

# Turnaround leadership with the “Wernau way”

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Vice President | Plant Manager  
**Bosch Thermotechnology**



**BOSCH**

Invented for life

The  
initial  
condition



High  
performance  
environment



Leading  
the  
change

Today's journey . . .



# Bosch Thermotechnology



## MOBILITY SOLUTIONS

Gasoline Systems  
Diesel Systems  
Chassis Systems Control  
Electrical Drives  
Starter Motors and Generators  
Car Multimedia  
Automotive Electronics  
Automotive Aftermarket  
Automotive Steering



## INDUSTRIAL TECHNOLOGY

Drive and Control Technology<sup>1</sup>  
Packaging Technology



## CONSUMER GOODS

Power Tools  
BSH Hausgeräte GmbH



## ENERGY AND BUILDING TECHNOLOGY

Security Systems  
**Thermotechnology**  
Bosch Global Service Solutions

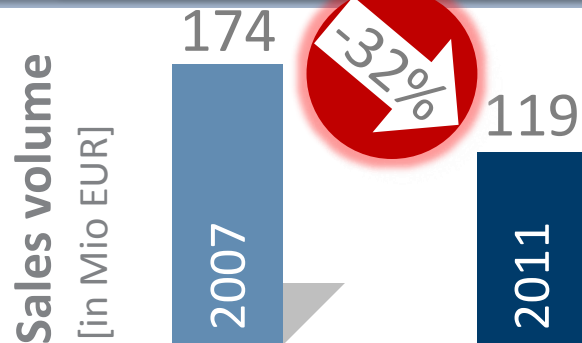
# Bosch Thermotechnology



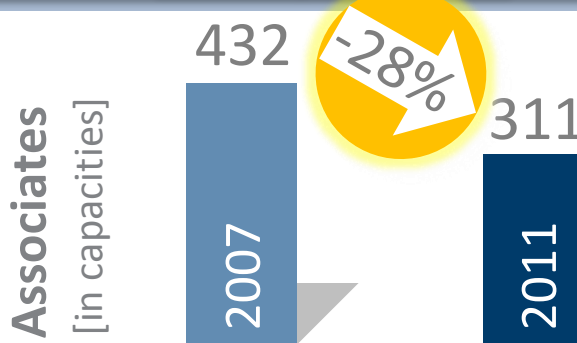


# Why we started our journey in 2011

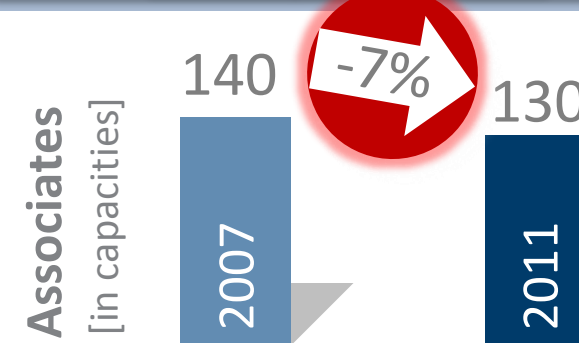
## Sales volume of plant



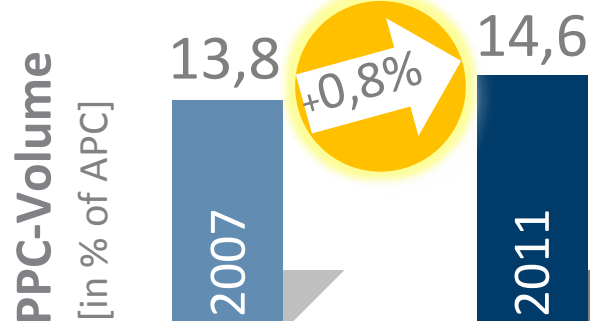
## Staff | Directs



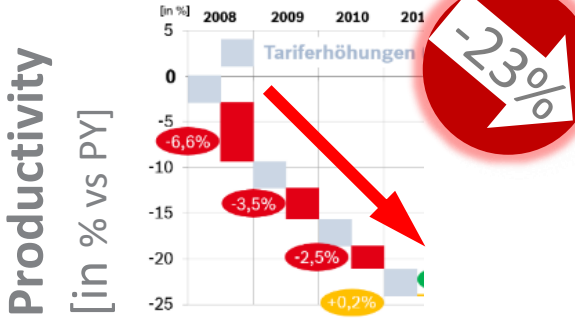
## Staff | Indirects



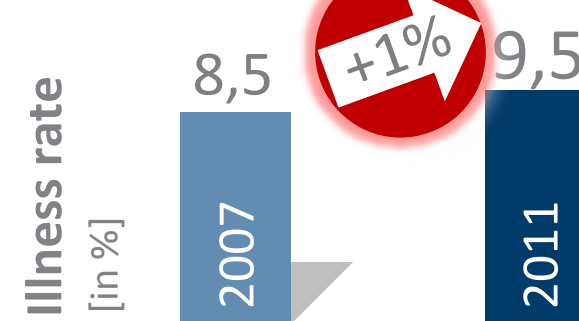
## Fixed costs



## Productivity



## Illness rate | Directs







## Initial conditions in 2012



In many areas no refurbishment done since the 80ths . . . .



## Initial conditions in 2012



- 13 nationalities
- Ø age: 49 years
- 15,5 % handicapped associates in blue collar area



## Initial conditions in 2012

*and with . . . .*

- *great experience in assembly*
- *enormous willingness to perform*
- *deep wish to bring back pride to “their” plant . . .*

*. . . especially the associates on the shop floor!!!*

*Normally . . .  
you would now see the slides  
of our strategy, activities  
and at the end, the results . . .*



*In order to make this more efficient,  
I will first show first the results  
and then . . .*

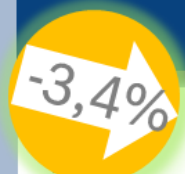
***you can decide whether it's  
interesting enough to stay or not . . .***



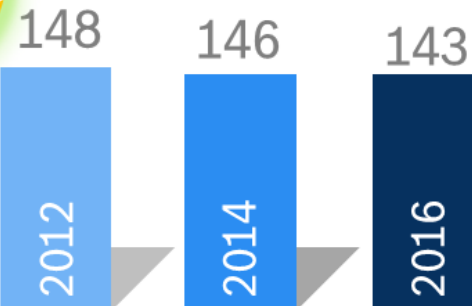


# The fruits of our work:

## Factory output



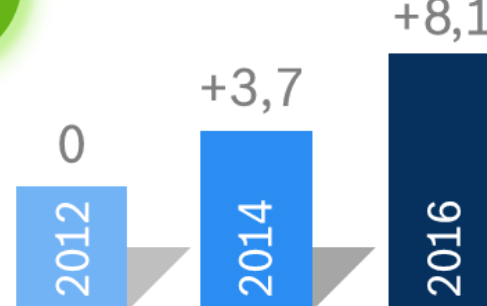
**Production**  
[in TSD piece]



## Profit



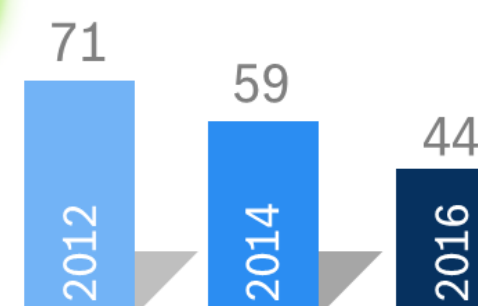
**Profit**  
[in % of sales]



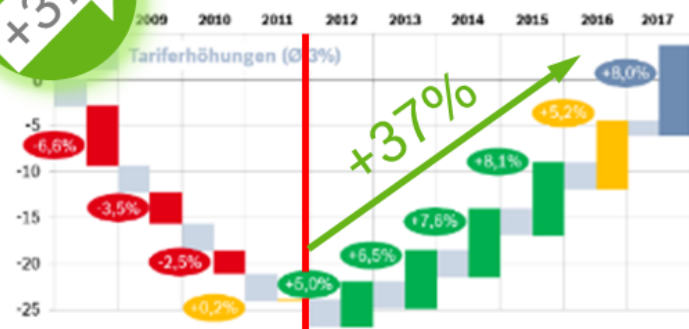
## Staff | White collar



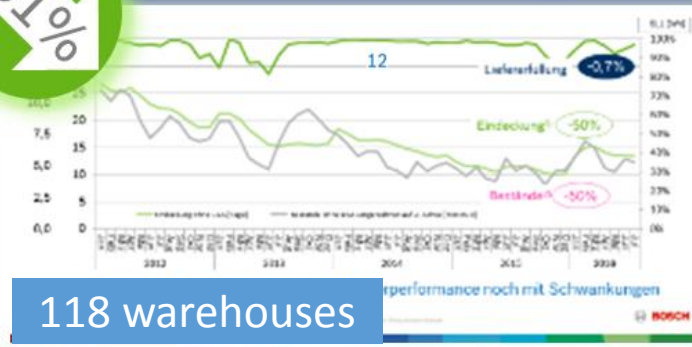
**Associate**  
[Ø in PC]



