

CHALLENGE ACCEPTED

**WE ARE LEADING
IN SAFE HARBOUR TOWAGE**

Company Introduction

Kotug Smit Towage



SEEMP





CHALLENGE ACCEPTED

**WE ARE LEADING
IN SAFE HARBOUR TOWAGE**



Digitalization

Tug Energy Efficiency - In Practice

People

- Awareness
- Appraisal
- Training ICT skills



Propulsion

- Design Tug
- Bollard pull tug
- Asset type

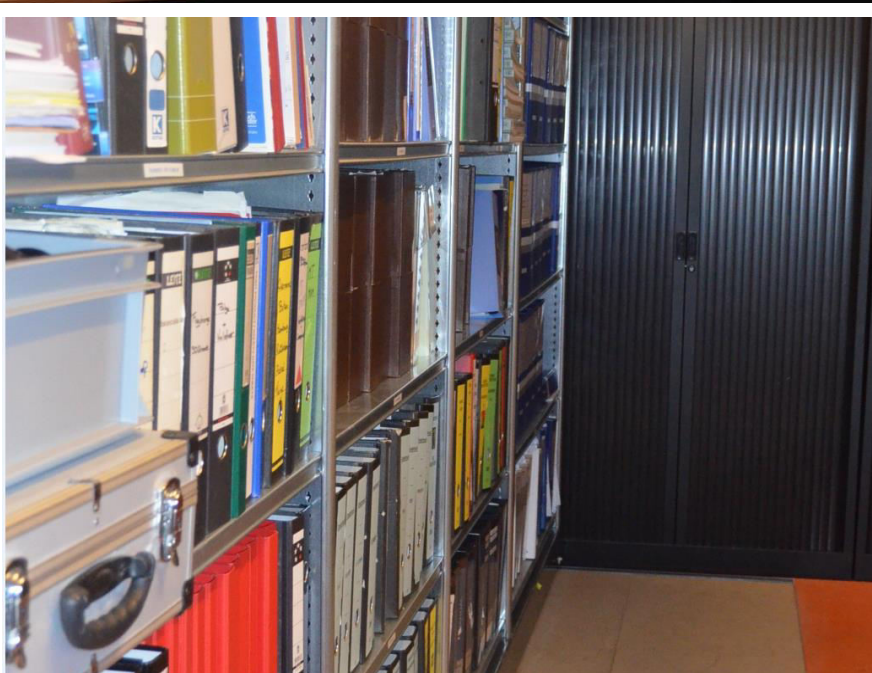
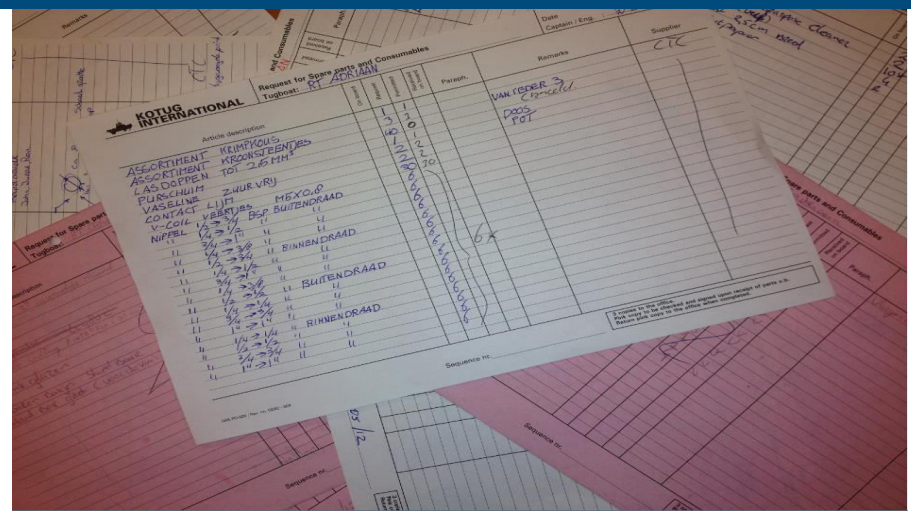


