



# DATA ON SUSTAINABILITY

## A PRACTICAL APPROACH TO COMPETITIVE SUSTAINABILITY

Tim Christiaens – Port of Antwerp

Dirk Degroote – Cognauship

March 10<sup>th</sup>, 2022

# TODAY'S SUSTAINABILITY CHALLENGE

Can we reduce our CO<sub>2</sub> footprint:

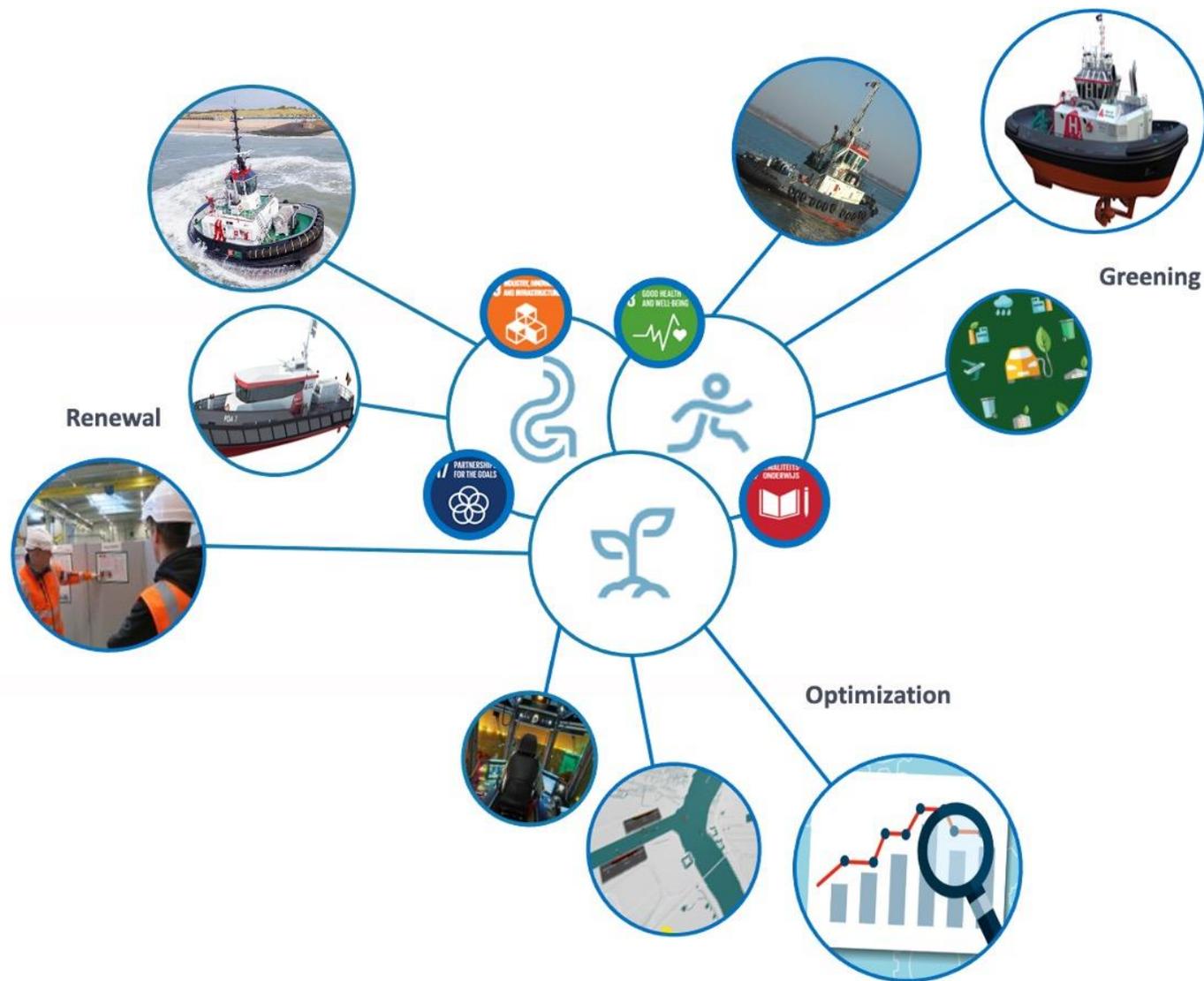
- Existing fleet
- Short term
- Limited investment

Next to ongoing fleet renewal and greening.





