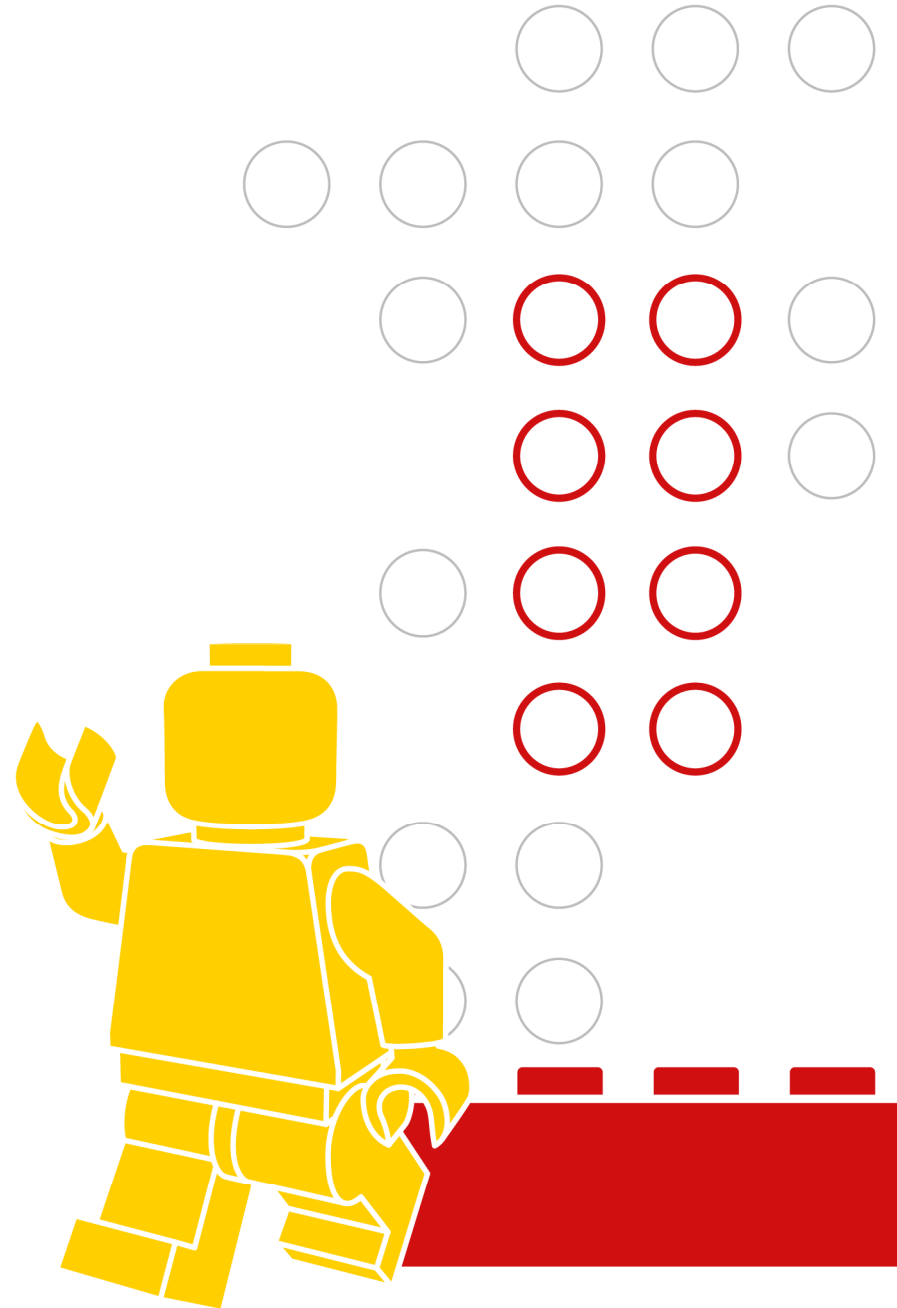




**LEGO's production challenge:  
maintaining process  
capability and product  
quality while increasing  
production volume and  
bringing new products to the  
market.**

