



IMPROVING BULK PORT THROUGHPUT: A SUPPLY CHAIN APPROACH

Puerto Panul – Panul Port

RIGA, LATVIA - OCTOBER 11TH. 2022

SPEAKER



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2018-2019: Member of Panul Port Board of Directors

2019-Today: CEO Panul Port

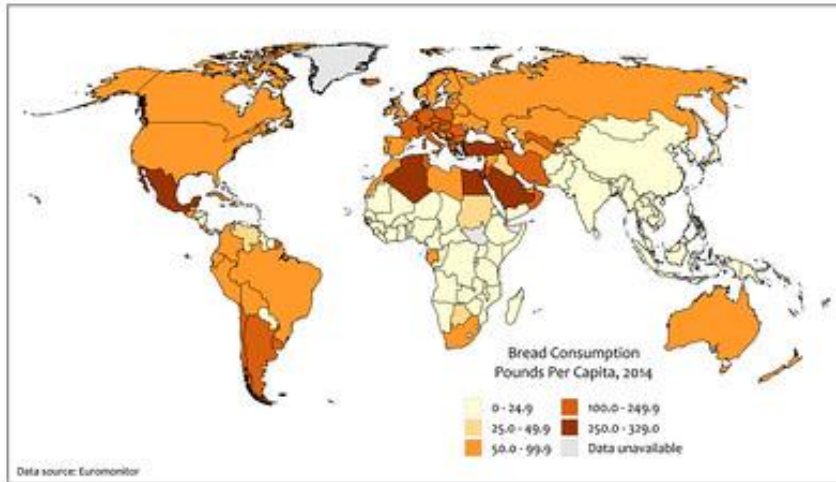
2022: Course Port & Terminal Operations for Bulk Cargoes - University of Greenwich





Panul Port

WHY BULK IS SO IMPORTANT IN CHILE?



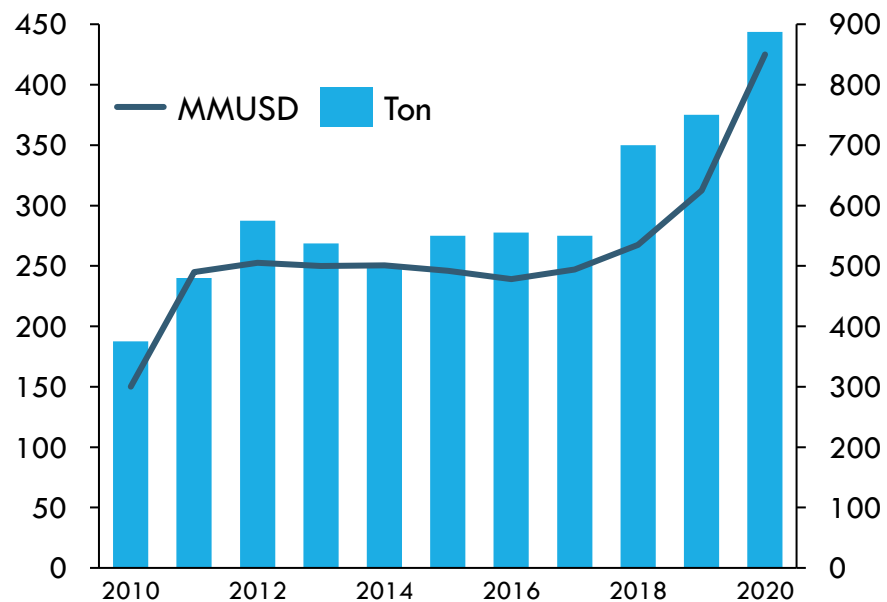
Among the 10 biggest bread consumers per capita

Chile is the largest seller of frozen chicken fillets to the U.S. (87% market share)

75% of pork production is destined for export

Pork Exports: 11% Average Annual Growth 2010-2020

Pork Exports in Chile (2010-2020)



SAN ANTONIO PORT'S FIGURES AND FACTS

LOCATION

South America, Chile, San Antonio, San Antonio Port

COORDINATES

S 33° 35' 52.90" -
W 071° 39' 26.26"

SAN ANTONIO PORT

The most important port in Chile. It has 4 terminals

SAN ANTONIO OPERATORS

DP World
SSA Marine
SAAM

THROUGHPUT

18.9 M Teus per year
4.3 M Bulk Tons per year

IMPORTANCE

Seventy percent of the grain imported by Chile transits through Panul.

