



# Simplify to Grow! – Reduce Bad Complexity

European Manufacturing Strategies Summit  
28 November 2017

## **Martin Berg**

Former Business Development Director  
Group Operations & Technology  
ROCKWOOL International A/S

## Disclaimer

The presentation draws from previously experience with managing complexity in The ROCKWOOL Group

The points expressed in this presentation is solely my own opinions, as I am no longer employed with The ROCKWOOL Group, but recently changed position and joined Valcon Consulting as a partner.

# Agenda

1

Introduction to ROCKWOOL Group

2

What is complexity in ROCKWOOL and how does it affect our company?

3

How do we manage complexity?

4

What benefits do we get?

# Agenda

1

Introduction to ROCKWOOL Group

2

What is complexity in ROCKWOOL and how does it affect our company?

3

How do we manage complexity?

4

What benefits do we get?

Founded in **1937**

Now the ROCKWOOL Group is the **world's leading** supplier of innovative products and systems based on stone wool

**2.2** billion EUR turnover

**28** factories

**10,500** employees

**38** countries

**4.6** billion tonnes of CO2 savings



# Buildings are the biggest energy consumer and CO<sub>2</sub> polluter

2/3 of energy consumption in buildings is used for heating, cooling and ventilation



32% of all energy in the EU is used for **transport**



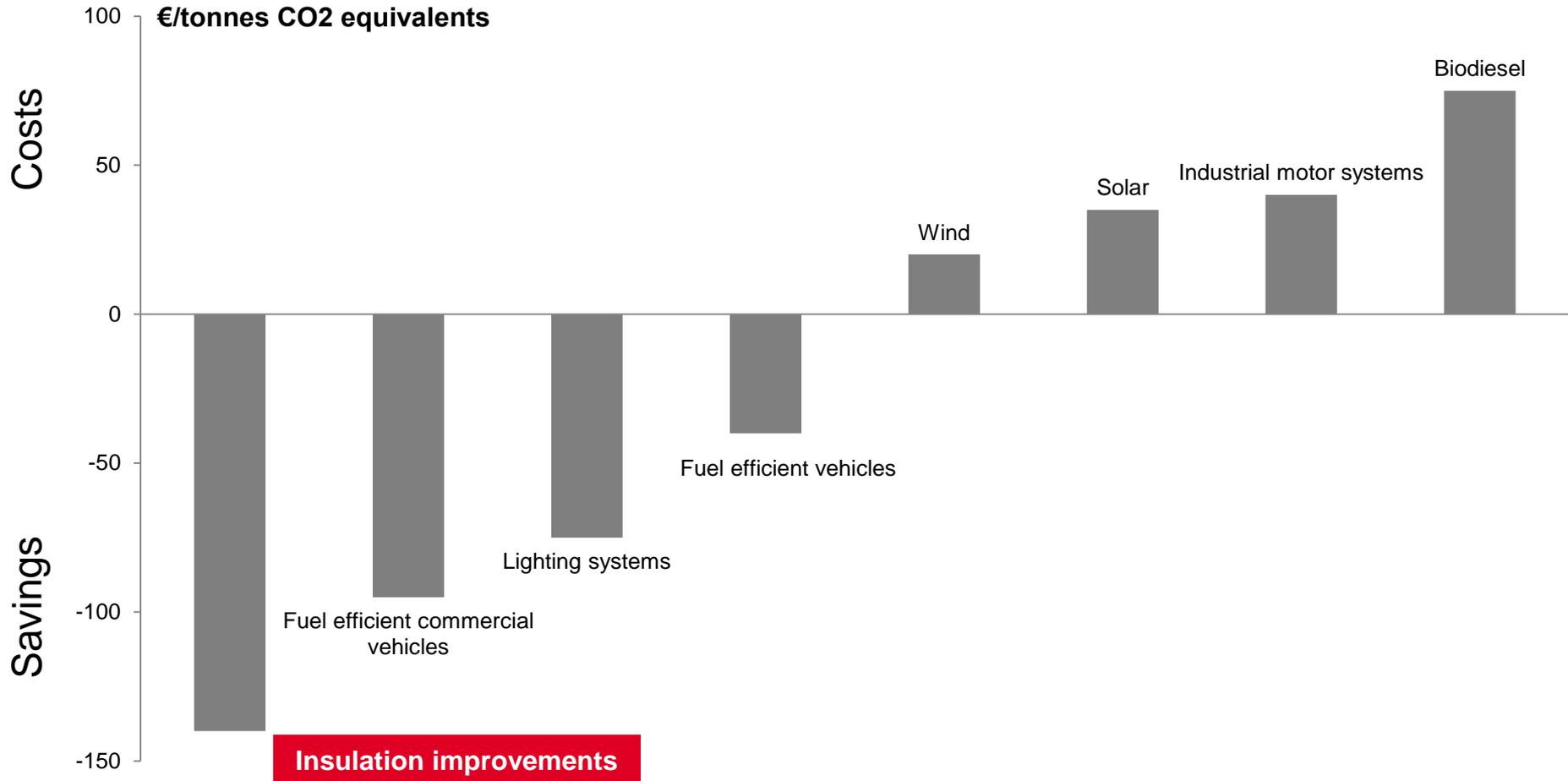
25% of all energy in the EU is used by **industry**

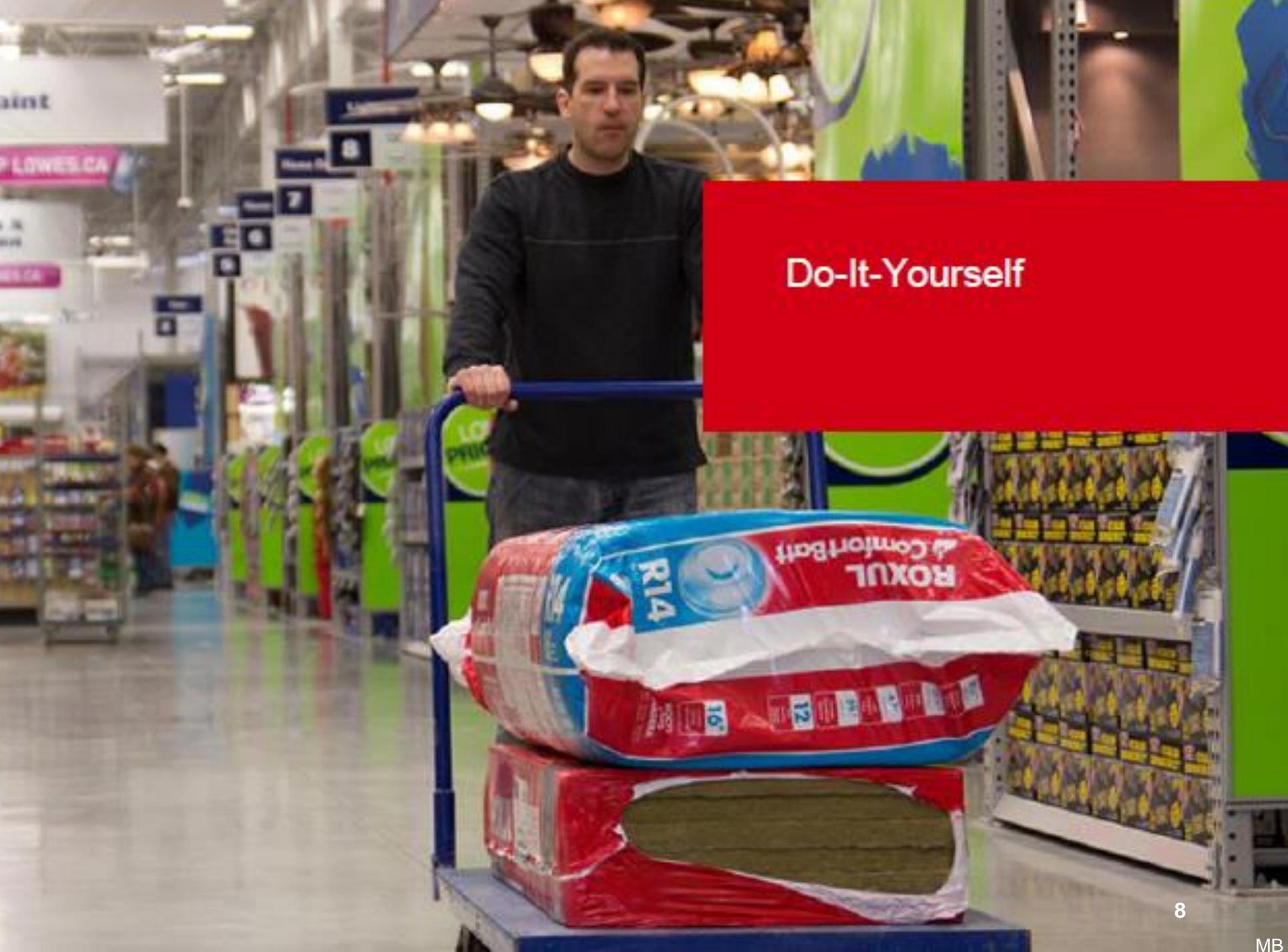


40% of all energy in the EU is used by **buildings**

*Note: Energy consumption in agriculture, fishing and "other" makes up 3% of final energy consumption, and is not included in the above figure*

# Insulation improvements are the most profitable CO<sub>2</sub> saving according to a McKinsey/Vattenfall study





Do-It-Yourself



## Flat roofs



## Technical insulation

# Agenda

1

Introduction to ROCKWOOL Group

2

What is complexity in ROCKWOOL and how does it affect our company?

3

How do we manage complexity?

