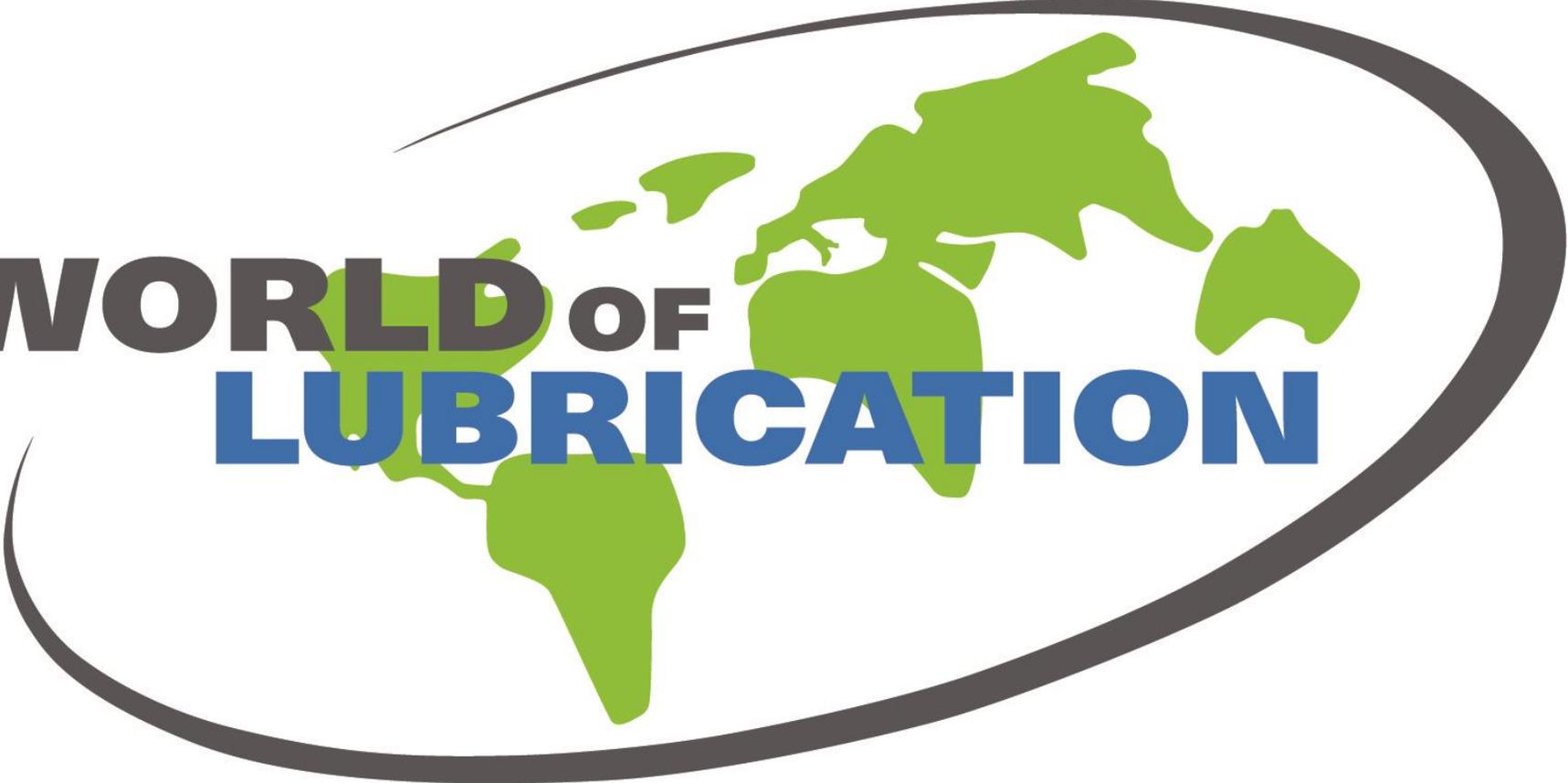


GROENEVELD-BEKA

 Corporate Presentation



**WORLD OF
LUBRICATION**

TIMKEN

Part of the Mechanical Power Transmission division



- Lubrication Systems • Fluid Control • Safety Support Systems

Organisation

- Experts in lubrication since 1927
- Worldwide sales, distribution and service network
- Over 40 company-owned branches on all continents
- Company owned production facilities in Italy, Germany, UK, Israel, China and USA
- Product Development Centers in Italy, Germany, the Netherlands and Israel
- First Tier OEM Supplier

