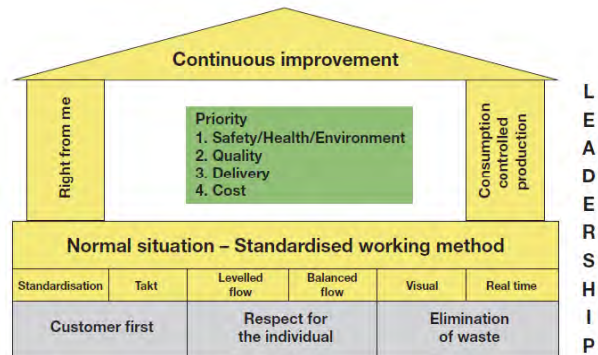


# Scania Production System



***Stefan Palmgren, Senior Vice President, Powertrain Production***



**SCANIA**

# Provider of transport solutions



## Products

- Heavy trucks
- Heavy buses
- Engines



## Services

- Workshops
- Service agreements
- Parts
- Driver training
- Scania Assistance



## Financing

- Operational leases
- Financial leases
- Hire purchase
- Insurance solutions

# Premium products and services



Haulage



Construction



Distribution



Special purpose



Network and services



City and suburban



Intercity and coach



Used vehicles



Engines



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# Modular system



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# The world of Scania

- Production units
- Regional Product Centres
- Sales and services units

## Production units

1891 Sweden  
1957 Brazil  
1964 Netherlands  
1976 Argentina  
1992 France  
1993 Poland

## Sales and services units

- 1,000 sales points
- 1,600 workshops
- More than 95% parts availability
- Round-the-clock assistance

Number of employees  
41,000 persons



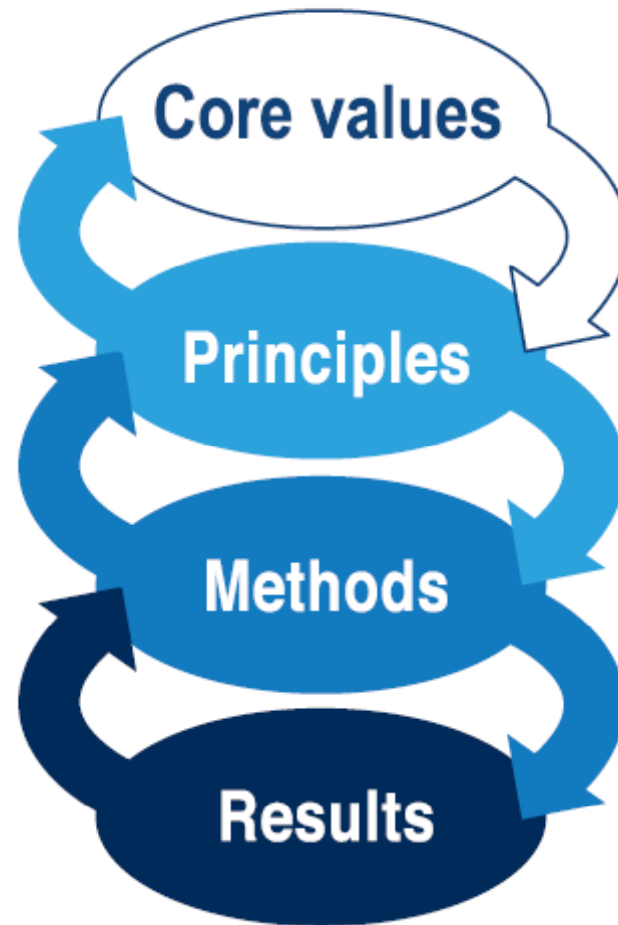
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# Global production system



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# Scania's Philosophy



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# Scania's Core Values



**Customer First**



**Respect for the individual**

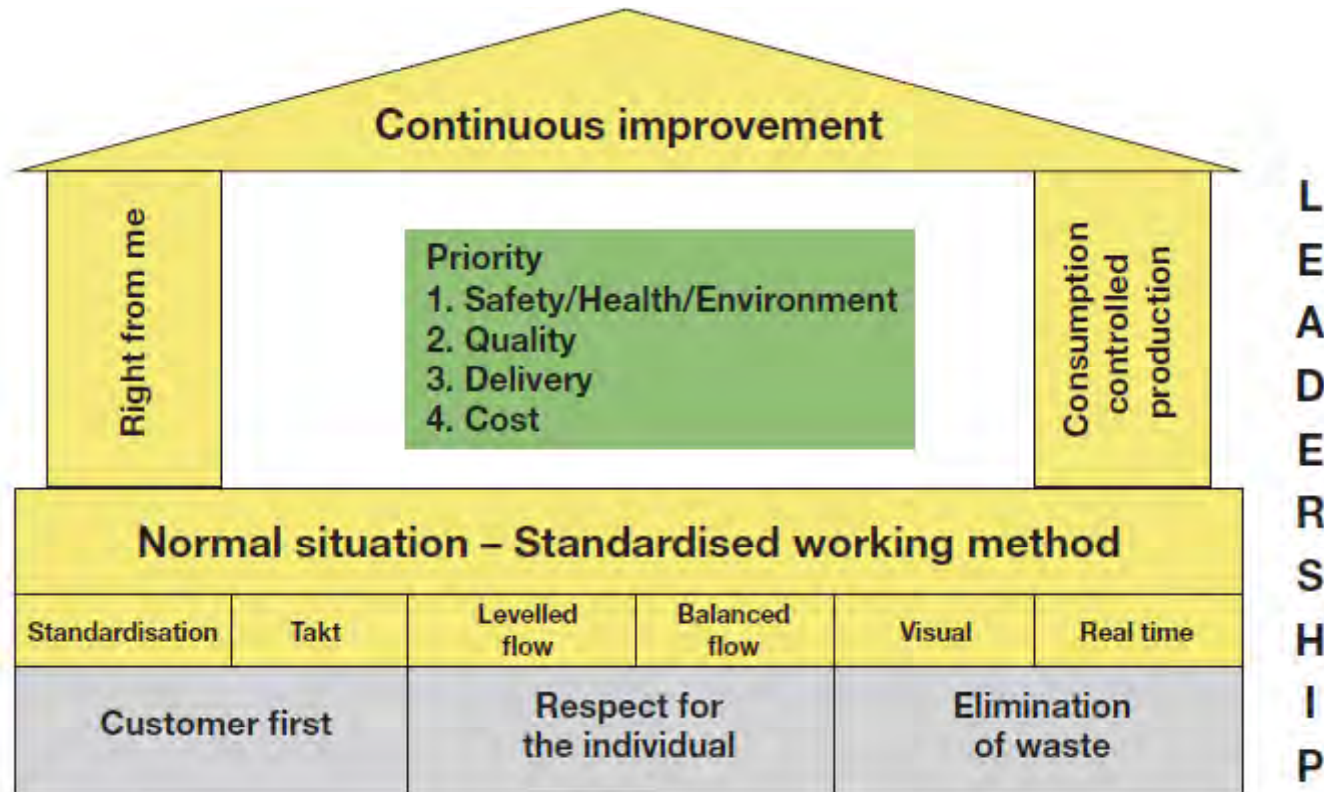


**Quality**

Scania's core values permeate its entire corporate culture and influence its day-to-day work. Customer first, Respect for the individual and Quality are closely linked and apply in unity. They constitute the starting point for all business development.



# Scania Production System



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# Background

– 1980



## Production

- ❑ Instructions from engineers
- ❑ No common way of working



## Leadership

- ❑ Leadership focused on result and inspection



## Personnel

- ❑ High absence
- ❑ High employee turnover



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# Background

**1980 – 1995**



## **Production**

- ❑ Flexible production systems
- ❑ Hard to detect waste



## **Leadership**

- ❑ Leadership focused on result
- ❑ Unclear priorities



## **Personnel**

- ❑ High absence
- ❑ High employee turnover



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# Background

1996 – 2010



## Production

- ❑ Standardised processes
- ❑ Visualized waste
- ❑ Method improvement by operators