4

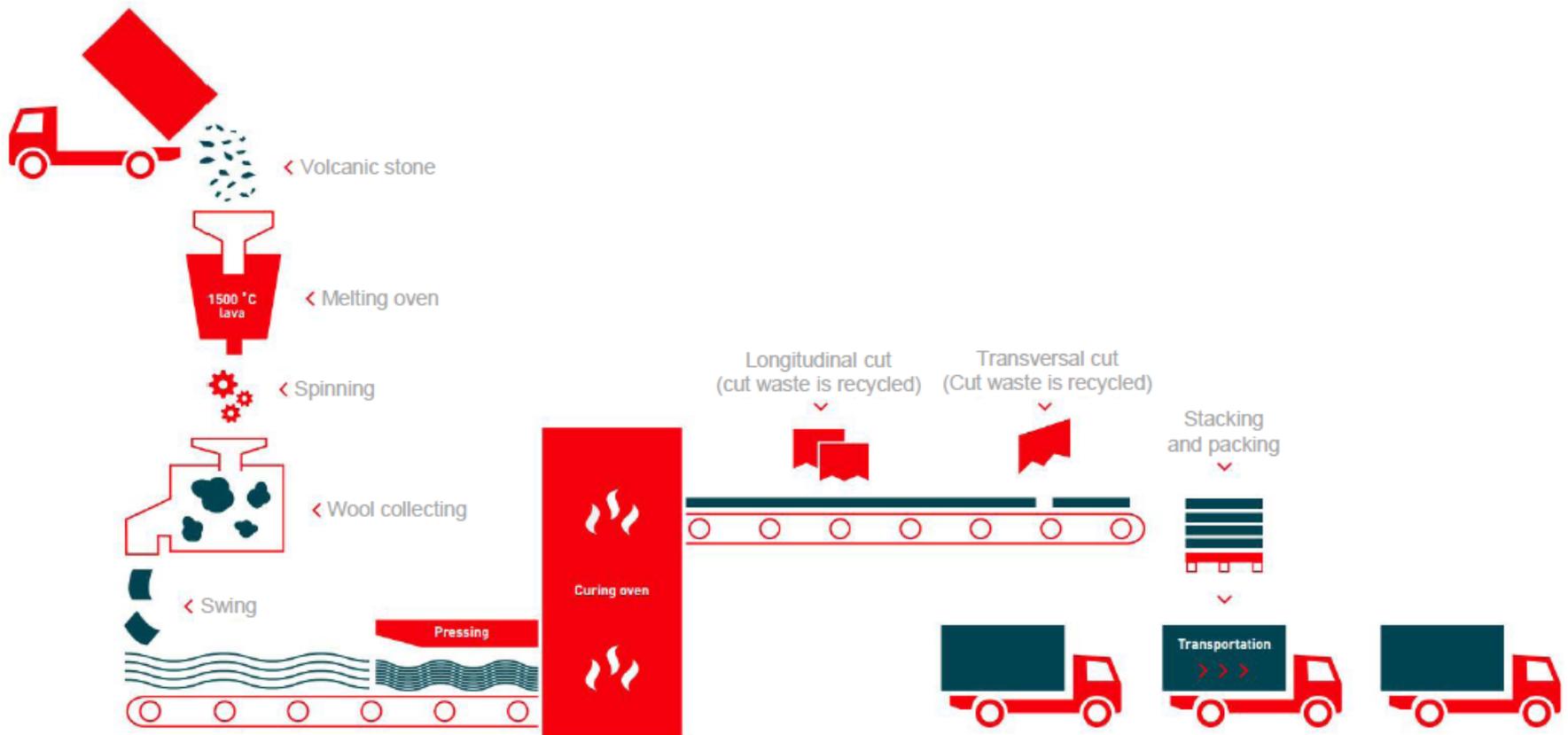
What benefits do we get?

Around the clock 24/7/365, our 28 factories produce ~4,6 tons of ROCKWOOL insulation every minute...



# The ROCKWOOL production is capital intensive

- a new state-of-the-art plant producing 110,000 tonnes/year costs approx. EUR 110 million





200,000 full truck loads annually makes ROCKWOOL one of the top 10 manufacturers in Europe when it comes to transporting cubic meter volume

Beginning of 2015, we had more than 100.000 SKUs in ROCKWOOL and more were added every day

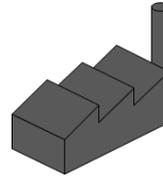


Now, we have around than 47.000 SKUs in ROCKWOOL and more are *removed* every day



The average unprofitable C product in Market A, B and C sells only 6 tons per year, which is about...