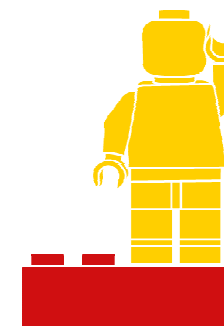




# Agenda

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- Key Figures
- History
- What is triggering variation?
- Outsourcing – What did we learn?
- Focus areas – to deliver the desired quality
- Guiding principle

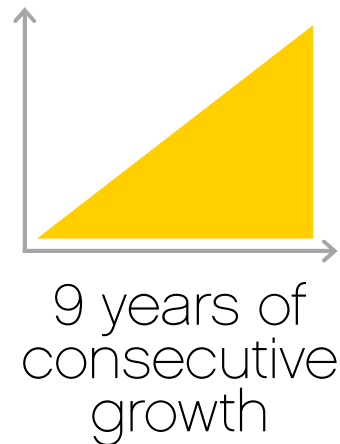
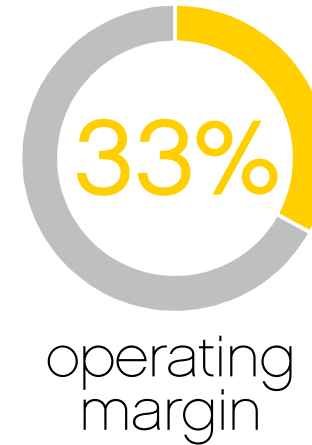