## Leadership

- ❑ Coaching with focus on working methods
- ❑ Clear priorities



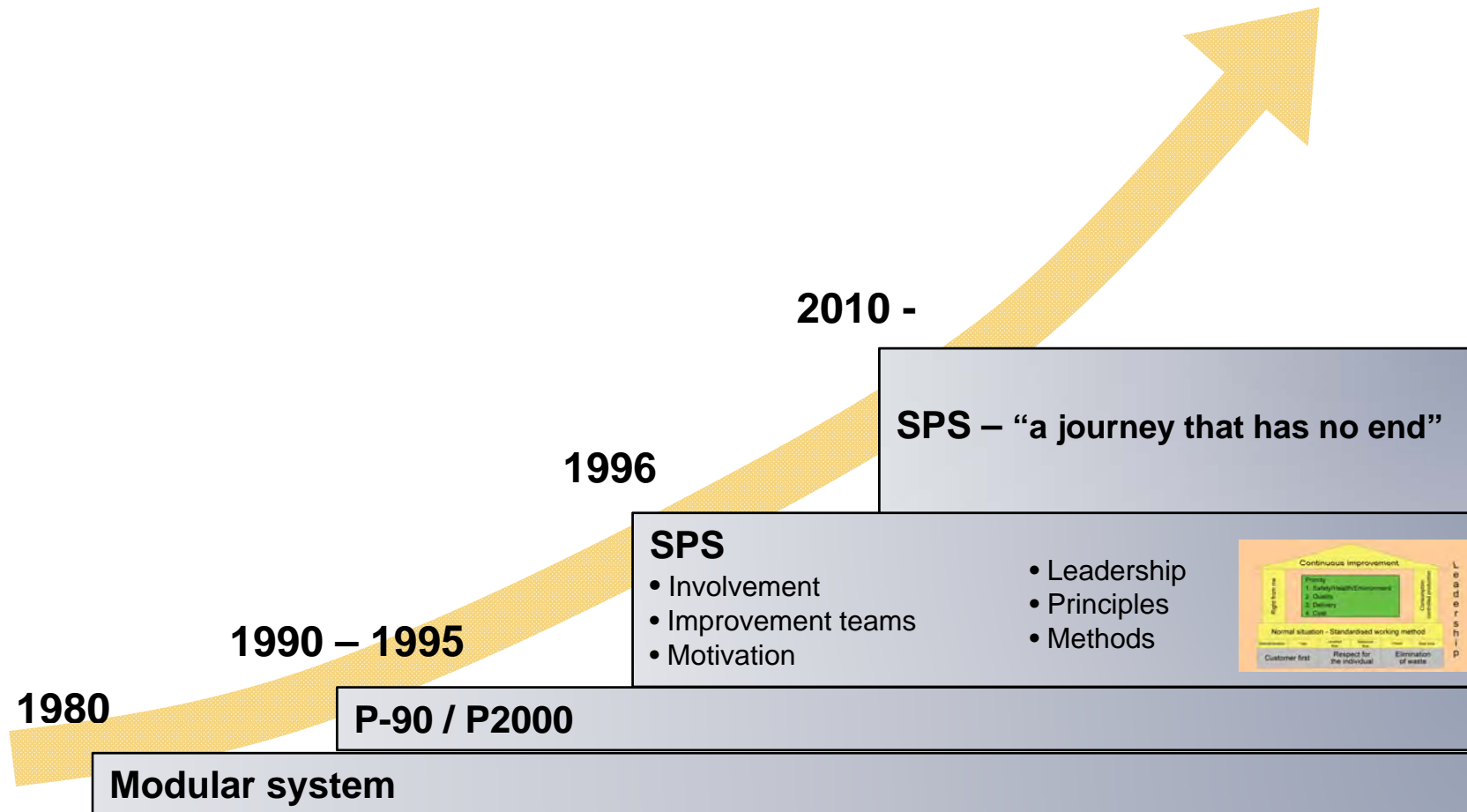
## Personnel

- ❑ Empowered personnel
- ❑ Lower absence
- ❑ Lower employee turnover



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# Continuous Improvement

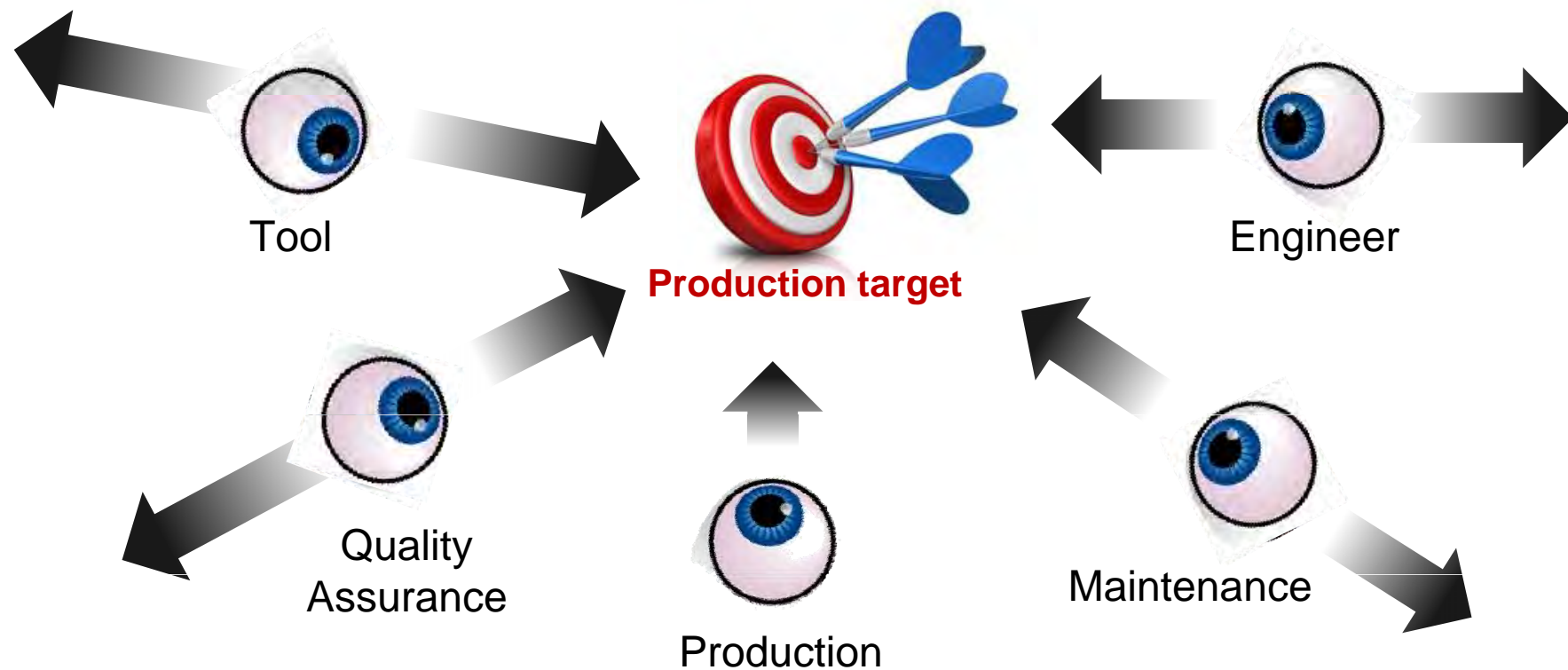


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# Focus on process results

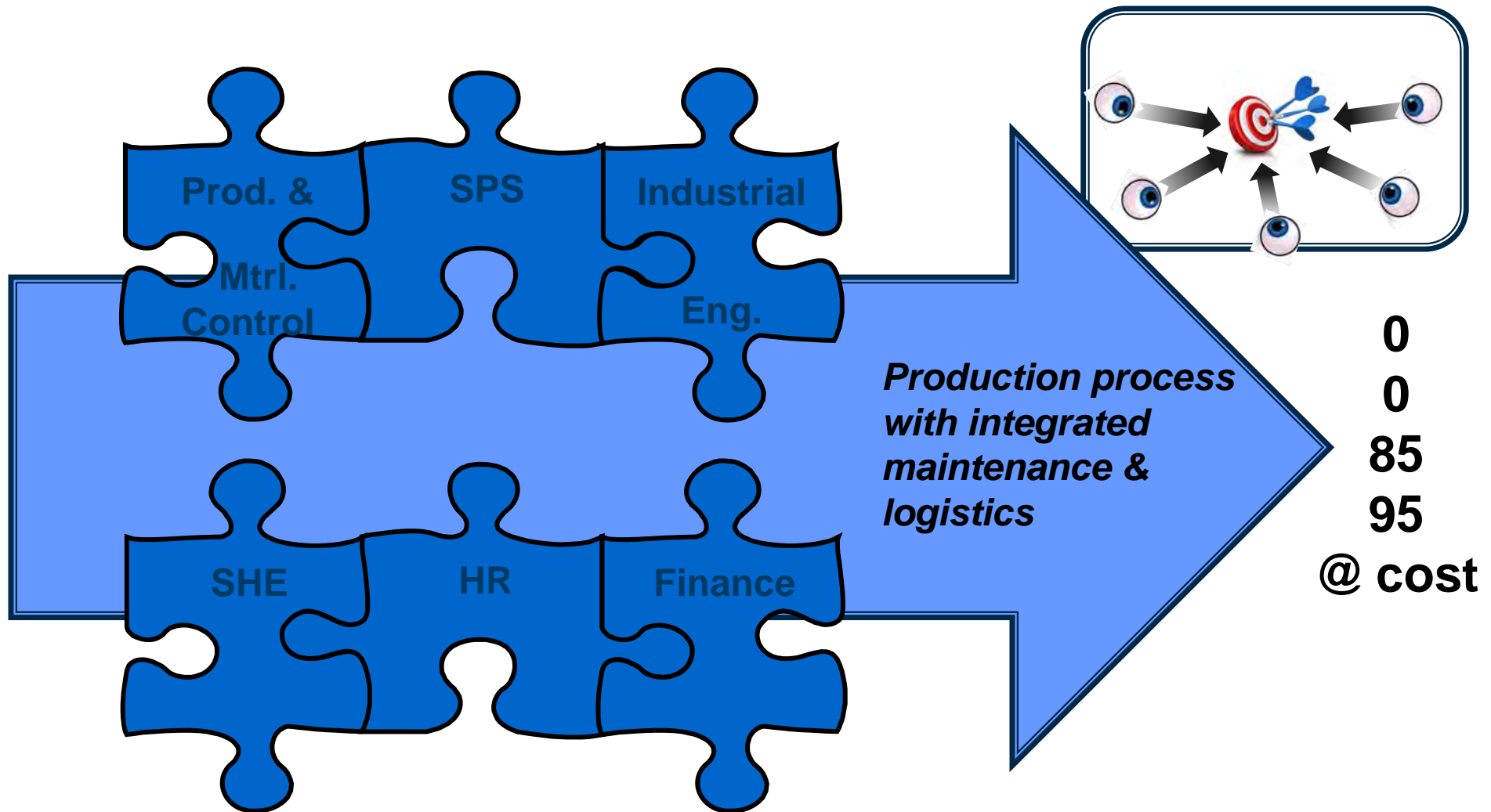
From functional excellence to process excellence



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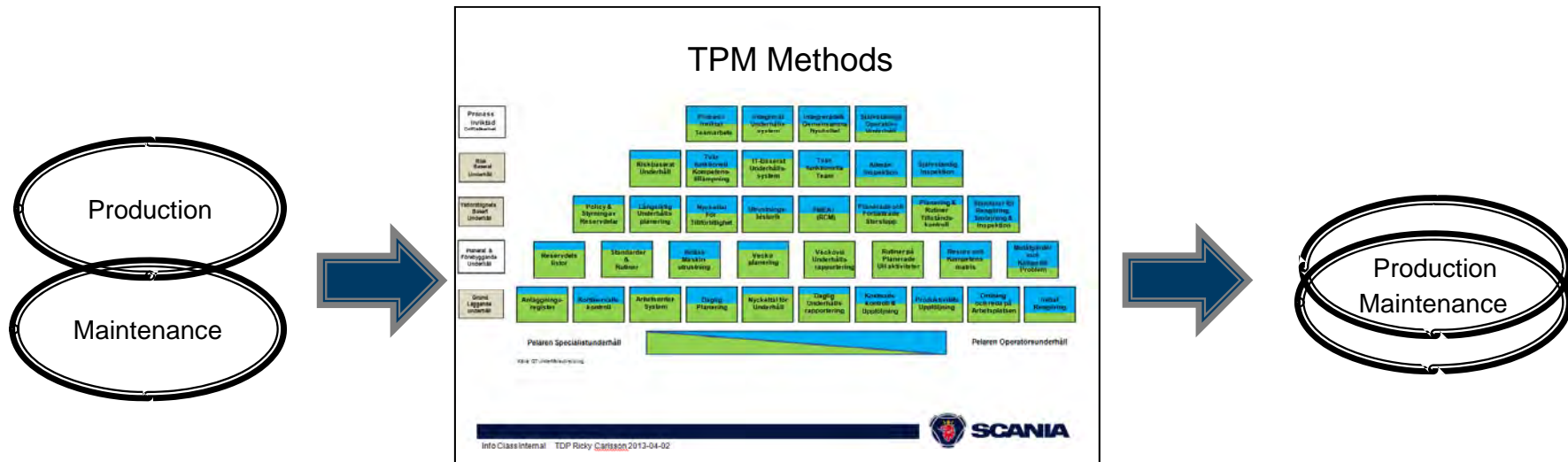
# SPS Development

Standardised methods & common targets



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# Integrated Maintenance



# SHE Methods



**Risk Management &  
Safety Behaviour**

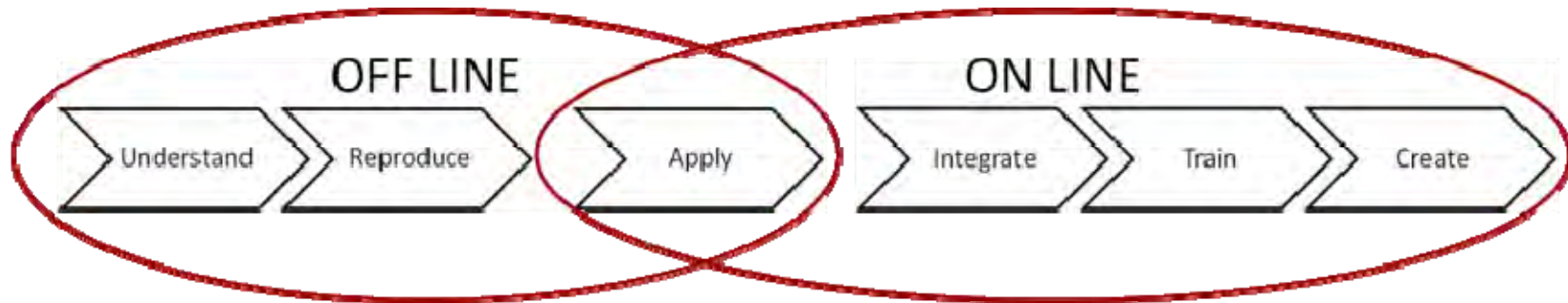


**Scania Ergonomic  
Standard**



**Energy  
Efficiency**

# Training



- Training trainers and managers in awareness, ability to practice SPS in own organization, ability to train and lead others



- Securing transfer of learning into on line application



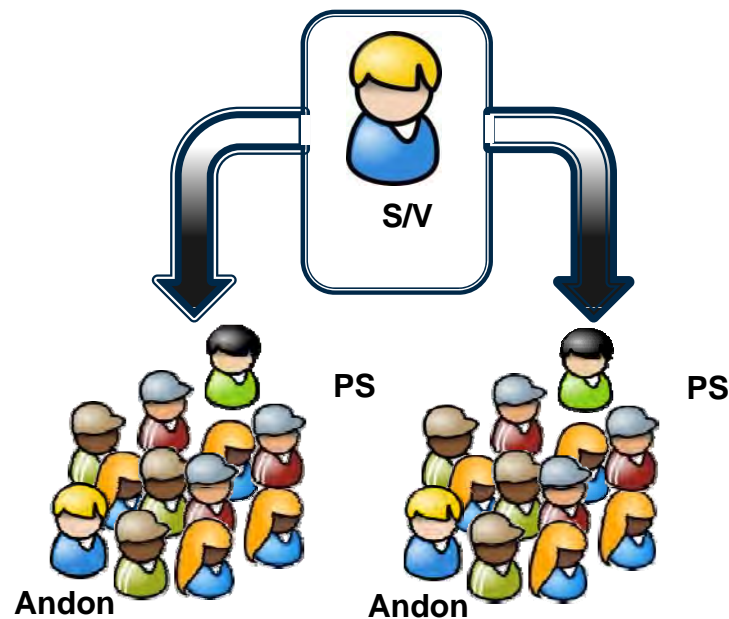
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# Small Teams & Present Leadership

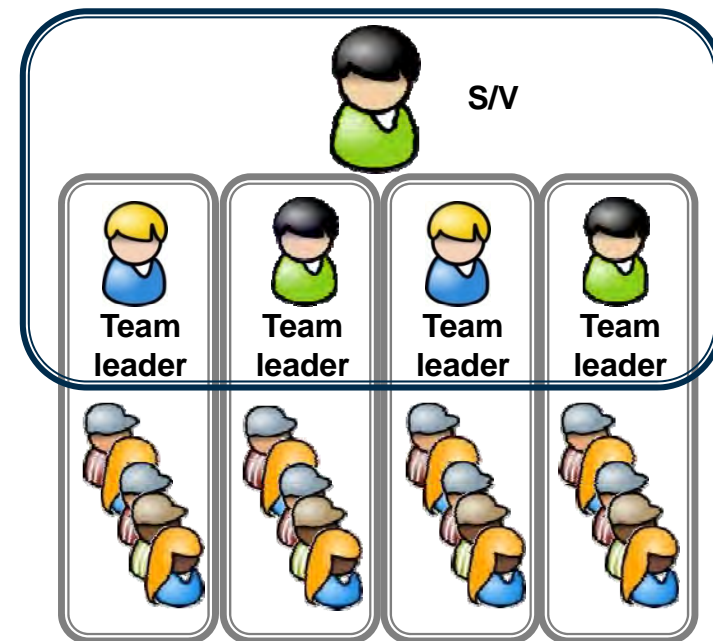
## Before 2012

- Large groups
- Large work content
- Small focus on our deviations
- Lack of present leaders



## After 2012

- Deeper competence
- Fewer positions
- Ownership
- Organized to work according to standard



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# Real Time Management - RTM



