

Hanover Fair 2010

Pre-press conference, Nuremberg, March 16, 2010

SIEMENS

Drive Technologies

Sustainable value based on
profound application expertise,
innovative products and a broad service offering

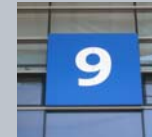
Klaus Helmrich,
CEO Drive Technologies

Siemens flies the flag at the Hanover Fair 2010

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**Siemens Industry
in Hall**

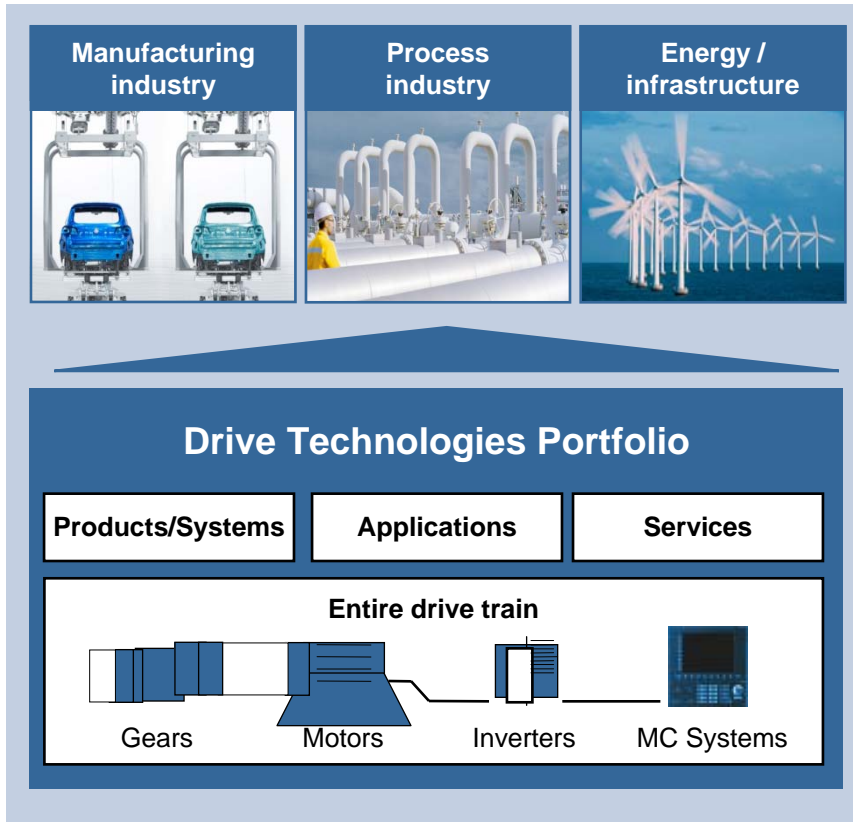


Industrial Automation



**As a supplier of entire drive trains,
Drive Technologies is the undisputed market leader**

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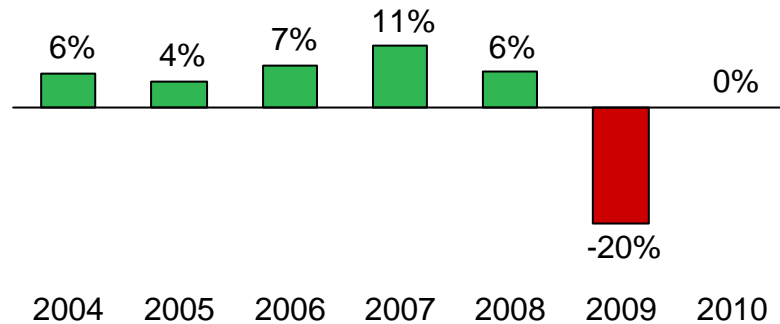


Drive Technologies in Fiscal Year 2009	
Revenue:	Market contraction: -12% FY 08 vs. FY 09
	7.5bn EUR (-11%)
New Orders:	6.5bn EUR (-31%)
Profit:	836m EUR (-35%)
Employees:	35 600

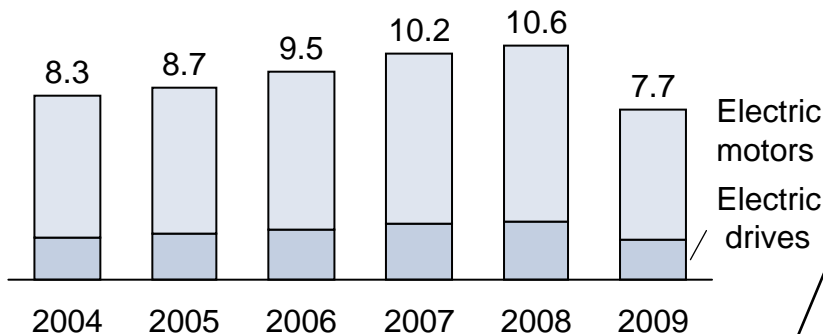


In spite of a most adverse market environment there are great opportunities emerging for the future