OWNERSHIP

State Owned,
Concessioned

FUTURE GROWTH THROUGHPUT 2040

X 3
5.5 BUSD Investment

PANUL PORT'S FIGURES



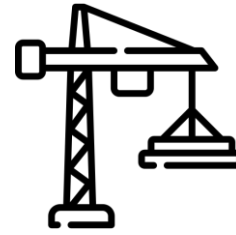
110

Workers



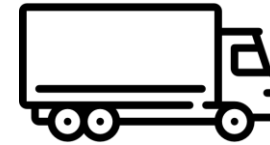
108

Vessels per
year



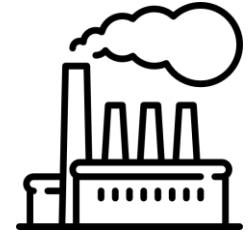
2

Grab Cranes



500

Trucks per day
throughput



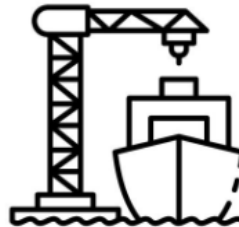
60

Customer
destinations



400

Parking
Spots



1

Shipping
dock



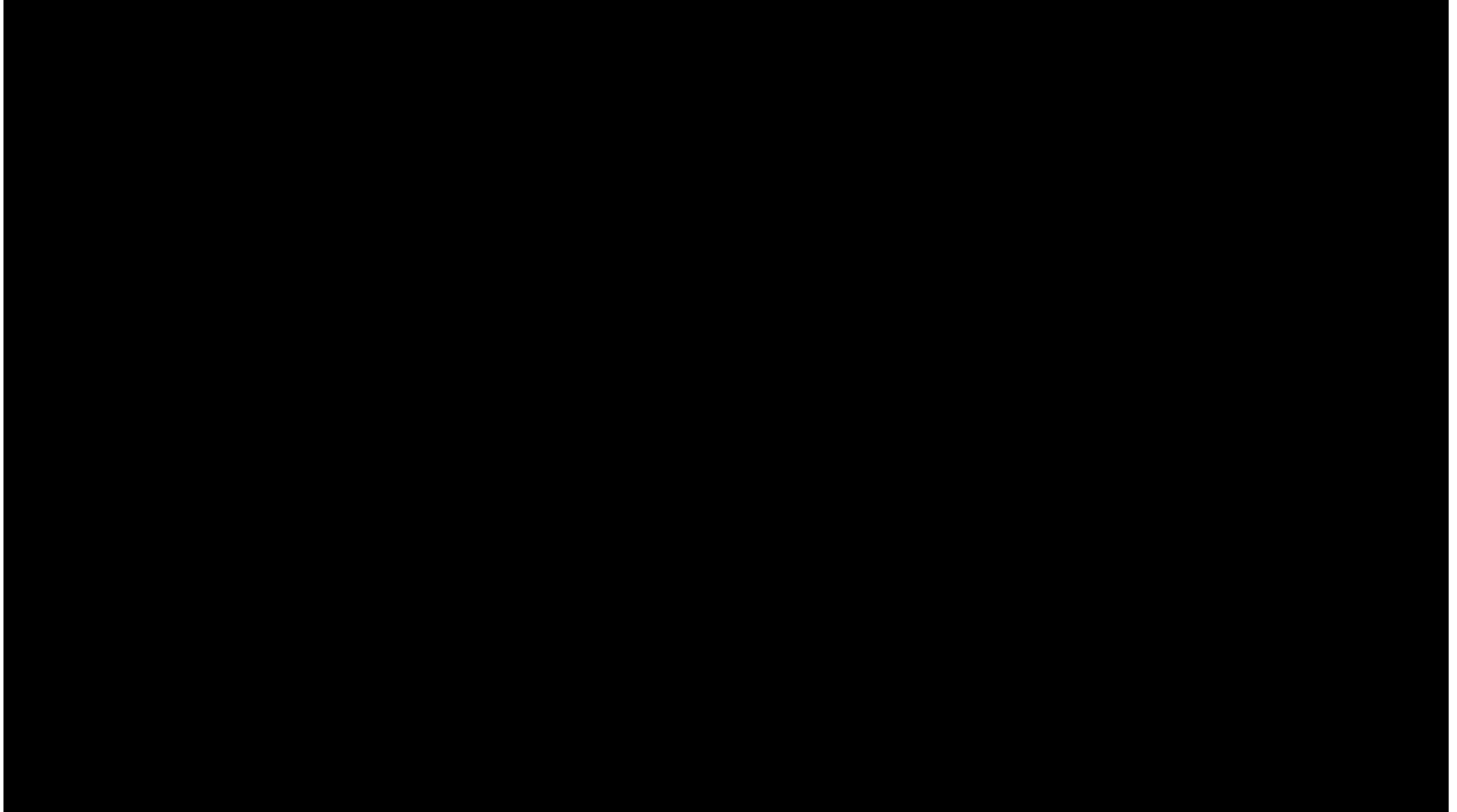
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Loading Chutes &
Weigh-meters