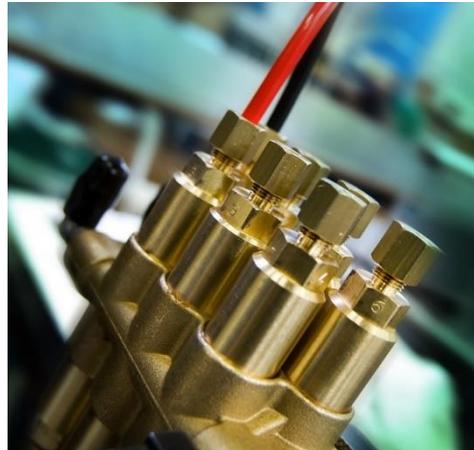


Production Footprint

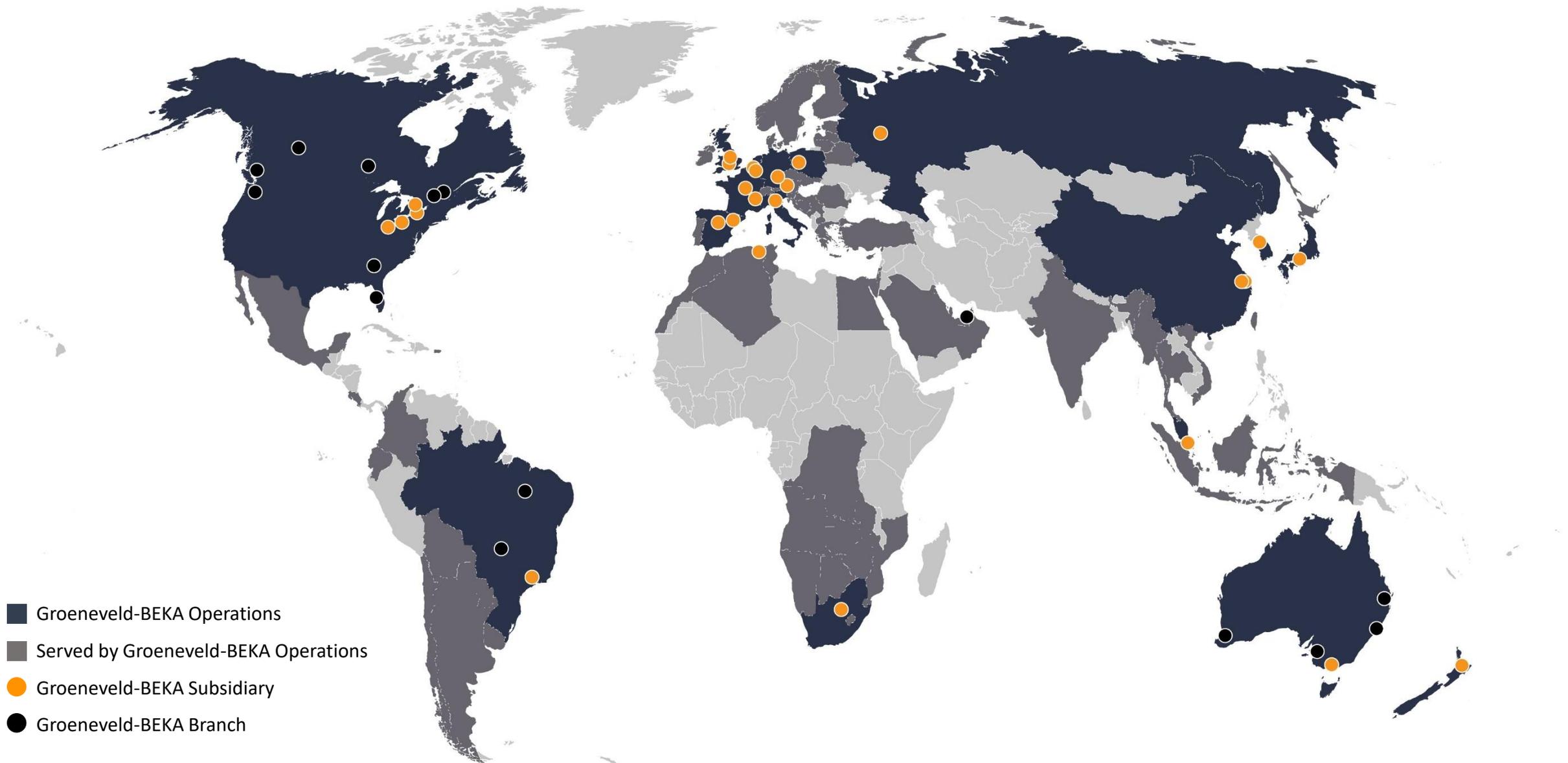


Groeneveld-BEKA Production

- State of the art production facility
- In house R&D departments
- World Class Manufacturing Principles
- Direct deliveries to OEMs, subsidiaries and importers

