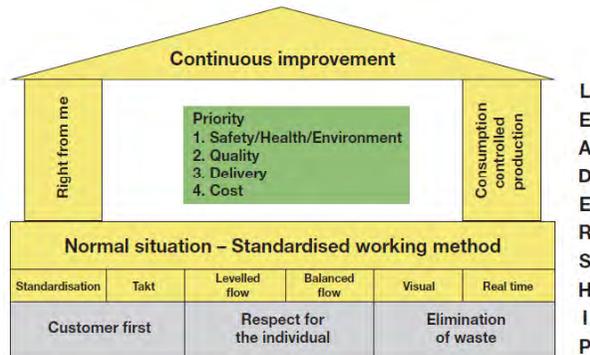


Scania Production System



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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



SCANIA

Modular system



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

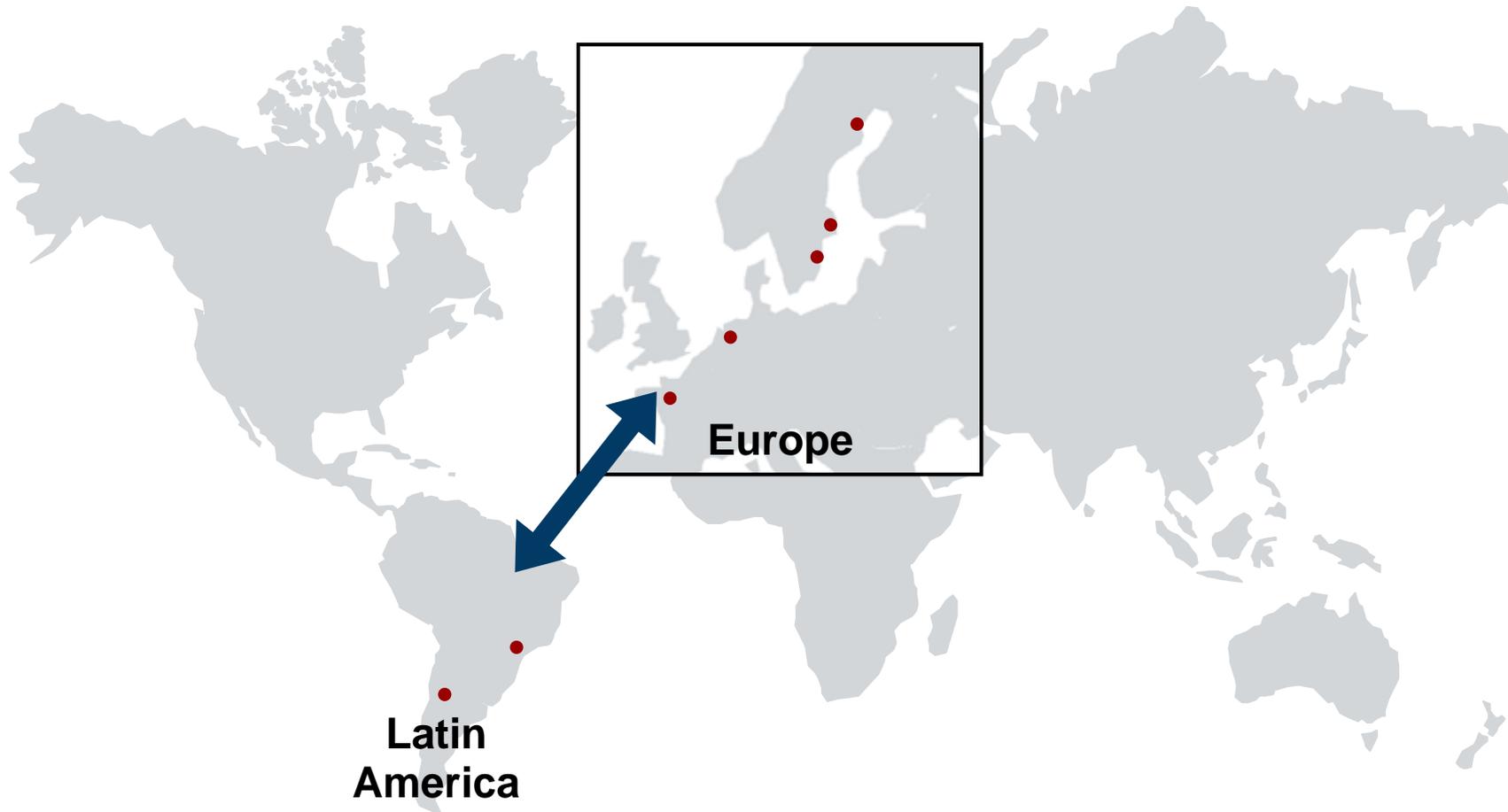
- 1,000 sales points
- 1,600 workshops
- More than 95% parts availability
- Round-the-clock assistance