# At a Glance

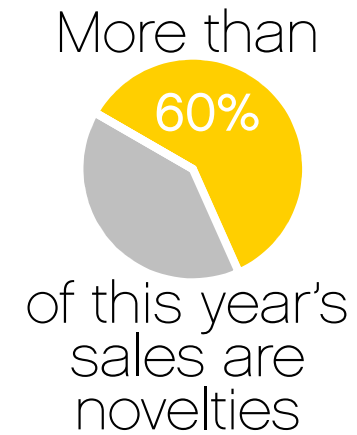


Danish family owned

25,382 million  
DKK  
turnover 2013

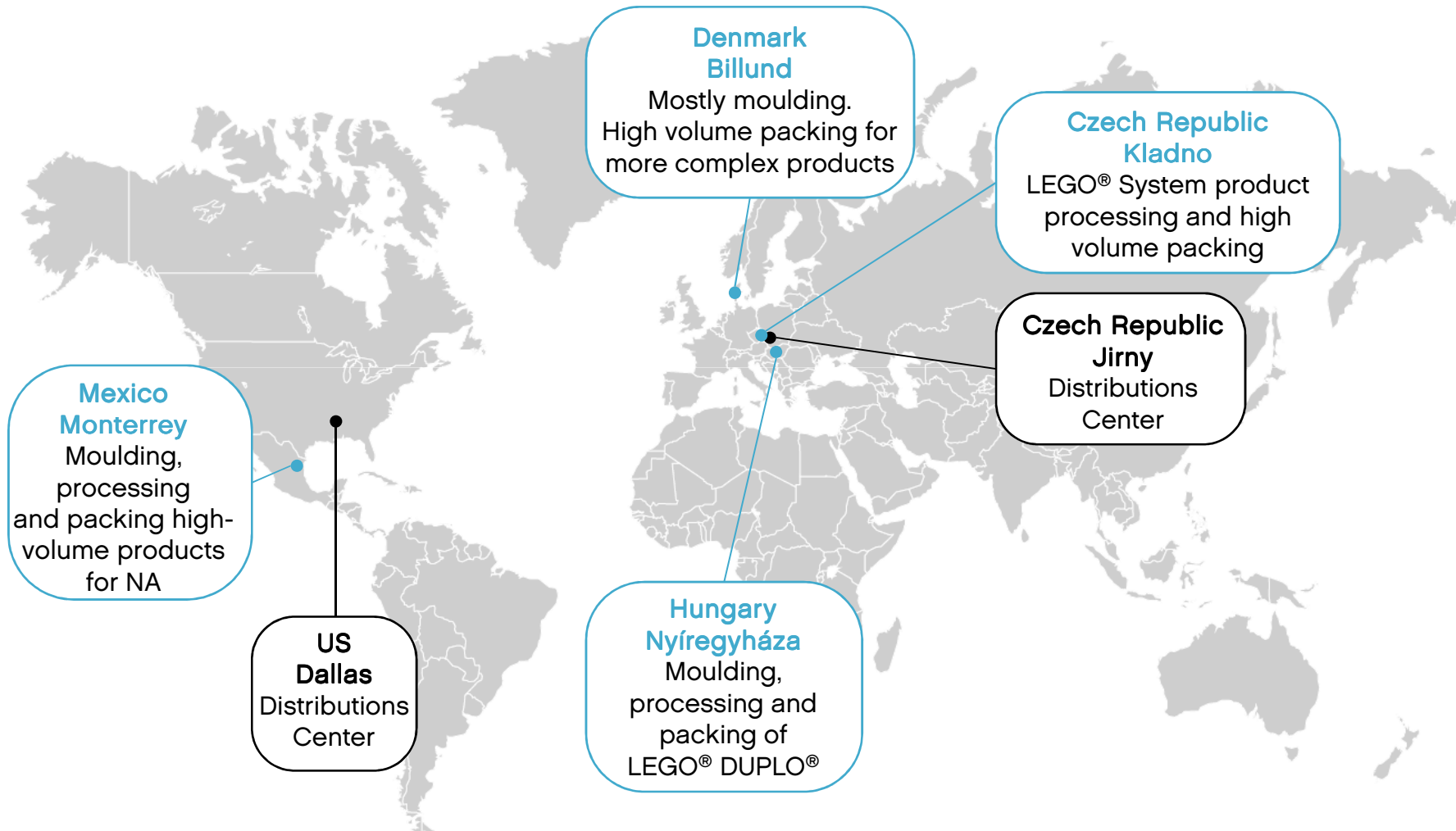


Sold in more than  
130  
countries



Figures per ultimo March 2014.

# Production & Distribution Facilities



# Consumer Services



## TOP 3 complaints:

- Missing parts
- Lost or delayed orders from Shop at Home
- Lost & Replacement parts



