

# REDUCING OPERATIONAL COSTS WHILE INCREASING UPTIME WITH AUTOMATIC MAINTENANCE



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**GROENEVELD LUBRICATION SOLUTIONS**

**‘All over the world the challenges are the same..’**





# Futureproof with manual lubrication?

How many lubrication points do we find in a container terminal operation?

A close-up photograph of a male worker in profile, wearing a black safety cap, a dark jacket, and a high-visibility yellow-green vest. He is wearing blue nitrile gloves and is using a manual grease gun to apply lubricant to a metal component of a large piece of machinery. The machinery is dark and appears to be part of a container terminal operation. The background shows a blue sky with some clouds and other industrial structures.

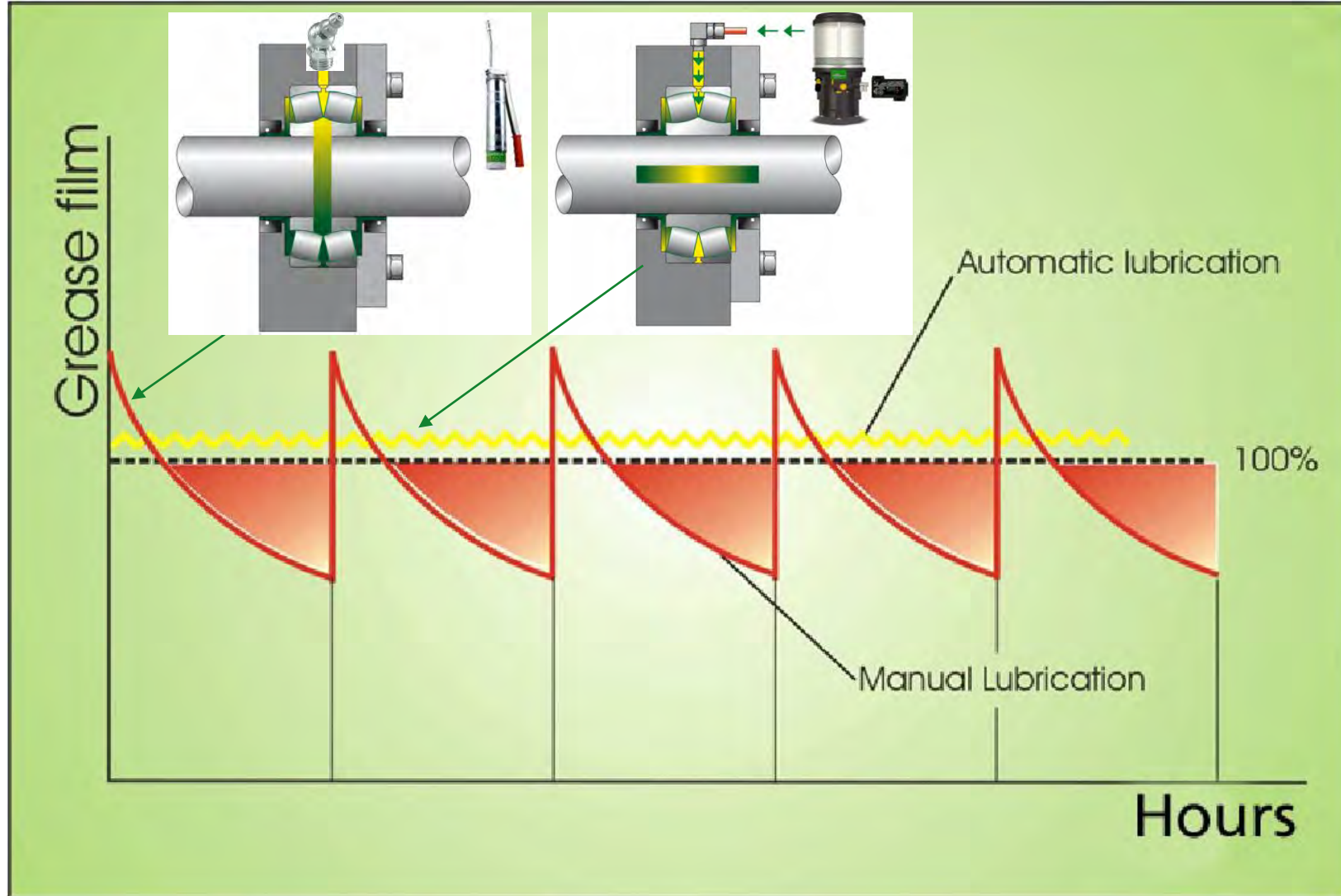
# 4 mil TEU container terminal example

Application	Quantity	Grease points nr.	Total points
STS Crane	32	180	5760
STS Spreader	32	43	1376
RTG's	84	54	4536
RTG spreader	84	18	1512
Terminal tractor	260	16	4160
Trailers	600	6	3600
Reachstackers with spreader	10	40	400
Lift-truck	10	14	140
	<b>1,112</b>	<b>Total</b>	<b>21,484</b>





# Manual versus Automatic Lubrication



# Why do we need to lubricate?

- ➔ Preventing (metal to metal) contact between two moving components using a film of grease
- ➔ Sealing  
(keeping out dirt, water, cleaning agents etc.)
- ➔ Cooling and reducing friction
- ➔ Lubricating seals  
(maintaining tightness)



# Why choosing automatic lubrication?

It's all about...

