



Lars Erhardsson – Global industrial engineering

Surface treatment at Scania Toward a sustainable future



contents

Overview Scania

Paint shop Chassis

Paint shop Axel

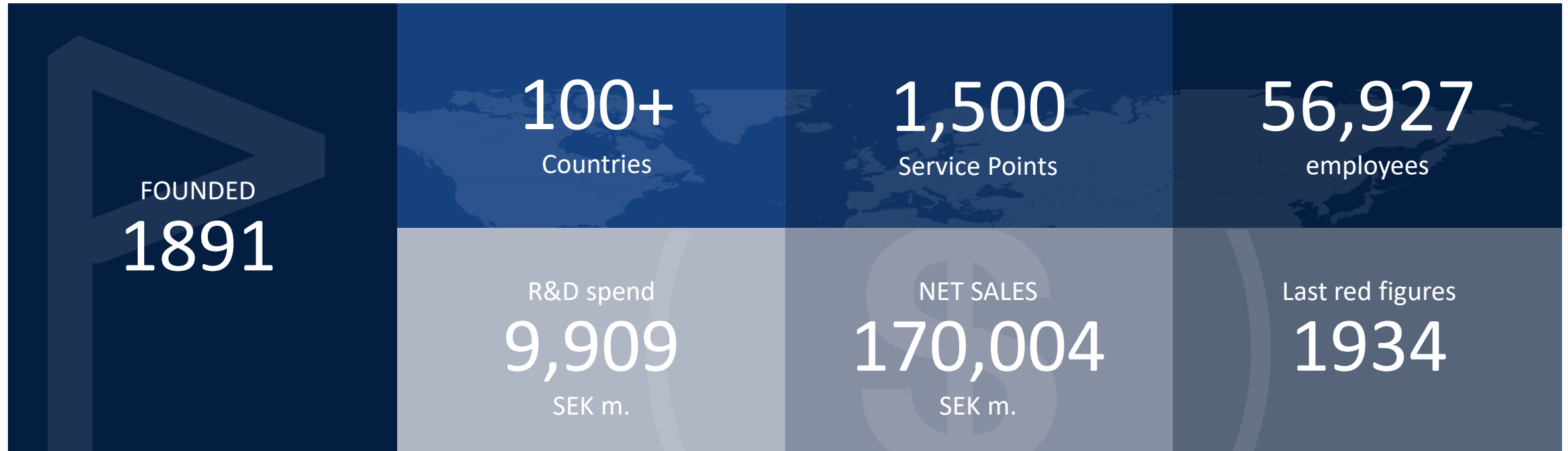
Paint shop Oskarshamn

Paint shop Meppel

Future steps



SCANIA IN BRIEF



2022



products AND services



LONG-HAULAGE



construction



distribution



Special purpose



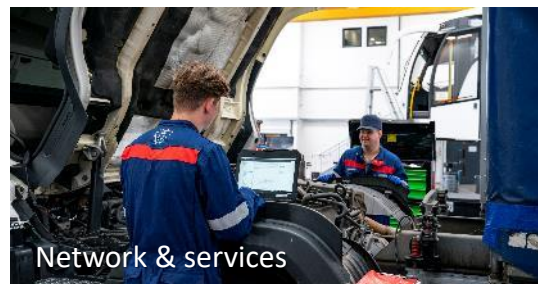
City/suburban



Intercity/coach



Power solutions



Network & services



Used vehicles



Scania deliveries 2022

Trucks



80,238
(85,930)

Buses and coaches



4,994
(4,436)

