



# Downturn in production systems

Discussion paper on current trends and risks

Berlin, September 2009

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## A. Production systems

What is characteristic of this industry?

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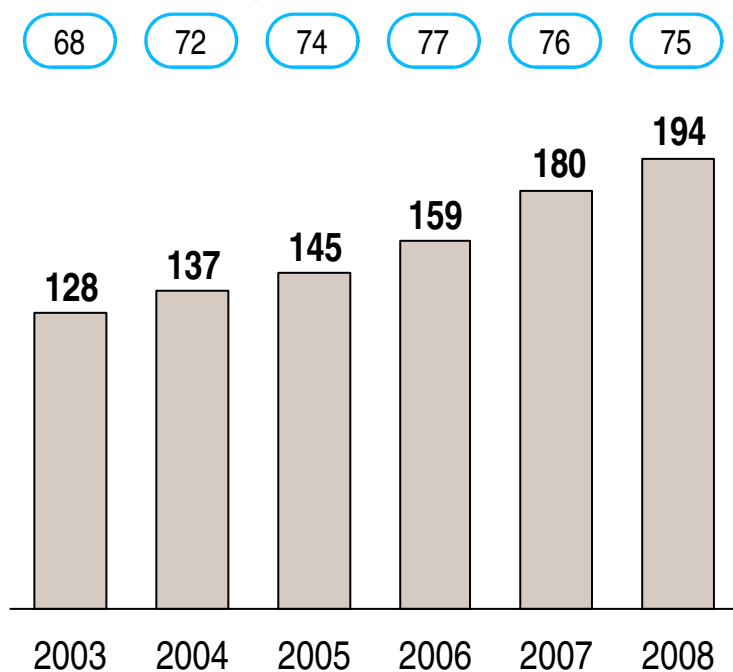


# The roughly 1 m employees in German production systems generate about EUR 200 bn p.a. – Productivity is constantly increasing

Production and employment in German production systems

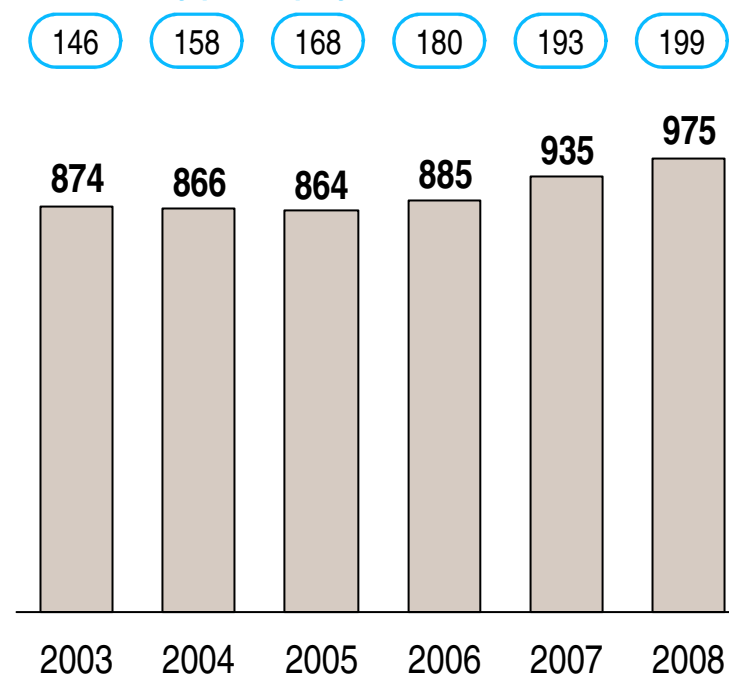
## Production [EUR bn]

Share that are exports [%]



## No. of FTE ['000]

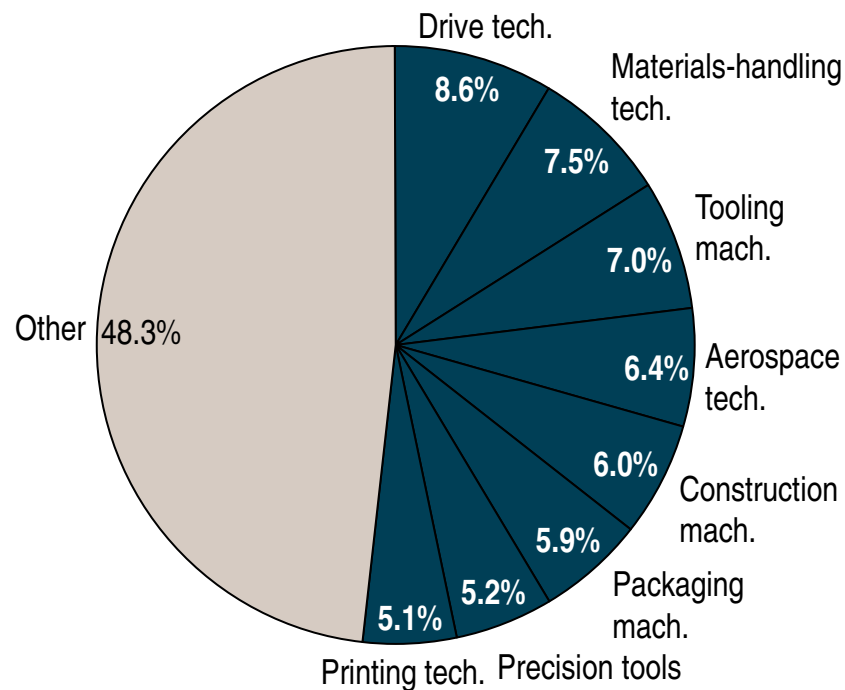
Productivity per employee [EUR '000]



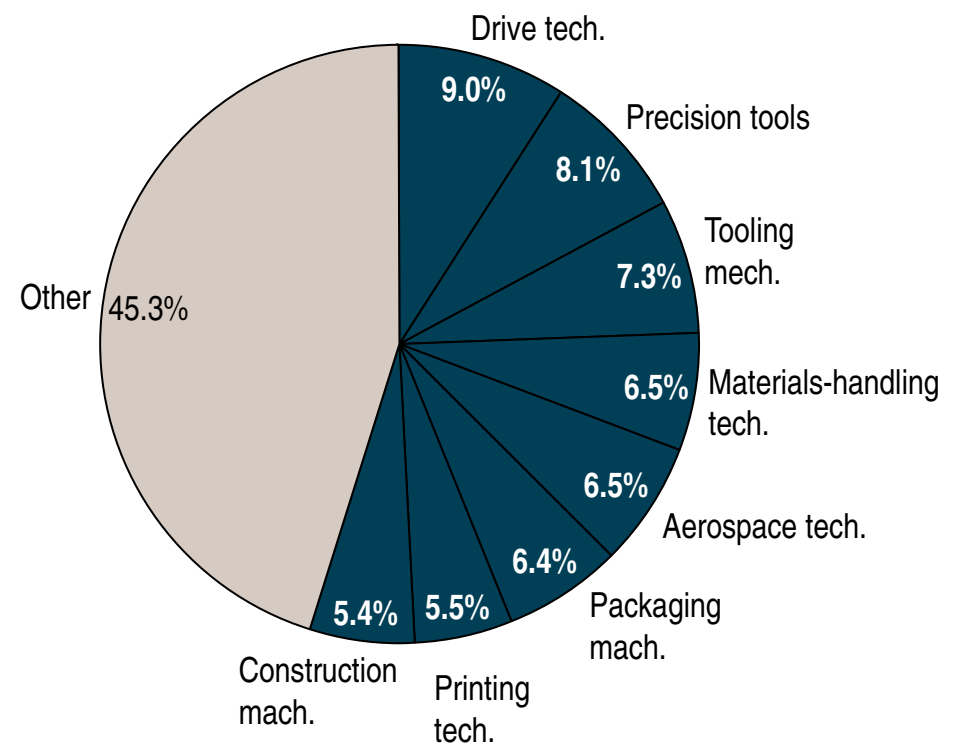
# Drive technology is the largest segment in production systems in terms of output and employees