**30 minutes of Production:**



**Does it make sense to produce these products?**

**1 Full truck of light building insulation:**

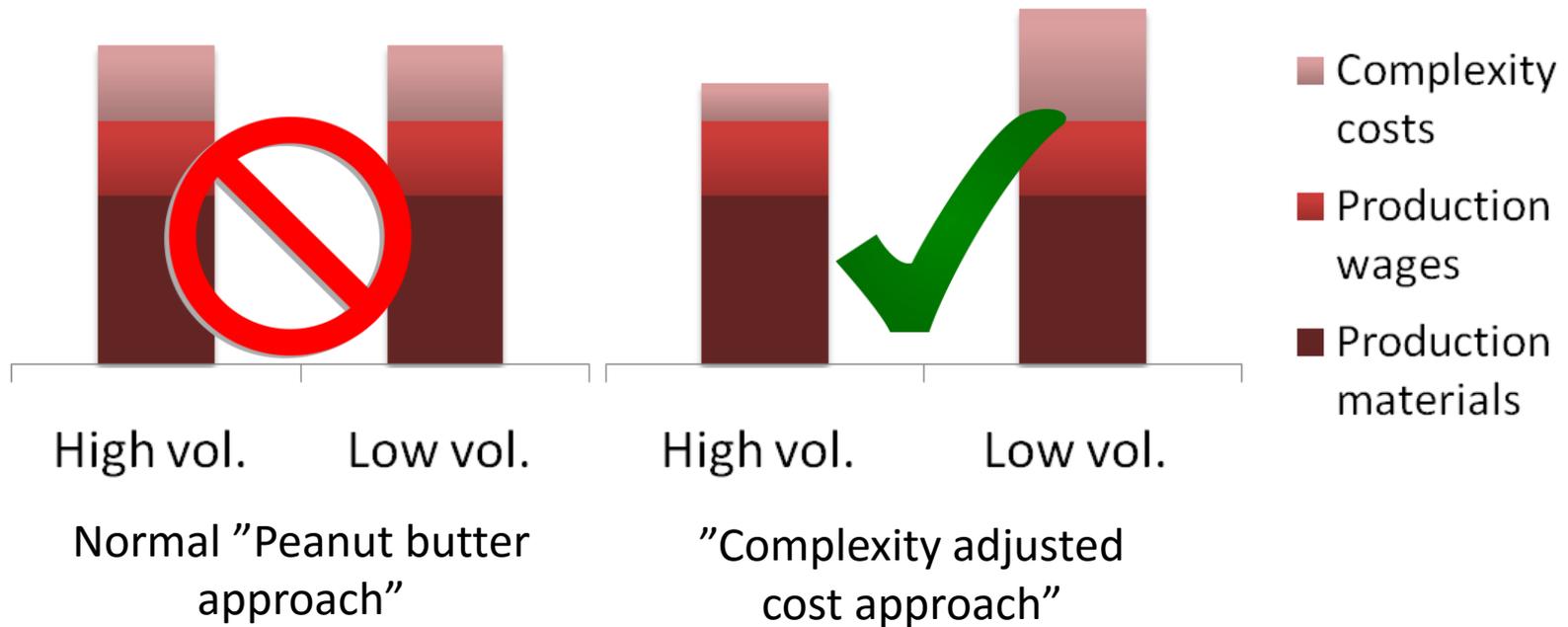


**1/2 Truck of heavy roof insulation:**

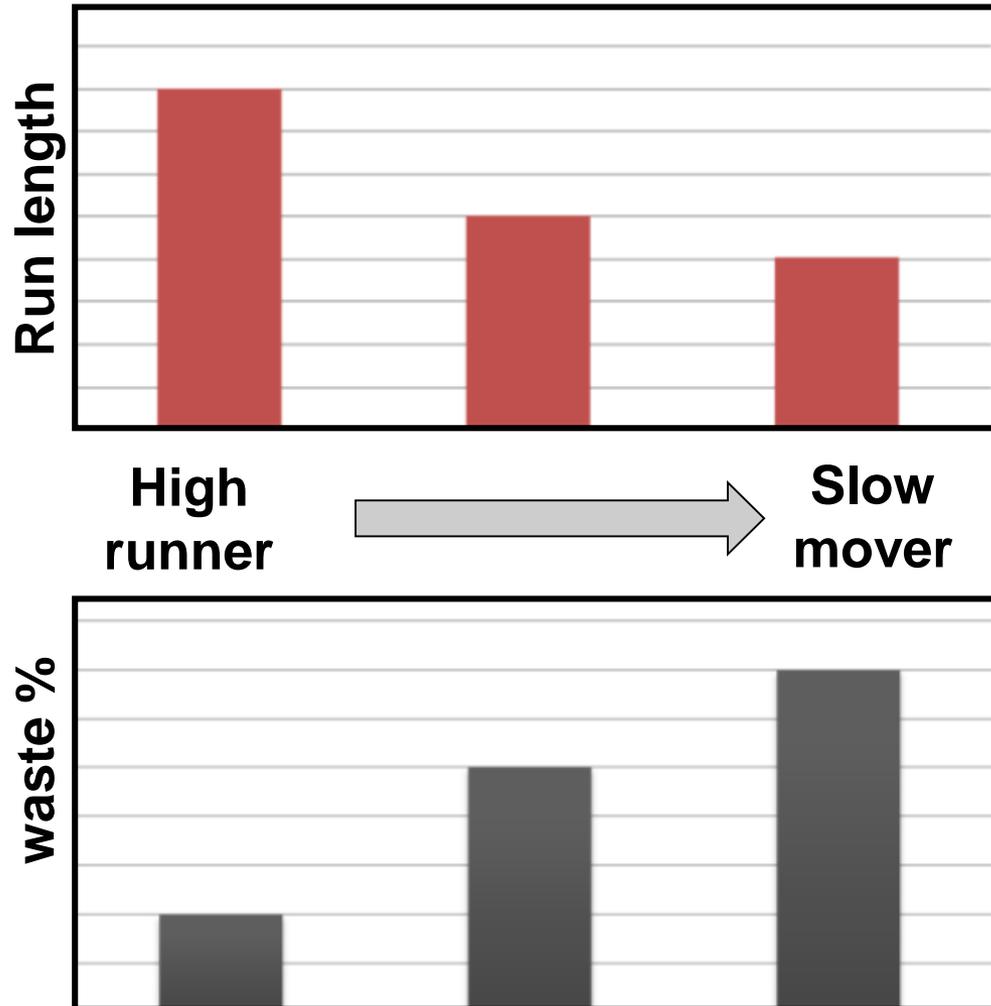


# We realized that profitable products covered over unprofitable products

### Unit costs – high volume vs. low volume products



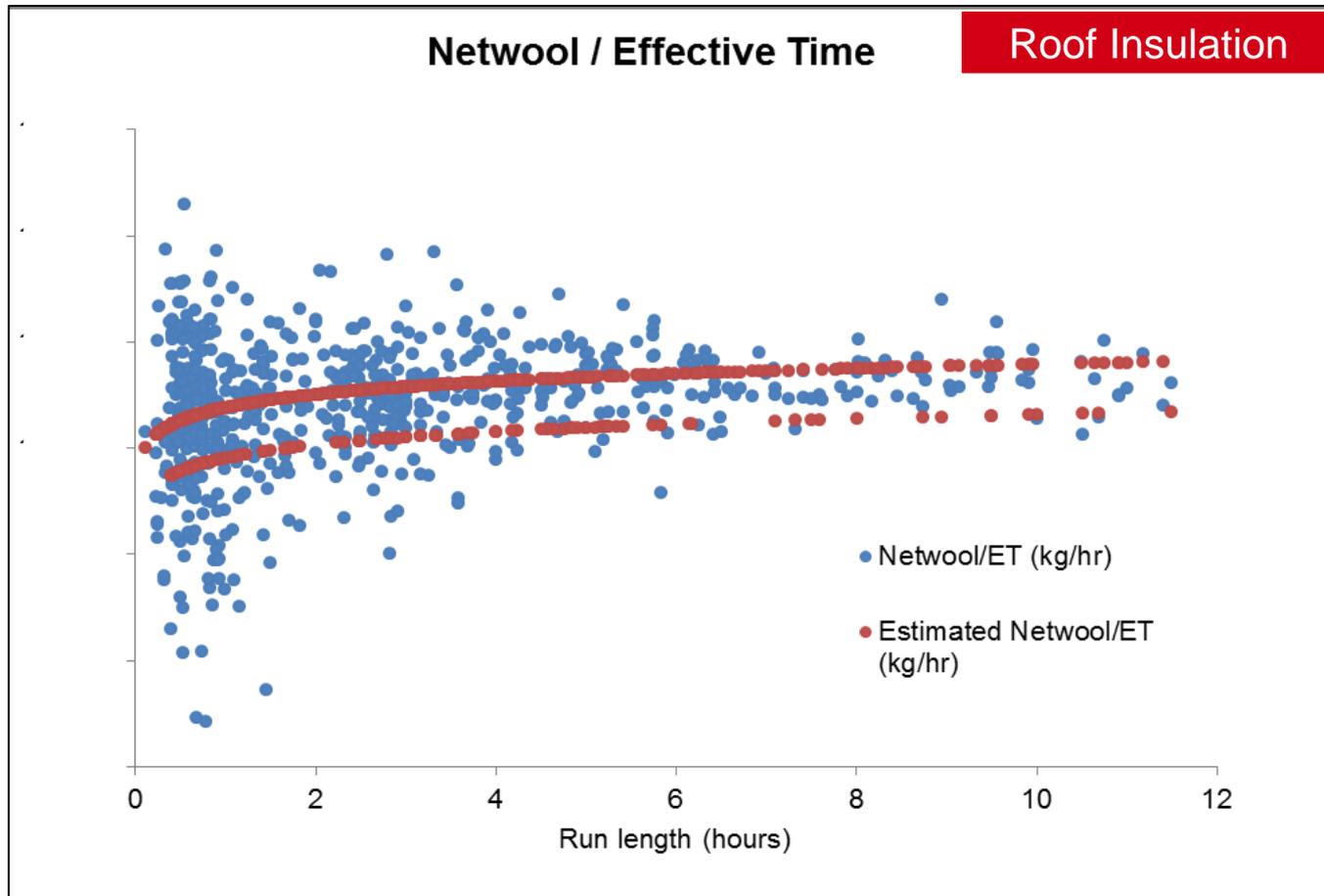
Slow moving products have shorter run lengths and higher percentages of changeover waste



**x 1/2**

**x 3**

Using advanced analytics we found that run length and sequence are significant factors in affecting productivity



More product variety →

Shorter production runs →

More variable output rates

# Agenda

1

Introduction to ROCKWOOL Group

2

What is complexity in ROCKWOOL and how does it affect our company?

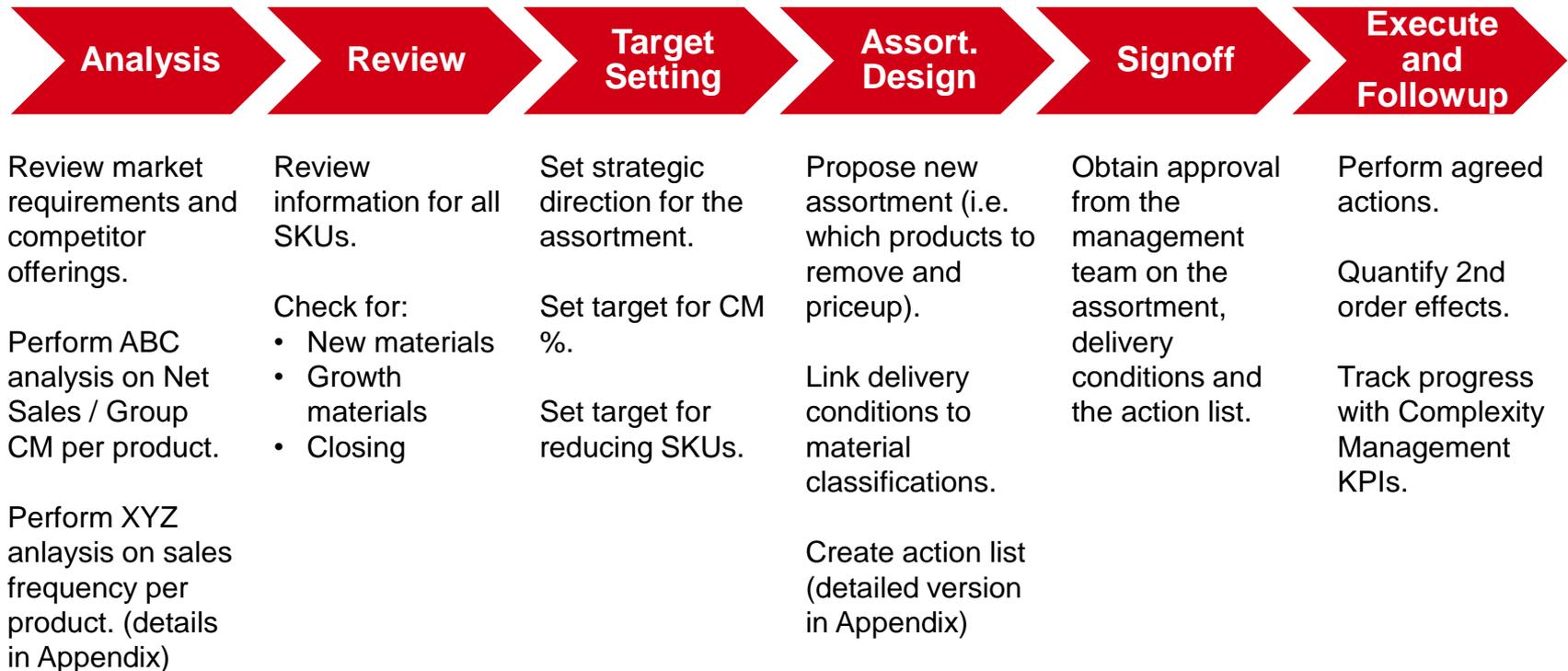
3

How do we manage complexity?

4

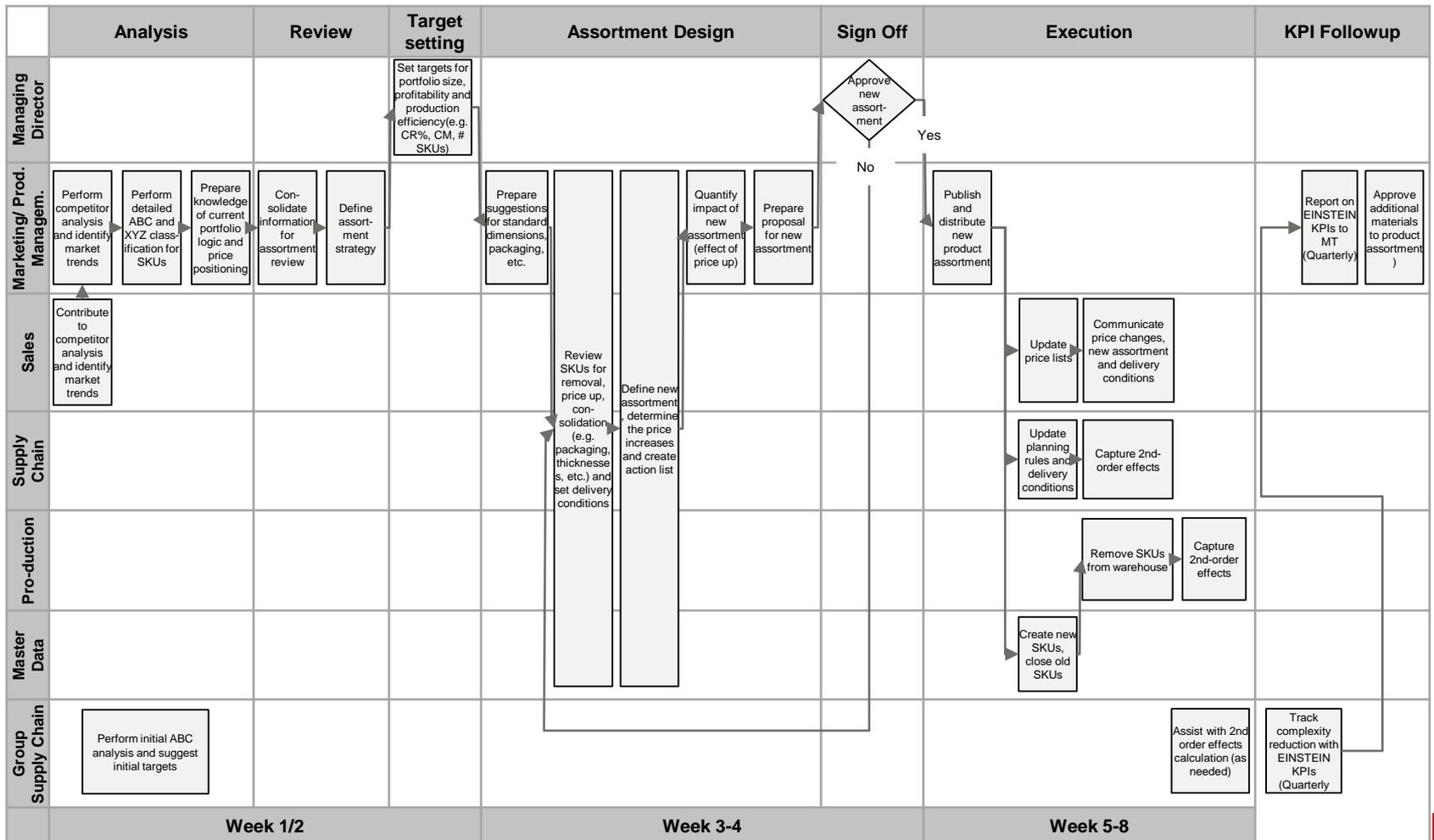
What benefits do we get?