09.00  
10.50  
12.36  
14.10  
16.00



Short term  
countermeasures



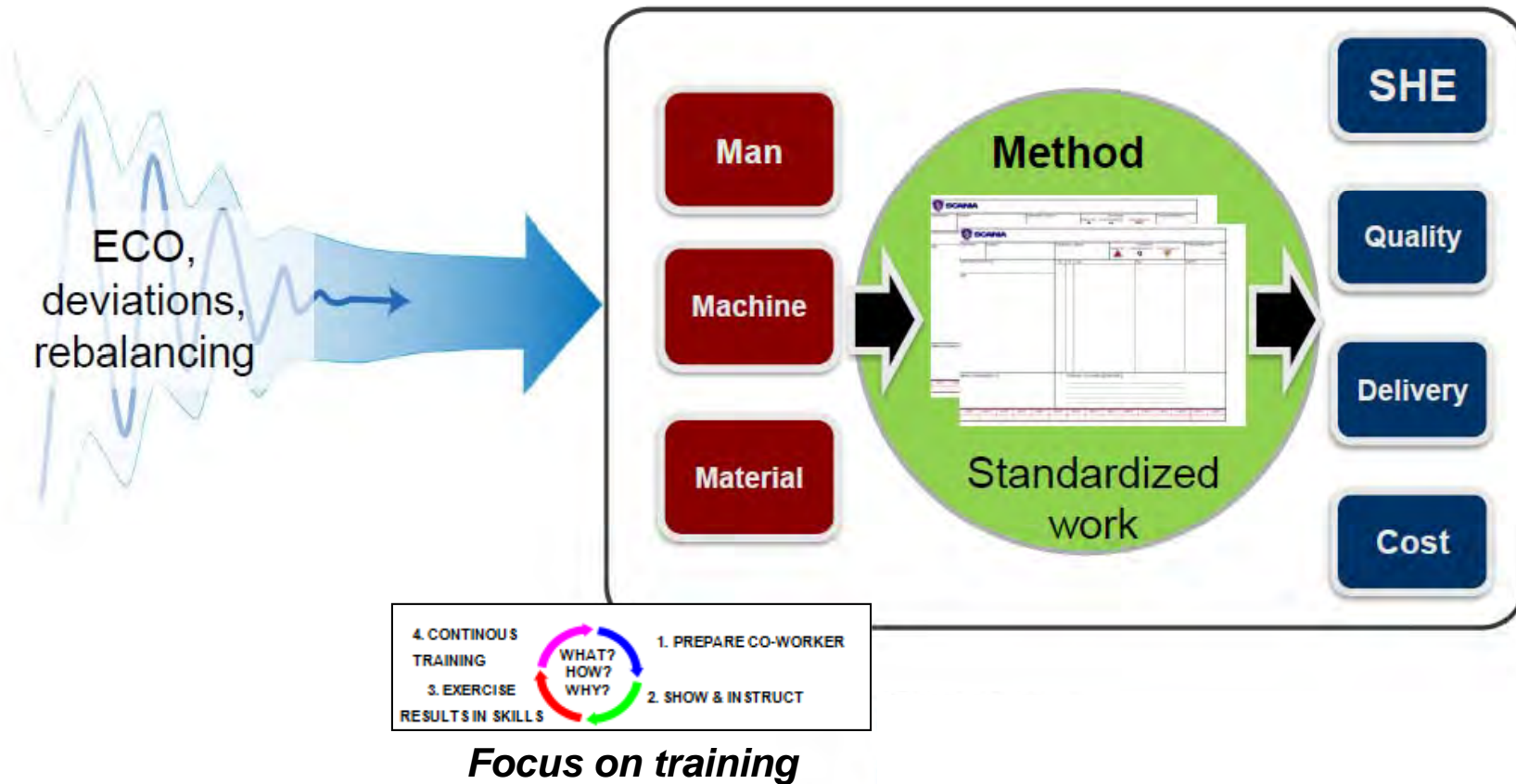
Long term problemsolving



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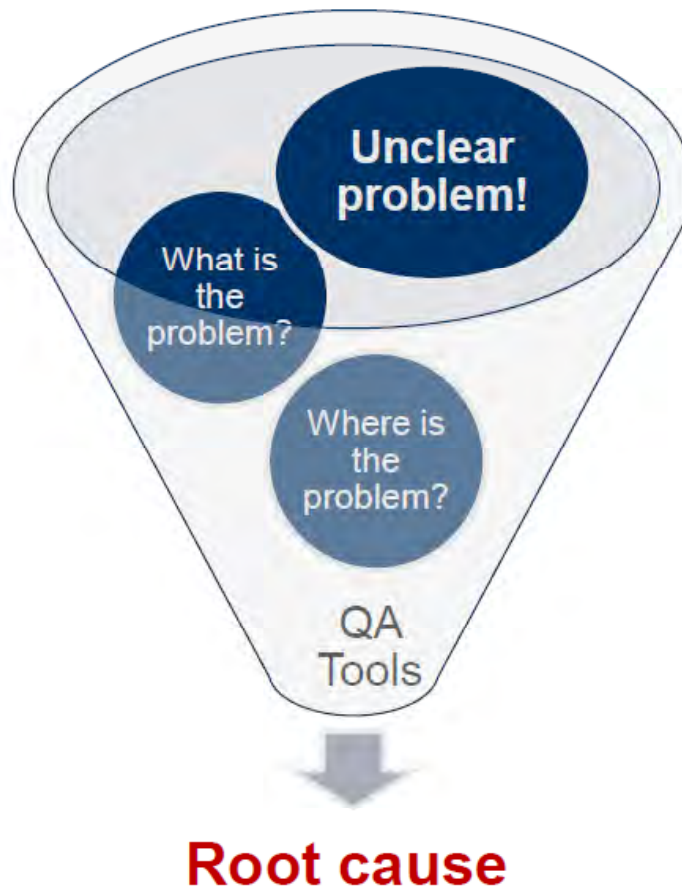
# Standardized Work

Foundation for continuous improvement



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# Problem Solving

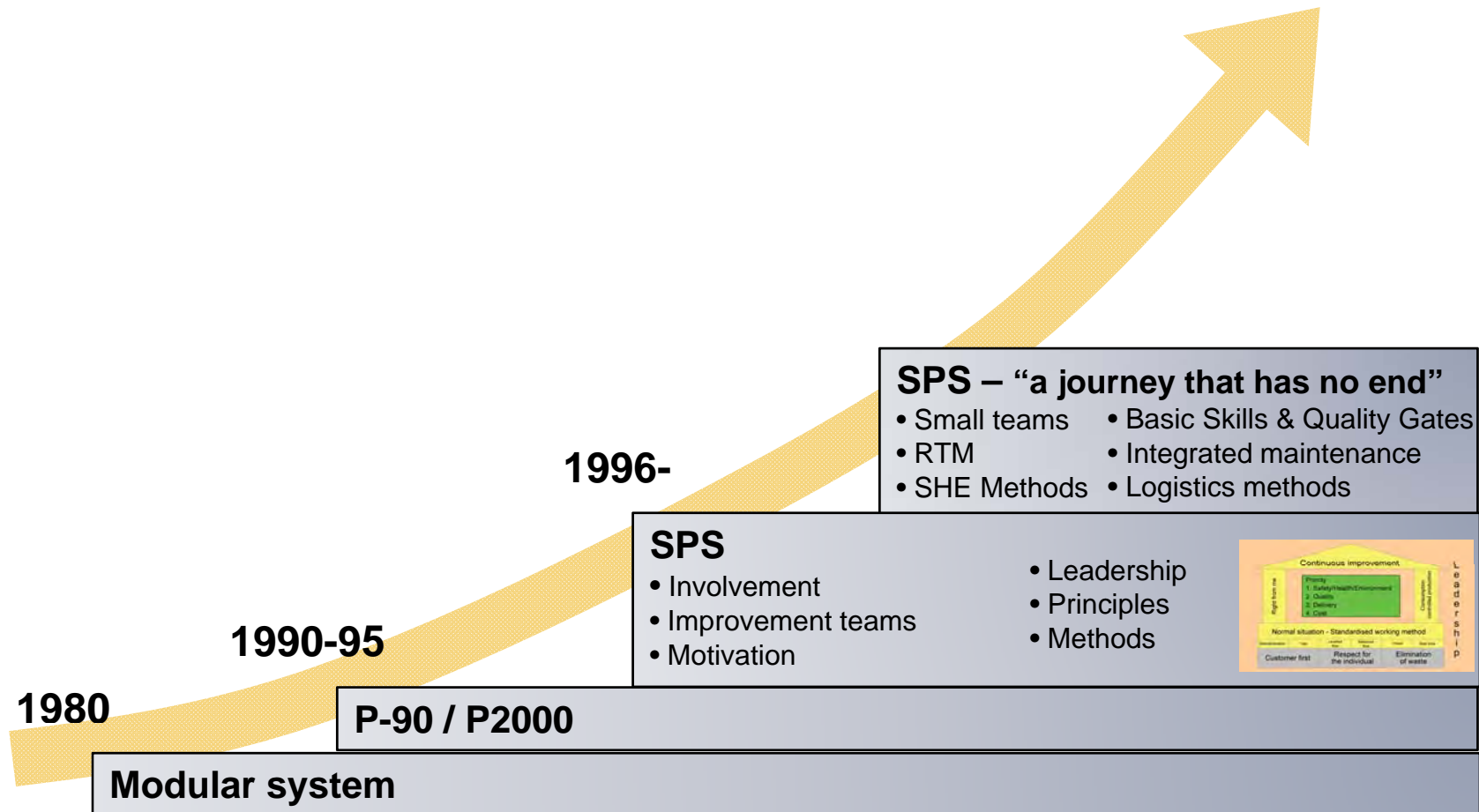


1. Describe the problem
2. Collect facts
3. Target setting
4. Root cause analysis
5. Create countermeasures
6. Implement countermeasures
7. Verify results and follow up
8. Standardise and follow up



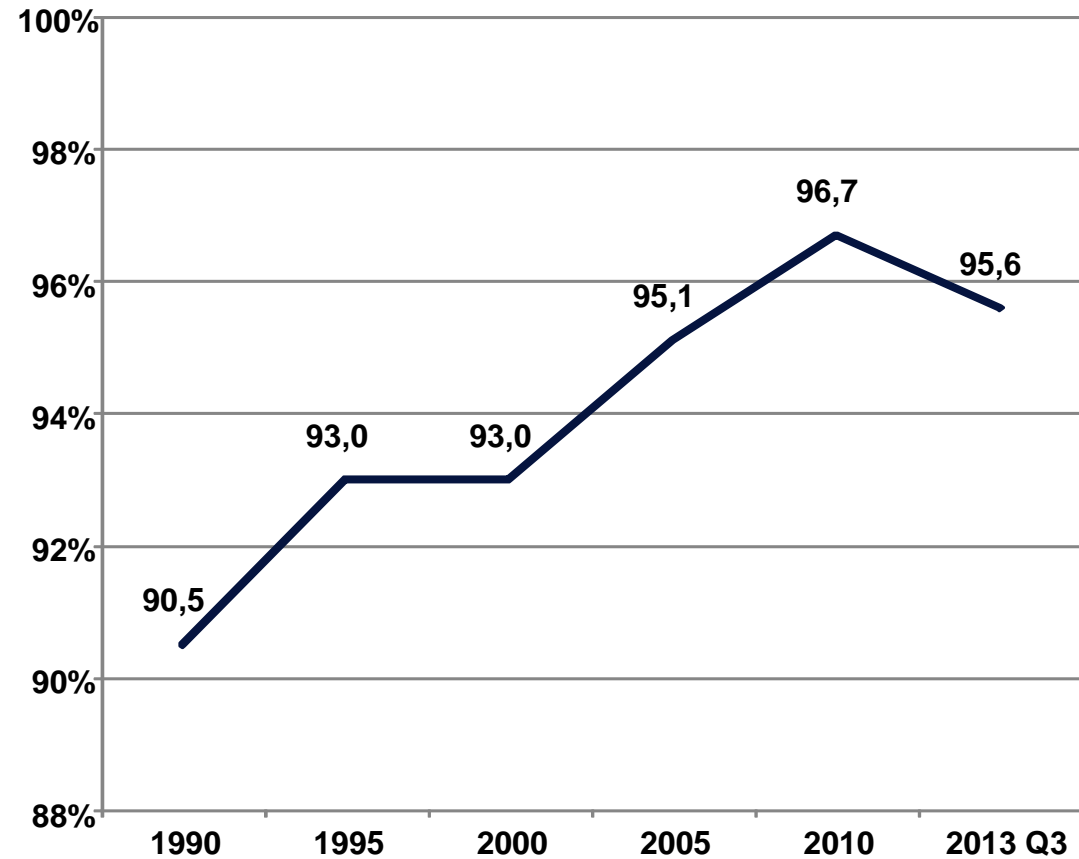
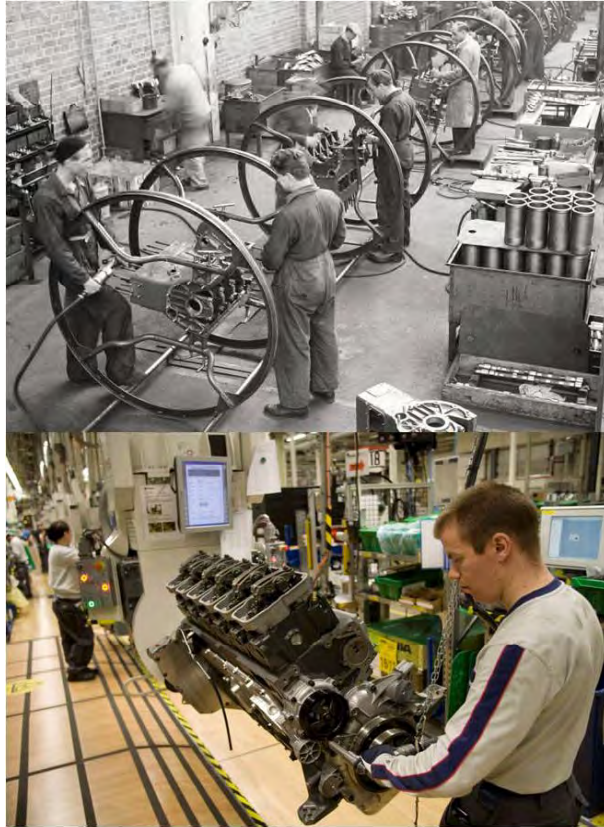
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# Continuous improvement



