



Strategic Focus – Leading-edge Technology – Value Driver

October 2007





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- **Strategic Focus**
- Leading-edge Technology 0
- **Value Driver**



## **ThyssenKrupp Group Overview**

## ThyssenKrupp AG

Sales €47.1 billion • EBT €2,623 million • TKVA €1,510 million • FCF €1,771 million • Employees 187,586

Steel	Stainless	Technologies	Elevator	Services
Sales €12.1 bn EBT €1,406 m TKVA €876 m FCF €1,146 m Employees 38,840  • Steelmaking • Industry • Auto • Processing	Sales €6.4 bn EBT €423 m TKVA €199 m FCF €243 m Employees 12,197  • Nirosta • Acciai Speciali Terni • Mexinox • Shanghai Krupp Stainless • Stainless Int. • VDM	Sales €11.4 bn EBT €410 m TKVA €215 m FCF €425 m Employees 54,757  • Plant Technology • Marine Systems • Mechanical Components • Automotive Solutions • Transrapid	Sales €4.3 bn EBT €391 m TKVA €264 m FCF €87 m Employees 36,247  • 4 regional business units • Escalators/ Passenger Boarding Bridges • Accessibility	Sales €14.2 bn EBT €482 m TKVA €294 m FCF €147 m Employees 40,163  • Materials Services International • Materials Services North America • Industrial Services • Special Products

Inter-segment sales not consolidated; organizational structure as at Oct 1, 2006; figures for FY 2005/06





## **ThyssenKrupp Technologies Business Units**

# ThyssenKrupp Technologies Sales: €11.4 bn Employees: 54,800

Plant Technology

Marine Systems Mechanical Components

**Automotive Solutions** 



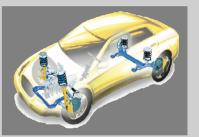
Sales: €2.3 bn Employees: 7,500



Sales: €2.1 bn Employees: 8,900



Sales: €4.1 bn Employees: 23,900



Sales: €3.0 bn Employees: 14,000

#### **Transrapid**

Note: figures for FY 2005/06





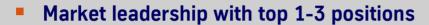
## **Strategic Objectives**













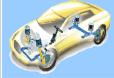
Technology leadership and development of innovative products with high customer value



**Expansion of service business and continuous efficiency improvement** 



International presence in relevant growth markets



Focus on customers through decentralized company management



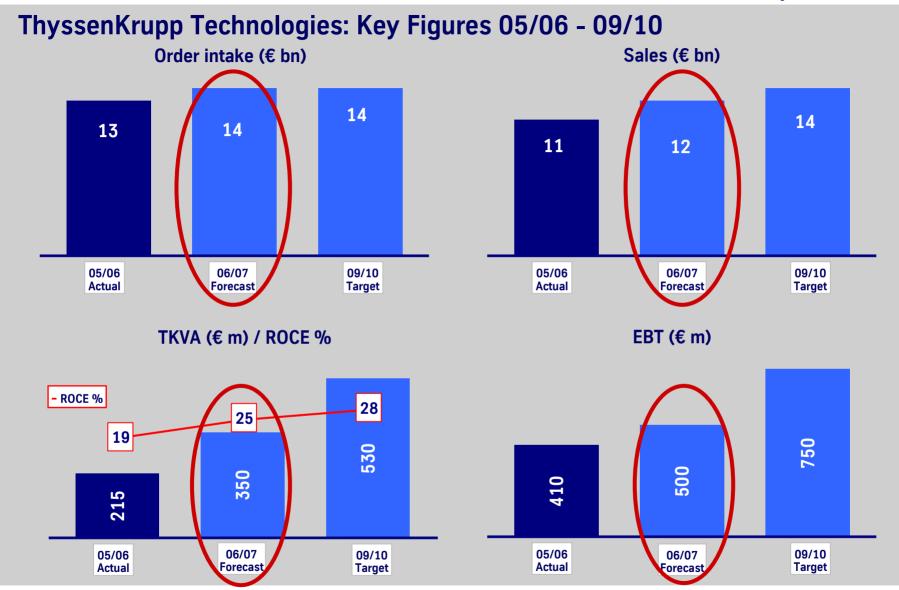
Highly qualified and committed workforce