Number of employees
41,000 persons



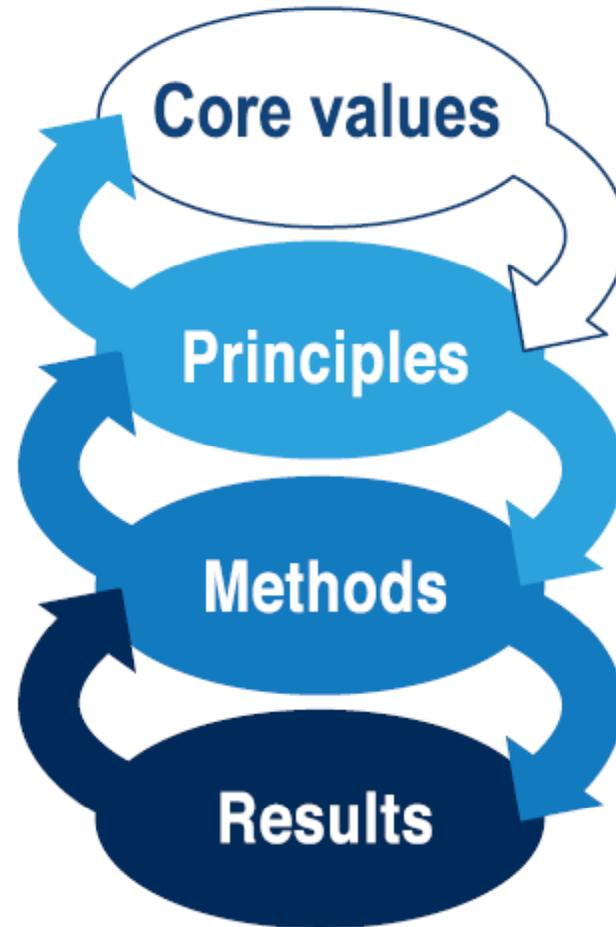
SCANIA

Global production system



SCANIA

Scania's Philosophy



SCANIA

Scania's Core Values



Customer First



Respect for the individual



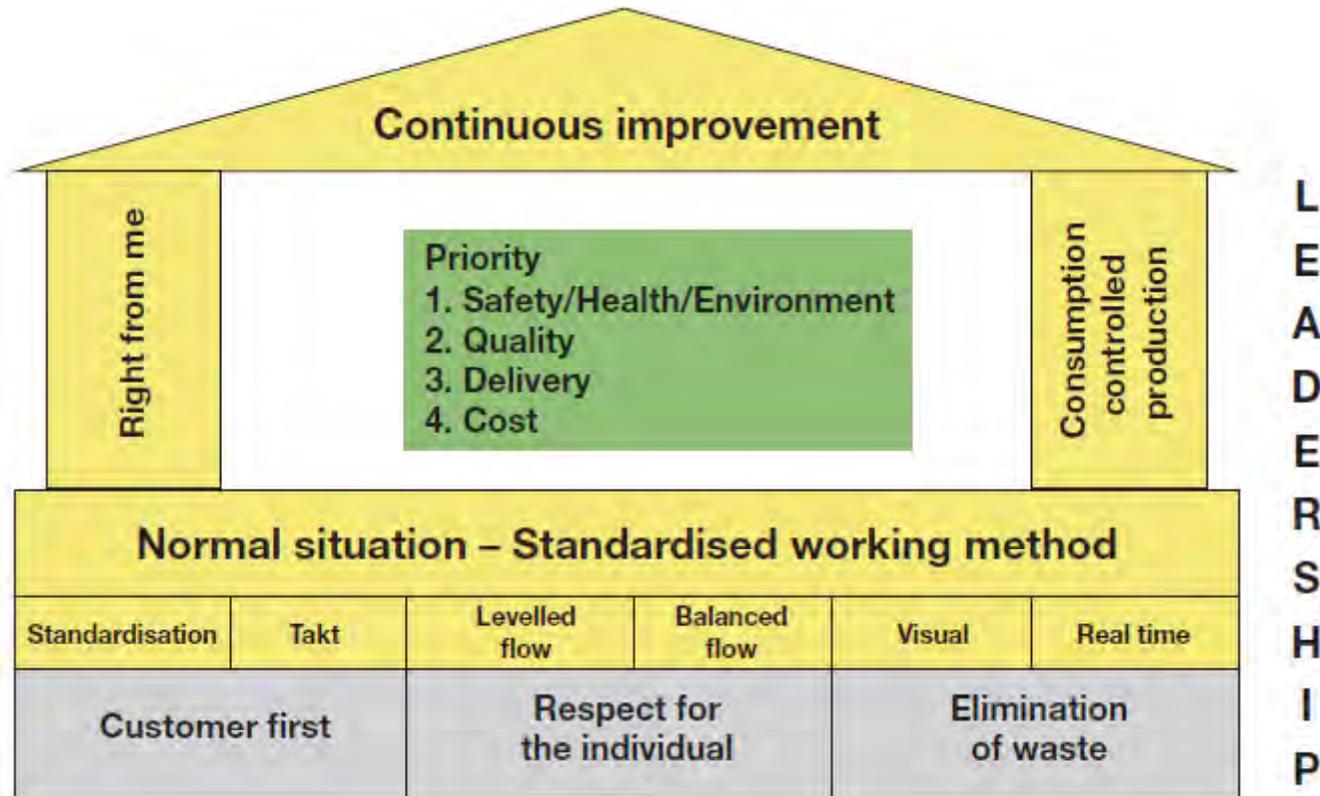
Quality

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

Scania Production System



SCANIA

Background

– 1980



Production

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



Leadership

- ❑ Leadership focused on result and inspection



Personnel

- ❑ High absence
- ❑ High employee turnover



SCANIA

Background

1980 – 1995



Production

- ❑ Flexible production systems
- ❑ Hard to detect waste



Leadership

- ❑ Leadership focused on result
- ❑ Unclear priorities



Personnel

- ❑ High absence
- ❑ High employee turnover



SCANIA

Background

1996 – 2010



Production

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



Leadership

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



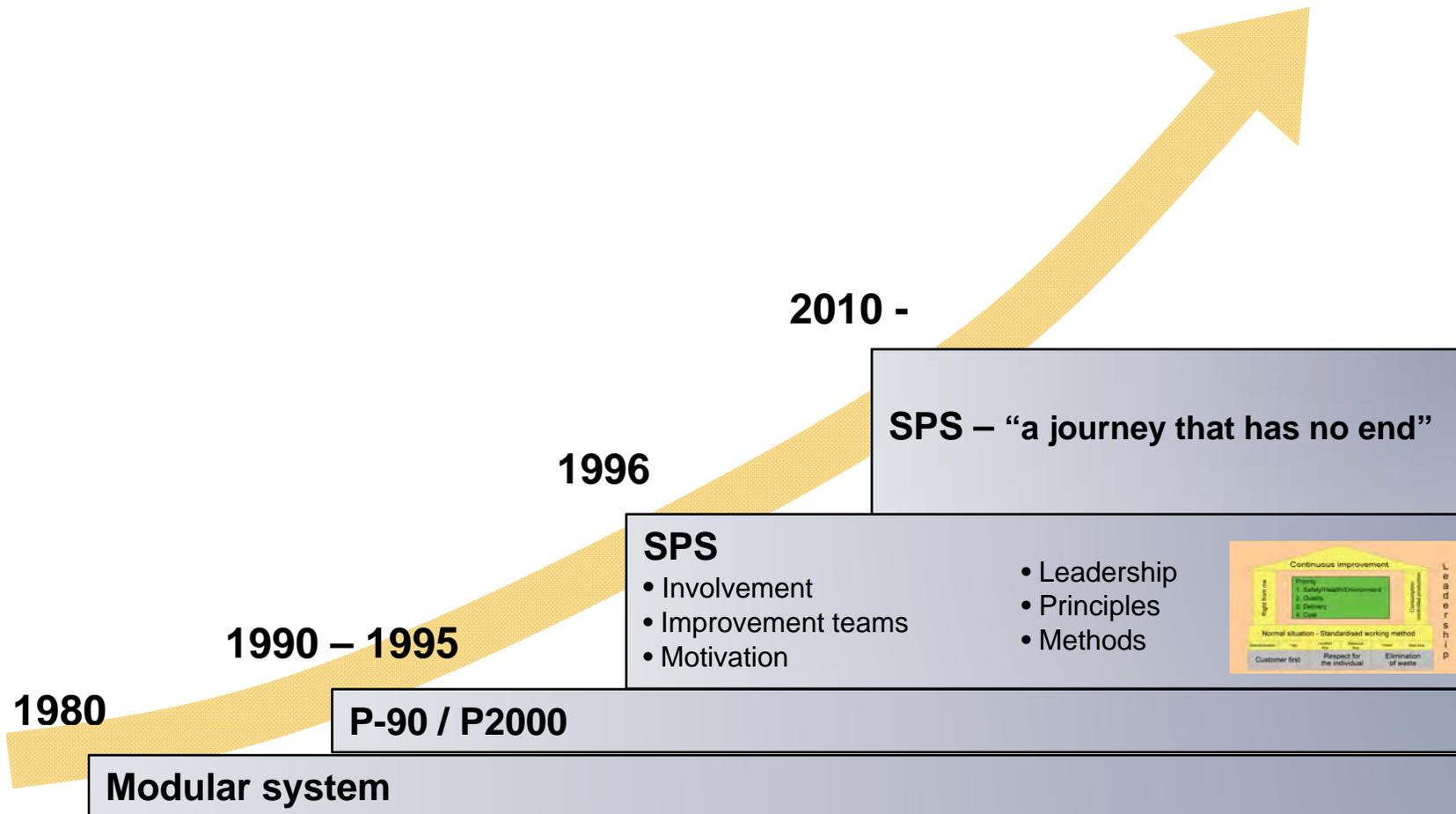
Personnel

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



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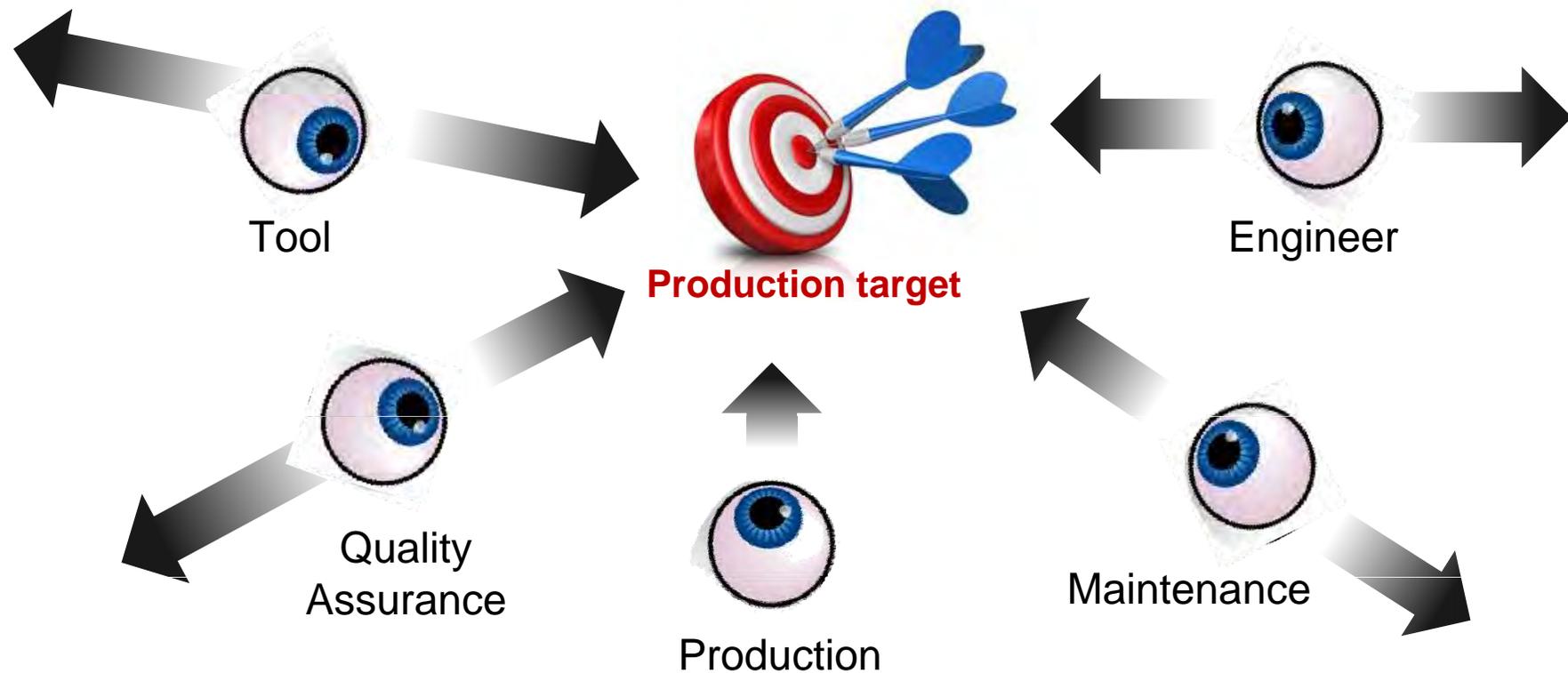
Continuous Improvement



SCANIA

Focus on process results

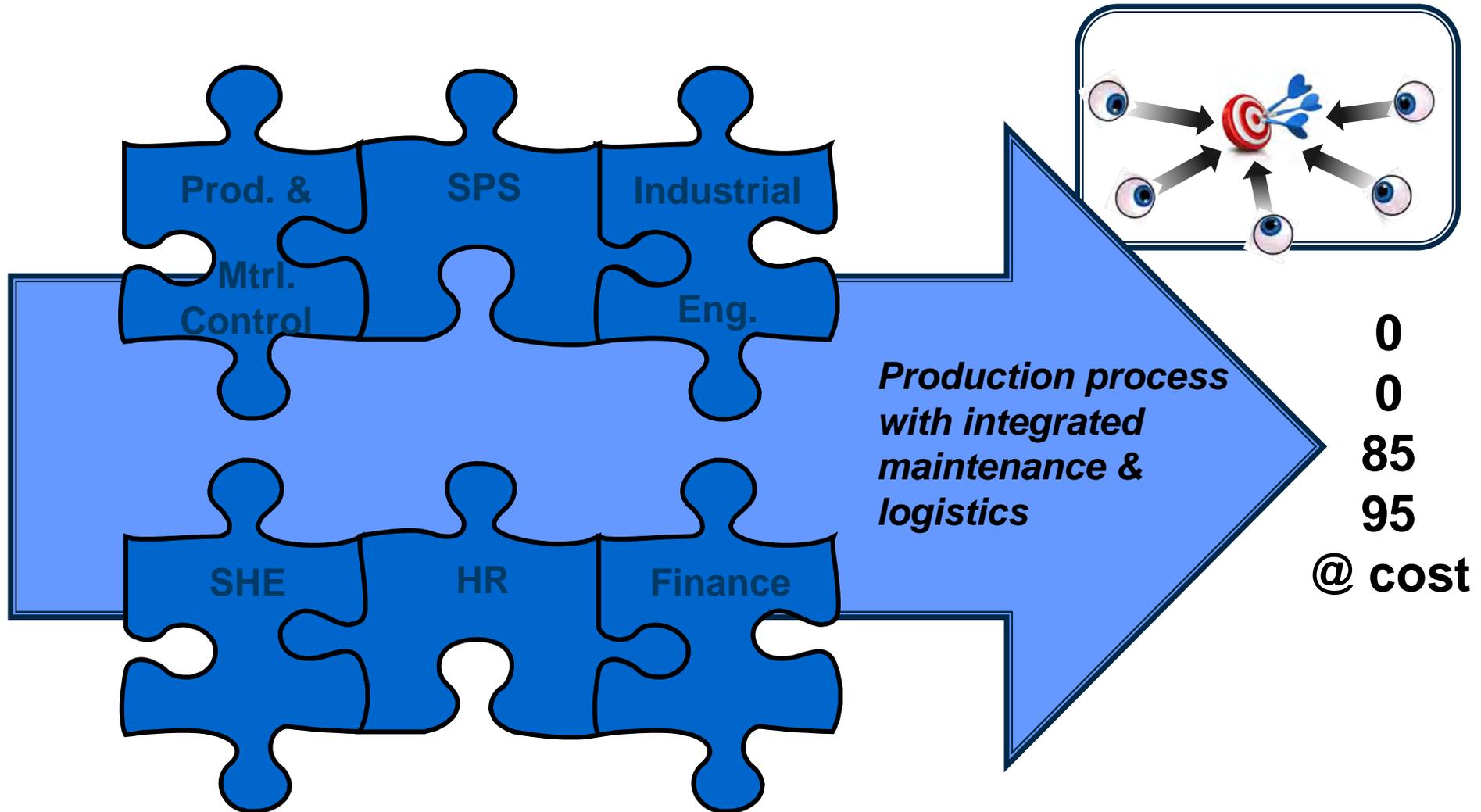
From functional excellence to process excellence



SCANIA

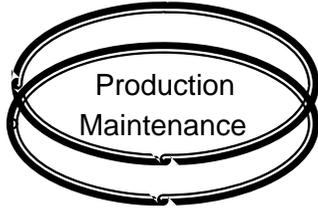
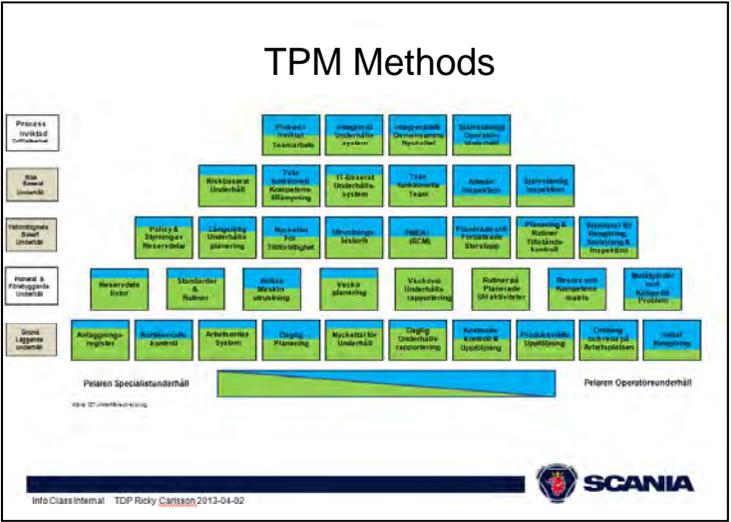
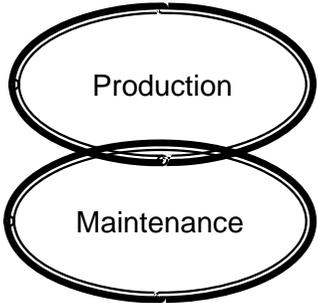
SPS Development

