IRIS
International Railway Industry Standard
A Quality Standard for the Railway industry

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UNIFE

What is IRIS?

- IRIS stands for International Railway Industry Standard.

- IRIS aims at developing and implementing a common global system for the evaluation of Business Management Systems specific to the railway industry, including:
  - One internationally recognized standard based on the key principles of ISO 9001 and specific to the railway industry;
  - One harmonized evaluation process to be performed by approved certification bodies;
  - A web-based IRIS Portal (common database) and Audit-Tool (software).
IRIS - International Railway Industry Standard

**Why IRIS?**

- Operators have complained about the quality of some Rolling Stock and requested to improve the quality of the Supply Chain.
- Railway equipment manufacturers have complained about the number of different requirements and audits from Rolling Stock Manufacturers and requested rationalization.

IRIS is an answer to these requests

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**The Challenge**

- The goal of IRIS is to improve the quality of the railway industry supply chain.
- The systems aims at a global recognition and acceptance of audit results, the avoidance of multiple auditing and therefore increased cost efficiency.
- Audit records and audit results will be collected and stored in a central database.
- IRIS will enable high quality in audits.
The Guiding principles

- The development of the standard is transparent and involve all market participants via UNIFE.
- The standard is owned and managed by UNIFE (ensure independency).
- Audit results are traced confidentially and published only with allowance of the Audit Client. Rules for protection of data privacy will be followed.
- Approval of certification bodies is fair and transparent.

Benefits

- Improved product quality & supply chain efficiency.
- Reduction of effort and cost.
- More accurate and reliable Information about suppliers to the railway industry.
- Fair evaluation by independent certification bodies.

It’s a win - win situation for all those concerned.
IRIS - International Railway Industry Standard

- Is based on the ISO 9001 Structure.
- IRIS adds a layer, which contains railway specific requirements for the Business Management System, e.g.
  - Project Management,
  - Design, etc…
- IRIS contains:
  - Mandatory requirements with "Shall" wording.
  - Optional requirements with "Should" wording.
- Some requirements are “KnockOut” criteria.

0. Foreword
1. Scope
2. Normative Reference
3. Terms and Definitions
4. Quality Management System
   4.1 General Requirements
   4.2 Documentation Requirements
   4.3 Knowledge management
   4.4 Management of multi sites projects
5. Management Responsibility
   5.1 Management commitment
   5.2 Customer focus
   5.3 Quality Policy
   5.4 Planning
   5.5 Responsibility, authority & communication
6. Resource Management
   6.1 Provision of resources
   6.2 Human resources
   6.3 Infrastructure
   6.4 Work Environment
7. Product Realization
   7.1 Planning
   7.2 Customer related process
   7.3 Tender Management
   7.4 Project Management
   7.5 Design & development
   7.6 Configuration Management
   7.7 Purchasing
   7.8 Production & Service provision
   7.9 Commissioning / Customer service
   7.10 RAMS / LCC
   7.11 Control of monitoring & measuring devices

8. Measurement, analysis and improvement
   8.1 General
   8.2 Monitoring and measurement
   8.3 Control of nonconforming products
   8.4 Control of nonconforming processes
   8.5 Analysis of data
   8.6 Improvement

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Evaluation methodology

- Audit results are scored, not a fail/pass system
- Questionnaire has 253 questions:
  - 111 questions relative to ISO Requirements
  - 142 questions relative to IRIS Requirements
- 10 K.O. questions, not scored, fulfilment mandatory
- 32 Closed questions
  - Yes/No question
- 211 Open questions
  - scored using maturity levels
- Threshold
  - Section score ≥ 50% of maximum possible score
  - Global score ≥ 50% of maximum possible score
What makes the difference to ISO?

1. additional railway specific requirements, e.g. such as
   - Knowledge management
   - Management of multi sites projects
   - Requirements management
   - Competences, awareness and training
   - Infrastructure management
   - Tender management
   - Integration management
   - Scope management
   - Time management
   - Cost management
   - Communication management
   - Risk and opportunity management
   - Change management
   - First article inspection
   - Configuration management
   - Outsourcing (Make or Buy)
   - Supply chain management
   - Commissioning / Customer service
   - RAMS / LCC
   - Control of nonconforming processes
   - ....

