Global Thermal Processing
Jan Elwart

Midlands Tour
May 2006
We will show you that...

- ....Bodycote is well structured
- ....Bodycote is global
- ....Bodycote is innovative
- ....Bodycote is partnering and integrating
- ....Bodycote is developing and growing
- ....Bodycote is investing carefully
...but why in Thermal Processing?

Because essential parts of our lives won’t work without it!

Gearbox
Surgical instruments
Turbines
**Geographic Structure**

**AMERICAS**
- North America: 25 plants
  - Canada: 2 plants
  - US: 44 plants

**EUROPE**
- Europe: 44 plants
  - UK: 25 plants
  - Germany: 18 plants
  - Netherlands: 5 plants
  - Austria: 3 plants
  - Switzerland: 2 plants
  - Italy: 4 plants
  - Liechtenstein: 1 plant
  - Czech: 6 plants
  - Poland: 5 plants
  - Romania: 1 plant
  - Hungary: 1 plant
  - France: 32 plants
  - Belgium: 3 plants
  - Sweden: 13 plants
  - Finland: 6 plants
  - Denmark: 2 plants

**ASIA**
- Asia: 1 plant
  - China: 1 plant
Management Structure
...experienced management team

CEOs
- John Hubbard

Regional Managers
- Americas: Martyn Wilton
- Northern Europe: Mike Hallas
- Central Europe: Jan Elwart
- Western Europe: Guy Prunel
- Asia: Dan McCurdy

Functional Areas
- Production Management
  - Regional Managers
    - Plant Managers
- Sales Management
  - Regional Sales Managers
- Engineering Management
  - Regional Maintenance
- SHARED SERVICES
  - Accounting
  - HR
  - Health & Safety
- Quality Management
- R&D
  - Regional Managers
## Thermal Processing Markets

### Heat Treatments
- Annealing
- Carbonitriding
- Case Hardening
- Controlled Atmosphere Treatments
- Electron Beam Welding
- Gas, Plasma & Liquid Nitriding
- Hardening & Tempering
- Induction Heat Treatment
- Kolsterising®
- Low Pressure Carburising (LPC)
- Nitrocarburising
- Vacuum Brazing
- Vacuum Heat Treatment

### HIP
- Alloy Castings
- Densal®
- Powder Metallurgy
- Composites

### Surface Engineering
- CoatAlloy®
- Sheradizing
- Plasma spraying
- HVOF
- IonBond

### Industries Served
- Automotive
- Aerospace & Defense
- Construction
- Tooling
- Oil & Gas
- Power Generation
- Medical technology
- Foundry
- Miscellaneous
Markets Thermal Processing serve

**Automotive**

- Block: Densal® HIP
- Main Common Rail parts, Vacuum or bainitic hardened
- Gear: PVD coated
- Ballpins: Bodycote Corr-I-Dur®
- Drive shaft: Electron Beam Welded and case hardened
- Al castings: Densal II HIP
Markets Thermal Processing serve

Aerospace

- Hipped MMC component
- Vane assembly, vacuum brazed, and heat treated
- Landing gear arm, plasma coated to replace Cr plate.
- Fluid tube, vacuum brazed, and heat treated

Fluid tube, vacuum brazed, and heat treated
Markets Thermal Processing serve

**Construction**

- Sherardized fittings for tunnel projects
- Heat treated steering gear
- Piston pins and Tappet roller for Marine Diesel Carburised

**Other industries**

- Power generation
- Medical & Pharmaceutical
- Food & Beverage
- Petrochemical
- Consumer products
- Teeth clamp Vacuum brazing
- TEGIMENT® Kolsterising® Watch industry
Bodycote Core Competence

**Technology**
- Best technology
- Highest global quality standard
- International know-how transfer

**Service**
- Wide spectrum
- Integrated Solution

**Partnership**
- Cost saving for customer
- Time saving for customer
- Value added service
- Flexibility

**Human Resource**
- Experienced management team
- Trained staff

International companies need global partners
Outsource – for SKF

- Joint development with SKF
- New technology treatment
- High volume bearing production
- Best mechanical and aesthetic properties
- Optimum logistics
Outsource – for Continental

- Inhouse solution
- Corr–I-Dur ® on break pistons
- Patent Pending
- 15 million break pistons /year
- Weight Reduction, change material from cast iron to sheet steel – 25% weight reduction
- Substitution of chrome plating
- Environmental friendly process
Outsource – for Kopern

- Crusher rolls for cement production
- Hipped tool steel tiles for wear resistance
- Tiles fitted to a roller and hipped in place using a softer in-fill material to produce an impact resistant compound structure
- Replaces welded hard faced rollers and increases life expectancy by more than 500%
• New Technology
• Metallic coating enhances productivity of reactor tubes in petrochemical plant.
  – Increases Flow Rate by over 15%
  – Extends period between de-coking by up to 200%
  – Improves Tube Life to 5 years
Outsourcing initiatives continue to deliver growth
Confident of further progress in 2006

<table>
<thead>
<tr>
<th>Industries</th>
<th>Trends</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive</td>
<td></td>
<td>Fuel Injection System, Powertrains, Carbody protection, Fuel Cells</td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td>Components for machinery and highly abrasive tooling</td>
</tr>
<tr>
<td>Aerospace</td>
<td></td>
<td>Turbines, Landing structures, Space and Aeronautic components, Turbine Overhaul</td>
</tr>
<tr>
<td>Medical</td>
<td></td>
<td>Implants, surgical Instruments, pharmaceutical and chemical industrie components</td>
</tr>
<tr>
<td>Oil &amp; Gas</td>
<td></td>
<td>Drill, transfer, distribution and developing machinery</td>
</tr>
<tr>
<td>Power Generation</td>
<td></td>
<td>Turbine components</td>
</tr>
</tbody>
</table>
Market trends/Growth potential

- By Region

**Eastern Europe:**
- Poland
- Czech
- Romania
- Hungary
- Turkey

**Asia:**
- China
- India
- Malaysia
- Singapore
- Japan
- Taiwan

**South America:**
- Brazil
Market trends/Growth potential

- Automotive industry grows fast in eastern Europe
- Aerospace industry in Poland

Source: automotive news
Market trends/Growth potential

Asia

India

China

- Boom of automotive market in India and China
- Singapore is centre of asian aerospace industry
South America - Brazil

Brazil is the main automotive manufacturing location in South America.
Bodycote Marketing Strategy

FOCUS: Outsourcing for Industry

Future target markets:

✓ Go East!
  - Asia (China, India, Singapore)
  - Eastern Europe (Poland, Czech, Turkey)
✓ South America
  - Brazil

Strategy:

✓ Further bolt on Acquisitions
✓ Relocation of equipment
✓ Optimizing plant size
✓ Divest or realign underperforming locations
✓ Value added service
Summary - Thermal Processing

- Growth through outsourcing with a focus on high added value components and medium/large national/multinational customers
- Expand the network in lower cost economies – **Eastern Europe, Asia, South America** via bolt-on acquisitions and selective greenfield locations
- Acquisition of bolt-on specialist processing NA/Europe
- Realign, close or dispose of underperforming and commodity orientated facilities
- Transfer skills and know-how around the Group
- Focus on ROCE - not growth for growth’s sake