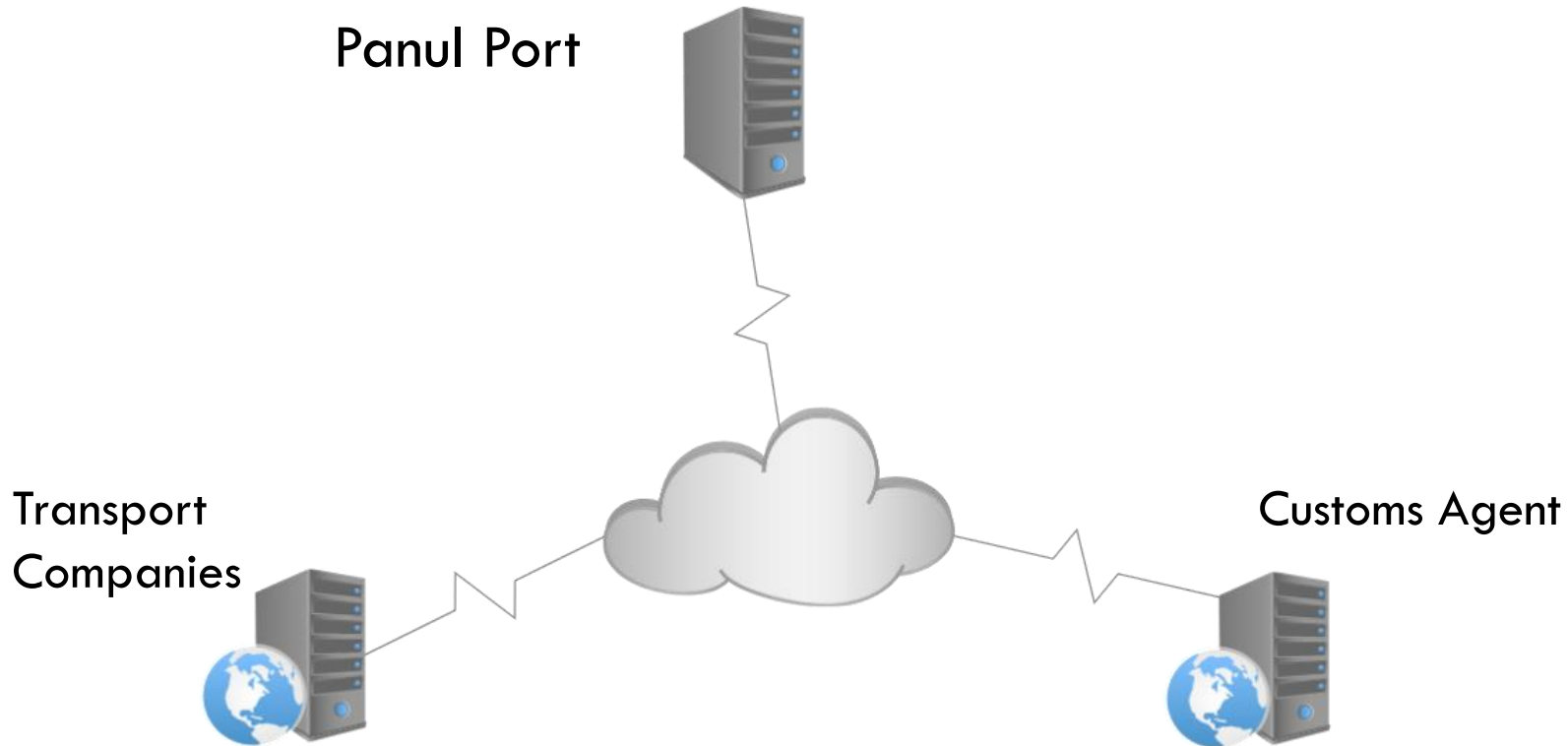


24x7

Operation

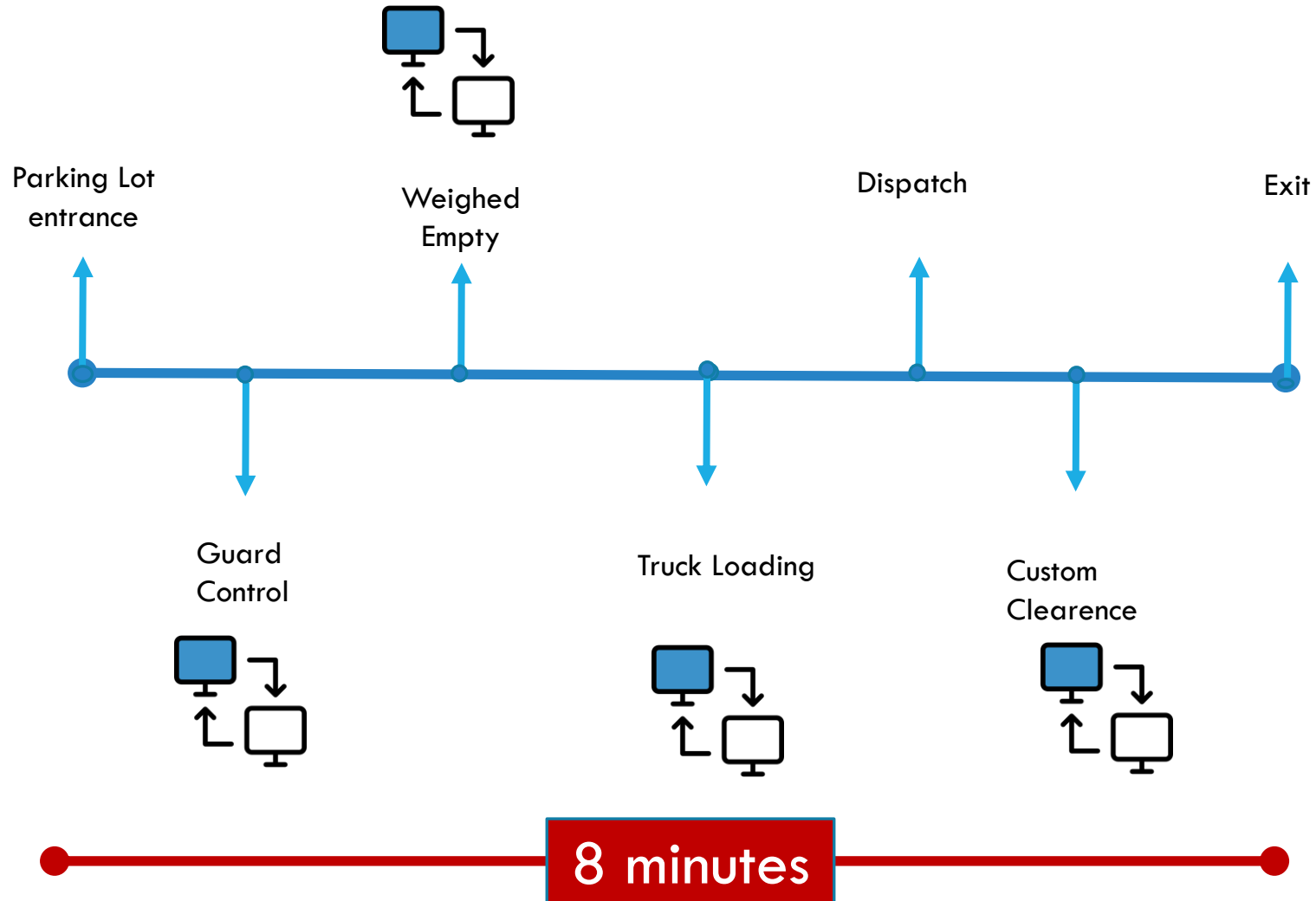


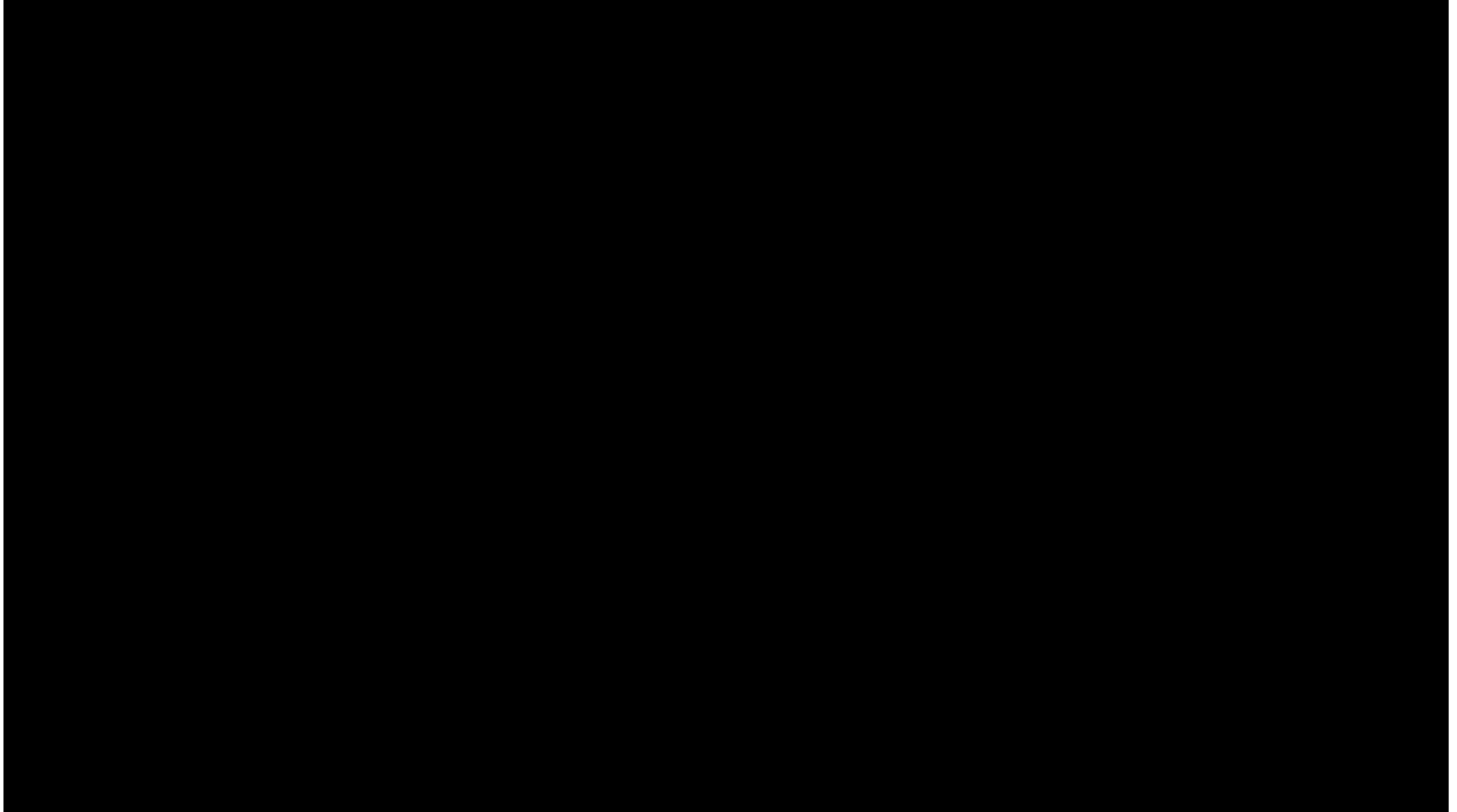
PANUL'S IMPROVEMENT STRATEGY: BASED ON TECHNOLOGICAL INTEGRATION WITH OUR MAIN STAKEHOLDERS...



Connectivity with transport companies and Customs Agents has reduced ship unloading times and truck loading times, improving port throughput.

AS A CONSEQUENCE, BIG IMPROVEMENT OF THE TRUCKS' LOADING AND SHIPPING SPEED RATES





WHAT IMPROVEMENTS HAVE BEEN MADE TO INCREASE THE PORT TRANSFER RATE?

Truck Parking Lot

Lack of control when entering or leaving the parking lot.

PDA & RF for control entering and leaving OCR

Guard Control

Black List of Unqualified Drivers

PDA and RF for truck control
Data retrieval from the transport company's system
License plate OCR for cross check

Empty weighing

Driver must get off the truck to identify himself and obtain the weighing document.

Driver remains seated, identifies himself with RF and data is entered into the system from the weighbridge directly.

Truck Loading

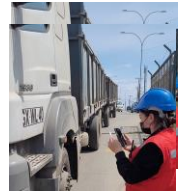
The operator loaded the grain while inside the loading tunnel.

Operator loads the truck remotely from the control room.

