

13th ASEAN PORTS & SHIPPING 2015 - JAKARTA



TRUCONNECT®

Remote Monitoring and Reporting for Lift Trucks



VISION

We know in real time how millions of lifting devices and machine tools perform. We use this knowledge around the clock to make our customers' operations safer and more productive.

HISTORY

- Ten years of experience from remote access connections
- 2008 first pilot cases
- 2010 launching of Truconnect®
- 2012 Truconnect® on Lift Trucks

More than 10,000 connections!

Wire rope hoist cranes, port cranes, lifttrucks etc.

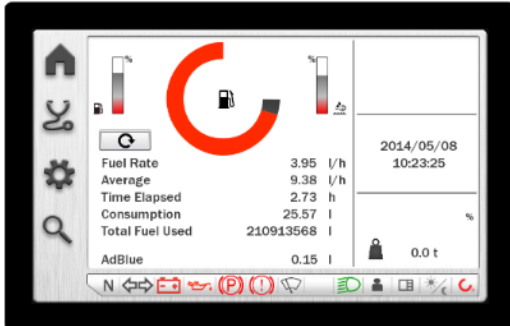
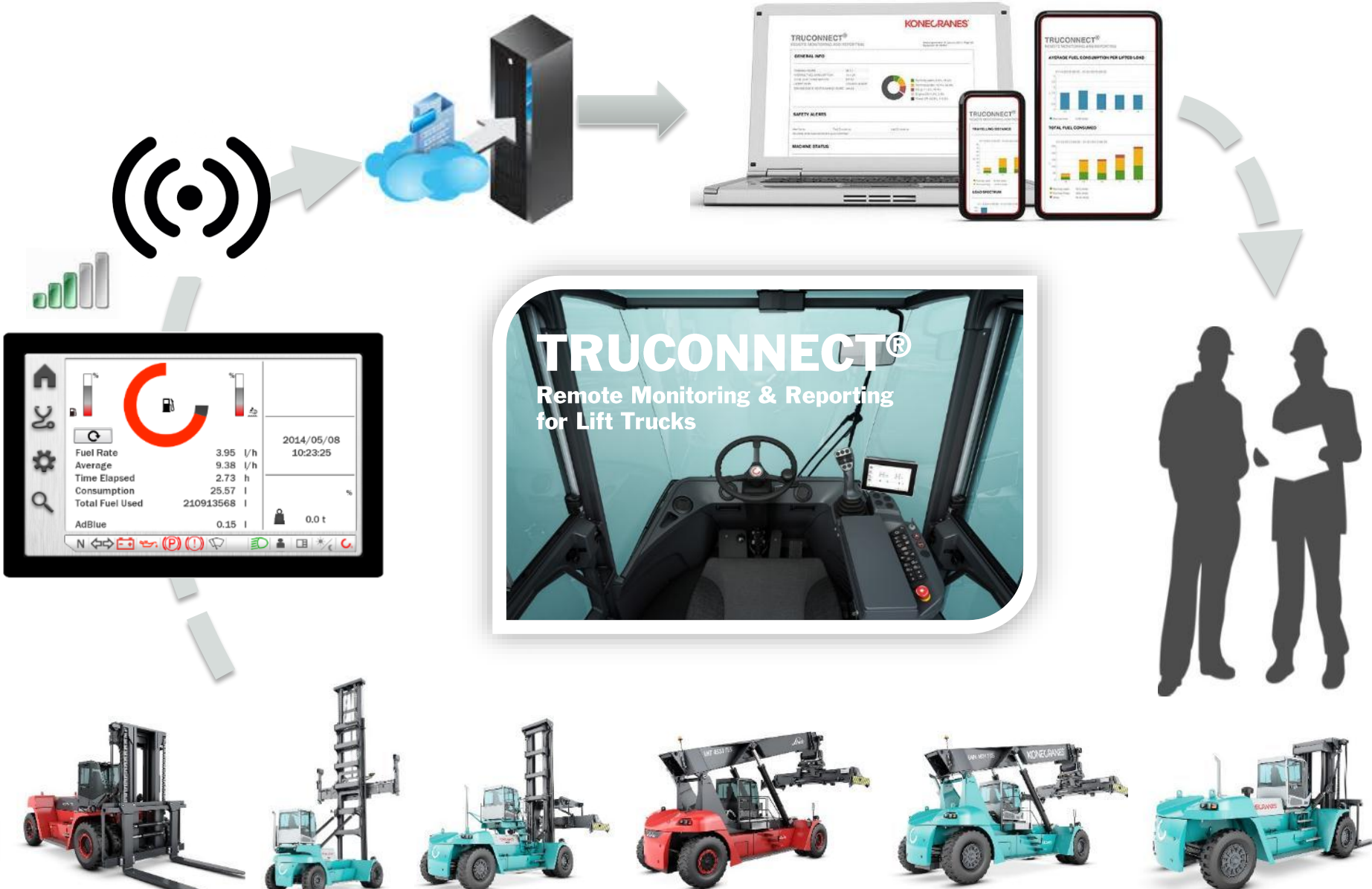