Power solutions

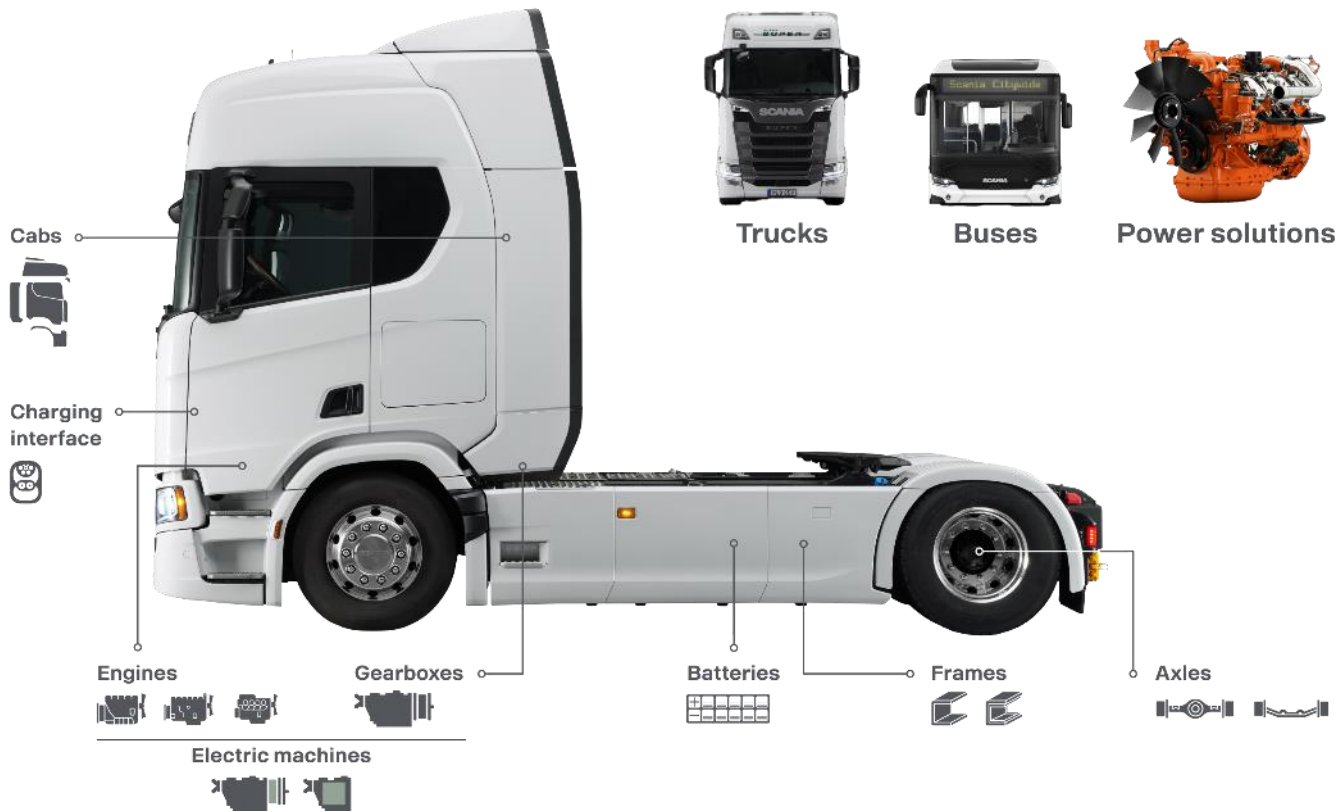


13,400
(11,786)



modular system

Physical tailored solutions



- + Customer value
- + Ability to match specific customer needs
- + Cost
- + Scale benefits



Scania Production

POWERTRAIN PRODUCTION

Foundry and component manufacturing

- Luleå (Ferroform), Sweden
- Södertälje, Sweden
- São Bernardo do Campo, Brazil
- Tucumán, Argentina

Component final assembly

- Södertälje, Sweden
- São Bernardo do Campo, Brazil

Industrial maintenance (SIM)

- Södertälje, Sweden
- Oskarshamn, Sweden
- Luleå, Sweden



CHASSIS, CAB AND BUS PRODUCTION

Product introduction, pre-series assembly

- Södertälje and Oskarshamn, Sweden

Cab manufacturing and final assembly

- Oskarshamn, Sweden
- São Bernardo do Campo, Brazil

Painting

- Meppel, The Netherlands

Chassis final assembly

- Angers, France
- Södertälje, Sweden
- Zwolle, The Netherlands
- São Bernardo do Campo, Brazil