# STRATEGIC CONTEXT





# TODAY'S SUSTAINABILITY IMPACT

Focus on fuel consumption optimization:

- Short term potential
- Direct business return
- Fleet impact

People centric:

- Crew understanding and adoption is key to realize optimization:
  - Objectify
  - Sensitize
  - Optimize

Digitization as enabler:

- Monitoring
- Analytics



# TEAM-UP WITH COGNAUSHIP

## Expertise:

- Tug technology
- Tug operations
- Data analytics

## Technology:

- Sensors
- Connectivity
- Digital integration

Founded in 2019 because we believe every vessel deserves a sustainable lifetime





# CONNECT WITH THE CREW

## Knowledge:

- Average fuel consumption: good
- Maximum fuel consumption: moderate
- CO<sub>2</sub> emissions: low

## Fuel consumption influencers:

- Captains
- Planner
- Pilot

## Reasons for high fuel consumption:

- Sailing behaviour
- Limited mobilisation time



# OBJECTIFY

- Generate relevant data
- Add context by classification
- Present in operational language

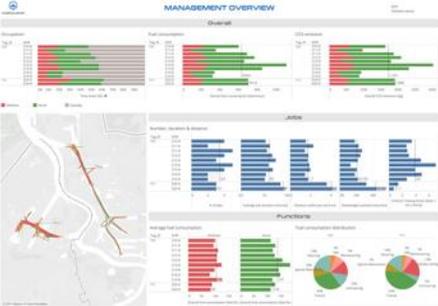




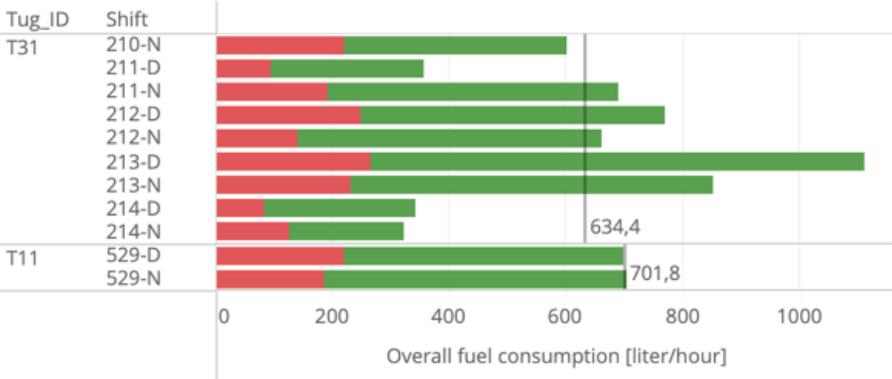
# SENSITIZE

## Multi-level analytics:

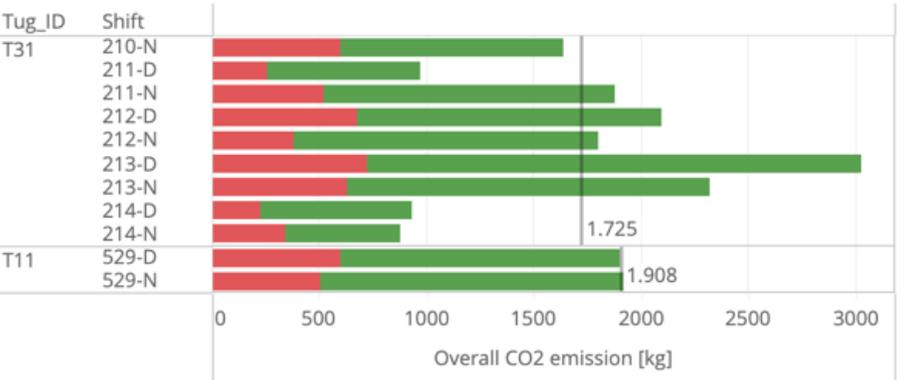
- Management overview



Fuel consumption



CO2 emission

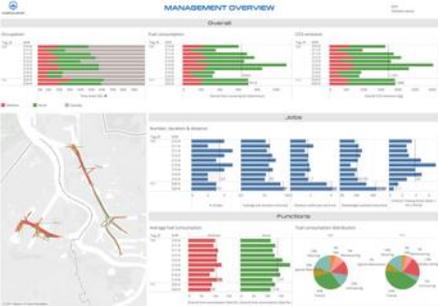