Standardised methods & common targets



SCANIA

Integrated Maintenance



SHE Methods



Risk Management & Safety Behaviour



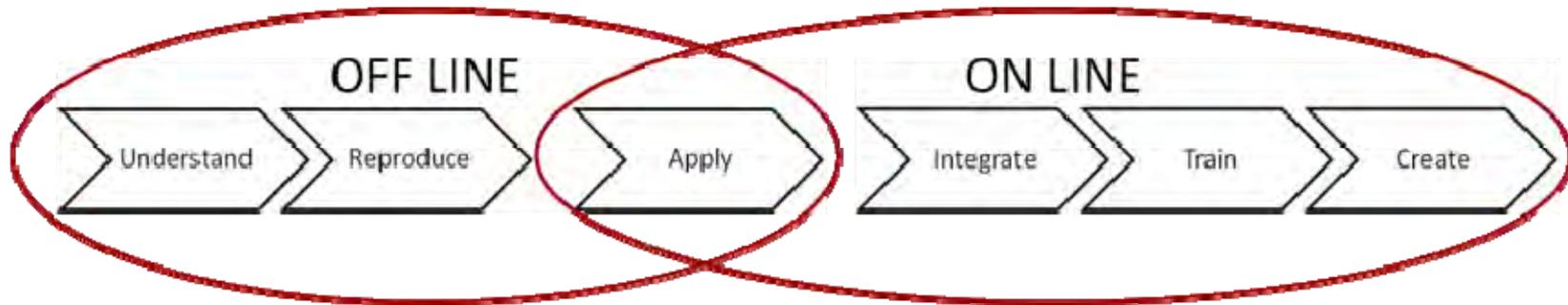
Scania Ergonomic Standard



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

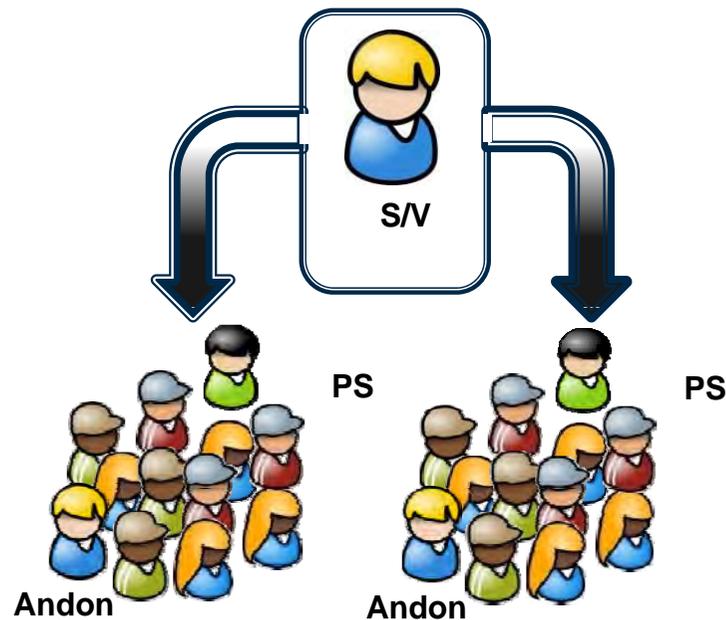


SCANIA

Small Teams & Present Leadership

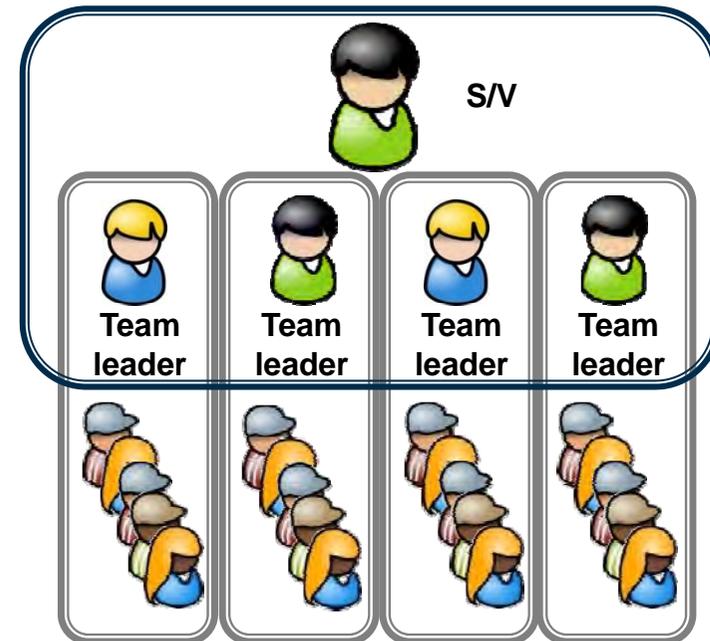
Before 2012

- 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



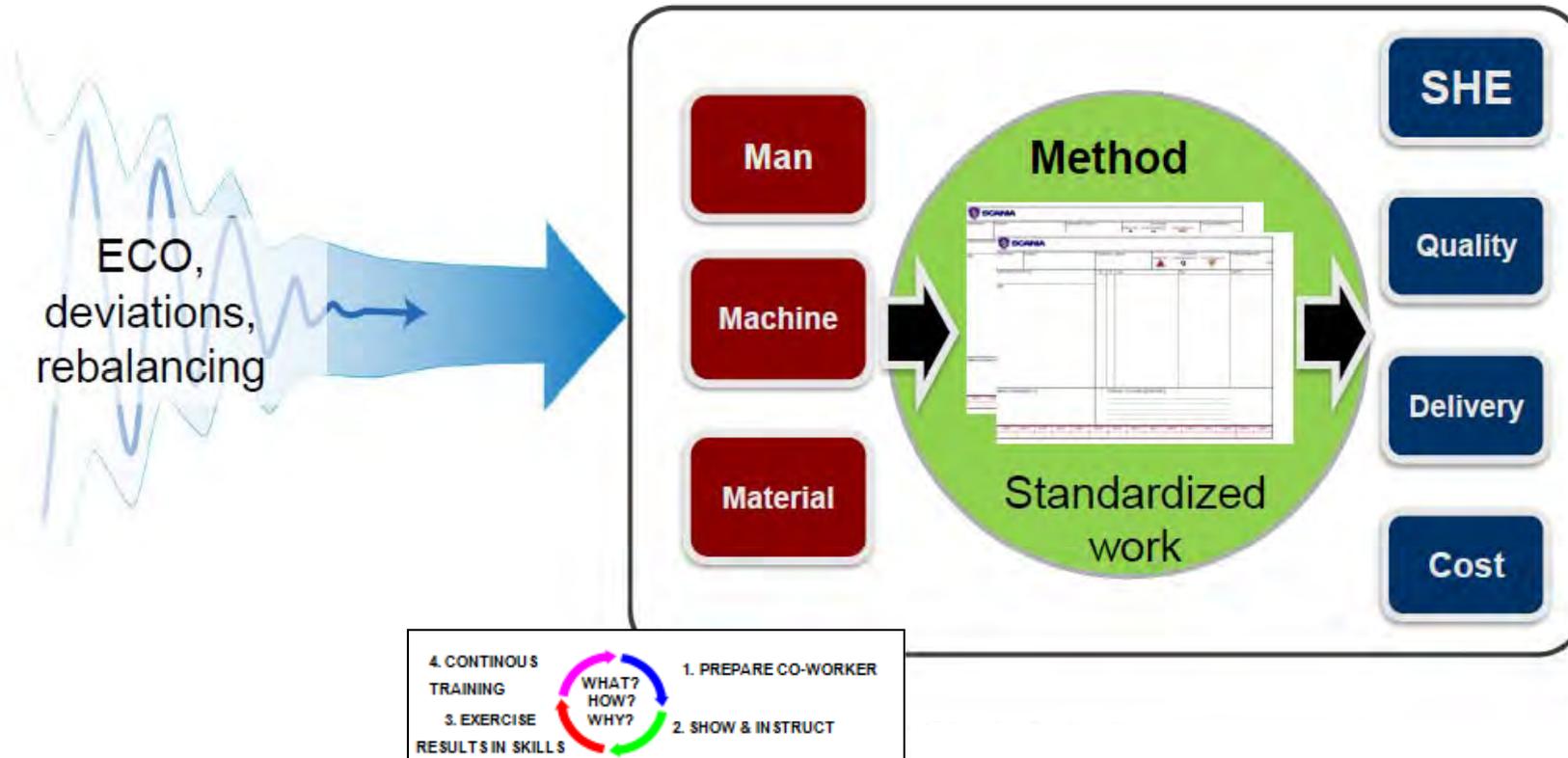
Long term problemsolving



SCANIA

Standardized Work

Foundation for continuous improvement

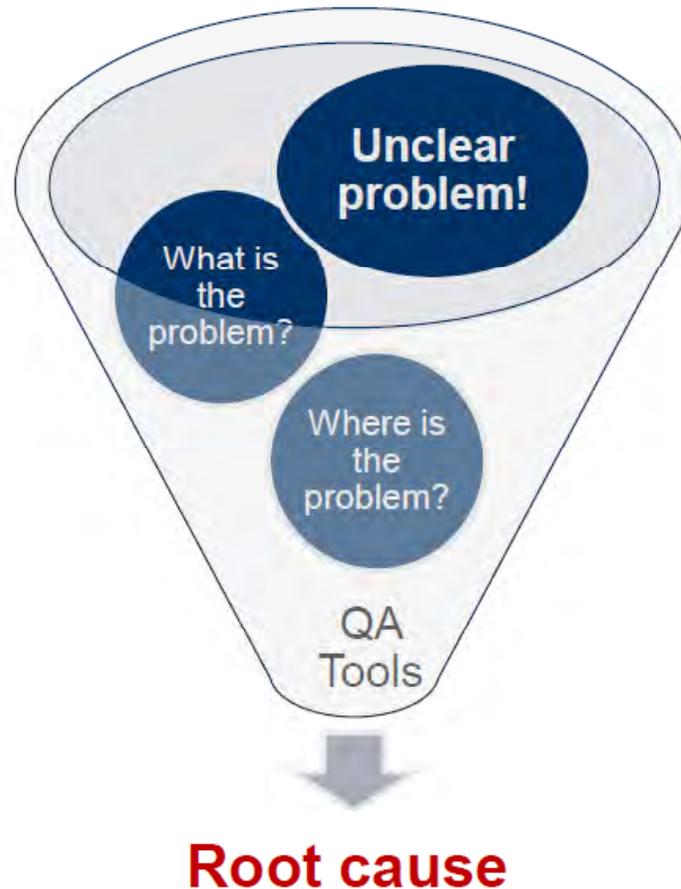


Focus on training



SCANIA

Problem Solving

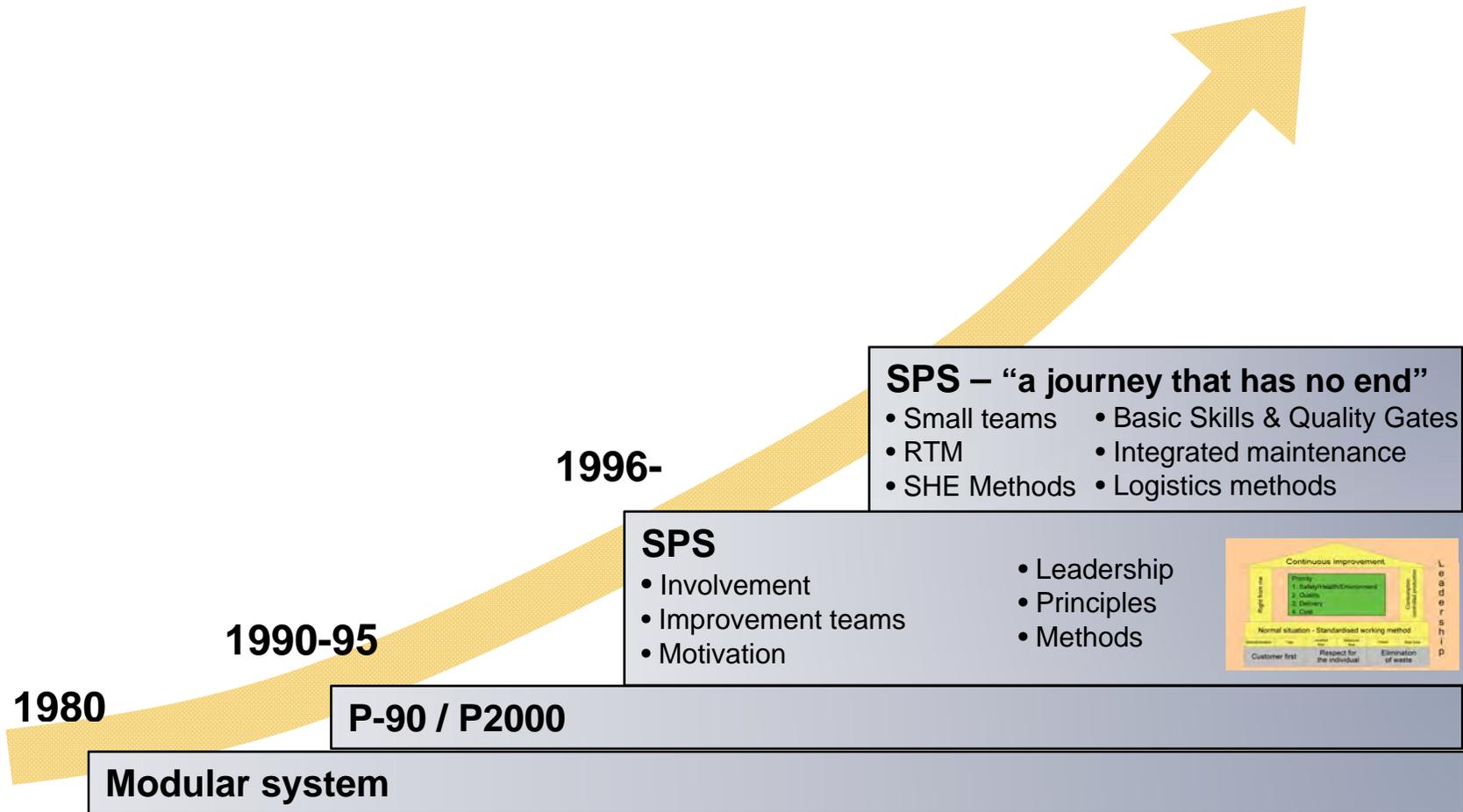


1. Describe the problem
2. Collect facts
3. Target setting
4. Root cause analysis
5. Create countermeasures
6. Implement countermeasures
7. Verify results and follow up
8. Standardise and follow up