TRUCONNECT®

- Safer lifttrucks usage
- Better maintenance planning
- Visibility on the productive use of your truck fleet

TRUCONNECT® LIFT TRUCKS



WHAT TYPE OF DATA IS GATHERED?

- **Production efficiency**

- Activity status data
- Fuel consumption data
- Load data

- **Usage**

- Travelling distance
- Average travelling distance
- List of drivers

- **Safety alerts**

- Overheats of the engine and transmission system
- Pressure drops of the engine oil
- Safety overrides

- **Recommended interval for the next maintenance**

FLEET PERFORMANCE OVERVIEW

Truconnect® Lift Trucks

Lift trucks

BPC430

EQUIPMENT ID: M9609
 LATEST DATA: 4/22/2015 12:37:42
 SERVICE DUE IN NEXT RUNNING HOURS: 328.6
 CONTRACT EXPIRY: 07/07/2015



RUNNING HOURS:
17.7

GENERAL INFO

BPC438

EQUIPMENT ID: M9600
 LATEST DATA: 4/21/2015 11:32:09
 SERVICE DUE IN NEXT RUNNING HOURS: 69.5
 CONTRACT EXPIRY: 08/29/2015



RUNNING HOURS:
79.4

GENERAL INFO

BPC439

EQUIPMENT ID: M9601
 LATEST DATA: 4/22/2015 14:30:12
 SERVICE DUE IN NEXT RUNNING HOURS: 111.8
 CONTRACT EXPIRY: 08/29/2015



RUNNING HOURS:
51.5

GENERAL INFO

BPC451

EQUIPMENT ID: M9584
 LATEST DATA: 4/22/2015 14:04:31
 SERVICE DUE IN NEXT RUNNING HOURS: 310.3



RUNNING HOURS:
64.9

GENERAL INFO

BPC452

EQUIPMENT ID: M9585
 LATEST DATA: 4/22/2015 14:42:27
 SERVICE DUE IN NEXT RUNNING HOURS: 169.4
 CONTRACT EXPIRY: 08/13/2015



RUNNING HOURS:
273.6

GENERAL INFO

BPC465

EQUIPMENT ID: M9592
 LATEST DATA: 4/22/2015 09:49:16
 SERVICE DUE IN NEXT RUNNING HOURS: 23.4
 CONTRACT EXPIRY: 08/12/2015



RUNNING HOURS:
89.0

GENERAL INFO

BPC477

EQUIPMENT ID: M9593
 LATEST DATA: 4/22/2015 15:14:49
 SERVICE DUE IN NEXT RUNNING HOURS: 20.5
 CONTRACT EXPIRY: 08/11/2015



RUNNING HOURS:
127.2

GENERAL INFO

BPC489

EQUIPMENT ID: M9913
 LATEST DATA:
 SERVICE DUE IN NEXT RUNNING HOURS: 0.0
 CONTRACT EXPIRY: 03/11/2016

No data

GENERAL INFO NOT AVAILABLE

BPC495

EQUIPMENT ID: M9534
 LATEST DATA: 4/22/2015 12:39:36
 SERVICE DUE IN NEXT RUNNING HOURS: 96.8
 CONTRACT EXPIRY: 05/15/2015



RUNNING HOURS:
161.2

GENERAL INFO

TOTAL ACCUMULATED

RUNNING HOURS 996.1 h
 AVERAGE FUEL CONSUMPTION 7.0 l/h
 TOTAL FUEL CONSUMPTION 6951.4 l

BPC499

EQUIPMENT ID: M9933
 LATEST DATA:
 SERVICE DUE IN NEXT RUNNING HOURS: 0.0
 CONTRACT EXPIRY: 03/11/2016

No data

GENERAL INFO NOT AVAILABLE

SAFETY & ALERTS MONITORING

Truconnect® Lift Trucks

- Safety monitoring**

- Safety override
- Overload
- Tires pressure
- Shocks
- Nearguard (RFID)