Breakdown of German production systems sector by segment

**Production** by segment 2007 [%]  
(EUR 180 bn in total)

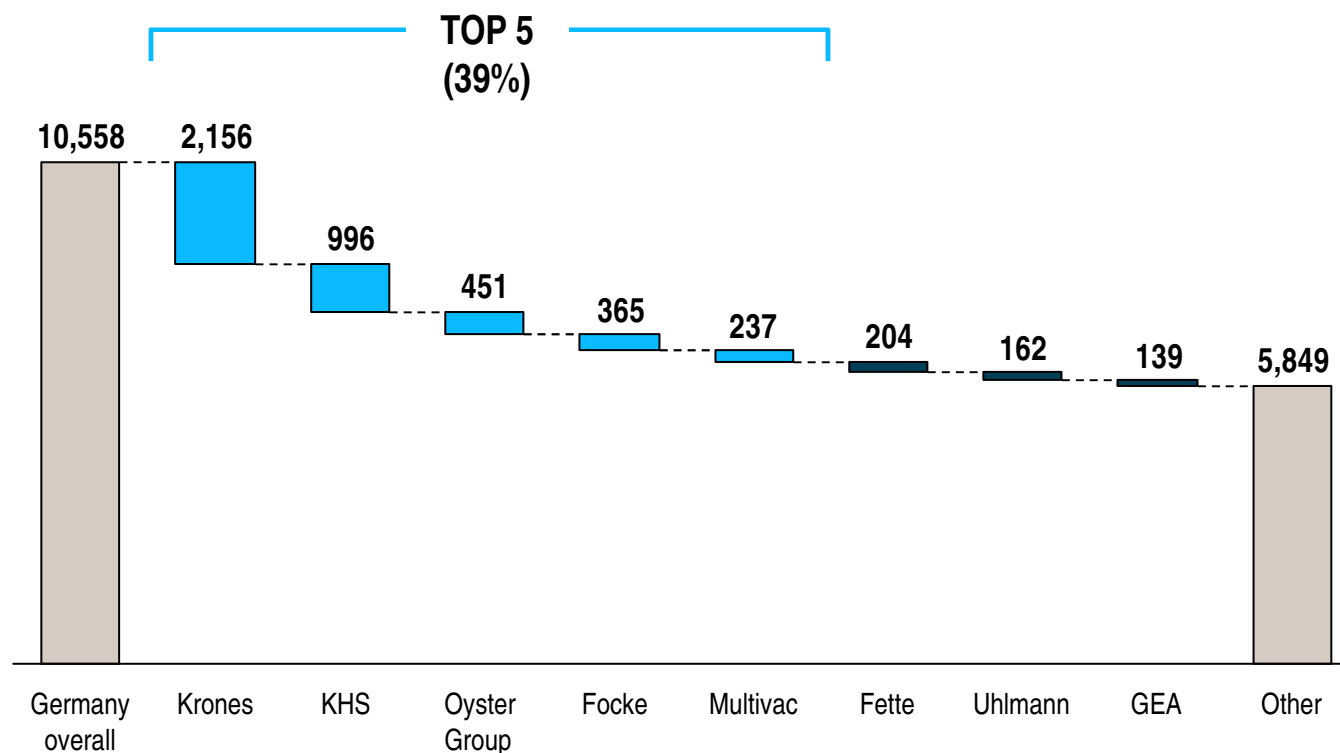


**Employees** by segment 2007 [%]  
(935,000 in total)



## The production systems sector is a highly fragmented industry with numerous midsize and small manufacturers

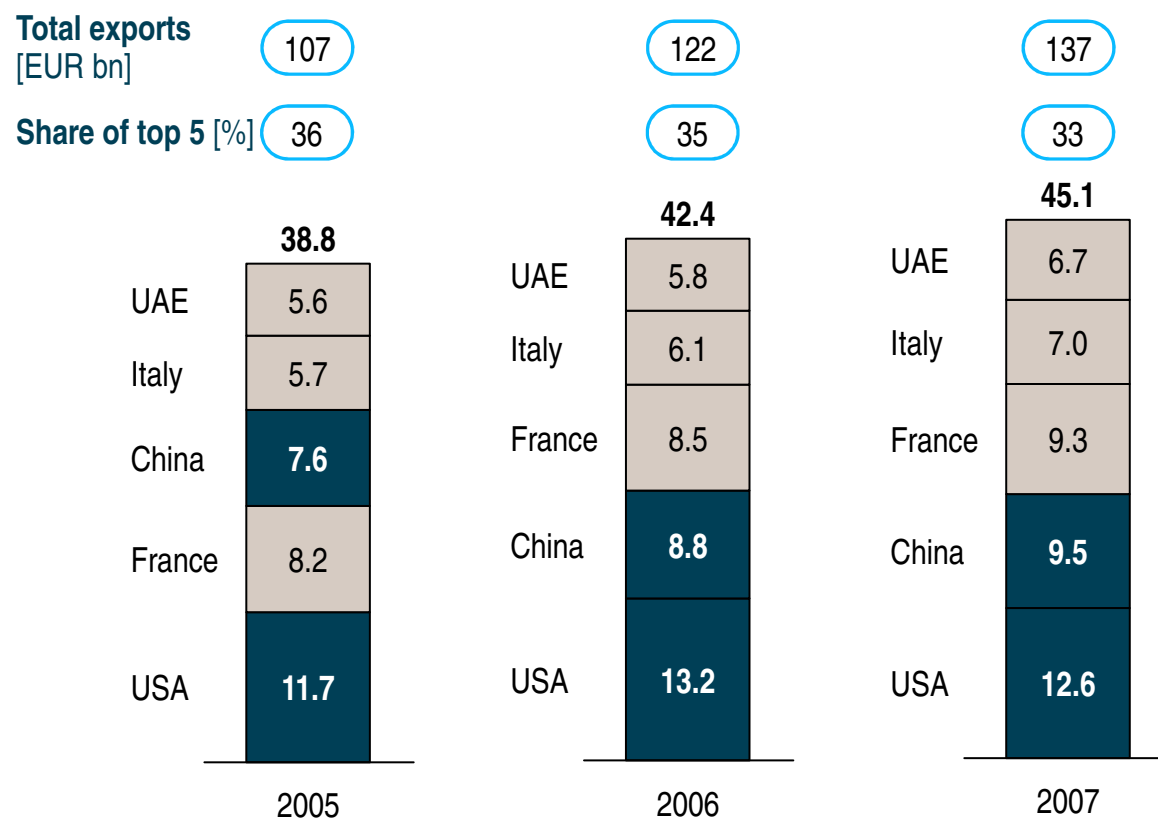
Fragmentation of the industry illustrated by packaging machines – Sales 2007 [EUR m]



> Further key manufacturers outside Germany are **Coesia** (Italy, EUR 675 m), **IMA** (Italy, EUR 455 m) and **Marchesini** (Italy, EUR 150 m)

# The US and China are the top export countries for German production systems –Top 5's share of exports declining slightly

Top 5 export countries, 2005-2008 [EUR bn]



- > The US, China and France are the most important export countries
- > China's significance will continue to rise
- > Demand in the US plummeted in H1 2009
- > Demand in China rose again significantly in June and July 2009

Note: Figures for 2008 will be available as of mid-September 2009  
Source: Statistisches Handbuch des Maschinenbaus; Roland Berger



**B. Turbulent times**  
Is the worst still to come?

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# Dramatic drops in incoming orders lead to a long-term crisis in the industry accompanied by massive challenges

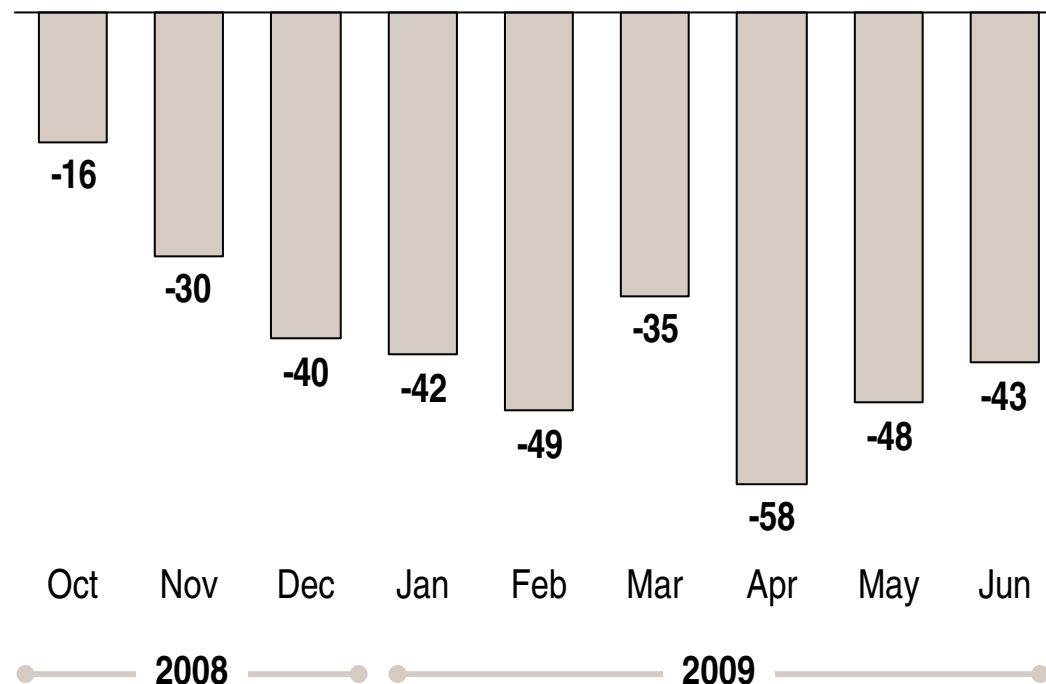
## Background

- **Incoming orders** in German production systems **have been plummeting for months** compared to the previous year
- The **crisis** in production systems **is unfolding later** than the **financial and automotive crises** and is more volatile
- Despite isolated positive signals in the past few weeks, the **situation** in production systems remains very **uncertain** – Sales will remain at low levels over the coming months
- In addition, **the value chain position** coupled with **low financial clout** are **leading to structural challenges** at many manufacturers
- Therefore, Europe and North America can't expect sales to return to 2008 levels anytime in the **medium to long term**

- > **LONG-TERM CRISIS IN PRODUCTION SYSTEMS**
- > **MASSIVE STRUCTURAL CHALLENGES**

## Incoming orders in German production systems have been plummeting for months

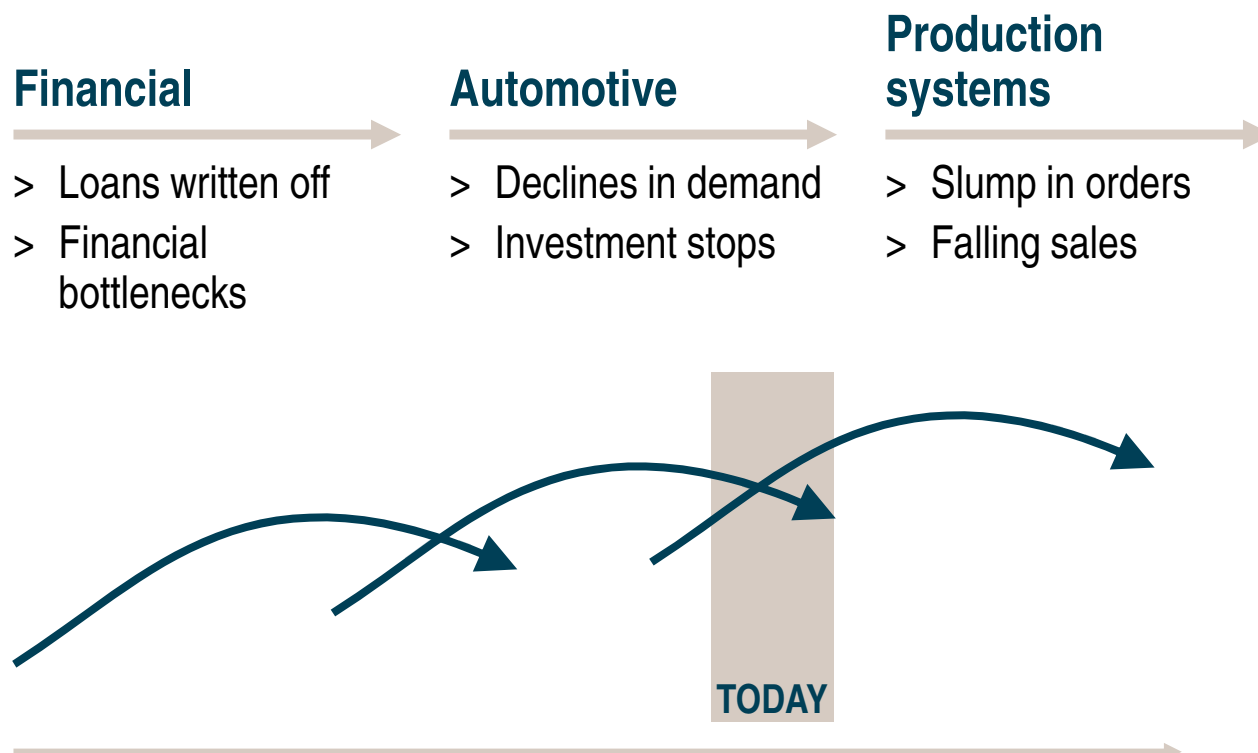
Incoming orders in German production systems year on year [%]



- > In June 2009, **incoming orders** experienced a two-digit decline for the **ninth time in a row**
- > **Production volume** is expected to **decrease** in 2009 by **10-20%**
- > Over the past few months, **foreign demand** dipped to 60% below previous year levels – **domestic demand** is 52% below previous year
- > **Loss** of up to **60,000 jobs** in Germany feared