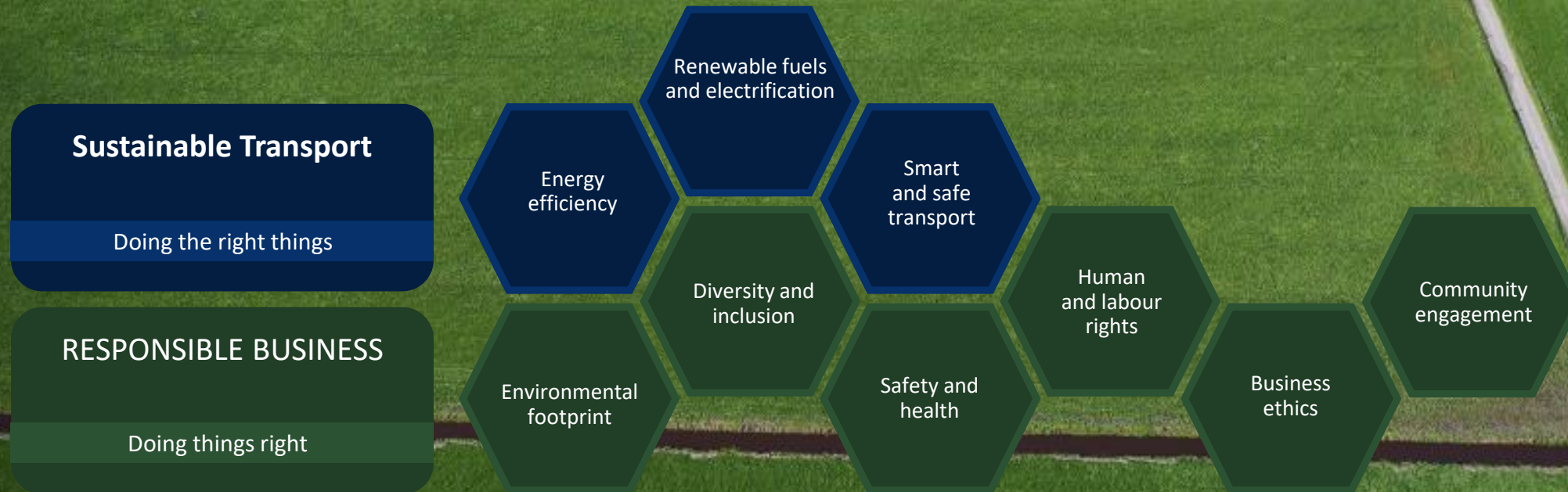
Bus body manufacturing and final assembly