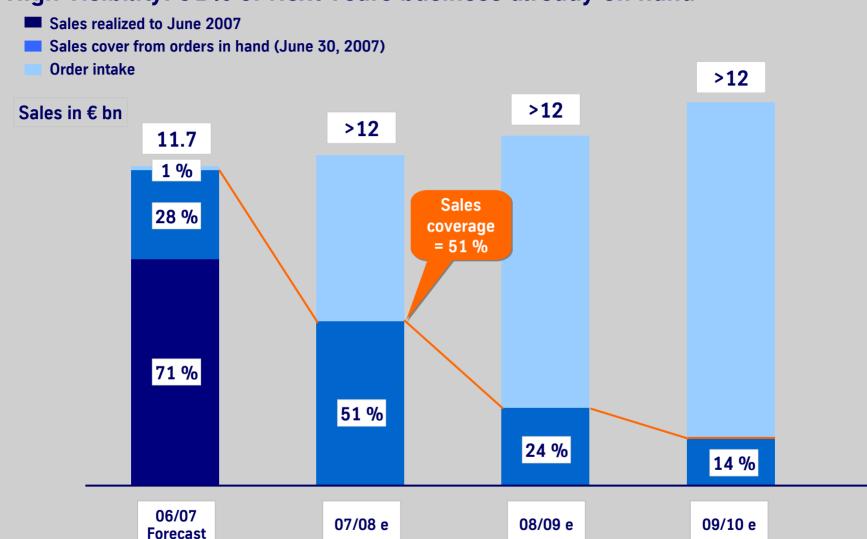


**ThyssenKrupp** Technologies





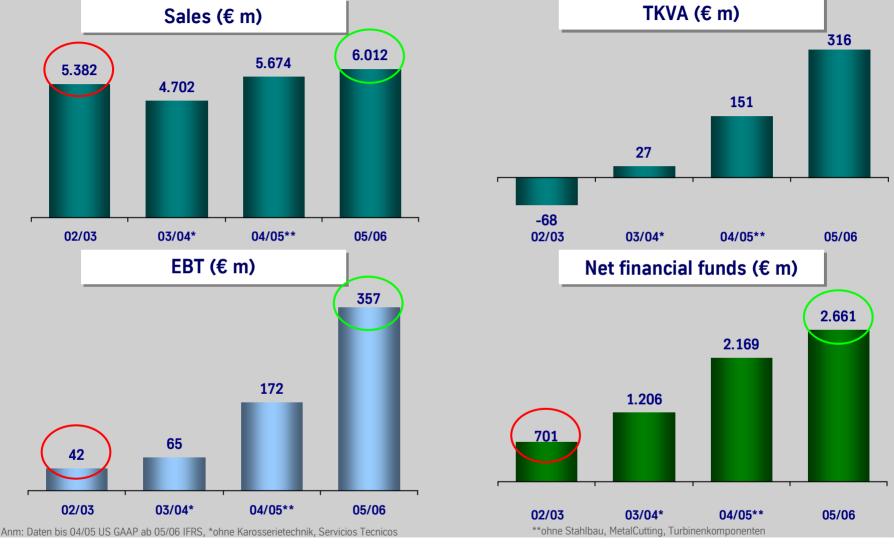
## High Visibility: 51% of Next Years business already on hand







## ThyssenKrupp Technologies: Positive Development from 02/03 to 05/06









## **Active Portfolio Management to Support our Strategy**

Portfolio changes 03/04 – 05/06

#### **Automotive**

12 Portfolio changes

#### **Technologies**

20 Portfolio changes

32 Portfolio changes

Note: Acquisitions and disinvestments accumulated

#### Portfolio changes since October 1, 2006

(-) Budd

- (-) Intecsa Uhde
- (+) Uhde Mexico

- (-) Fundicoes
- (-) Umformtechnik (Re-allocation)
- (+) EADS Naval

- (-) Stahlbau Berlin
- (-) Aventec

(+) A-C Equipment

- (-) Flachbaugruppe Kassel
- (-) Bilstein Wagenheber

(-) BVI Wehrtechnik

(+) DRECON

- (-) Germanischer Lloyd
- (-) Chemgineering

15 Portfolio changes









## **World Market Leadership with Top 1-3 Positions**

**Plant Technology** 

TOP 1-2









**Marine Systems** 

**TOP 1** 







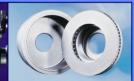


**Mechanical Components** 

**TOP 1** 







**Automotive Solutions** 

**TOP 1-3** 



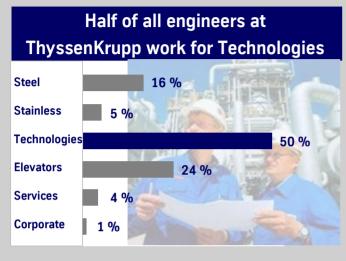


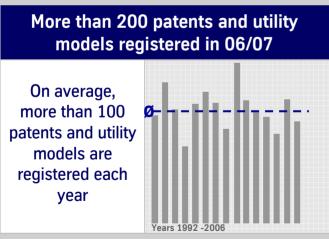






## **Technology Leadership and Market Oriented Development**







Figures in brackets = no. of employees at Sep. 30, 2006, rounded; Other R&D centers <100 employees