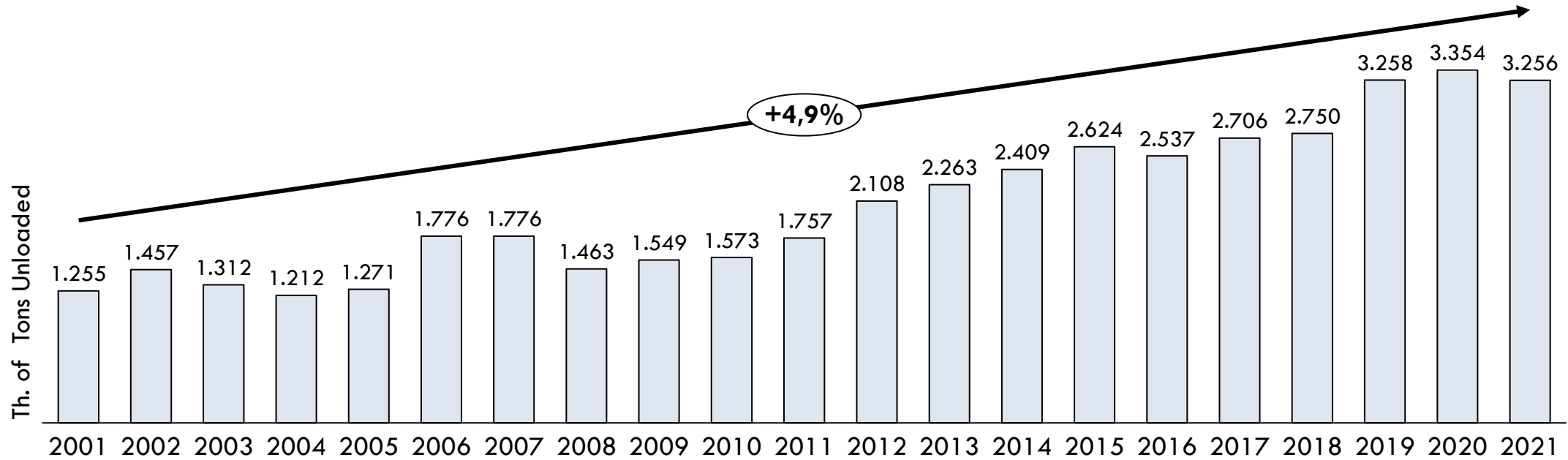
Custom Clearance

Driver had to walk to 3 offices to get the necessary documents to leave the port.

Driver in a single stop, without getting out of his truck, obtains the necessary documentation and customs clearance.



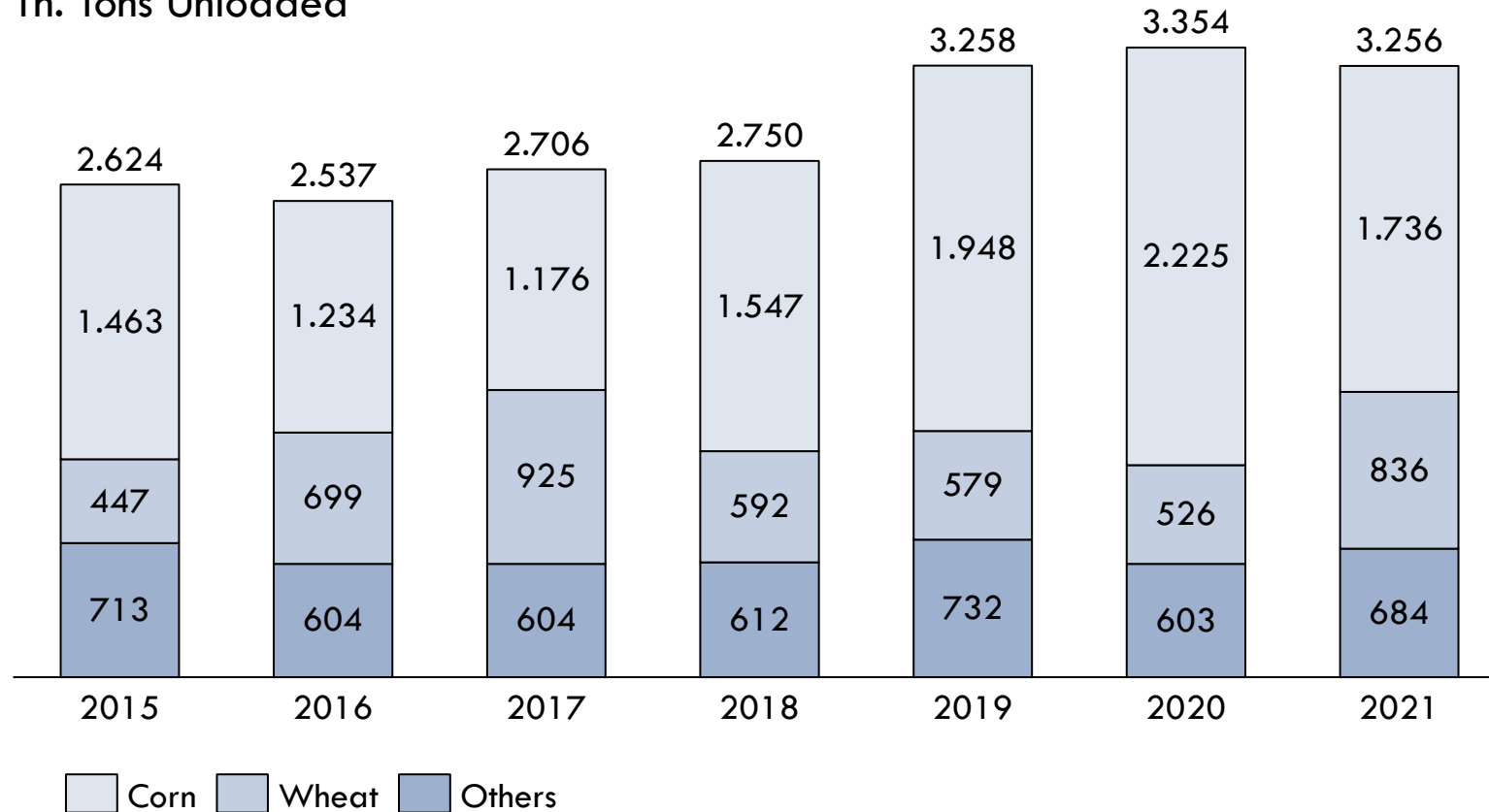
THIS HAS ALLOWED US TO GROW CONSISTENTLY OVER A PERIOD OF 23 YEARS.