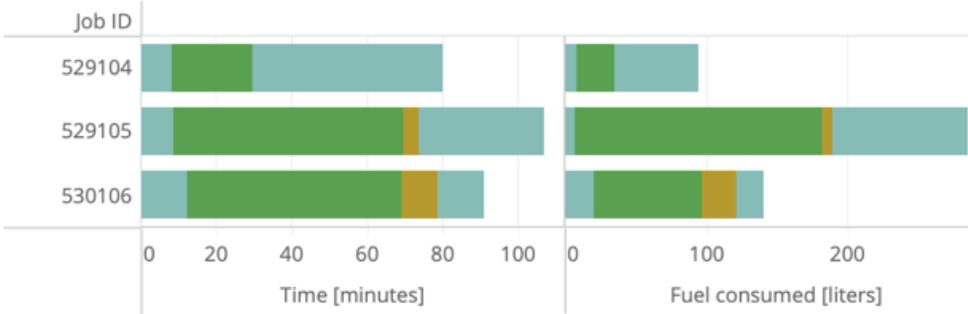
# SENSITIZE

## Multi-level analytics:

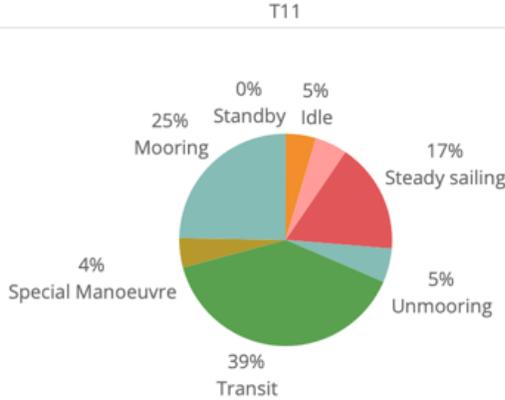
- Management overview
- Shift overview



Towing modes



Fuel consumption distribution

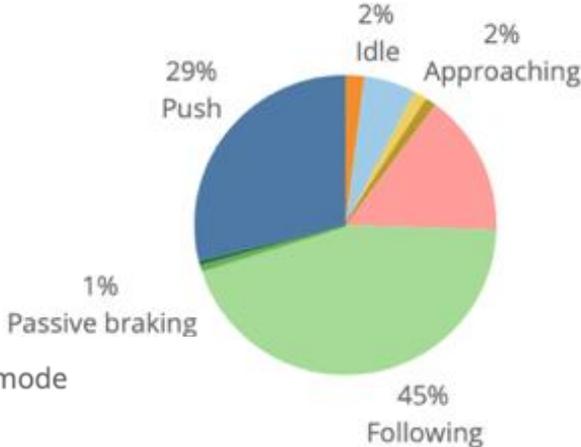




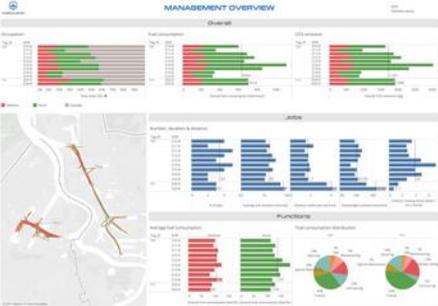
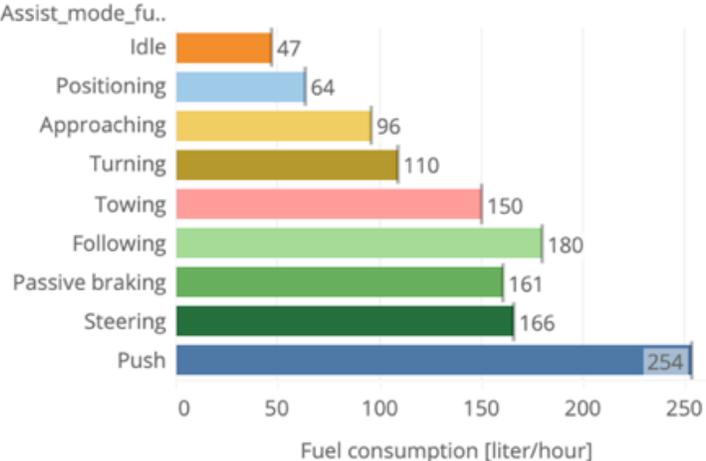
# SENSITIZE

## Multi-level analytics:

- Management overview
- Shift overview
- Job overview



Average fuel consumption per assist mode





# OPTIMIZE

Simulation on best practice data:

## PLANNING SAVINGS

- Waiting times 5 %
- Mobilization movements 3 %

## SAILING BEHAVIOUR SAVINGS

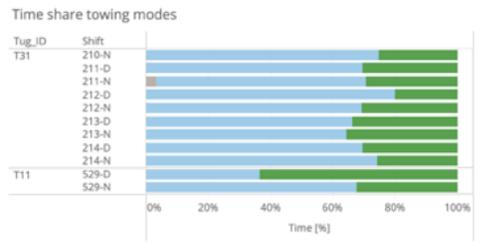
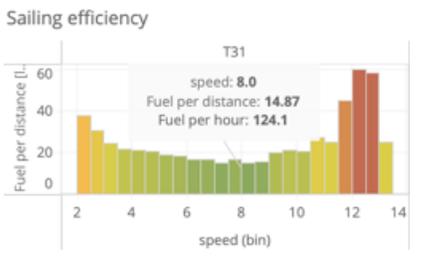
- RPM optimization 10%
- Sailing optimization 4 %

SAVING POTENTIAL >20%

Additional saving potential:

## PILOT INTERACTION

- Energy efficient towing 5-15%





# CONCLUSION

## KEY CHALLENGE

Can we reduce our CO<sub>2</sub> footprint:

- Short term
- Existing fleet
- Limited investment

**YES!**

## TAKEAWAYS

- Sustainability = behaviour + technology
- Start = objective data
- Insight = data + context
- Savings = substantial



SILVER OAK

THE CLEANEST ENERGY IS THE ENERGY WHICH IS ELIMINATED.  
DO YOU KNOW HOW MUCH ENERGY CAN YOU ELIMINATE?

**QUESTIONS ?**