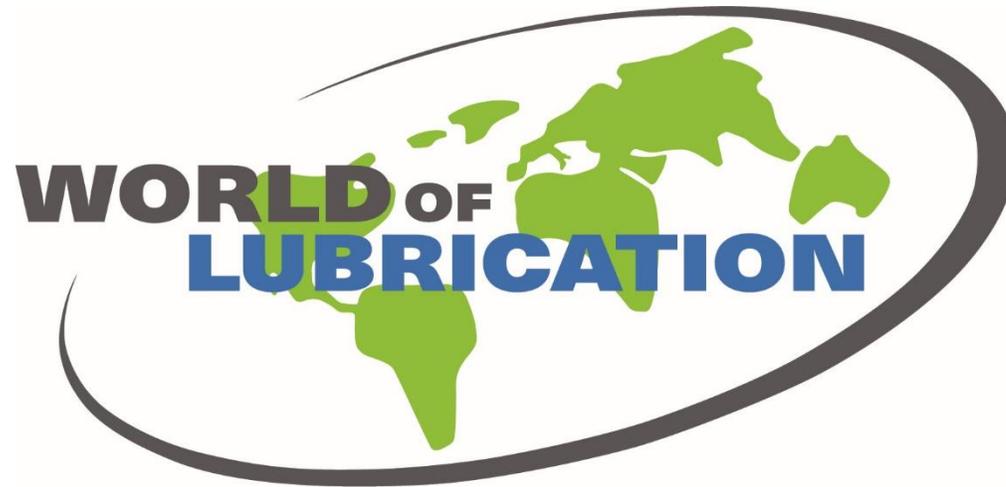


Commercial Footprint



Our mission

“Groeneveld-BEKA provides total solutions to reduce costs and to increase uptime, productivity, efficiency and safety ”



Product groups



Automatic Lubrication



Fluid control



Safety Support



Greases

Groeneveld-BEKA sells a complete product offering!