## Productivity



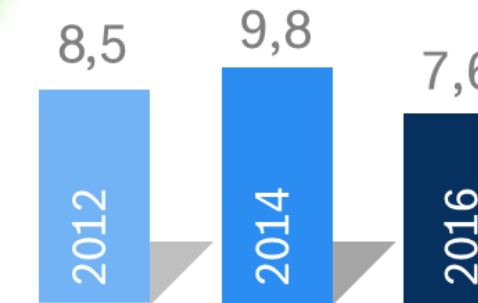
## Stock of finished goods



## Illness rate | White collar



**Associates**  
[in %]





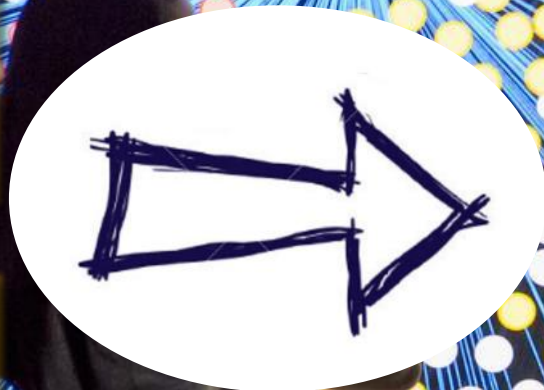
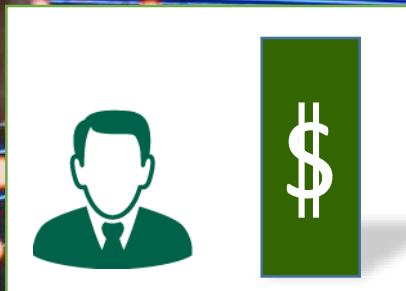
or







# 1<sup>st</sup> step . . . the bonus system for all managers



Same bonus level for all managers, defined one year in advance . . .

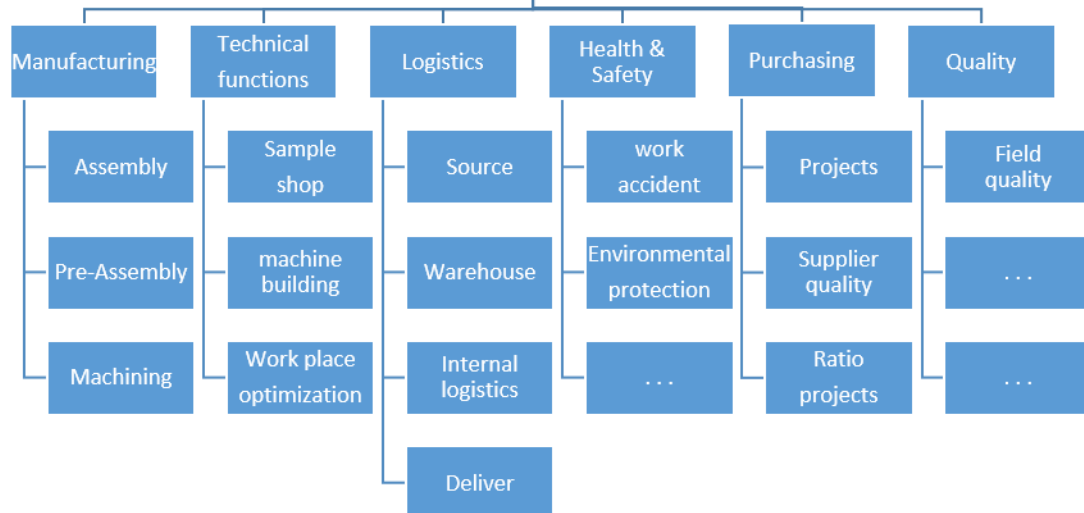




# 2<sup>nd</sup> step | Target deployment based on A3

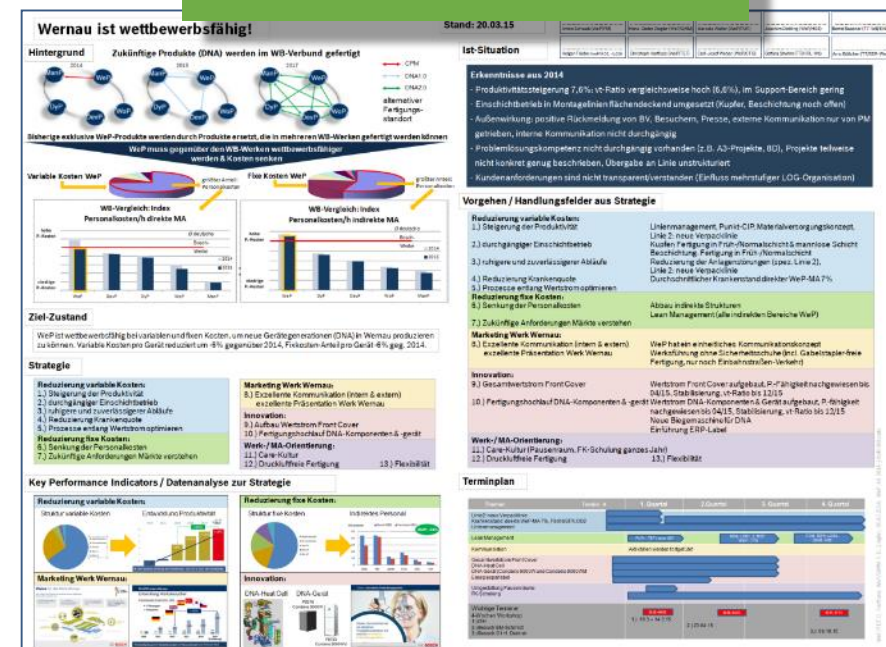
## Before

### Plant



**Focus on departments/functions.**  
**Targets** known in **individual** department

## After



**Focus on business requirements.**  
**Targets** transparent to everybody.





# Background

# Projects & timelines

## Competitive costs



## Strategic action fields

# Productivity

## Value stream 1

e.g.:

## Re-Design packaging line



# A3 used for business plan, quarterly targets & projects



Annual A3 of 2012 – 2016 & all project A3 displayed in Kaizen area @ Gemba



Standardized boards for all projects with link to "Years-A3"







# Deriving target and strategy from market requirements

Who are our **competitors** and  
what is our **position** within the **competition**?



# Understanding our position within the competition

## Main markets in Europe:

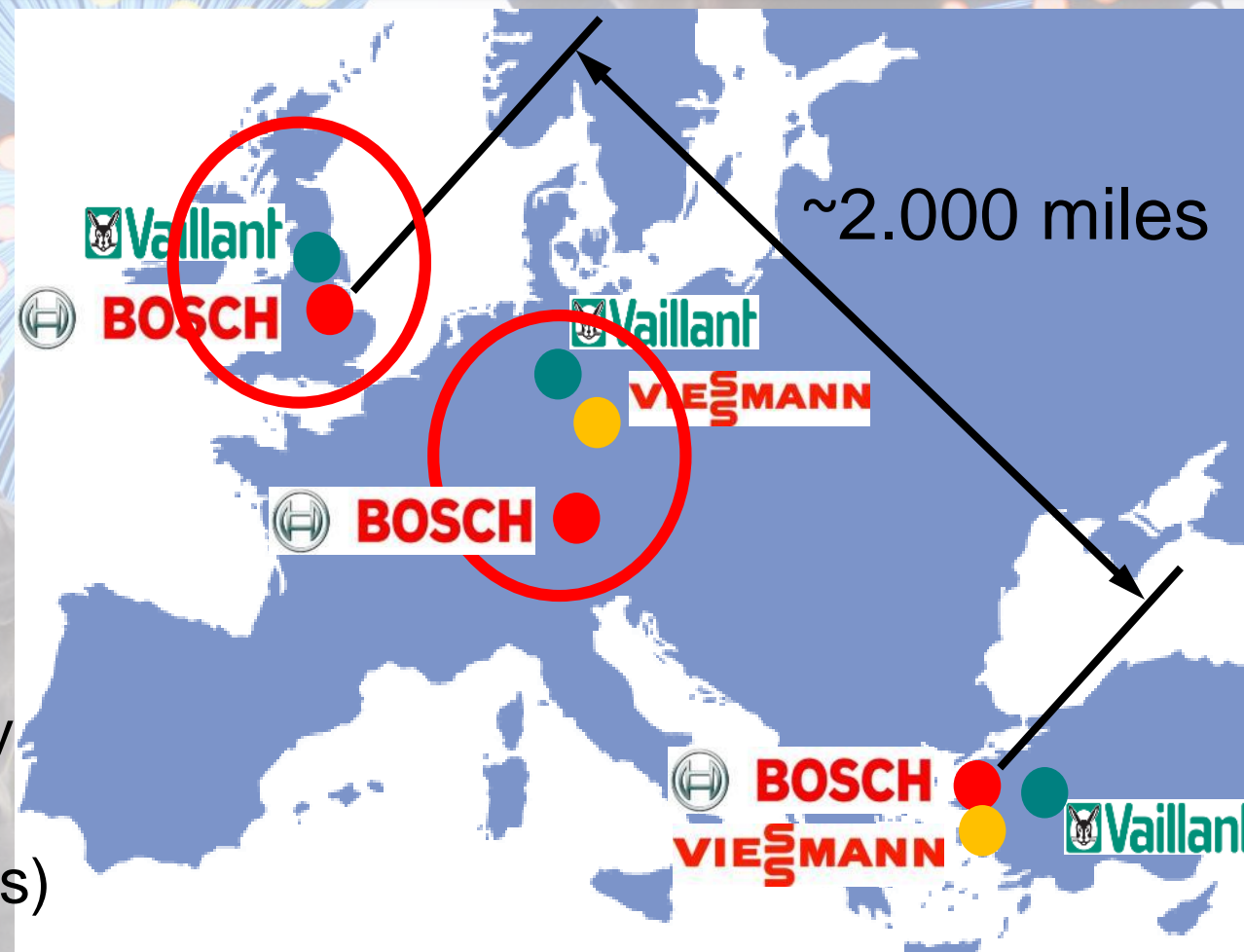
- Germany
- UK

## Within Germany:

- Southern part of Germany has highest wage level with lowest weekly working hours

## Within Europe:

- Wage level Turkey is 20% of Germany
- Highly motivated associates
- Very good qualification (esp. engineers)





## Conclusion?

We can never  
compensate that . . .

