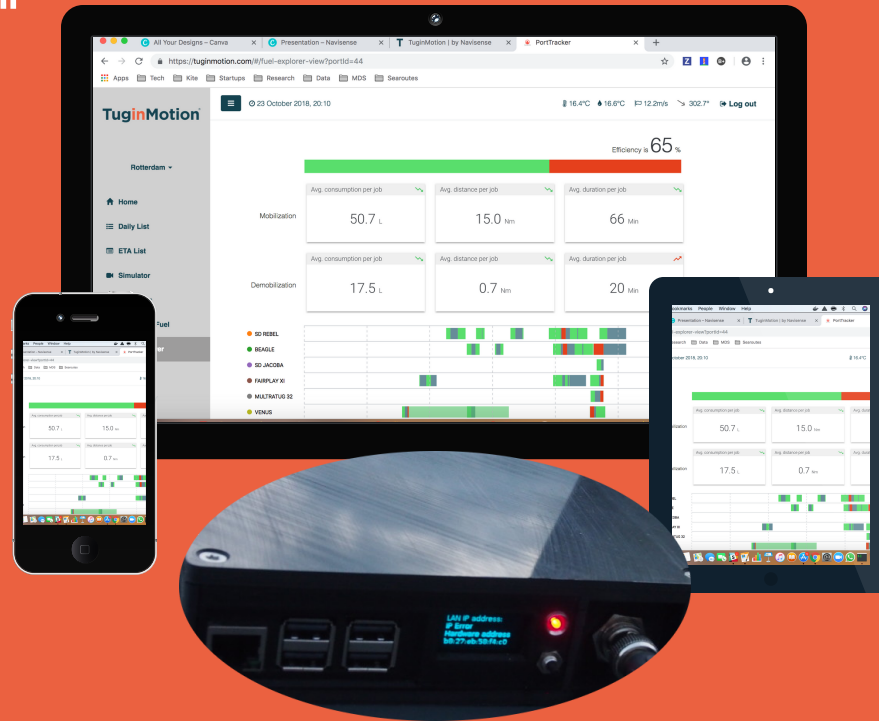# TuginMotion®

**BUNKER REDUCTION
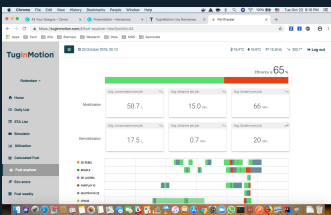TUG FLEET OPTIMISATION
PORT MONITORING**

2019 Q1

NAVISENSE

COMPANY PURPOSE

"WE HELP TUG FLEET MANAGERS SAVE FUEL, OPTIMIZE UTILIZATION, MONITOR COMPETITION AND REDUCE RISKS + DELAYS AND COLLECT DATA FOR TUGS AND ENVIROMENT"

NAVISENSE

THE PROBLEM

ACCURATE MEASUREMENTS OF FUEL CONSUMPTIONS WITHOUT EXPENSIVE SENSOR INSTALLATION

OPTIMIZE YOUR FLEET UTALIZATION AND HAVE AN EYE ON CUSTOMERS & COMPETITION IN YOUR PORT

COLLECT ENGINE, FUEL, TIDE, ROPE AND BATHYMETRY DATA

EXTENSIVE MEETINGS:
. MASTERS
. FLEET MANAGERS
. PORT OPERATION MANAGERS
CONTROLERS

>

TUG FLEET DEPLOYMENT & MONITORING IS MANUAL, EXPENSIVE & NOT ACCESSIBLE.

NAVISENSE

THE SOLUTION

A TUG FLEET OPTIMIZATION SOLUTION BASED ON IOT, AIS, MACHINE LEARNING AND PROPRIETARY TIDE MODELS.

WEB

API

IOT

+ FUEL CURVES
+ OPTIMAL MOVEMENTS
+ ...

+ TIDE CURRENTS
+ WEATHER
+ BATHYMETRY
+ ...