# The financial and automotive crises are having a delayed impact on production systems manufacturers ...

Waves of the crisis – Automotive example

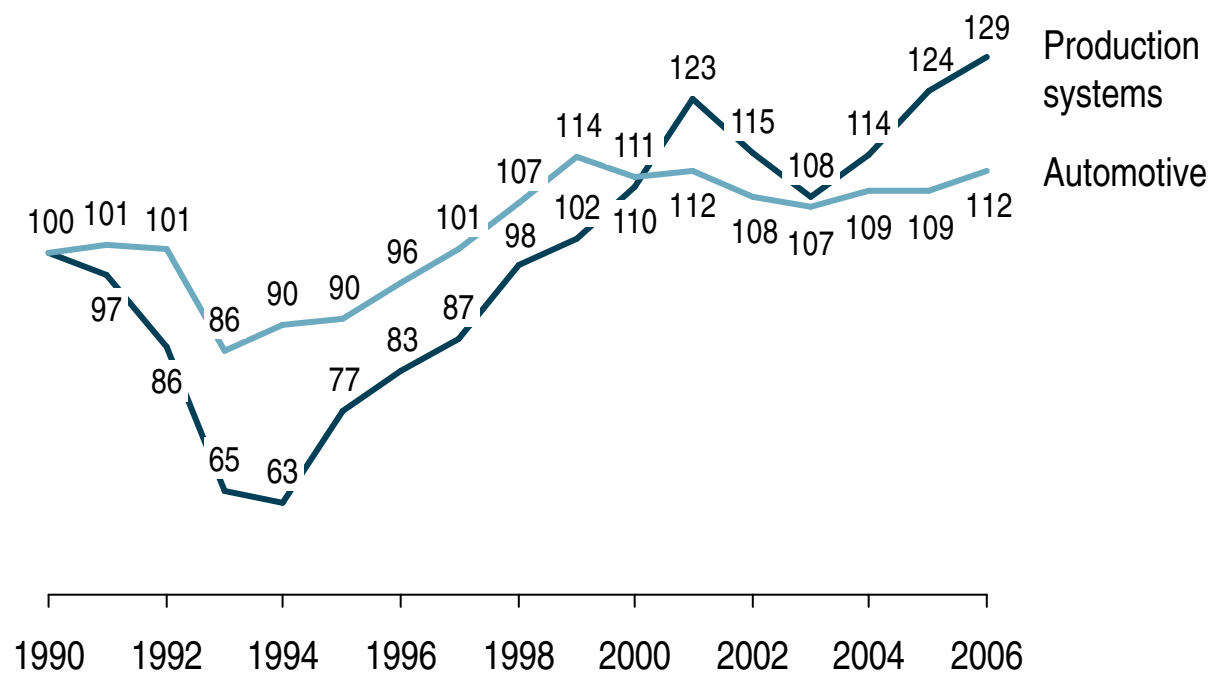


## COMMENTS

- > **Order income fell** after the auto crisis but with a slight time lag of **2-4 quarters**
- > **Decline in sales and earnings** in production systems again **delayed** by a **further 2-3 quarters**

## Due to its greater degree of volatility, the production systems sector has been hit harder by the downturn

Volatility of production systems vs. customer industries, 1990-2006 [index]



- > **Production systems** in the past were more **volatile** than in the automotive industry – especially in the crisis
- > **Slump in the automotive industry** of between **25%** and **40%** depending on the region
- > Expected slump in **production systems** will thus be **worse** than in automotive production

1) Annual production of machine tools in Germany

2) Annual sales of cars in Europe

Source: VDMA, ACEA, Roland Berger

## Initial signs for a slight recovery are increasing – But the situation for production systems remains uncertain

Quotes from the press, August 2009

**Signs of the end of the crisis** – Strong increases in demand for German products from abroad according to the Ministry of Economics  
(Südwest Presse, Aug 7, 09)

**Slowly looking up** – Incoming orders in production systems have climbed 10% since the start of the year (Berliner Kurier, Aug 8, 09)

**Gildemeister expects recovery of the order situation in 2010** – This is driven primarily by solar business and service (AWP International, Aug 4, 09)

**König & Bauer are keeping to annual targets** – Sales goal of EUR 1.2 billion to be achieved (ddp, Aug 14, 09)



**Outlook cloudy, change in trends desperately sought** – The VDMA says that rock bottom has not yet been reached (Netzeitung, Aug 1, 09)

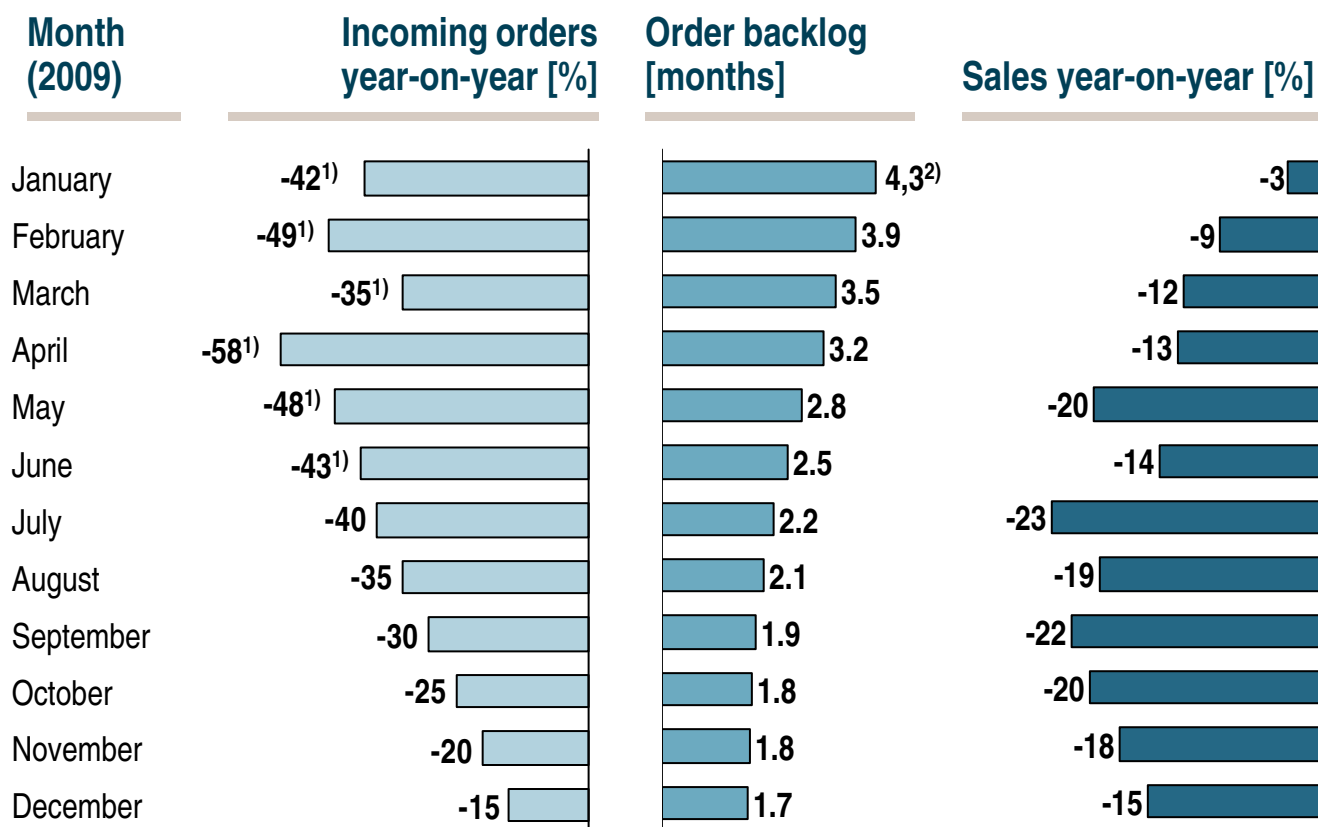
**The situation in production systems is serious** – VDMA finds it difficult to estimate when the upswing will occur (M.M.online, Aug 1, 09)

**Still not enough investment** – The German economy is growing again, but thus far production systems have been left out (Berliner Zeitung, Aug 14, 09)

**Heidelberger Druck intensifies pessimistic outlook** – In the coming year, costs are to be cut by EUR 400 million (Dow Jones, Aug 11, 09)

# The recent slumps in incoming orders will have negative effects for several further months to come

Simulated order backlog and sales in 2009 (without capacity adjustments)



## COMMENTS

- > Declines in incoming orders lead to continuous reductions in backlogged orders without adjusting capacity accordingly
- > Sales decrease with a time lag equal to the time it takes to process incoming orders
- > If critical order backlog is not met, orders are "stretched" – this leads to further decreases in sales

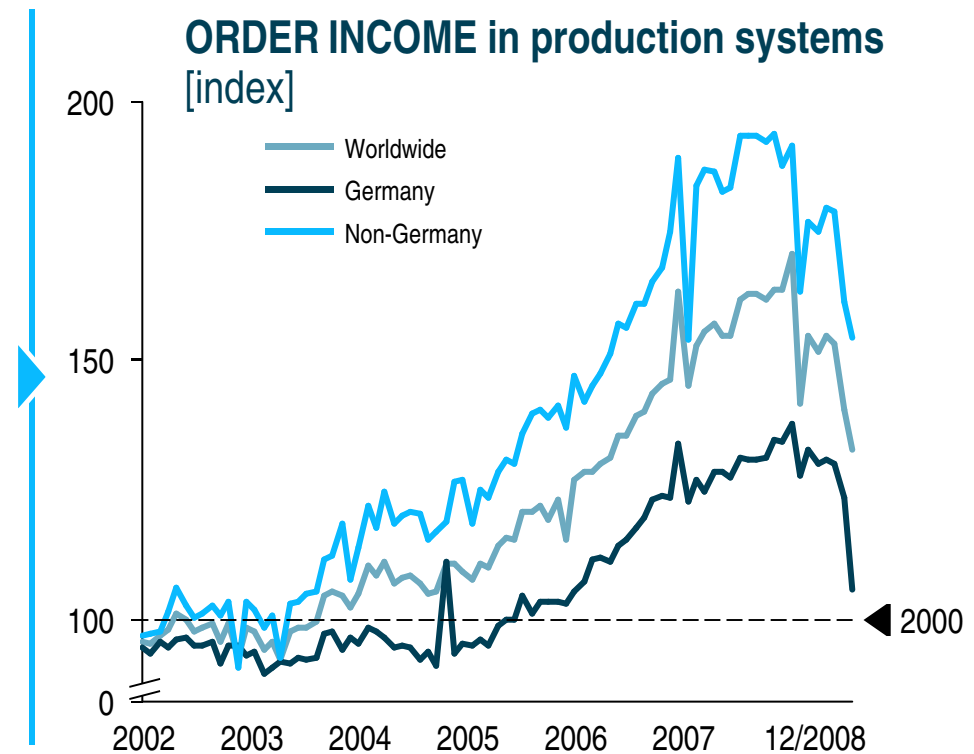
1) Actual values 2) Average order backlog in German production systems, Q4/2008

# In addition, many players in the industry have to cope with structural problems of value creation and financial clout

## Structural weaknesses in production systems

**1** Due to the structure of the **VALUE CHAIN** in the industry, production systems is in an unfavorable "sandwich" position

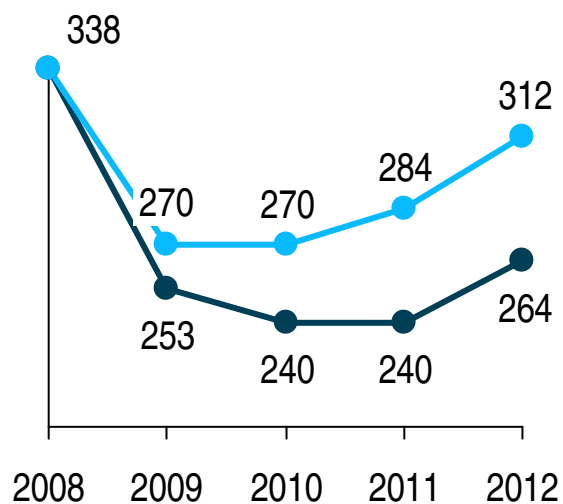
**2** **SME STRUCTURES** often mean a lack of management capacity and lead to **LESS FINANCIAL CLOUT**