Machine production, in % YoY ¹⁾



Production of electric drives, in bn € ¹⁾



Source: VDMA, ZVEI

¹⁾ Germany

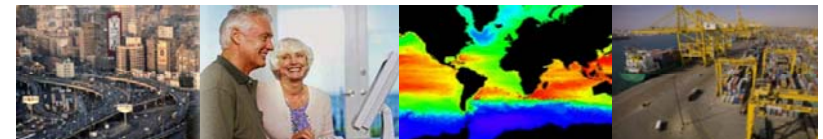
Drive Technologies Market environment

Challenges in 2009

- New orders in machine building in 2009 (Jan. – Oct.) -43% on 2008
- Industrial capacity utilization in Germany dropped to 71% as against previous year
- High overcapacities in the market

Opportunities

- Continuous investment in productivity and energy efficiency
- Continued growth in BRIC countries
- Stimulus programs to benefit infrastructure
- Long-term growth potential through megatrends



Urbanization

Demographic change

Climate change

Globalization

Drive Technologies provides the right answers to meet the requirements of the future

Key market requirements and the Drive Technologies answers

Energy efficiency



Environmental portfolio

- Wind gears / generators
- High-efficiency motors
- Energy-optimized traction systems

Productivity



Optimized design/production

- Tools for seamless data transfer from CAD to machine controls
- Totally Integrated Automation portfolio (TIA) including inverters and motors

Reliability



Drive Technologies as a Reliable partner

- High quality in products and processes
- Global support and service
- Sustained innovation path