- Alerts management & notification**

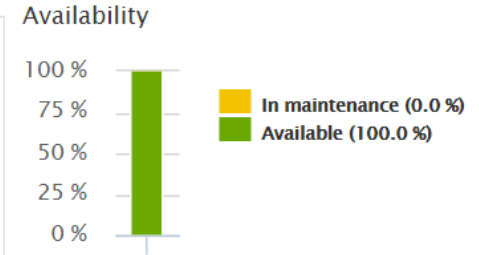
- Safety & overload
- Drivetrain
- Truck diagnostics

- Real time**

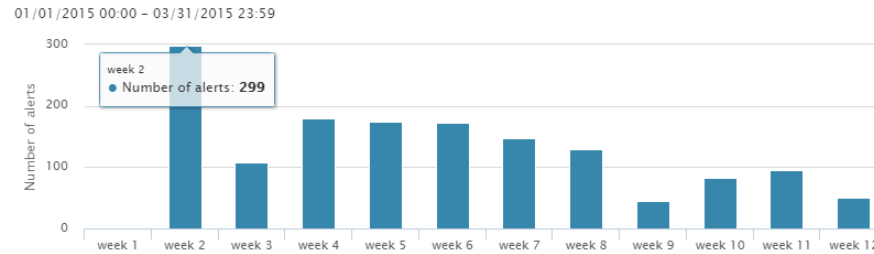
- Active alerts
- Truck availability
- Data on demand
- SMS/E-mail alerts notification

ACTIVE ALERTS

ALERT ID	ALERT NAME	DATE
4	TRANSMISSION OVERHEAT ALERT	4/28/2015 13:09:55



Safety Alerts



Latest Alerts

[show all](#)

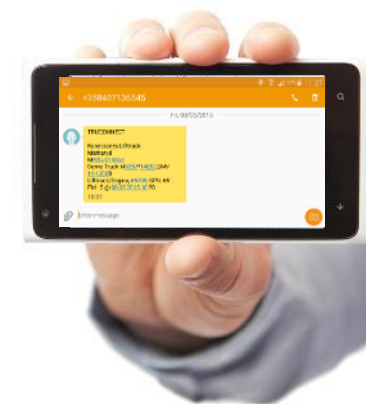
ALERT ID	CATEGORY	ALERT NAME	DATE	SPEED (KM/H)	LATITUDE	LONGITUDE	ACTIVE
4	Liftruck/Gearbox	Transmission overhear alert	3/31/2015 13:30:29	N/A	N/A	N/A	
4	Liftruck/Gearbox	Transmission overhear alert	3/31/2015 13:20:20	N/A	N/A	N/A	
4	Liftruck/Gearbox	Transmission overhear alert	3/31/2015 13:17:02	N/A	N/A	N/A	
4	Liftruck/Gearbox	Transmission overhear alert	3/31/2015 13:16:06	N/A	N/A	N/A	
4	Liftruck/Gearbox	Transmission overhear alert	3/31/2015 13:16:05	N/A	N/A	N/A	

Most frequent alerts

[show all](#)

ALERT ID	CATEGORY	ALERT NAME	OCCURRENCES	FIRST OCCURRENCE	LAST OCCURRENCE
100	Liftruck/Nearguard	Nearguard forward alert	1172	1/7/2015	3/31/2015
101	Liftruck/Nearguard	Nearguard reverse alert	410	1/7/2015	3/31/2015
4	Liftruck/Gearbox	Transmission overhear alert	53	2/18/2015	3/31/2015
206	Liftruck/Tyres	Right front outer tyre pressure low alert	5	3/4/2015	3/4/2015
204	Liftruck/Tyres	Right front inner tyre pressure low alert	2	3/4/2015	3/4/2015

[show all](#)