- Słupsk, Poland



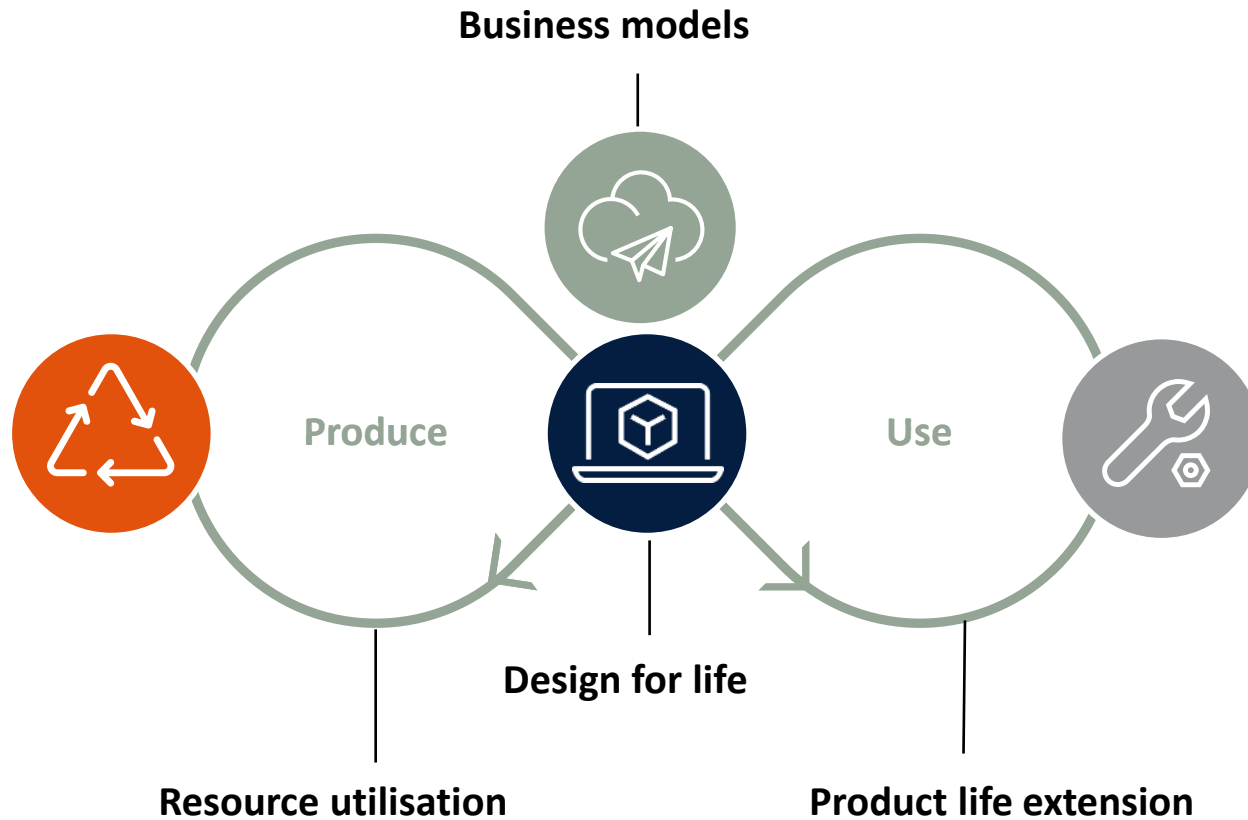


Sustainability at Scania





Scania Circular business



The use of existing resources is maximised and waste is minimized all along the value chain



AMBITIONS AND TARGETS

At Scania we have high ambitions for our environmental work. As part of this ambition, we have set science-based carbon reduction targets. These targets indicate how much CO₂ emissions must be reduced to limit global warming by 1,5 degrees.

Scania also has challenging targets to reduce emissions in the logistic network.



SCANIA'S STRATEGIC CO₂ REDUCTION TARGETS

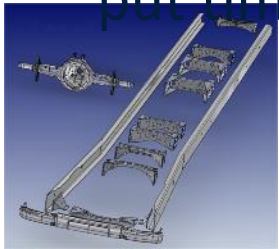
- 50%**
CO₂ emissions from our operations 2015-2025
- 20%**
CO₂ emissions from our products by 2015-2025

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



Scania Luleå fakta 2022

<12 m – 250 holes – 3 h through
put time



Antal anställda:

665

Verkstadsyta:

45 000 m²

Förädling av:

58 000 ton plåt, smiden och
gjutgods

**Förbrukning av Svetstråd ~ 400
ton**

Målerier

3 st



Luleå – ED and powder painting for chassis

Crossmember line - new after fire



Side member line



- Fire in 2015 – new line, storage and waste water treatment installation



Performed

- Invested R&D in blasting – optimised quality and process control
 - Grit type, exchange rate based on sqm
 - Amp-monitoring of grit feeder engine
- New line – three step rinsing with cascade
- Frequency control on all pumps

- Automatic dosing of ED-binder based on Sqm.
- IR-booster for powder oven – short oven – better finish



Axel and Engine paint shops Södertälje



- Assembled axels
- Power wash cleaning
- 1K WB primer and topcoat
- High pressure painting
- Dry separation lime stone system
- Södertälje community heating – 110 dC and 70 dC



Axel paint shop Södertälje

Winter and summer mode for T and RH

Demand driven ventilation (manual booth)

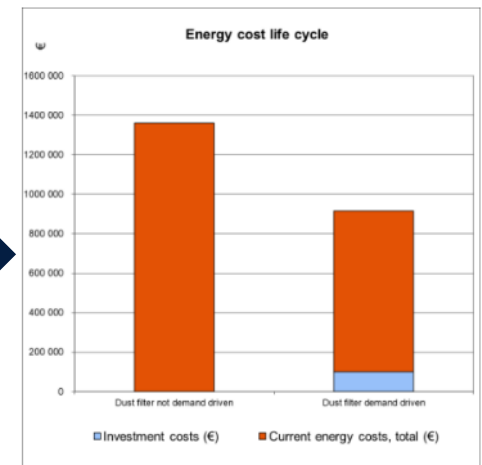
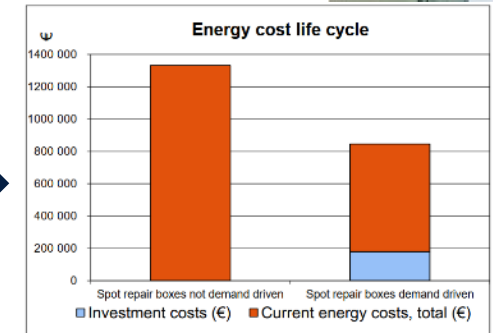
Automatic program for stop and start of process – shift/weekend

