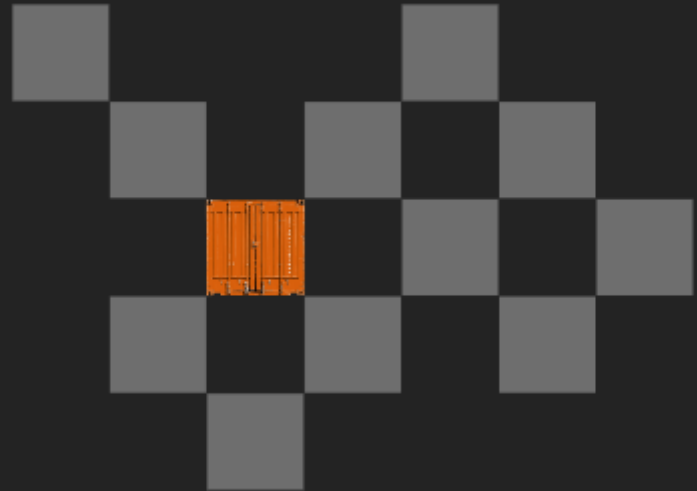


Pro-active shift planning and predictive maintenance



—
That's what you need for improving terminal's efficiency



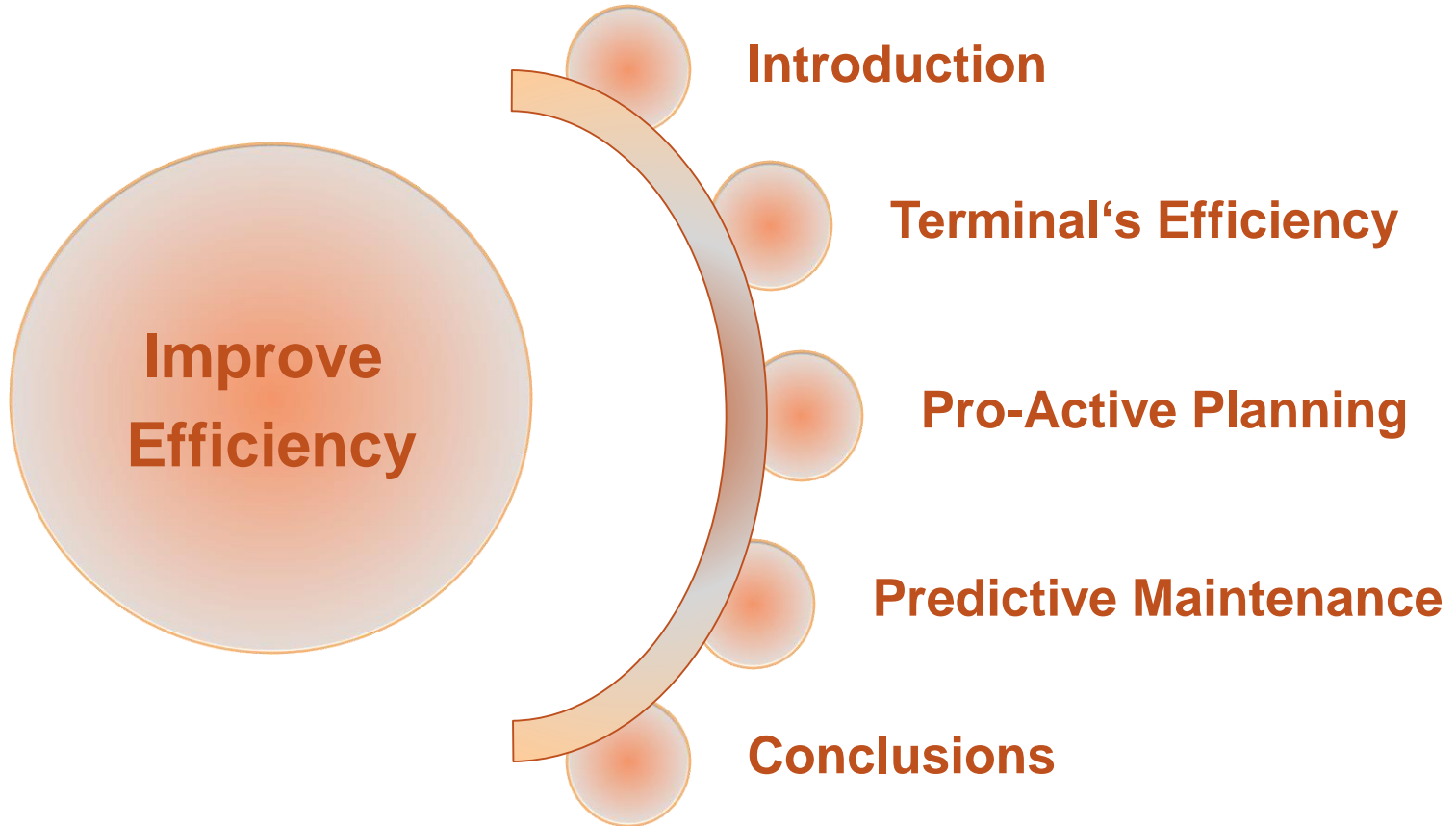
Holger Schuett

akquinet port consulting GmbH

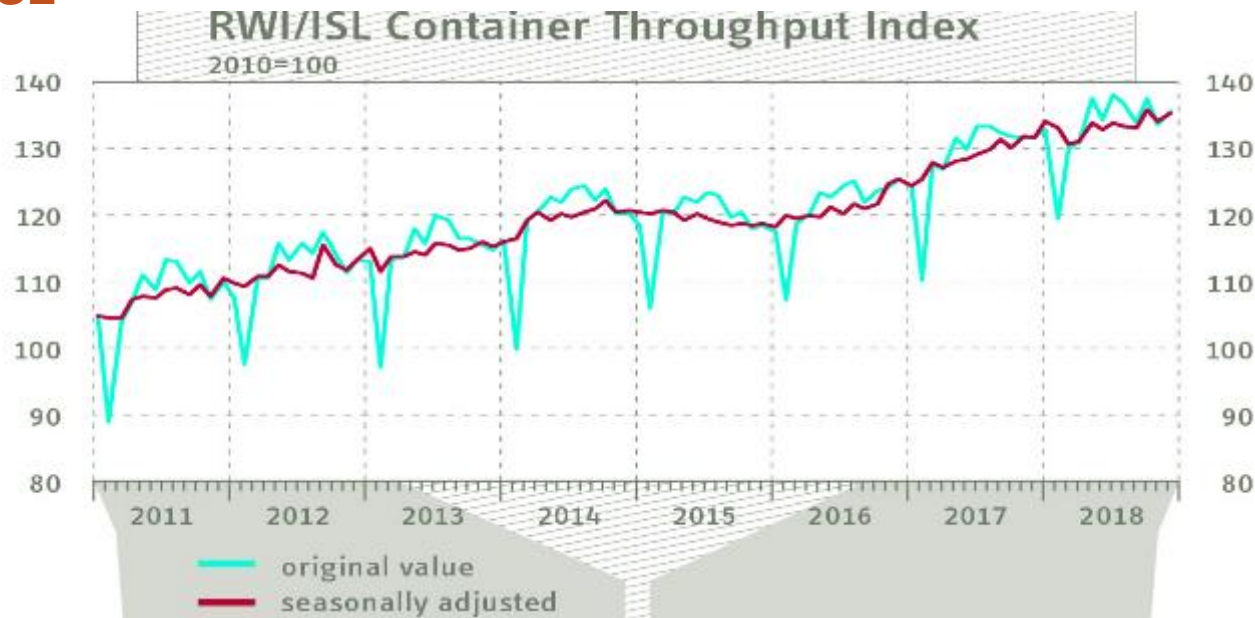
10th Philippine Ports & Shipping 2019

Manila, Feb. 19th – 21st

Agenda



ISL



The Container Throughput Index largely recovered in December 2018 from its decline in November. It has risen from 134.0 to 135.3 and is thus only slightly below its previous peak of October 2018. Overall, container throughput is quite robust in view of the growing number of reports on negative effects of the many protectionist measures taken in the past year.

RWI/ISL Container Throughput index

- 88 ports worldwide
- ~ 60 % of worlds throughput
- available 3 weeks in new month www.isl.org → news

November 2018

Great news: We are growing

ISL Applications GmbH becomes akquinet port consulting GmbH

ISL Applications recently joined the akquinet group in Hamburg. As a new AKQUINET subsidiary named akquinet port consulting GmbH we stay based in our head office in Bremerhaven and get two offices in Bremen and Hamburg. The idea is to get more manpower, to bundle know-how as well as to expand our services for ports and container terminals worldwide. Managing directors of the akquinet port consulting GmbH are Norbert Klettner and Prof. Dr.-Ing. Holger Schuett.

Of course our CHESSCON software stays the main tool to secure and optimise the operation of container terminals and ports worldwide in a wide range of applications

- optimising operational processes
- test-beds and training environments for TOS
- planning green and brownfield terminals
- evaluation of handling strategies
- visualising yard inventory in 3D
- supporting shift planning
- and many more!