Customer benefits

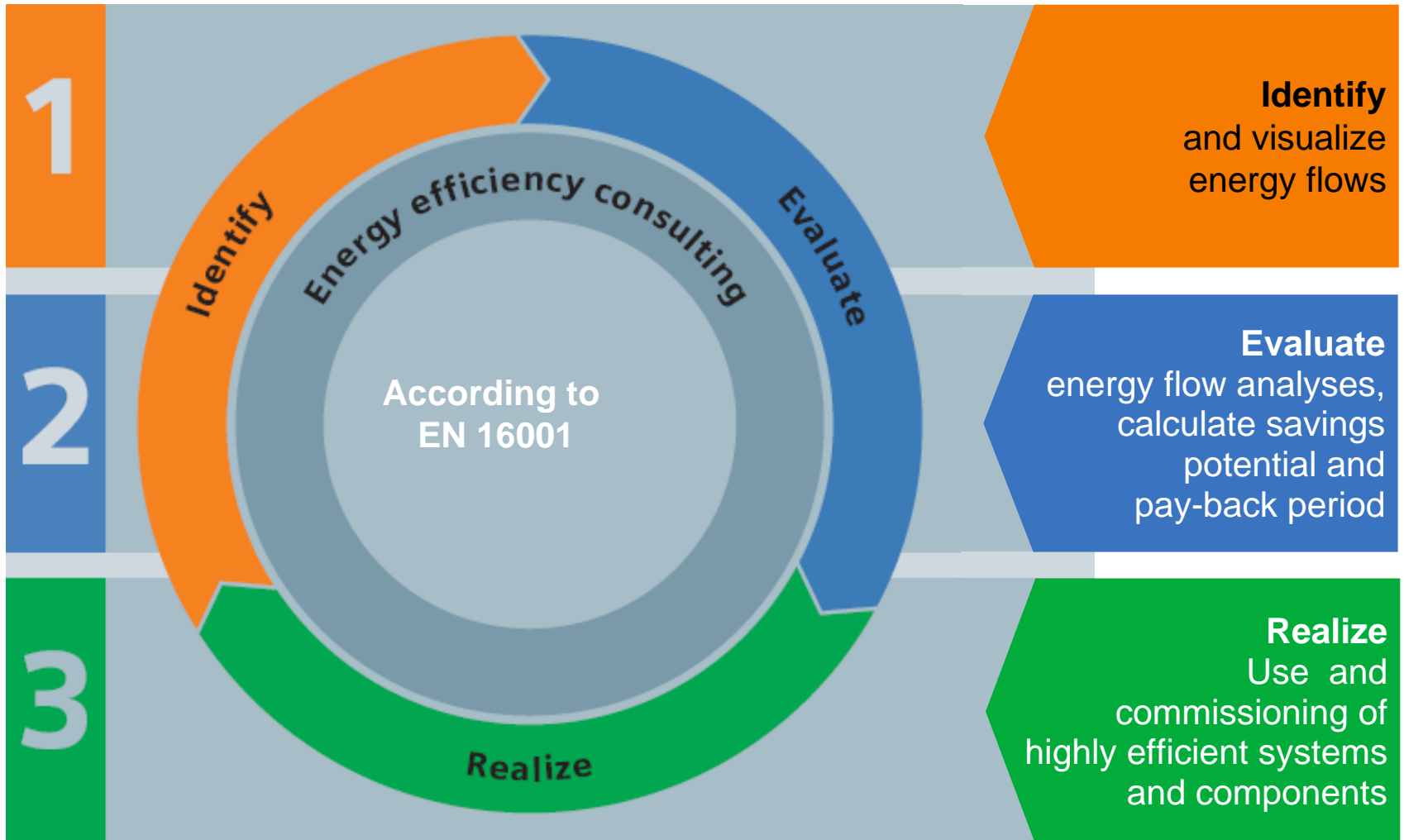
Reduced OPEX

Increased output

Investment security

Siemens has solutions to continuously increase energy efficiency

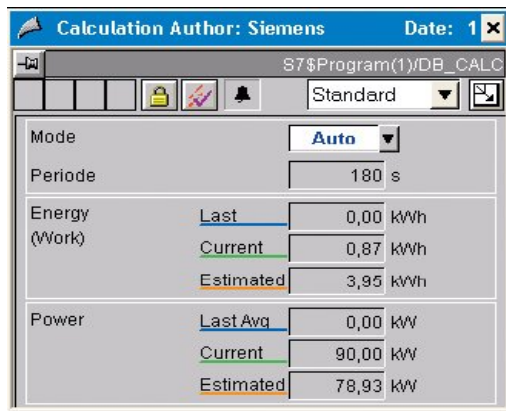
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Transparency of energy flows and saving potential as a condition for energy management

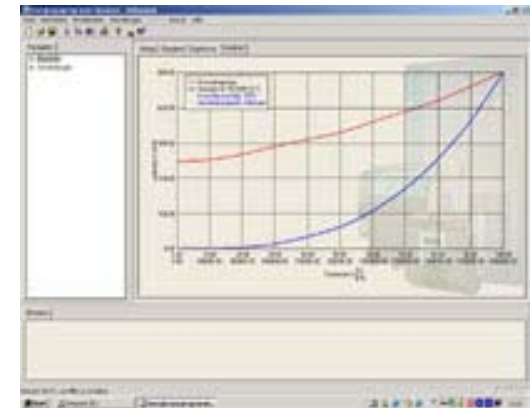
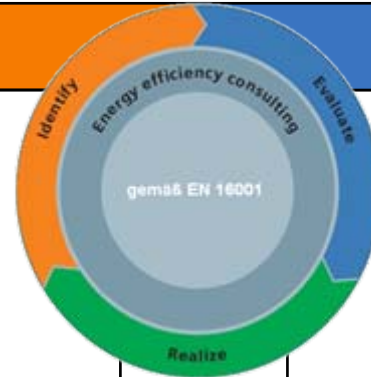
Identify

Evaluate



Simatic Powerrate

- Tool used to enhance the transparency in energy consumption from feed-in to load
- Energy data is continuously recorded, archived and processed
- Standard interfaces or standard functionalities of WinCC can be used

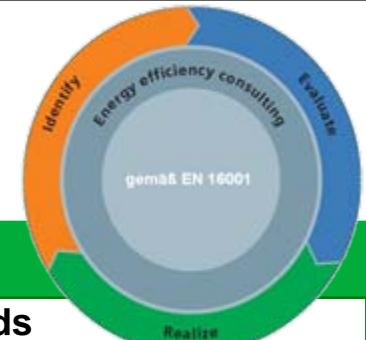


SinaSave

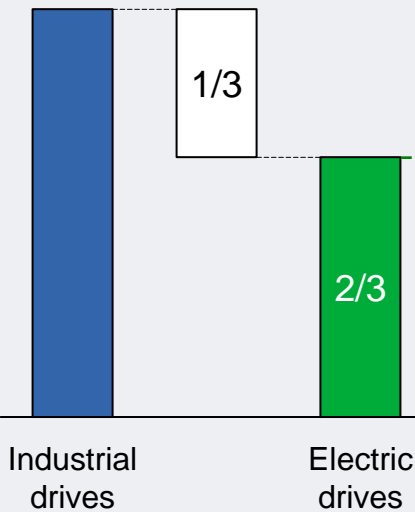
- Tool designed for applications working with mains fed motors (fixed speed) and in inverter mode (variable speed)
- Determines the potential energy saving in each application
- Calculates the payback period