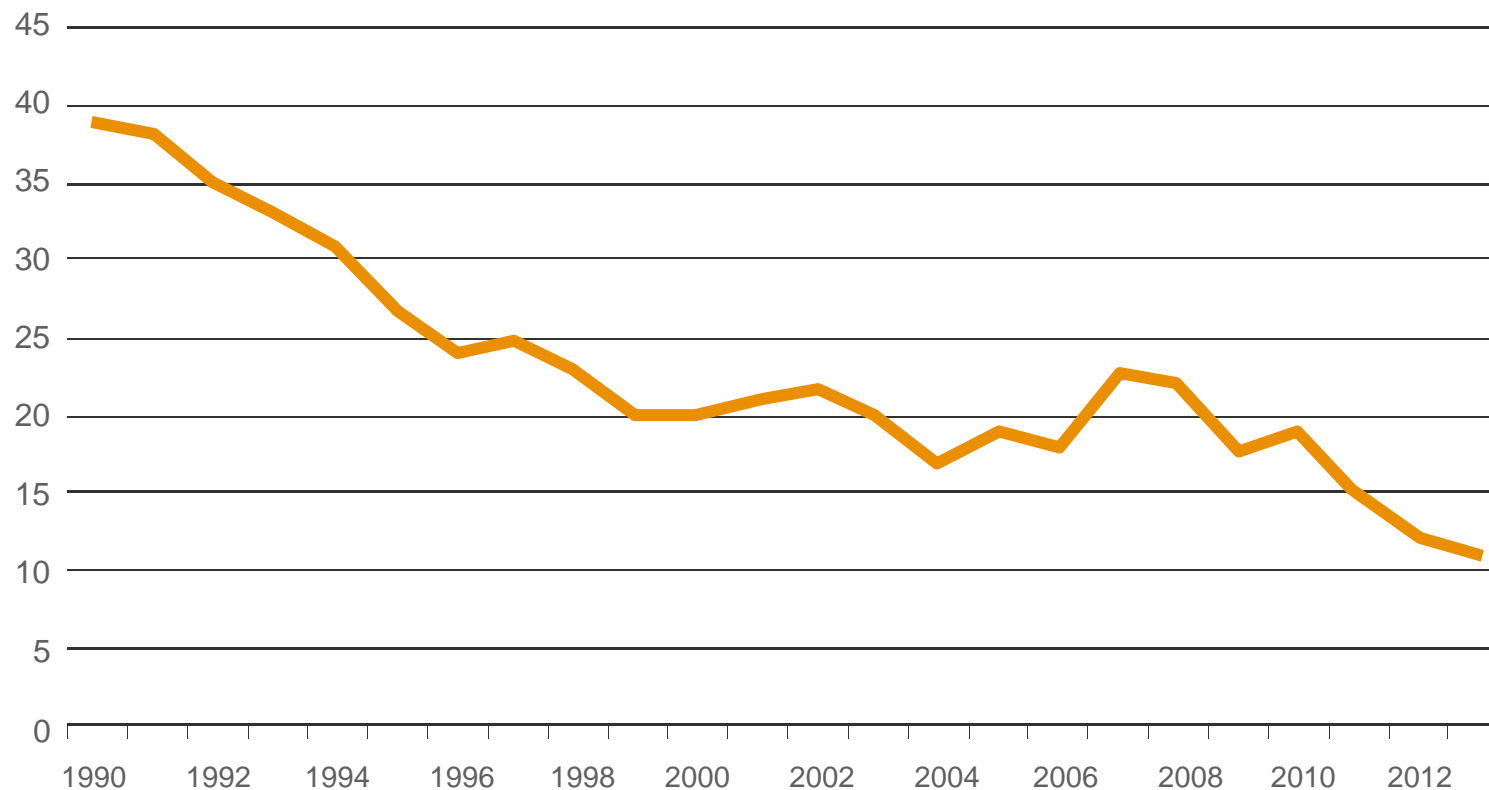


# Health attendance



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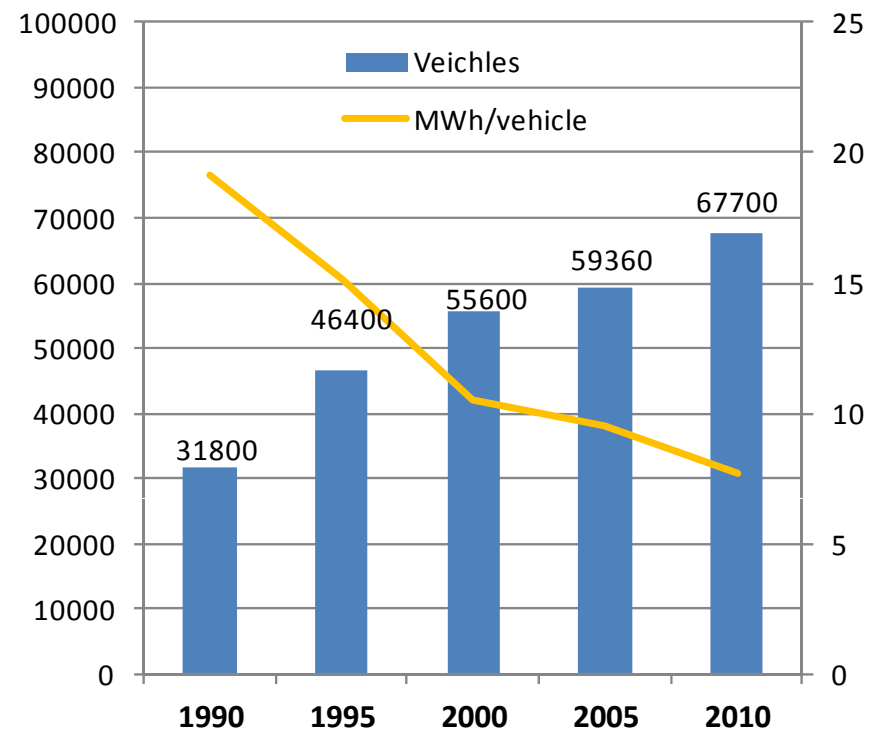
# Number of accidents with sick-leave per one million worked hours Global Production



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# Global production

## Environment responsibility

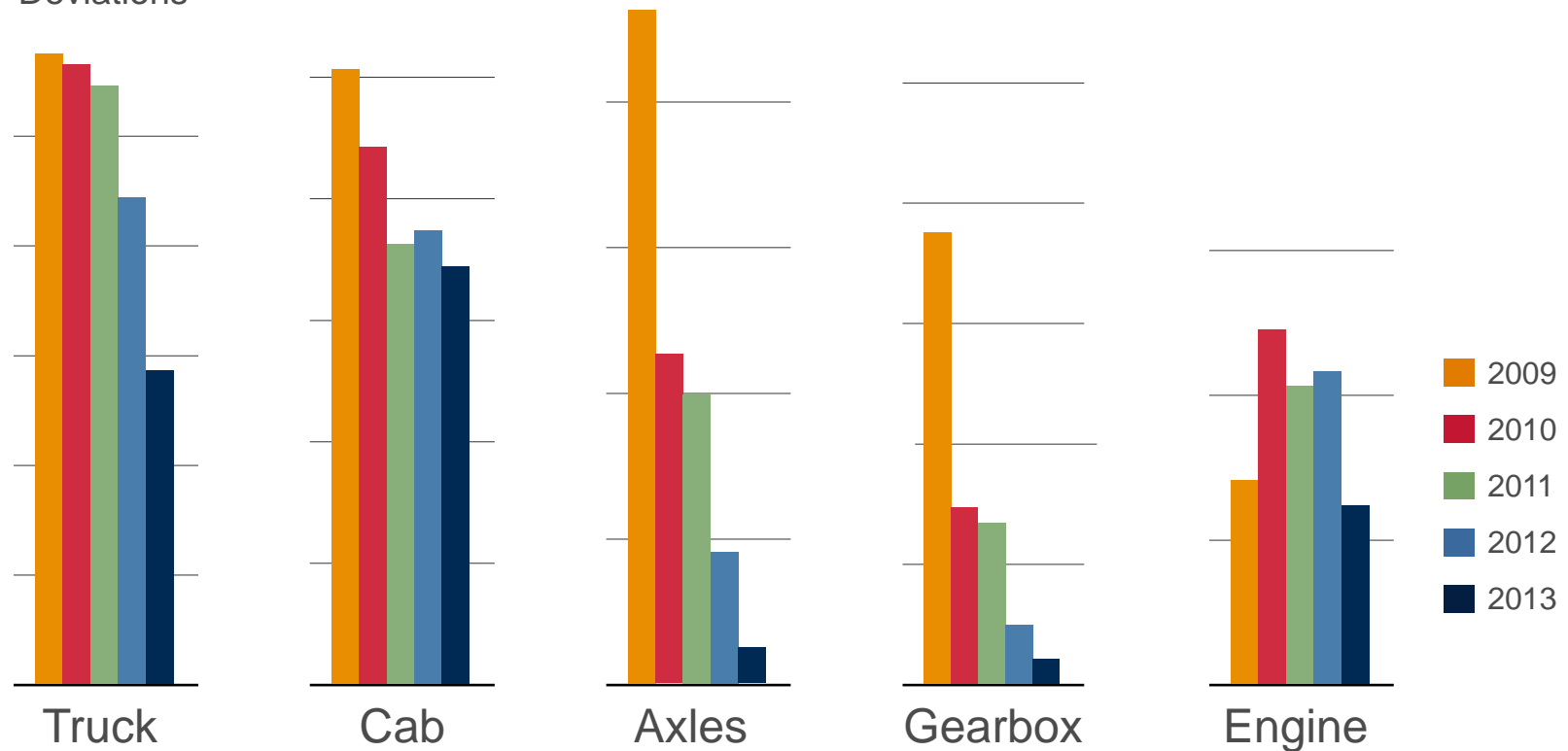


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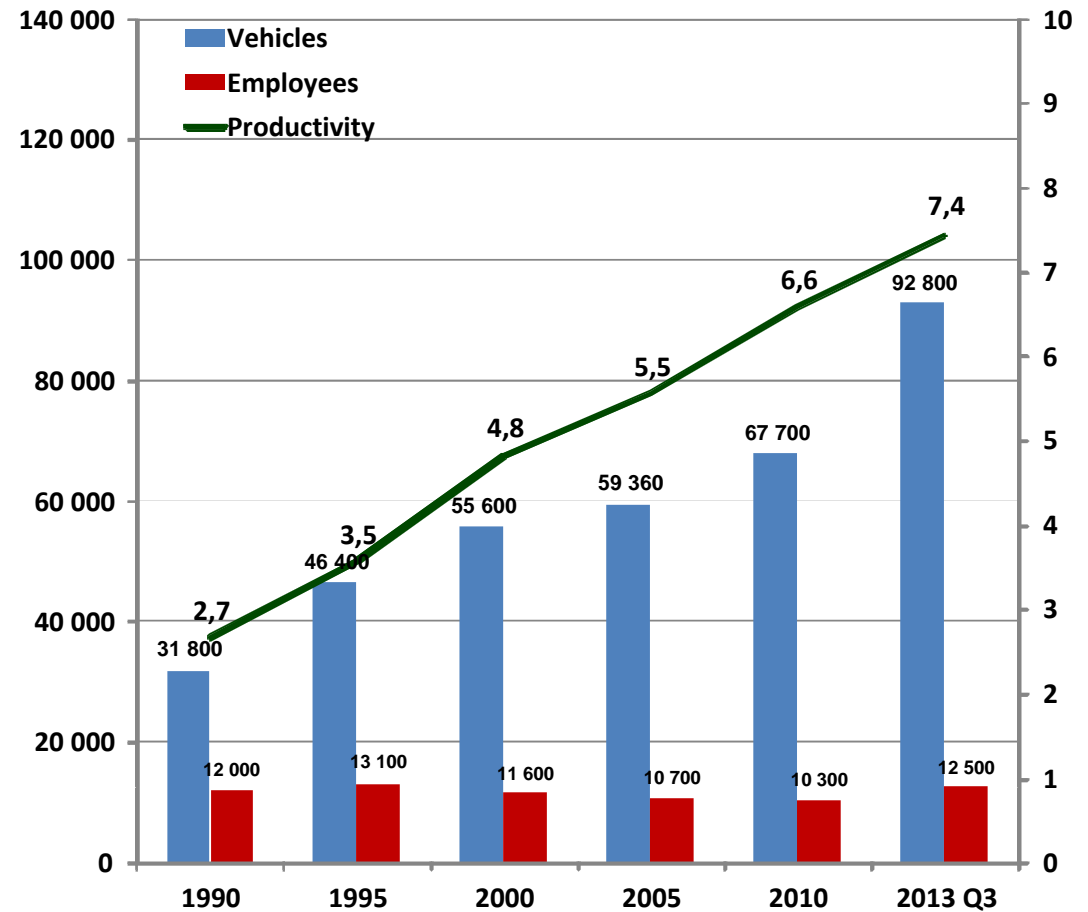
# Product Quality (C+M)

Quality Audit results, average

Deviations



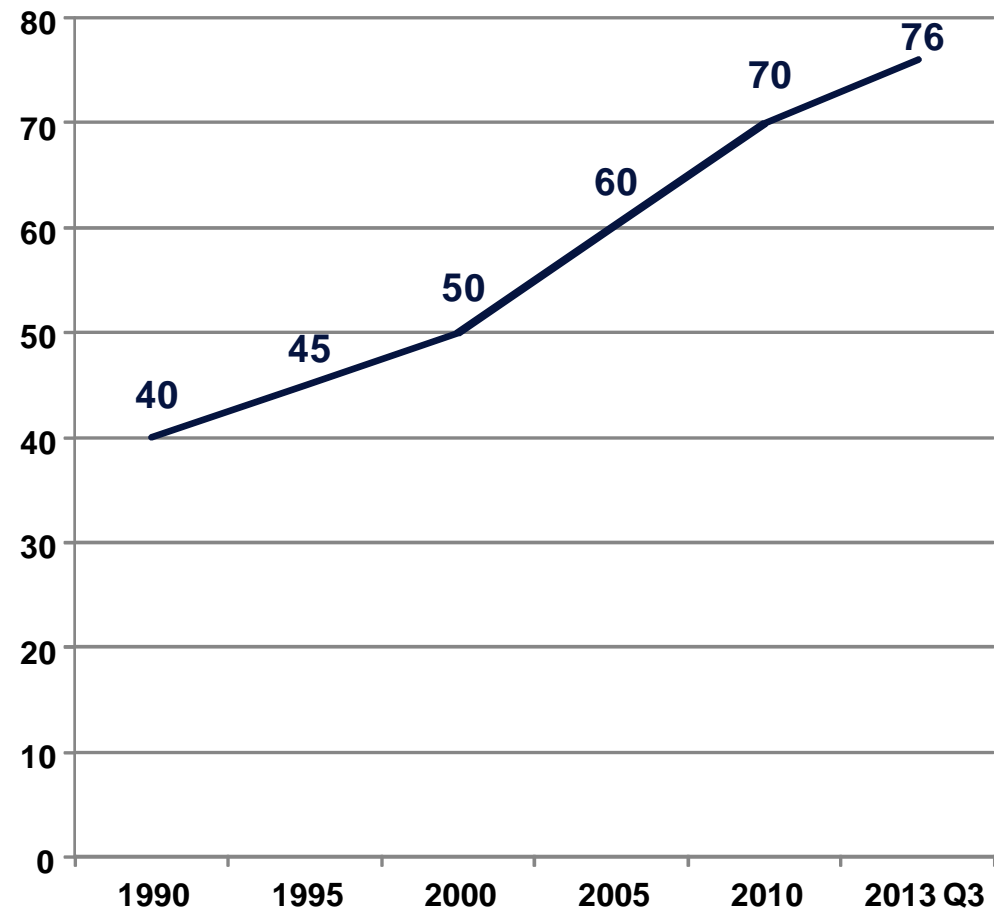
# Productivity improvement



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# OPE improvements machining factories