# For that reason, production systems will remain below 2008 volumes over the medium to long term in most regions

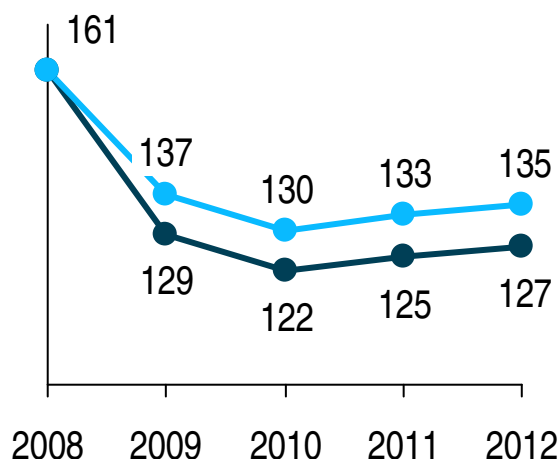
Output in production systems – Medium- to long-term forecast [EUR bn]

## EUROPE



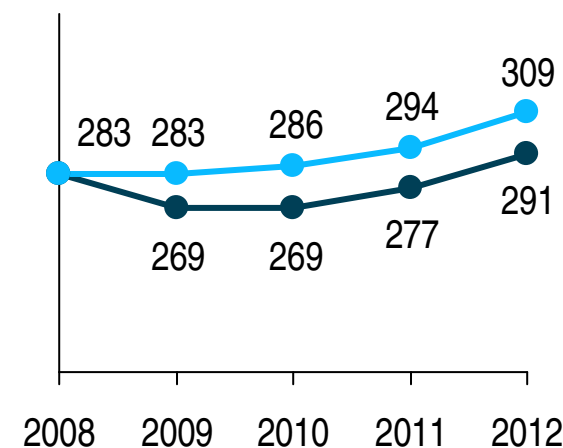
**RECOVERY BY 2010 – BUT NOT BACK TO ORIGINAL LEVELS**

## NORTH AMERICA



**NO RECOVERY EXPECTED IN THE MEDIUM- TO LONG-TERM**

## ASIA



**SLIGHT DECREASE EXPECTED ONLY IN WORST-CASE SCENARIO**

—●— Realistic scenario      —●— Worst-case scenario



## C. Structural risks

What are the risks in individual segments?

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# Individual segments exhibit characteristic behavior patterns in the crisis – But individual situations still need to be analyzed



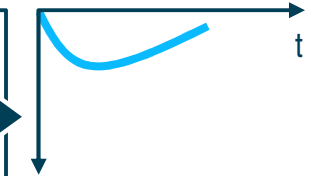

## Overview of crisis behavior

- Different **segments** in **production systems** exhibit **behavior patterns** in the crisis regarding intensity and duration – Heavy industry segments in particular experience a serious and prolonged decline
- Individual competitors in the segments can still exhibit different behavior – Looking at **sales distribution by consumer industry** provides initial indicators regarding the extent of the crisis
- **Sales distribution by region** offers a second key point of approach

- > **GENERAL PATTERNS OF BEHAVIOR CAN BE DISCERNED**
- > **INDIVIDUAL SITUATIONS NEED TO BE ANALYZED IN DETAIL**

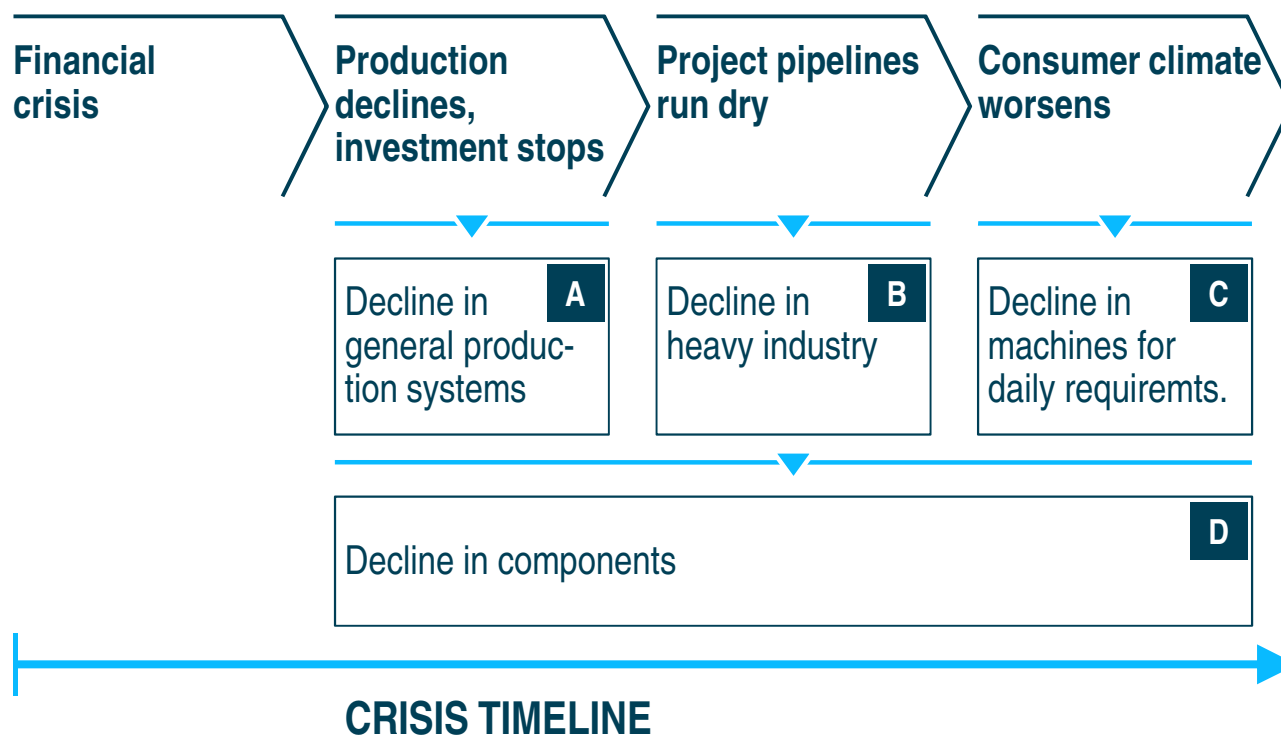
# Four segments with different patterns of behavior in the crisis can be discerned

Patterns of behavior in the crisis

Group	Features	Segments (examples)	Production [EUR bn, 2007]
<b>A</b> General production systems 	Massive slump with recovery in the medium term	<ul style="list-style-type: none"> <li>&gt; Machine tools</li> <li>&gt; Plastic machines</li> <li>&gt; Printing and paper</li> </ul>	51.7
<b>B</b> Heavy industry 	Massive long-lasting slump	<ul style="list-style-type: none"> <li>&gt; Rolling mills</li> <li>&gt; Constr. mats. machinery</li> <li>&gt; Mining machinery</li> </ul>	24.1
<b>C</b> Daily requirements 	Relatively low decline with quick recovery	<ul style="list-style-type: none"> <li>&gt; Food and packaging machines</li> <li>&gt; Textile machines</li> </ul>	28.0
<b>D</b> Components 	Major decline with recovery in the short to medium term	<ul style="list-style-type: none"> <li>&gt; Drive technology</li> <li>&gt; Precision tools</li> <li>&gt; General ventilation technology</li> </ul>	75.8

# These segments are affected in different phases of the crisis

## Phases of the crisis in production systems



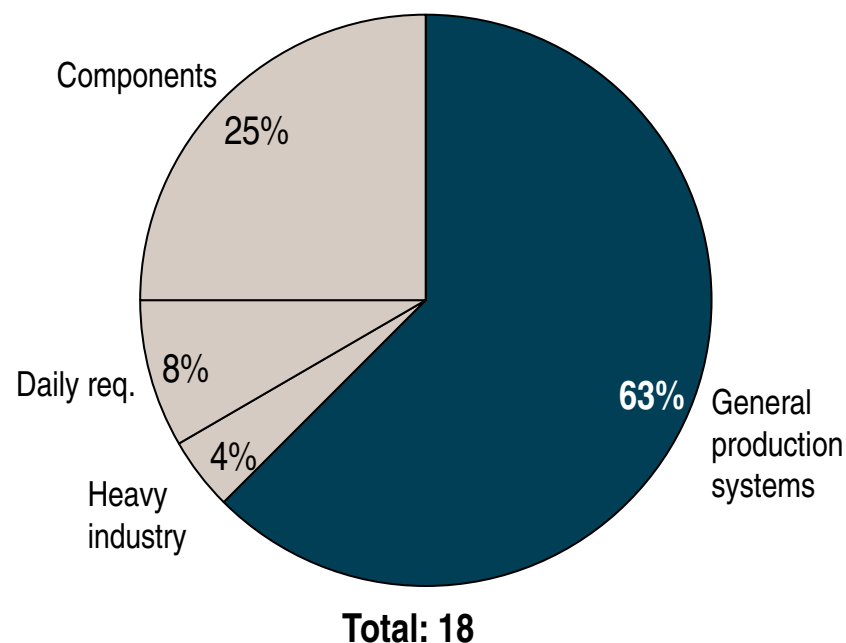
## NOTES

- > Recovery in general production systems only in the medium term
- > In heavy industry, recovery will come later because of very high investment expenditure
- > There is a much smaller decline in machines for daily usage
- > Less of a crisis in components but longer lasting because of high diversification

## Two thirds of insolvencies have affected general production systems so far – Other segments now running into difficulties

Insolvencies and manufacturers with current challenges – Jan-Aug 2009

### Insolvencies Jan-Aug 2009 [no.]



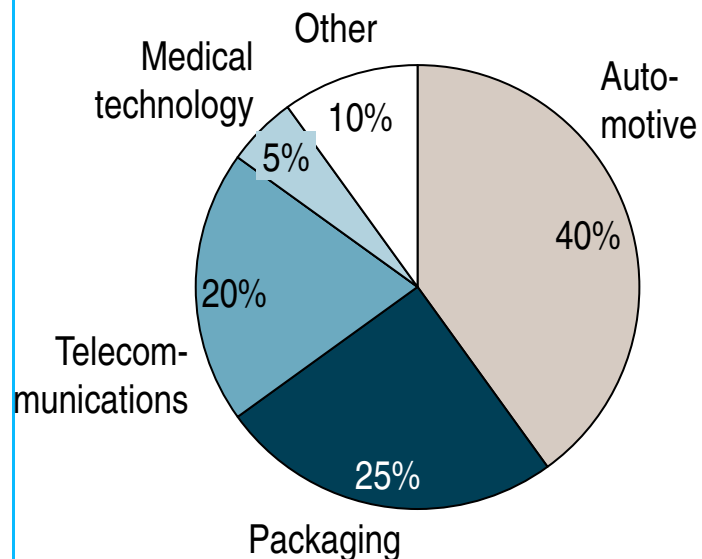
### Currently facing challenges (examples)

- > **General production systems**
  - Trumpf
  - Heidelberger Druck
  - Gildemeister
- > **Heavy industry**
  - Wacker Neuss
- > **Daily requirements**
  - Bucher Industries
- > **Components**
  - Sulzer
  - Kuka
  - Georg Fischer

# The situation of individual competitors depends heavily on sales distribution by consumer industry

Sales distribution by consumer industry – Plastics machinery (project example)

## Sales distribution by industry



## Key developments

- A** Drastic drop in **automotive** for SUVs and large engine cars – Development after the scrappage programs expire difficult to forecast
- B** Growth in **packaging** is declining steadily – The largest market, PET bottles in the US, is seriously threatened
- C** The **telecommunications** market in Europe is expected to shrink by 9% – Sales of all key product groups declining in 2009
- D** Demand for **medical technology** was already limited back in 2005 due to cuts in the healthcare system – Slight market recovery in the meantime



## D. Individual risks

What are the risks for individual manufacturers?