New cooling machine – heat recovery system included

UV-lamps in humidifier installation – bacteria and maintenance

Support heating system so that paint shop and facility ventilation cooperates

LED and zone classification for working areas





Paint shop process - Scania Cab production Oskarshamn



- Spray
- 8 steps
- 2-cation ZnNiPh
- Powder
- 17 robots
- New 2014
- 3 Robots PVC
- 2 Robots LASD
- 5 manual stations

- 3 parallel lines
- 8 robots WB
- 6 robots WB
- 2 robots SB
- Built 2001

•1 robot



A-ovens





Cab paint shop Oskarshamn

- "CO2-neutral" energy sources
 - Green electricity
 - 100 % RME fuel for oven heaters
 - Internal transport vehicles (non-electric) use 100 % HVO100 (renewable diesel)
- Powder primer as single layer primer
 - 95 % material usage
- Air drying cavity wax
- Optimised oven hardware with help of IPS oven simulation
- 2-cation Zn-phosphate – no Mn
- Optimised use of rinse in new paint distribution system (low runner) – > -50 % waste reduction
- Adjusted ventilation in BIW - > 60 % decreased need of district heating



Plastic paint shop Meppel



Key Figures 2021:

- 66.079 Trucks
- 181.517 Skids
- 2.304.576 Parts
- 954.801 m²



New Primer Shop

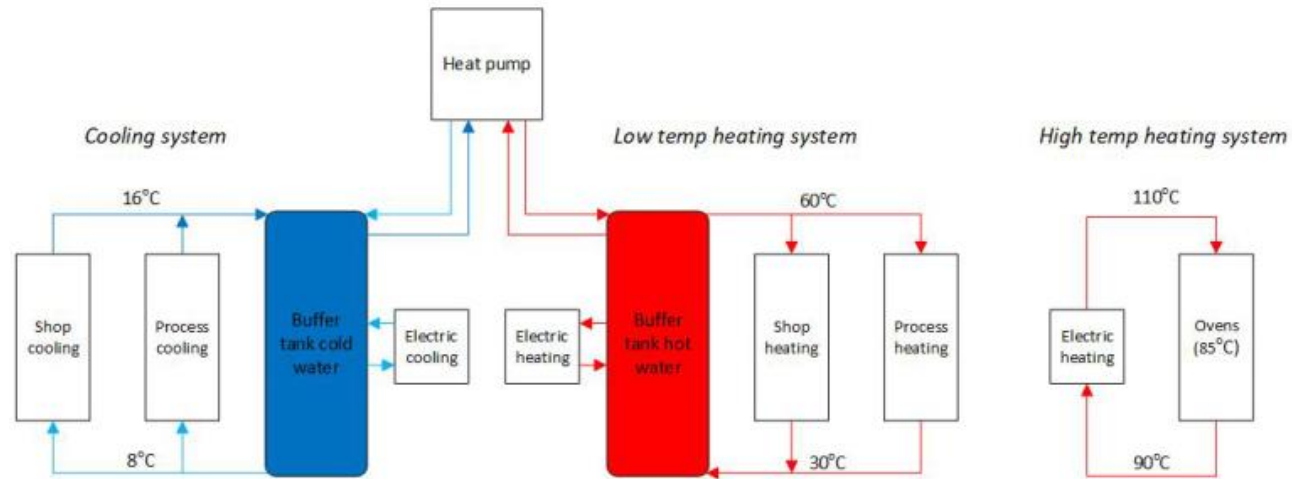




Improved visibility



Gas free installation in NL



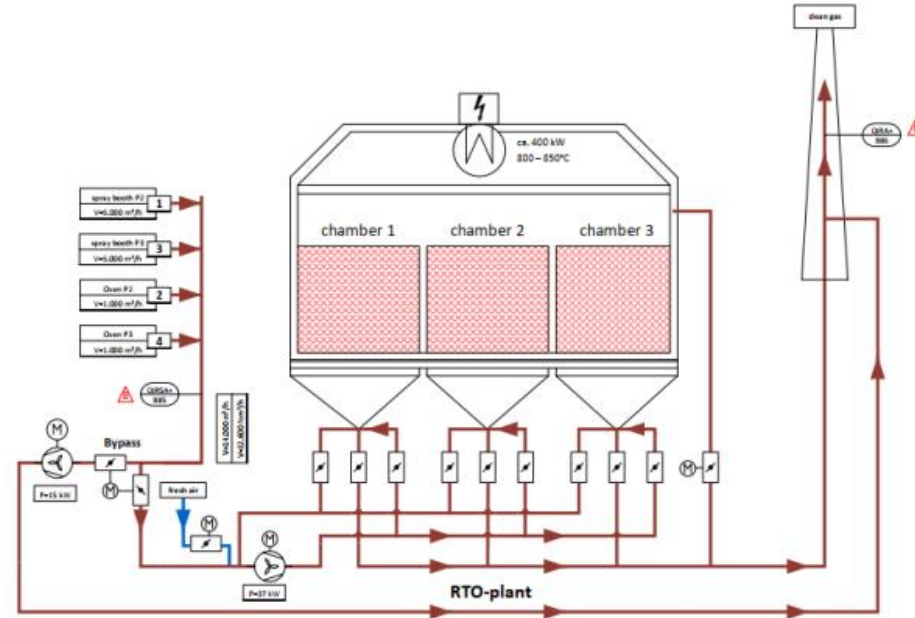


Electrical VOC oxidiser

Electrical RTO



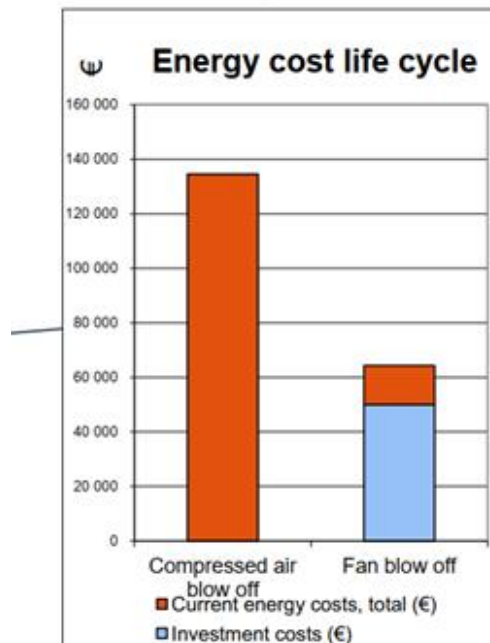
- Full electric (400kw – 850°C)
- 12.000m³/hour
- Supplier IGS
- 99,6% VOC reduction



Paint booth ventilation and power wash

Dry filters

- Low tech dry filter system
- 2 walls – 100 filters each
- Automatic switch during production
- 1-2 months per wall
- Filters as input cement industry
- No water / chemicals in proces



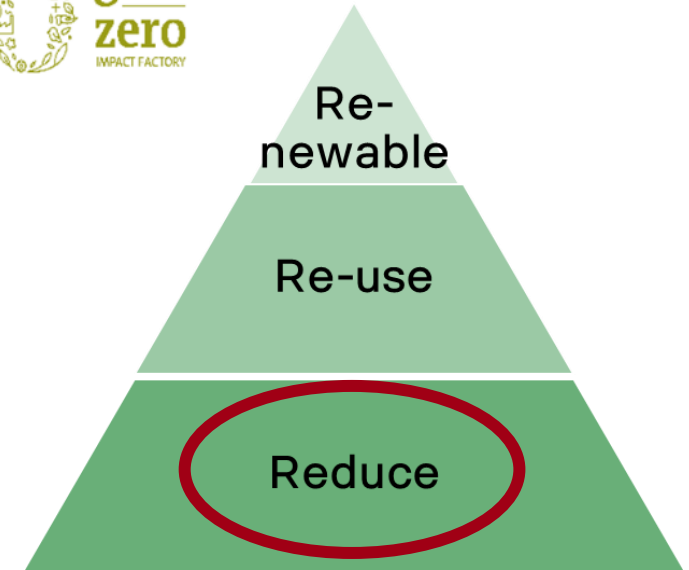
So where are we going next?