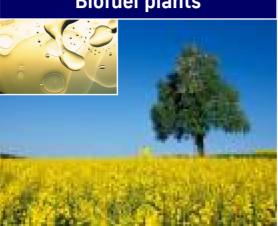


## **Technologies With a Strategic Focus on Environment Protection**

#### **Emission free power plants**



#### **Biofuel plants**



#### **Greenhouse gas reduction**

→ Saves more than 2.000 t of N<sub>2</sub>O/Year = 600.000 t CO<sub>2</sub>

#### **Innovations for wind energy**

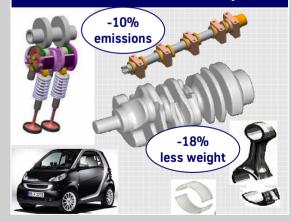


#### **Mobile crushing systems**

→ Replaces 5 trucks / saves >10 million ltr. diesel p.a.



#### **Auto: less fuel consumption**









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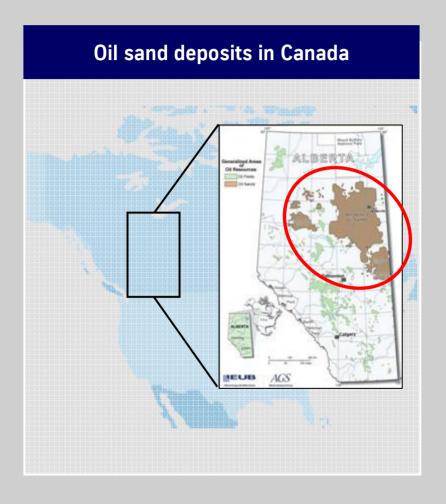


## **Strategic Potential: Raw Materials**

#### **Chemical intermediates and endproducts** Mining and refining of raw materials **Fertilizers** Elektrolysis Limestone Iron Ore Oil sand **Black Coal** Diamonds Coking plant technology Biotechnology **Brown Coal** about 30 % of the world's raw materials are mined, processed, and handled with systems by ThyssenKrupp (Plant Technology) Refinery technology Gas technology **Nickel** Copper Sulfur Organic chemistry/ polymers Polyester Note: Strip mining without shovel-truck



## Plant Technology: Oil Sand Mining "Canadian Natural Resources" (I)



- Worldwide reserves of approx. 650 bn barrels, thereof >80% in Canada (Alberta)
- These oil reserves are bigger than those of Saudi Arabia
- With Canada's deposits, today's world demand for oil could be met for the next 55 years
- With rising oil prices, mining has now become profitable as breakeven lies around US \$ 20/barrel





## Plant Technology: Oil Sand Mining "Canadian Natural Resources"



Loading capacity: 400 t per truck



Capacity crushing system: 6,000 t/h



**Conveyor System** 

The longest connected conveyor system of the world of 19 km was delivered by TK Fördertechnik!