SAFETY

UPTIME

RELIABILITY

ENVIRONMENT

COST SAVING





# It is all about...

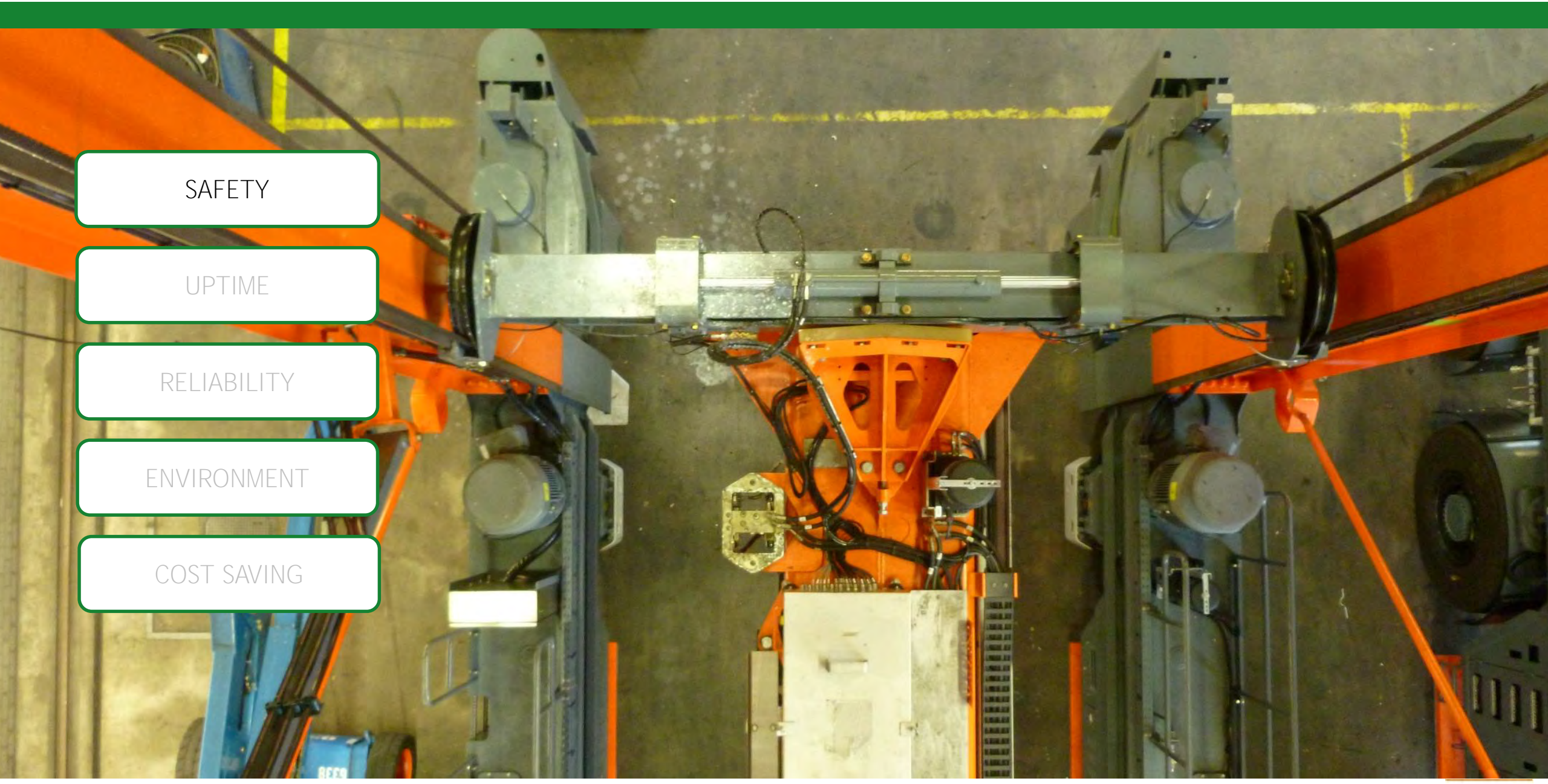
SAFETY

UPTIME

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# It is all about...

SAFETY

UPTIME

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Lubrication points:

- ➔ Headblock: 20
- ➔ Spreader: 36
- ➔ **Total: 56**

## 7.0 SERVICING AND MAINTENANCE INSTRUCTIONS

### 7.1 Recommended Preventive Maintenance Schedule

S/N	Description	Initial	Daily	Weekly	Monthly	Quarterly	Annually
9	Greasing of Telescopic sliding surface.	X	-	-	X	-	-
10	Greasing of twistlock pin, spherical washers & landpin sliding surfaces.	X	-	-	X	-	-
11	Greasing of drive chains and idler wheel bearing.	X	-	-	X	-	-
12	Greasing of hydraulic cylinder rod end bearings & exposed piston rods.	X	-	-	X	-	-