Segmentation Mobile

Transport & Logistics



Pico
Zepto
EP-1

MultiLine
SingleLine
TriPlus

Bus & Coach



Pico

MultiLine
SingleLine

Earthmoving & Construction



Pico
Zepto
EP-1
GIGA
Stream
HAMAX
FKGGM

MultiLine
Twin
TriPlus

Mining



Stream
GIGA

Twin

Port Equipment



Pico
Zepto
EP-1
GIGA
HPM 2-5
AZU

MultiLine
SingleLine
TriPlus

Forestry



EP-1
GIGA

Twin
TriPlus

Agricultural



PICO
EP-1
GIGA
AZU
AFG-M

MultiLine
Twin

Internal Transport



MultiLine

Rail



FluiLub

Segmentation Industry

Wind Turbines



BEKAWIND

BEKA ONE
FKGGM
Pico
GIGA

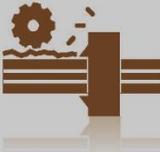
Industry



BEKAINDUSTRIAL

Custom made solution
depending on application

Wood Processing



BEKAWOOD

Custom made solution
depending on application

Mining Processing



BEKAMINING

Custom made solution
depending on application

Food & Beverage



BEKAFOODLINE

Custom made solution
depending on application

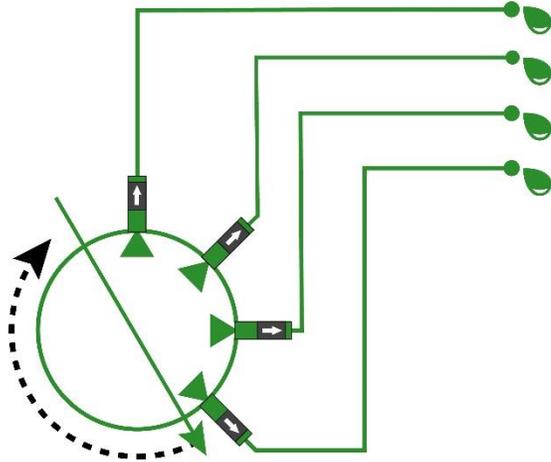
AUTOMATIC LUBRICATION SYSTEMS

Single Point, Multi line, Single line, Dual line and Progressive

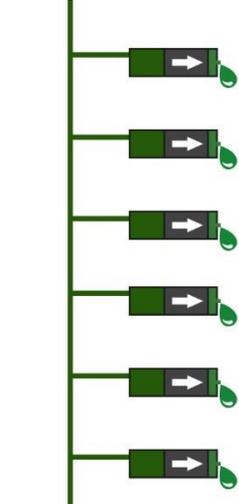
Automatic lubrication systems



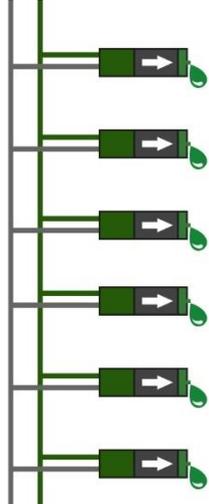
Single point lubrication



Multi line lubrication

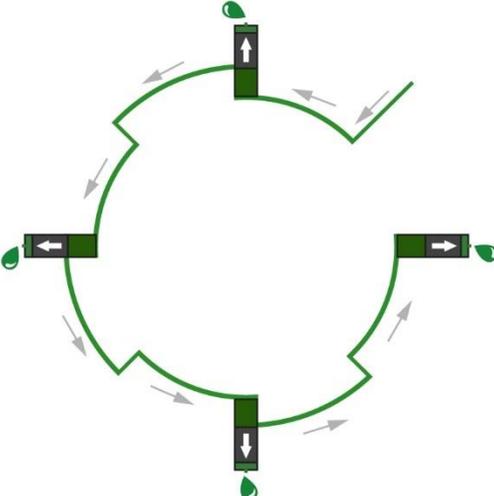


Single line lubrication



Dual line lubrication

Parallel lubrication



Progressive lubrication

Automatic lubrication systems – Mobile

Single Point
Lubrication



Multi Line
Lubrication



Parallel
Lubrication



Progressive
Lubrication



Automatic lubrication systems – Industrial

Single Point
Lubrication



Multi Line
Lubrication



Parallel
Lubrication



Progressive
Lubrication



The benefits of automatic lubrication systems

- Dynamically and frequently lubrication reduces wear and tear and saves time and money
 - Enhanced lifetime of pivots, bearings, pins and bushes (up to 3 times)
 - Reduced repair and maintenance cost
 - Reduced grease consumption
 - Enhanced uptime and machine availability
 - Higher machine and vehicle residual value

Lower cost . . . higher efficiency!



The benefits of automatic lubrication systems

In a study conducted by a major component manufacturer, improper lubrication accounts for 53% of all bearing failures, a major cause of equipment downtime and significant maintenance costs

The majority of failures are caused by:

- *contamination of bushings by dust, dirt and moisture;*
- *inadequate amounts of lubricant applied to bearings;*
- *over-lubrication of key pivot points.*

Source: 'Trucknews'



Why Choose Automatic Lubrication

Increased efficiency

- Reduced man hours required to lubricate
- Reduced lubricant consumption of automatic system optimizes grease application
- Reduced lubricant spillage that occurs with manual lubrication

Higher equipment productivity

- Reduced equipment downtime by c. 15% resulting from:
 - Lubrication takes place during normal machine operation
 - Better and uniform greasing of all critical components because bearing is turning when lubrication takes place, resulting in less wear and tear of machinery

Decreased maintenance

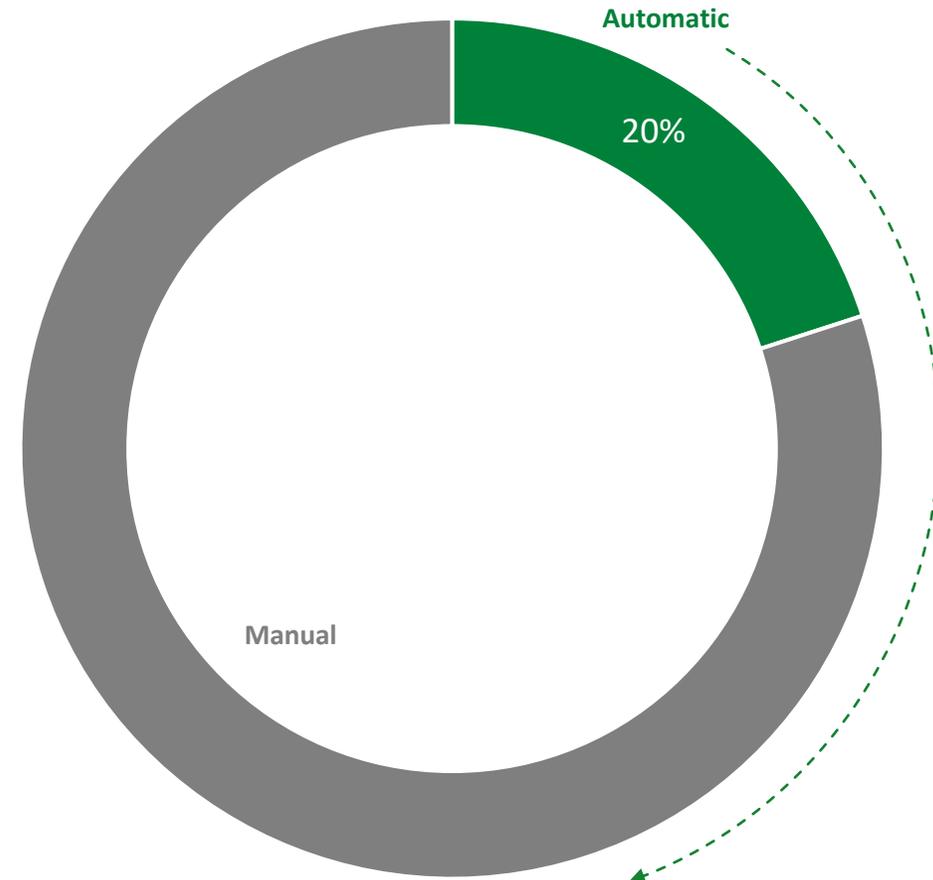
- Optimized lubrication as the greasing takes place during operation
- Reduced replacement rate of components and bearings up to 50%
- Decreased machine maintenance labour costs by ~55%