Blending with 90° C hot water

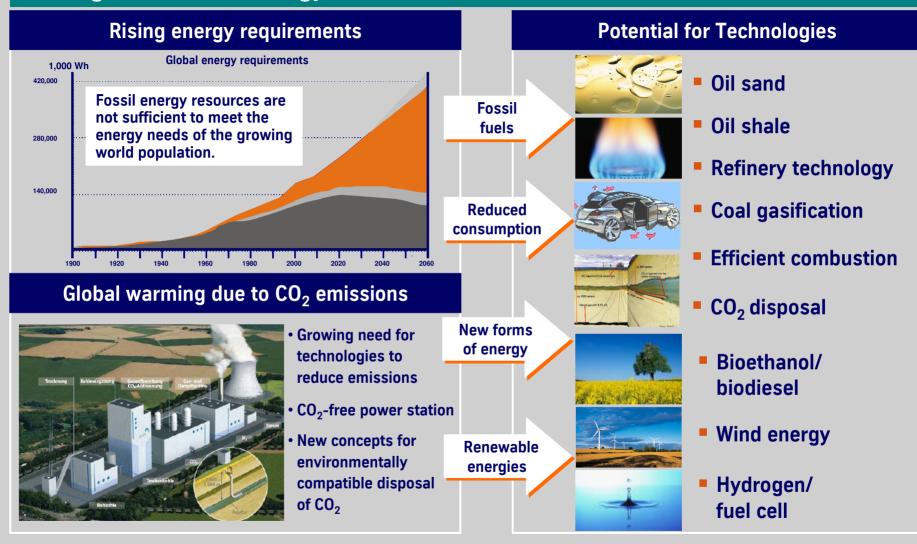


High-tech process technology





## Strategic Potential: Energy and Environmental Protection







#### **EnviNOx – Reduction of Green House Gas**



#### **Environmental Benefits**

- Nitric acid production is the worlds biggest nitrous oxide polluter
- 300 plants worldwide emit about 400.000 t
- Greenhouse effect of nitrous acid is 300 times worse than carbon dioxide
- More than 5% of the greenhouse effect are a result of nitrous oxides emissions
- $\rightarrow$  EnviNOx eliminates nearly all N<sub>2</sub>O emissions
- → Already built up plants reduce as much as an equivalent of 5 Mio t of CO₂ emissions
   =(3,3 Mio. Diesel-Cars)



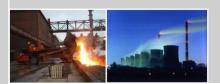


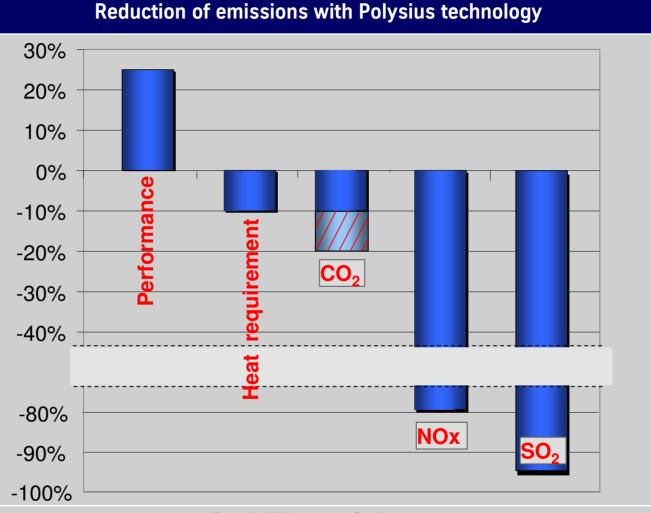


## **Innovations for Significant Reduction of Emissions in the Cement Industry**







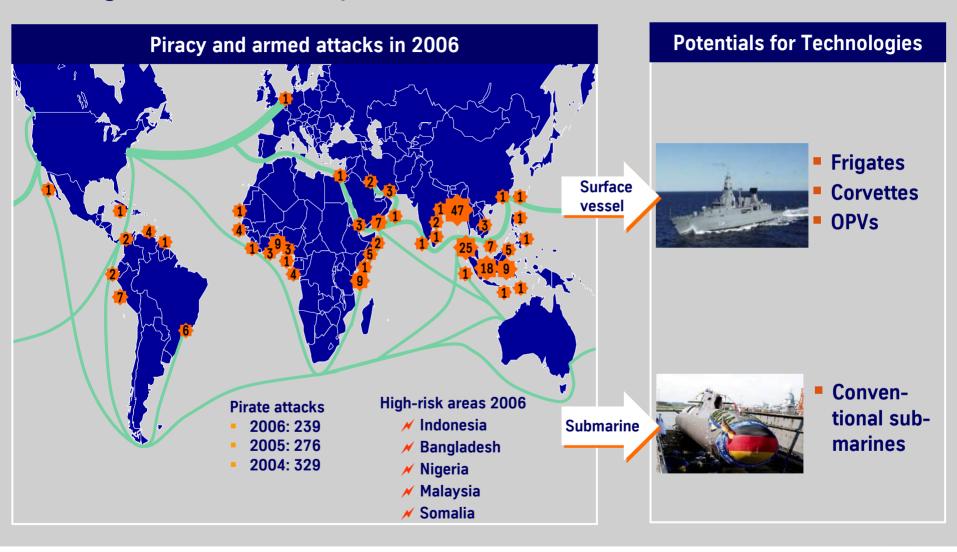


**Example: White cement, Spain** 





## **Strategic Potential: Security**







## Marine Systems: European Maritime Systems House

## **European Maritime Systems House** Kockums Nobiskrug HDW, HDW Gaarden Nordseewerke Blohm + Voss Blohm + Voss Repair ATLAS ELEKTRONIK Blohm + Voss Industries Hellenic Shipyards