# The Complexity Management process is used to guide our operating companies through the stages of the assortment review



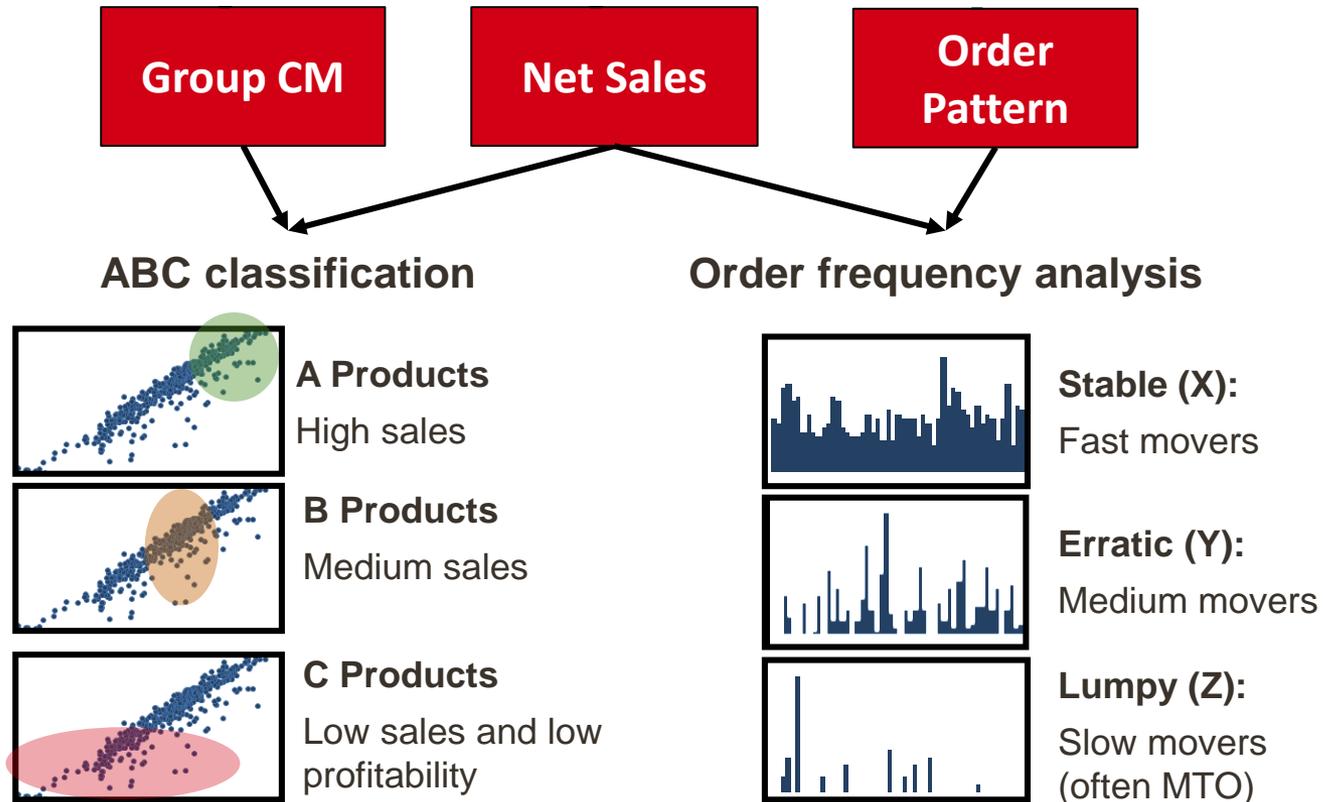
*Note: Performed once per year per product segment (PH1)*

# The process uses a cross-functional approach involving Sales, Product Management, Production, Supply Chain, Master Data Team and Senior Management



Note: The diagram shows those responsible for tasks. Those consulted and informed on various tasks are not shown (e.g. Pricing Champion and Finance from the OPCO will support the pricing tasks as needed).

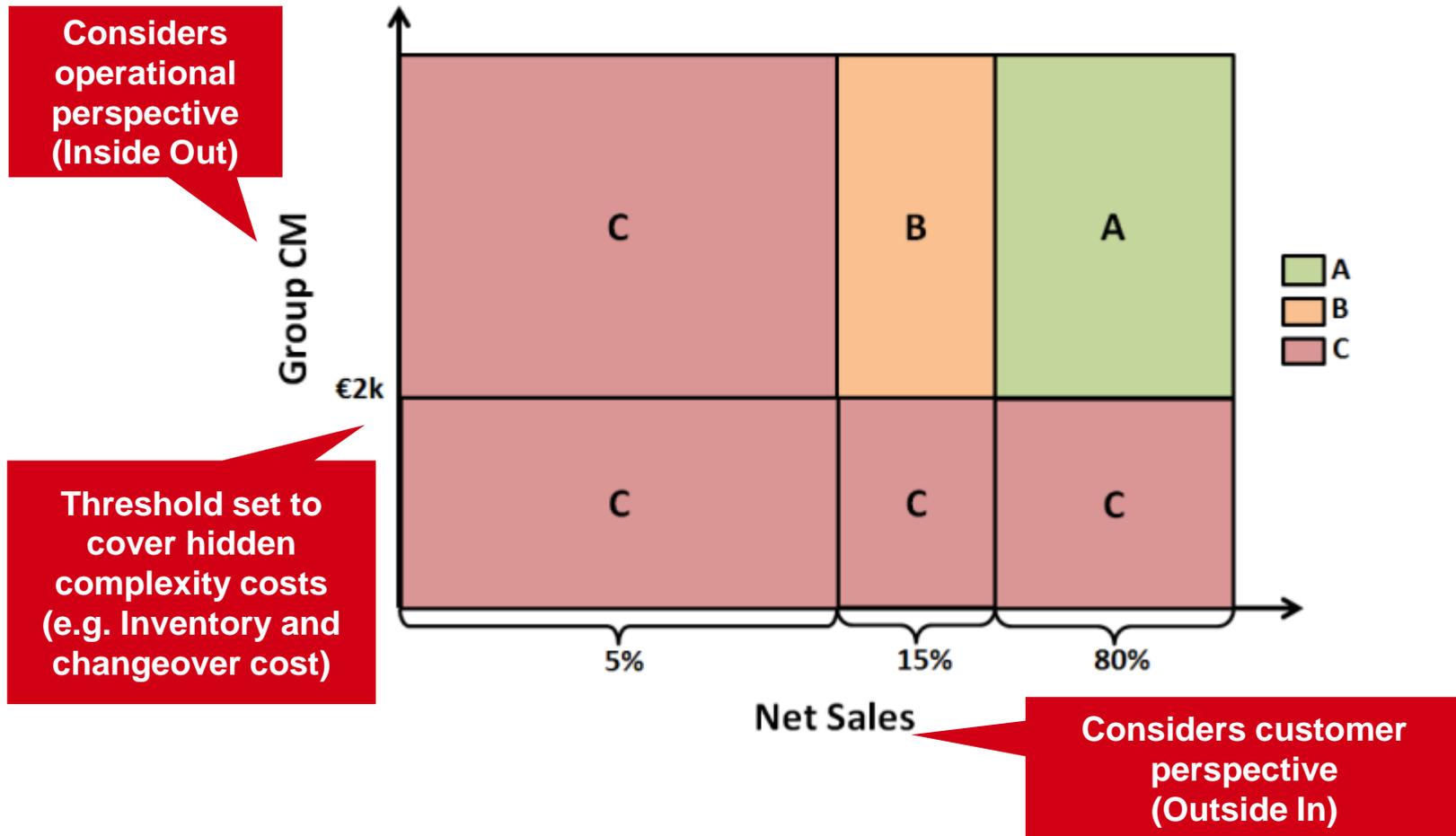
# Two product classification schemes are used for complexity management and assortment review in the RW Group: ABC and XYZ



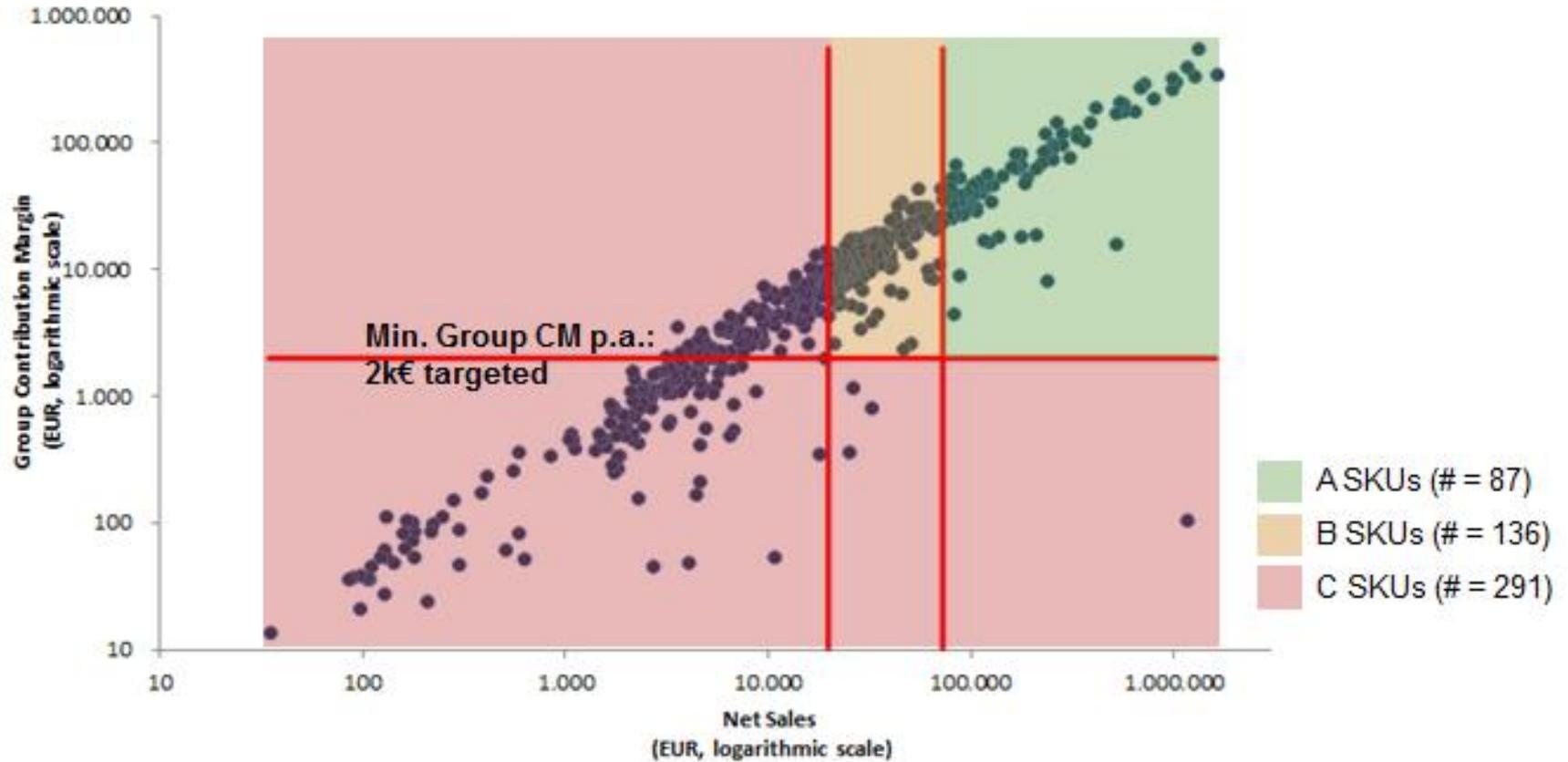
Categorization of profitability and sales by material per country

Categorization of order patterns by material per country

# The Group-wide ABC Classification method is used to segment products for the assortment review



# Example of ABC classification of SKUs for a market in the ROCKWOOL Group

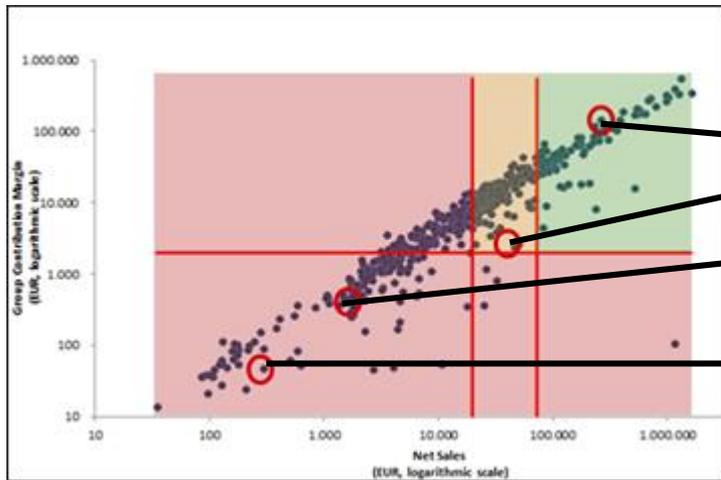


Different strategies are applied based on the ABC classification to improve the profitability of the assortment



