IRIS Conference May 2008

Presentation by Pierre Pelouzet – Purchasing Director
High Level Certification: a necessity for rail

The SNCF purchasing in brief:

6 large purchasing segments

- General Supply
- Railway and civil works
- Energy
- Services
- Intellectual services
- Rolling Stock

In 2007:

- More than 9 billions euros of purchase (excluded RFF tolls)
- About 25,000 orders per year

Purchasing is the 2nd element of spend for SNCF:

A crucial tool to control the costs and the quality of its own services
High Level Certification: A necessity for rail

Purchasing at SNCF:

✓ More and more worldwide sourcing which modifies strongly the relationship between SNCF and its suppliers, in particular concerning the product quality control.

✓ SNCF’s will increase its ambitions and expectations for its suppliers, concerning their responsibilities and the continuous improvement of their performance.

✓ Even if SNCF doesn’t require imperatively a certification for all its suppliers, a reliable certification is essential for the trust SNCF needs to have in its suppliers.
The European railway market is also an open market for railways operators as SNCF. We are and we will be more and more in competition with other European operators.

Cost control and quality control of the purchased products are essential for the SNCF to be present on the European railway market.
The quality management context:

- The worldwide success of the ISO 9000 standards certification and its extension to all kinds of activities puts forward the “process quality” certification but too often forgets the “product quality” aspects.

- Our experience and participation in the activities of certification bodies shows us the necessity to have specific requirements and auditors with high level competency in the railway field.
High Level Certification: A necessity for rail

The SNCF expectations: that the high level certification sought by IRIS be confirmed and maintained

- To associate more closely operators to the IRIS activities and functions to strengthen its dimension and its credibility.
- To benefit from the operators’ knowledge of suppliers, to implement and maintain a real link between certification and quality recorded by the clients, on the suppliers’ performance and on the products supplied.
- To be rigorous concerning the issuing and the withdrawal of the IRIS certificates.
- To reinforce the operators’ confidence in the management and operation of the IRIS certification system.
IRIS - International Railway Industry Standard
The Quality Standard for the Railway Industry

High level certification: A necessity for Rail

First IRIS Conference
Brussels, May 21st, 2008

Pierre Attendu
Chief Procurement Officer
Bombardier Transportation has its global headquarters in Berlin, Germany with a presence in over 60 countries. It has an installed base of over 100,000 vehicles worldwide. The Group offers the broadest product portfolio and is recognized as the leader in the global rail sector.

- Workforce*: 31,485
- Countries with Production Presence: 21
- Production Sites: 43
- Revenues**: $7.8 billion US
- Order Backlog*: $30.9 billion US

* as at 31 January, 2008  
** year ending 31 January, 2008
IRIS - The Quality Standard for the Railway Industry

We welcome,
A common global system for the evaluation of Business Management Systems specific to the railway industry, that includes

– Sector specific requirements on the top of ISO 9001.

– An evaluation process to be performed by independent and approved certification bodies.

– A web-based information tool including information about audit results.

IRIS is not competing against any other Certification Scheme.
Our Expectations towards the IRIS certification scheme

- Stable process and improved interfaces by standardized requirements.
- Reduction of cost of poor quality in the whole supply chain.
- Less auditing by recognition of IRIS certificates.
- Reliable Information about suppliers of the railway industry.

To build confidence and partnerships
IRIS Commitment of System Integrators

- The four System Integrators:
  - Bombardier Transportation
  - Alstom Transport
  - AnsaldoBreda
  - Siemens Transportation Systems

Committed (2006-05-18) to recognized IRIS certificates and therefore to not initiate business management system audits at companies having a valid IRIS certificate.

Project and/or product audits have different purposes and so they are not part of this commitment.
Bombardier approach

- BT fully support IRIS and is committed to obtain IRIS certification for its own sites
  - 8 BT sites are already IRIS certified with a score > 80% (Spain, Germany, Sweden, China)
  - Further sites will follow in accordance with our global certification plan.

- In terms of our suppliers:
  - Preferred suppliers are expected to be IRIS certified by May 2009 and to grant access to their IRIS results.
  - In this case: BT’s supplier evaluation and approval process will be reduced to topics that are not covered by IRIS, such as supplier performance, financial health, capabilities and capacities issues.
  - Targeted suppliers not meeting the deadline will be considered as “NOT preferred supplier” in new contracts.
Pierre Attendu

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Web: www.bombardier.com
www.theclimateisrightfortrains.com
A benefit for the railway industry!