- First and only European group of shipyards and electronics industry
- 100% privately owned marine group
- Leading world market positions in:
  - Conventional submarines, frigates, corvettes, and mega-yachts
  - Command, control and sonar systems
- Leadership in technology and systems integration, including:
  - Integrated electronics systems
  - Stealth technology
  - Fuel cells for submarines



**Submarines** 



**Frigates, Corvettes** 



Mega-yachts



**Refits** 



**Container ships** 





## Marine Systems: Export Market Leader for Frigates, Corvettes and Submarines





Frigates, corvettes, and submarines
World market position TOP 1 in naval shipbuilding

Propulsion MEKO® Stealth

impossible to locate

**Almost** 

Powerful

successful

design concept

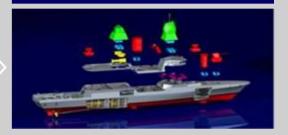
propulsion

Fuel cells

Long submerged time

#### **Gas turbine**

- Acceleration to over 30 knots
- "Crash Stop" (3 ship lengths)



For normal maritime traffic, additional reflectors are needed to allow other ships to recognize the frigates

Air-independent propulsion (fuel cell, diesel) allows submarines to remain submerged for 4 to 5 times longer





## Marine Systems: Capabilities in Mega-Yachts and After Sales Service



Capability in Mega-yacht Building World's Biggest Yachts (over 100 meters)

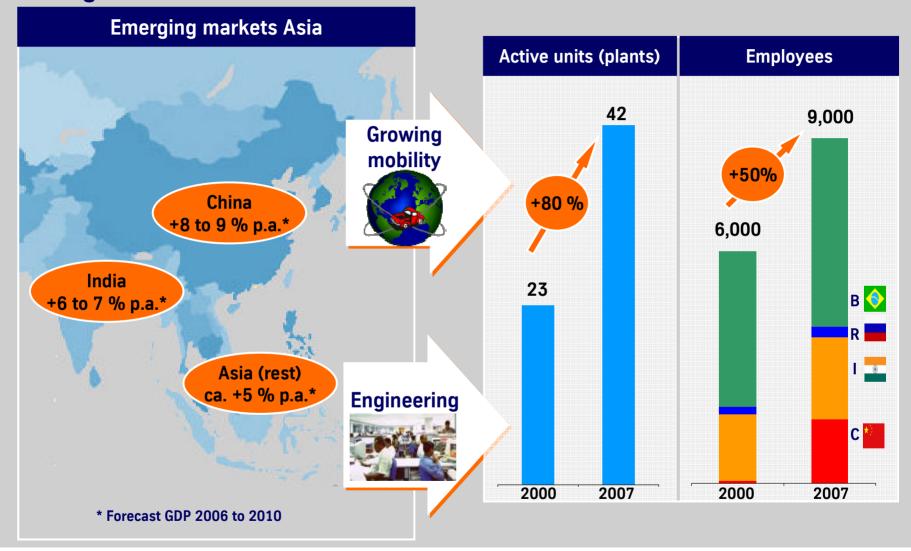


Capability in Time-challenging Refits
World's Biggest Cruise Liner "Queen Mary 2"