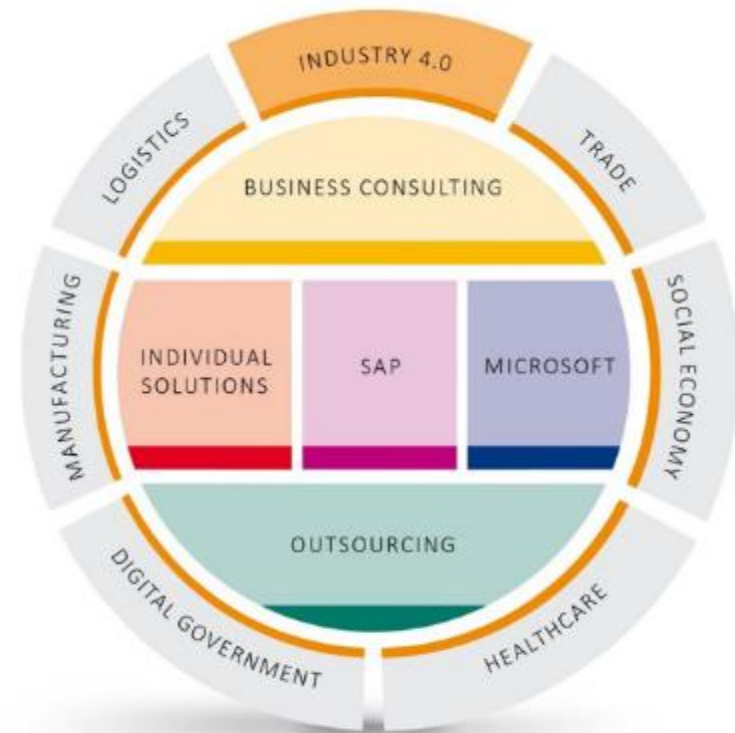


Figure 2 – Areas of competence akquinet AG

FEASIBILITY / DESIGN



REQUIREMENTS PROCUREMENT



IMPLEMENTATION



PORT & TERMINAL START-UP



OPERATION OPTIMIZATION



PORT IT & PROCESS DESIGN

FEASIBILITY STUDIES

REQUIREMENTS

TENDER MANAGEMENT

PROJECT MANAGEMENT

IT IMPLEMENTATION

PORT & TERMINAL SOLUTION

PROCESS & ORGANISATION

TRAINING

IT & SYSTEM START-UP

OPERATION START-UP

TERMINAL & IT REVIEW / AUDIT

TOS & PROCESS OPTIMIZATION

30 Years Simulation Experience



Products rebranding:
CAPS
SCUSY
VITO



CHESSCON



Optimisation and Simulation – References (selected)