# Each SKU is reviewed by a cross-functional team for inclusion in the assortment and an action plan is created

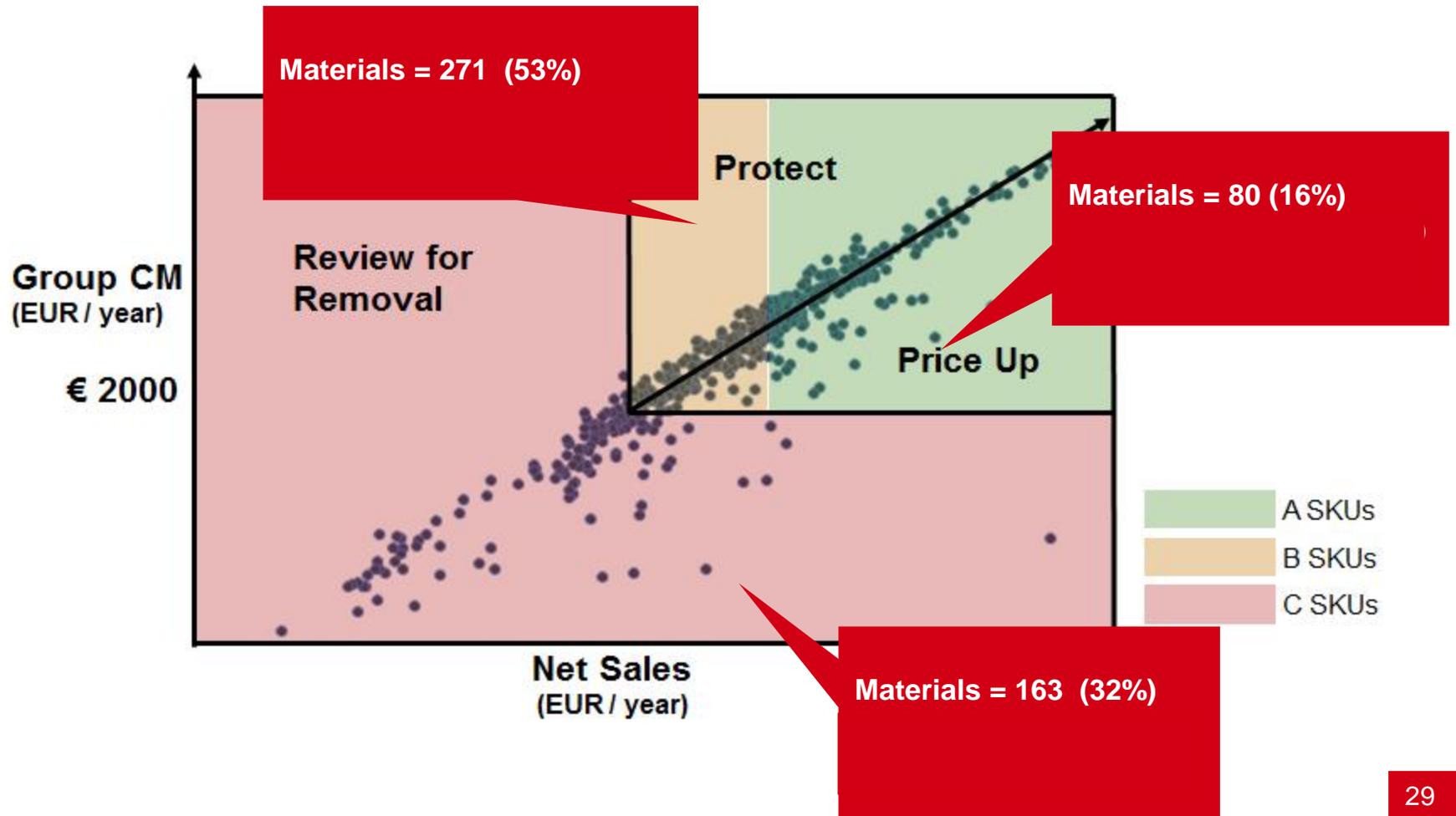
Conceptual



SKU	ABC	Order pattern	Net Sales	Group CM	CR %	Action plan
ROCKWOOL10...	A	Stable	408.226	194.314	48%	No price change
ROCKWOOL20...	B	Lumpy	50.107	2.692	5%	Price up 10%
FLOORROCK30...	C	Lumpy	25.906	1.169	5%	Keep, strategical SKU, increase price by 20%
FLOORROCK40 ...	C	Lumpy	623	53	9%	Discontinue, Remove from published price list and phase out

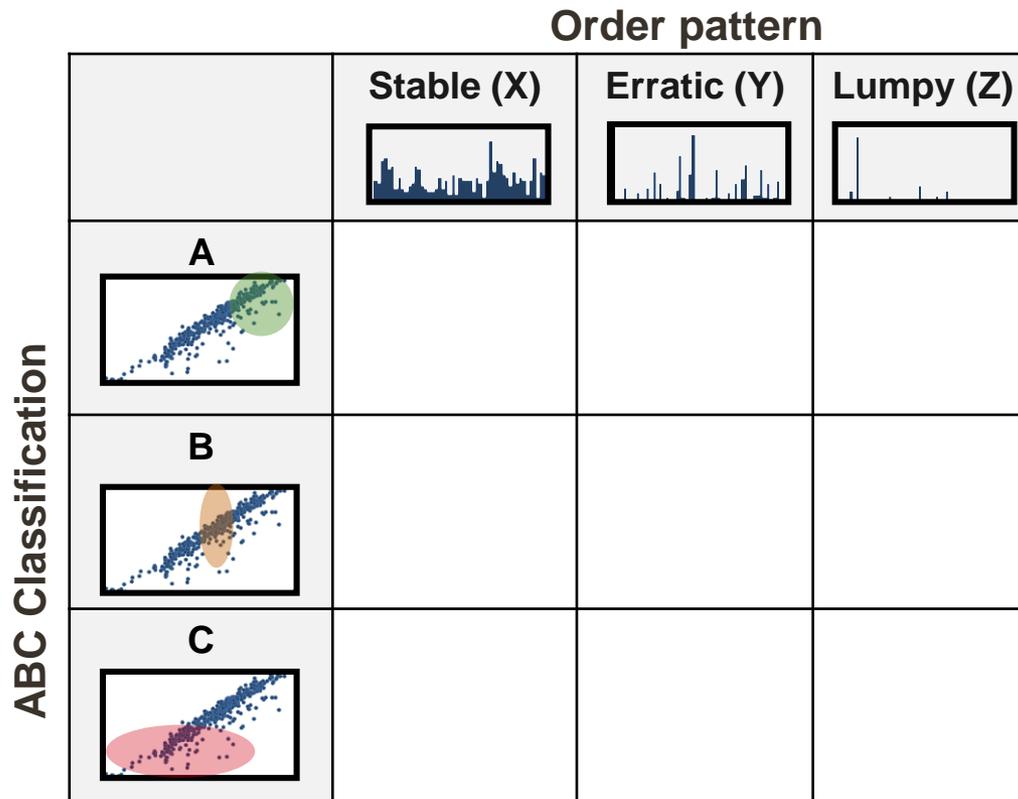


# Example of general building insulation product strategies in a market



During the review, the ABC and XYZ classification are combined to show where the complexity lies

ILLUSTRATIVE



# Example from Market A showing a high number of C products with lumpy demand

**Order patterns\***

# SKU	Stable / fast (X)	Erratic / medium (Y)	Lumpy / slow (Z)
<b>A</b>	112	52	8
<b>B</b>	22	15	5
<b>C</b>	<b>17</b>	<b>66</b>	<b>121</b>

ABC classification\*

## Review of materials

### “Discontinue / consolidate”:

Can be removed

### New material:

Will be kept with no price change

### Customer special:

To be evaluated for elimination if below 2 K€. In any case, price mark-up will be applied; may be driven by special packaging

### Combination products:

e.g. strips for cut-fall products

**Strategic products:** e.g. for high end products to continue to offer all thicknesses

The assortment is designed so that higher price markups are applied to products with low sales/profitability and to products with lumpy demand

### Order patterns

ILLUSTRATIVE

ABC classification	Price mark-up	Stable / fast (X)	Erratic / medium (Y)	Lumpy / slow (Z)
	A	<b>Anchor price</b>	+5%	+10%
	B	+5%	+10%	+15%
	C	+10%	+15%	+25%

Set-up of price logic per country and segment considering

- Margin targets
- Country specifics e.g. local standard thicknesses, imports

#### Application steps

- Definition of **anchor SKU per PH4**, e.g. highest ABC classification and most stable order pattern
- Price up of other SKUs in PH4 relative to anchor price

 Anchor SKU for PH4

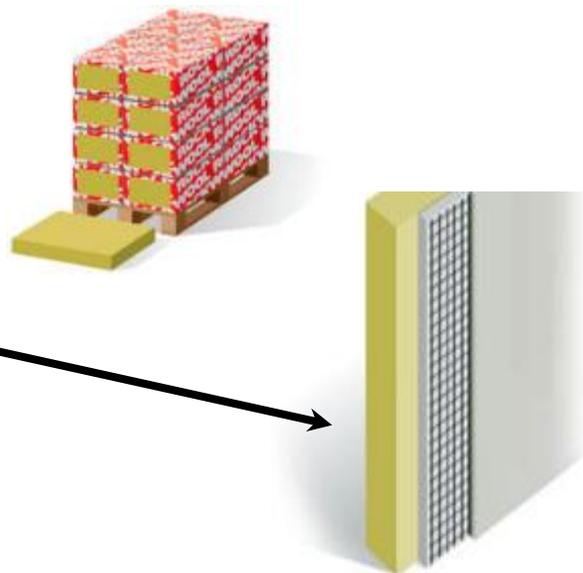
# Strategic aspects are also considered when reviewing products

Which products can **substitute** one another?

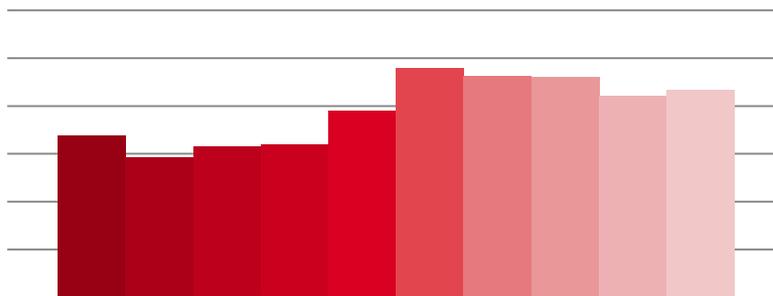
Which products have linked revenue or are **door openers**?

Where are the products in their **life cycle**?

Are there any other **strategic aspects** we should consider?