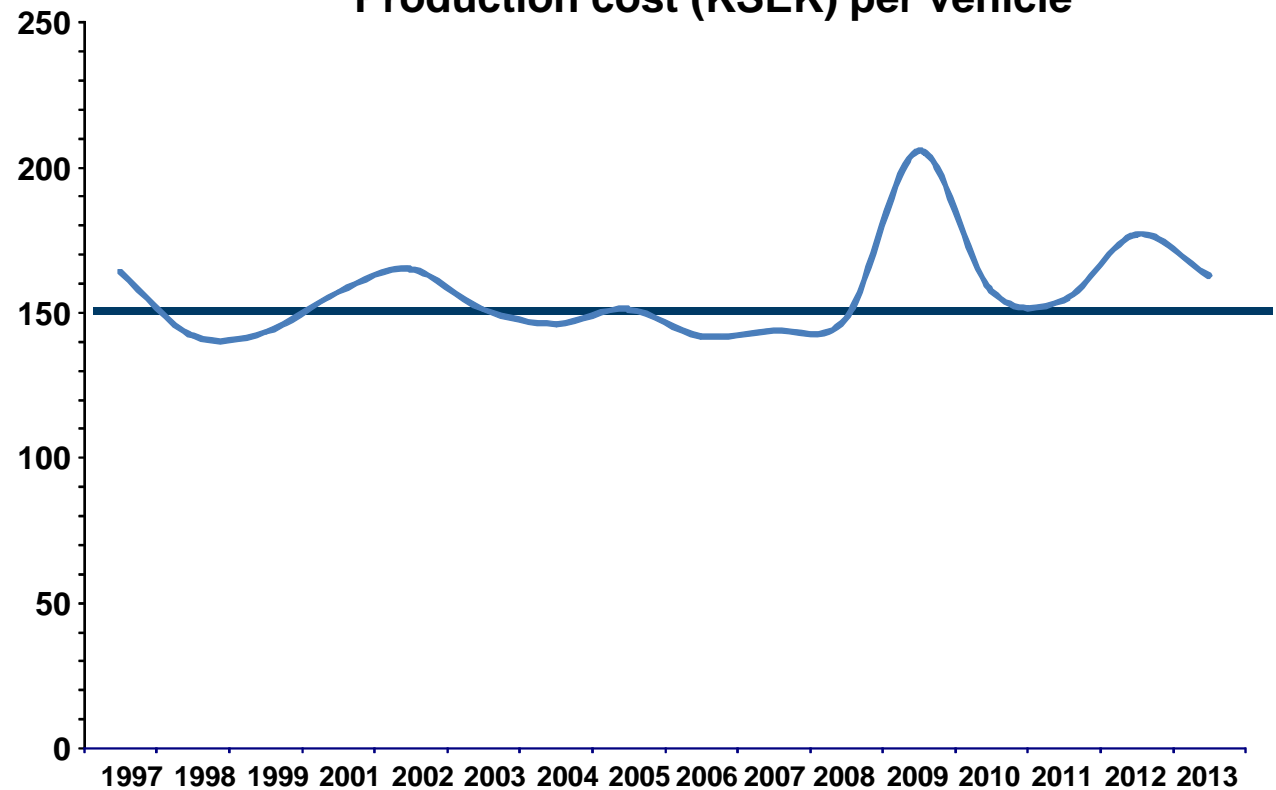


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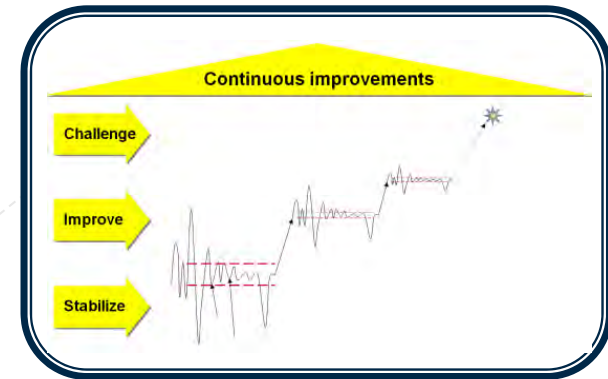
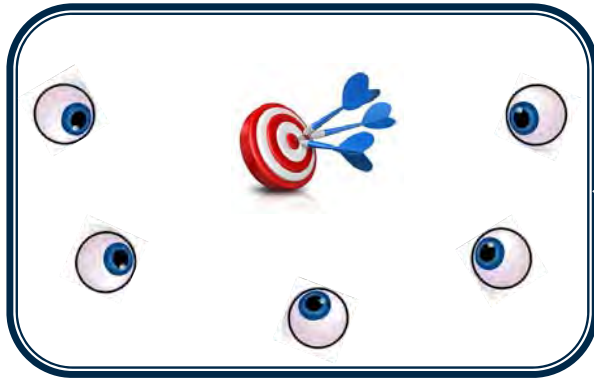
# Production cost



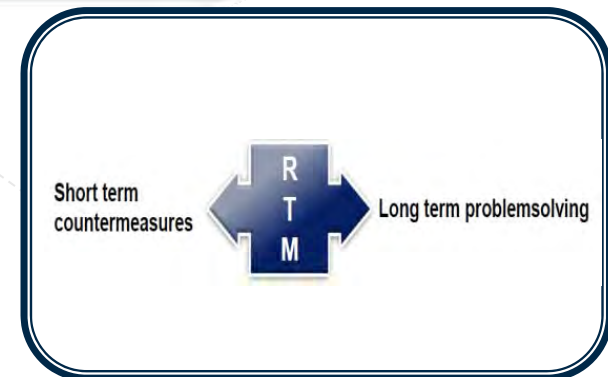
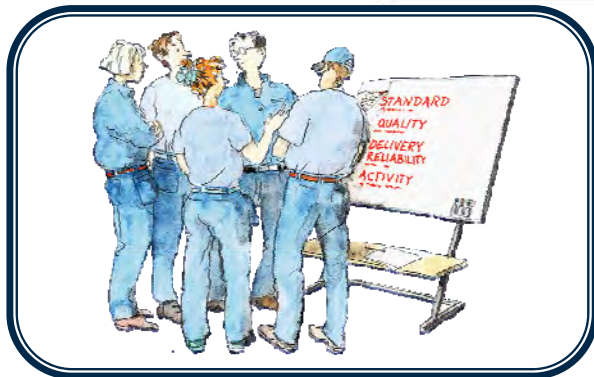
Production cost (KSEK) per vehicle



# Small teams



**Target Achievement**  
**0 / 0 / 85 / 95**  
**@ cost**



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# Leadership

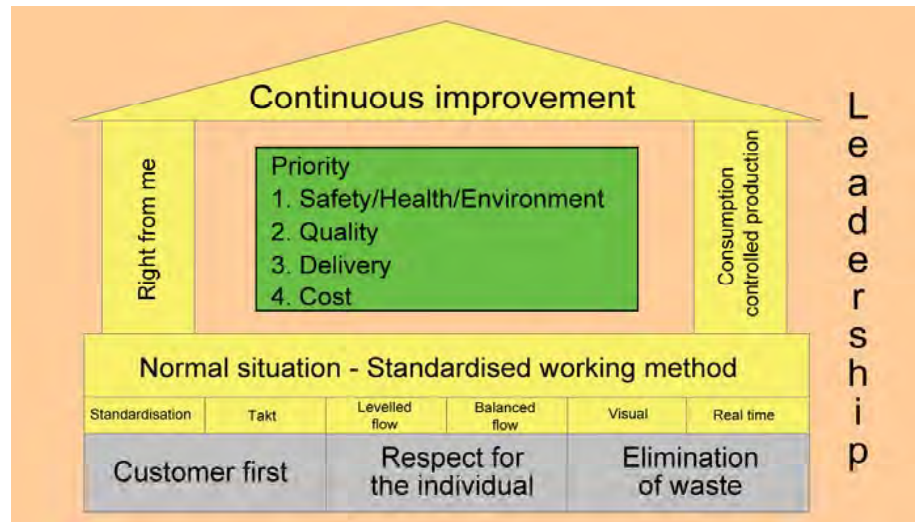


**Business excellence through motivated employees**

## WHAT HOW WANT TO

- Involved
  - Competent
  - Secure
- 
- Coaching leadership
  - Challenge – feed back / recognition

# The journey continues



SPS = The Total Business

Evolution steps  
not  
Revolution steps

## SPS next steps (2010)

- Small teams
- RTM
- Problem solving
- Basic Skills
- Training and support
- Integrated maintenance

## SPS (1996)

- Improvement teams
- Motivation
- Involvement
- Leadership

P2000 (1995)

P90 (1990)

Modular system (1980)