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# The risk profile of a production systems manufacturer can be evaluated using four groups of criteria

Criteria for compiling a risk profile

## **A** Reorganization/ restructuring concept

- > Have actions been taken to **reduce production costs** sufficiently?
- > Has the necessary **streamlining of structures** in footprint and overhead taken place?
- > Will action be taken to **improve sales**?

## **B** Medium- and long-term strategy

- > How robust and fit for the future is the formulated **strategy**?
- > Does the **business model** consistently and rigorously follow the positioning?
- > How balanced and competitive is the **production mix**?

## **C** Operational excellence

- > How efficient are **production and overhead processes**?
- > Do **systems and solutions** meet the **requirements** of their markets?
- > How capable and flexible is the **value chain**?

## **D** Financial performance

- > Are successful strategy and operations reflected in the **financials**?
- > How **profitable** is the manufacturer?
- > How efficiently are **resources used**?
- > How high is the **risk of default**?

# A professional restructuring concept is developed based on the cause analysis and optimizes the entire business model

Content of a comprehensive restructuring concept – Packaging machines (project example)

### CAUSE ANALYSIS

**Market environment**

- > Decrease in demand from sales mainstays
- > Reluctance in approving major projects

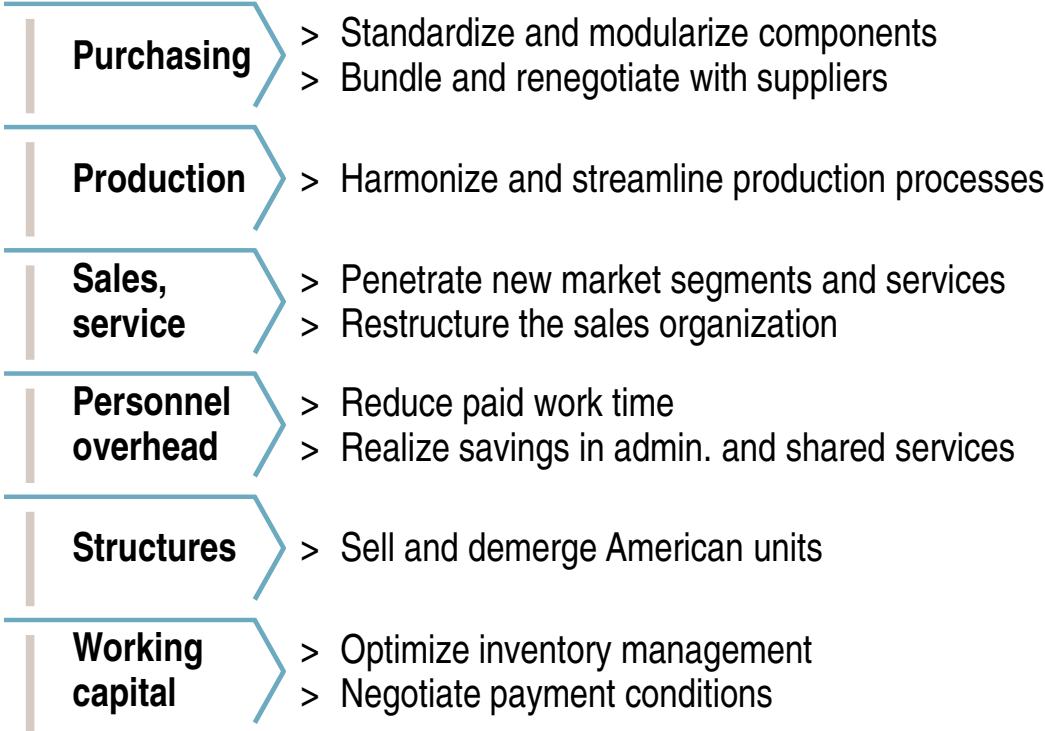
**Structures**

- > The holding company doesn't provide enough leadership for the other companies
- > Acquired companies not properly integrated

**Operations**

- > Inefficient sales
- > Production costs above those of competitors

### Key PILLARS of the RESTRUCTURING CONCEPT



## Four key indicators are used to assess the risk from a strategic point of view

Overview of strategic risk criteria

### 1 POSITIONING

> Clear focus on standard or customized production systems must be reflected in the business model – The decline in **demand** for **customized machines** is not as steep

### 2 DIVERSIFICATION

> Several **mainstays** in technologies and applications spread out the risk

### 3 SERVICE COMPETENCE

> Especially in times of crisis, there is more **demand** for **services** than for new machines

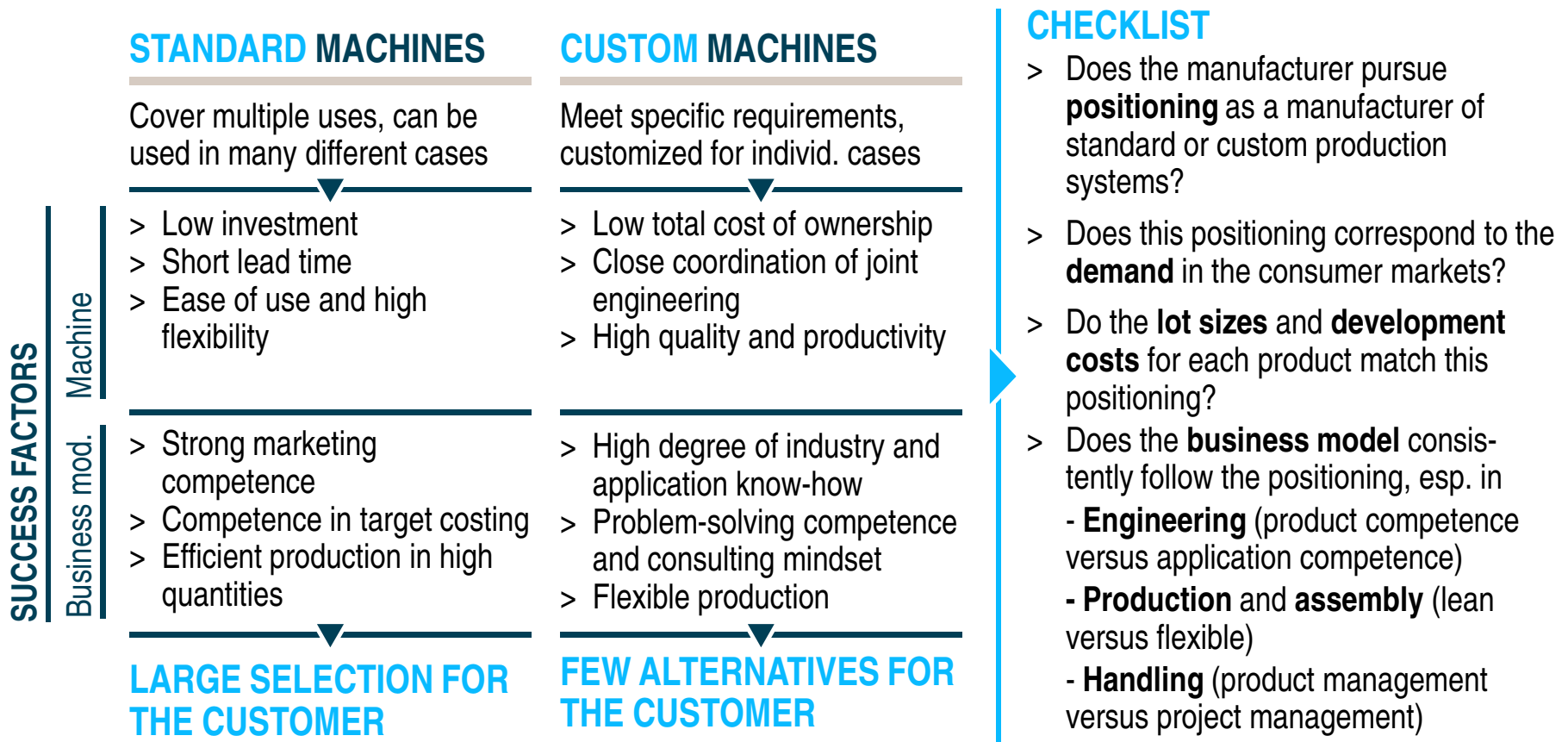
### 4 MARKET PRESENCE

> A **clear focus** on industries and technologies, plus a **strong global reputation**, makes it possible to gain **additional market share** even against the backdrop of waning demand

Strategic risk indicators

# Positioning as standard or custom production systems manufacturer possible – Demand for custom systems declining less steeply

## Positioning



# Manufacturers with a broad portfolio are not hit as hard by the downturn as specialized providers with a more focused positioning