The figures must  
be wrong . . .

There are other  
things which are  
important . . .



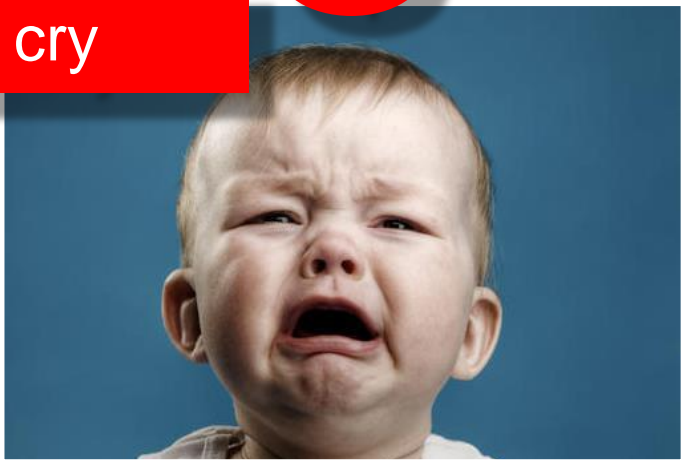
# Conclusion?

deny



+

cry

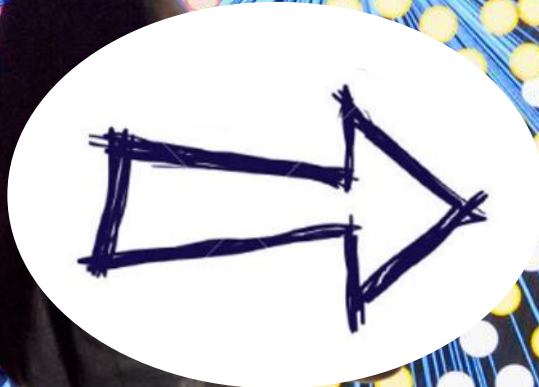


work hard



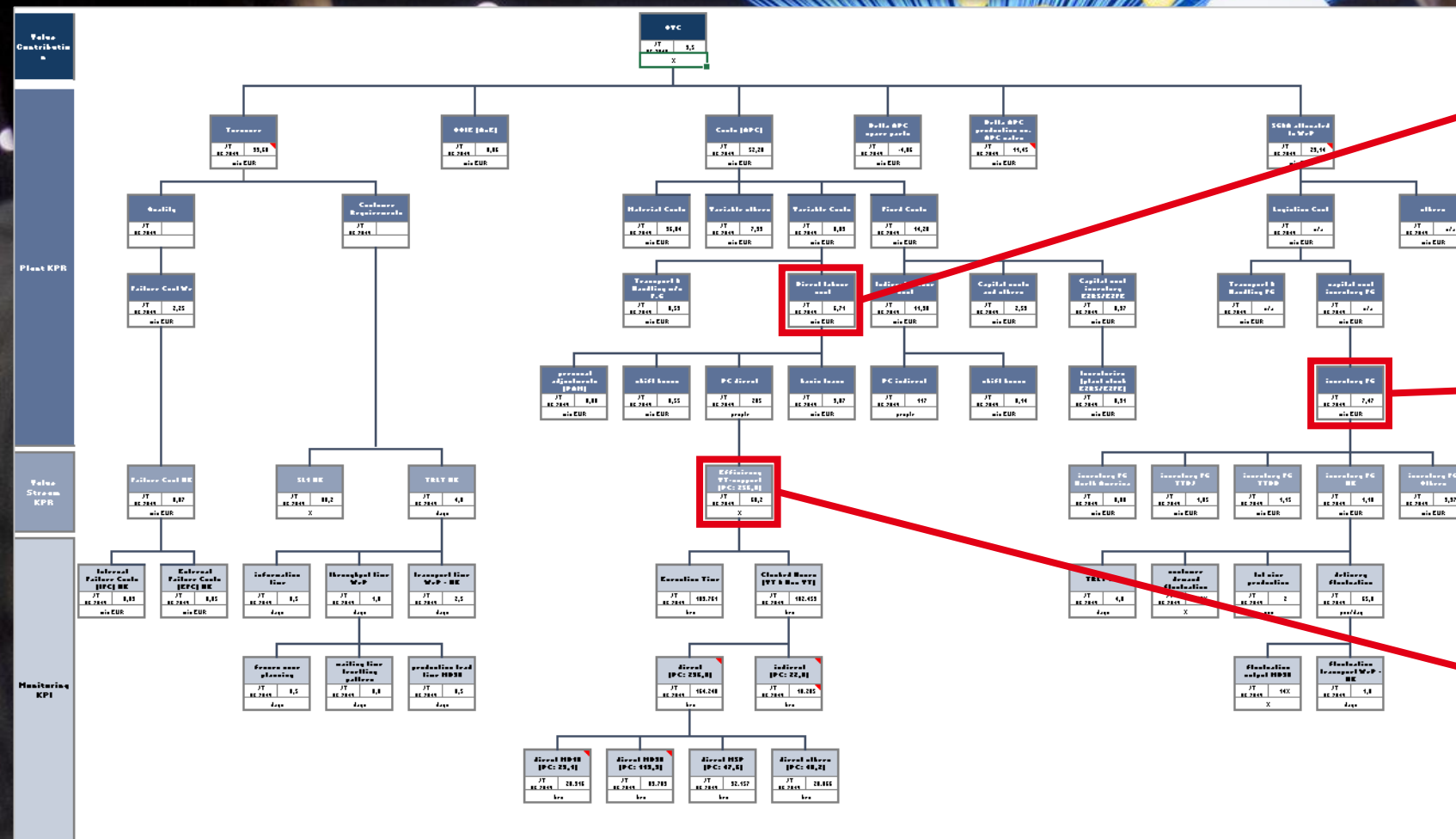
+

think smart





# Cost tree | The main levers:



1.

Personell  
white collars

2012	71
Full-Time-Equivalent	

2.

stock level  
Finished goods

2012	11,5
mio EUR	

3.

Productivity

2012	3,0
%	



# Focus on 3 topics | targets 2012 → 2016

1.

Personell  
white collars

2012	71
------	----

Full-Time-Equivalent

-30%

2.

stock level  
Finished goods

2012	11,5
------	------

mio EUR

-50%

3.

Productivity

2012	3,0
------	-----

%

+30%







# Project 1

1.

Personell  
white collars

2012	71
------	----

Full-Time-Equivalent

-30%

2.

stock level  
Finished goods

2012	11,5
------	------

mio EUR

-50%

3.

Productivity

2012	3,0
------	-----

%

+30%

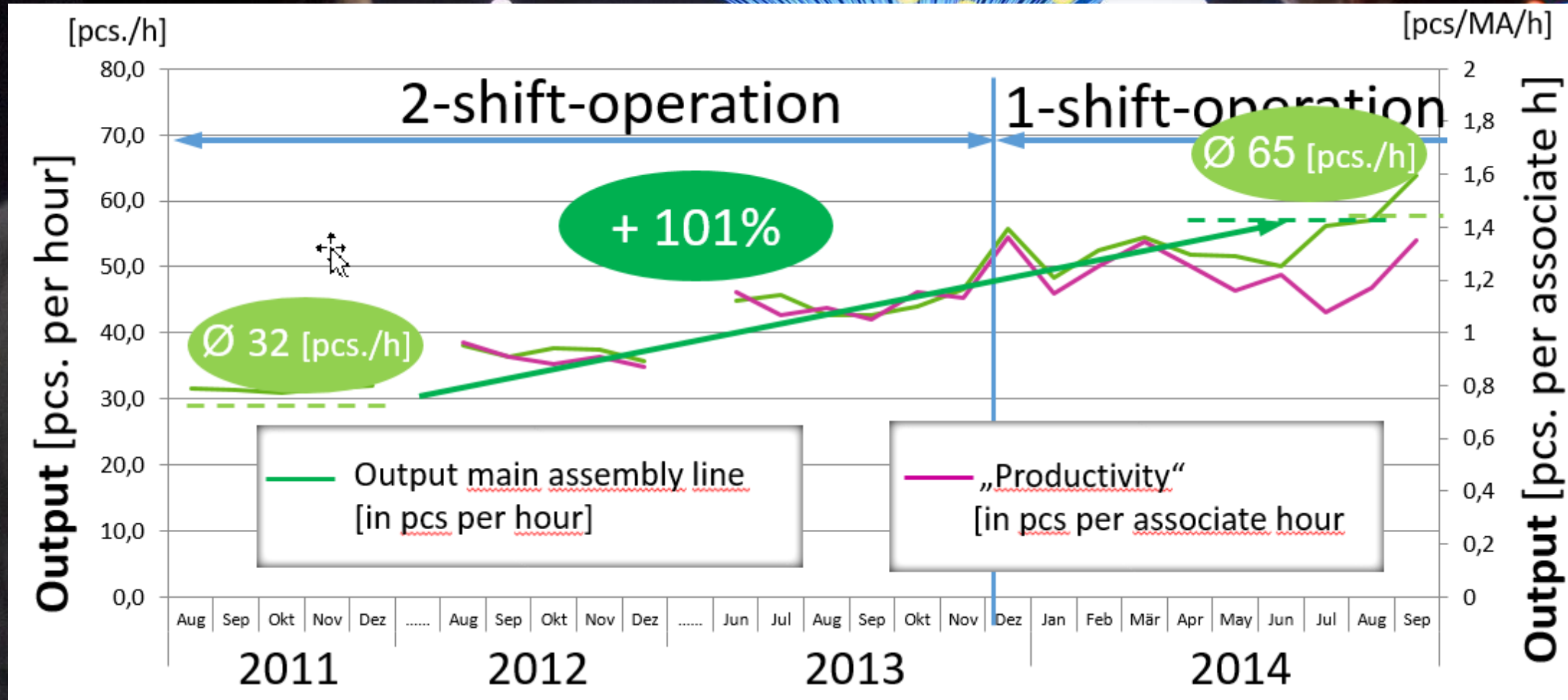


# Our assembly lines





# Project 1 | Change from 2 to 1-shift production





## Project 1 | Change from 2 to 1-shift production

### WHY

was it so **important** for the **plant** in **Wernau** to **reduce** the **cycle times** of all **assembly lines** so much that we could **change** from **2 shifts** to **1 shift**?