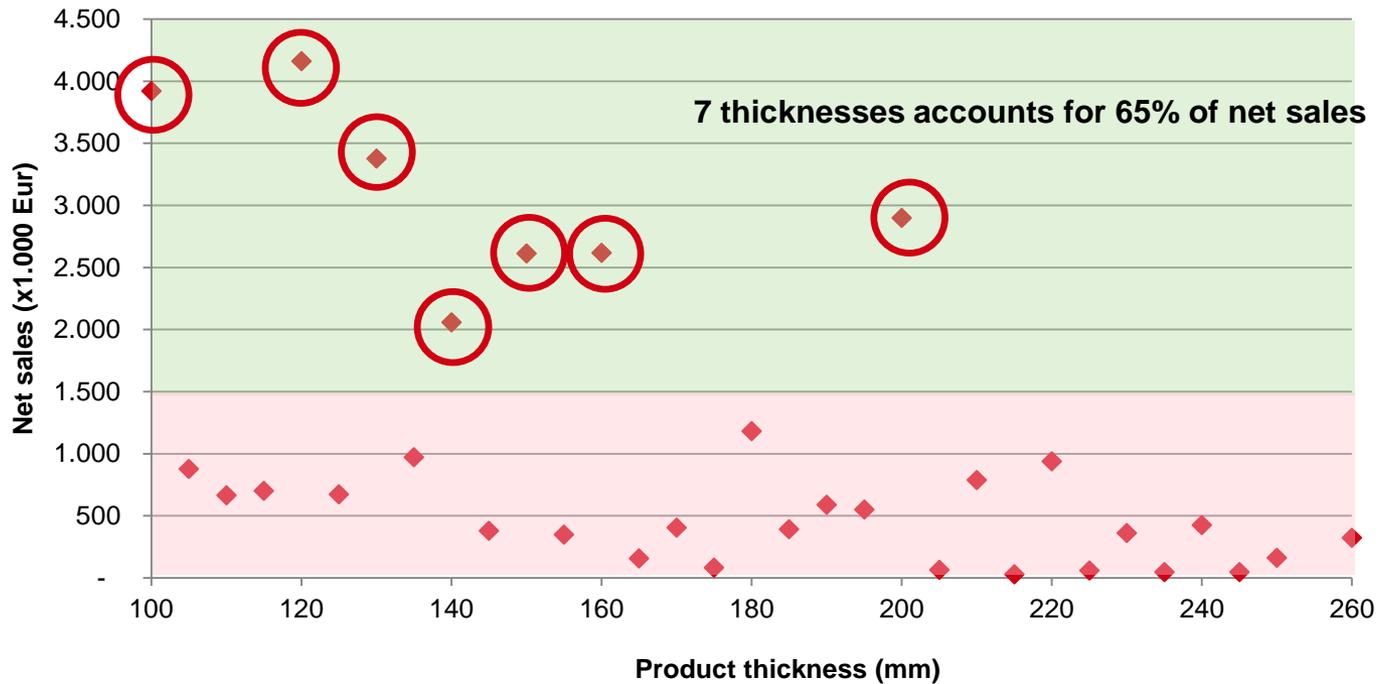


Sale in kg



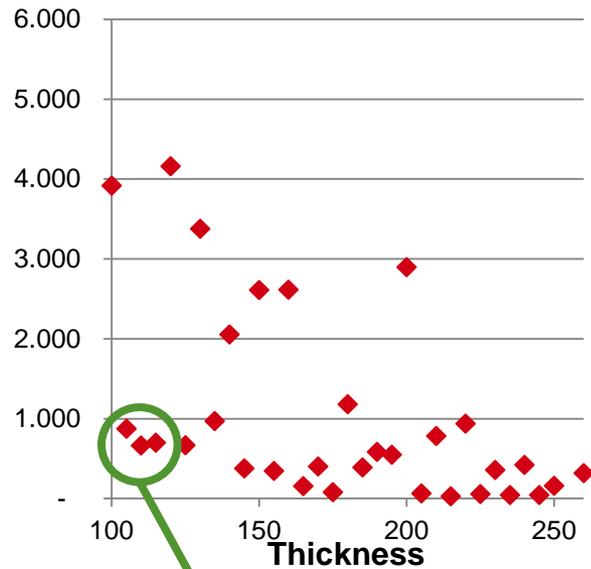
# An example of flat roof board thicknesses in Market B show that 7 thicknesses account for 65% of Net Sales

We can simplify the portfolio by substituting thicknesses and gain higher efficiency in operations

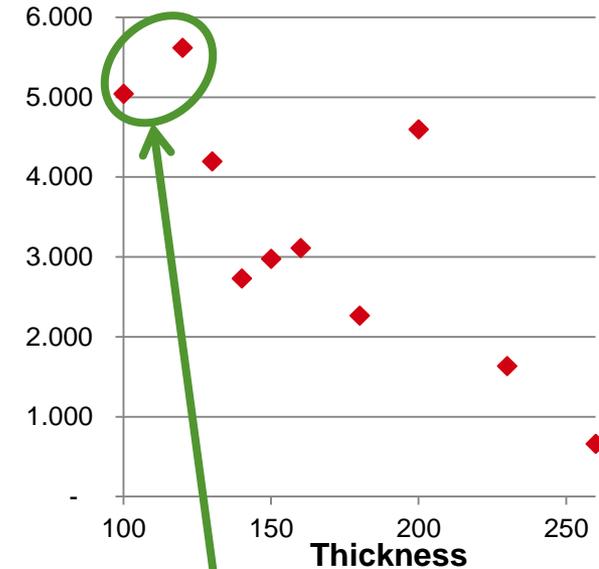


By substituting thicknesses, higher sales will be realized and longer run lengths in production can be used

Net sales (x1.000 Eur)



Net sales (x1.000 Eur)



Example:  
Sales from products with thickness 105, 110 and 115 mm will be converted into sales of 100&120 mm (50% to each)

# Agenda

1

Introduction to ROCKWOOL Group

2

What is complexity in ROCKWOOL and how does it affect our company?

3

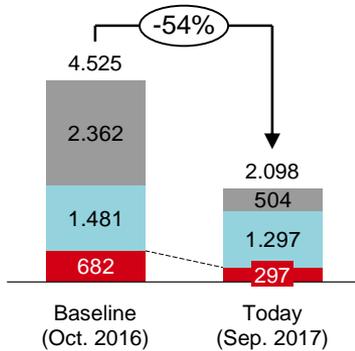
How do we manage complexity?

4

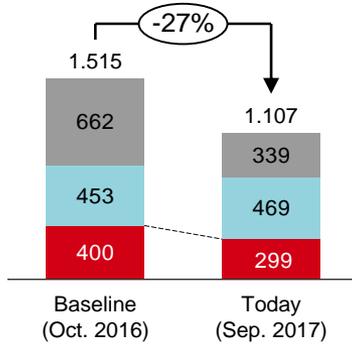
What benefits do we get?