## Diversification

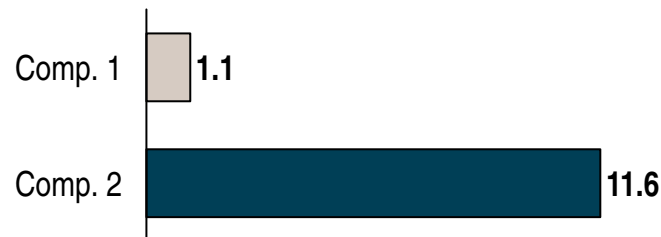
### Company 1

- > Forming processes

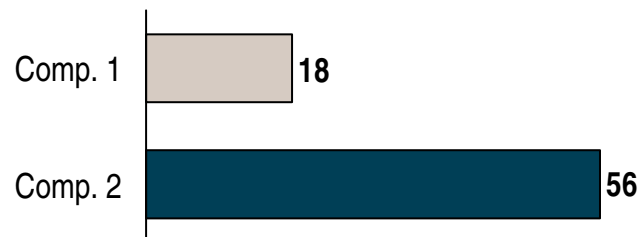
### Company 2

- > Tool machines
- > Paper production
- > Tobacco machines
- > Pharma packaging

### Return on sales, 2008 [%]



### Equity ratio, 2008 [%]



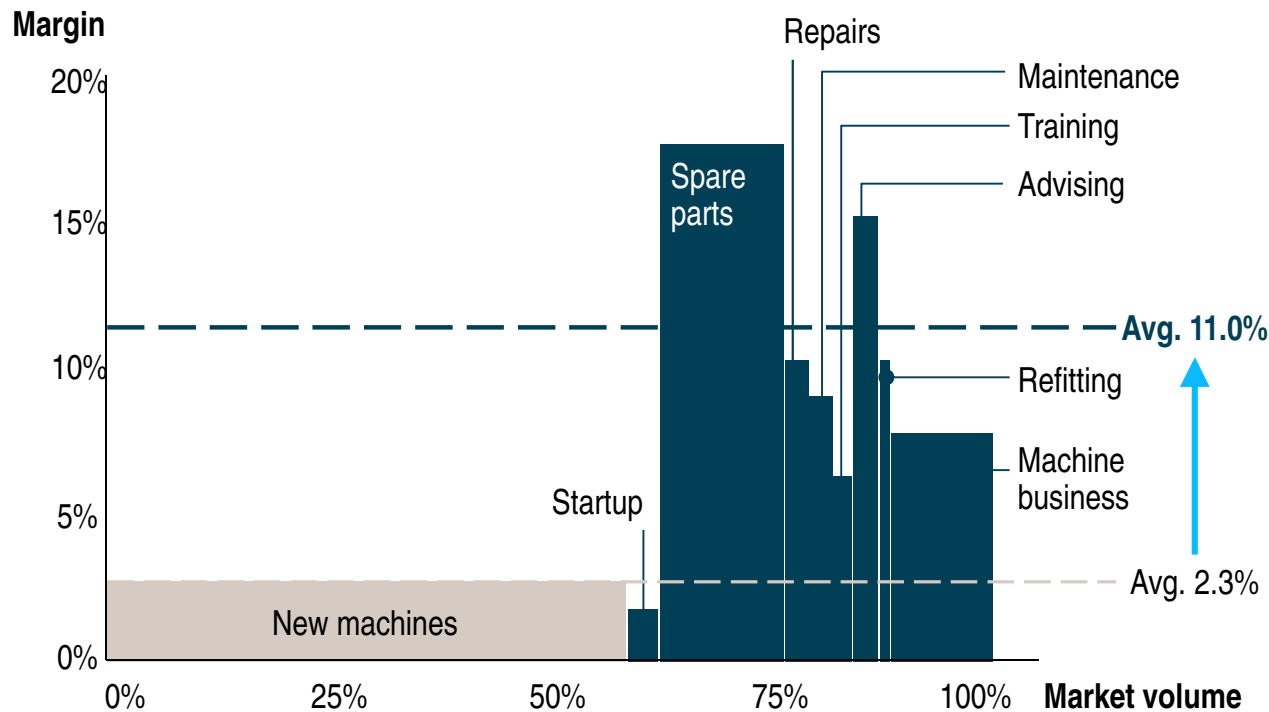
## CHECKLIST

- > How **many industries** does the manufacturer supply?
- > How are the **sales** divided among the individual industries? How are **profits** divided?
- > Can these industries be served by similar **products/technologies**?
- > How high is the **correlation** between **demand** and development among these industries?
- > What **market share** does the manufacturer have in each industry?
- > How strong is the **competition** in each industry?

# Especially in times of crisis, the demand for services is greater than that for new machines

Service competence

## Market volume and EBIT margin of services



## CHECKLIST

- > How large is the **share of services** in sales and profits?
- > What **possibilities for expanding** service sales have already been tapped?
- > Does the services business have **its own division**?
- > Do services have **standardized solutions**?
- > Are services **sold actively** or reactively?

# A strong presence and excellent competence in the target markets are key for success

Market presence – Erosion machines (project example)

Customer industry	Perceived COMPETENCE			
	Co. 1	Co. 2	Co. 3	Co. 4
Automotive	◐	◐	◐	●
Aerospace & defense	◐	○	●	○
Medical tech.	◑	◐	◑	●
Power generation	◐	●	◐	◐
Electronics	◐	●	○	○
Household	●	●	○	○
Luxury goods	●	○	○	○

## CHECKLIST

- > How strong is the manufacturer's **market presence** in each target industry and market?
- > How strong is the perceived **competence** in these industries and markets?
- > Is the **sales division** suitably positioned **worldwide**?
- > Have **new markets** been actively targeted and **developed** in the past few years (regions, industries)?
- > Do certain **markets need to be given up** due to lack of perceived competence?

## Three key criteria can be used to determine a manufacturer's operating risk

Operating risk criteria at a glance

### 1 RATE OF INNOVATION

- > The demand for perfectly tailored solutions, the rising **diversity of variations** and shortened **product cycles** are increasing the need for **fast innovation** and **efficient engineering**

### 2 FLEXIBILITY IN OVERHEAD

- > When sales decline, **overhead staff** and **structures** are not used to full capacity
  - Targeted outsourcing of certain functions increases flexibility

### 3 VALUE CREATION

- > Amid dramatic ups and downs, **low vertical integration** makes it possible to attain the **necessary flexibility** – This requires close agreement within **supply chain management**

Indicators for  
operating  
risks

# Fast innovation plus efficient engineering equals better performance and better profits

## Rate of innovation

### INNOVATION champions

- > Standardized project costing and decision-making criteria
- > Definition of milestones and quality gates
- > Ongoing project monitoring
- > Regular meetings with customers, sales and production
- > Feedback loops after producing prototypes and after starting series production

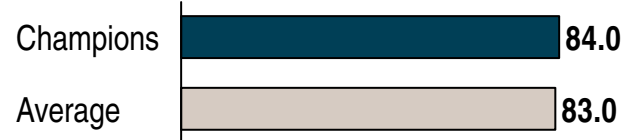
### Annual sales growth [%]



### Degree of innovation<sup>1)</sup> [%]



### Ability to meet deadlines<sup>2)</sup> [%]



1) Share of products in portfolio that are not older than 5 years

2) Share of prototypes finished before the deadline

Source: Roland Berger study entitled "Profitable growth strategies for engineered products companies" (2006)

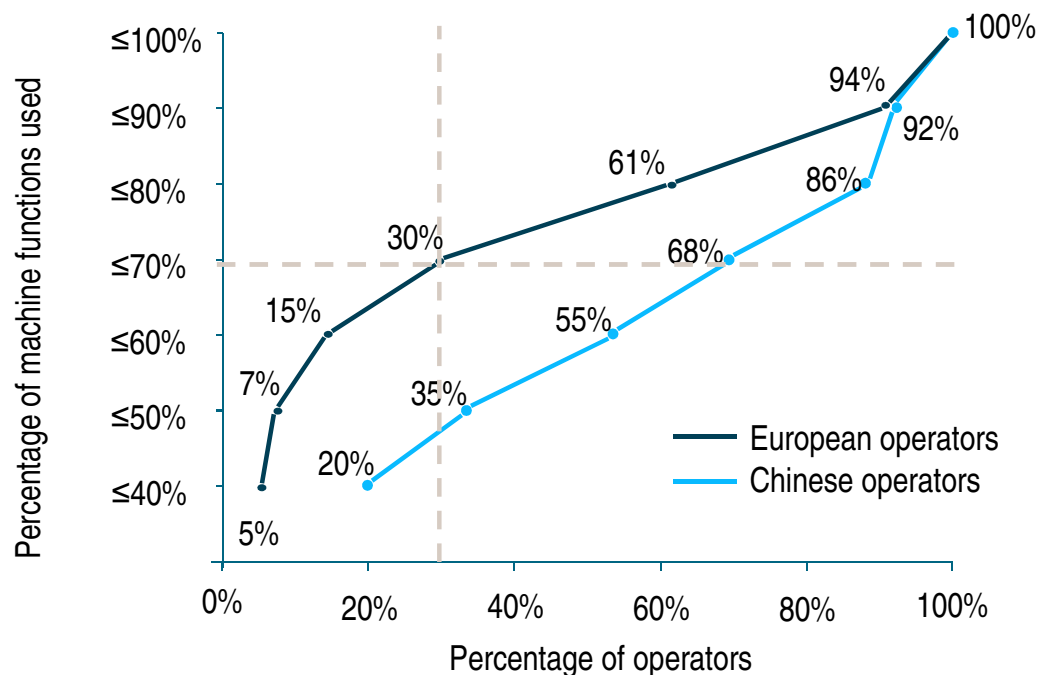
### CHECKLIST

- > How many **new products** have been **successfully launched** recently?
- > How is the product innovation **process described**? How much of it is actually done in practice?
- > How long are the average **throughput times in engineering**?
- > How many past **projects** were **completed on time** and within **budget**?
- > Do the **sales** and profits of the new products **match** the **planning** for the first year?

# The majority of features offered on the market aren't used by the customer – Need to be reviewed carefully, esp. with tight budgets

## Product design

### Percentage of machine functions used (cumulative)



30% of European manufacturers use less than 70% of a machine's features

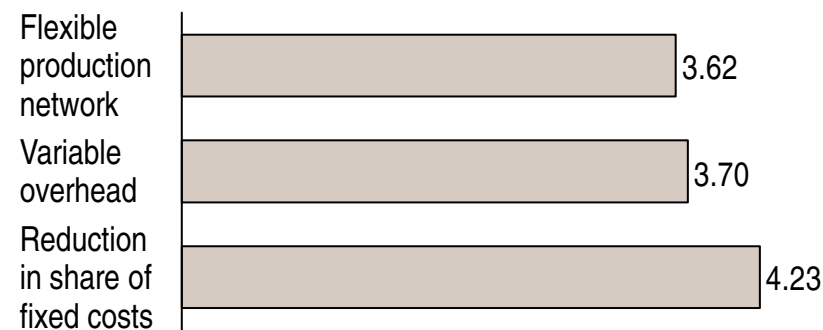
### CHECKLIST

- > How strong is the manufacturer's **market presence** in each target industry and market?
- > How strong is the perceived **competence** in these industries and markets?
- > Is the **sales division** positioned **globally**?
- > Have **new markets** been actively targeted and **developed** in the past few years (regions, industries)?
- > Have **new applications** been **decided on** and developed?

# Variable overhead structures and low vertical integration create the flexibility needed when volumes are declining

Flexibility in overhead and value creation

## Production systems levers for flexibilization



## Optimization potential in each area



□ Potential (1 = low; 5 = very high)

## CHECKLIST

- > How severe were **fluctuations** in demand in the past? How well was the manufacturer able to handle these fluctuations?
- > How high is the degree of **vertical integration**?
- > How flexible is the **production network** regarding product variants?
- > What strategic and operational **criteria** are used to determine value creation?
- > What overhead **functions** are outsourced? What functions are handled internally?

# Financial performance can be measured against best-in-class benchmarks (1/2)

Financial benchmarks for production systems – Liquidity

Lever	KPIs	BEST-IN-CLASS BENCHMARKS
Inventory management	<b>Inventory range</b> $\frac{\text{Avg. inventory [EUR]} * 365}{\text{Prod. costs [EUR]}}$	Approx. 45 days
	<b>Inventory value</b> $\frac{\text{Avg. inventory [EUR]}}{\text{Sales [EUR]}}$	Approx. 20%
Payment terms	<b>Receivables</b> $\frac{\text{Receivables [EUR]} * 365}{\text{Sales [EUR]}}$	Approx. 55 days
	<b>Payables</b> $\frac{\text{Payables [EUR]} * 365}{\text{Prod. costs [EUR]}}$	Approx. 35 days
Total working capital	<b>Wkg. capital ratio</b> $\frac{\text{Avg. working capital [EUR]}}{\text{Sales [EUR]}}$	<20%
Investment reduction	<b>Investment rate</b> $\frac{\text{Investments [EUR]}}{\text{Sales [EUR]}}$	5-10%
	<b>Investment reduction '09</b> $\frac{\text{Changed invest. '09 [EUR]}}{\text{Original invest. '09 [EUR]}}$	25-30%

# Financial performance can be measured against best-in-class benchmarks (2/2)

Financial benchmarks for production systems – Operating performance

Lever	KPIs	BEST-IN-CLASS BENCHMARKS
Labor cost agreements	<b>Labor cost ratio</b> $\frac{\text{Labor cost}}{\text{Value creation}}$	Approx. 35%
Purchasing cost reduction	<b>Material cost reduction</b> $\frac{\text{Material costs (t)}}{\text{Material costs (t-1)}}$	Approx. 5%
Overhead cost reduction	<b>SG&amp;A ratio</b> $\frac{\text{SG\&A cost}^{1})}{\text{Sales}}$	15-20%
	<b>OOE ratio</b> $\frac{\text{OOE}^{2})}{\text{Sales}}$	Approx. 5%
	<b>SG&amp;A<sup>3)</sup> head-count ratio</b> $\frac{\text{SG\&A FTE per operation}}{\text{Total FTE per operation}}$	Approx. 25%
R&D cost reduction	<b>R&amp;D ratio</b> $\frac{\text{Net R\&D expenses}}{\text{Sales}}$	3-5%