# Our reasons for 1-Shift-Operation

## For our associates

Considerable improvement of health condition of people who worked shifts

No more late night phone calls from work to the high performers & experts

Improvement projects can be carried out directly at shift end (max. 14:35h)

## For our cost & efficiency

Synergy effects in support areas like internal logistics, mechanics, etc.

No more payment of 12,5% shift allowance

All experts of all areas available in one shift

## For our Kaizen process

Lower cycle time means less work content  
→ Easier for training

Lower cycle time means less work content  
→ Easier for process conf.

Improvement projects can be carried out directly at shift end (max. 14:35h)



## Project 2

1.

Personell  
white collars

2012	71
------	----

Full-Time-Equivalent

-30%

2.

stock level  
Finished goods

2012	11,5
------	------

mio EUR

-50%

3.

Productivity

2012	3,0
------	-----

%

+30%

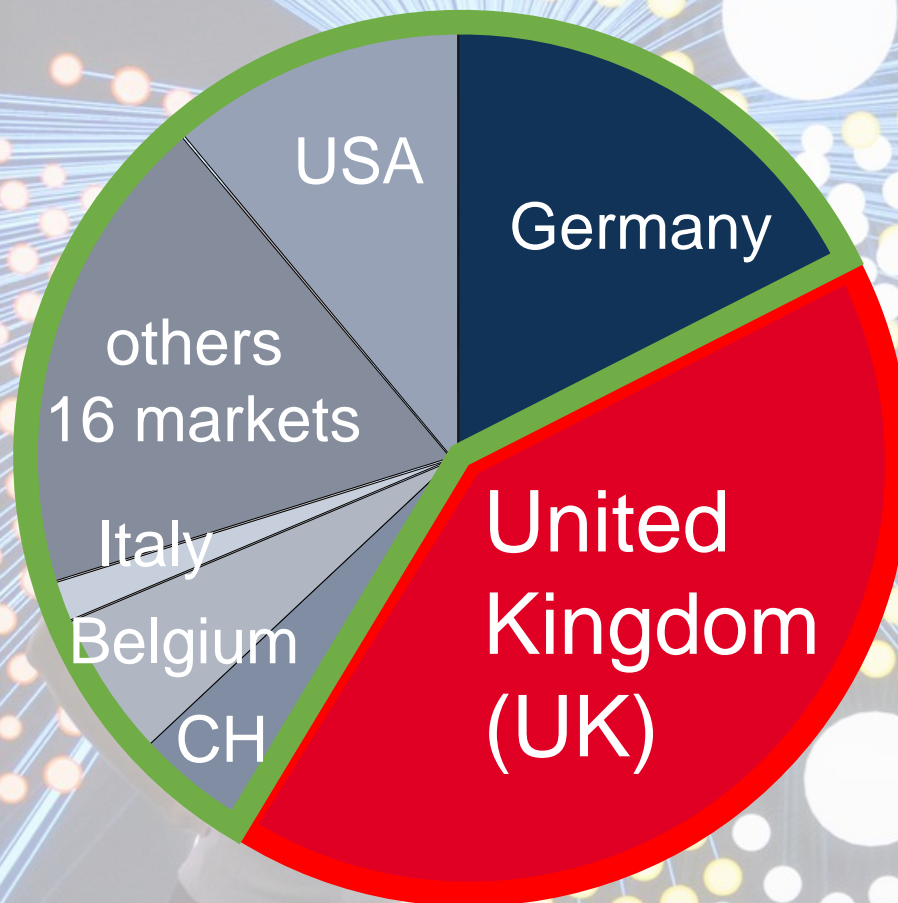


## Project 2 | Production Levelling

### Assembly line 1:

- **21** markets
- **115** storage locations
- **8** product families
- **380** part numbers

Stock level of  
finished goods



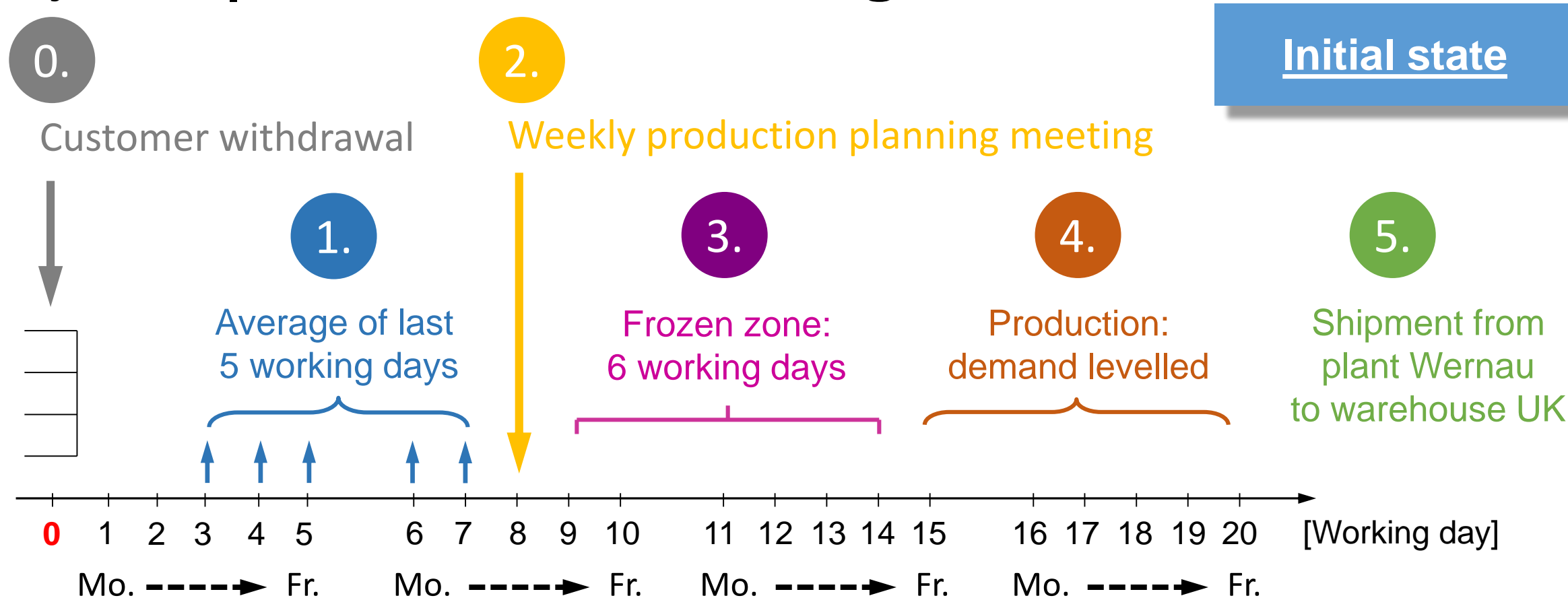
### Assembly line 2:

- **1** market
- **1** storage locations
- **1** product family
- **40** part numbers