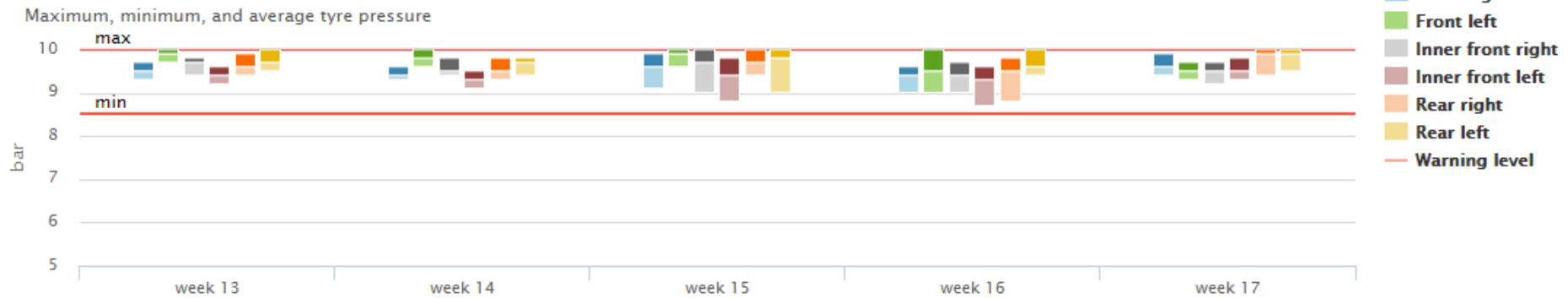




TRUCONNECT® LIFT TRUCKS PREMIUM TPMS - Tyre Pressure Monitoring System

Tyre Pressure

03/23/2015 11:00 - 04/22/2015 11:59



- **Increased safety / stability**

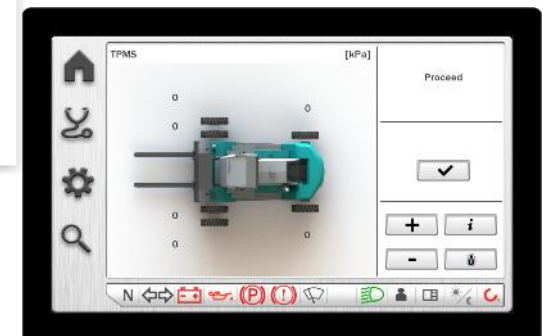
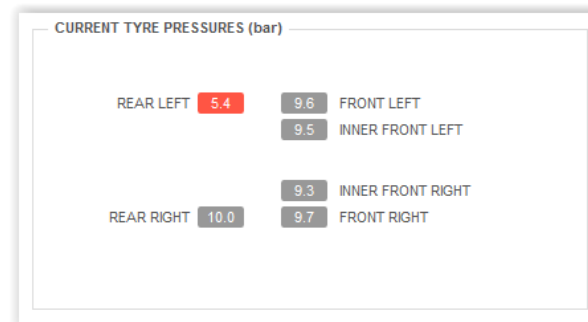
- Tyre pressure greatly affects the behavior of the lift truck

- **Extended tires lifetime**

- Low tyre pressure is major cause of premature tyre failure

- **Lower fuel consumption**

- Tyre pressure greatly affects the fuel consumption of the lift truck



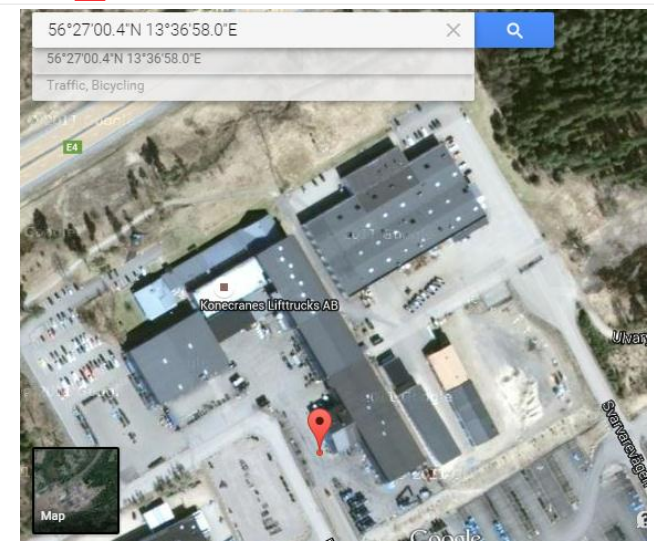
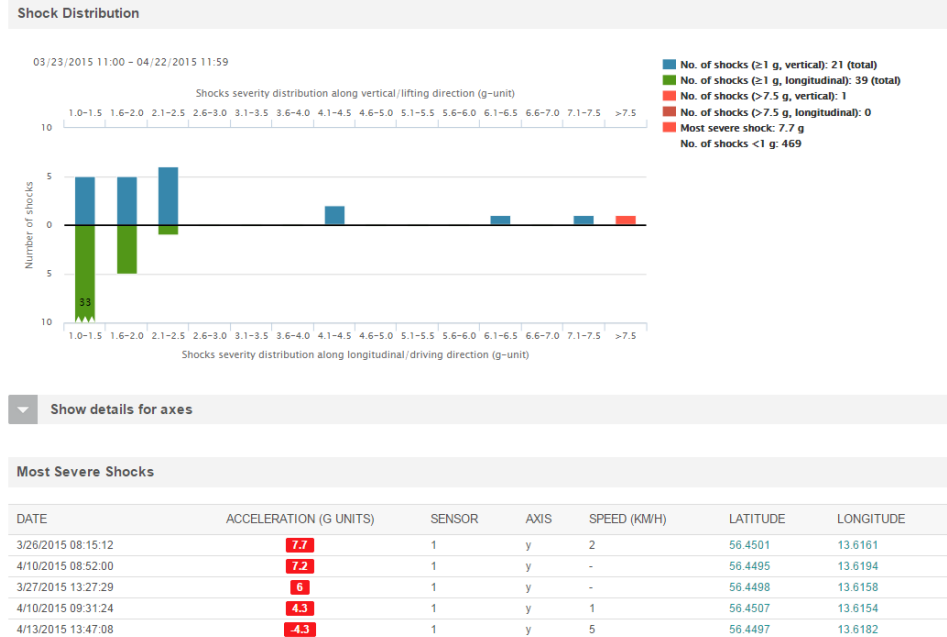