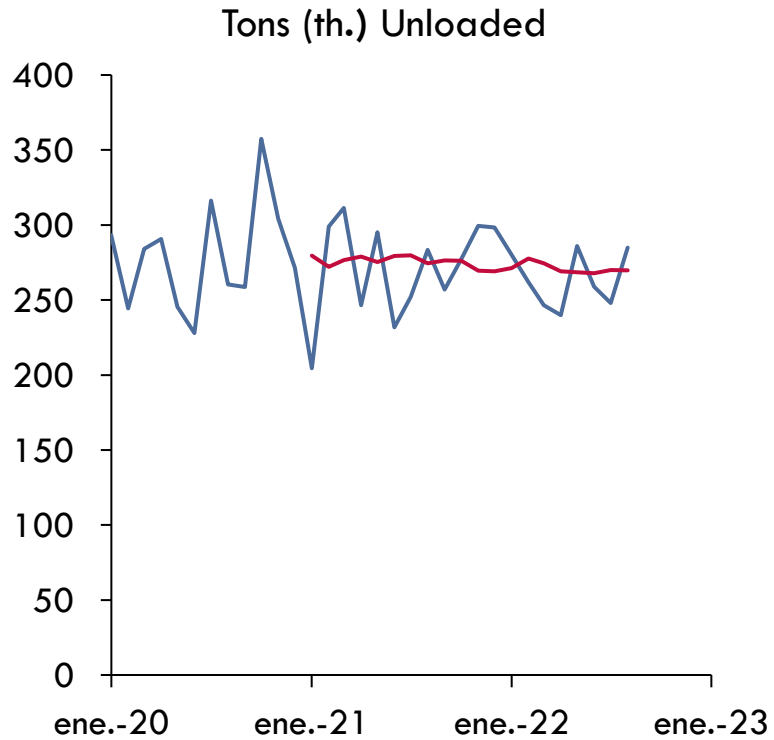
For 22 years we have had a constant growth in tons and vessels unloaded, volumes that have also been affected by the cycles of the world economy.

OUR TWO MAIN BULK CARGOES ARE CORN AND WHEAT.

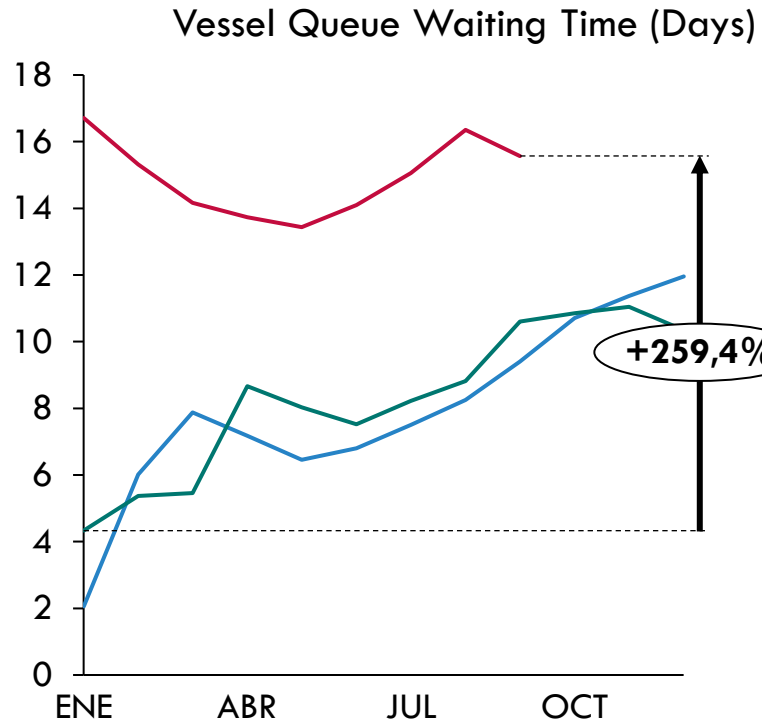
Th. Tons Unloaded



HOWEVER, IN SPITE OF THESE IMPROVEMENTS, IN RECENT YEARS PANUL HAS STOPPED GROWING.