**Decision:**  
start on line 2,  
products for UK



# Project 2 | Production Levelling



→ **Stock profiling** based on **replenishment lead time** of 22 days



## Project 2 | Production Levelling

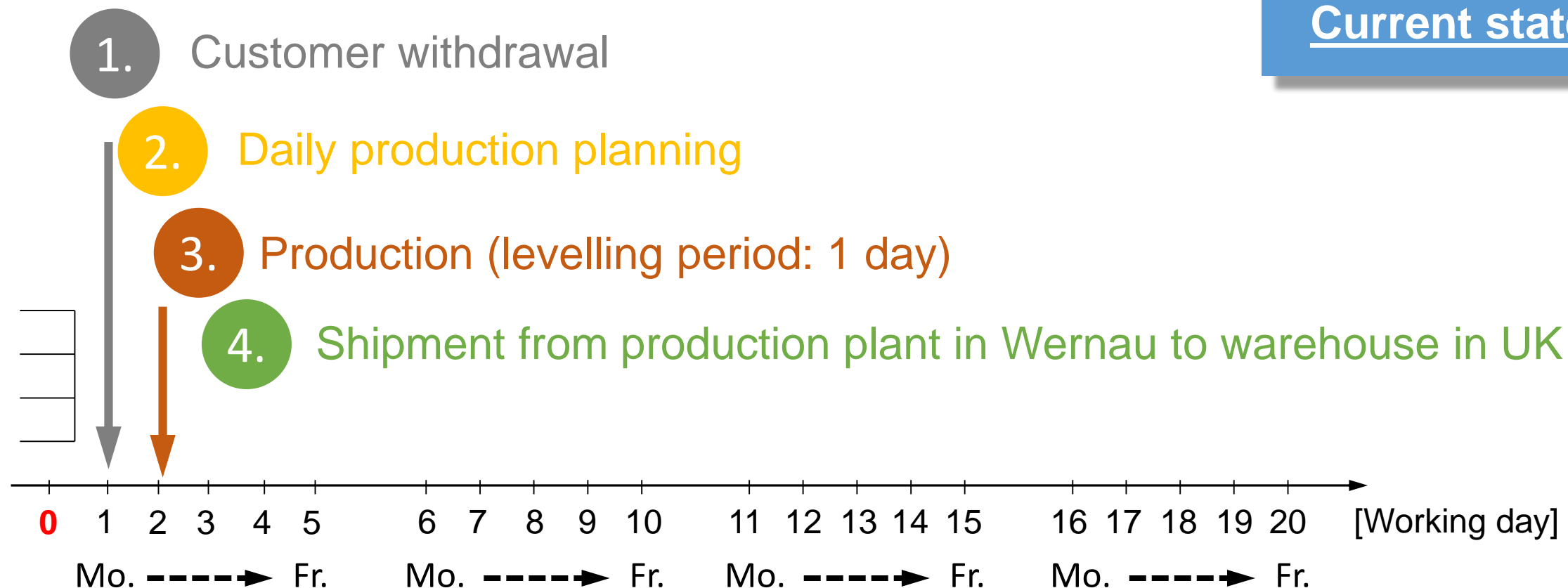
### Activities

1. - Switch to daily order processing from warehouse
2. - Daily production plan for next day
3. - Elimination of frozen zone (increase raw material for low runners)
4. - Reduce production lot size reduction from 64 pcs to 4 pcs (1 pallet)
  - Change levelling pattern from part number level to product family level
  - Orders for exotics and low runners produced next day
  - Delta between order intake & production output covered with high runner stock



# Project 2 | Production Levelling

Current state



→ **Stock profiling** based on new **replenishment lead time of 2,5 days**



# Kaizen | Production Levelling

- Stabilization and optimization of levelling on runner line (UK market)
  - Roll-out to second line (markets Germany and Belgium)
  - Roll-out to all other mayor markets on second line
- After **4 years** all **mayor markets** are **covered**
- **Majority** of the **118** storage locations/**warehouse** worldwide **covered**

## Project 2 | Production Levelling

Before:

Low runner  
and **exotics**

Runner  
parts

- **Customer** demand **fluctuation** covered  
via **stock** of **low runner** and **exotics**

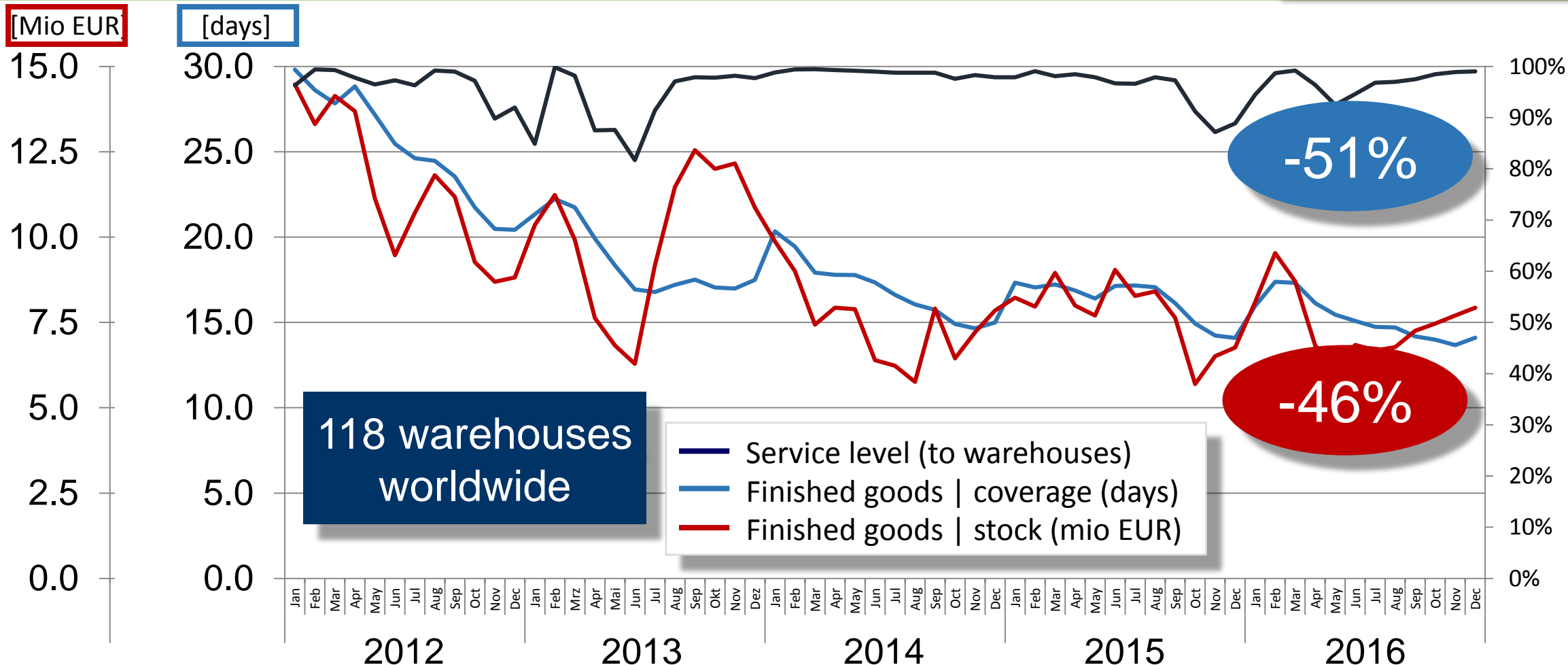
After:

- **Customer** demand **fluctuation** covered  
via **stock** of **runner parts**



# Project 2 | Production Levelling

result





## Project 2

1.

Personell  
white collars

2012	71
------	----

Full-Time-Equivalent

-30%

2.

stock level  
Finished goods

2012	11,5
------	------

mio EUR

-50%

3.

Productivity

2012	3,0
------	-----

%

+30%



## Project 3 | Workforce Management in Production

In order to achieve a turnaround in  
**productivity** with **reduced** support **structures**  
an average **age** workforce of **49 years**  
(incl. temporaries)

you need . . .

very **ENGAGED** associates

## Project 3 | Workforce Management in Production

**Method** used for this task was a **4-week-workshop** (**100% released** from all **normal tasks**) with:

- Human resources (head of department)
- Medical doctor
- Works council
- Representative of handicapped people
- Representative from “health and safety department”
- manufacturing engineers
- associates of production lines



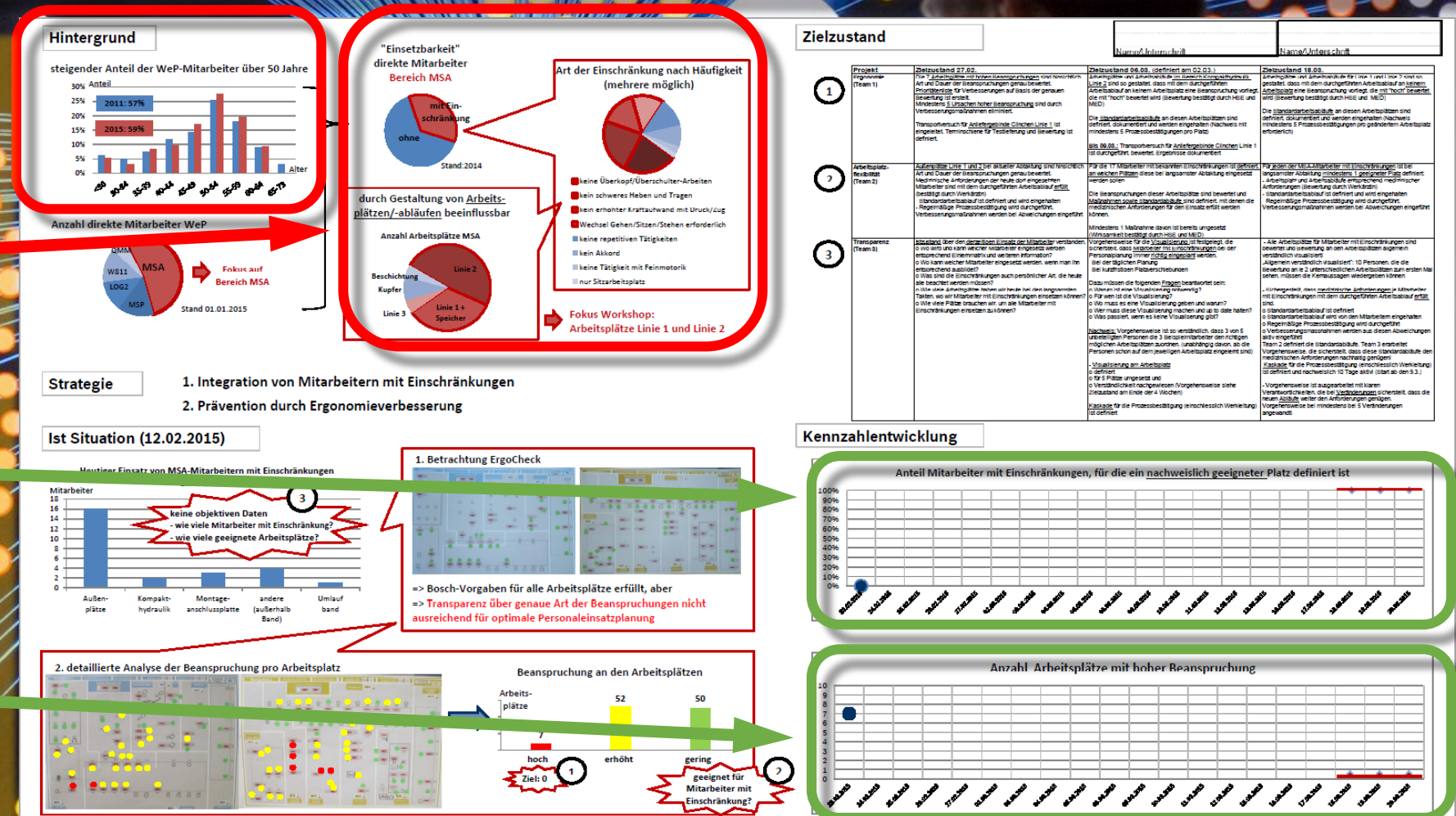
# Project 3 | Workforce Management in Production