Improved safety

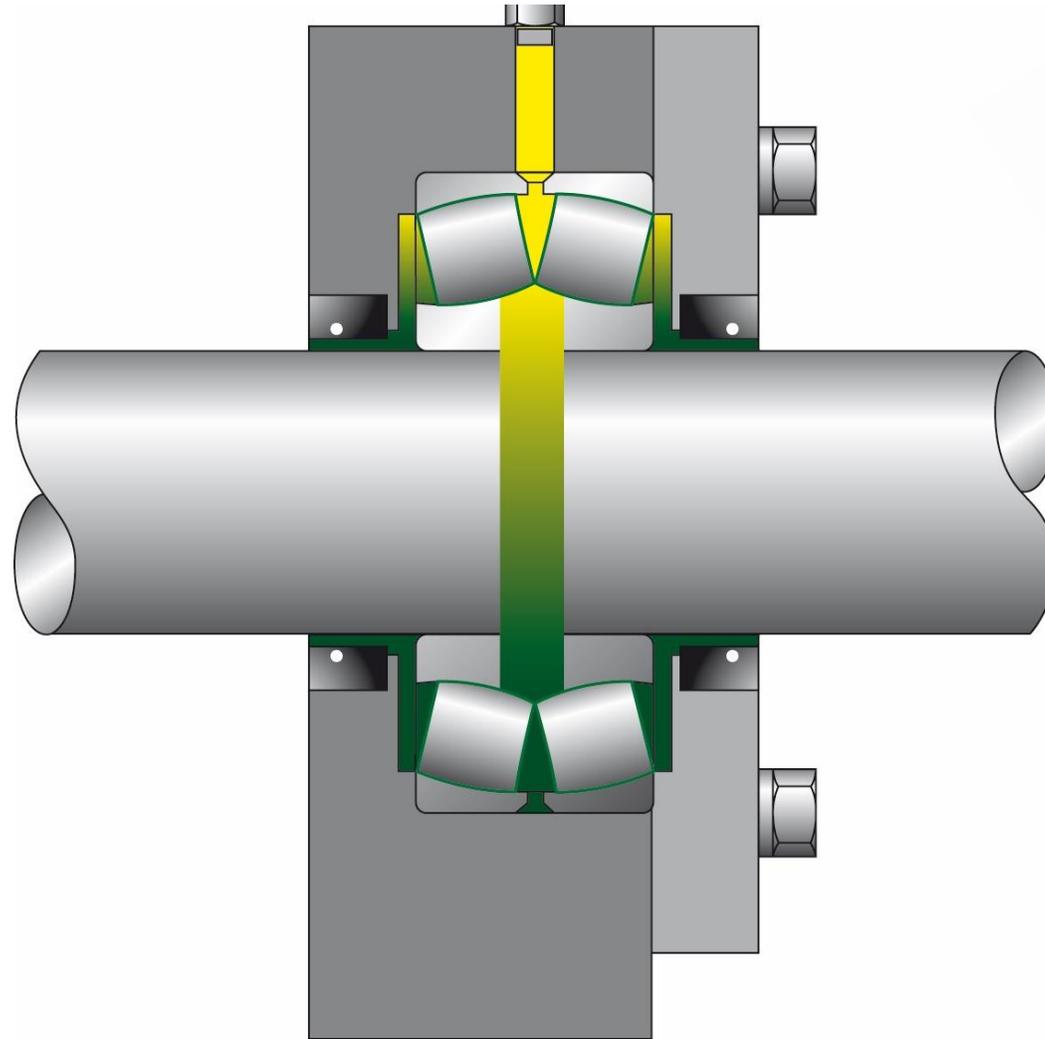
- Increased safety (no need to climb on, under and around the equipment)
- No exposure to toxic lubricants