# It is all about...

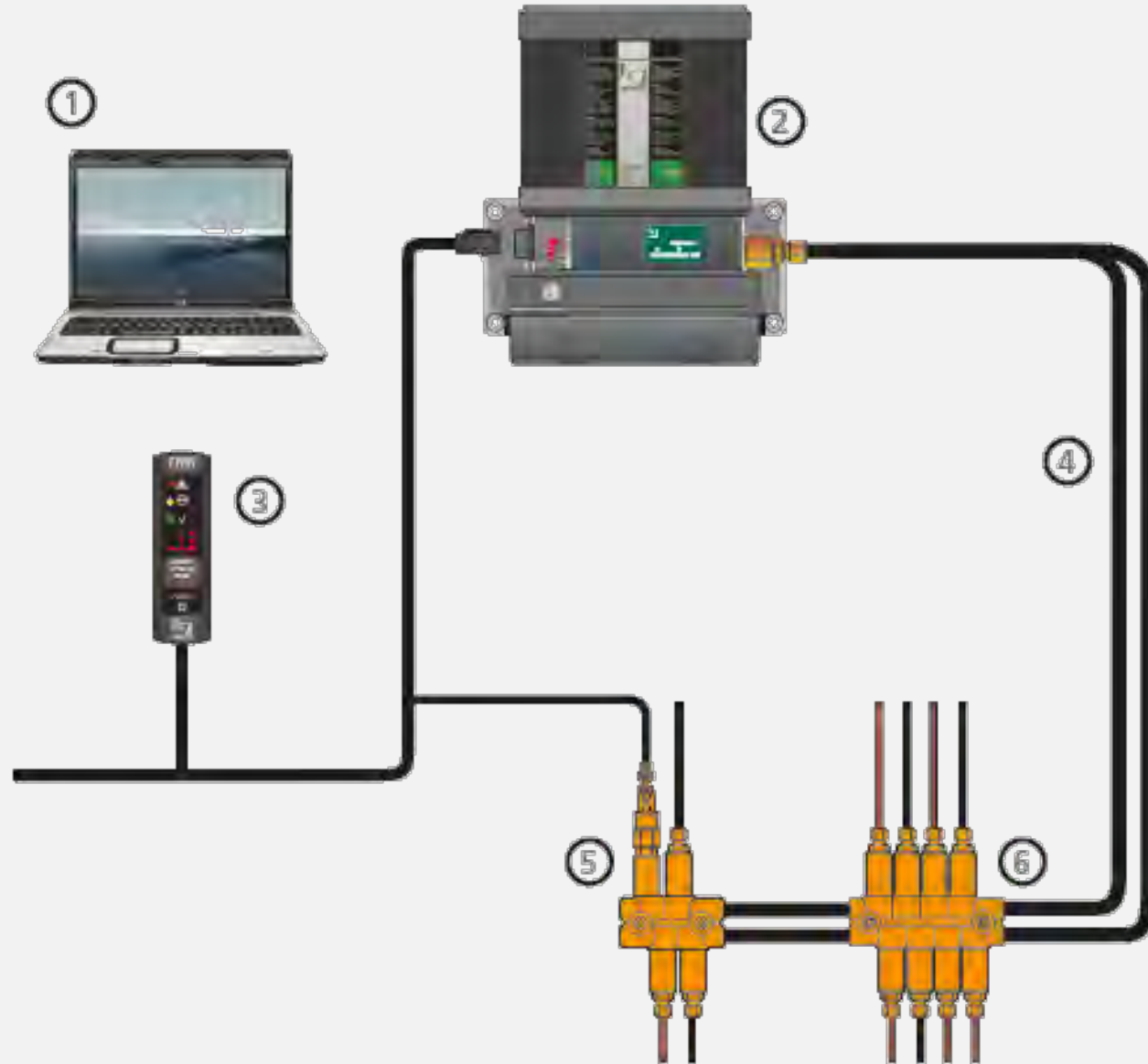
SAFETY

UPTIME

RELIABILITY

ENVIRONMENT

COST SAVING





# It is all about...

SAFETY

UPTIME

RELIABILITY

ENVIRONMENT

COST SAVING

- ➔ Less waste, less cleaning
- ➔ Bio-grease
- ➔ Less component replacements



# It is all about...

SAFETY

UPTIME

RELIABILITY

ENVIRONMENT

COST SAVING

## Back to the container terminal example:

- ➔  $21,484 \times 2 \text{ min} \times 12 \text{ (Monthly)} = 8,600 \text{ hrs. (5 Fte's)}$
- ➔ Labour €50 per hour makes €430.000,- per year