ASEAN Terminals, Philippines

Bromma, Singapore

Centerm Terminal, Vancouver, Canada

CSX, Jacksonville, USA

DP World, Australia

EUROGATE, Germany

HHLA, Hamburg , Germany

HPA Hamburg Port Authority, Germany

HIT, Hong Kong

JadeWeserPort, Germany

Cargotec / Kalmar Industries, Finland

CMSA ICTSI, Manzanillo, Mexico

MCT, Gioia Tauro, Italy

MTL, Hong Kong

Noell Crane Systems, Germany

NTB, Bremerhaven, Germany

Port of Tacoma, USA

PORTEK International Ltd., Singapore

PSA International, Singapore

Red Sea Gateway Terminal, Jeddah, KSA

SPIA ICTSI, Columbia

Tata Consultancy Services, India

TCP Valparaiso, Chile

TecPlata ICTSI, Buenos Aires, Argentina

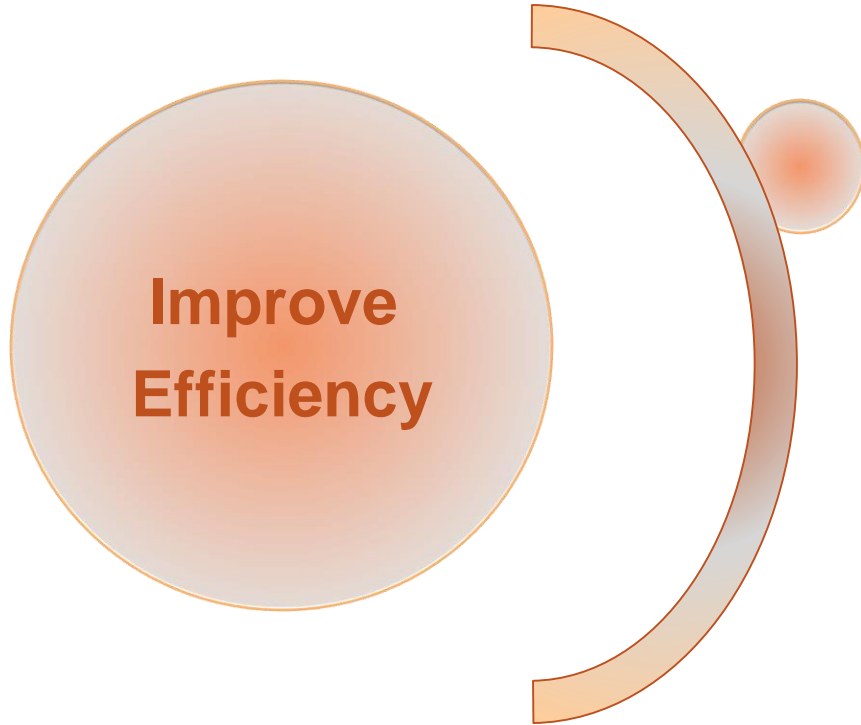
Terminal Investment Ltd, Netherlands

TotalSoftBank, Korea

TPT, South Africa

Warsteiner Brewery, Germany

Agenda



Terminal's Efficiency

AKQUIENT and CHESSCON on Terminal productivity



TOS



Process automation

Terminal
productivity

Equipment

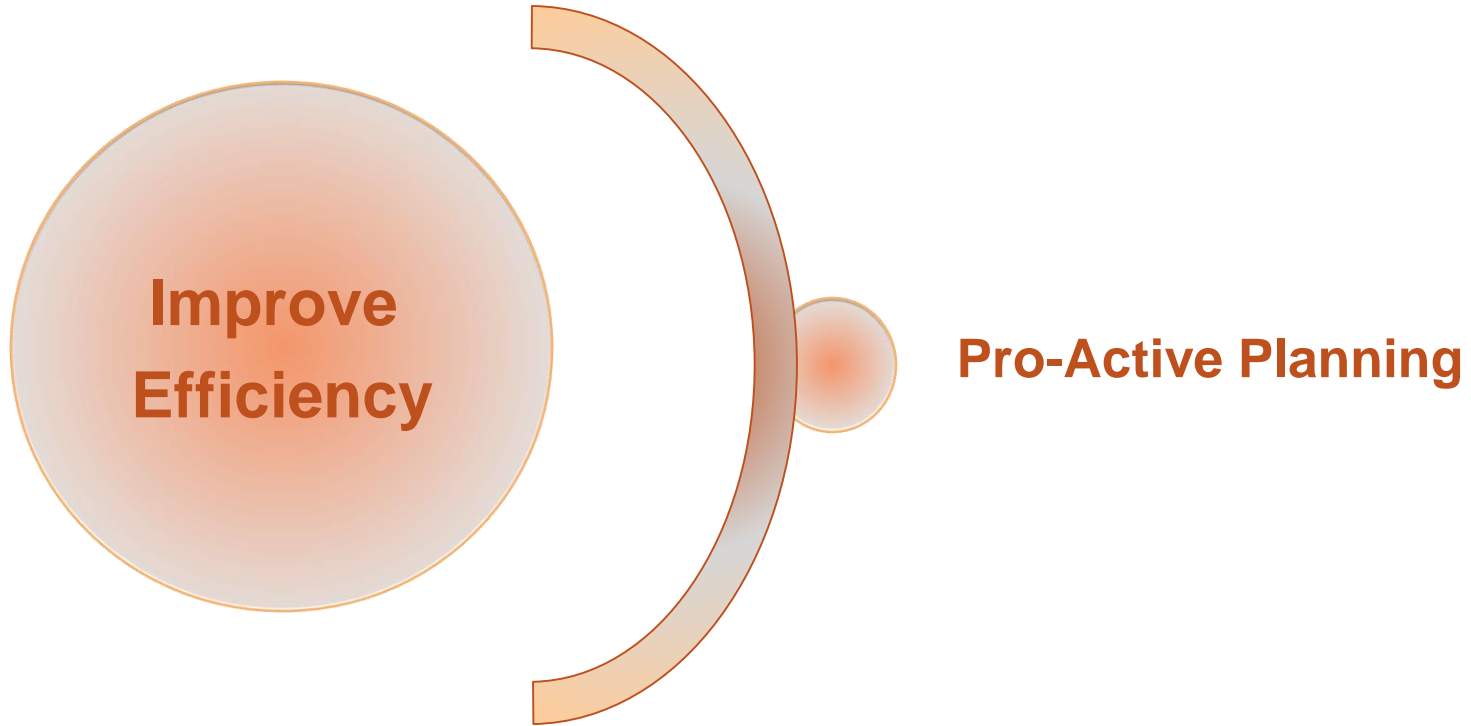


The first ALV of KMI

Terminal staff



Agenda





CHESSCON

YARD VIEW



No limits to filtering container inventory

The screenshot shows the 'CHESSCON Yard View' application window. At the top, there's a menu bar with 'File', 'Edit', and 'Help'. Below it is a header with the Chesscon logo and 'Yard View'. A toolbar contains buttons for 'Filter', 'Row Filter', 'Selection', 'Row list', 'Distance', 'Restore', and 'Info'. A filter menu is open, showing 'Empty (720 Cts)' and an 'Intersection' checkbox. Below the menu is a table with columns for 'Filter Name', 'Palette', and 'Color'. The table lists 'Flow' and 'Empty' filters with corresponding color swatches. At the bottom of the window, there are buttons for 'Clear Cts', 'Restore Cts', and 'Show Filter'.