Drive Technologies provides specific energy saving options to meet the customer's direct needs

Engines account for ~ 70% energy consumption in industrial plants



Drives in manufacturing and process industries



Realize

Cutting off unused loads

Using ProfiEnergy, two-step elements, etc.

Using variable speed drives

- e.g. in chilling systems (10 kW)
- Waste heat reduction by 8.5 kW
- Efficiency increase of 65%

Optimizing efficiency by

- Using high-efficiency motors (IE2/IE 3): efficiency: ~ +1.5%

Cases in point: energy efficiency

MGM Bellagio Las Vegas, USA

Energy savings in facility chillers

- Replacement of existing chiller drives with variable-speed drives
- 50% energy savings
- Cost savings: around 450,000 USD p.a.
- Payback within 9 months



Low-voltage motors

High-efficiency motors

- Efficiency IE1 vs IE2
+ 1.9% abs. (15 kW, 4pole)
+ 1.2% abs. (90 kW, 4pole)
- Efficiency IE2 vs IE3
+ 1.5% abs. (15 kW, 4pole)
+ 1.0% abs. (90 kW, 4pole)



Corus Strip Products, GB

Energy efficiency through retrofit

- Use of variable speed drives instead of purchasing new equipment
Simover in 40-year old hot strip rolling mill
- Savings:
16,400 MWh or
450 tons CO₂ p.a.



Cases in point: productivity

Car manufacturer in Germany

Servopress

- Hardware-based, collision-free synchronization of multi-station presses
- Productivity gains:
Throughput ~360,000 parts p.a. (+10%) at the same CAPEX



Sinumerik 840 D sl Sinumerik Operate Sinumerik M Dynamics

Process competence across the entire process chain optimizes planning and manufacturing flows and shortens time-to-market.



Ormazabal, Krefeld

Productivity through retrofit

- Use of high-end control (Sinumerik 840D sl and Sinamics S120)
- CAD file transfer in ShopMill to the new CNC program within 20 minutes
- 75% lower fitting and tool changing times



Cases in point: reliability

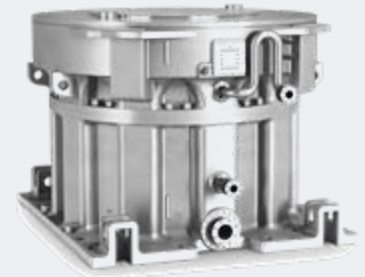
Dubai Ports Authorities, VAE

- 60 RMG cranes used in container terminals fitted with Sinamics drives, transformers, switchgear, Crane Management System (SICMA), and Sway Control System
- High failure resistance to power cuts and line voltage variations thanks to redundant Siemens infeed technology (Active Infeed)



Flender EMPP

- Low-loss drive system used in a vertical mill system, including an integrated permanent magnet synchronous motor fed by frequency converter
- ~ 5% increase in availability against conventional uncontrolled drive trains



Raysut Zement, Oman

Reliability through retrofit:

- Use of Flender planetary gear instead of repairing competitive products
- Greater product reliability and service performance cut unplanned shutdown by 10-15%



“We create sustainable value ...

... because we have stood for innovations in drive technology for more than 100 years”

... because our customers can rely on our inventive genius also in the future”



Electric reversible drive



Mercury-arc inverter

Sinumerik



IE 3



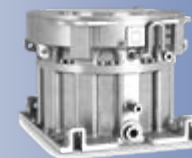
Energy efficiency

Sinumerik M Dynamics



Productivity

Flender EMPP



Reliability

1900

2010

Summary

Drive Technologies is the clear world market leader in the entire drive train

In spite of the economic crisis, Drive Technologies has succeeded in advancing its market leadership

Drive Technologies has the right innovations to meet customer requirements in the future

Customers appreciate Drive Technologies' innovation path towards energy efficiency, productivity and reliability

Drive Technologies creates sustainable value for its customers based on profound application expertise, innovative products and a broad service offering