Planning

- Lay berth and Route Tug
- Data information
- Dynamic

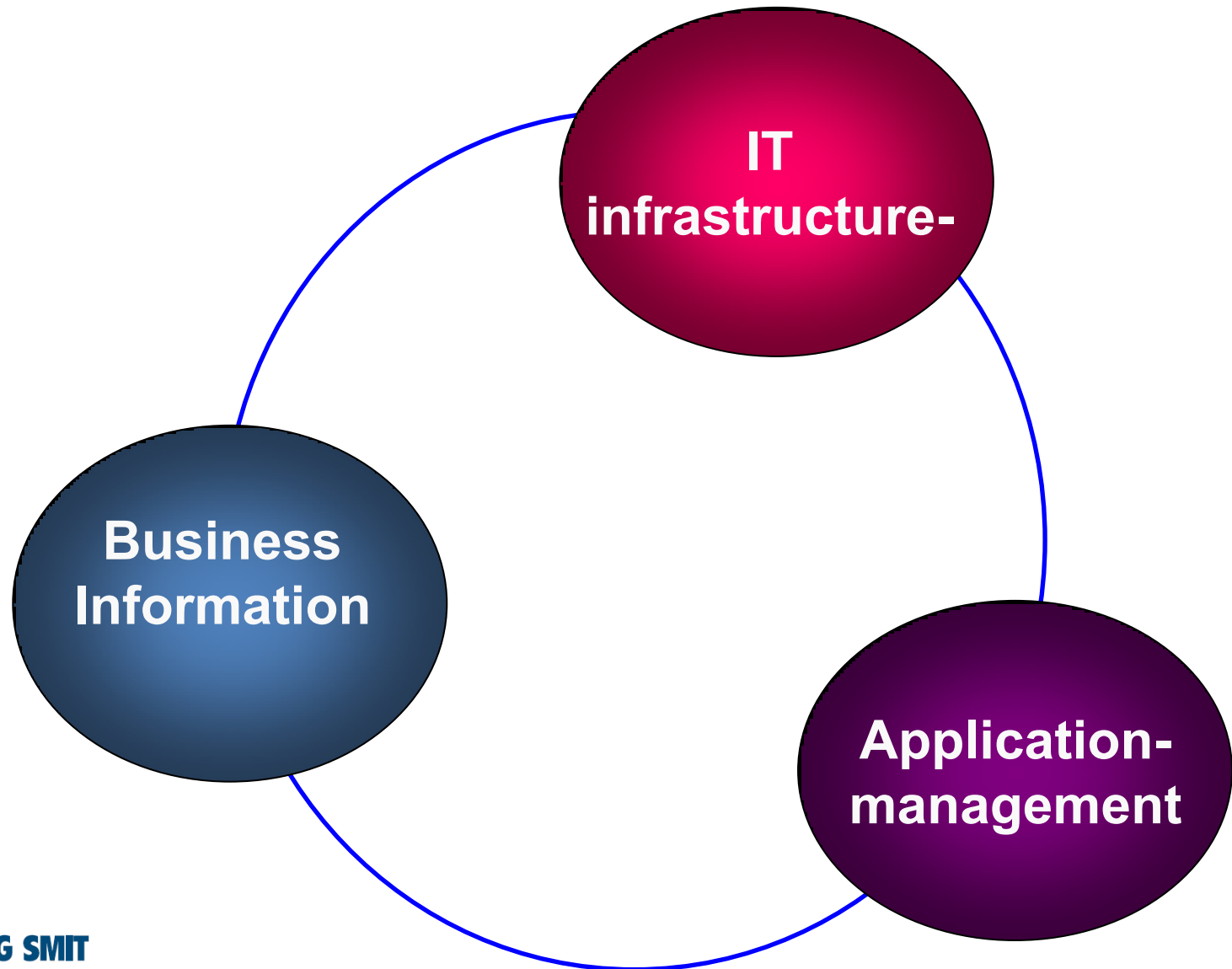


History