Filter Name	Palette	Color
Flow		
Empty		

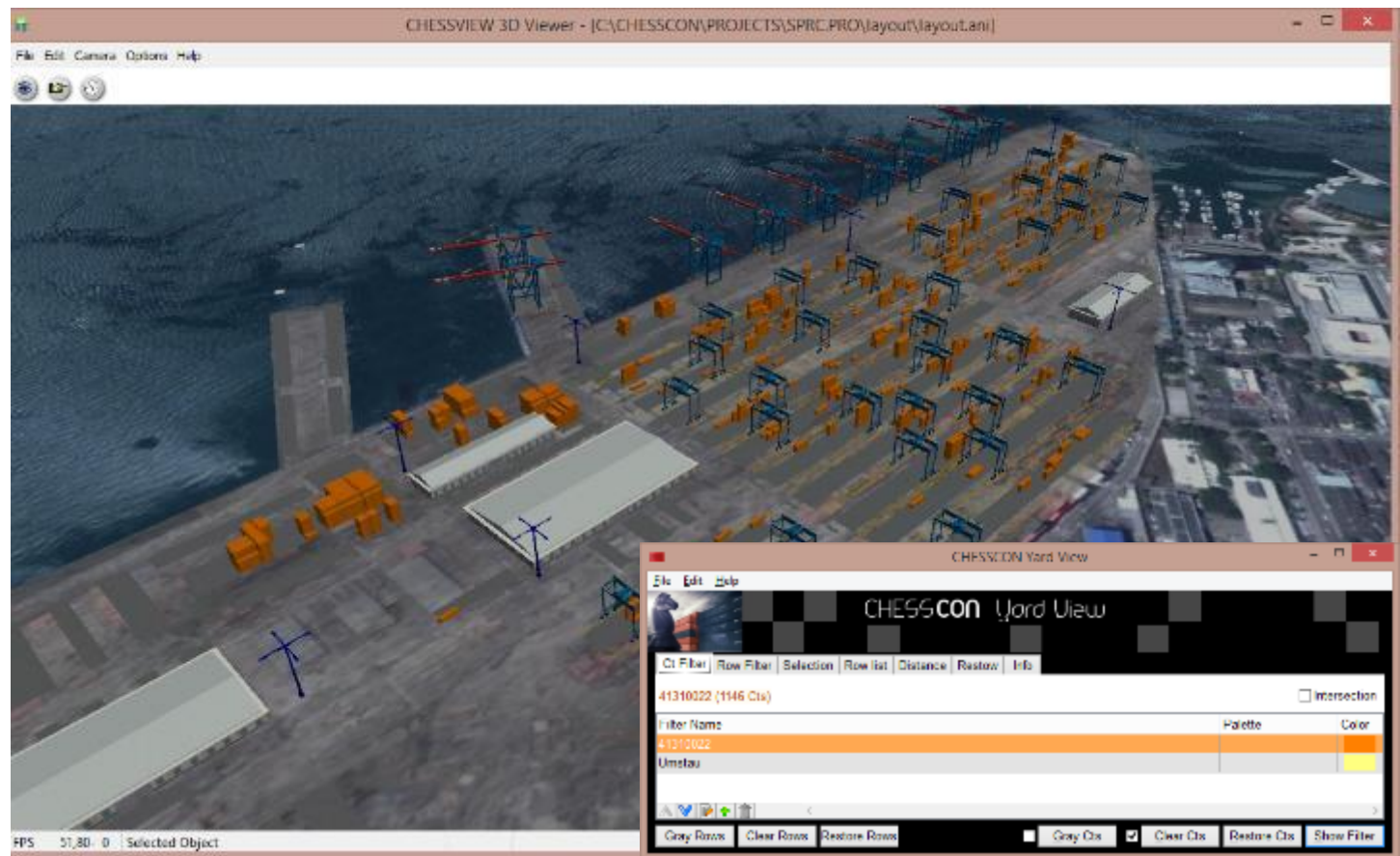
The screenshot shows a data table with columns: ID, RD, Length, Weight, Area, S, Y, Z, Plan, Equip, Kind, Oper, LOTS. The table contains multiple rows of container data, including IDs like '20U121201', '20U121202', '20U121203', etc., and various equipment types like 'TRUCK' and 'TRUSS'.

ID	RD	Length	Weight	Area	S	Y	Z	Plan	Equip	Kind	Oper	LOTS
20U121201	2201	26	2200	DK	206-09	F	2	EXPORT	C	TRUCK	04R020	00A
20U121202	2201	26	2200	DK	206-09	F	2	EXPORT	C	TRUCK	04R020	00A
20U121203	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121204	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121205	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121206	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121207	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121208	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121209	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121210	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121211	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121212	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121213	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121214	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121215	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121216	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121217	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121218	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121219	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121220	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121221	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121222	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121223	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121224	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121225	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121226	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121227	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121228	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121229	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121230	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121231	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121232	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121233	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121234	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121235	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121236	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121237	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121238	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121239	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121240	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121241	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121242	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121243	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121244	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121245	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121246	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121247	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121248	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121249	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A
20U121250	2201	26	2200	DK	206-09	C	2	EXPORT	C	TRUCK	04R020	00A



- Increases your yard planning
- Shows real container inventory
- 3D Overview of your terminal
- Easy connection to every TOS
- No limits to filtering container