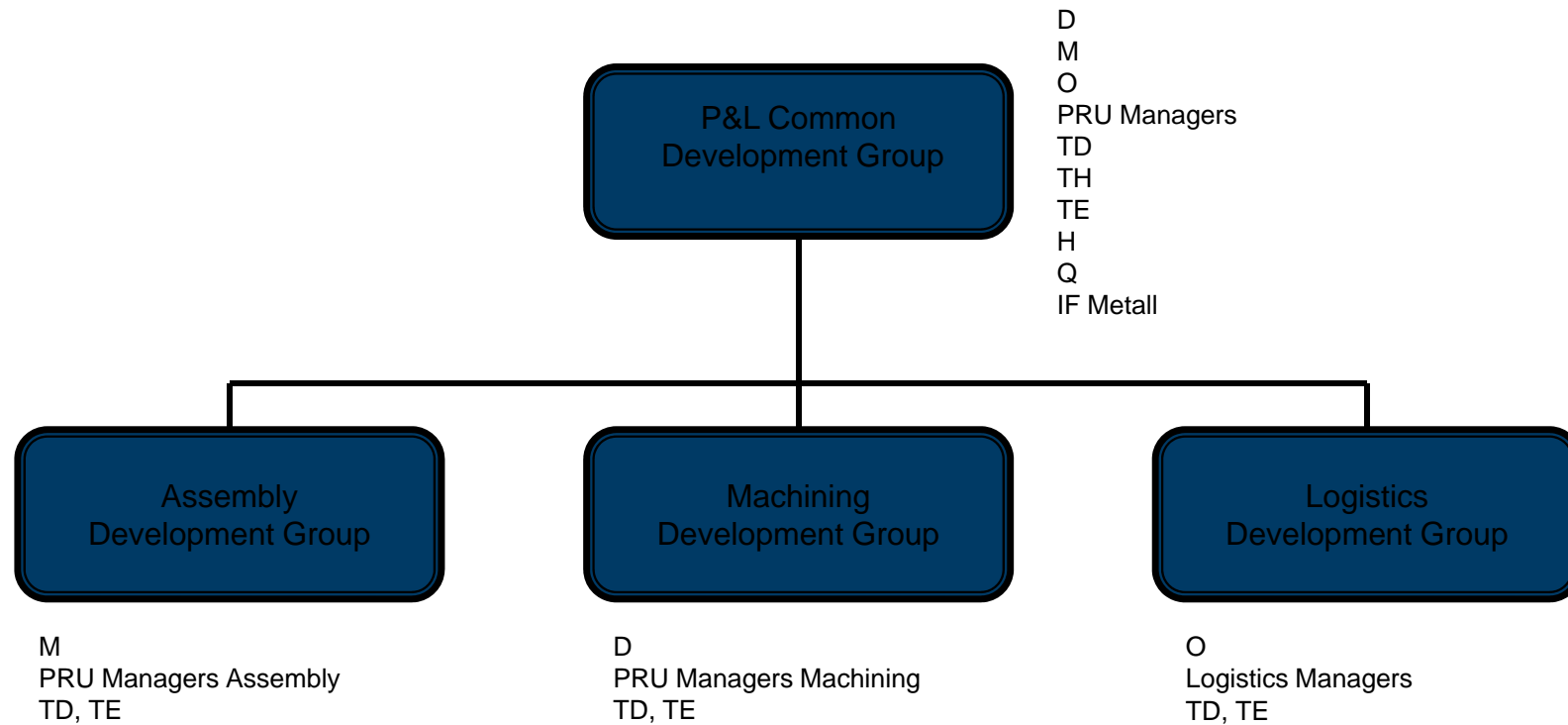
**SCANIA**



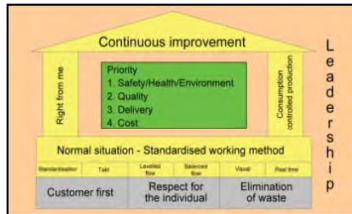
# Thank you



# SPS Development Forums



# Getting Started...



1.  $\leq 5+1$



2. Närvaro PL  
>85%



3. RTM



4. Störnings  
uppfölj



5. Ta hand om  
störningar



6. Maskin  
ägare



7. Initial-  
rengöring  
UFO/FU

8. Potentiella  
fel

Initial  
Rengöring

Resurs och  
Kompetens -  
matris

Kortintervalls -  
kontroll

Vecko-  
planering

Motåtgärder  
mot  
Källan till  
Problem

Reservdels -  
listor

Utrustnings -  
historik

Nyckeltal  
För  
Tillförlitlighet

Veckovis  
Underhålls -  
rapportering

Produktivitet  
Uppföljning

Daglig  
Planering

Daglig  
Underhålls -  
rapportering

Kostnads -  
kontroll &  
Uppföljning

Arbetsorder -  
System

Ordning  
och reda på  
Arbetsplatsen

Nyckeltal för  
Underhåll

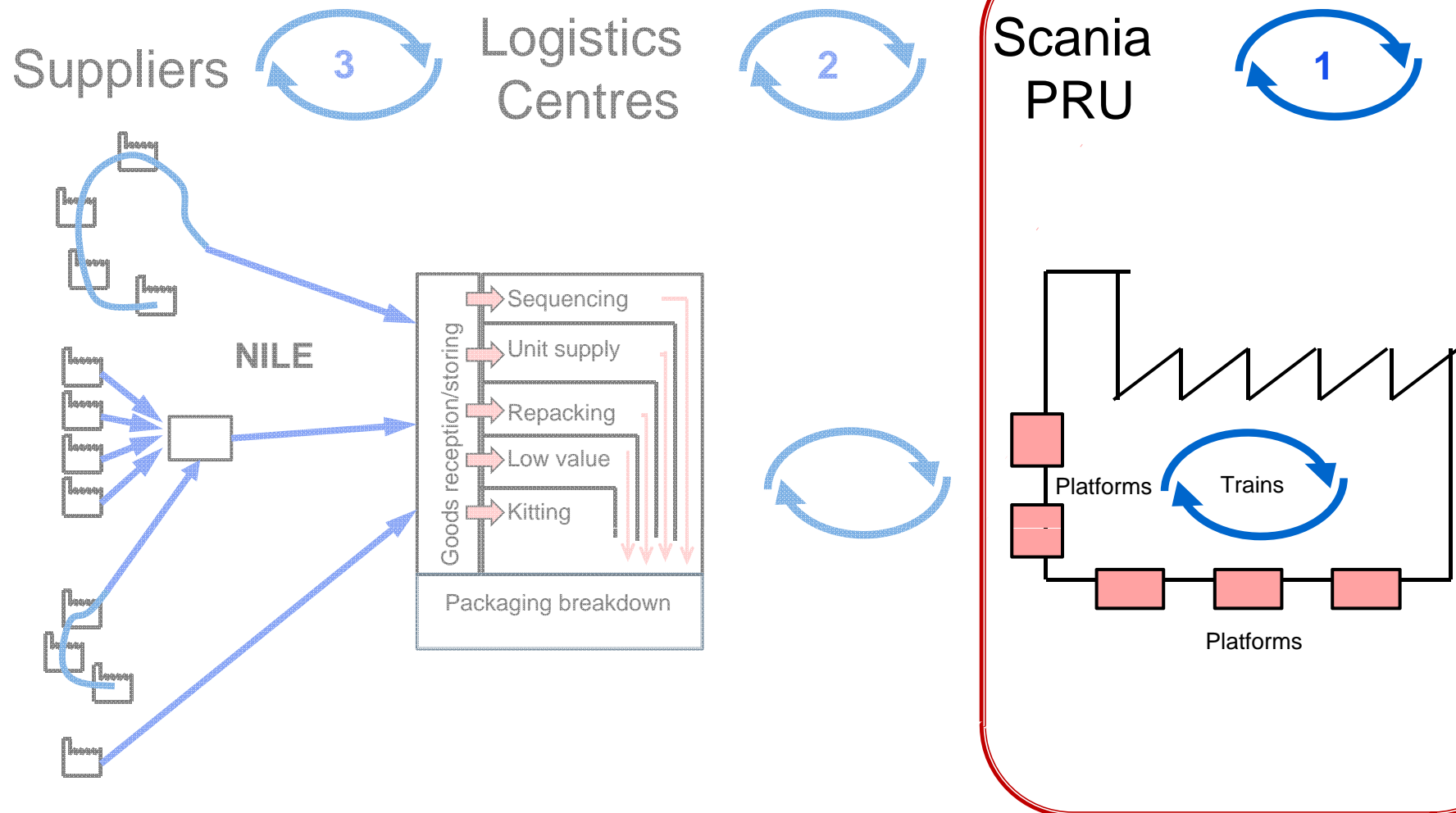
Anläggnings -  
register

Kritisk  
Maskin-  
utrustning



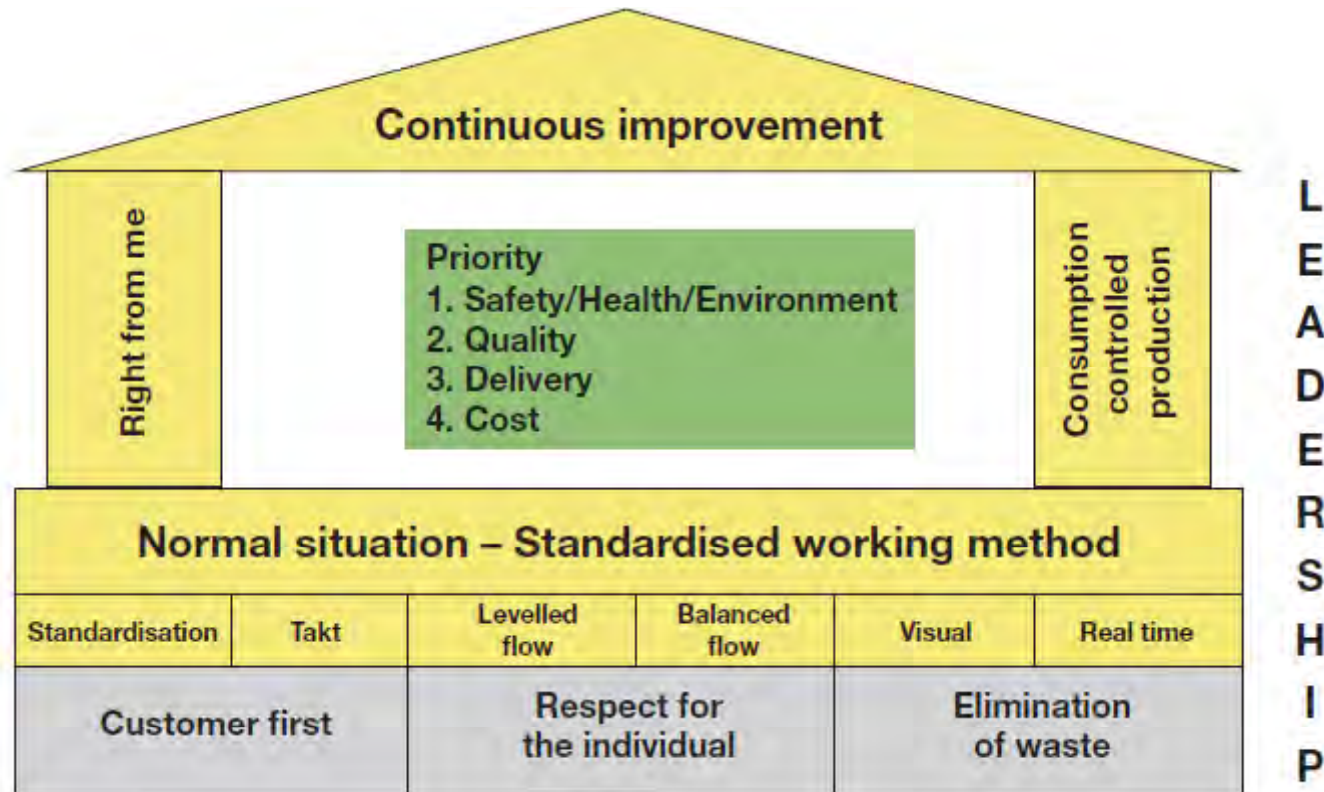
# SCANIA

# Logistics: Three loop system



# SPS – ”a journey that has no end”

## Scania Production System

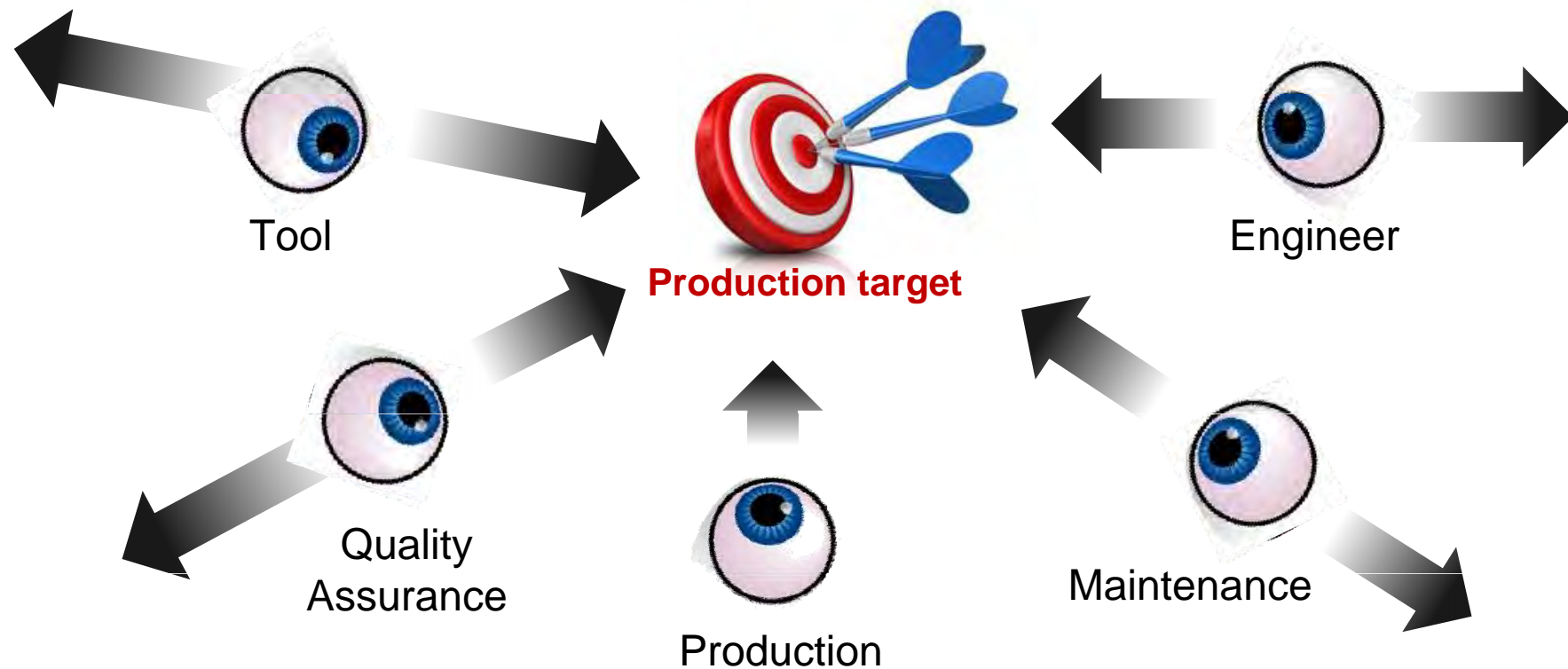


**SCANIA**



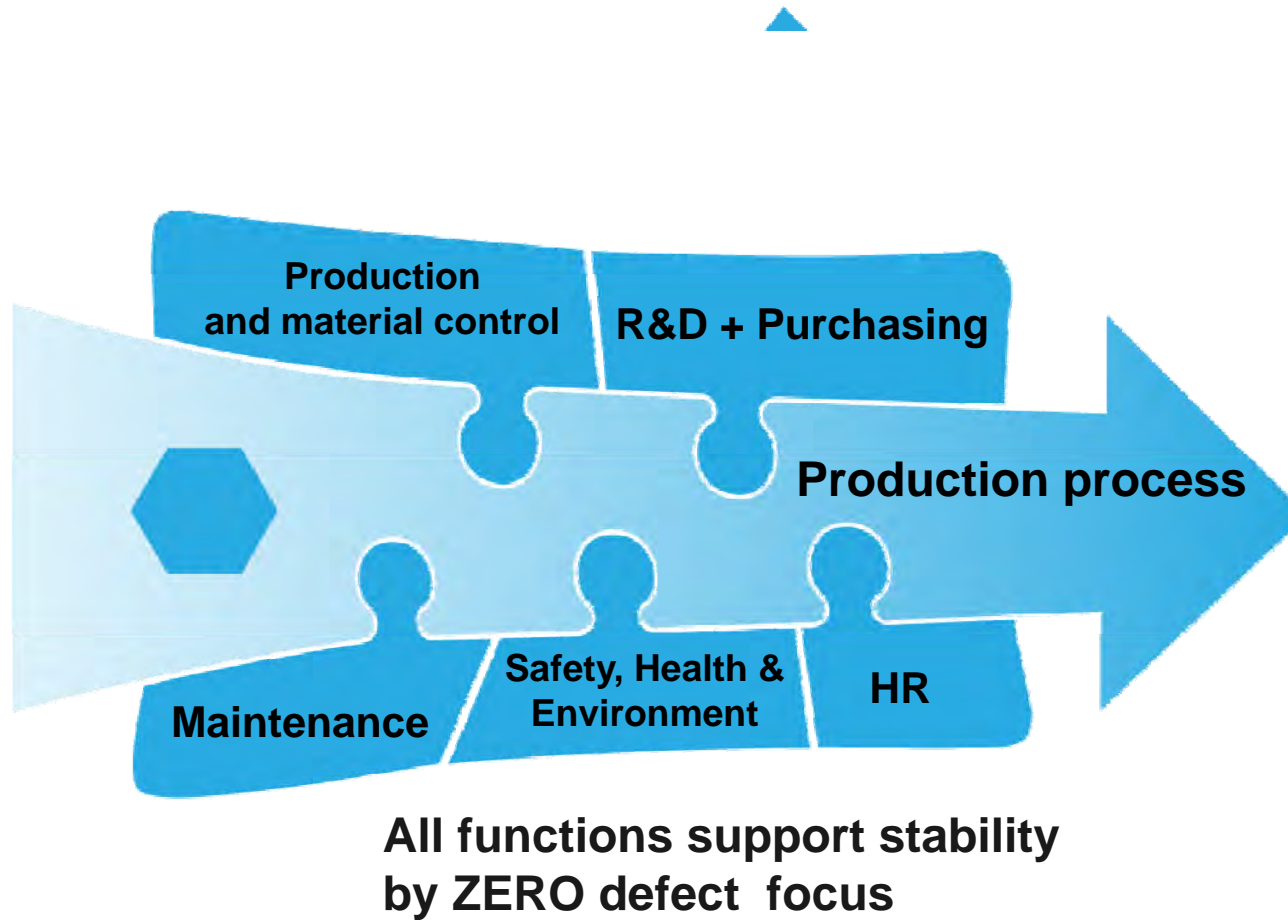
# Focus on process results

*From functional excellence to process excellence*



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# Standard interfaces

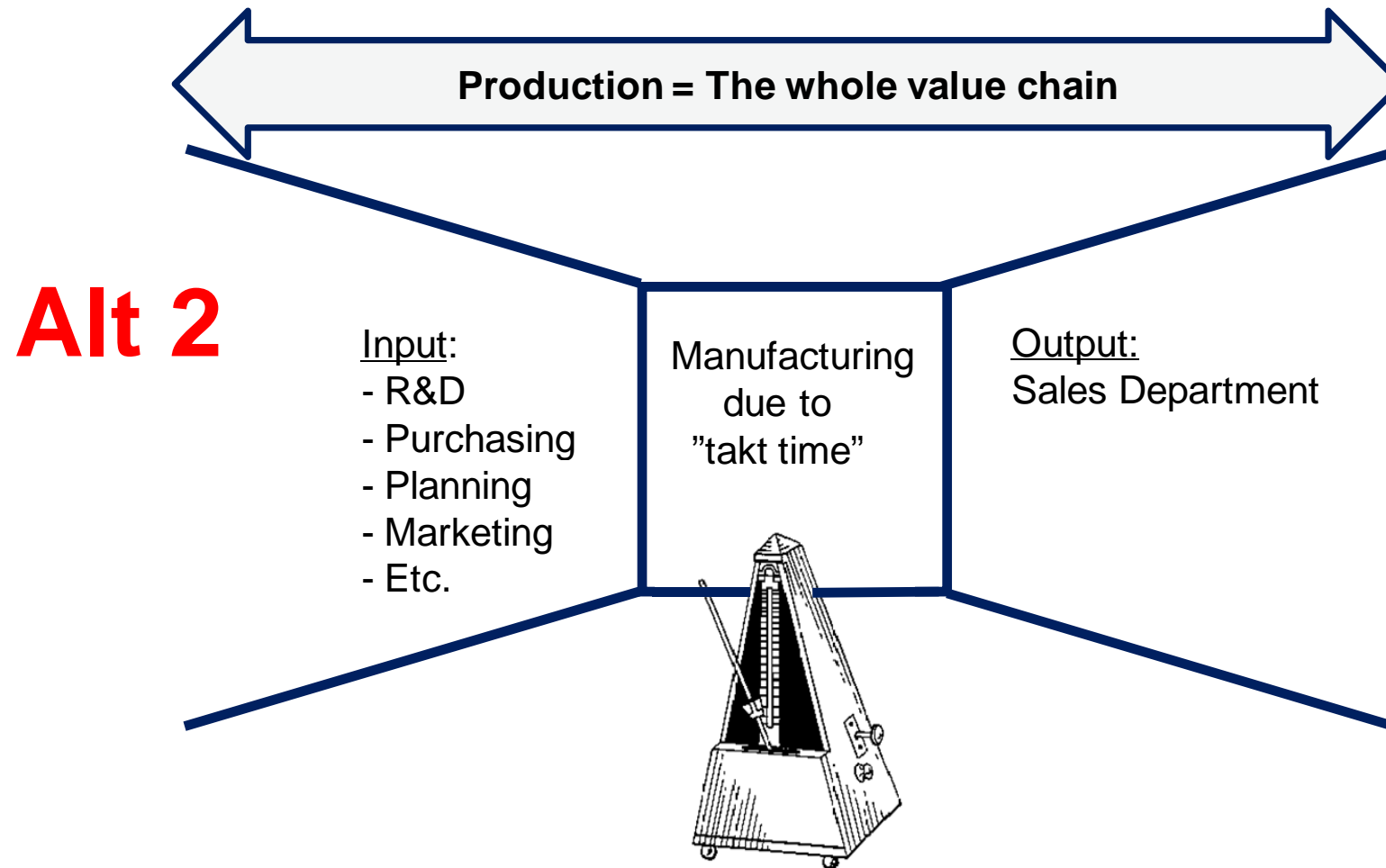


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# Cross-functional work throughout the value chain