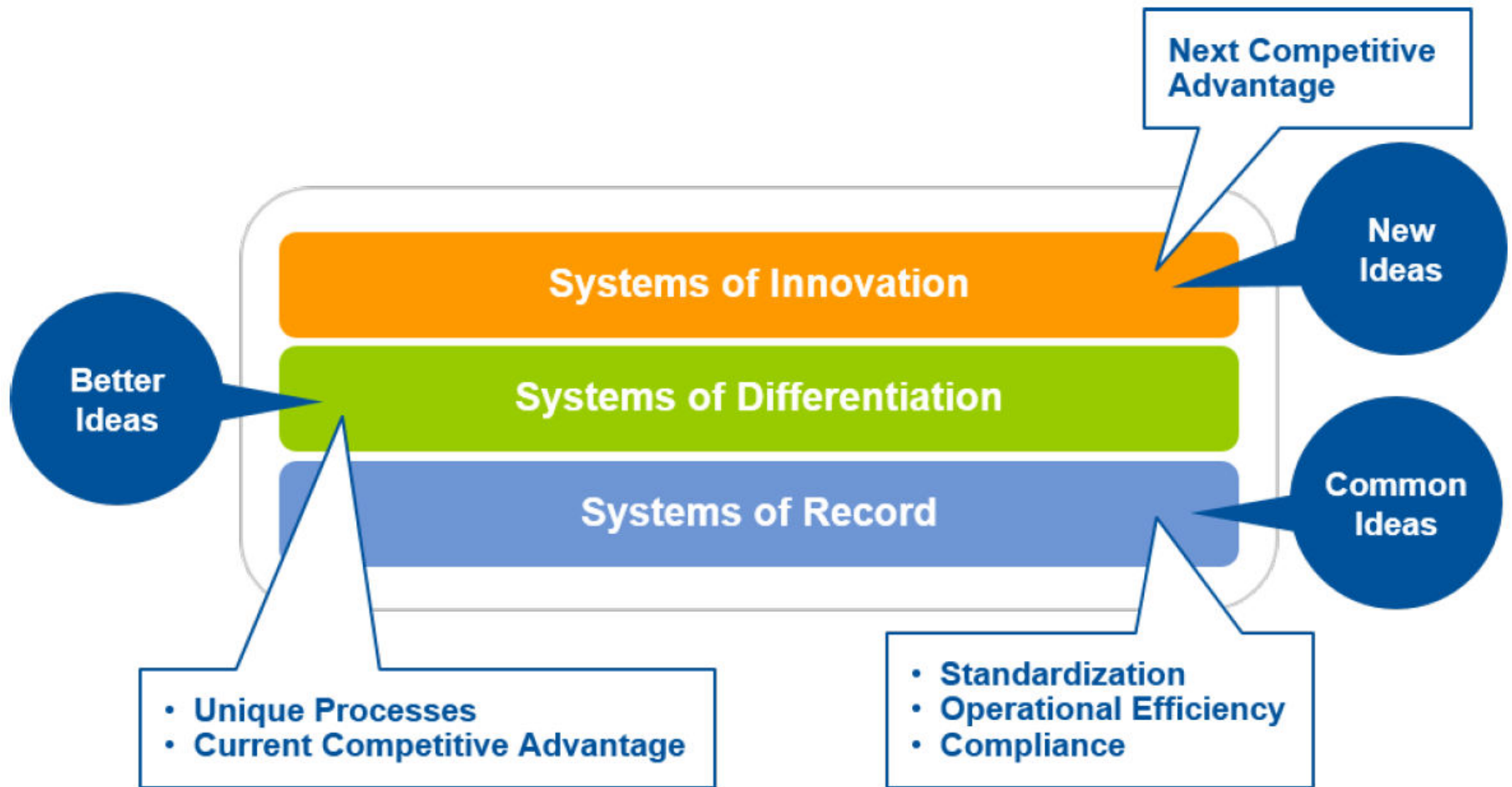


ICT

ICT Domains



Digitalization



Source: Gartner (April 2015)