CHESSCON Yard View for further analytics



CHESSCON Shift Preview

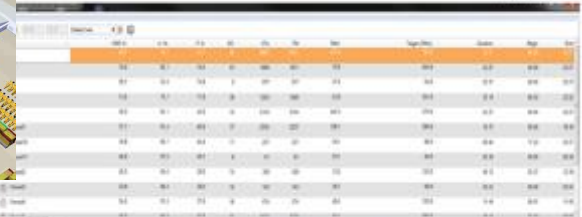
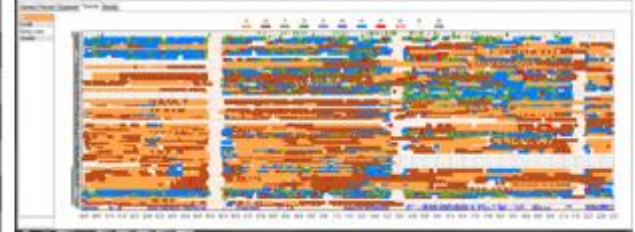
TOS

Import planning state
automatically



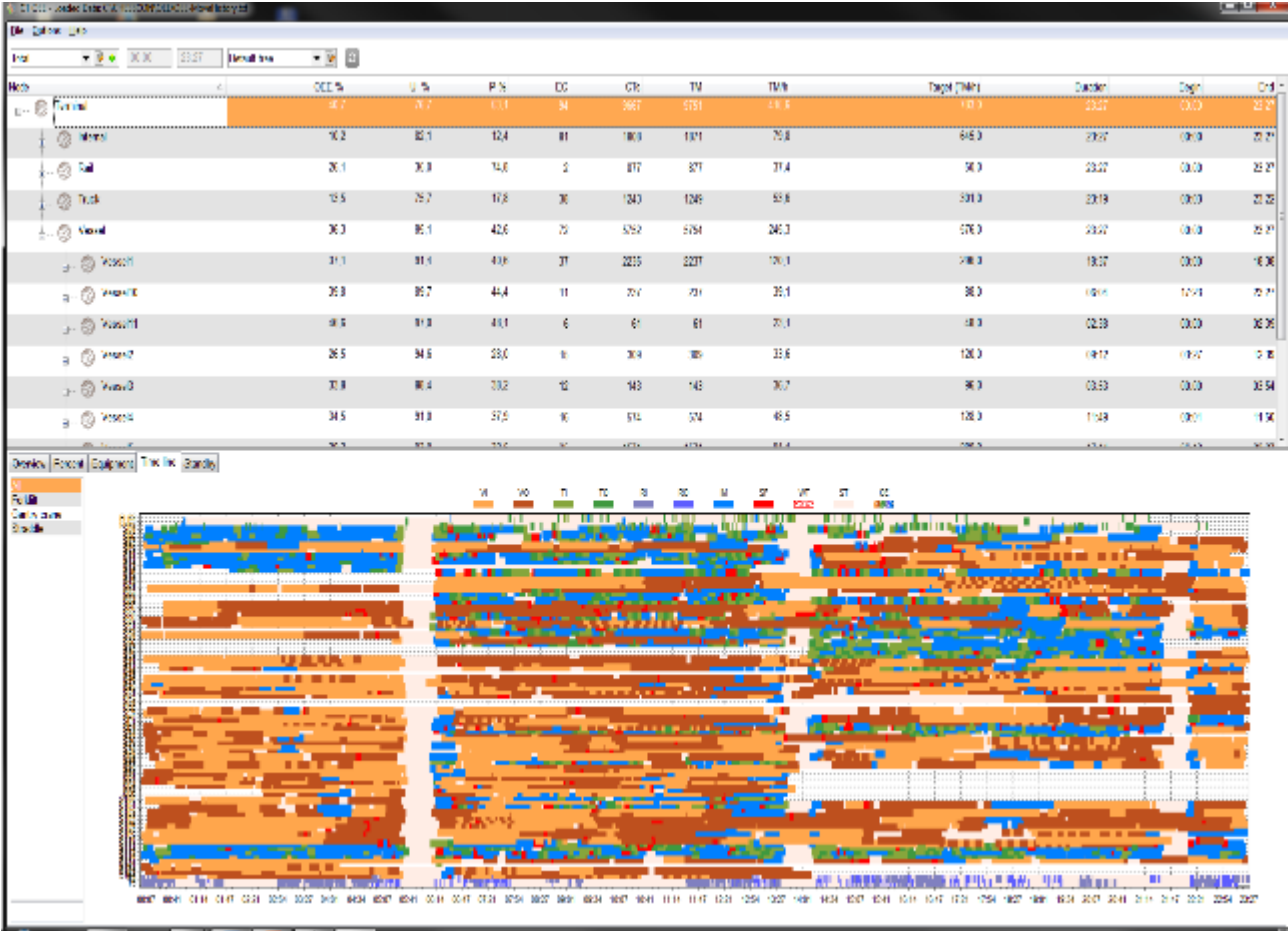
Table of based data

ISL
INTEGRATED
SOLUTIONS

A screenshot of a software interface showing a data table. The table has multiple columns with headers that are partially obscured but appear to include 'Date', 'Time', 'Status', 'Type', 'Value', 'Unit', 'Rate', and 'Cost'. The rows contain numerical data. The interface includes a search bar and some navigation icons at the top.