## Background:

- increasing age
- reduced flexibility due to physical constraints

## Target:

- eliminate high load at all work place
- identified at least one work place for every associate with physical constraints



# Project 3 | Workforce Management in Production



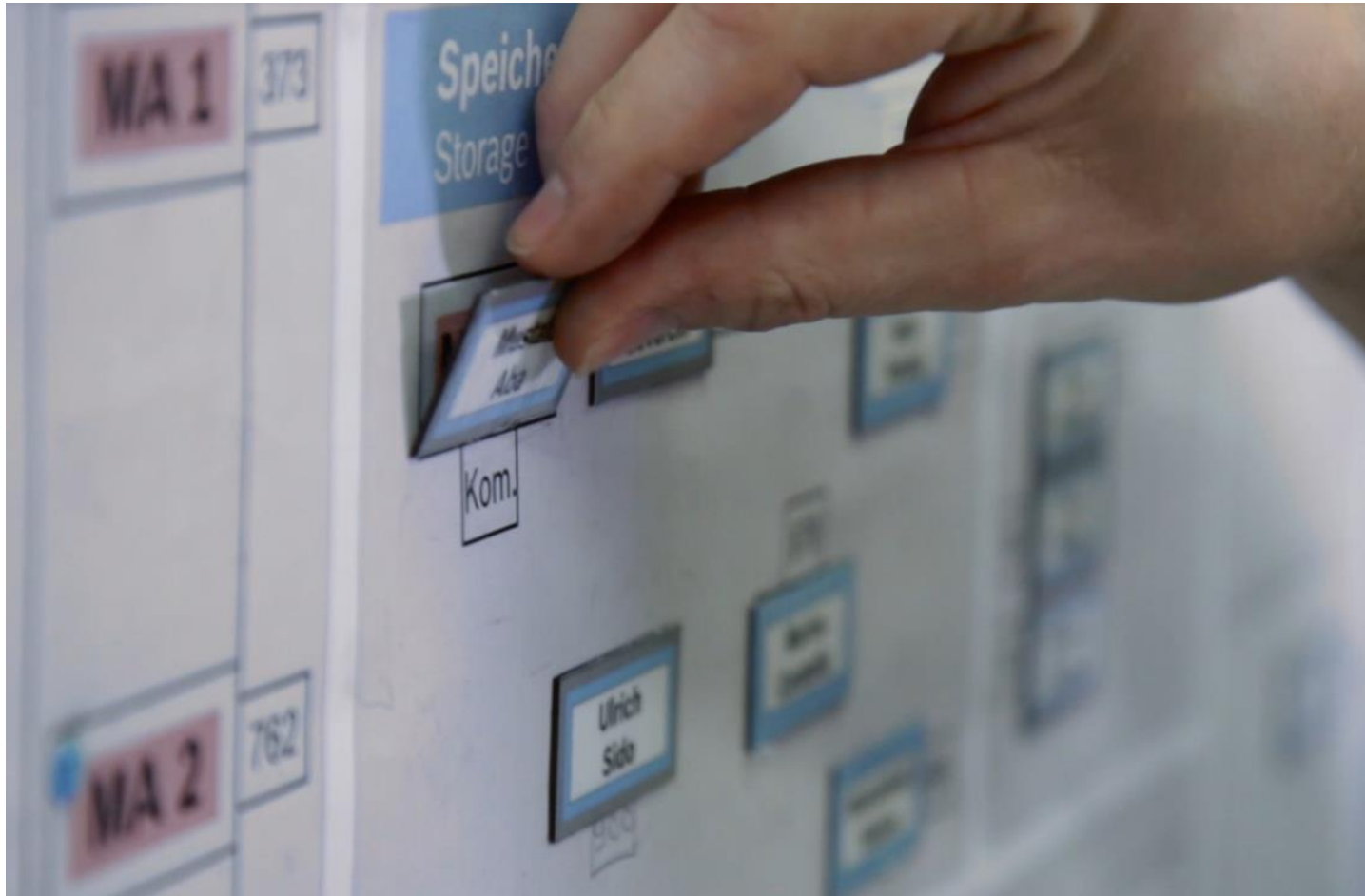
Daily planning  
for next day

Done until 12:30h

Board moved then  
to “time clock”  
(next to exit)



## Project 3 | Workforce Management in Production

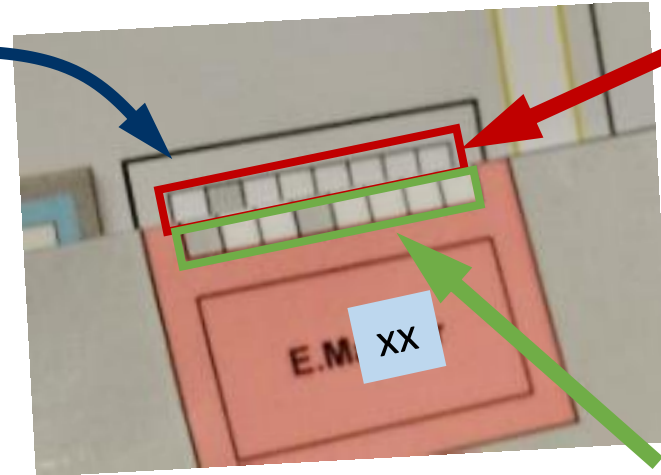
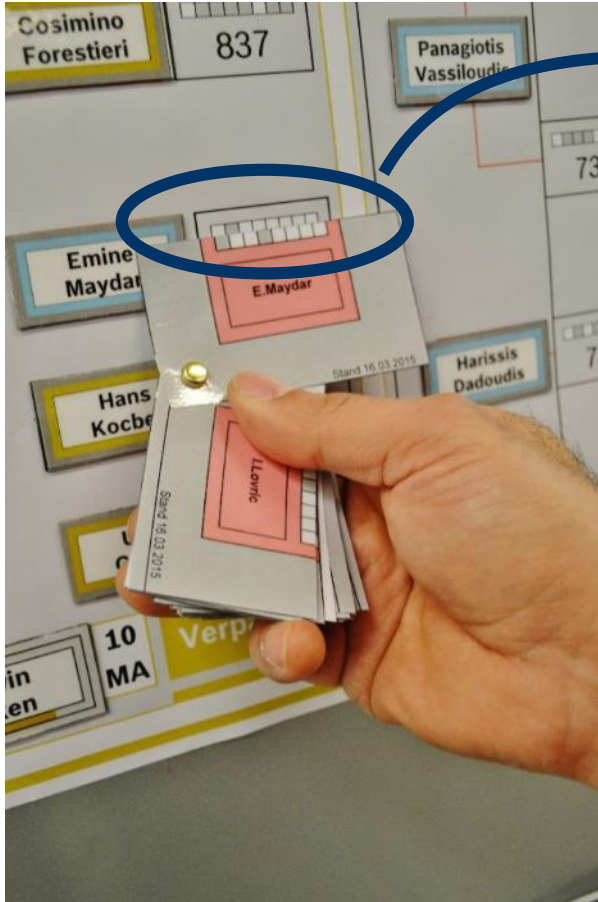


Every team leaders plans his line

Alignment with other team leaders in case of “too many” or “not enough” personnel.

Done for every workplace and every associate

# Project 3 | Workforce Management in Production



**This case:**  
No match of load  
profile and individual  
constraints → OK

**Planning board** contains  
“load profile” of work station:

- Shoulder (left/right)
- Wrist (left/right)
- . . .