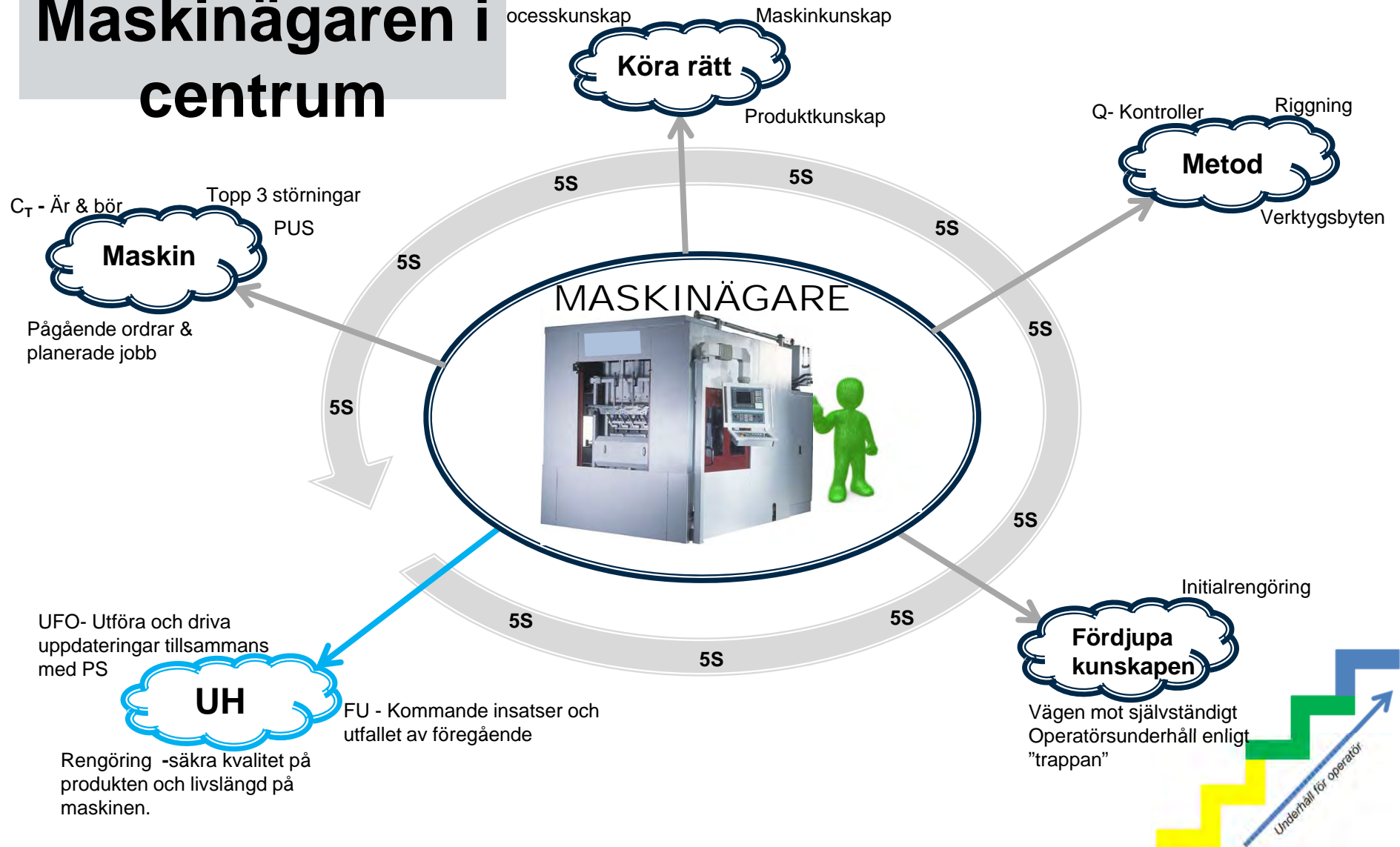


# Cross-functional work throughout the value chain



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# Maskinägaren i centrum



Bygga kunskap genom ansvarskänsla, som på 50-talet!?

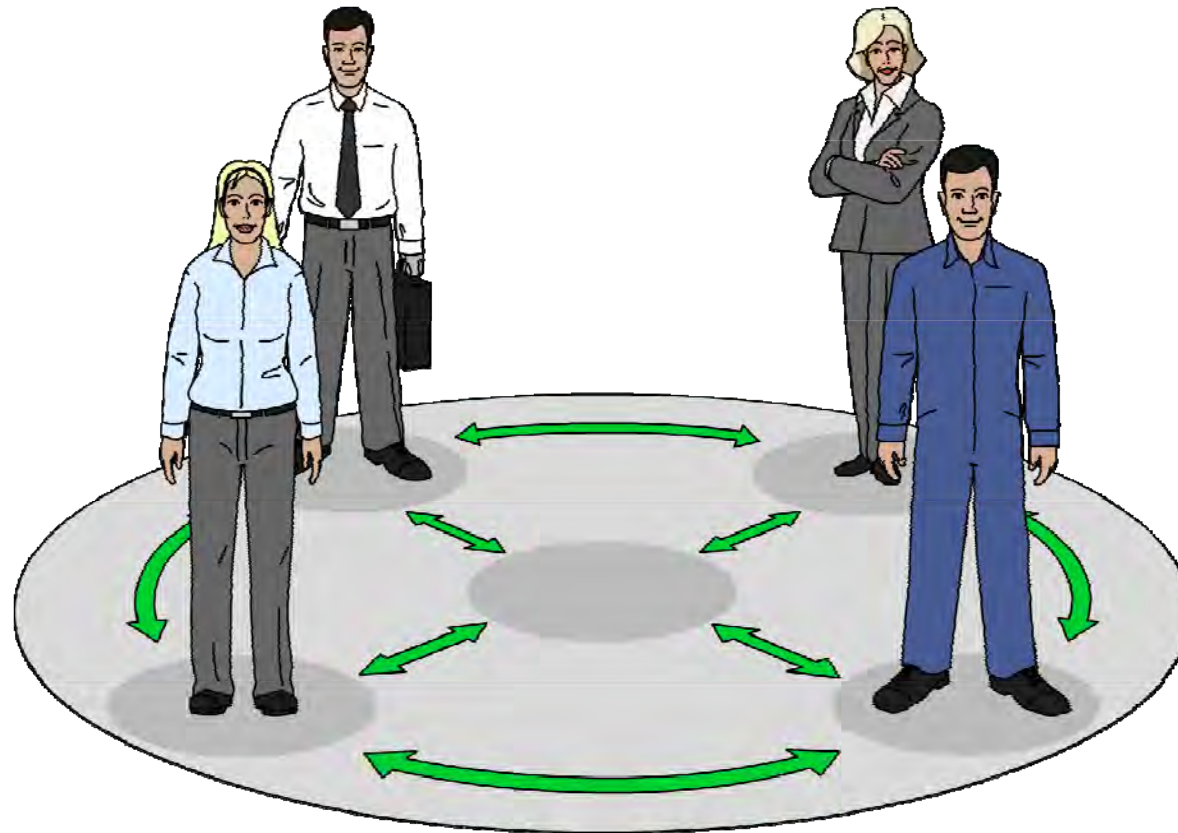


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# Leadership Principle 1

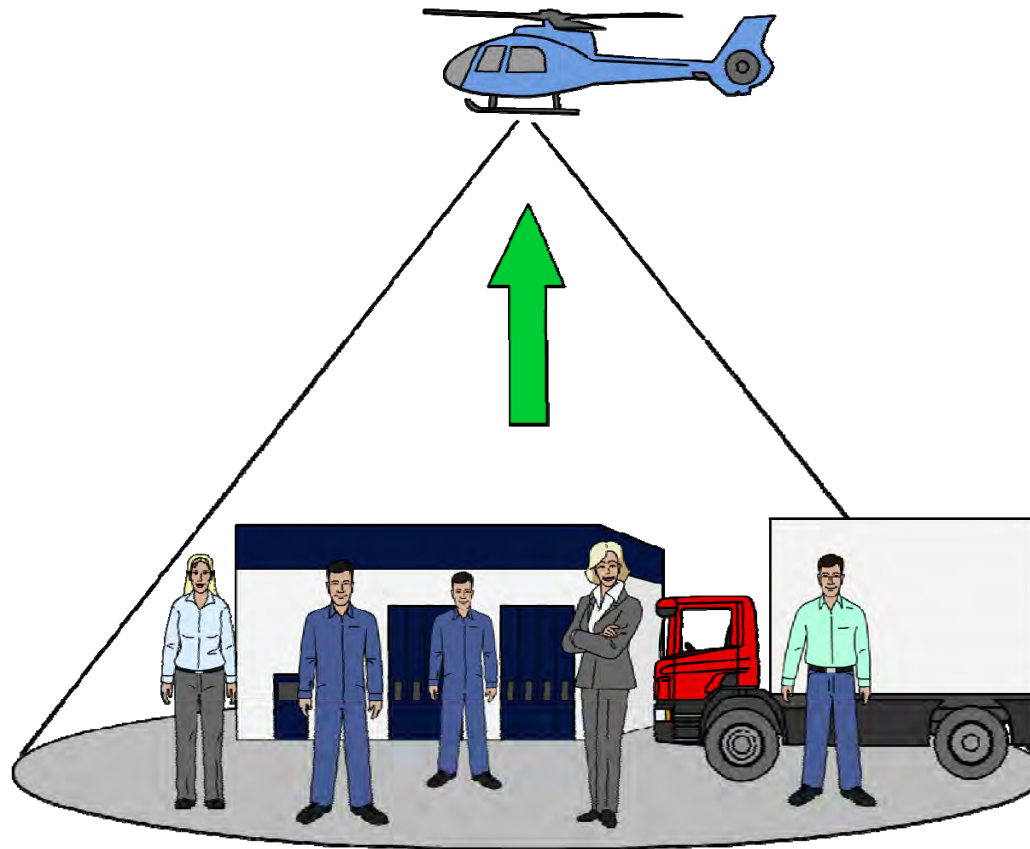
Co-ordinate but work independently – take responsibility