Knorr-Bremse,
Dr. Albrecht Köhler

Brussels, 21st May 2008
Brake Systems for Rail Vehicles - Product Overview (Extract)

### Brake- and System Control
- MBS (Locomotives)
- EP Compact
- EP 2002
- Under floor assembly

### Air Supply
- Screw/Piston Compressor
- Oil free Compressor

### Bogie Equipment
- Eddy Current Brake
- Magnetic Track Brake
- Brake Caliper
- Brake Disc

### Hydraulics
- Hydraulic Unit
- Brake Caliper
### On-Board Systems for Rail Vehicles - Product Overview (Extract)

<table>
<thead>
<tr>
<th>Door Systems</th>
<th>HVAC</th>
<th>Power Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Door Systems" /></td>
<td><img src="image2" alt="HVAC" /></td>
<td><img src="image3" alt="Power Supply" /></td>
</tr>
<tr>
<td><img src="image4" alt="Platform Door Systems" /></td>
<td><img src="image5" alt="Toilets / Electronics" /></td>
<td><img src="image6" alt="Signaling / Power Supply" /></td>
</tr>
</tbody>
</table>

- **Door Systems**
  - Platform Door Systems
- **HVAC**
  - Electronic Voltage Converter
- **Power Supply**
  - Disconnector
  - Braking Resistor
  - Electronic Voltage Converter
Various factors which influence our systems and growing complexity of supply chain result in increasing challenge on these key elements

IRIS defines requirements for engineering and project management processes

A successful management system is absolutely necessary to ensure that well defined processes are in place and regularly improved

**Remaining major improvement areas for achieving Zero Defect:**
- Product Engineering
- System Engineering
- Project Management

IRIS supports Zero Defect Approach of Knorr-Bremse

**Result**
Improved process and product quality leads to reduced quality costs
IRIS sets the standard for processes in the railway industry

- IRIS defines the requirements of the rail industry and fills the gaps of ISO 9001:2000

Biggest gaps of ISO 9001 in product realization (e.g. project management, first article inspection, RAMS/LCC)

- IRIS is driving topics which were neglected in the past (e.g. configuration management, obsolescence management)

- Detailed questionnaire shows potentials for process improvements
IRIS provides a high level certification and audit standard

- One unique and high level international rail standard leads to upgrade of management system and improved processes
- IRIS audit tool supports internal pre-assessments
- Fair and objective evaluation by accredited certification bodies with experienced auditors familiar with the Railway Industry
- Standardized and detailed audit report with maturity score is available
- Elimination of comprehensive system audits by major system integrators

Areas of Improvement:
- IRIS shall be accepted by all system integrators and operators
- IRIS shall be joined quickly by all major suppliers in the rail industry
- International presence of Certified Bodies is necessary
- IRIS standard must not be weakened by ‘generous’ auditors

IRIS builds mutual trust with customers and supports preferred partnerships
IRIS Certification in Knorr-Bremse Rail Group

- Knorr-Bremse is absolutely convinced about the benefit of IRIS.

- IRIS will be an important prerequisite for railway market access, specially for preferred suppliers.

Commitment: All relevant 23 Knorr-Bremse locations will be IRIS certified until mid of 2009.
IRIS Conference
Brussels, May 20/21 2008

German Railway Industry Association
Axel Schuppe, General Manager
• The German Railway Industry Association

• The current business situation

• The value of IRIS

• Conclusion and outlook
VDB ...

- was founded in 1877
- represents the interests of manufacturers of railway technology
- includes more than 110 member companies with about 40,000 employees in all fields of railway technology (rail vehicles and accessory, mechanical and electrical components, railway infrastructure and electrification, information and communication systems, magnetic levitation systems, train control, signaling and safety systems)
- works within 18 specialized sections and working groups
- represents its members interests towards the public, politics, customers, national and international authorities, institutions and organisations for the sustainable promotion of railway traffic
- active participation in shaping the industries economical, technical, political and legal conditions
Organization of the VDB

Organisationsstruktur

Mitgliedsunternehmen

Mitglieder-Versammlung wählt

PRÄSIDIUM

bestellt

GESCHÄFTSFÜHRUNG

koordiniert

FACHGRUPPEN

- Lokomotiven
- Waggonbau
- Elektro- und klimatechnische Komponenten
- Betriebsleit-, Kommunikations- und Informationstechnik
- Infrastruktur
- Service
- Weichenbau
- Umwelt

ARBEITSKREISE

- Kommunikation
- Vertragsrecht
- Mittelstand
- Regelwerke – Signaltechnik
- Qualitätsmanagement
- Korrosionsschutz
- Güterverkehrssysteme
- Akustik
- Forschung & Entwicklung
- RAMS / LCC

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The German Railway Industry Association