+ DEEP LEARNING ALGO
+ LIVE VESSEL POSITIONS
+ HISTORY OF TUG EVENTS

> **WE SAVE FUEL & REDUCE EMISSIONS FOR TUGS IN EVERY PORT & COLLECT DATA**

NAVISENSE

THE MARKET OF PORT TOWAGE MARKET

50K GLOBAL MERCHANT FLEET (ICS, 2018)
18% IDLE (BLOOMBERG, 2017), 70% TUG NEED
60 PORTCALLS PER YEAR PER VESSEL (VESSELTRACKER.COM)
~6.1 MRD USD MARKET PER YEAR

X

PORTS

750 PORTS
WITH TUGBOATS

FLEET

150 TUGOWNERS

OWNERS &
CHARTERERS

45.000 VESSELS
SHIPOWNERS
CHARTERES

NAVISENSE

MARITIME TREND

SHIPPING CRISIS

CO2 EMISSION REGULATION

2020 IMO GLOBAL SULPHUR LIMIT

INCREASE OF BUNKERING COSTS

PORT CONGESTION DUE TO CLIMATE EVENTS

TRANSPARENCY & TRACKING DEMAND

TECHNOLOGY TREND

GLOBAL INTERNET COVERAGE

IOT GROWTH IN THE LOGISTICS

BIRTH OF THE B2D ECONOMY

ML ALGORITHMS

BETTER DATA SETS

NAVISENSE

premium online **+** api pool

Add-ons -- Onboard + Onshore   License -- Third party applications.

Next:

- Detection of tug jobs   - Planning Decision Support

- Fuel & Emission CALC   - Mobile Service Integration

- Benchmark & Eco Score   - other service monitoring
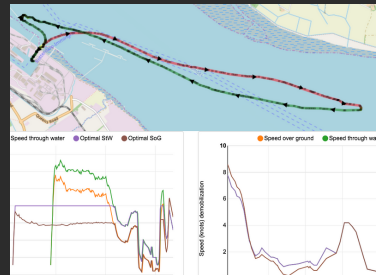
- Competitor Tracking

NAVISENSE

WHY IS TUGINMOTION.COM SPECIAL?

CUTTING EDGE TECH STACK FOR ONLINE + OFFLINE
DETECTING REAL TIME PORT EVENTS BASED ON AIS DATA STREAMS
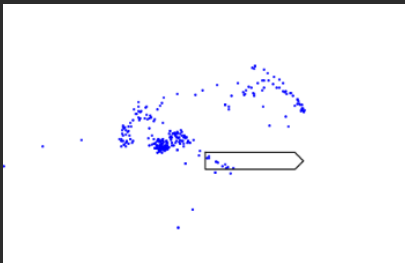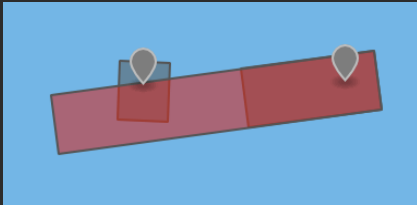
A. DOCKING EVENTS   **B.** FUEL CALCULATION   **C.** PORT MONITORING

TuginMotion®

THE TEAM

CEO CARSTEN BULLEMER

CTO PIERRE GARREAU, PH.D.

COO JONAS WEISSENSEL

	CEO CARSTEN BULLEMER	CTO PIERRE GARREAU, PH.D.	COO JONAS WEISSENSEL
EDUCATION	UNIVERSITY COLOGNE	ECOLE CENTRALE LYON CORNELL UNIVERSITY UC LOS ANGELES	UNIVERSITY HAMBURG
CAREER	GENSCAPE VESSELTRACKER	DEUTSCHE BANK CITIGROUP	IBM MARITIME DATA SYSTEMS
WIND, BOAT	25 KTS, WINDSURF	18 KTS, HOBBY CAT	12 KTS, 36 FOOTER
FOUNDEREXP		3 YEARS OF JOINT WORK	

NAVISENSE

CLIENTS, PORTS & FINANCIALS

CLIENTS:

SVITZER, URAG

PORTS:

Belfast, Bristol, Immingham, Liverpool, London. Milford, Southhampton, Swansea, Gydinia

more Ports:

Singapore, Antwerp, Hamburg, Rotterdam

REVENUE:

250k per year

NAVISENSE

MARKETING & DEV ROADMAP 2019

MARKETING

HIRE SALES PERSON

VISIT TRADESHOWS

MAKE ONLINE PRESENTATIONS

DEVELOPMENT

PLANNING MODUL

PLANNING DECISION SUPPORT

MOBILE DEVICE & EMAIL REPORTS

MORE SERVICE MONITORING

NAVISENSE

In 5 years, **tuginmotion** will be the global no.1 tug fleet monitoring and optimization solution. Tuginmotion.com could help cut fuel consumption in ports by 15%. Are you ready?

TuginMotion®