# A Complexity Management Report to track the level and trend of complexity on a monthly basis across the Group

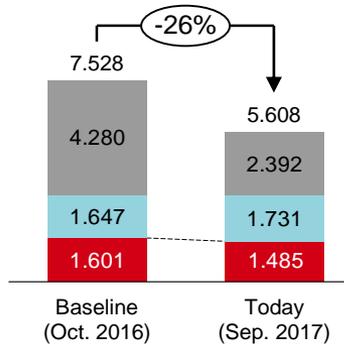
## RW-A



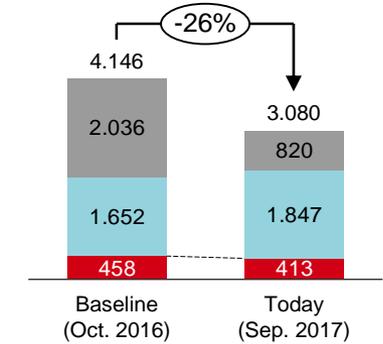
## RW-B



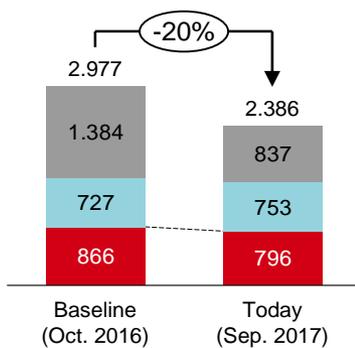
## RW-C



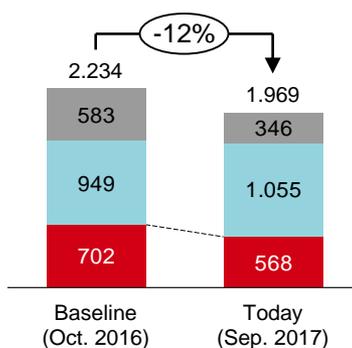
## RW-D



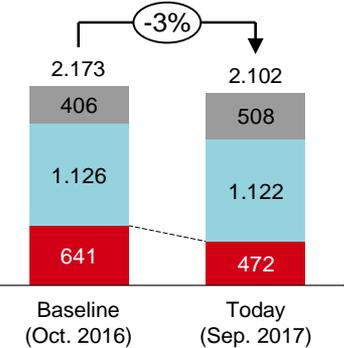
## RW-E



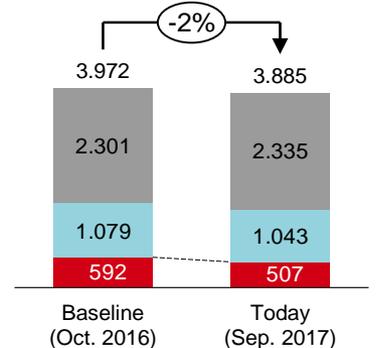
## RW-F



## RW-G

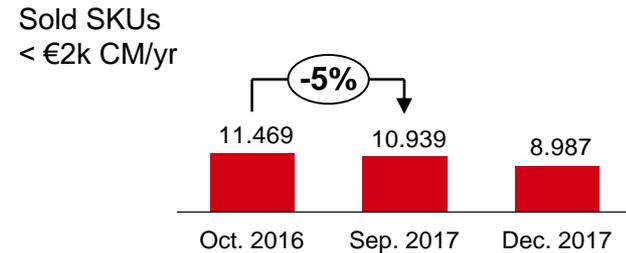
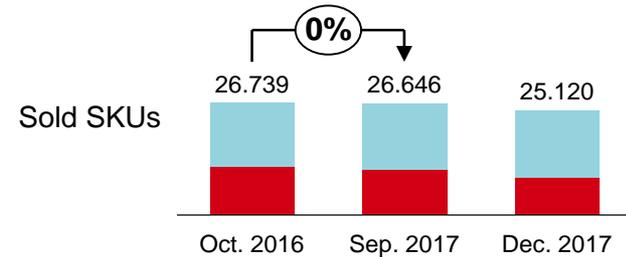
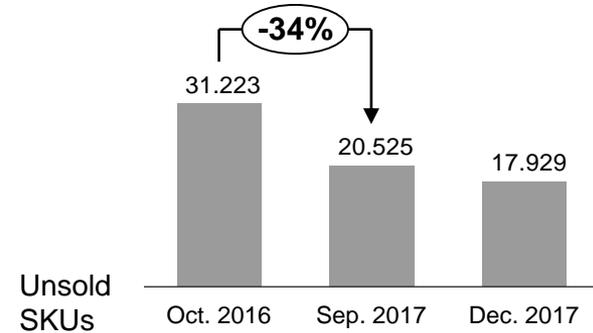
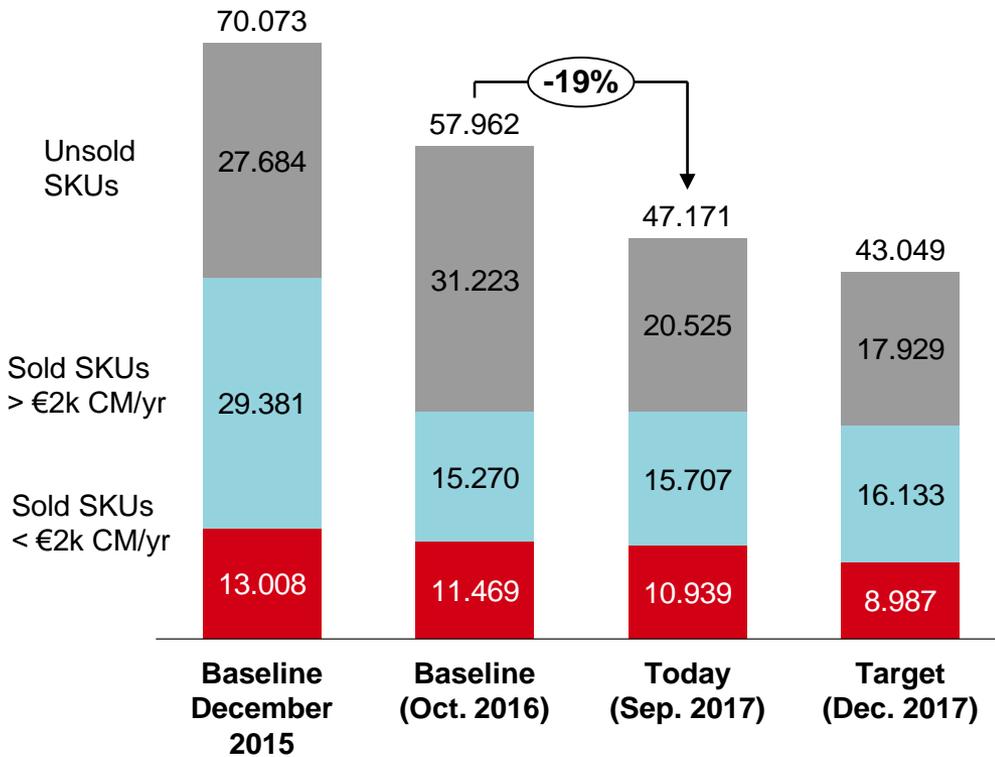


## RW-H

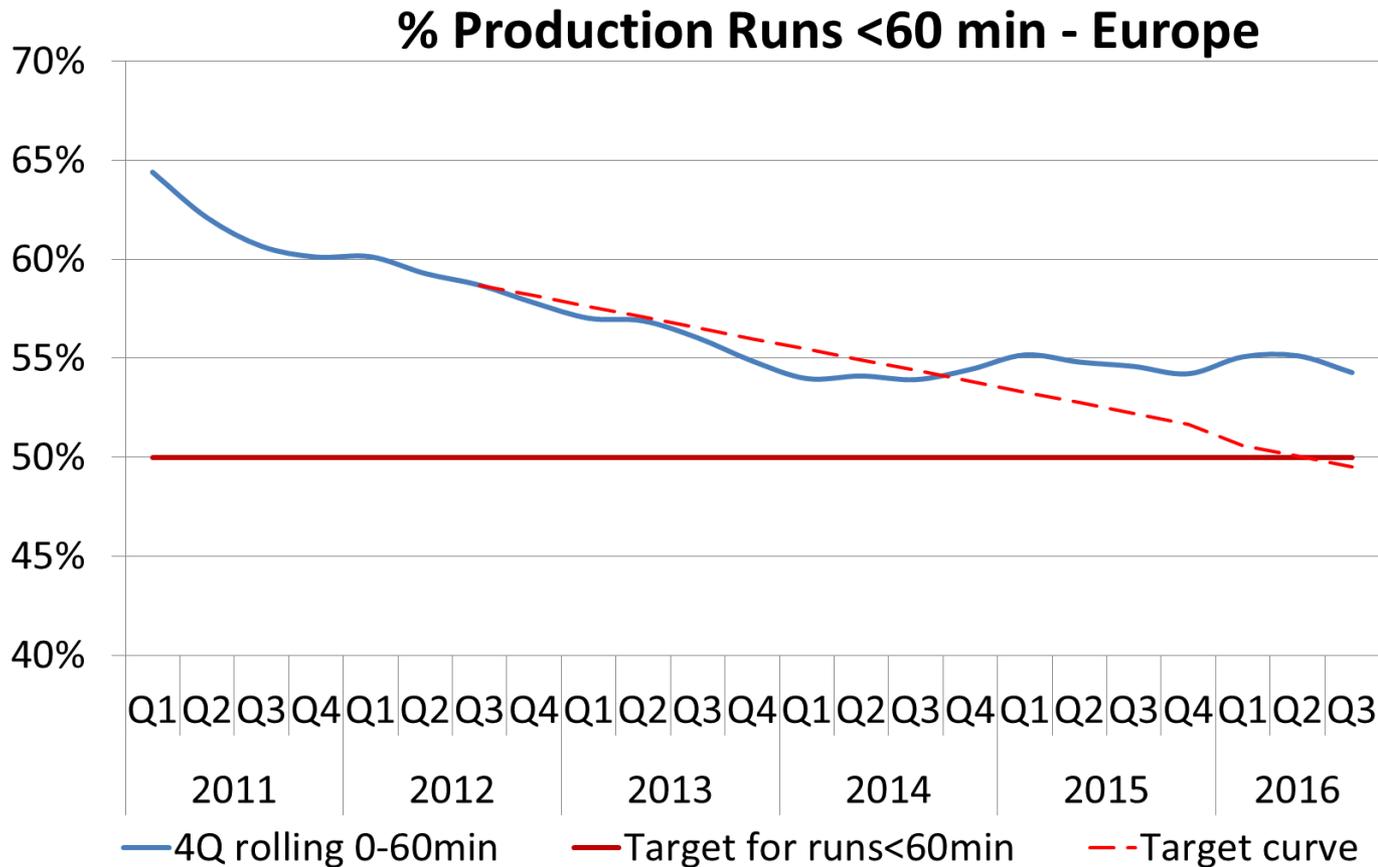


All above operating companies reduced unprofitable SKUs

# Last 12 months, ROCKWOOL has reduced SKUs by 19% and Unprofitable SKUs by 5%

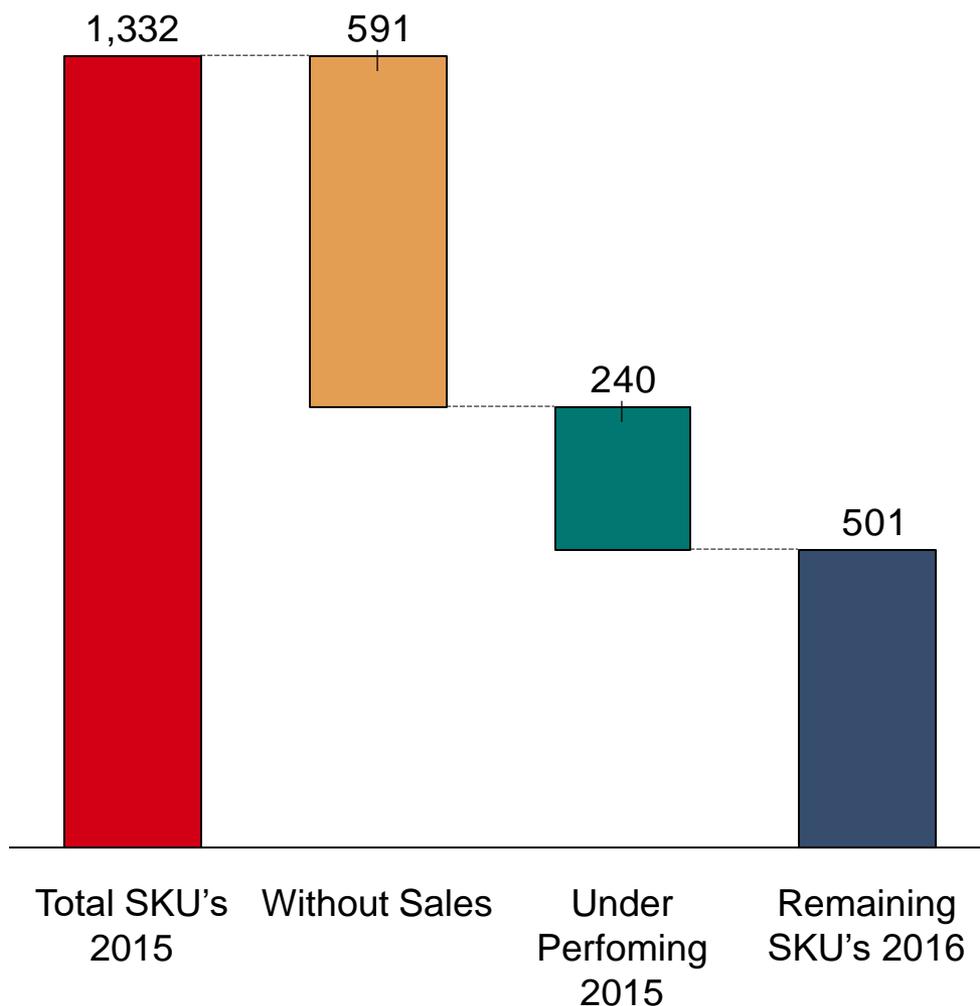


Production runs below 60 minutes has decreased by 10%-points since starting complexity management, but there is still work to be done



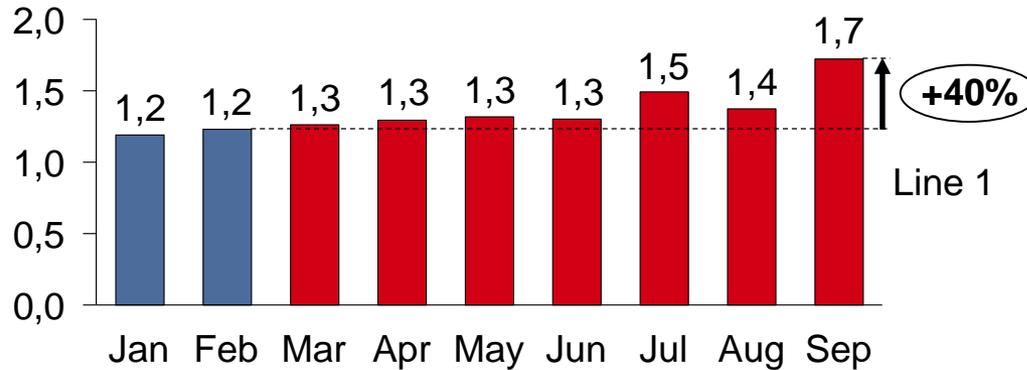
# Case: Complexity Reduction in Market X