Microsoft Dynamics NAV / Logic Vision / Kotug Smit

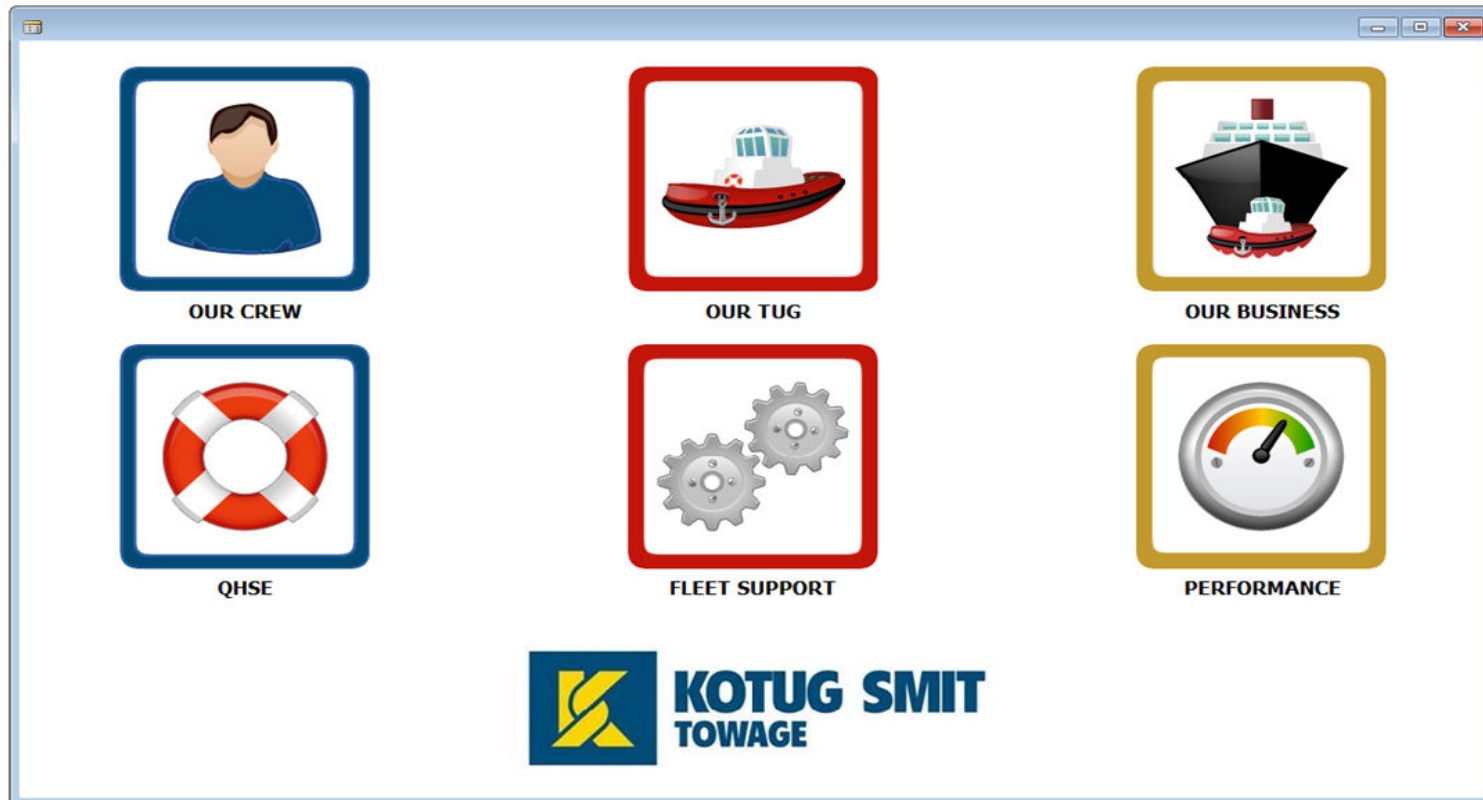
The image displays two overlapping windows from the Microsoft Dynamics NAV software interface.

The background window is titled "8000 Revenu assistances - General Ledger Entries". It contains a table with the following columns: Posting Date, Document Date, Document Type, Document No., G/L Account No., Source Type, Source No., Business Unit, Description, Gen. Posting T..., Cost center Code, Vessel, Amount, Debit Amount, Credit Amount, and V P. The table lists four entries for the date 03-09-15, all with a document date of 08-09-15 and document type of Invoice. The descriptions are "Discount", "Bunker surcharge", "Escorting from Harbour Li...", and "APL CHANGI-03-09-15".