TOS-ERP

CHESSCON Shift Preview – OEE Example of based data



Agenda



**Improve
Efficiency**

Predictive Maintenance

AKQUIENT and CHESSCON on Terminal productivity



TOS



Process automation



Equipment



The first ALV of KMI

Terminal staff



Sensor-driven Fleetmanagement

Facts and Figures:

- Germany's FLT Supplier Still is maintaining some 20.000 FLT worldwide
- Each FLT sends data out of 8-10 sensors
- Some 1 mio messages per day are generated
- They are pre-processed on the FLT directly
- Resulting consolidated data is sent to akquinet's data center

Sensor-driven Fleetmanagement

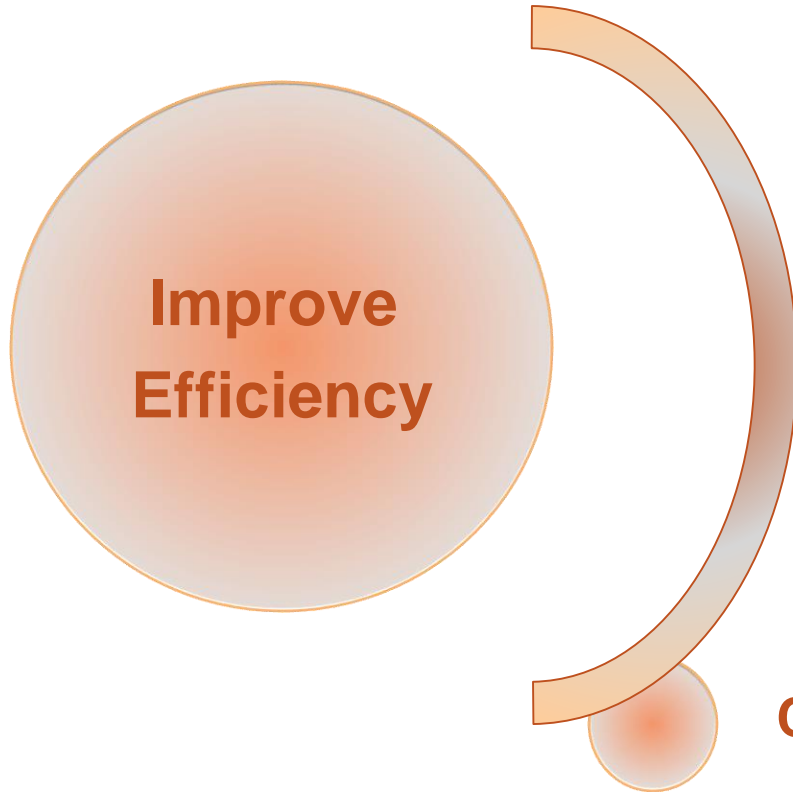
Results:

- Break-downs caused by overload or wear are detected bevor they occur
→ Predictive mainteance
- Still increases customer's satisfaction
- Increasing fleet's efficiency and saving costs
- Prolonged operating life of equipment