- ➔ ***What is the value of uptime?***
- ➔ ***and less component replacement?***





# TIMKEN

## Part of the Mechanical Power Transmission division

- ➔ Automated Maintenance Systems
- ➔ Safety Support Devices



# Groeneveld worldwide sales & distribution network





# Company owned production facilities



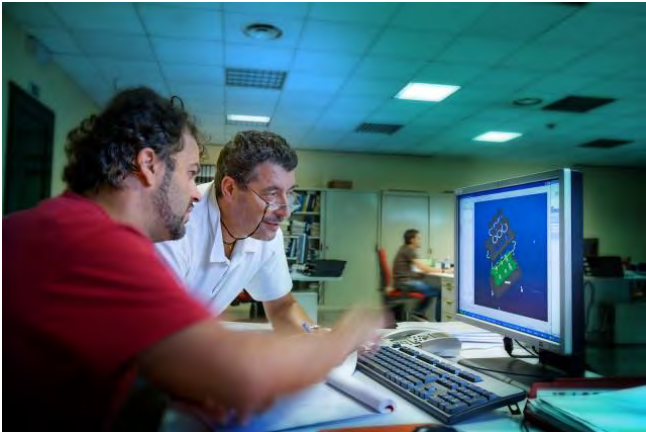


# Groeneveld distribution strategy



## OEM Sales

- ➔ Focus on existing and new OEM's
- ➔ Solid commercial and technical support
- ➔ Co-design and co-development