Attractive return on investment

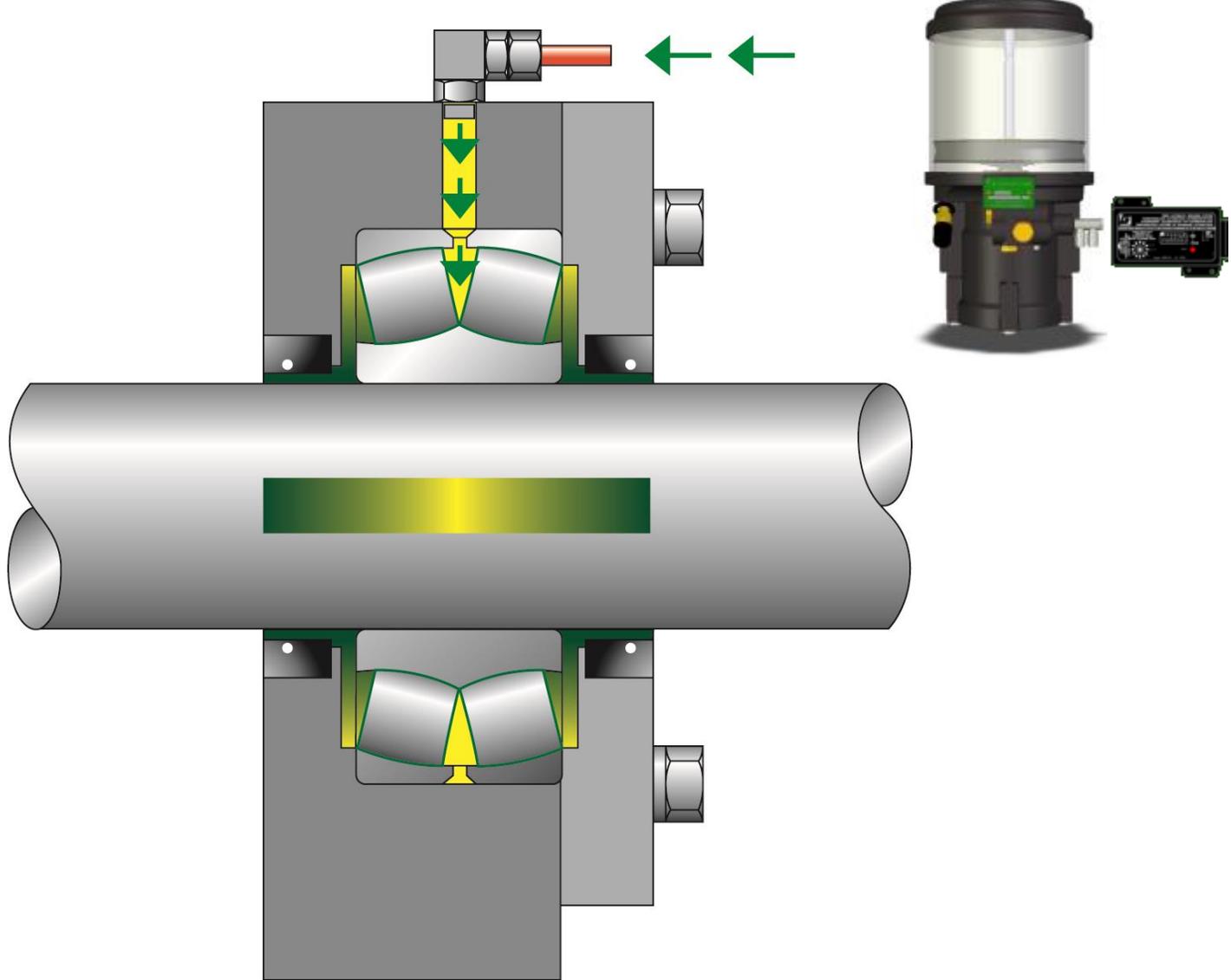
80%
*of all greasing points in the world
are still greased manually*