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# Leadership Principle 2

Work with the details and understand the context



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# Leadership Principle 3

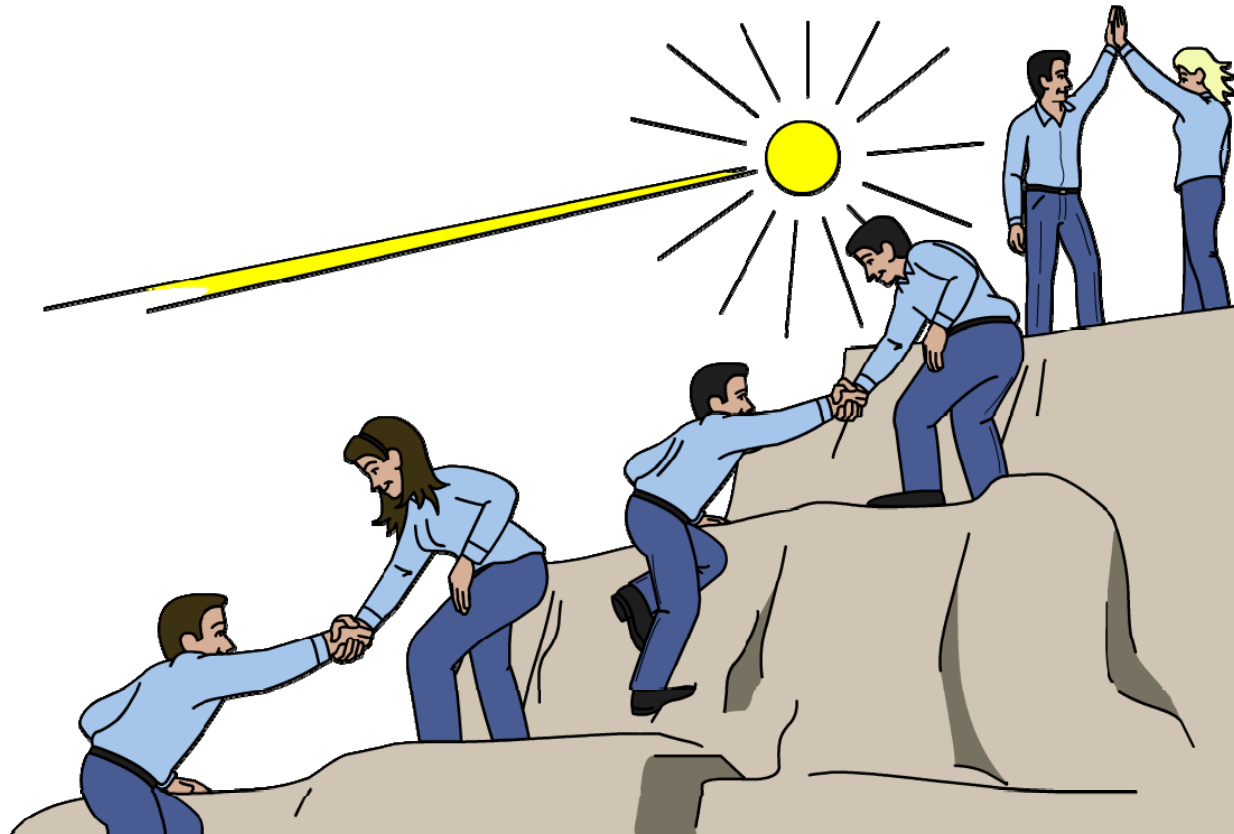
Act now – think long term



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# Leadership Principle 4

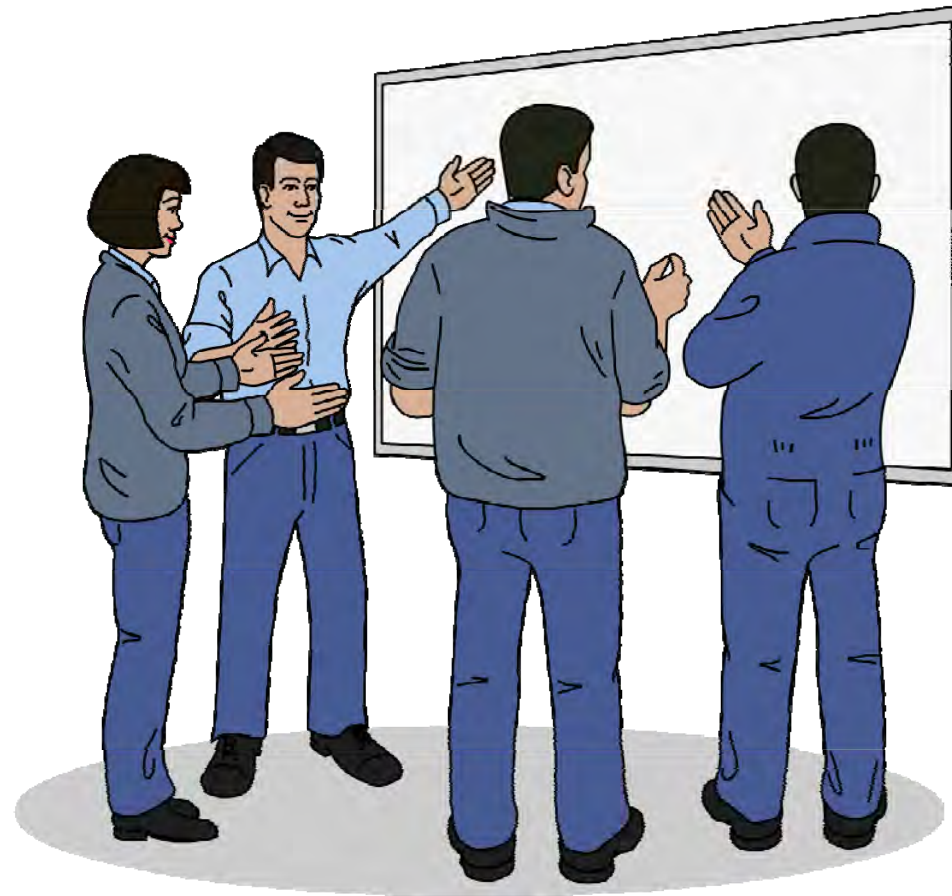
Build know-how through continuous learning



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# Leadership Principle 5

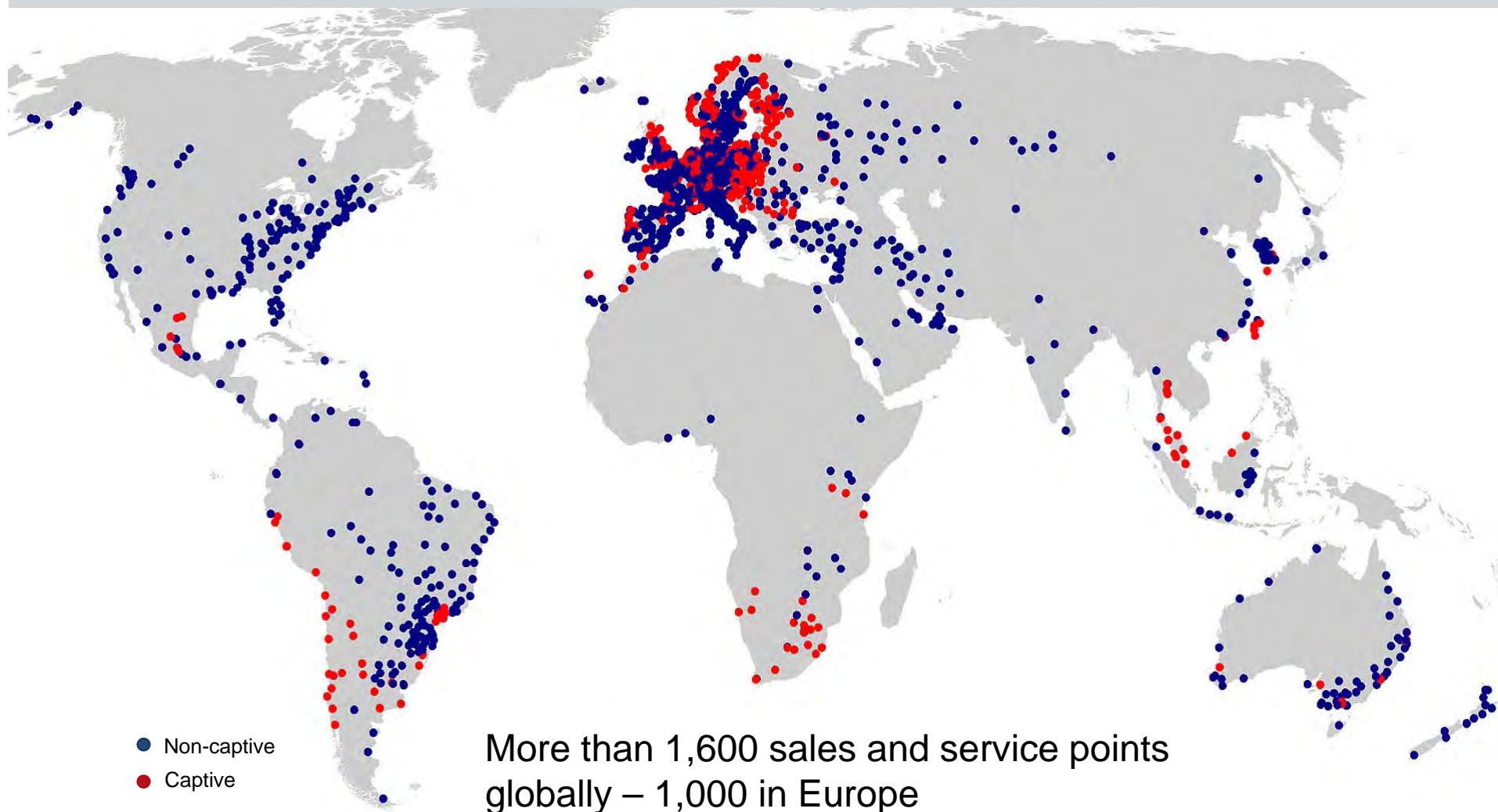
Stimulate commitment through involvement



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# Sales and service network



**SCANIA**

# Customer First



- **Good knowledge of customer's operations**
- **Deliver solutions**
- **The customer's operations are at the centre of the entire value chain**

# Respect for the individual



- **Recognising and utilising all employees' knowledge**
- **Ideas and inspiration from day-to-day operations**



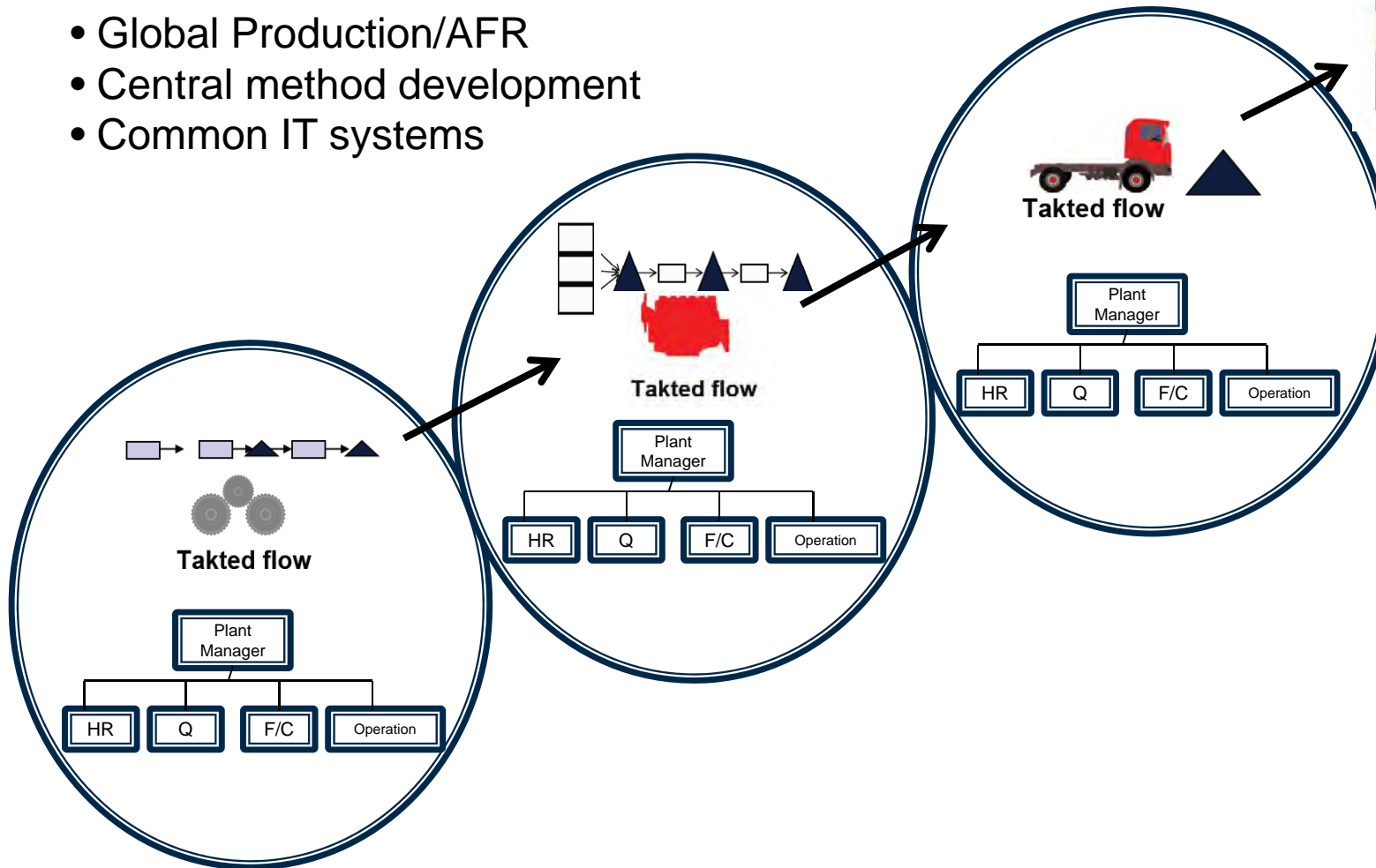
# Quality



- High quality solutions
- Improvements are triggered by
  - Customers' needs
  - Deviations

# Connected flows

- Global Production/AFR
- Central method development
- Common IT systems

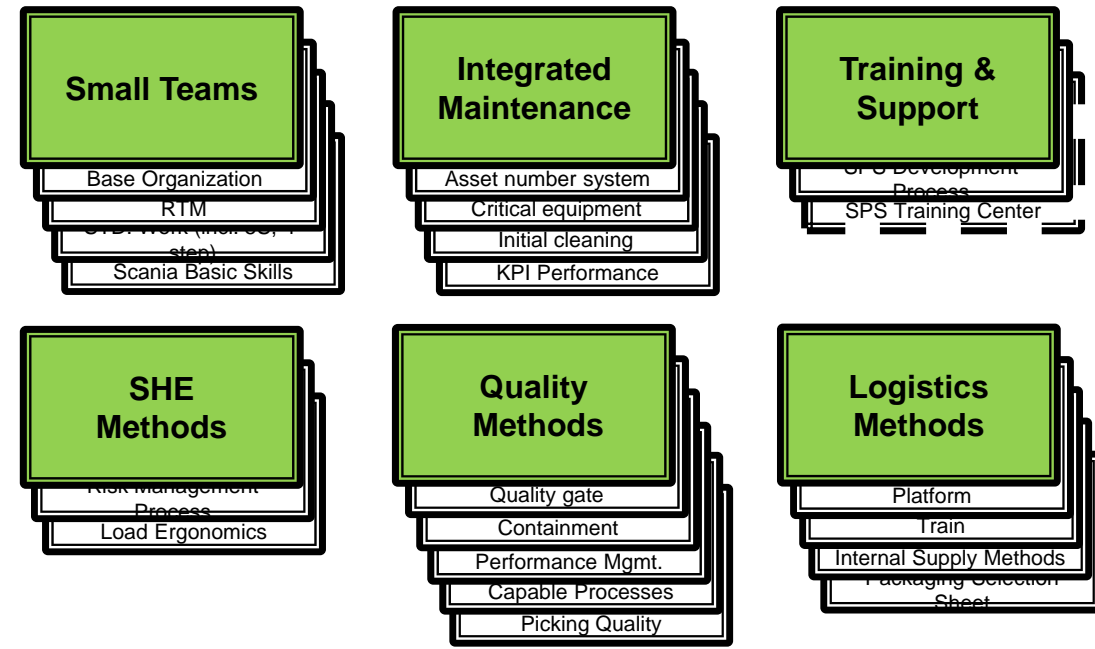


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# Method development

## SPS next steps (D & M inputs)



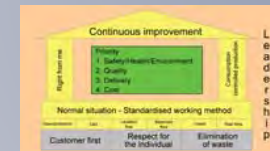
## SPS – “a journey that has no end”

- Small teams
- RTM
- SHE Methods
- Basic Skills & Quality Gates
- Integrated maintenance
- Logistics Methods

## SPS

- Involvement
- Improvement teams
- Motivation

- Leadership
- Principles
- Methods



1990-95

1980

P-90 / P2000

Modular system





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