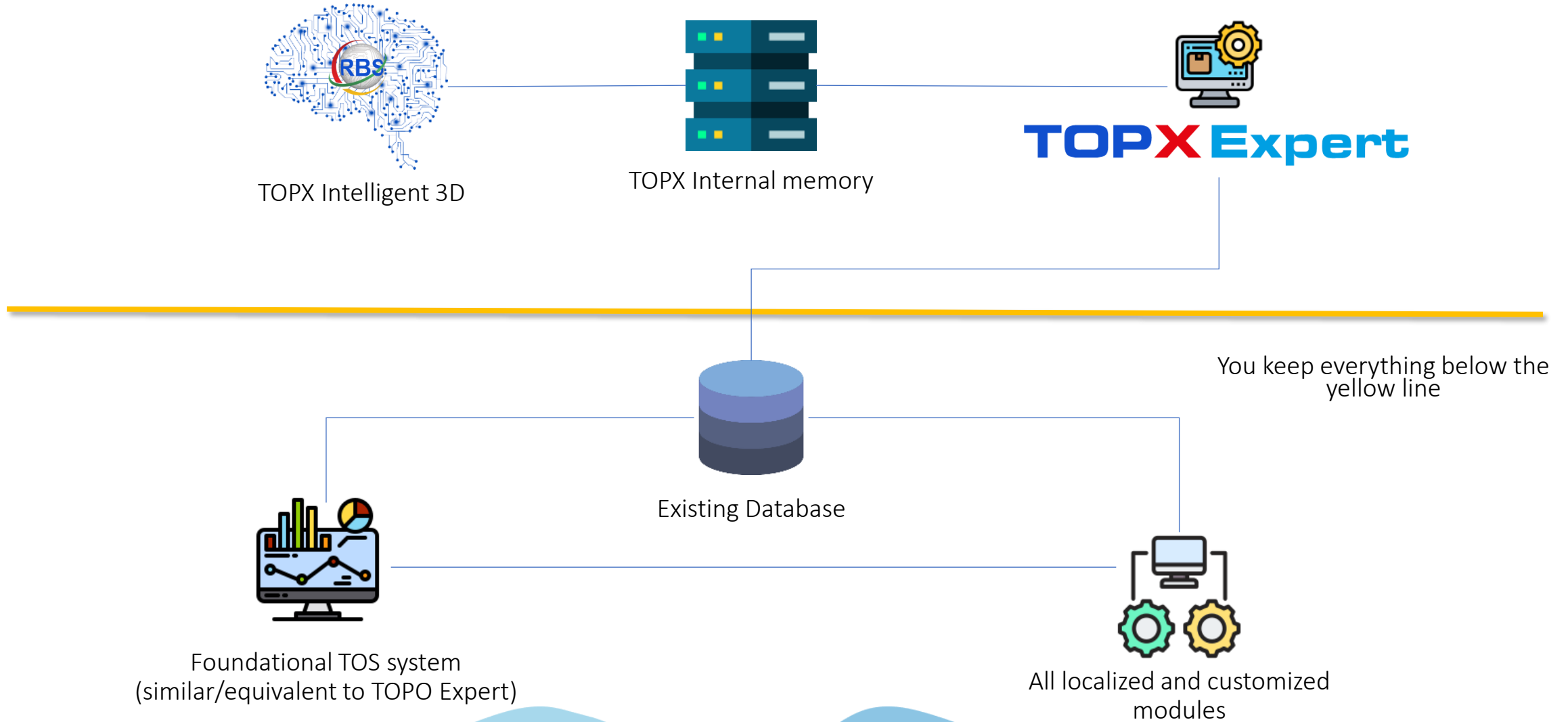


Existing Database



Operational system (similar/equivalent to
TOPX Expert)

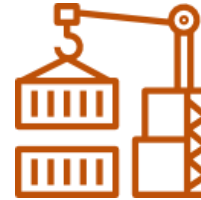
How the integration with TOPX works



Benefits of this integration structure



Minimum change to
current TOS



No disruption to the
current working
processes



All the benefits and
performance of TOPX
Intelligent 3D



Fastest possible
implementation

Realtime Business Solutions

Your Success Our Commitment

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