## Significant Complexity Reduction in Market X

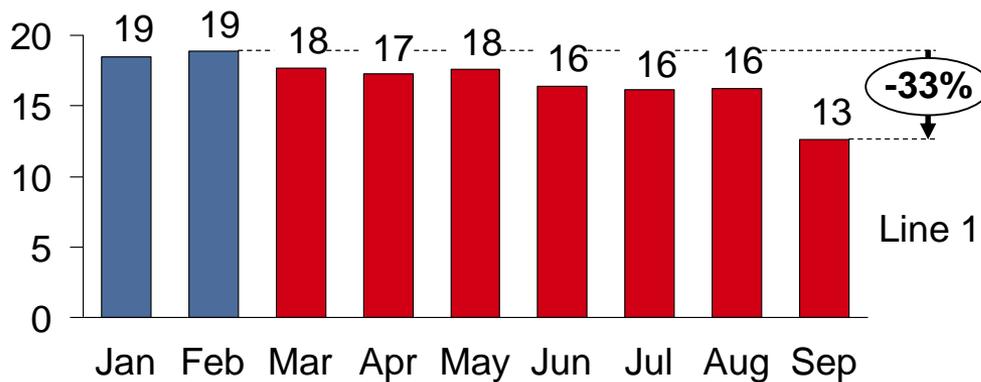


- Total reduction of 62% of Active SKU's
- 240 underperforming SKU's removed with Sales in 2015
- Remaining focused portfolio meeting customers needs
- Latest figures Q3-17 shows only 438 SKUs
- CM/SKU increased by 77%

# Complexity Reduction is Creating Value in production....



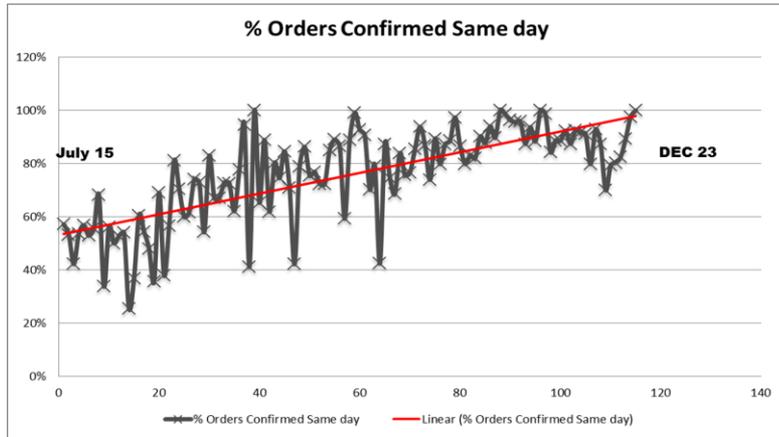
- Average Run hours are up 40% from Q1....



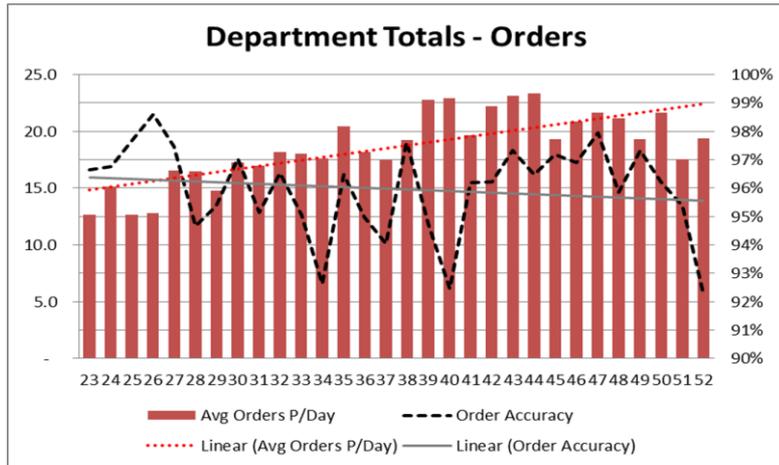
- Changeovers per day are down 33% from Q1....

# Customer Service is improving...

**From**

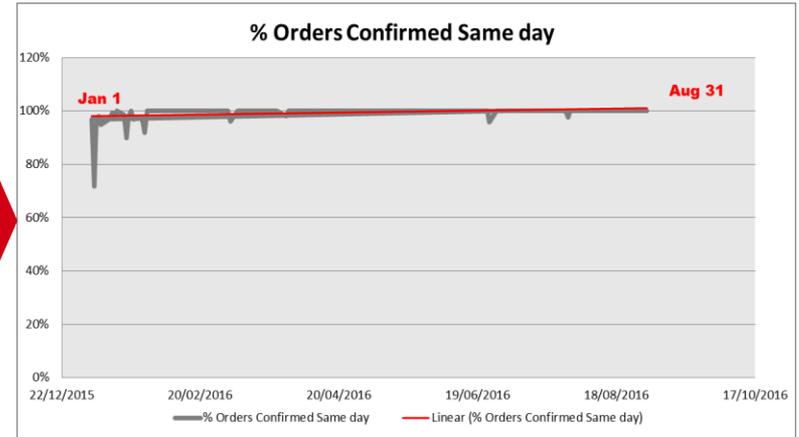


**Order Confirmation with 24hrs at ~60% in 2015....**

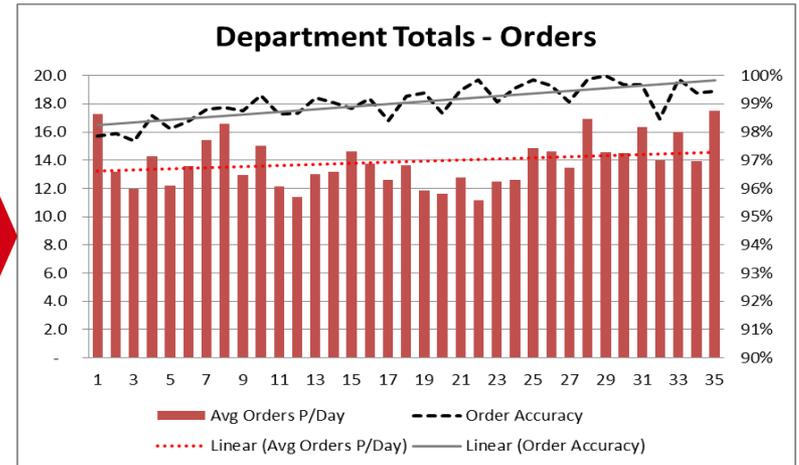


**Order Accuracy at ~95% in 2015....**

**To**

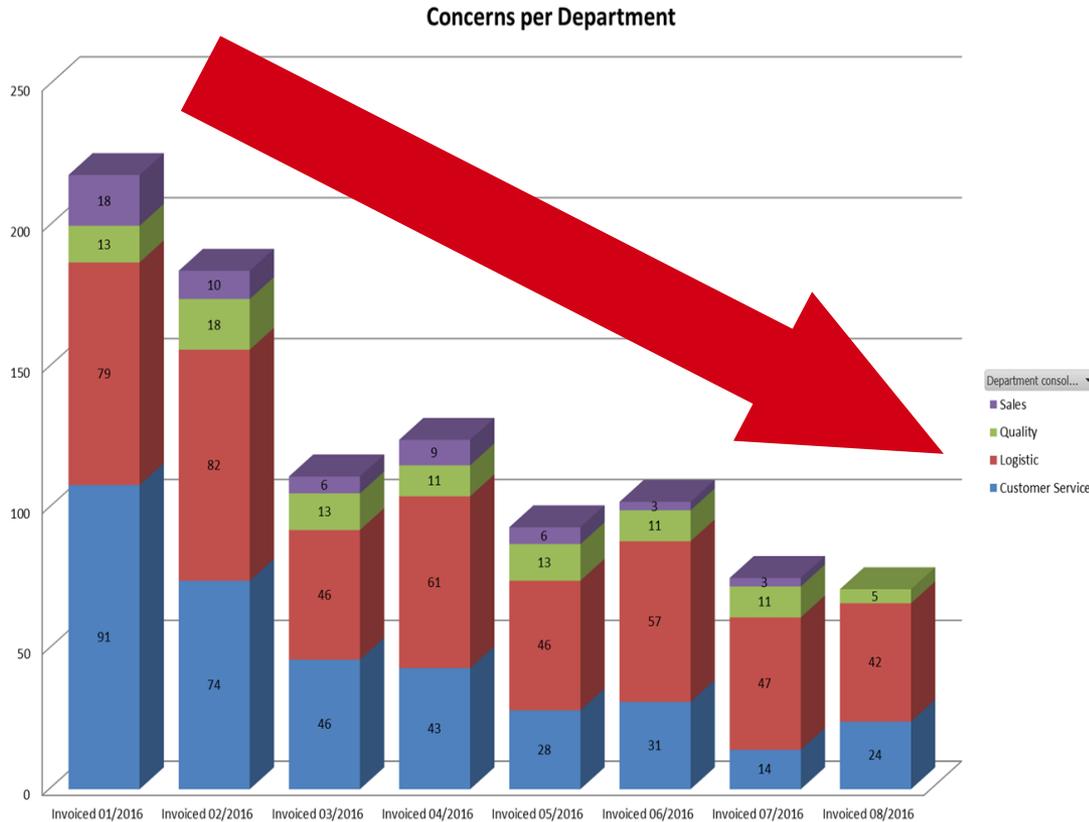


**.....to greater than 99% in 2016....**



**.....to greater than 99% in 2016....**

# Increasing our ability to execute with excellence



- Concerns are down 48% YTD
- Customer Service errors and Warehouse errors are dramatically down

# Key Learnings & Next Steps

## OUR EXPERIENCE IN MARKET X

- Entire Management Team stood behind the plan
- Set goals/targets and measure progress
- Sales Managers had cold feet
- We made some mistakes, but corrected them immediately
- Committed to a formal portfolio review every quarter - add some in - take some out

## HOW TO MAKE IT STICK – MUST WIN BATTLES

- Must be supported from Managing Director - need to believe in this
- Must have conviction - and commitment - hold firm on changes for the first 3 mths
- After 3 months.... Listen - and make reasonable adjustments as needed, but:
  - Avoid slowly growing the portfolio back
  - One-in - One-out

# Key take aways from today's presentation

- Get **commitment** in your management team
- Successful complexity management depends on the **process to manage** it.
- Create **transparency** – make a complete overview of the assortment as basis for decision making.
- **Document** progress using KPIs – “CM/SKU” is the King !!!
- Cost savings and **additional capacity** becomes available by removing expensive C-products with low margins, but require extra efforts to harvest the full benefit.



# SIMPLIFY TO GROW - REDUCE BAD COMPLEXITY

THANK YOU FOR YOUR ATTENTION – DO YOU WANT TO CONTINUE THE DIALOGUE?

*28 November 2017*

## **Martin Berg**

Former Director, Group Operations & Technology  
ROCKWOOL International A/S  
Now a Partner at Valcon Consulting  
Mobile (+45) 22 56 94 58  
[mbg@valconconsulting.com](mailto:mbg@valconconsulting.com)

## **Alexandria Trattner**

Supply Chain Specialist (Industrial PhD @ DTU)  
ROCKWOOL International A/S  
Mobile: (+45) 61 89 30 02  
Email: [alexandria.trattner@rockwool.com](mailto:alexandria.trattner@rockwool.com)

Valcon