1) Includes all sales and administrative expenses  
 2) Includes all operating expenses other than production materials, labor and depreciation  
 3) Sales and administrative headcount



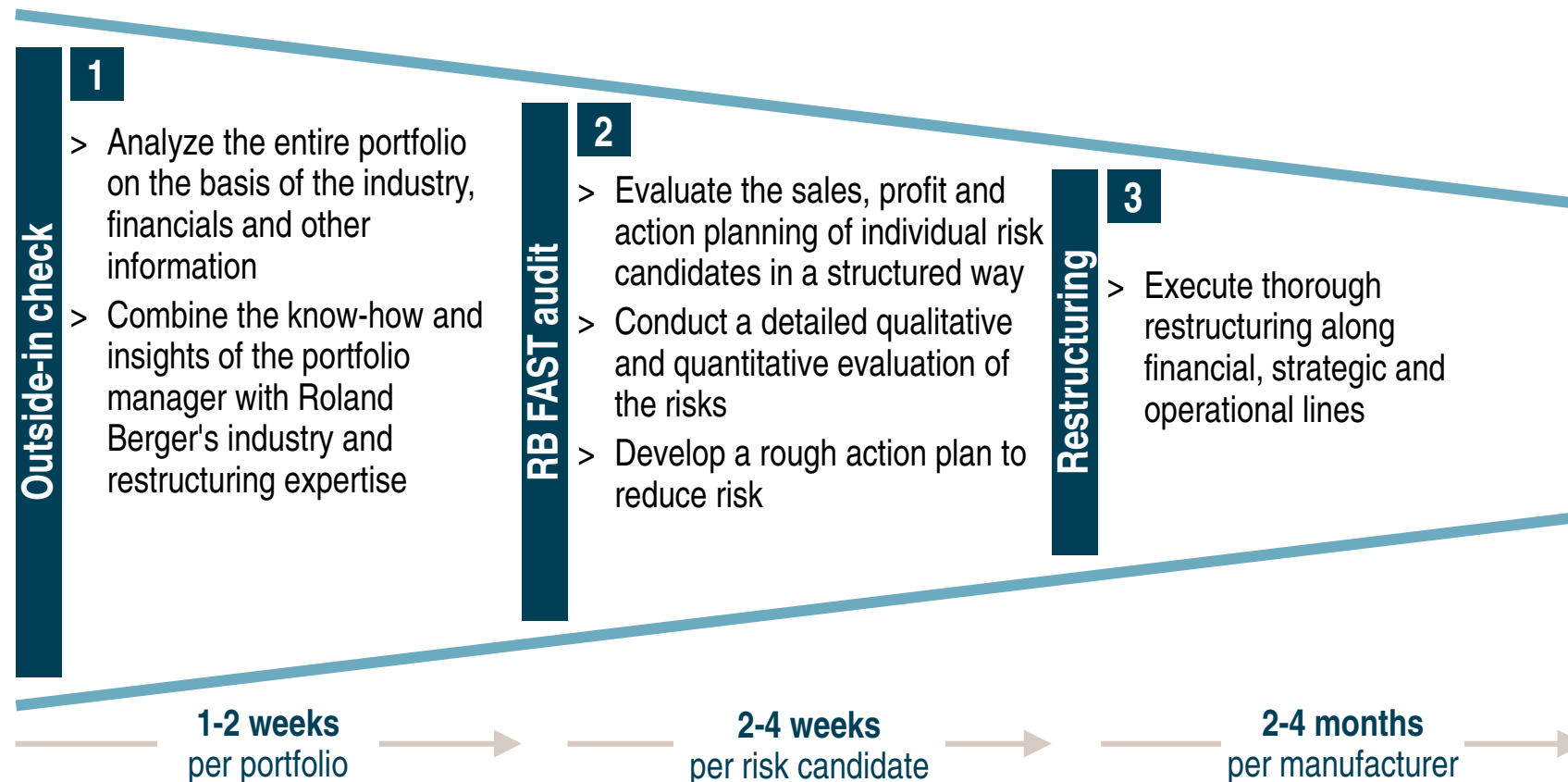
## E. Portfolio management

How can the risks be identified and minimized?

**Roland Berger**  
Strategy Consultants

# Identifying and minimizing the risks takes place in three stages, from an outside-in check to restructuring

Approach for evaluating and reducing risk



# Roland Berger can apply comprehensive studies and comparison values from previous production systems projects

## Outside-in check

### Financials and analyses

#### ABC Konzern Plan BC [Mio. EUR]

##### Gewinn- und Verlustr.

	Ist 2008	[%]	Ist 2008 ber.	[%]	Plan BC 2009	[%]
Umsatz	400,0	100,0%	400,0	100,0%	420,0	100,0%
Bestandsveränd.	0,0	0,0%	0,0	0,0%	0,0	0,0%
Gesamtleistung	400,0	100,0%	400,0	100,0%	420,0	100,0%
Materialaufwand	-200,0	-50,0%	-200,5	-50,1%	-210,0	-50,0%
Rohertag	200,0	50,0%	199,5	49,9%	210,0	50,0%
SbE	10,0	2,5%	9,7	2,4%	10,0	2,4%
Personalaufwand	-140,0	-35,0%	-139,8	-35,0%	-145,0	-34,5%
SbA	-80,0	-15,0%	-59,9	-15,0%	-63,0	-15,0%
EBITDA (vor a.o.)	10,0	2,5%	9,5	2,4%	12,0	2,9%
Abschreibungen	-9,0	-2,3%	-9,0	-2,3%	-10,0	-2,4%
EBIT (vor a.o.)	1,0	0,3%	0,5	0,1%	2,0	0,5%
Finanzergebnis	-0,5	-0,1%	-0,5	-0,1%	-0,5	-0,1%
EBT (vor a.o.)	0,5	0,1%	0,0	0,0%	1,5	0,4%
A.o. Ergebnis	-2,0	-0,5%	-1,5	-0,4%	-1,3	-0,3%
EBT	-1,5	-0,4%	-1,5	-0,4%	0,2	0,0%
Steuern	-0,5	-0,1%	-0,5	-0,1%	-0,2	0,0%
Jahresergebnis	-2,0	-0,5%	-2,0	-0,5%	0,0	0,0%

#### ABC Konzern Plan BC [Mio. EUR]

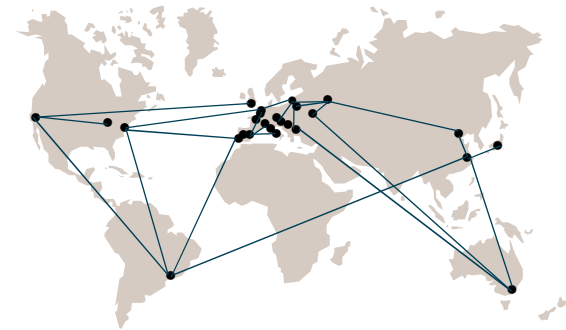
##### Kennzahlen

Produktivität	Ist 2008	Ist 2008 ber.	Plan BC 2009
Rohr. je MAK ['000 EUR]	118	117	131
Rohr. je MAK Vertrieb ['000 EUR]	800	798	840
Personalintensität [%]	70,0%	70,1%	69,0%
Personalaufw. je MAK ['000 EUR]	82	82	91
SbA je MAK ['000 EUR]	35	35	39

### Trend data by industry

- > **Experience** from current projects
- > **Trends** in different segments
  - Tool machines
  - Packaging machines
  - Automation technology
  - etc.
- > **Key developments** in customer industry
- > Current Roland Berger **studies**
- > Roland Berger **Research**
- > Access to numerous **information systems**

### Roland Berger network



- > **36** offices in **25** countries
- > Approx. **2,000** employees
- > International teams with experts from **14** Competence Centers

# For identified risk candidates, the RB FAST approach is used to evaluate the planning in detail and draw up a Plan B

## RB FAST project approach

### RB FAST

- ✓ **Conduct a structured evaluation of the sales and profit planning**
- ✓ **Assess risks** (e.g. delays in payment flows, supplier network instability, etc.)
- ✓ **Develop a prioritized, step-by-step action plan**, in order to be able to respond flexibly to various scenarios

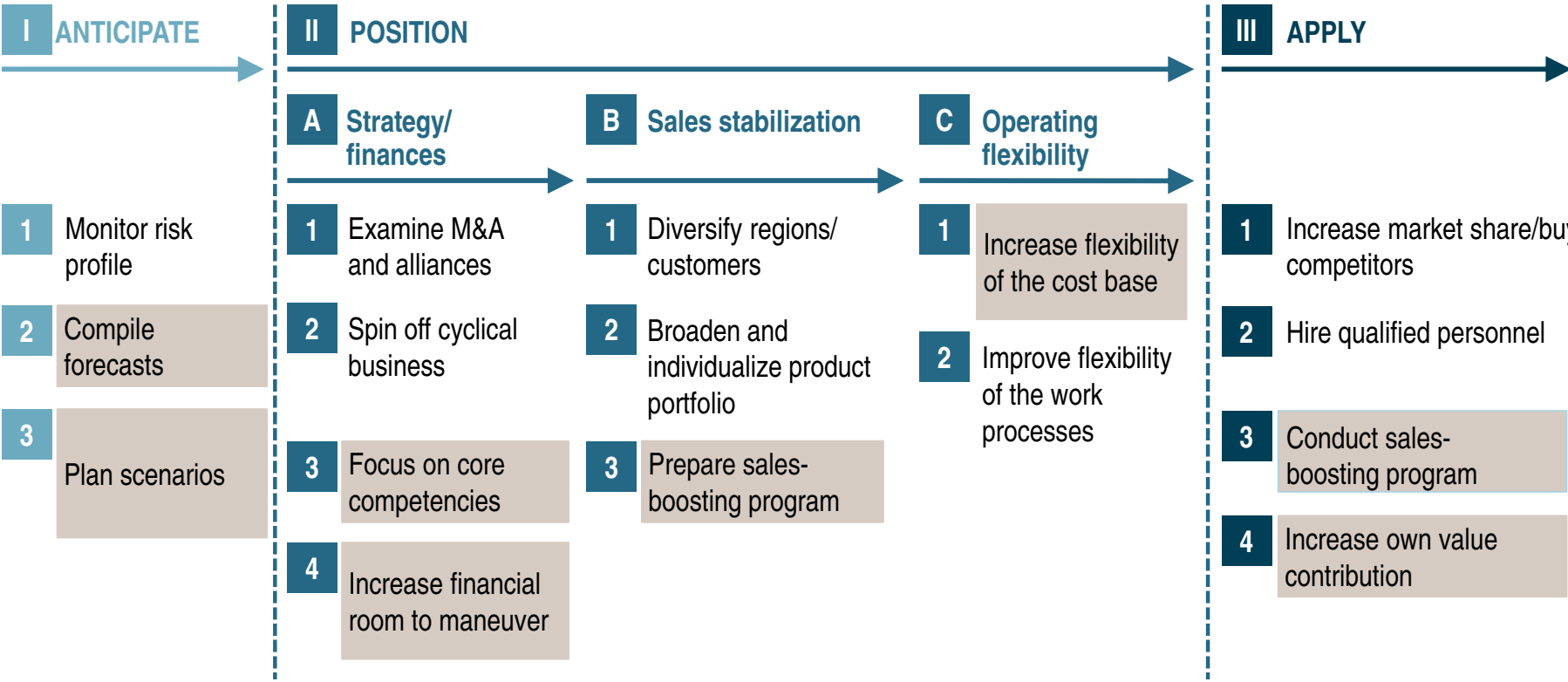
- > Does the manufacturer have a **Plan B**?
- > What does this **Plan B** look like?