phone calls, emails, faxes  
and letters per year

Extremely  
high  
consumer  
satisfaction



languages

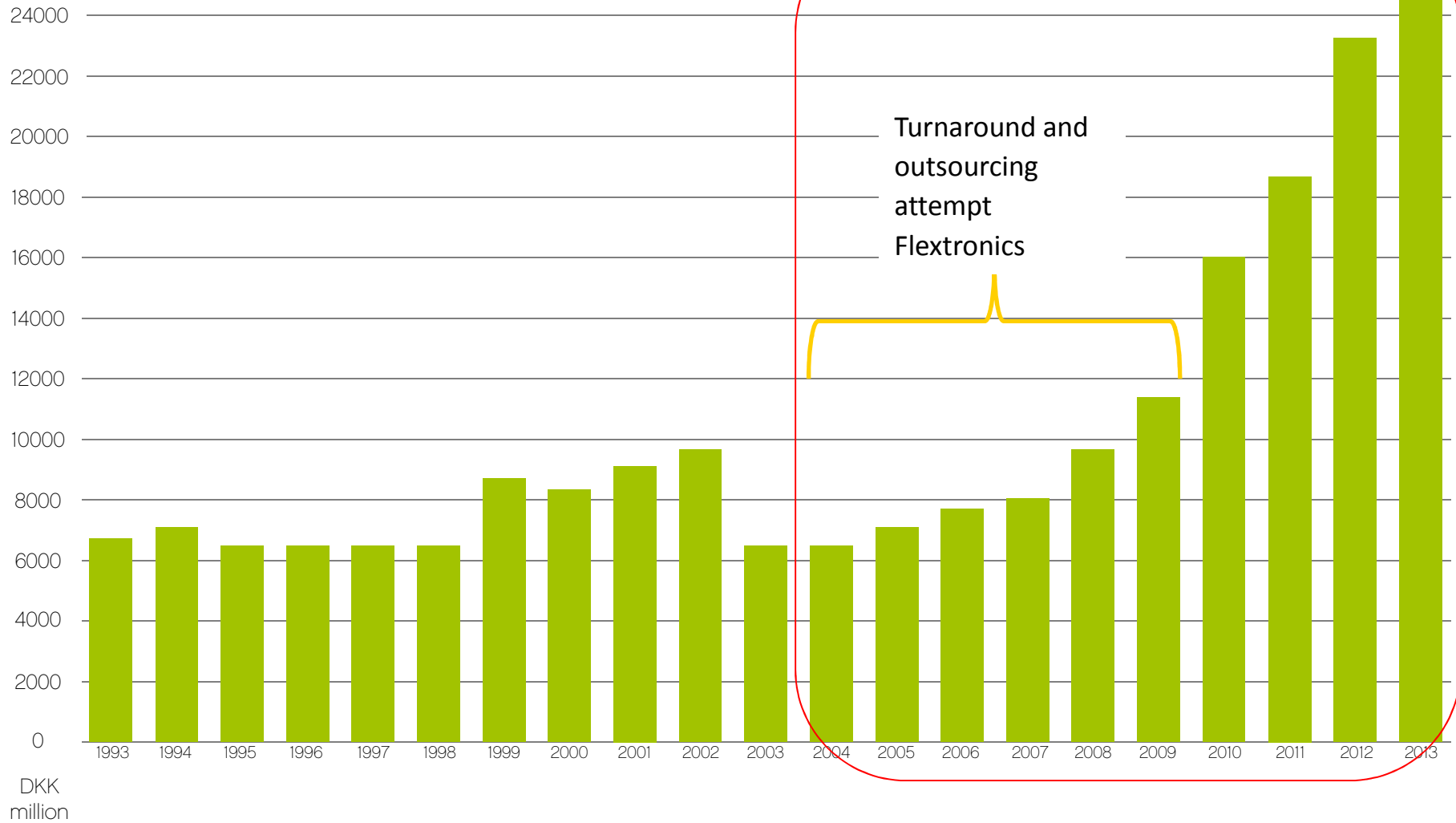


3 CONTACT  
CENTRES

+ some small local teams

Figures per ultimo March 2014.

# Turnover



# Examples of triggers of variation on moulded elements in connection with growth



## Triggers of variation:

- New products (elements)
- New machines
- New technologies
- Process optimization projects
- New colleagues
- Changes in the organization
- New production sites
- Commercial press from sales

Increased risk of losing the overview

## Examples of potential problems:

- Changes in the dimensions
- Safety issues (small parts)
- Visual problems (colour, burn marks)
- Processing problems (deform parts)

### Potential consequences:

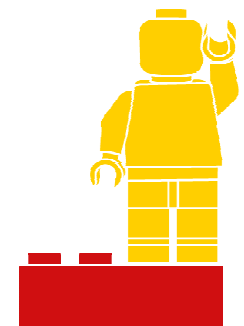
- Decrease of the quality level
- Low customer satisfaction
- Product recall

## Moving a mould and getting the desired quality is hard

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Growth can be compared with outsourcing  
because the culture can't adapt so fast





# Moving a mould and getting the desired quality is hard

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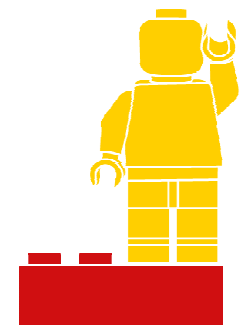


## Learning:

- Moulding is a core competence
- The impact from the LEGO culture on the quality
- Need of more specific quality standards, dimensions and look & feel