**“Control card”**

with constraints of associate  
(access: team leader & supervisor;  
issued by medical service on site)



# Project 3 | Workforce Management in Production

**transparency**  
of . . .

**Physical load** of every **work place** in the factory

**Physical handicaps** of  
all direct **associates**

**Distribution** of **work places**  
in factory to **enable rotation**

**motivation**  
of . . .

**associates**, as **constraints**  
& **hints** are **taking serious**

**team leaders**, as daily  
**management** is a lot **easier**

**works council**, as **ergonom.**  
were considerably **improved**

**productivity**  
due to . . .

**associates** who are **working**  
**according** to their **abilities**

**effective** shift **start** based on  
“**daily workforce planning**”

Very **high engagement** of  
**associates** and **team leaders**





# The Bosch Production System

... giving guidance

... not laws

## Our Vision

We fascinate our customers and employees by delivering competitive products from an agile and sustainably waste-free value stream. **Always. Doing. Better.**



## Our Approach



### Lean & connected Value Stream



Additional value stream functions (Purchasing, Engineering etc.)

Leadership and Management

Qualification

Value contribution

Collaboration

## Our Principles

Pull principle

Fault prevention

Flexibility

Focusing on customers

Personal responsibility

Transparency

Continuous improvement

Shaping change

Standardization

Process orientation

Striving for excellence

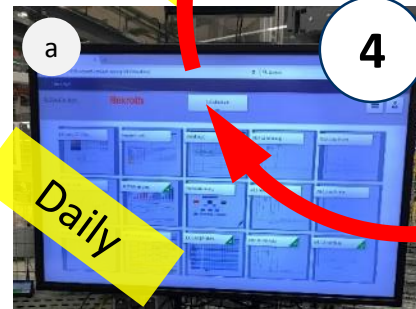
# How we organize and steer the improvement work

## System Kaizen Workshops

**2 days** with management team,  
incl. group leaders & works council

a) Daily review of monitoring KPI  
and improvement KPI (e.g.)  
Led by: supervisor  
Participants: PM, MOE, PUR,  
LOG, QMM,...

b) Daily review of project status  
Led by: Value stream manager  
Participants:  
project team leaders



Review monthly plant KPR (as  
part of weekly plant mgt meeting)  
Led by: plant manager  
Participants: plant mgt team

Review of S-CIP projects  
led by: VS manager  
(WeP/MOE)

Participants:  
Complete plant mgt team  
Project team members  
All interested associates  
(approx. 50 people)



# Our weekly project reviews . . .





# Our approach:

## Derivation of projects

Overall **“A3”** with  
**projects** for whole year

**Connect** all **projects** with  
business requirements

Regular **project** list  
**review** based on **KPI**  
development

## Open communication

Explain the **“WHY”**  
and the **benefit**

**Weekly** project reviews  
to all associates

Include **works council**  
in quarterly **System-  
Kaizen-Workshops**

## Maximum focus & speed

**100%** dedicated **capacity**  
during **workshops**

**Include** whole **WeP** team  
in **improvement** work

Quick layout changes &  
work place changes  
(breaks, or after 1<sup>st</sup> shift)

## competence development

**Intensive coaching** in  
“x-week-workshops”

**Learn & work** with **BPS**  
experts  
(focus week)

**Communication** skills &  
**team work** trough  
**projects**



# Our Setting of the project teams:

## team leaders

Leaders **without expertise** in the **topic** (e.g. HoD of Controlling for Q-topic)

**Associates** which are highly **motivated** to **change** things

**Platform for potential leaders** (from trainees to normal clerk)

## X-Functional

**broader understanding** & see things from a **new perspective**

learn what strengths others have and **recognition** of **own strengths**

they **extend** their **network** through intensive **co-create**

## X Hierarchic

“Gemba-Learning” that **leaders do not** have to be **managers**

Get to know the “**human being**” behind the **function X** the hierarchies

develop **spirit**, that **everybody** can **contribute** to the solution

## Fresh eye

they ask “**new**” **questions** that an “expert” will usually not ask

they find out that also the **experts don't know** all the **answers**

create **necessity** to **communicate** in “**non-expert-language**”

# Our Setting for the improvement projects:

**“unrealistic” targets**  
to create need to . . .

**question** current **requirements**  
(what’s really needed  
and what is “waste”)

**think big** & find later out that  
these improvements are possible

make **“disruptive proposals”**,  
as the “standard proposals” will  
lead us to standard results

**no budget**  
to create need to . . .

**understand** first the **problem**,  
instead of buying quickly  
a “standard” solution

**ask** directly involved **associates**  
which equipment is really used

**encourage people** to test  
“their” solutions  
→ real **buy-in + pride**

**short time**  
to create need to . . .

**ask others** what they would do,  
because you have **no time**  
to develop an **“own solution”**

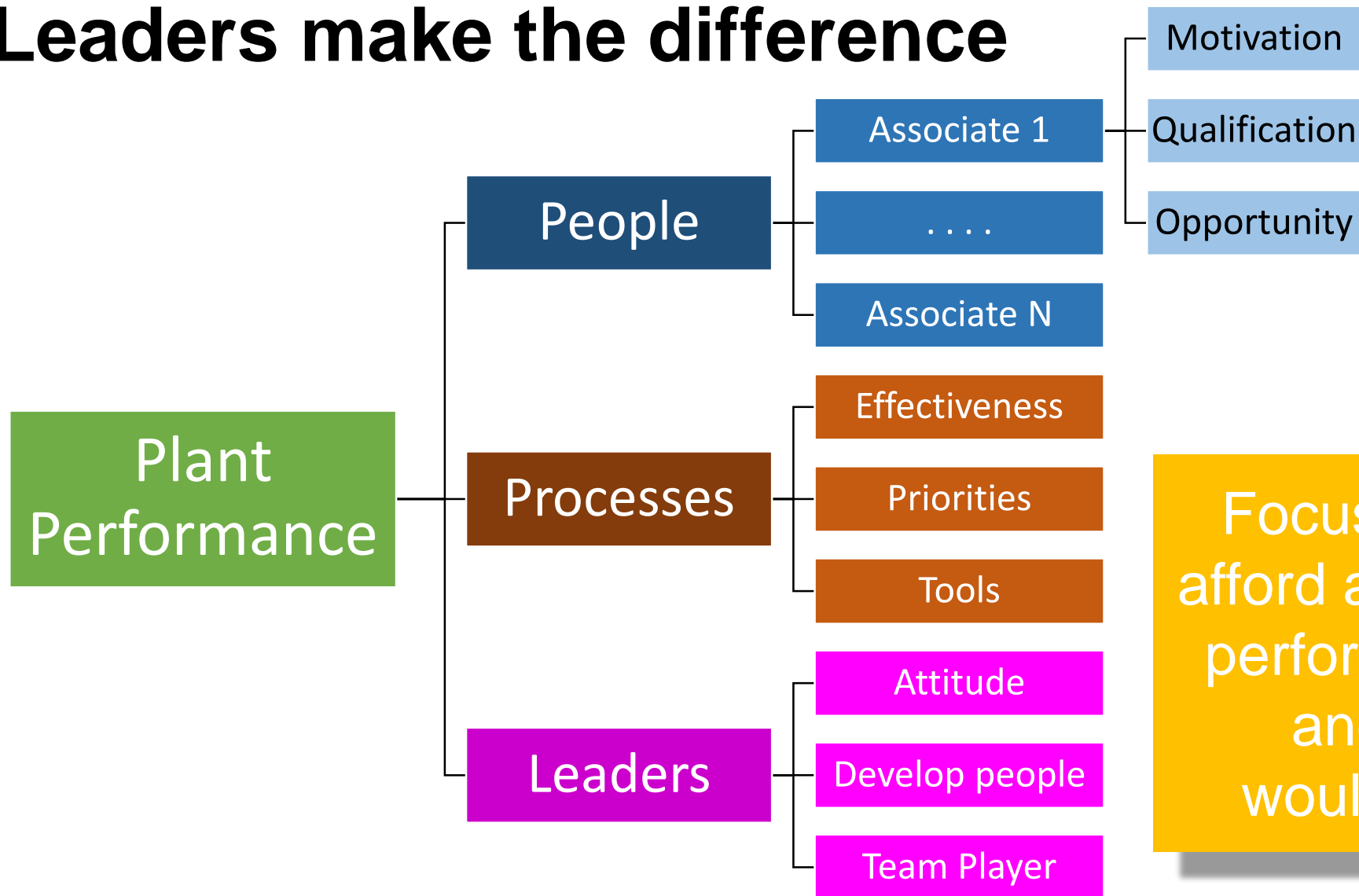
start implementation quickly  
and **fail** (really) **“early”**

**focus** on what **has to be**  
improved, **not** on what **can** be  
improved → **Focus**





# Leaders make the difference



Focus on what you can afford and how to increase performance to the max, and not what you would like to have . . .

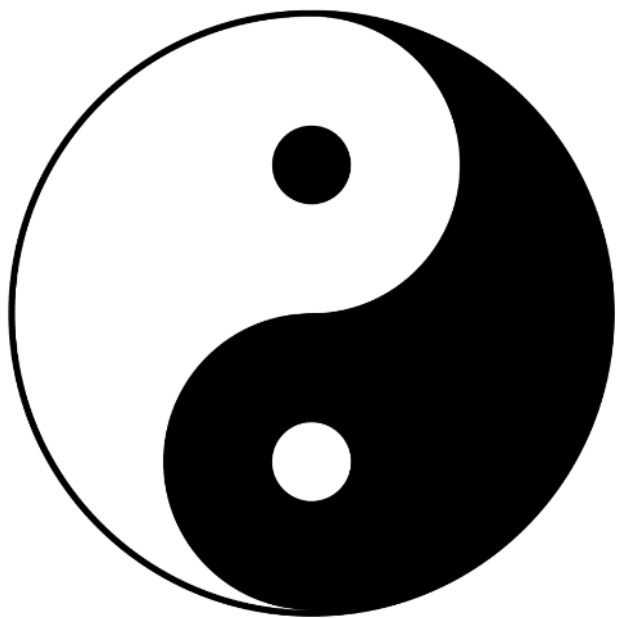


# Our understanding of leadership



the talk

# Our understanding of leadership



Your associates and colleagues  
will **value** your **strengths** . . .