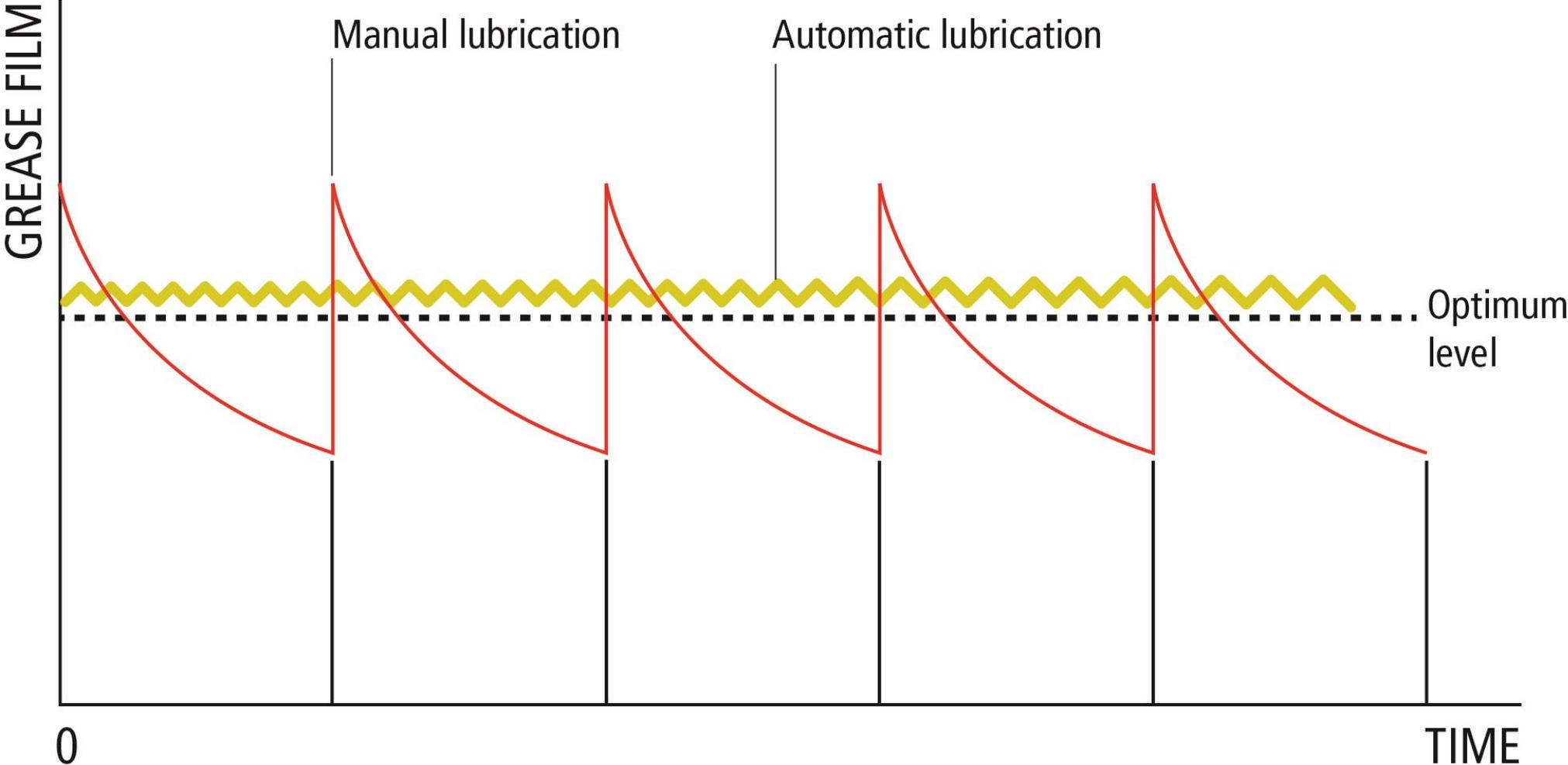
Manual greasing



Automatic greasing



Automatic lubrication versus manual greasing



Greenlube greases



- Several grease types developed following own recipes
 - Universal greases
 - Heavy Duty greases
 - Biodegradable greases
 - Low temperature greases
 - Food Industry
- Available from 0,4 cartridges to 180 kg drums

FLUID CONTROL

Oilmaster, Filtakleen & Tecreel

Oilmaster oil management system

- Ensures the right oil level
- Ensures 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 (up to 2%)



Filtakleen



- Enhances oil performance
- Ultra fine particle removal to ISO 17/15/12 - NAS6
- Prevents corrosion by 100% removal of water from emulsified oil
- Prevents acidity in oil
- Improves reliability
- Reduces component wear, increasing machine life
- Available for hydraulic & engine oil