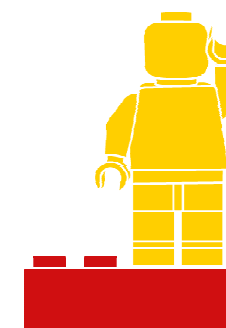
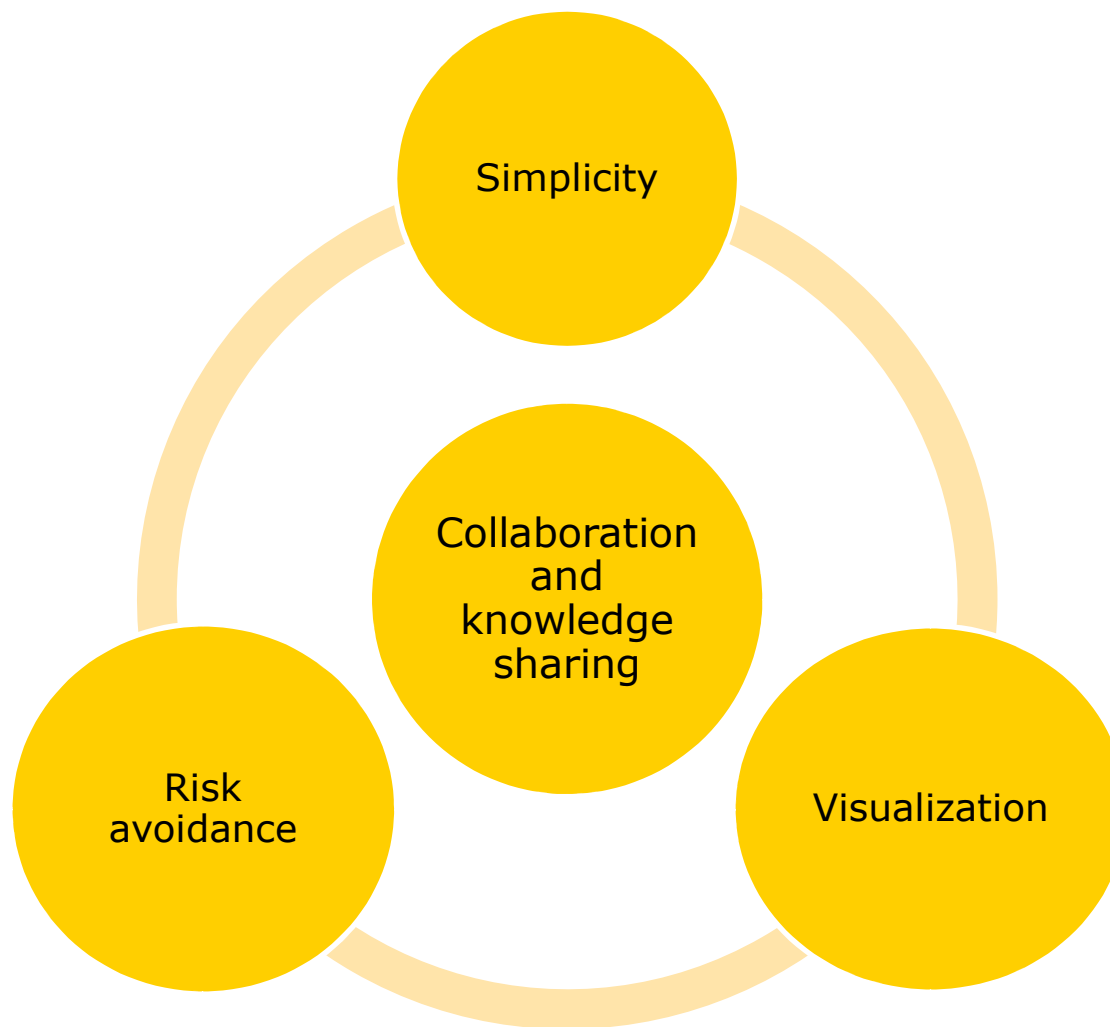
## Initiatives:

- Definition of key competences
- Improvement of specifications for approval and quality control (alignment, involvement)
- Improvement of measurement methods (internal, external)
- Improve the quality of function test (development of reference elements)
- Assessment of look and feel