The foreground window is titled "3989 APL Co. (Germany) - Customer Ledger Entries". It contains a table with the following columns: Customer No., Posting Date, Document Type, Document No., Document Date, Due Date, Open, Com..., Description, and C C. The table lists two entries for customer 3989. The first entry is an Invoice dated 03-09-15 with document number 991500030, due date 22-09-15, and description "APL CHANGI-03-09-15". The second entry is a Payment dated 23-09-15 with document number 181, due date 23-09-15, and description "029-032".

- Standardization
- Operational Efficiency
- Compliance

Tug Vision



- Unique Processes
- Current Competitive Advantage

Tug Vision <=> Port Systems

Kotug Hamburg - Microsoft Dynamics NAV Classic - [Port Authority Forecast]

File Edit View Tools Window Help

Incoming KOTUG ☒ Hide Line ☒ 02-02-16 - 04-02-16 ☒

Hide Line	Type	JobsPort	Type	ETA Date	Ship Name	Gross Tonnage	Destination	Agent
	I	1	HAMBURG	Expected	03-09-15	GRANDE FRANCIA	56,738 OSWALD	DELTA
	I		HAMBURG	Expected	03-09-15	LANTAU ARROW	14,290 EURO	CHINA SHIP.
	I		HAMBURG	Expected	03-09-15	HANSA LIMBURG	18,327 CTA ALLG.	HAPAG-LLOYD
	I	1	HAMBURG	Expected	03-09-15	COS FAIR	26,829 HRB-2 MIDGARD 2	RSH SHIPPING AGENCY
	I		HAMBURG	On River	03-09-15	MSC SPLENDIDA	137,936 STEINWERDER 1	PPS
	I	1	HAMBURG	Expected	03-09-15	MR ARCTURUS	30,042 OILTK BLUME	VOPAK
	I	1	HAMBURG	Expected	03-09-15	APL CHANGI	151,963 RIVER	DELTA
	I		HAMBURG	Expected	03-09-15	BLUE STAR	7,256 DOW BUTZFL.	NEPTUN STADE
	I	1	HAMBURG	Expected	03-09-15	APL CHANGI	151,963 CTA 4	DELTA
	I		HAMBURG	Expected	03-09-15	LARISSA	9,962 ATHA 10	DELTA
	I		HAMBURG	On River	03-09-15	MSC REGULUS	141,635 EUROGATE 2-3	MSC GERMANY
	I		HAMBURG	On River	03-09-15	DUTCH FAITH	3,419	H. C. MEYER
	I		HAMBURG	On River	03-09-15	HYUNDAI TOGETHER	141,770 CTA 2	HYUNDAI

IMO No. 9631981 Ship Name APL CHANGI To Berth RIVER Agent DELTA
Length 369 M Width 51 M Gross Tonnage 151,963 TN Draught 16 M Deadweight Tonnage 150,166 TN Bow Thrusters Power 2 x 1800 kW
Orders
E1. CX. BB. GL. ST. T1. HH.