## Strategic Potential: BRIC and Asia/Pacific









## **Mechanical Components: High-Tech Components in Motion**



Assemled camshafts and eccentric shafts



Brake disks and cast components



Forged crankshafts and engine components



Large antifriction bearings and rings e.g. for wind turbines



Differential bevel gears and speed gears



Chains and crawlers e.g. for excavators and bulldozers

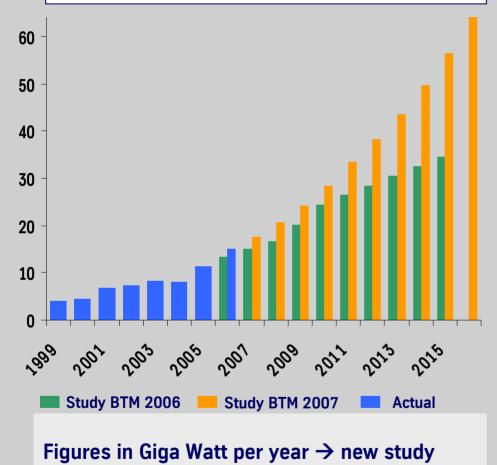




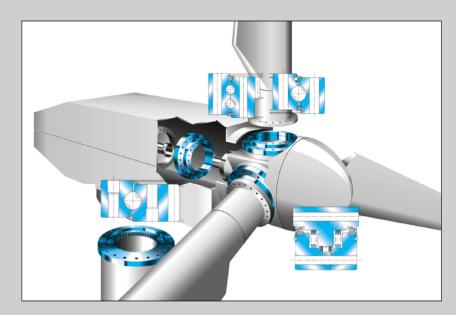


## **Mechanical Components: Worldwide Growth of Wind Energy**





#### **Bearings in Wind Energy Plants**

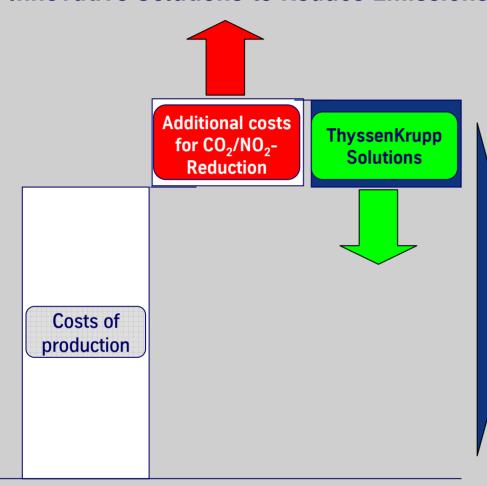


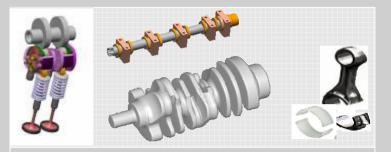
- ThyssenKrupp components are essential for wind turbines
- → 5 bearings for every wind turbine





# **Automobile Components Innovative Solutions to Reduce Emissions**





- Innovative materials for lightweight solutions
- Components and Solutions with advanced performance
- Intelligent systems to reduce emissions and fuel consumption

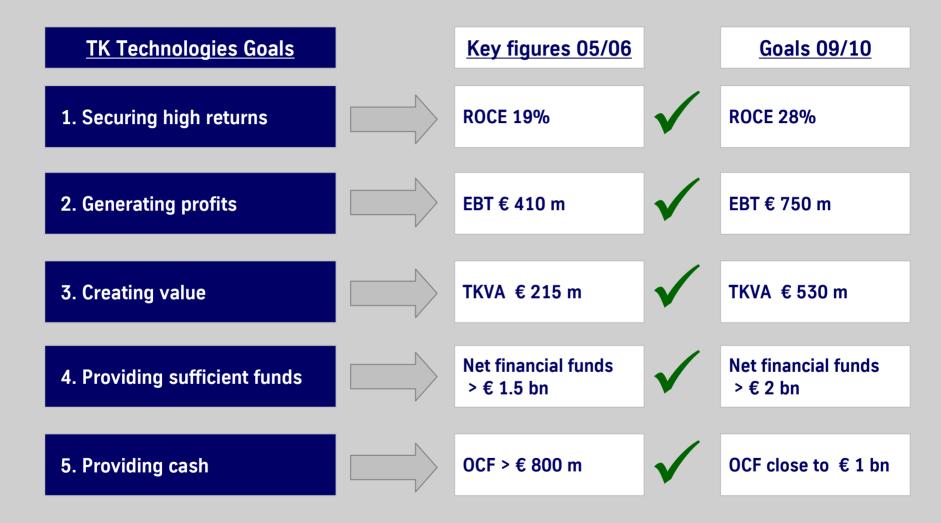




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## ThyssenKrupp Technologies: "Value Driver und Cash Provider"







## ThyssenKrupp Technologies: Strategic Position



- Four strategic pillars
  - Ongoing optimization of portfolio
  - Concentration on powerful business units
  - World market leadership with TOP 1-3 positions
- Strategic focus
  - Raw materials (mining and processing)
  - Energy (renewable and fossil)
  - Nutrition (fertilizer plants)
  - Security (Surface Vessel and Submarine)
  - Middle East (Infrastructure and Industry)
  - Asia / Pacific (Engineering and Components)
- Growth and profitability: "Value Driver Cash Provider"
  - **■** EBT-goal **€** 750 m
  - TKVA-goal € 530 m
  - **ROCE** 28 % Targets 2009/10
- ThyssenKrupp: Leading edge Technology
  - Innovations and technological competence
  - Technology leadership
  - Sophisticated high-tech products









# Leading Edge Technology







ThyssenKrupp Technologies