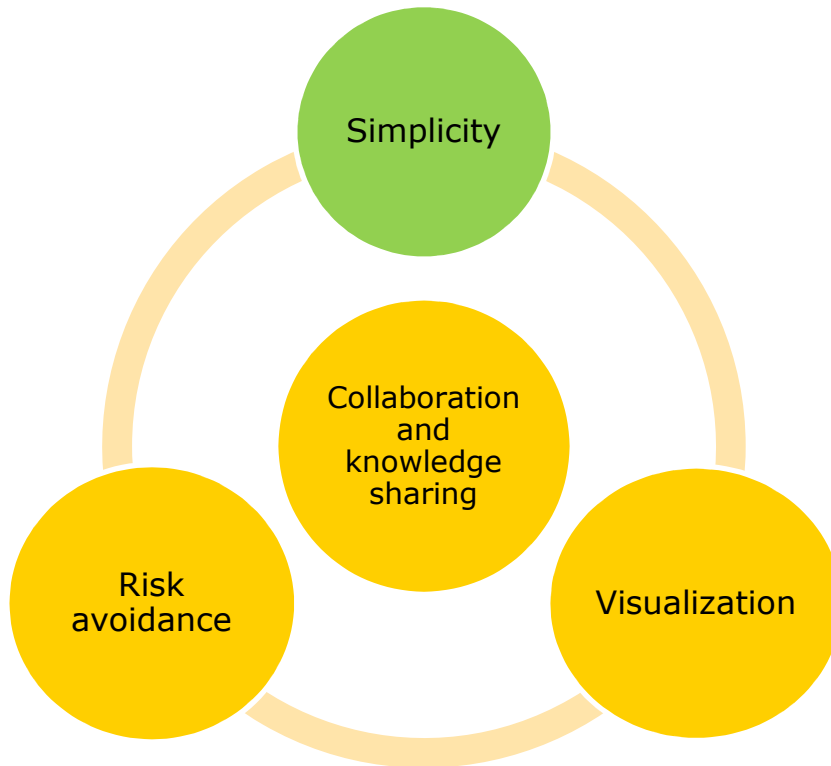




## Deliver the desired quality: Focus areas



# Simplicity

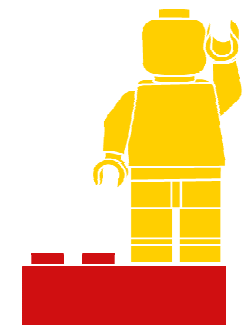


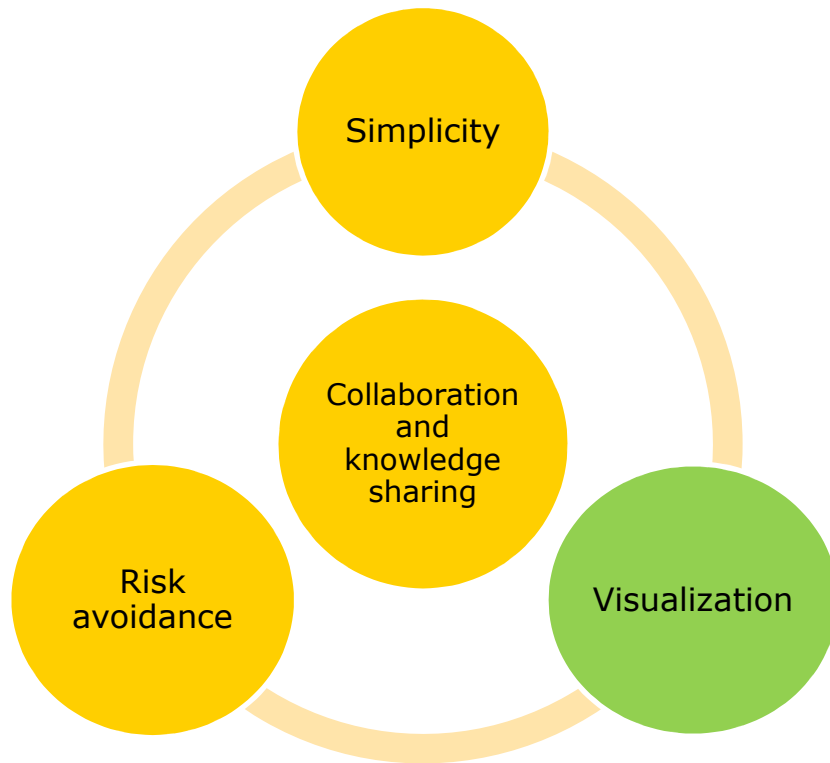
## Learning from the past:

- Many small factories in the factory -> difficult overview of daily operation
- Complex material and supplier platform
- Cost of complexity

## Focus area:

- Standardize production set-up
- Not only focus on adding new technologies, but also out phasing of old technologies
- Keeping a lean material platform
- Creativity within existing boundaries



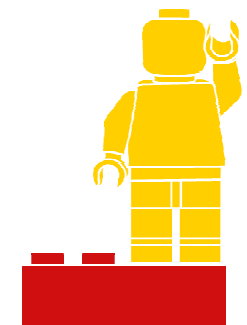


## Learning from the past:

- Need for more overview
  - Materials
  - Suppliers
  - Production planning
- Firefighting is a bad foundation for improvements