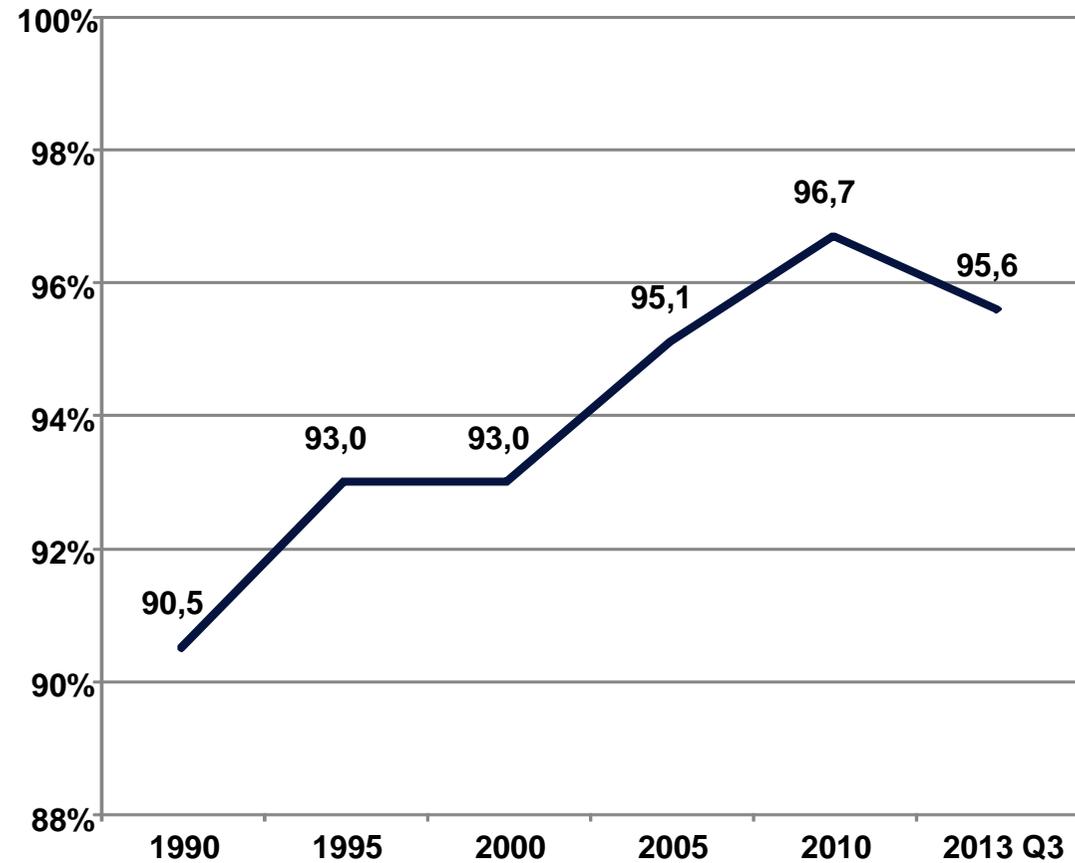


SCANIA

Continuous improvement

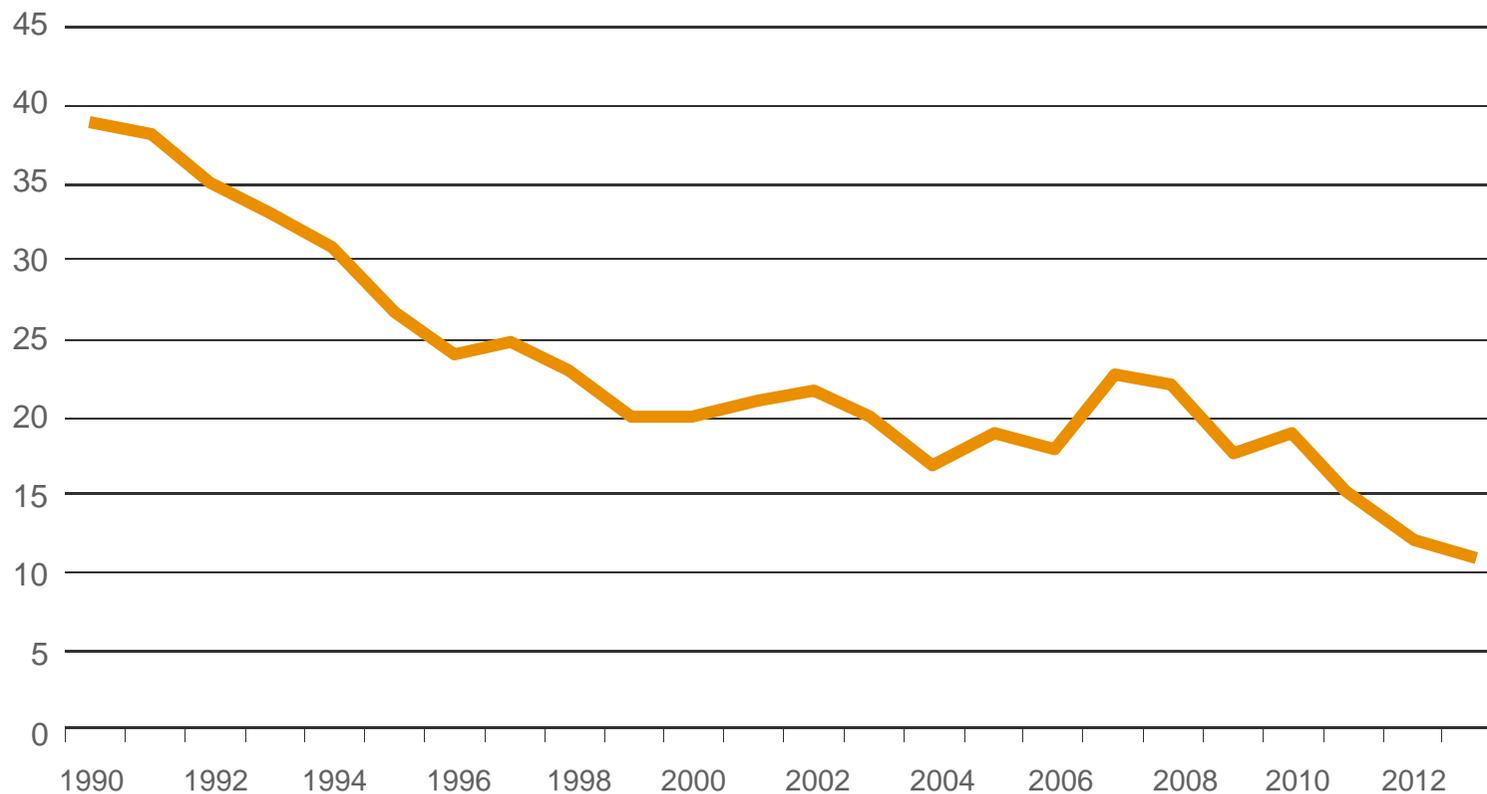


Health attendance



SCANIA

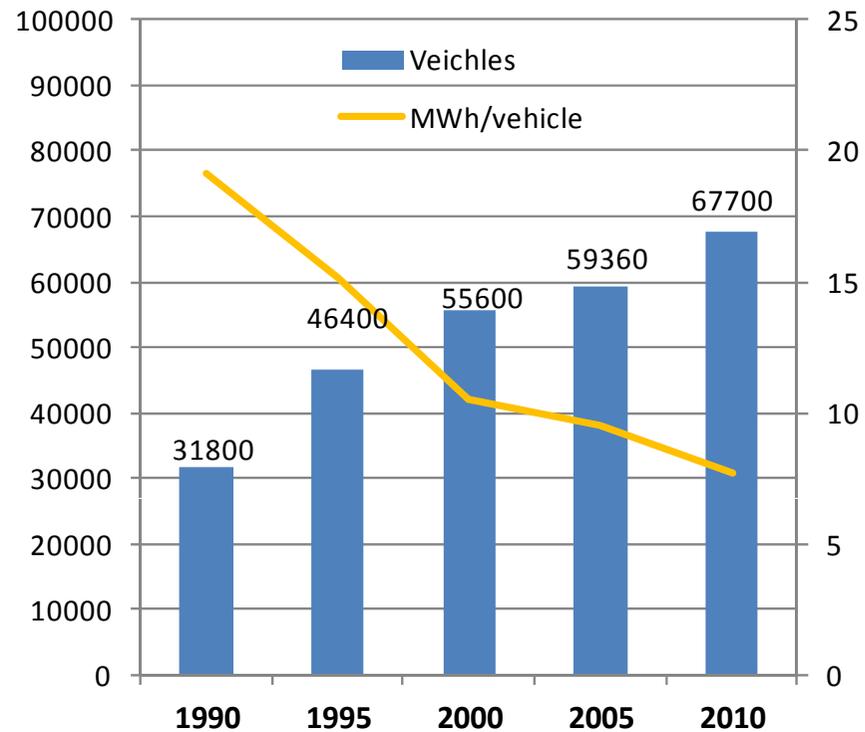
Number of accidents with sick-leave per one million worked hours Global Production



SCANIA

Global production

Environment responsibility

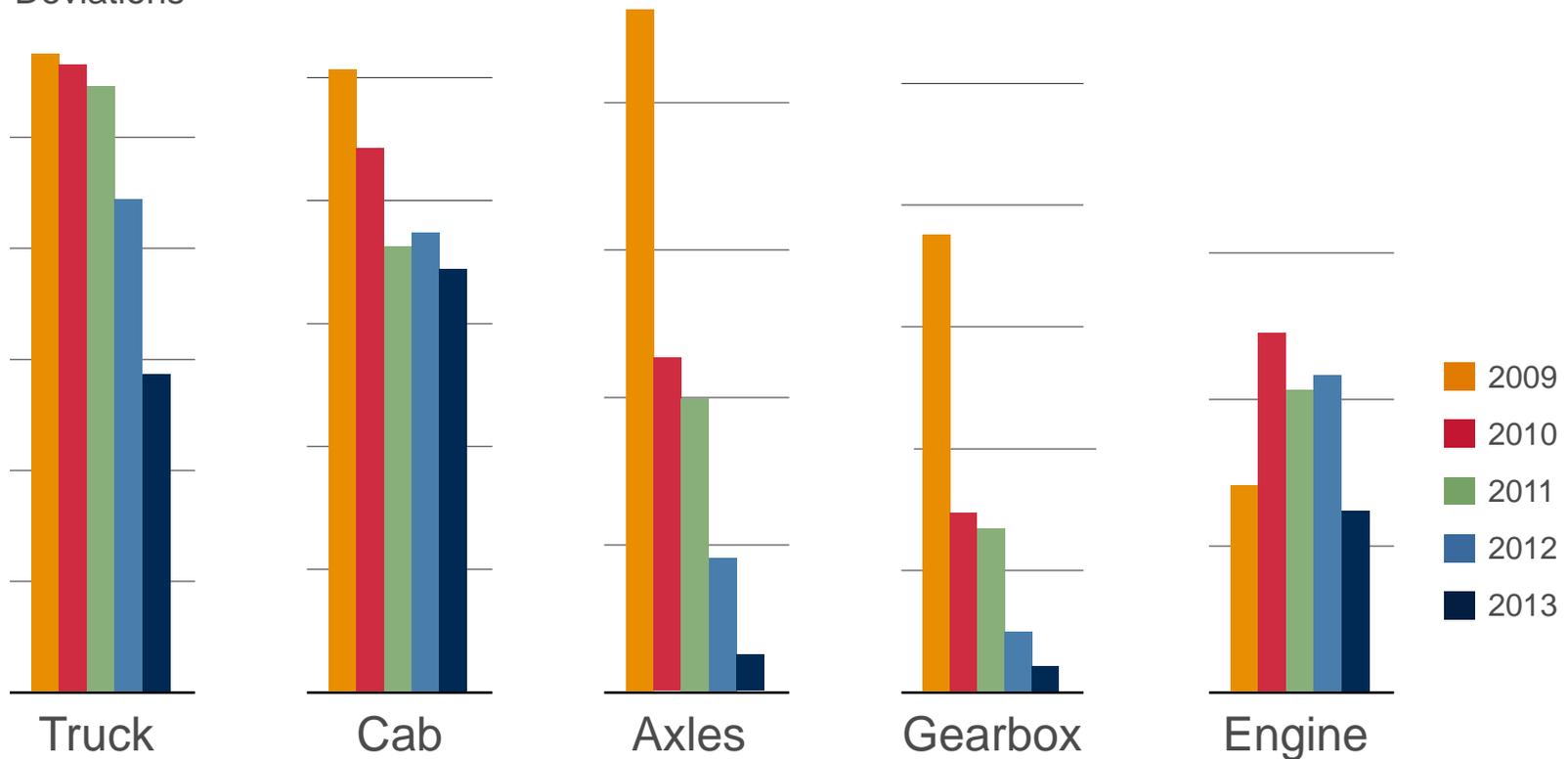


SCANIA

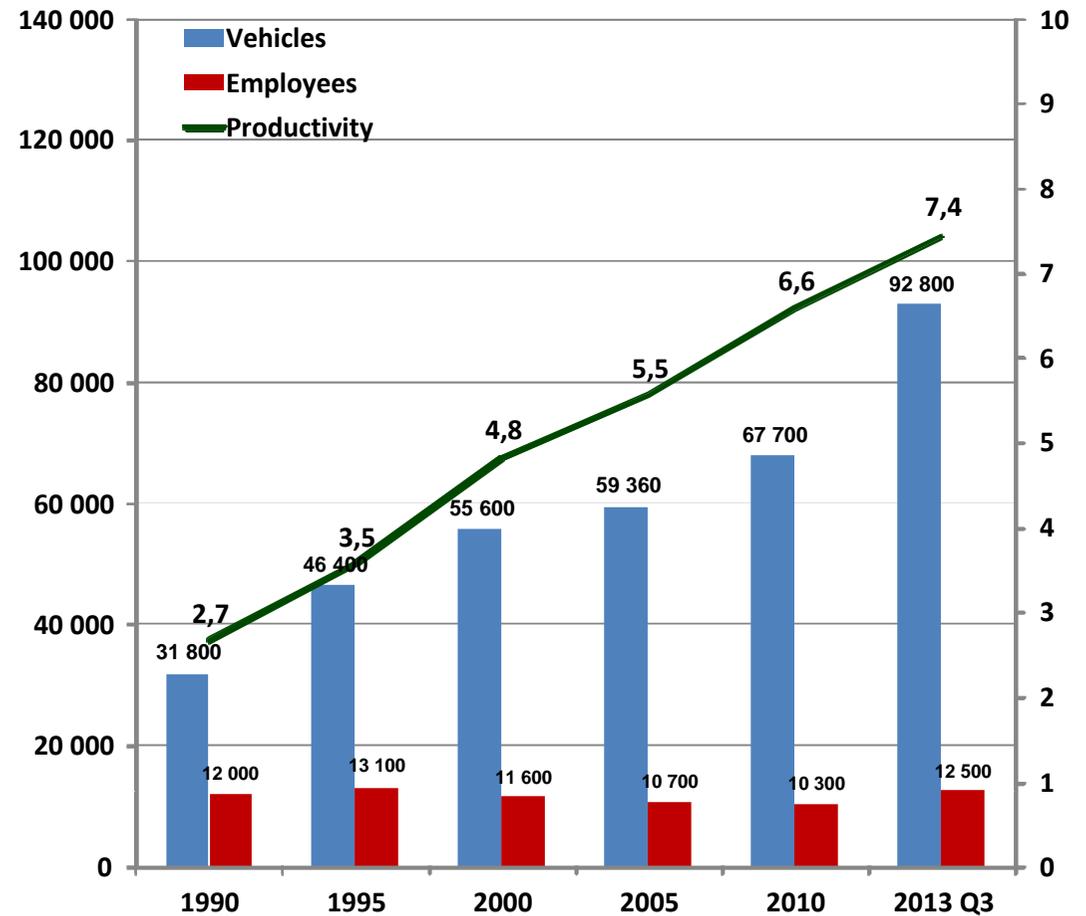
Product Quality (C+M)

Quality Audit results, average

Deviations

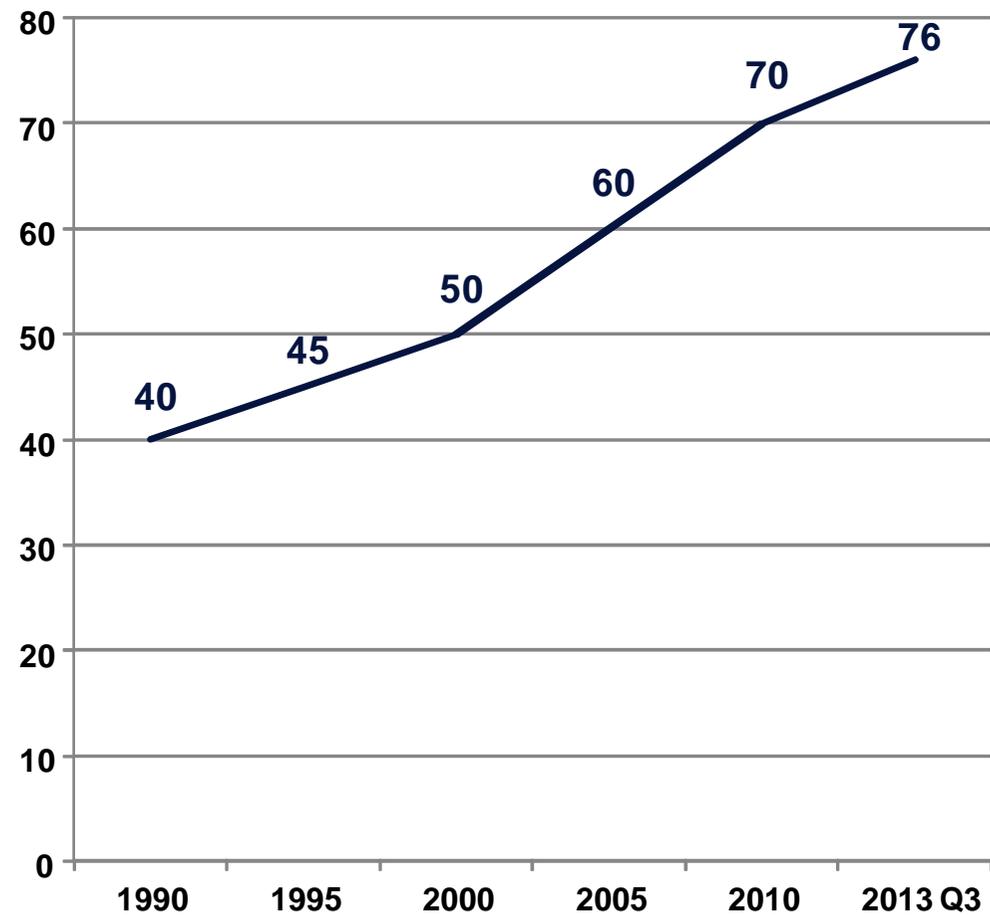


Productivity improvement



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OPE improvements machining factories