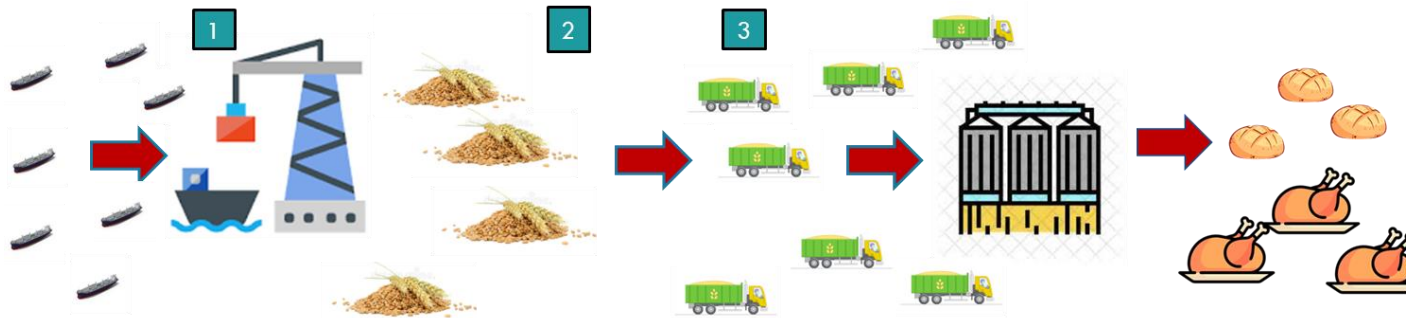


— Tons Unloaded
— Running Average



— 2022
— 2021
— 2020

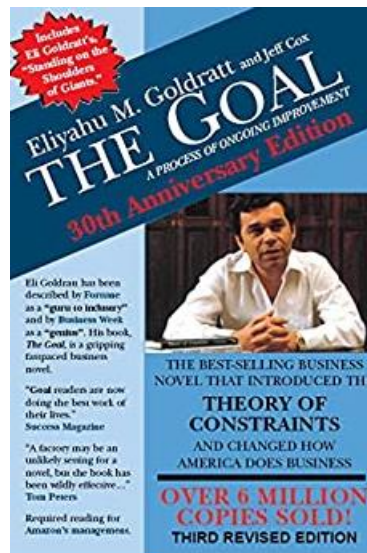
THIS IS BECAUSE THE PROBLEM LIES OUTSIDE THE PORT, I.E. IN ITS SUPPLY CHAIN.



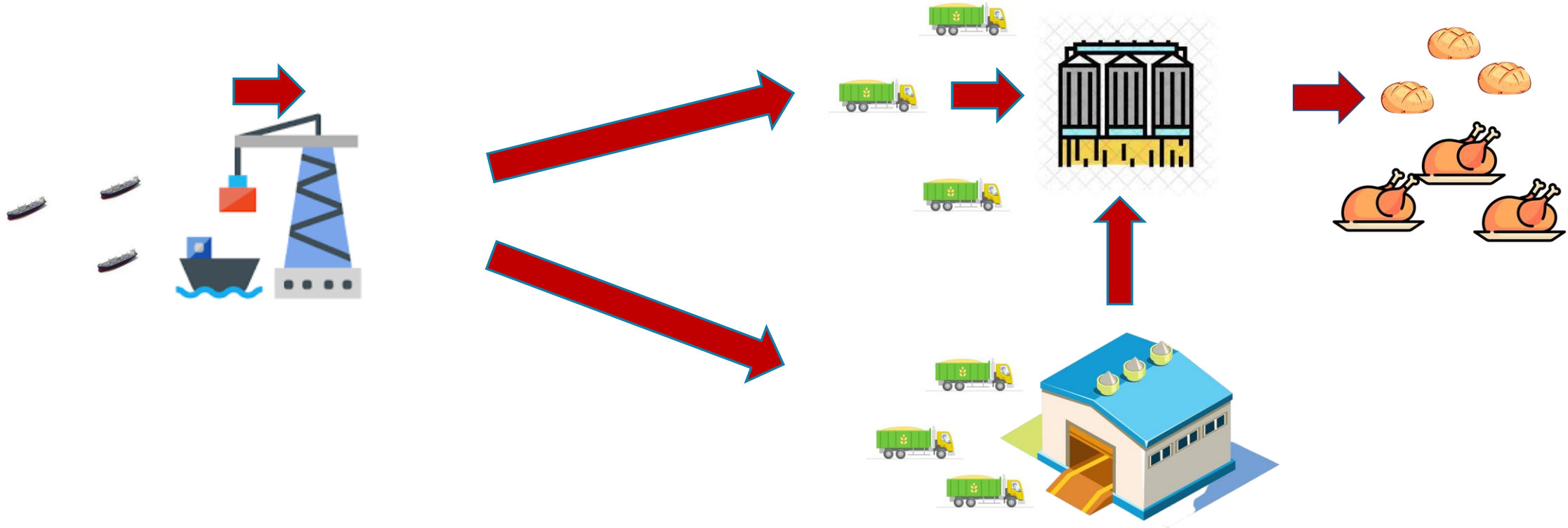
As the book "The Goal" teaches us: It is not useful to improve the performance of process steps that are not bottlenecks.

The bottleneck will be closest to the process steps where inventory accumulates and is closest to the end customer.

In our case, the plant and not the port



FOR THIS PURPOSE, INTERMEDIATE STORAGE WILL BE USED TO INCREASE THE RECEIVING PLANTS CAPACITY, SPREADING IT OVER TIME.



BENEFITS OF THIS PROJECT

Throughput

Throughput will increase by 30%, increasing the port's useful life.