NEW SHIP INFO CREATE JOB

Outgoing / Shifting KOTUG ☒ Hide Line ☒ 02-02-16 - 04-02-16 ☒

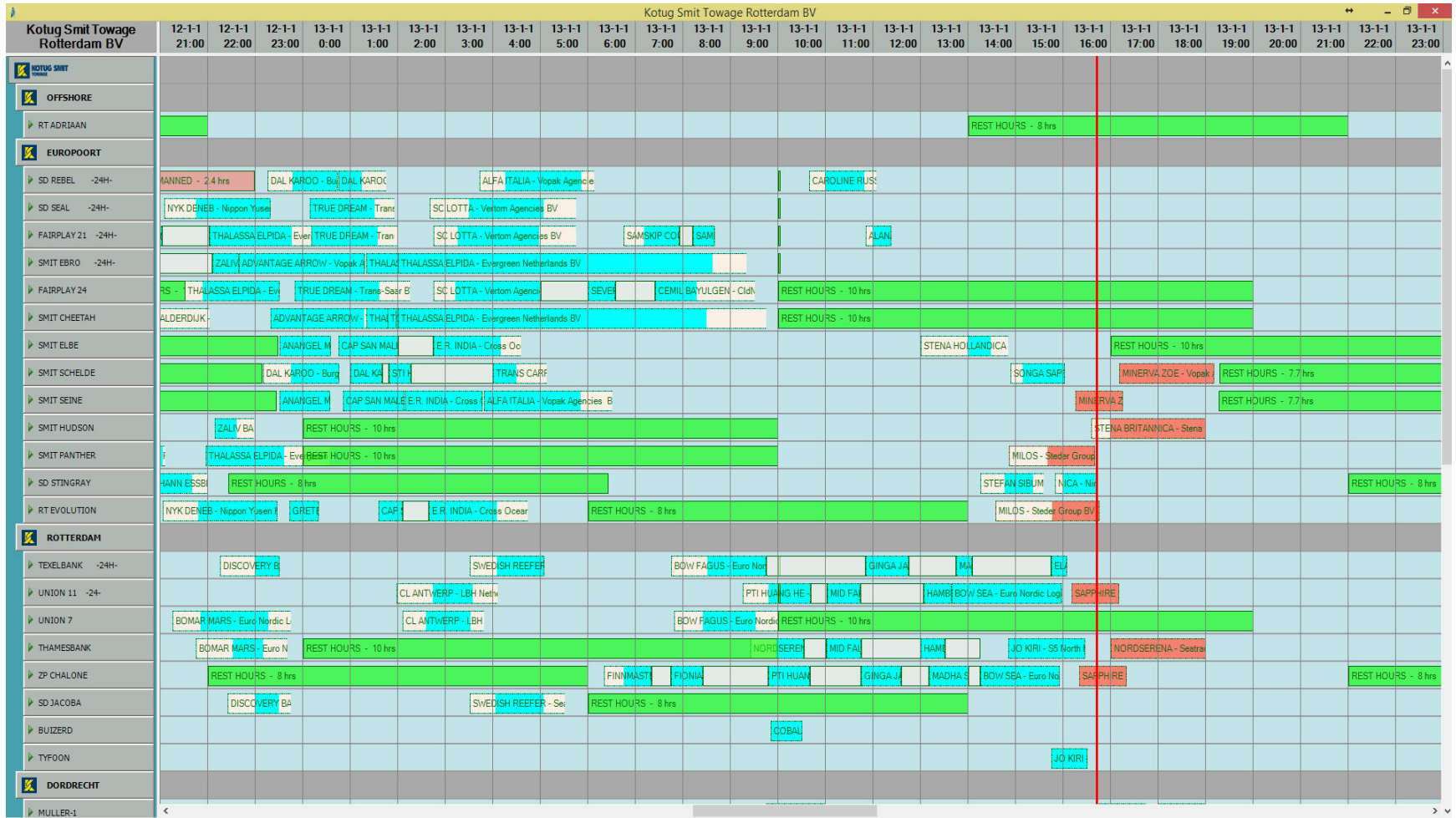
Hide Line	Type	JobsPort	Type	ETD Date	Ship Name	Gross Tonnage	Departure	Agent
	O		HAMBURG	In Port	02-02-16	GRUMANT	15,868 HANSAPORT 2	JUNGE & CO
	O		HAMBURG	In Port	02-02-16	PAGE AKIA	7,519 ATH 9-10	SEAGO LINE
	O		HAMBURG	In Port	02-02-16	GRANDE GABON	47,658 OSW 7-8	GRIMALDI
	O		HAMBURG	In Port	03-02-16	PACIFIC CALM	23,269 KALIKAI	KALI-TRANSPORT ...
	O		HAMBURG	In Port	03-02-16	EVER LIVING	100,254 CTT 4	EVERGREEN

IMO No. 9385879 Ship Name GRUMANT To Berth HANSAPORT 2
Length 180 M Width 22 M Gross Tonnage 15,868 TN Draught 9 M Deadweight Tonnage 23,278 TN Bow Thrusters Power
Orders

NEW SHIP INFO CREATE JOB

ETA Date: 03-09-15 KOTUG/Pieter 03-02-16 FILTER

Tug Vision - Planning Board



- Unique Processes
- Current Competitive Advantage

People make the Difference



Implementation Digitalization - Future (1)

Advice Planning Tool

- Tool currently being developed
- Common Dispatch: Experience Based Planning
Idea : To add prediction via AIS/Big Data/Algorithms