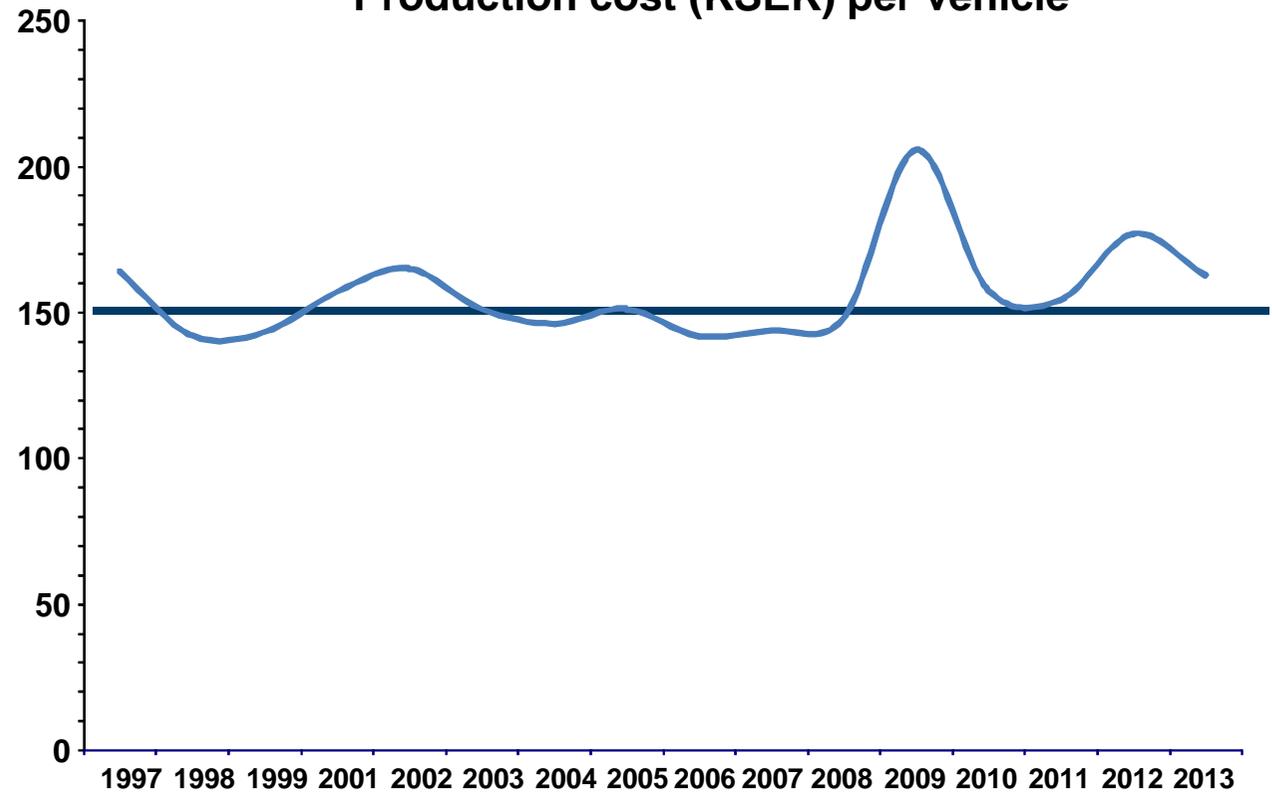


SCANIA

Production cost

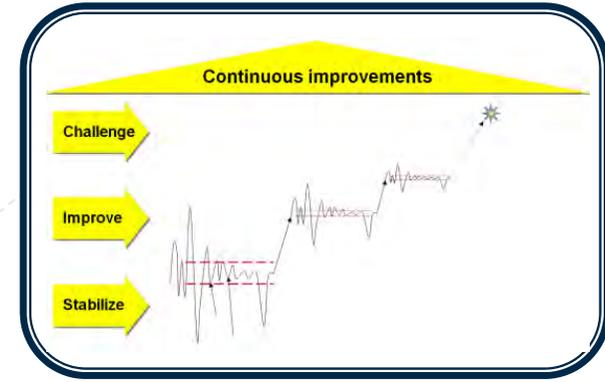
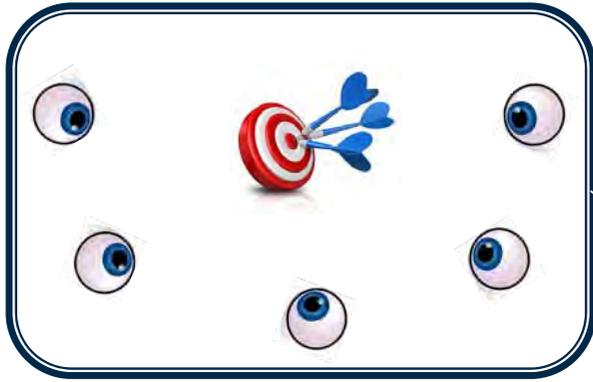


Production cost (KSEK) per vehicle

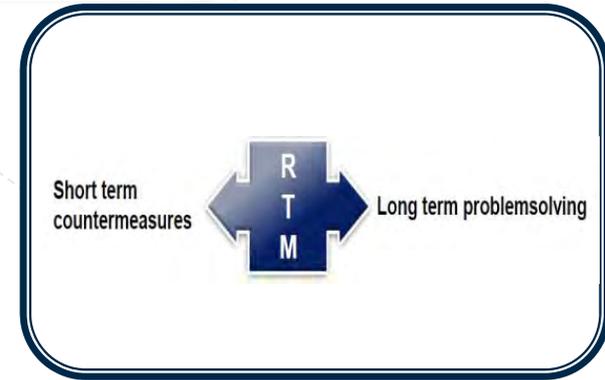


SCANIA

Small teams



Target Achievement
0 / 0 / 85 / 95
@ cost



Leadership

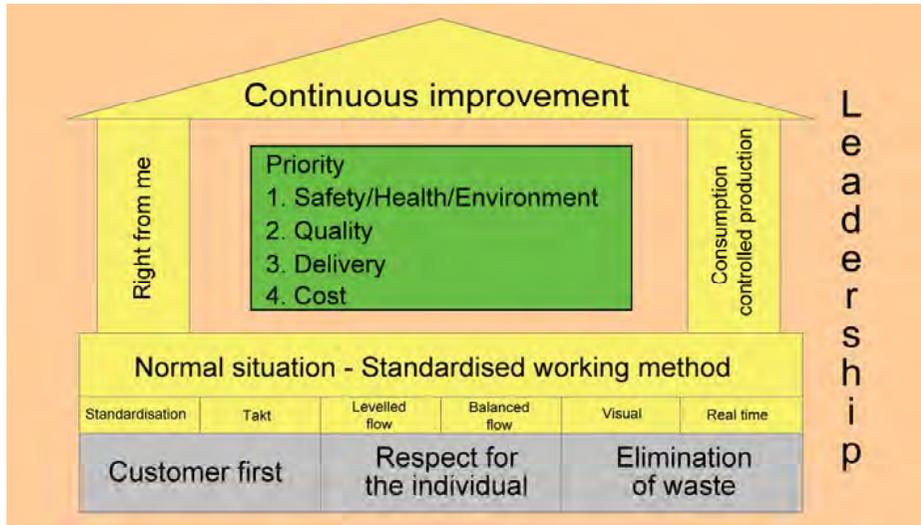


Business excellence through motivated employees

WHAT HOW WANT TO

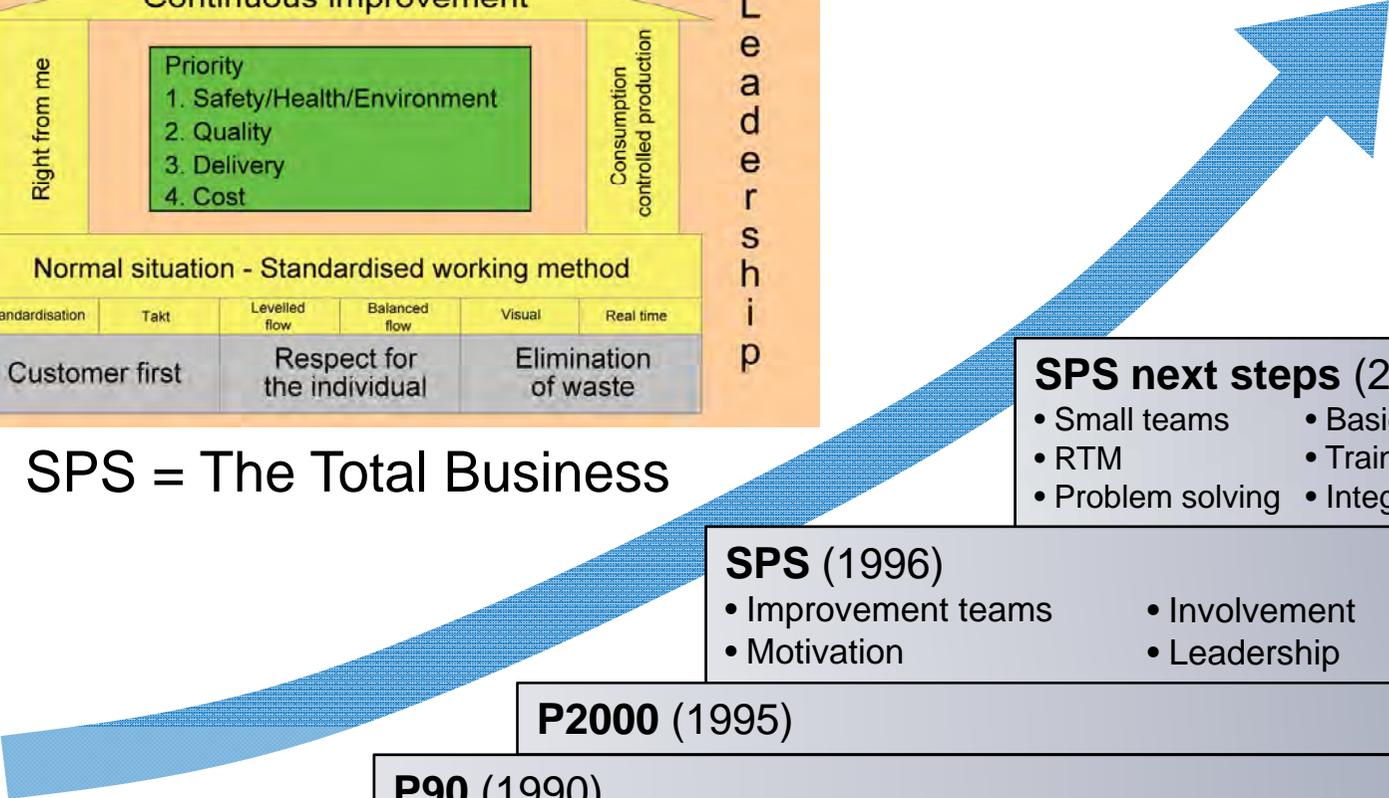
- Involved
 - Competent
 - Secure
-
- Coaching leadership
 - Challenge – feedback / recognition

The journey continues



SPS = The Total Business

Evolution steps
not
Revolution steps



SPS next steps (2010)

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

SPS (1996)

- Improvement teams
- Involvement
- Motivation
- Leadership

P2000 (1995)

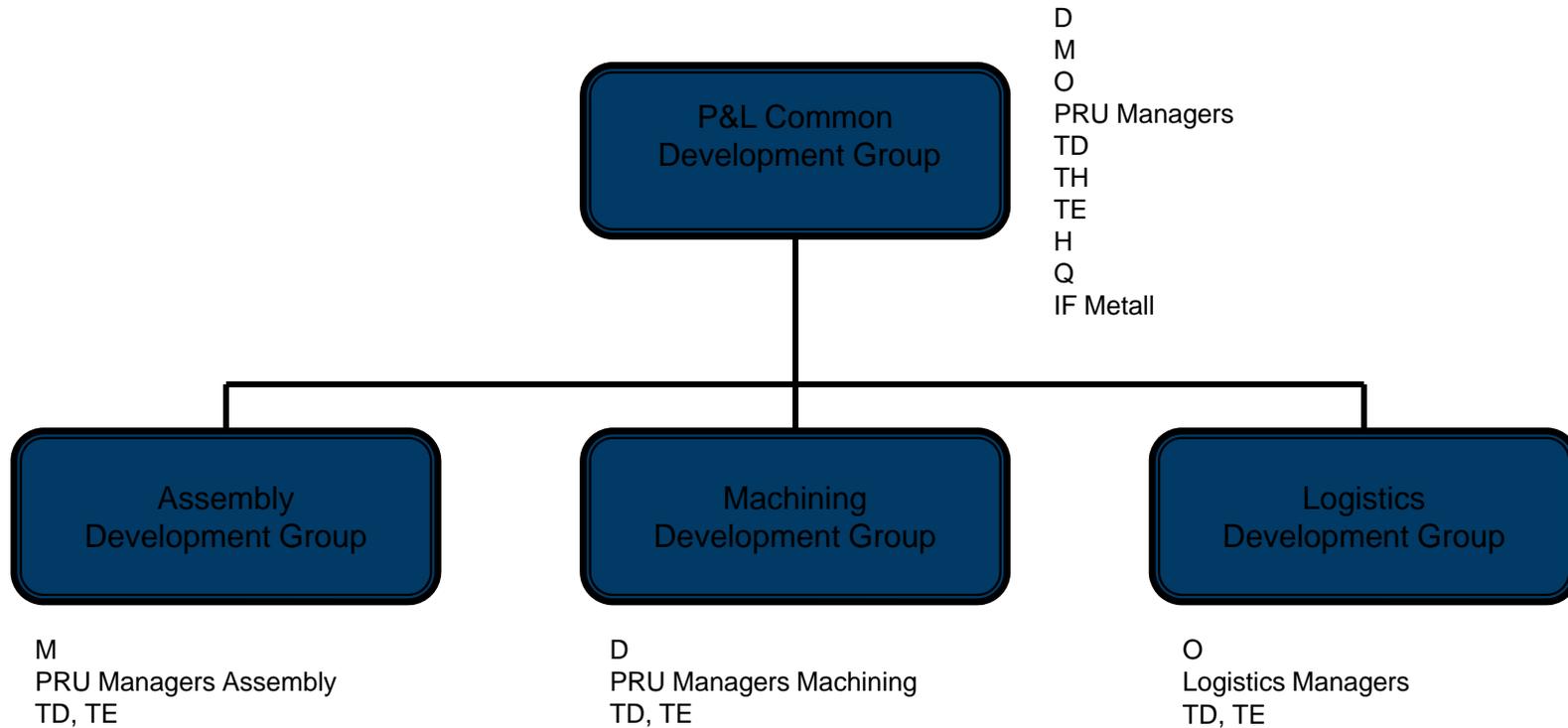
P90 (1990)

Modular system (1980)

Thank you



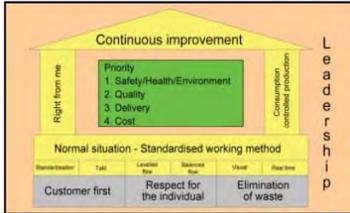
SPS Development Forums





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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