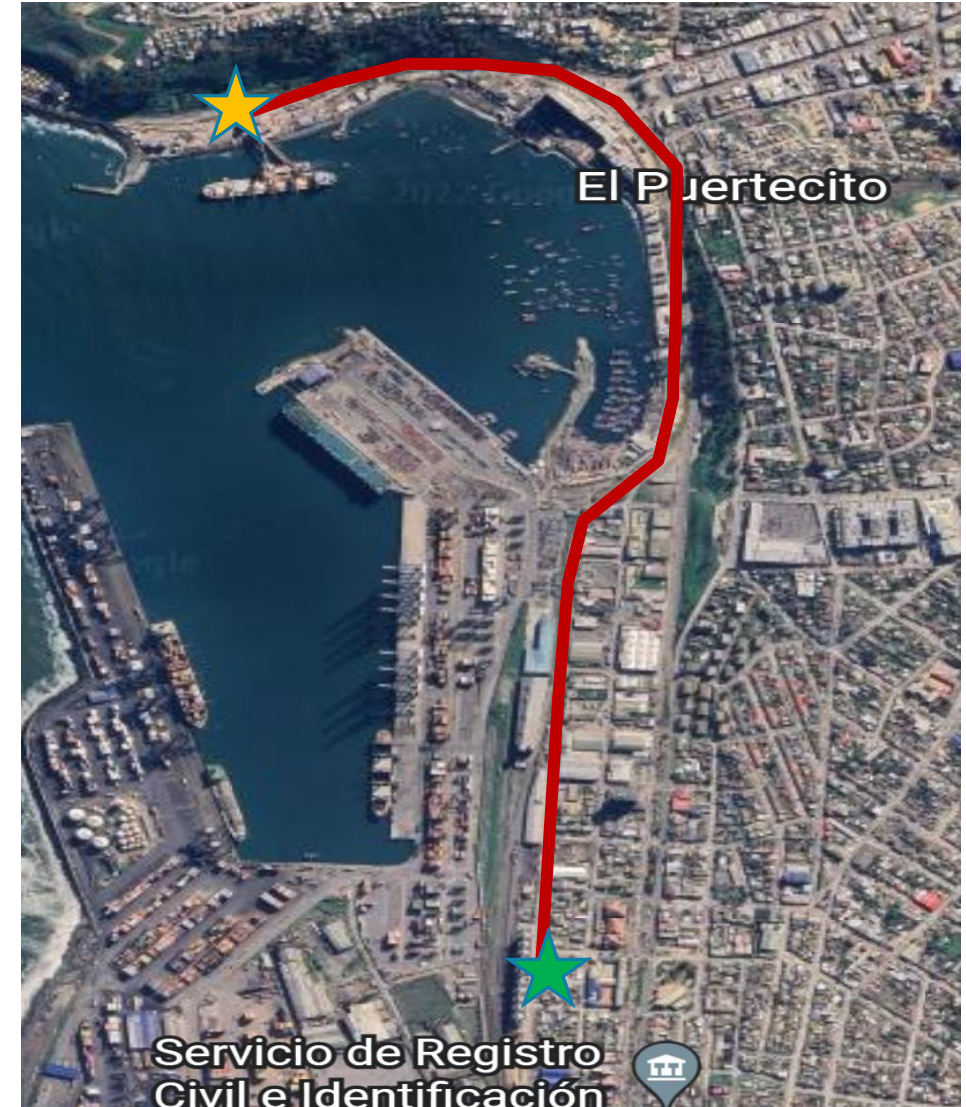
Ship Waiting times

Vessel waiting times to be reduced by 10 days.

Savings

35 MMUSD Annual customer savings in demurrage reduction.

OTHER PROJECTS: SIDE TRUCK HOPPER, TRAIN AND SILOS



OTHER PROJECTS: SHORE POWER SUPPLY FROM 100% RENEWABLE ENERGY

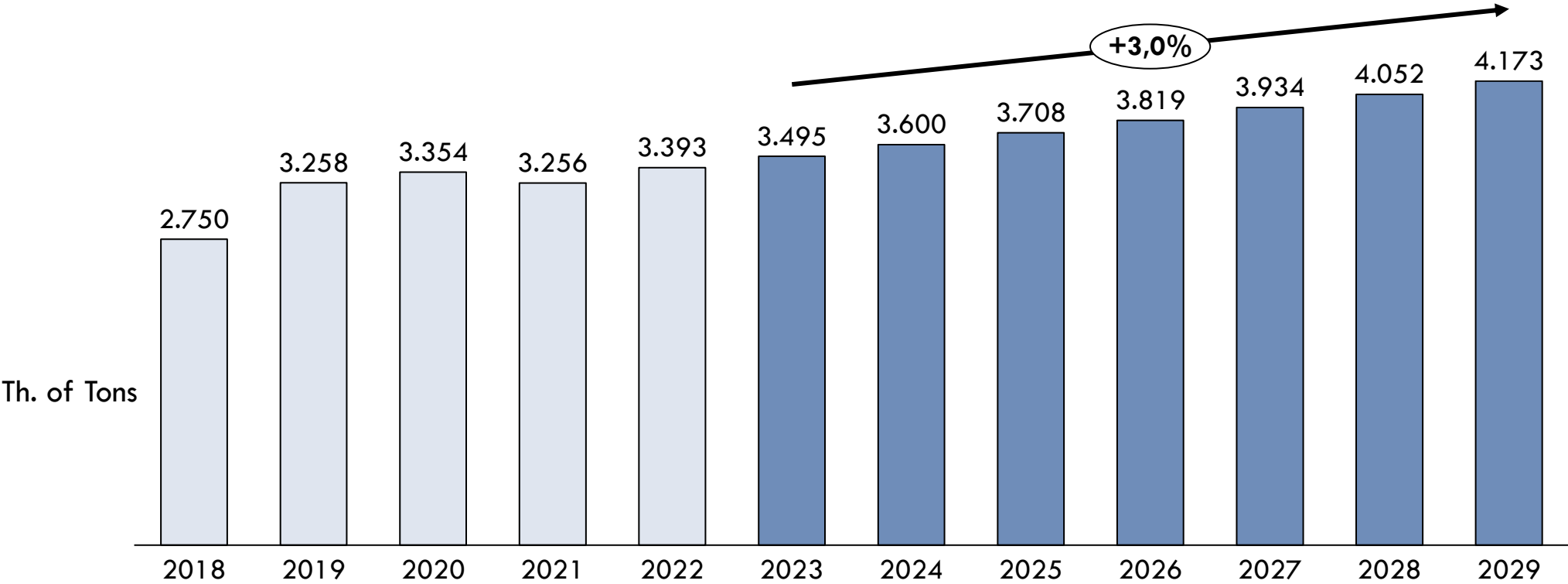


**Puerto
PANUL** S.A.

ENGIE



FORECAST UNTIL 2030 (END CONSSISION)



TAKE-HOME MESSAGES

It has been very important to promote Puerto Panul's interconnectivity with port stakeholders to streamline operational processes. This vision has been key to enable the steady growth of Puerto Panul by releasing its internal bottlenecks.

Ports must carefully understand the supply chain of which they are a part, in order to make attractive offers to their customers, for working collaboratively on mutually beneficial projects.





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