## Retail and Direct Sales

- ➔ Direct sales to key accounts
- ➔ Company-owned sales and service organization in countries with a solid presence or high potential
- ➔ Independent distributors in other areas
- ➔ Hybrid model of branches and distributors
- ➔ Strong focus on service and after sales





# A selection of our OEM/ OED partners



# Terminal operators with Groeneveld's solutions





# Where others sell products we offer solutions...



Oil management systems



Safety support systems



Automatic lubrication systems

# Where others sell products we offer solutions...



Oil management systems



Safety support systems

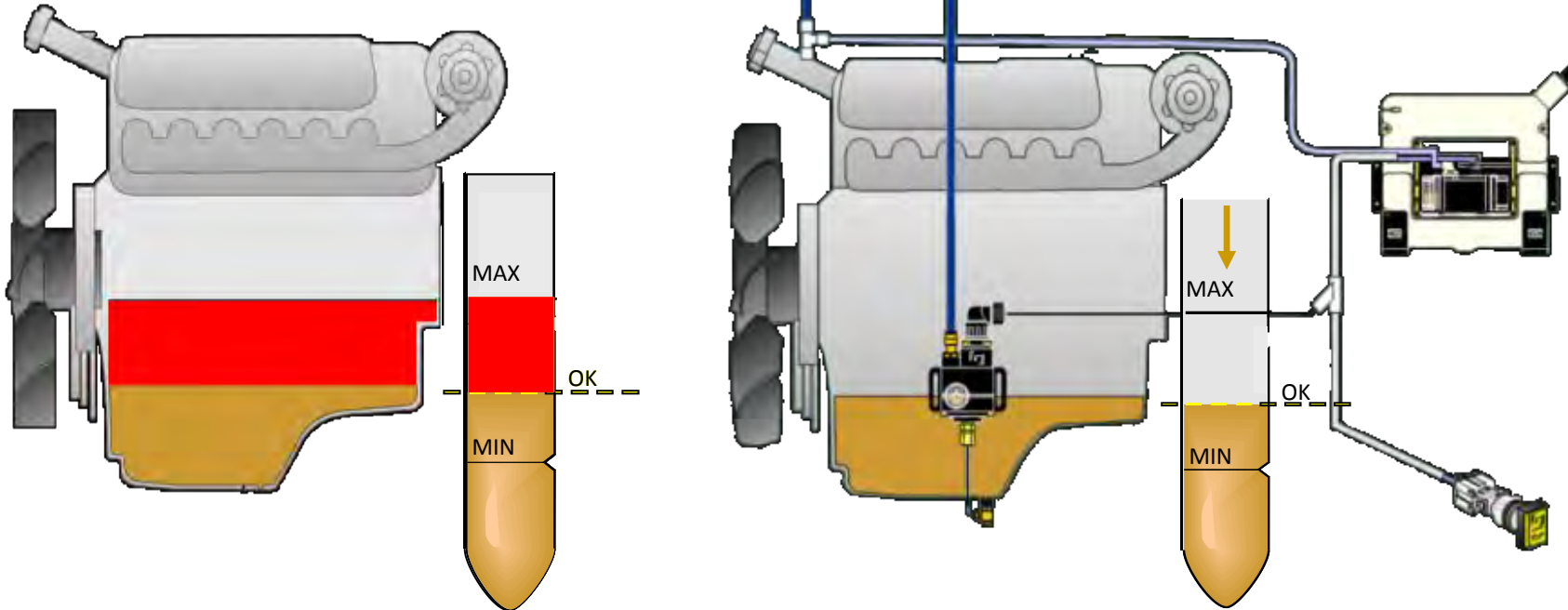


Automatic lubrication systems



# Oilmaster oil management system

- ➔ Always the right oil level
- ➔ Ensures the right oil specification
- ➔ No waste of oil
- ➔ Reduces risk of damaging the exhaust after treatment system
- ➔ Avoids extra fuel consumption as result of over-filling ( -> 2% )