Motåtgärder mot Källan till Problem

Reservdels-listor

Kortintervalls-kontroll

Vecko-planering

Utrustnings-historik

Nyckeltal För Tillförlitlighet

Veckovis Underhålls-rapportering

Produktivitets Uppföljning

Daglig Planering

Daglig Underhålls-rapportering

Kostnads-kontroll & Uppföljning

Arbetsorder-System

Ordning och reda på Arbetsplatsen

Nyckeltal för Underhåll

Anläggnings-register

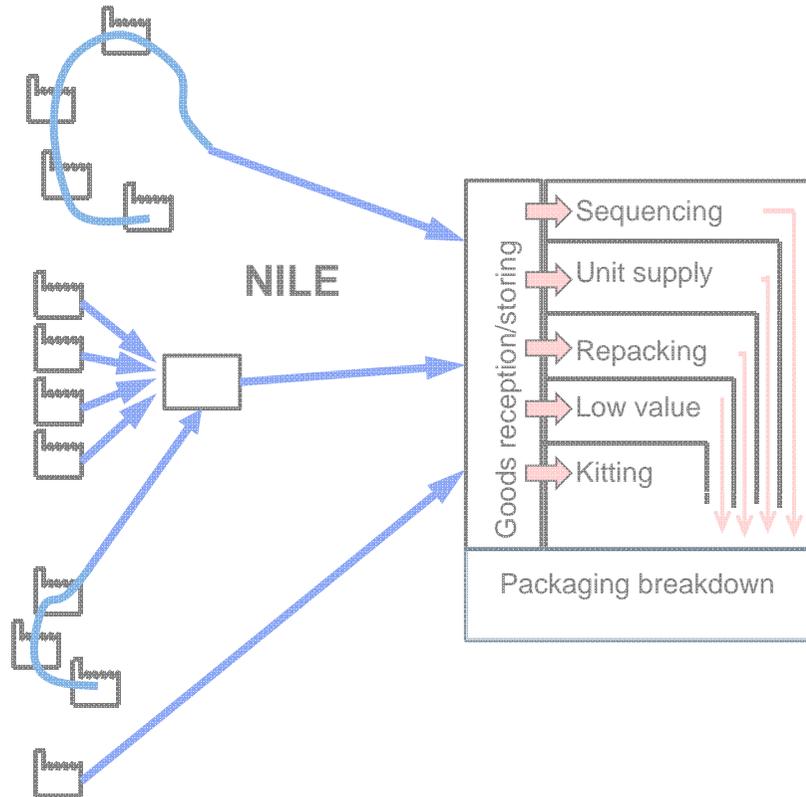
Kritisk Maskin-utrustning



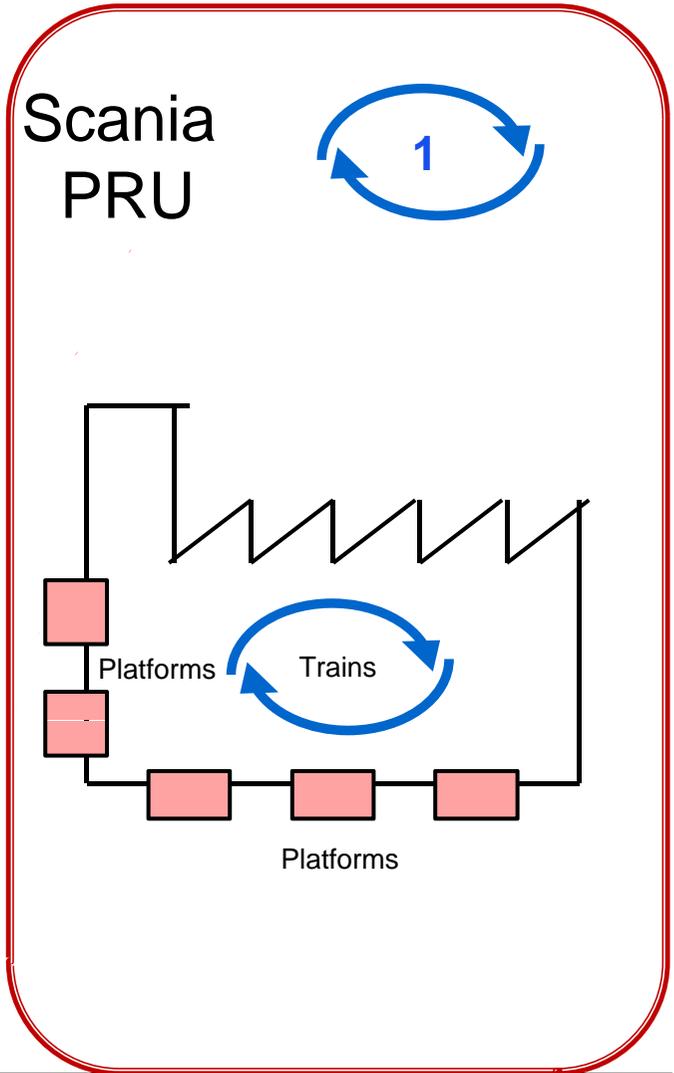
SCANIA

Logistics: Three loop system

Suppliers 3 Logistics Centres 2

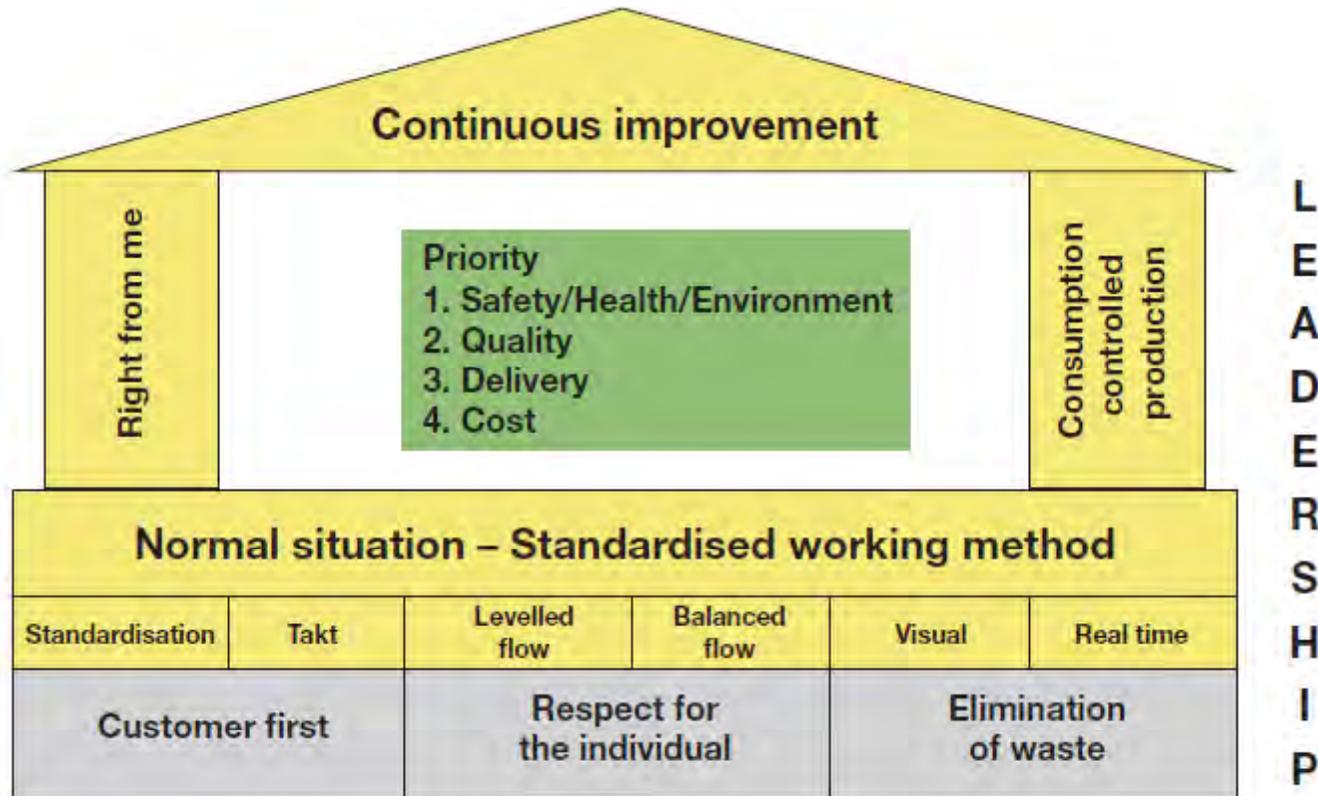


Scania PRU 1



SPS – "a journey that has no end"