The current business situation

The value of IRIS

Conclusion and outlook
Turnover in the German Railway Industry (VDB-Members).
Order intake in the German Railway Industry (VDB-Members).
Turnover and Order intake in the Railway Industry in chronological Order (VDB Members)

<table>
<thead>
<tr>
<th>Region</th>
<th>2005</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAFTA</td>
<td>~ 1,5 bn €</td>
<td>~ + 3,5% - 3,7% p.a.</td>
</tr>
<tr>
<td>WESTERN EUROPE</td>
<td>2005: 22,3 – 25,8 bn €</td>
<td>~ + 1,0% - 2,1% p.a.</td>
</tr>
<tr>
<td>EASTERN EUROPE</td>
<td>2005: ~ 3,7 bn €</td>
<td>~ + 3,5% p.a.</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2005: ca. 63,2 – 72,7 bn €</td>
<td>~ + 2% - 2,5% p.a.</td>
</tr>
<tr>
<td>CENTRAL &amp; SOUTH AMERICA</td>
<td>2005: ~ 2,2 bn €</td>
<td>~ + 2,0% – 3,3% p.a.</td>
</tr>
<tr>
<td>AFRICA &amp; MIDDLE EAST</td>
<td>2005: ~ 1,5 bn €</td>
<td>~ + 3,5% - 3,7% p.a.</td>
</tr>
<tr>
<td>ASIA &amp; PACIFIC</td>
<td>2005: 14,7 – 16,0 bn €</td>
<td>~ + 3,0% - 5,0% p.a.</td>
</tr>
</tbody>
</table>

The Impulses of Growth:
- Environment and climate issues
- Economical globalisation
- Increasing fuel prices
- Worldwide conurbations
- Liberalisation and deregulation
- Interoperability


* average of the years 2003-2005
- The German Railway Industry Association

- The current business situation

- The value of IRIS

- Conclusion and outlook
Value of IRIS – some questions

- How to keep this growth sustainable?
- How to gain the best share for the European rail supply industry in the growing market?
- Could IRIS be one part of the answer even for SME's?
Conclusion and outlook

- IRIS encourages process innovation
- IRIS contributes to an improvement of product quality
- IRIS helps to save cost
- IRIS (the IRIS approach) has the potential to become more than a rail supply industry standard while becoming mutually recognized
  - by rail supply industry customers and operators
  - within EU certification procedures by NoBo’s
  - for certification of maintenance workshops
- The German Railway Industry Association

- The current business situation

- The value of IRIS

- Conclusion and outlook
The Rail Supply Industry: A „Hidden Champion“ of the Economy
Verband der Bahindustrie in Deutschland (VDB) e.V.

With excellent and efficient railway system solutions for more sustainable traffic on rail.

www.bahnindustrie.info
IRIS - International Railway Industry Standard
The Global Quality Standard for the Railway Industry

IRIS Conference – May 21
IRIS - International Railway Industry Standard
The Global Quality Standard for the Railway Industry

Friedrich Smaxwil
Member of the Executive Management Board of Siemens TS
GDP-growth of China and India (optional slide)

Source: Goldman Sachs
European manufacturers still outpace Asian companies...

System integrators with highest sales volume in railway sector by regions (sales in billion EUR)

<table>
<thead>
<tr>
<th>Region</th>
<th>Suppliers</th>
<th>Sales (billion EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>European suppliers</td>
<td>Alstom + Ansaldo Transport + Bombardier + Siemens</td>
<td>16.3</td>
</tr>
<tr>
<td>US suppliers</td>
<td>GE + Trinity</td>
<td>4.6</td>
</tr>
<tr>
<td>Asian suppliers</td>
<td>CSR + CNR + Kawasaki</td>
<td>4.2</td>
</tr>
<tr>
<td>Russian suppliers</td>
<td>Transmash</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Source: SCI Verkehr, VDB, Wettbewerbsbericht Deutsche Bahn
Secure market advantages with IRIS

- European manufacturers can maintain their lead with
  - Stabile, efficient processes
  - Optimal meshing of processes between suppliers and system integrators
  - IRIS plays an important part in this process

In short: IRIS increases the chance of getting a good product at a competitive price
Asian rail technology in the world market

Growing global involvement of Asian system integrators
Growing interest of Asian railway subsystem suppliers in IRIS
An opportunity to show a company’s areas of competence
IRIS opens up global sourcing in Asia

- IRIS reduces the risks of global sourcing
- IRIS simplifies the process and makes it less expensive
- Asian providers with IRIS certification become much more likely potential business partners
来自亚洲的竞争：
对欧洲制造商的挑战？

(Assian Competition : a challenge for european manufacturers?)