*>60,000 in operation worldwide*

# Where others sell products we offer solutions...



Oil management systems



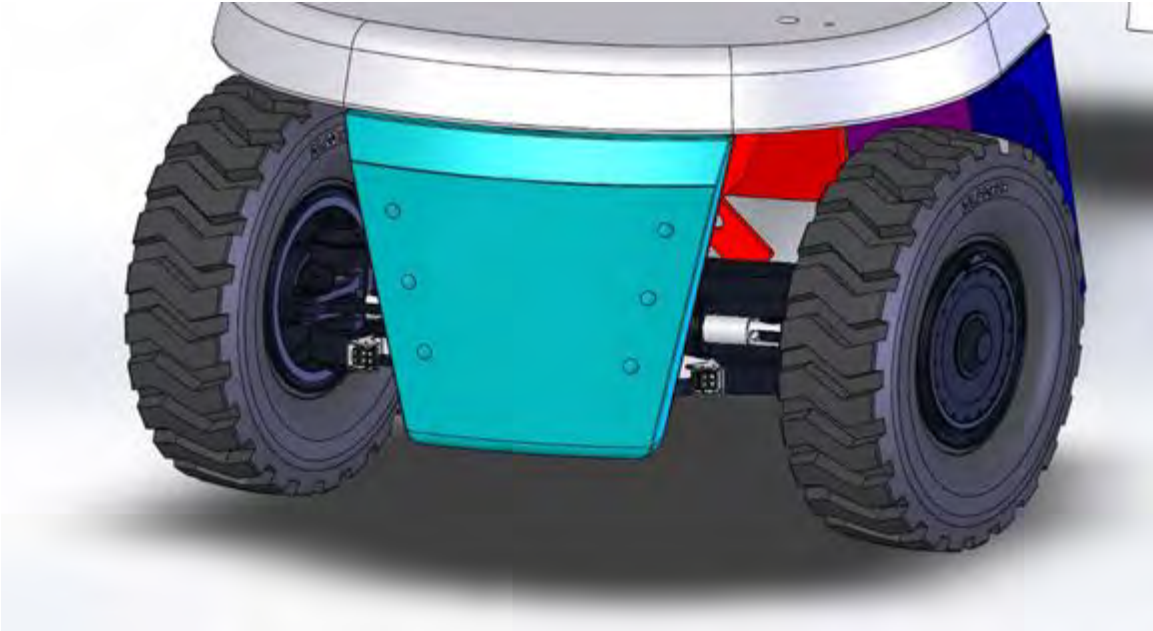
Safety support systems



Automatic lubrication systems



# Greensight Safety Support System



# Where others sell products we offer solutions...



Oil management systems



Safety support systems



Automatic lubrication systems



# Lubrication Solutions – Product range





# Lubrication Solutions installed on different applications







# Why Twin heavy duty greasing?

1. Developed on purpose for Port Equipment machinery
2. Low operating pressure
3. Parallel operated system
4. Volumetric system
5. Modular concept





# Groeneveld – Your missing link in port automation

## *Did you automate everything?*

**STS Cranes**



**Transportation**



**Stacking Cranes**



**Lubrication**



For more information contact me at: [j.bood@groeneveld-group.com](mailto:j.bood@groeneveld-group.com)



**SAFETY SUPPORT**



**AUTOMATIC LUBRICATION**



**OIL MANAGEMENT**



**GREASES**