TRUCONNECT® LIFT TRUCKS PREMIUM

Impacts EXPOSURE MONITORING

Careless operation of lift trucks equipment creates unnecessary costs for your business!

- Create a safer work environment by reducing operator, facility, equipment and product damage due to impacts
- Reduce damage-related expenses and downtime due to improper operation
- Detect impacts and record event details, such as shocks severity and location, timestamp, speed and location
- Increase operator accountability and improve driving behavior
- Provide easy access to real-time impact and operator data for analysis and more effective decision-making



TRUCONNECT® LIFT TRUCKS PREMIUM⁺ HYDRAULIC OIL CONTAMINATION MONITORING

Contamination is a major cause of downtime, which may result in significant financial losses!

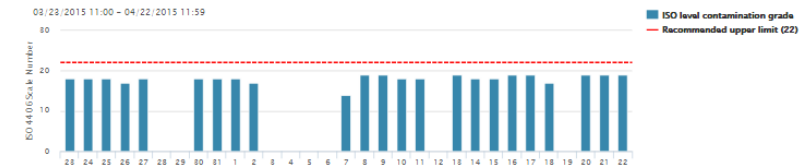
- **Oil cleanliness monitoring** limit risks of:
 - Blockages in the filter
 - Component wear
 - Formation of rust and chemical compounds
 - Depletion of additives
 - Biological growth
- **Water content monitoring** limit risks of:
 - Corrosion of metal surfaces
 - Accelerated wear
 - Bearing fatigue
 - Fluid additive breakdown
 - Viscosity variance
 - Increase in electrical conductivity

Truconnect assists in planning preventive maintenance actions for the hydraulic system and helps prevent unplanned downtime



Particles Content

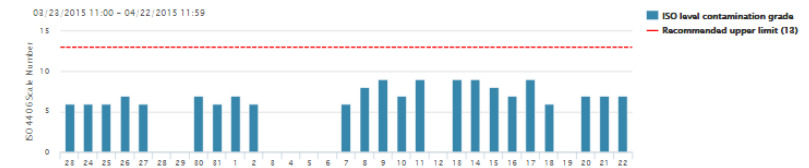
Small particles count (>4 µm)



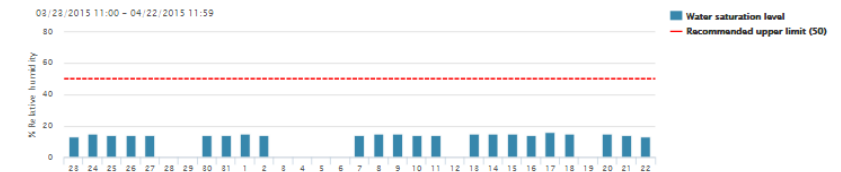
Medium particles count (>6 µm)



Large particles count (>14 µm)



Water content



TRUCONNECT® LIFT TRUCKS

Let's go live...

<https://craneportal.konecranes.com/access/login>

How Smart Connected Lift Trucks could transform competition?

“We make **machines more intelligent** and **aware of their condition**, we **network** them to create **real time visibility** for **enhanced safety & productivity**”



THANK YOU



**NOT JUST LIFTING
THINGS, BUT
ENTIRE BUSINESSES**