Sensor – driven Fleetmanagementsystem



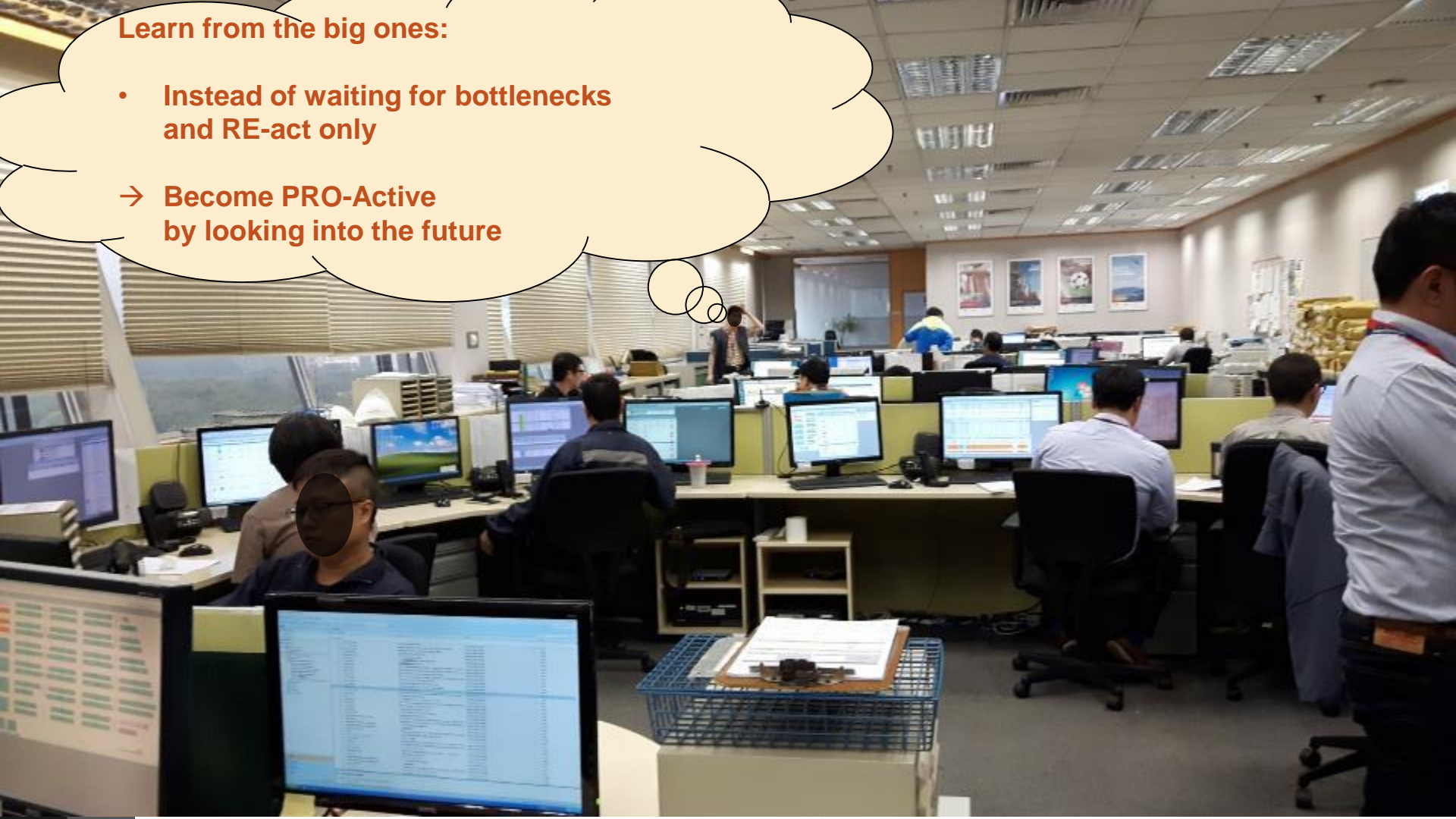
Agenda



Conclusions

Learn from the big ones:

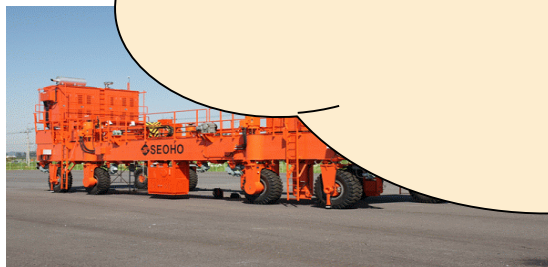
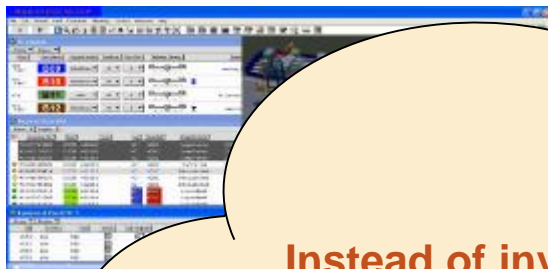
- **Instead of waiting for bottlenecks and RE-act only**
- **Become PRO-Active by looking into the future**



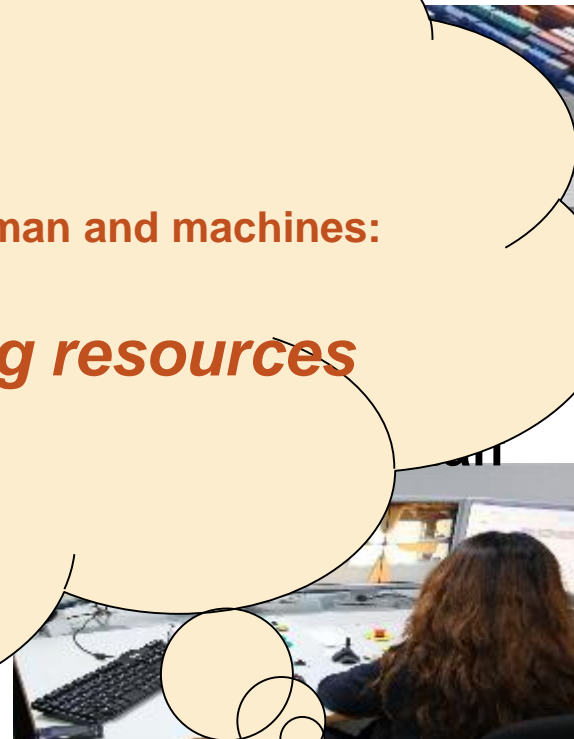
How to improve terminal's efficiency

Instead of investing in more and more man and machines:

Get more out of your existing resources



The first ALV of KMI



MAKE YOUR RIGHT MOVES!



WWW.CHESSCON.COM

CHESSCON
VIRTUAL TERMINAL

Thank you for your attention



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