### ROLAND BERGER CONTRIBUTION

- ! **Specific industry insights**, especially from production systems customer industries (automotive, plastics, etc.)
- ! **Planning assumptions** scrutinized and **backed up** by experts
- ! **Comprehensive look at competitiveness**
- ! **Broad project experience** in validating planning
- ! **Comprehensive trend data and benchmarks**
- ! **Rapid achievement of management buy-in** and therefore ease of implementation through an interactive workshop approach

# When defining strategies and actions, all levers relevant for production systems are systematically reviewed

The most important levers in the crisis – Roland Berger study results



# From the very beginning, restructuring puts a strong focus on actions for improving profits and liquidity

## Restructuring concept

### PHASE I: DESIGN A CONCEPT

#### I. TAKE STOCK

- > Transparency regarding actual situation
- > Current and future competitor position
- > Industry development and market potential
- > Loss-makers and "cash burners"

#### III. DEVELOP CONCEPT

- > Restructuring concept (financial, operating, strategic)
- > Top-down targets for improving profits and equity
- > Integrated business planning

### PHASE II: DETAIL AND IMPLEMENT

#### IV. IMPROVE EFFICIENCY

- > Flesh out the restructuring concept
- > Conduct more in-depth analyses
- > Expand options if necessary

#### II. MANAGE ACTIONS/IMPLEMENTATION

- > Immediate actions to
  - Cut costs/increase profits
  - Improve liquidity

- Put a task force in place
- Ensure implementation
- Monitor realization

# As part of the restructuring, numerous actions for improving profits and liquidity are fleshed out in detail

## Restructuring concept and actions – Project example

### I Personnel, overhead

1. Introducing short-time work
2. Request employee contributions
3. Reduce other operating expenses
4. Set up a shared service center for HR, Finance and IT
5. Optimize business structures
6. Optimize legal structures

### II Procurement

1. Negotiate with top 30 suppliers
2. Consolidate the smallest suppliers
3. Increase share of low-cost country sourcing
4. Review specifications, introduce modularization
5. Reduce spending on indirect materials
6. Expand strategic purchasing

### III Sales and service

1. Review divisions of sales organization
2. Increase sales efficiency
3. Optimize pricing for services
4. Activate service sales
5. Optimize service organization

### IV Structures, abroad

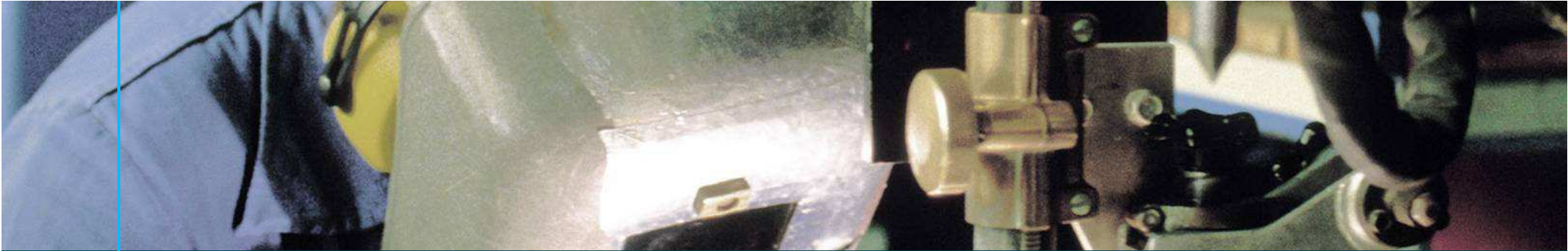
1. Establish profit centers
2. Sell off non-strategic investments
3. Restructure USA
4. Launch a sales-boosting initiative abroad

### V Working capital

1. Optimize inventories
2. Receivables management
3. Payables management

### VI Transparency & controlling

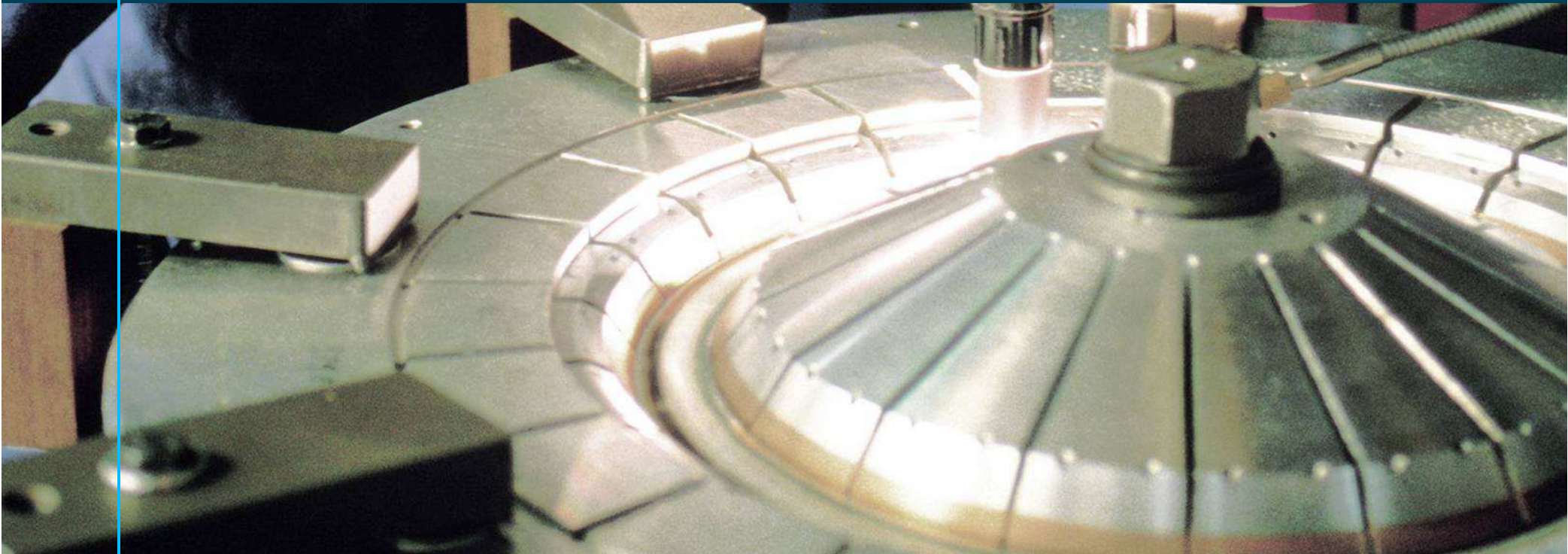
1. Make P&Ls more uniform
2. Internal transfer pricing
3. Reporting and controlling systems



## F. Experts

Roland Berger's expertise in production systems

**Roland Berger**  
Strategy Consultants



# Leading companies in production systems value our industry and functional expertise

Examples of clients and projects worldwide

## CLIENTS (selection)



1) Hirschmann

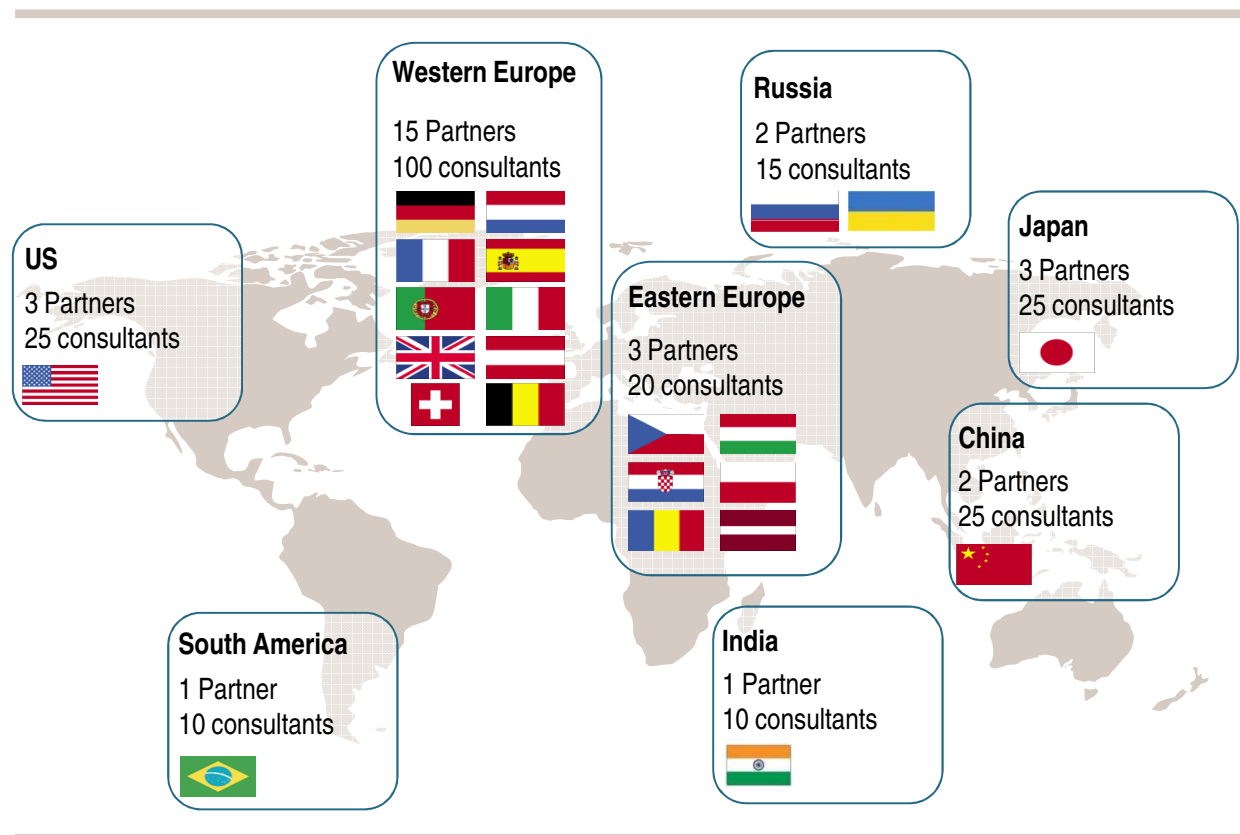
Source: Roland Berger

## TOPICS (examples)

- > Developing strategy growth options for a provider of automation solutions
- > Developing a product strategy for the Asian market
- > Boosting sales for a manufacturer of electric motors by tapping new sales markets
- > Reducing time-to-market for a provider of energy technology
- > Realizing profitable growth by broadening the service business for a machinery company
- > Optimizing the value chain for a manufacturer of machine tools
- > Realizing growth options by revising the existing/ implementing a new pricing strategy for an engineering company
- > Restructuring a diversified industry conglomerate
- > Optimizing a global production network

# The Roland Berger Engineered Products & High Tech Competence Center – A strong and global team at your service

Roland Berger Engineered Products/High Tech (EPHT): Over 250 consultants worldwide



- > Global team of **approx. 250 dedicated EPHT consultants**
- > Over **150 clients** in the production systems industry
- > More than **500 successful projects** since 2000
- > Proven **leading-edge tools and methodologies**
- > **Thought leadership** in the worldwide EPHT community, producing highly regarded studies and top quality research

# Our experts in production systems – We look forward to working with you



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## CORPORATE PERFORMANCE