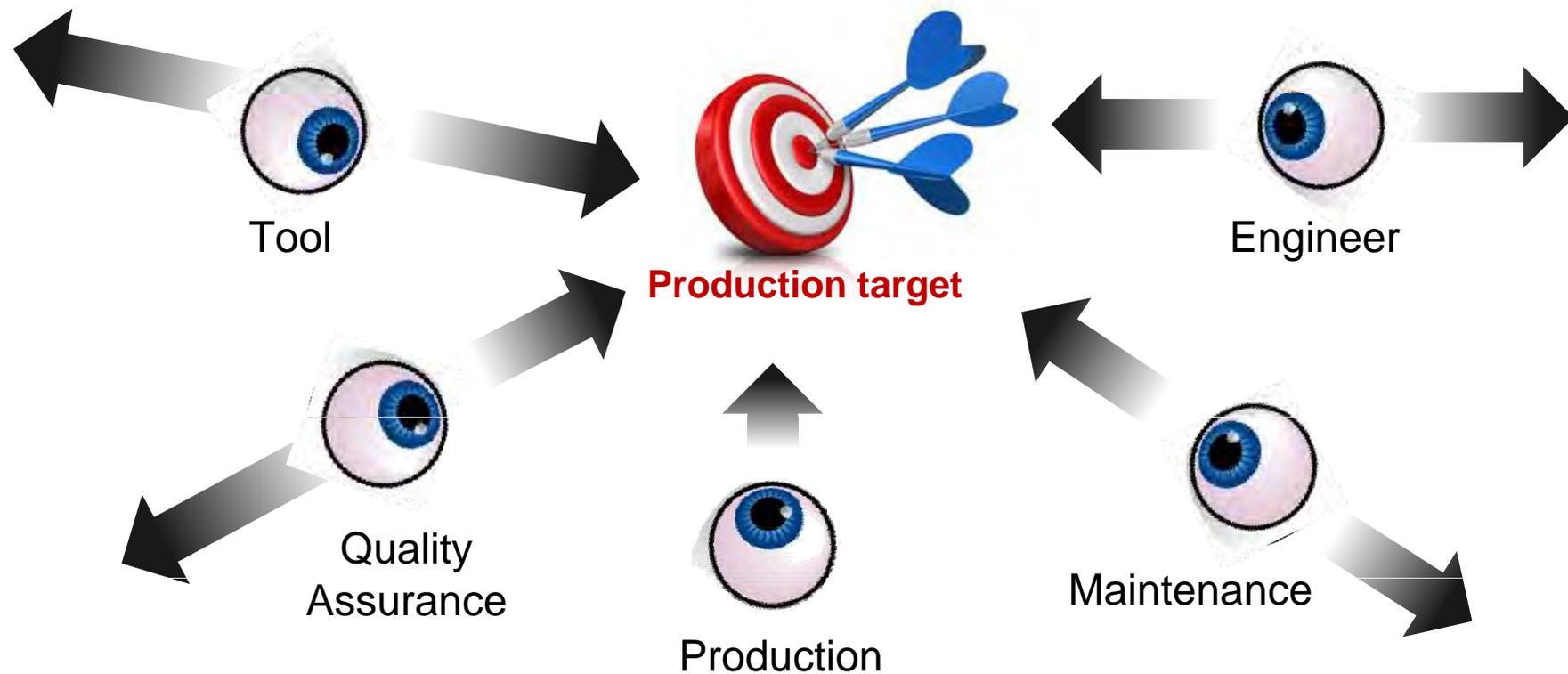
Scania Production System



SCANIA

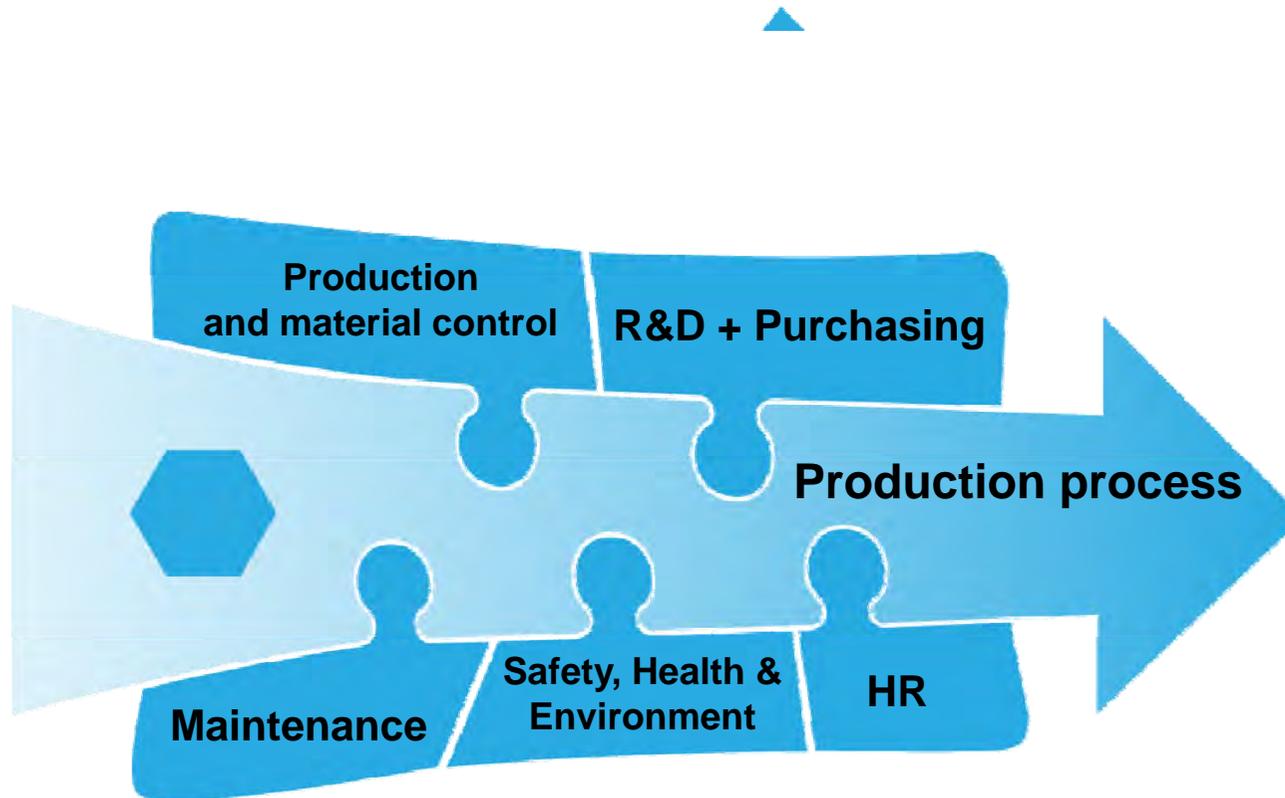
Focus on process results

From functional excellence to process excellence



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Standard interfaces



All functions support stability
by ZERO defect focus

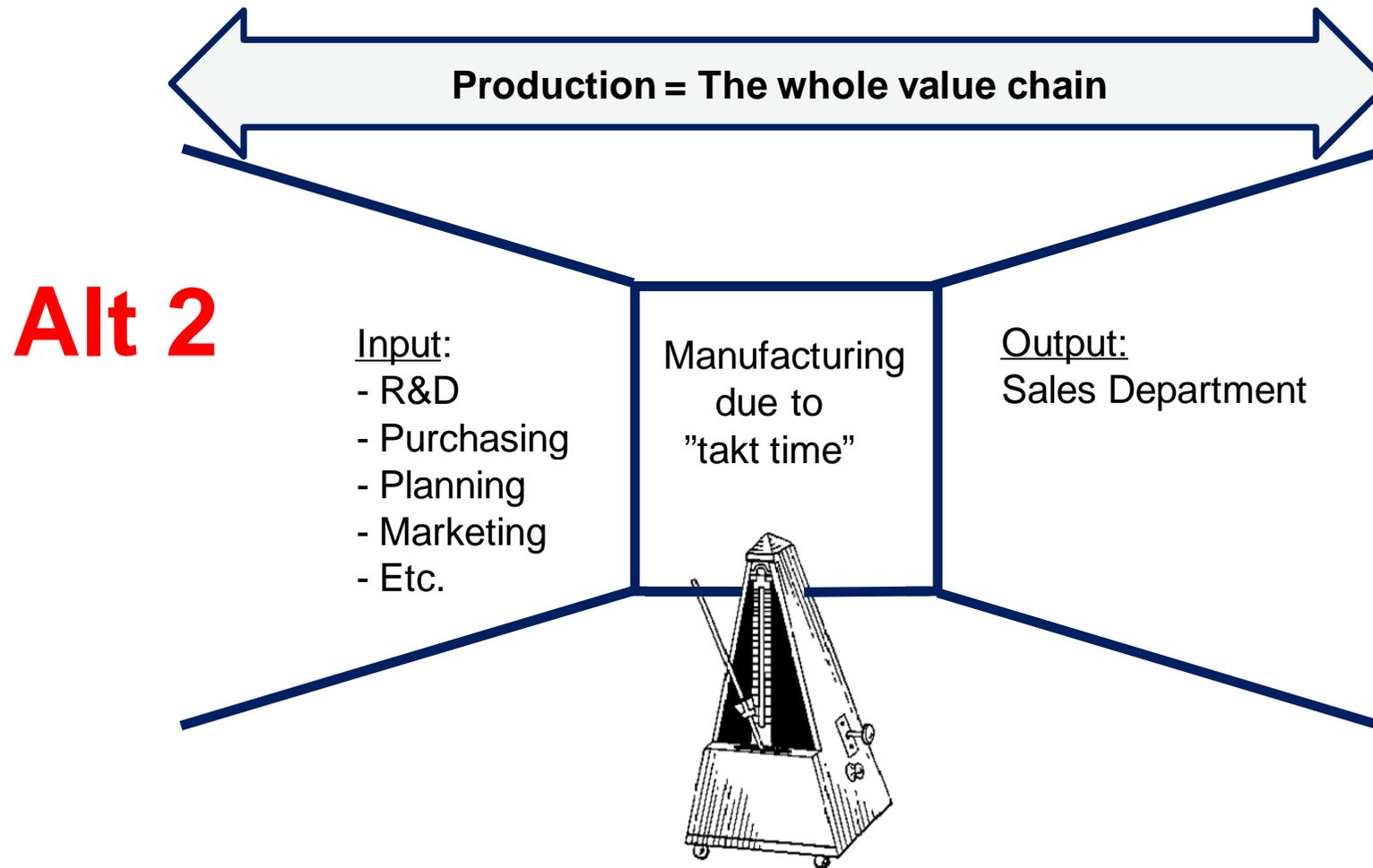


SCANIA

Cross-functional work throughout the value chain

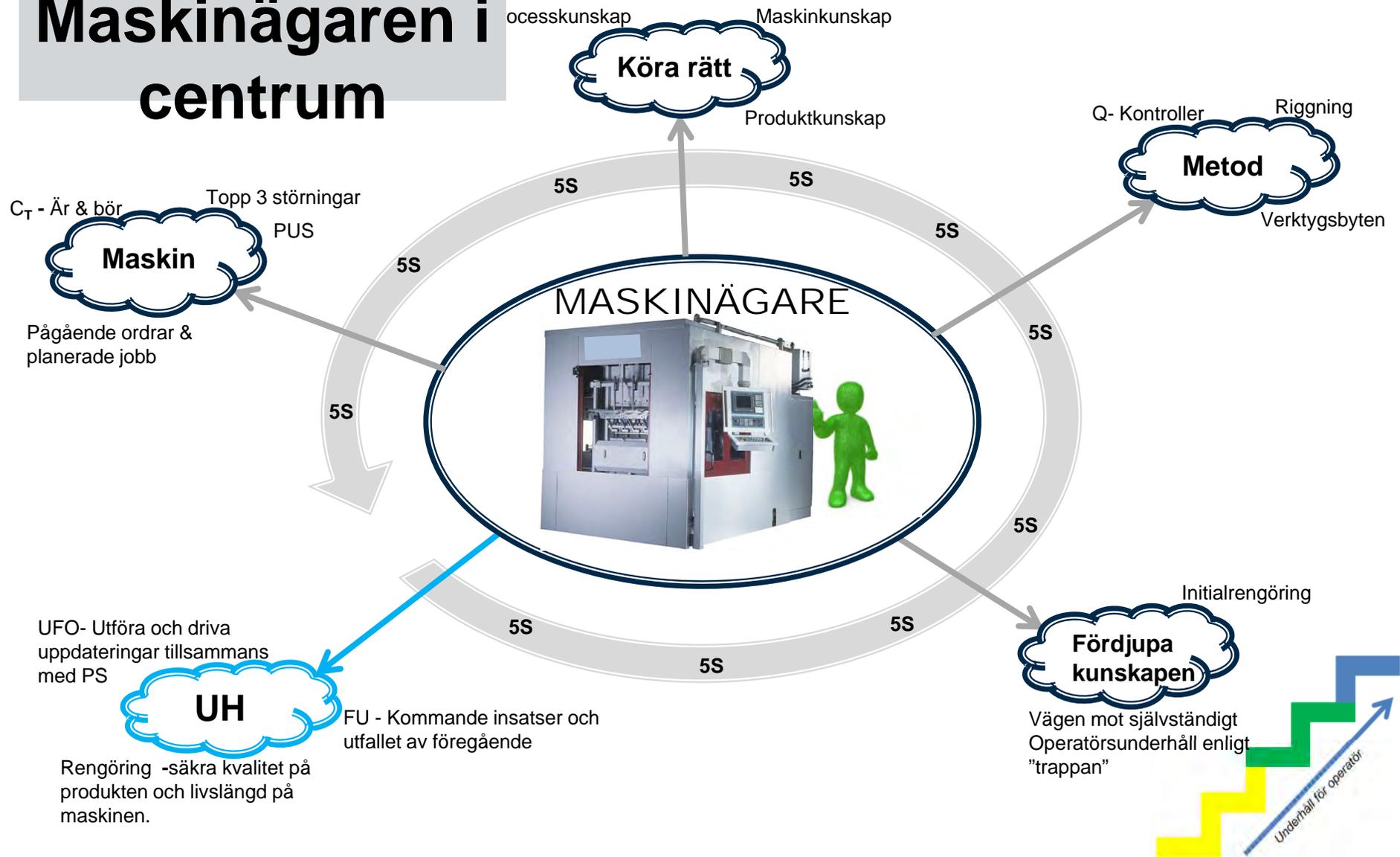


Cross-functional work throughout the value chain



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Maskinägaren i centrum



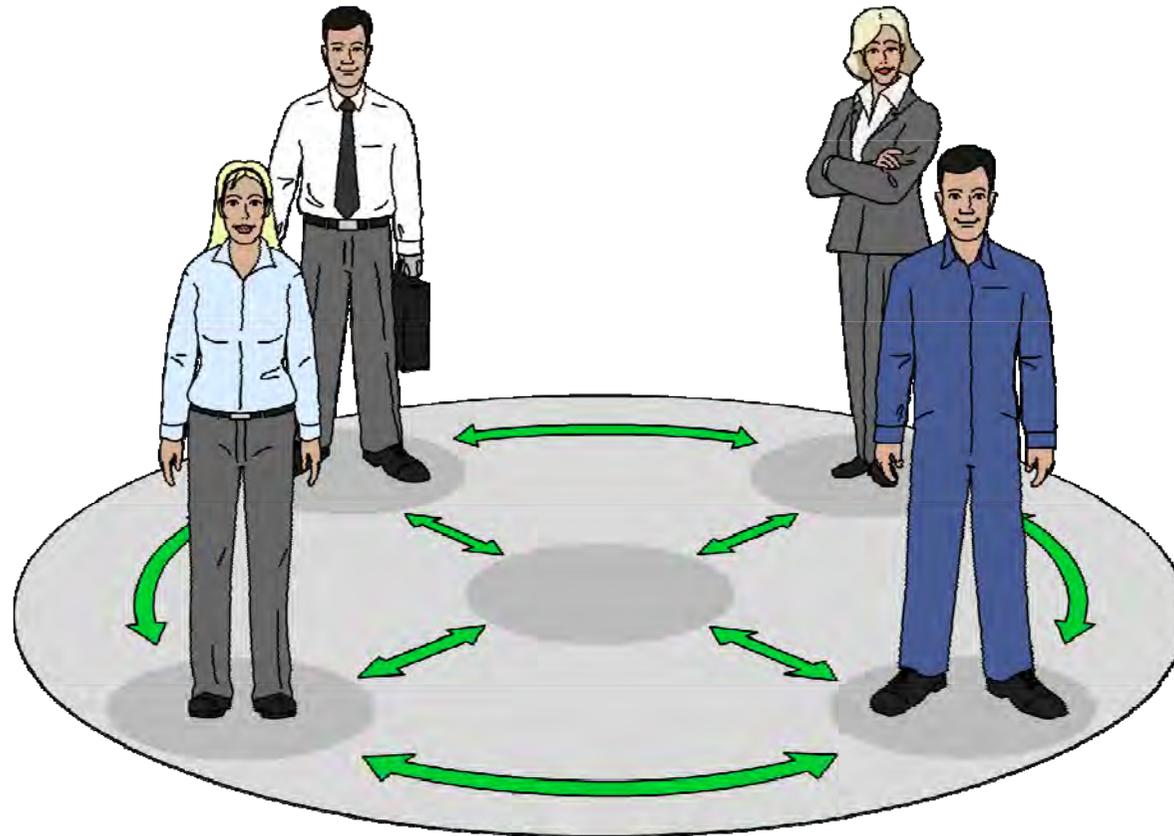
Bygga kunskap genom ansvarskänsla, som på 50-talet!?



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Leadership Principle 1

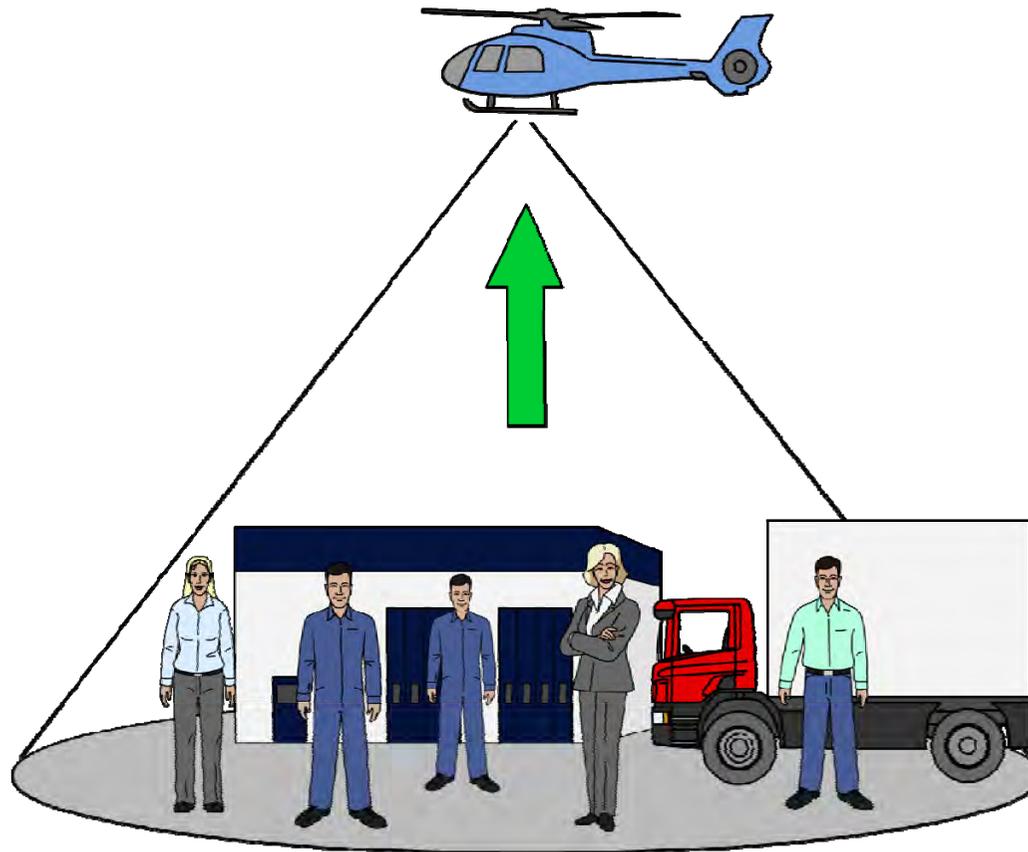
Co-ordinate but work independently – take responsibility