. . . but they **admire** you, when you  
**recognize** your **weaknesses**



# Our understanding of leadership



**. . . be part of the team, celebrate together!!!**

# Realize proposals of your associates

**. . . be part of the team, celebrate together!!!**

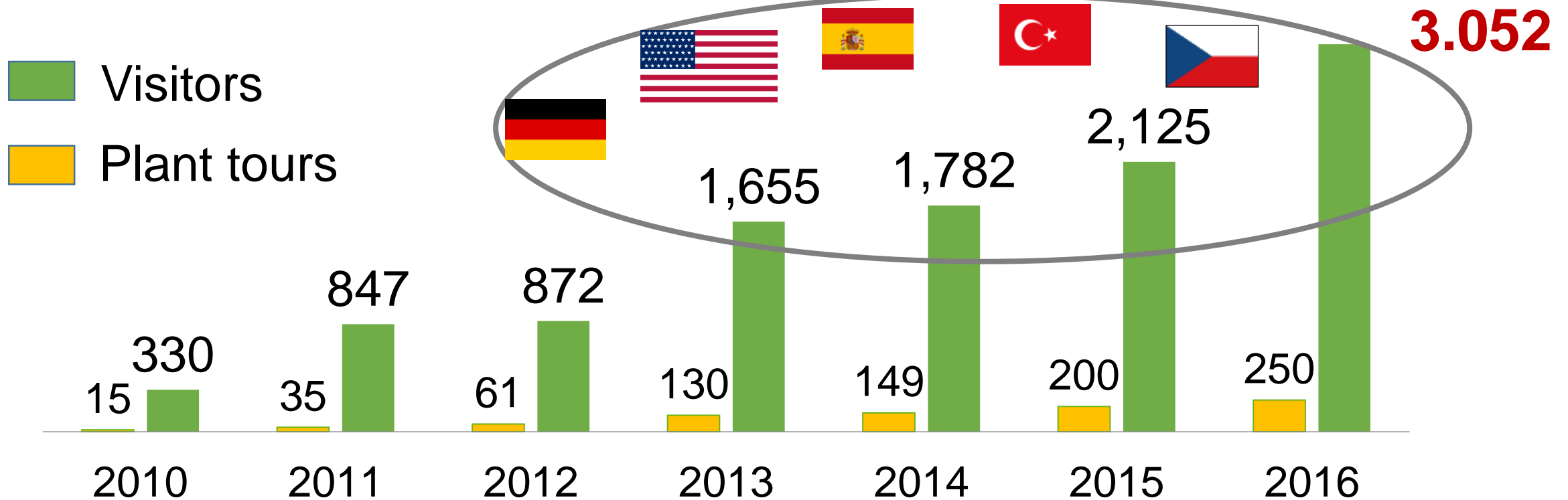




Today's journey . . .

# The importance of visits and visitors

Plant tours



→ **Plant tours** (1 – 4 hours) are seen as **give & take**

→ **50% of plant tours** with focus on **Lean Production** and **I4.0** topics



# Presentations done @ Gemba by the associates

## Plant tours





## The setting of the visits

**Tour guides** are **white** collar **and blue collar** associates (from Purchasing, Controlling, Mechanics, Logistics . . . )

Every visitor get's 5 red and green post-it . . .

The **task** for the **visitors** is to **identify** one **improvement** potential **for everything** that **they liked** on the tour.

At the **end of** every **visit** the guides **collect** the **post-it**, document them and take them into their **improvement rounds**



## The importance of visits and visitors

- **Positive feedback** from visitors is a great **motivation** for **associates**
- Tour guides love the tours (guy from warehouse, purchaser, controller)
- Repeatedly telling the **story of** the **plant** and it's development makes it the **story of yourself** → **High identification**
- From **every visit**:
  - we get **hints** what we can **further improve**
  - we get **comments** what we could try to improve further
- Create **culture** of **sharing** and **learning**





# Creating the environment for high-performance



Before

break room for production employees

# Creating the environment for high-performance



After

break room for production employees



# Creating the environment for high-performance

Before



# Creating the environment for high-performance



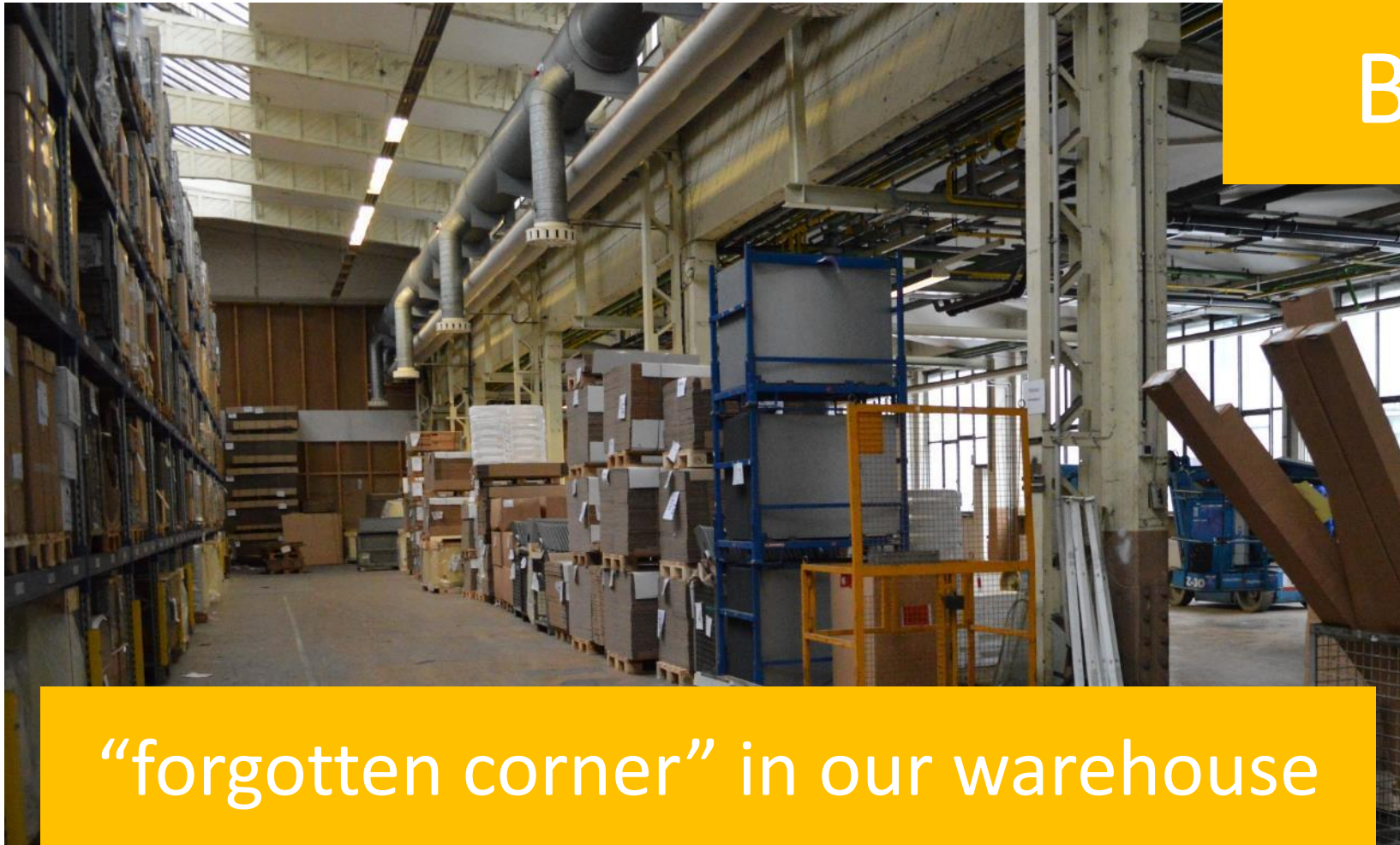
After



Our new bistro . . .



# Creating the environment for high-performance



Before

“forgotten corner” in our warehouse

# Creating the environment for high-performance



After

Our new creative area . . .



# Creating the environment for high-performance

Before



“forgotten corner” in our warehouse

# Creating the environment for high-performance



After

Our new creative area ...





New spaces where high performance teams can co-create



# Creating the environment for high-performance











Today's journey . . .



# Lessons learned

## 3 Plant level:

- **Department leader** to participate in **4-week-WS** to build up **competence**
  - **Cost competitiveness** is possible in **locations** with **high personnel costs**
- 

## 2 Value Stream level:

- **A3 boards** with **transparent derivation** of **projects** increases **identification**
  - **Weekly** project **reviews** with **management** team and interested **clerks**
- 

## 1 Project level:

- **„non-expert“ team leader** for **„fresh eye“** and **„out-of-the-box-thinking“**
- **cross functional teams** incl. **externals** (development, suppliers)

# Thank You!

*Your opinion is important to us!*

**Please take a moment to complete the survey using the conference mobile app.**

**Session WS/42**

**Turnaround leadership | The Wernau style**

**Armin Schwab**

Bosch Thermotechnology

[Armin.Schwab@bosch.com](mailto:Armin.Schwab@bosch.com)