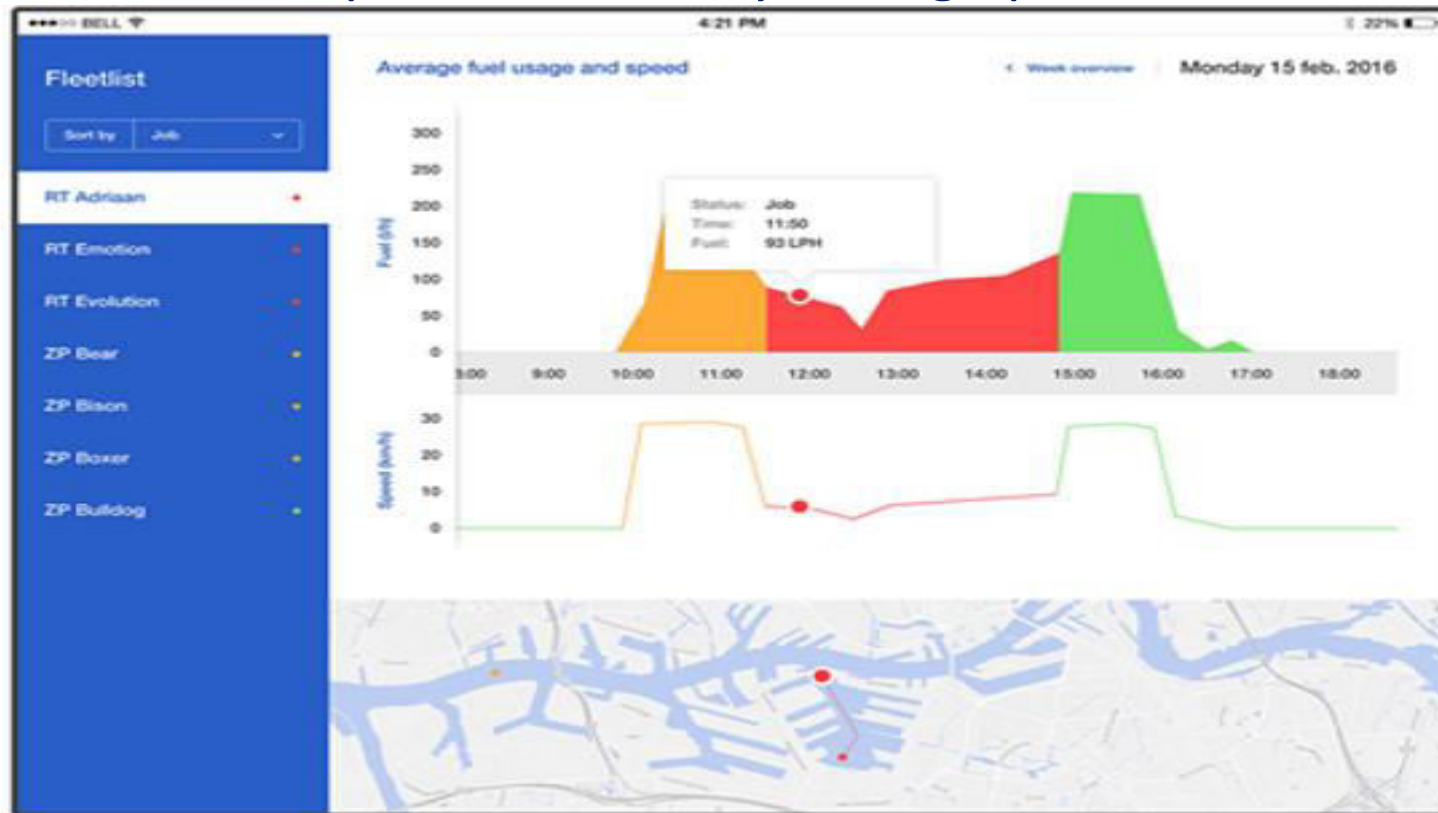
Goals:

- Better future ETA and ETD
- Constant update planning vs actuals
- Historic Forecast # of tugs
- Fuel saving due to efficient planning
(layberth, routing, eco speed)

Implementation Digitalization - Future (2)

Dashboard currently being developed

Fuel consumption, data analysis, tug optimization



What's Next ??



Be prepared
and stay
ahead

LEADING IN SAFE HARBOUR TOWAGE



KOTUG SMIT
TOWAGE