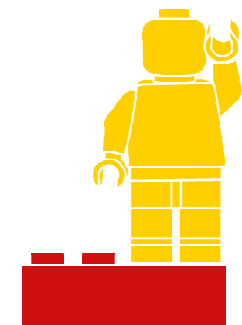
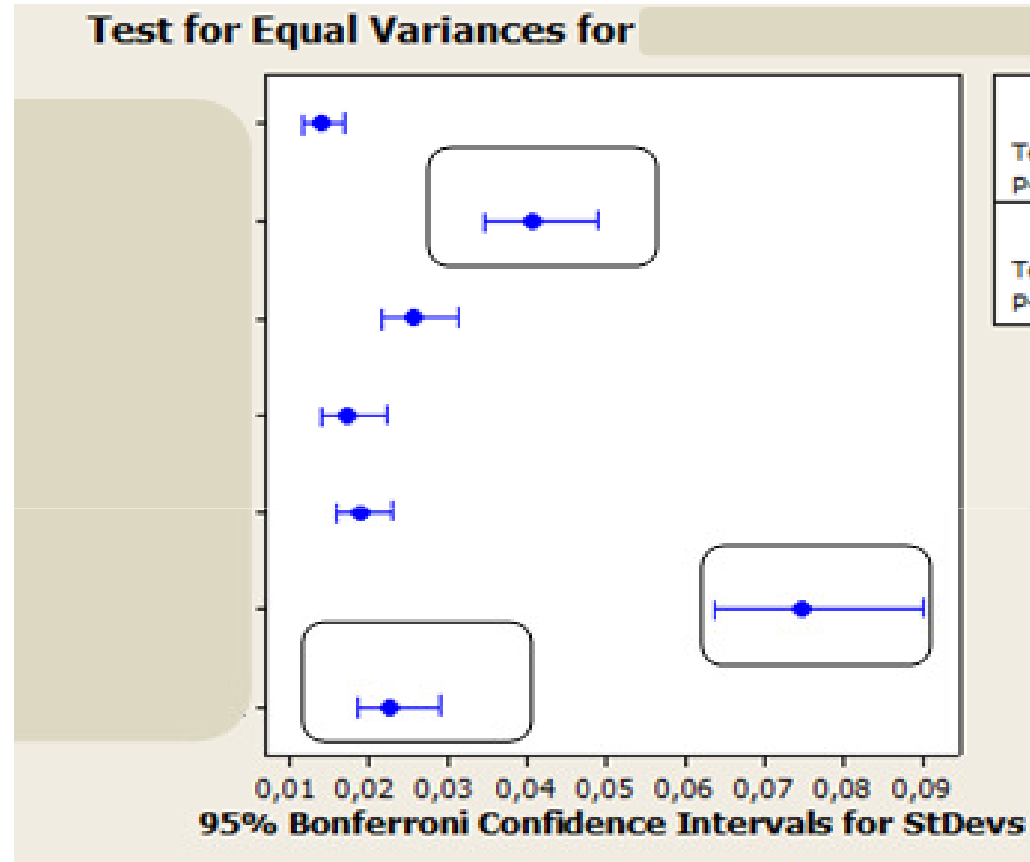
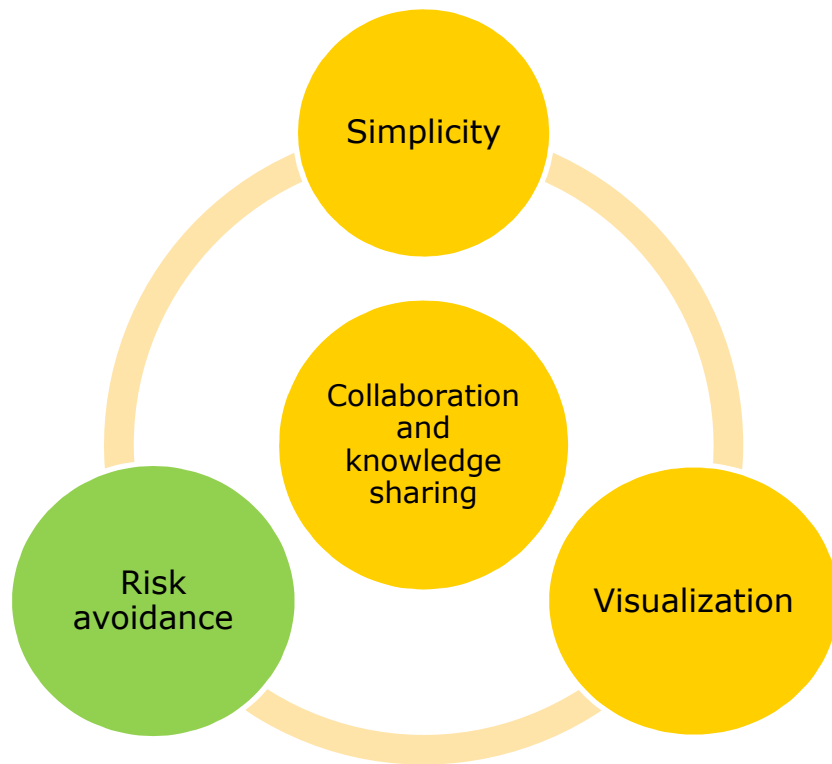
## Focus area:

- Physical overview of the technologies: "Simplicity room"
- Visual factory – follow up on the daily production
- Strong Lean-culture



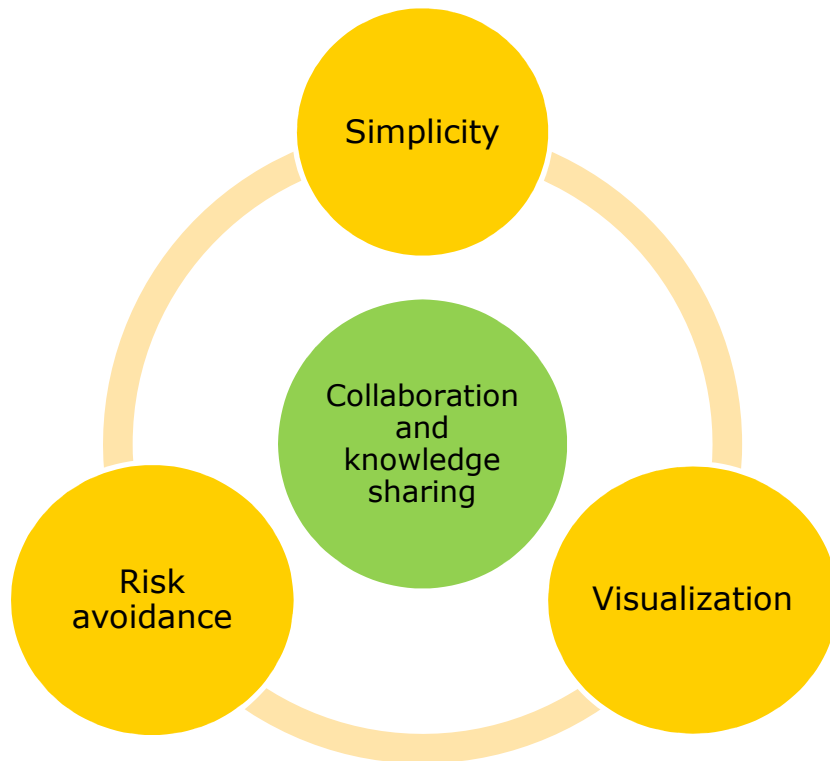


# Risk avoidance





# Collaboration and knowledge sharing / transfer

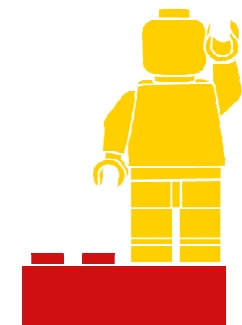


## Learning from the past:

- The challenge to transfer tacit knowledge
- Culture is the key

## Focus areas:

- High level of involvement in decision making
- Work processes support collaboration
- High degree of shared KPIs -> motivate to help
- No blame culture - Focus on the problem
- Problem solving process is important – not only the solution



## Guiding principle

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"Only the best is good enough"