Pierre Sainfort – COO Faiveley
Asia:

before being a challenge with competition, is a huge opportunity

- Domestic market (China, India)
- Overseas Strategy & Ambition of local Car Builders (China, Korea)

Faiveley Air Conditioning since 1994
Faiveley Brake Systems since 1995
Faiveley Platform Screen Doors since 1999
Faiveley Passenger Access Doors since 2002
Faiveley Couplers since 2007
Asia: a cultural challenge
Asia: a stability challenge (China, India)

► **Extreme contrasts**

► **Human Resources**
  - for urban citizens, english speaking, educated: salary increase +10/20%/year – loosing people @ +30% (purchasing, quality, SQA…)

► **Finance**
  - exchange rate evolution vs €,$
  - volume management > profit management > cash management

► **Quality** *(base=FT domestic suppliers)*
  - poor results local supplier quality audit
  - poor ppm level, high NCR, multiple FAI,
  - mandatory 100% Incoming Inspection before use/shipment
Asian Competition: a true challenge

- Cultural Challenges
- Stability Challenges

BUT

- Very Fast Learning,
- High Skills and Competencies,
- Future Very Active Players,
IRIS - Seminar

Foucauld de LAUZON

AFAQ AFNOR Asia

foucauld.delauzon@afnor.org
Standardization process
European (CEN) and International (ISO) standards
International Relations
27,500 experts

Standards & Books sales
Information & Intelligence
Sector schemes and Trades approach
AFNOR on-line shop
124,000 items

Training
QHSE Services
Products
Metrology
Audit
10,000 trainees

Assessment & Certification
QSE Management Systems Services
Products
Competences
Labels
65,000 certified sites
The railway industry in China

Railway development in China

Increasing of outsourcing in China
IRIS awareness in China

- From “IRIS ... what is IRIS?”
  - Commitment of major purchasers
  - Market open and curious about new initiatives
  - Companies looking for recognition from outside China

- To “How do I get IRIS certificate?”
IRIS .... a large range of questions

- QMS Quality Management System
- IRIS
- Auditing
- RAMS
- LCC
- Project Management
- Product testing
- Product certification
- ...

(Company logo: IRIS Certification)
May 2008 …
middle of a 3 keys steps for IRIS

- 2007 ... awareness
- 2008 ... implementation
- 2009 ... certification ?
Asian Competition, a challenge for European manufacturers

José Taborda
21st May 2008
The world we know…
The world… railway oriented!
ALSTOM Transport in China

Subsidiaries and joint ventures

- **ALSTOM China Ltd. Holding**
  - Employees: 112

- **YONGJJI: Motors**
  - Employees: 21

- **Hong-Kong: Signalling**
  - Employees: 47

- **QINGDAO: Dampers**
  - Employees: 31

- **SATCO Rolling Stock**
  - Employees: 271

- **CASCO: Signalling**
  - Employees: 313

- **SATEE: Traction**
  - Employees: 70

- **ATSL Services**
  - Employees: 270

*In M Euros*
Boost purchases in Emerging markets

Alstom Transport Purchases

2006/2007

- Western Countries: 96.8%
- East Europe Countries: 2.9%
- ASIA: 0.4%

2009/2010

- Western Countries: 70%
- East Europe Countries: 15%
- ASIA: 15%

✓ 15 Asian suppliers to be part of LP150 program
IRIS is at the heart of Suppliers Development
IPOs in Asia

Sourcing

SQA

India Sourcing Office
Jan 2008

Technical Support

China Sourcing reinforcement since May 2007
Communication to Suppliers Panel

- Standard letter sent on 28/08/2006 to Alstom Transport Panel Suppliers requiring certification by end of 2008
- Strong follow up on Key Suppliers by Commodities

From January 1st 2009, IRIS Certification will be a discriminatory factor

All suppliers (including Asian) will follow the same program
Benefits of IRIS in Asia

Benefits will be the same as in Europe

- Quality will increase across the entire supply chain
- Evaluation and approval of equipment manufacturers will become more efficient
- Cost for manufacturers and suppliers will decrease
- Comprehensive data and its accessibility will improve

Moreover

- Clear Iris requirements will enable Asian supplier to be compliant sooner
- A certified Asian supplier base will push to industrial excellence the global base
- Asian supplier quality systems will become legitimate
Improvement for IRIS deployment in Asia

Issues

- Little knowledge of the IRIS standard in Asia by our Suppliers (except for European subsidiaries)

- Little Certification bodies competent resources available in Asia. That does not allow the right speed in the deployment of this new standard

Suggestions

- UNIFE/IRIS event in Asia: China and India

- Certification Bodies in Asia posted on IRIS Website