Future steps -Reduce

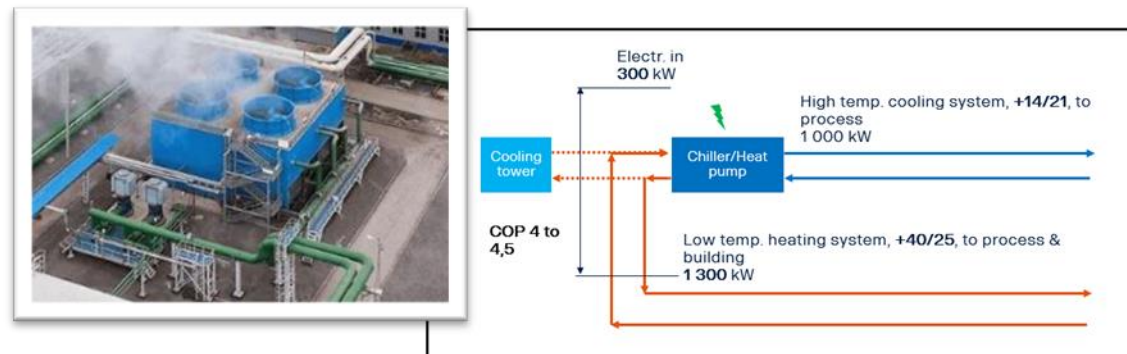
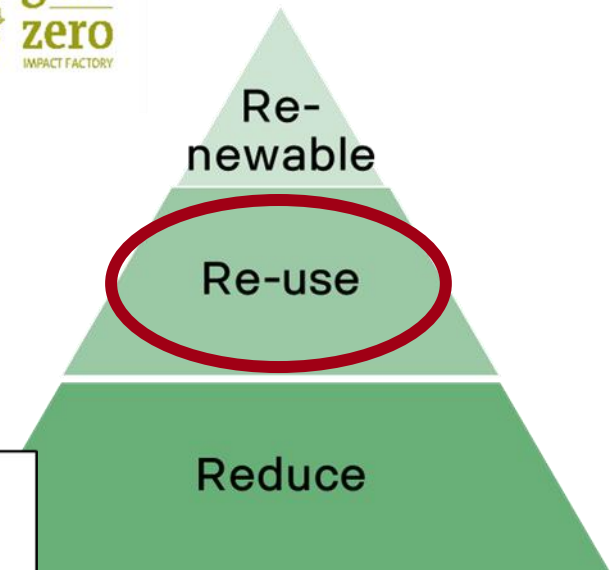
- Thin film pretreatments
- Dosing per KVM
- Challenge ventilation settings
- Brown field installations – dry separation systems
- LED for inspection light in D65
- Low temperature curing powder paints
- Digital simulations to optimise – new products – new installations
- Building insulation
- CO2-snow cleaning





Future steps -Re-use

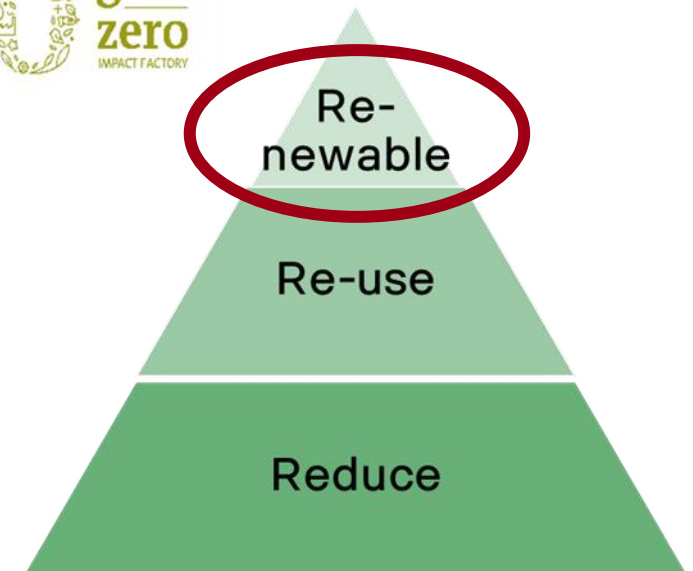
- Closed loop systems for water
- Re-circle rinsing liquids and biobased
- Recovery systems and heat exchangers
- H₂ and CO₂ – recovery from VOC-emissions
- Vision system for finish





Future steps -Renewable

- Solar plants
- Local biogas production
- Biobased rinsing agents
- Multi-fuel and diverse source for heating





SCANIA