BI @ Bosch: Strategy & Practice of a Global Corporation

Dr. Dieter Neumann (Robert Bosch GmbH) 16th October 2009

BI @ Bosch: Strategy & Practice

Agenda

- Introduction Bosch Organisation
- BI Maturity Model biMM®:
  Actual & Target Stages @ Bosch
- Details Dimension Technology:
  IT Architecture @ Bosch
- Details Dimension Process:
  BI Applications for Process Support @ Bosch
- Challenges @ Bosch
- Summary & Key Messages
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Bosch: Organisational Structure

Bosch Group
Sales: 45.1 billion euros
Associates on Jan. 1, 2009: 291,717

Automotive Technology
Sales: 26.5 billion euros
Share of total sales: 59%

Industrial Technology
Sales: 6.7 billion euros
Share of total sales: 15%

Consumer Goods & Building Technology
Sales: 11.9 billion euros
Share of total sales: 26%

1) Including other business areas
Bosch: Business Divisions

**Automotive Technology**
- Gasoline Systems
- Diesel Systems
- Chassis Systems Brakes
- Chassis Systems Control
- Energy and Body Systems
- Starter Motors and Generators
- Car Multimedia
- Automotive Electronics
- Automotive Aftermarket
- ZF Lenksysteme

**Industrial Technology**
- Bosch Rexroth
  - Electric drives and controls, hydraulics, assembly and linear motion technology, pneumatics
- Packaging Technology
  - Packaging machines and lines for the confectionery, food, and pharmaceuticals industries
- Solar Energy
  - Solar cells, photovoltaic modules

**Consumer Goods & Building Technology**
- Power Tools
  - Power tools for the building trade, industry, and the DIY sector
- Thermotechnology
  - Heating units and systems, open-loop and closed-loop control systems
- Household Appliances
  - Cooking, dishwashing, washing, drying, cooling, freezing
- Security Systems
  - Fire and burglar alarm systems, video surveillance systems

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**Bosch: International Manufacturing Sites**

- RB : 291 manufacturing sites in 37 countries
- UBK : 131 manufacturing sites in 30 countries
- UBI : 97 manufacturing sites in 25 countries
- UBG : 80 manufacturing sites in 26 countries

As per January 2009
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Bosch: IT Organisation

<table>
<thead>
<tr>
<th>Automotive Technology (UBK)</th>
<th>Industrial Technology (UBI)</th>
<th>Consumer Goods and Building Technology (UBG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>BE</td>
<td>GS</td>
</tr>
<tr>
<td>BR</td>
<td>PA</td>
<td>PT</td>
</tr>
</tbody>
</table>

Customer Engagement

Engineering

Development Commercial Applications

RBW

UBK

UBG, UBI

Field Service

Business Intelligence Competence Center

Systems Engineering

Application Foundation

Operations

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Dimensions of BI Strategy and Maturity*

- Business Relevance
- Technical Architecture
- Information Architecture
- Process Dimension
- Technology Dimension
- Organisation Dimension
- BI Organisational Structure
- BI Strategy
- Cost Effectiveness
- BI Processes
- Data Management
- Information Design
- Infrastructure

Five Stages of BI Maturity (biMM):
- Stage 1: Individual Information
- Stage 2: Information Islands
- Stage 3: Information Integration
- Stage 4: Information Intelligence
- Stage 5: Enterprise Information Management

*see Business Intelligence Maturity Model biMM® (Steria Mummert Consulting and Universities)

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**BI Maturity: Actual & Target Stages – Overall**

**Evaluated Bosch BI Maturity Stages**

<table>
<thead>
<tr>
<th>Maturity Stages</th>
<th>Individual Information</th>
<th>Information Islands</th>
<th>Information Integration</th>
<th>Information Intelligence</th>
<th>Enterprise Information Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process</td>
<td>Individual Reporting View</td>
<td>Sectoral Business Perception</td>
<td>Focusing</td>
<td>Strategic Alignment</td>
<td>Operative Integration</td>
</tr>
<tr>
<td>Technology</td>
<td>Data Anarchy</td>
<td>Data Mart</td>
<td>Data Warehousing</td>
<td>Future Orientation</td>
<td>Near-Realtime Information Provisioning</td>
</tr>
</tbody>
</table>

- Actual Maturity Stage
- Target Maturity Stage

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**Framework: House of BI**

<table>
<thead>
<tr>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management of Strategic Initiatives</td>
</tr>
</tbody>
</table>

- **Process**
  - BI Business Strategy
- **Organisation**
  - BI Governance Strategy
  - BI Operating Strategy
  - BI Development Strategy
  - BI COE Strategy
- **Technology**
  - BI Product Strategy
  - BI Hosting Strategy
  - BI Architecture Strategy
  - BI Consolidation Strategy

**BI Support Strategies**

- BI Data Quality Strategy
- BI Meta Data Strategy
- BI Information Management

**BI Strategy**

**BI Vision / Mission**

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**IT Architecture: Basic Concept**

- structured into building blocks
- modular design using (application) components
- functions clearly allocated to components
- standardized data model
- common platforms (eEnabling, portal, security)
- flexibility, openness
- robustness, scalability

Gradual implementation of new components and functions taking into account economical benefits!
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Global Optimization of Costs for External Procurement:
- TCO
- Purchasing in Emerging Markets

Capable Supplier Structure:
- Bundling of Purchasing Demands
- Multiple Sourcing

Enlargement of Supply Risk Management to Sustainability:
- Risk of Insolvency

Objectives → Processes → KPIs → Projects & BI systems
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Challenges @ Bosch

- Enterprise Data Warehouse:
  - not feasible as monolithic approach
- Central Master Data Management:
  - strong need for harmonization
- Numerous Organizational Changes:
  - resulting from acquisitions or carve-outs
- Data Cleansing Needs within Staged Reporting:
  - including audit trail and workflow
- World-wide Rollout Needs and Technological Diversity:
  - world-wide source systems based on multiple technologies
  - extensive SAP system landscape (ERP and BI)
- Preference for Web-based Technologies (avoiding desktop installations)
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Summary & Key Messages

- Bosch = Global Player:
  - very diversified and world-wide business
  - fast changes in structures and requirements

- Our BI Maturity:
  - clear picture of actual status
  - vision where to go in the future

- Our BI Strategy:
  - derived from individual strategy of business divisions
  - taking into account our technological framework and guidelines

- Our Practical BI Experience:
  - sometimes reality has to stretch the pure theoretical tenets

BI @ Bosch combines achievements with high future potential!
Time for Questions

➔ Thank You for Your Attention!

➔ Any Questions?

➔ Any Remarks?