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Leadership Principle 2

Work with the details and understand the context



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Leadership Principle 3

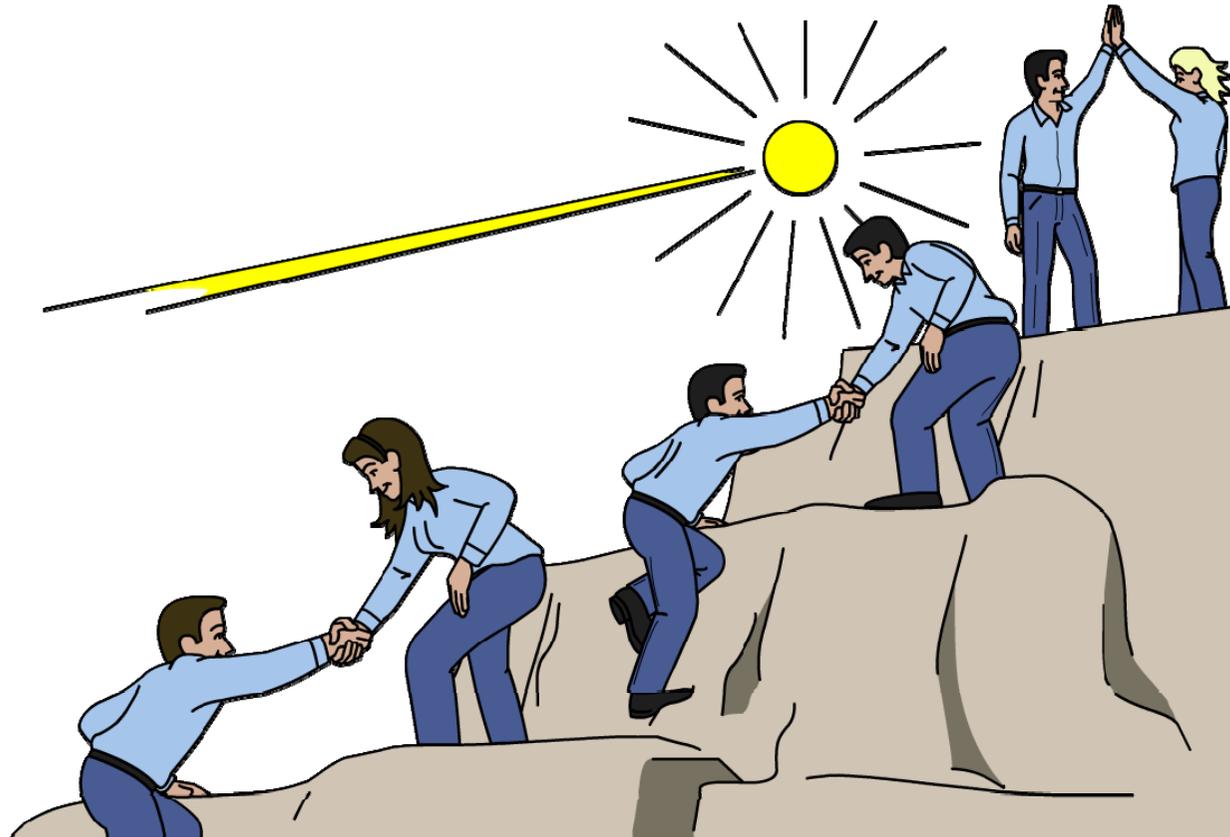
Act now – think long term



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Leadership Principle 4

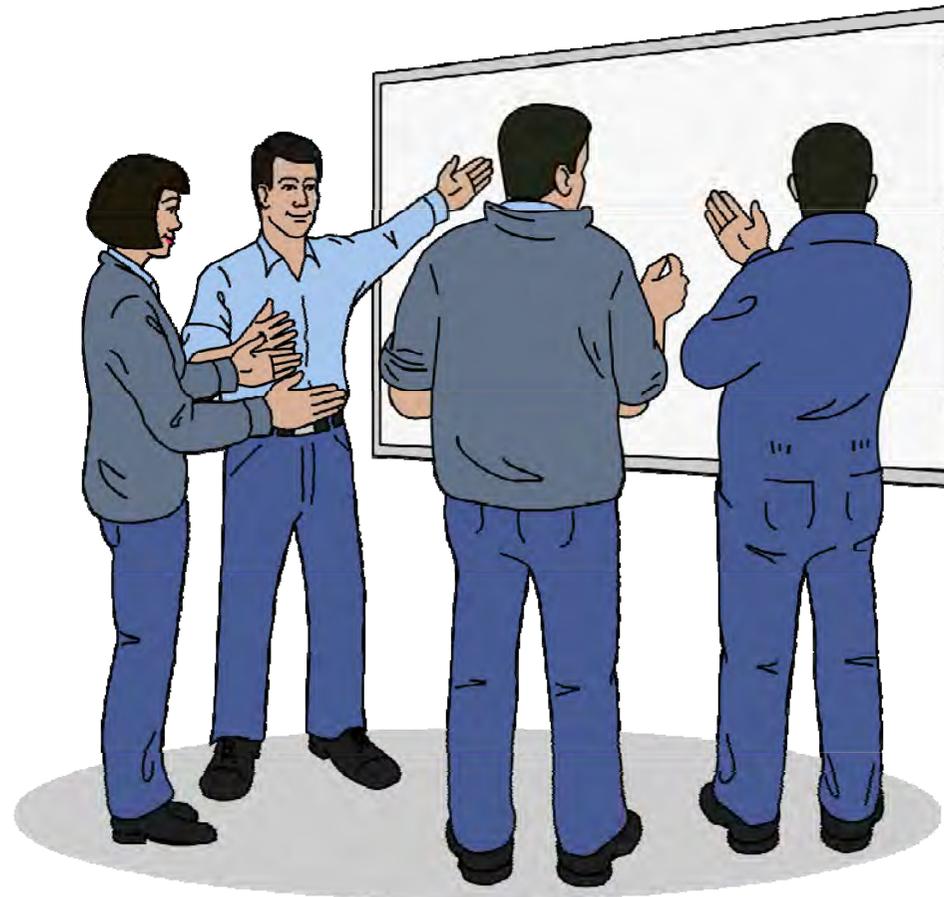
Build know-how through continuous learning



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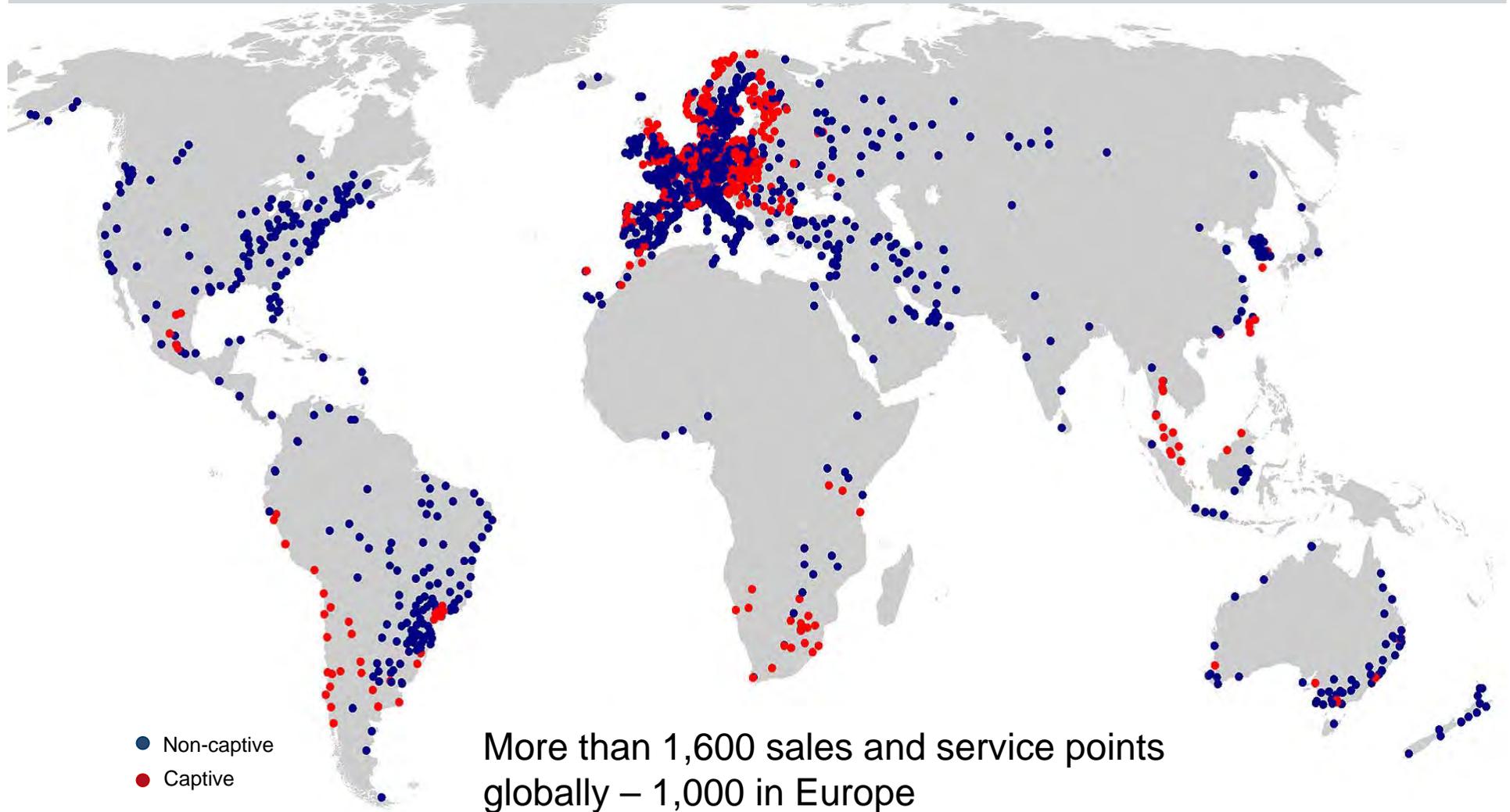
Leadership Principle 5

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



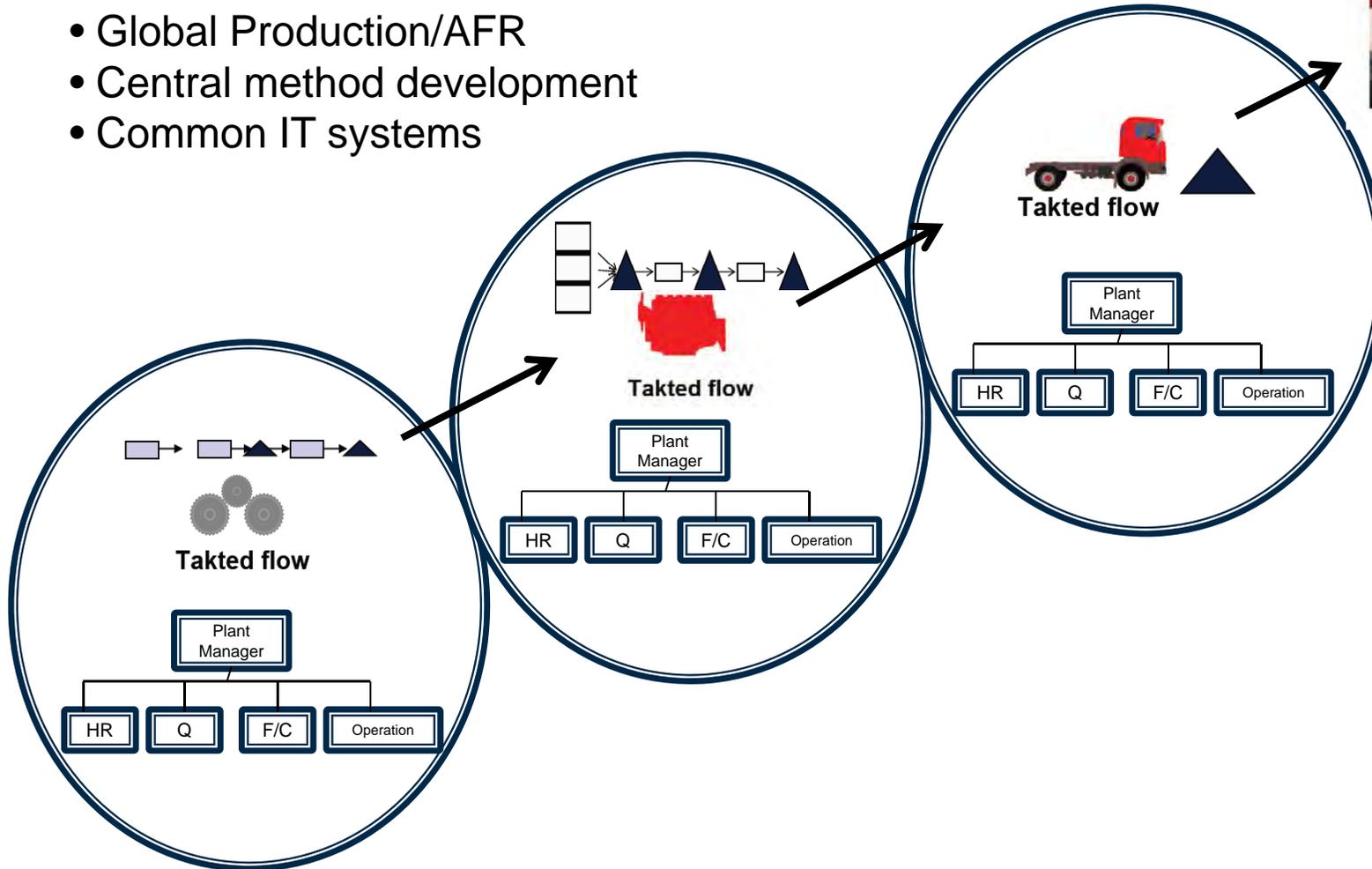
- High quality solutions
- Improvements are triggered by
 - Customers' needs
 - Deviations



SCANIA

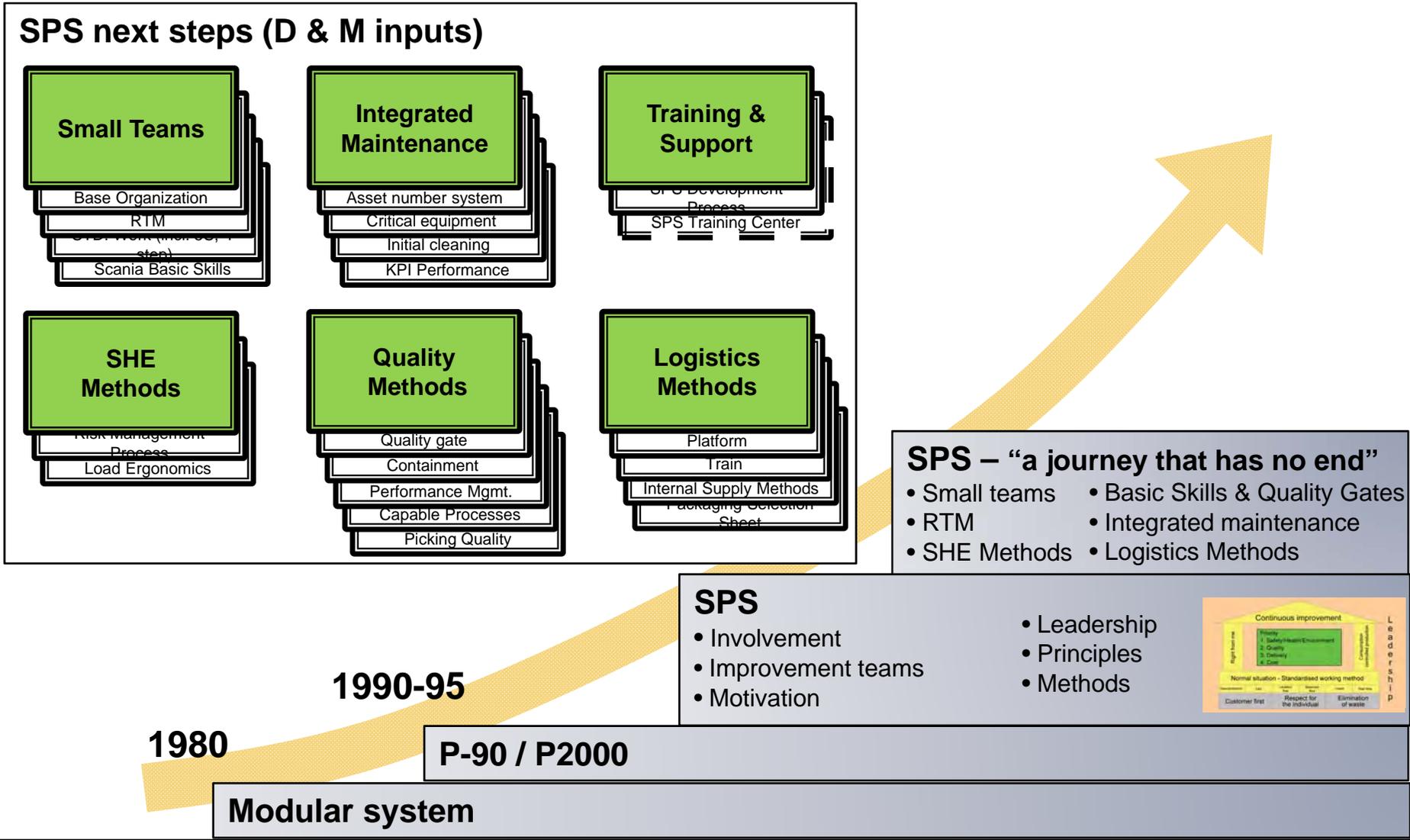
Connected flows

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



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Method development



1980

Modular system

P-90 / P2000

1990-95



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