- Self-retracting hydraulic hose reel
- Transfers hydraulic fluid power
 - For delivering hydraulic power to the end of a moving mast or boom
 - To actuate attachments
- Robust all steel construction
- Available in 3 different models
 - Type 375 – Twin reel
 - 4-port – 2x Twin reel
 - Multi-function – Hydraulics plus electric wiring

Applications



Trucks



Bus & Coach



Wheel loaders



Dozers



Excavators



Refuse trucks



Reach stackers



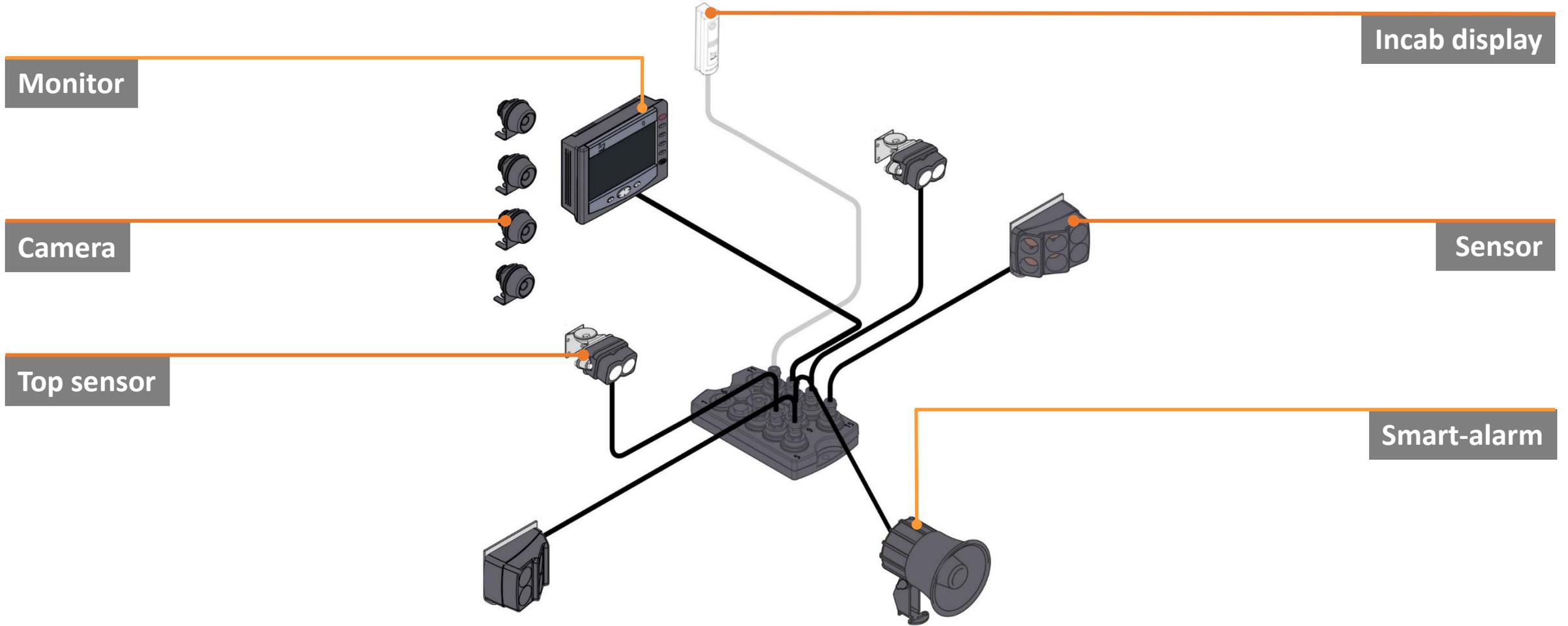
Generator sets

SAFETY SUPPORT SYSTEMS

Greensight & SpeedLimiter

Greensight safety support system

Modular vehicle system combining acoustic ultrasonic object detection with visual information



Speedlimiter



Two different versions:

- The fully electrical Groeneveld ESL (for vehicles without a mechanical connection with the accelerator pedal)
- The electrical/mechanical Groeneveld SL

Standard functions:

- Speed limiting
- Engine speed limiting (RPM) *
- Speed hold (temp. maximum speed)

Optional:

- Cruise control / Power Take Off
- Second maximum speed

* Optional for forklifts

Applications



Trucks & Trailers



Bus & Coach



Refuse trucks



Railway maintenance



Wheel loaders



Excavators



Reach stackers



Forklift trucks



GROENEVELD-BEKA

LUBRICATION SYSTEMS BY TIMKEN



SAFETY SUPPORT



AUTOMATIC LUBRICATION



FLUID CONTROL



GREASES