2a. Assessment methodology

<table>
<thead>
<tr>
<th>Knock-Out &amp; process</th>
<th>7.4 Project management</th>
<th>The organization has defined criteria for project / non-projects business including appropriate procedures. New product development has to be run as project. Projects have defined roles and responsibilities for the actors, integrating the whole functions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Original text</td>
<td>K.O. QUESTION</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 procedures to be documented (ISO 9001: 6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19 processes required (ISO 9001: 3)</td>
</tr>
</tbody>
</table>
2b. Maturity levels & scoring

<table>
<thead>
<tr>
<th>Clause</th>
<th>Question</th>
<th>POOR (1 point)</th>
<th>DEFINED (2 points)</th>
<th>QUALIFIED (3 points)</th>
<th>OPTIMIZED (4 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.3</td>
<td>Tender management</td>
<td>- Process defined and implemented - multi-disciplinary approach prior to commitment to start the quotation process</td>
<td>OPEN QUESTION</td>
<td>- formal review and defined process available - risks are continuously monitored, updated</td>
<td>- continuous improvement of the risk assessment process including tools</td>
</tr>
</tbody>
</table>

Σ of points / max points ≥ Threshold (~ 50 %)

3. Corrective or improvement actions

Concluding the answers of each individual requirement (question) there might be corrective or improvement actions required. Therefore the following scheme shall be applied:

<table>
<thead>
<tr>
<th>Compliance</th>
<th>Level</th>
<th>Points</th>
<th>Actions requested</th>
<th>Actions requested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliant</td>
<td>optimized</td>
<td>4</td>
<td>no specific action expected</td>
<td>closed question</td>
</tr>
<tr>
<td></td>
<td>qualified</td>
<td>3</td>
<td>improvement action might be expected</td>
<td></td>
</tr>
<tr>
<td></td>
<td>defined</td>
<td>2</td>
<td>improvement action requested; to be closed within 12 months</td>
<td>no specific action expected</td>
</tr>
<tr>
<td>Non Compliant</td>
<td>poor</td>
<td>1</td>
<td>corrective action requested; to be closed within 90 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>insufficient</td>
<td>0</td>
<td>corrective action requested; to be re-audited within 90 days</td>
<td>corrective action requested; to be re-audited within 90 days</td>
</tr>
</tbody>
</table>
What makes the difference to ISO?

4. Compensative and rewarding approach
Once certified, the client has to undertake so-called surveillance audits on a regular basis, however a minimum of once per year.

Following compensative and rewarding approach will apply for audited organizations with a global score of $\geq 75\%$:

- IRIS requirements main clauses scoring individually $\geq 80\%$
  - will not be audited during surveillance audits
  - will be dealt with only during the re-certification process (after 3 years)
- IRIS requirements main clauses scoring individually between 75% and 80%
  - will be partially audited with the purpose to improve the related processes and achieve 80% scoring.

What makes the difference to ISO?

5. Requirements to auditors (experiences/examination)

- Auditors shall comply with ISO 19011
- Auditing Experience:
  Auditors shall have participated in at least 4 certification audits or for a minimum of 20 audit days covering all the requirements of ISO 9001 within the last 4 years.
- Work Experience:
  After the implementation phase, new IRIS auditors shall have a minimum of 3 years railway industry experience in the last 10 years.
- Railway Certification:
  Auditors shall have passed the IRIS training and examination.
- Communications skills
  Basic English & local language.
What makes the difference to ISO?

6. Certification Body may only carry out audits in the areas of the particular railway equipment in which its Auditors are approved.

<table>
<thead>
<tr>
<th>First level</th>
<th></th>
<th>10 Passenger Information Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Car body</td>
<td>2 Car body fittings</td>
<td>11 Communication systems</td>
</tr>
<tr>
<td>3 Guidance (Bogies and running gear)</td>
<td>12 Cabling and Cabinets</td>
<td>13 Door System</td>
</tr>
<tr>
<td>4 Power System</td>
<td>5 Propulsion</td>
<td>14 HVAC</td>
</tr>
<tr>
<td>6 Auxiliary systems</td>
<td>7 Braking System</td>
<td>15 Tilt System</td>
</tr>
<tr>
<td>8 Interiors</td>
<td>9 On board vehicle control</td>
<td>16 Lighting</td>
</tr>
</tbody>
</table>

7. Availability / maintenance of information

  - provides valuable information about, e.g.:
    - IRIS approved Certification Bodies
    - IRIS Certificates (list of companies, scope and validity)
    - Auditor performance (access restricted to CBs)
    - Audit results (reports, scores, corrective action plans, incl. status; access restricted)
    - supports sales/distribution of IRIS booklet and data transfer via XLM data export interface

- **IRIS audit tool**
  - contains the IRIS questionnaire and supports audit execution and reporting
  - Automatically transfers audit results into the web portal
Role of the IRIS Steering Committee

- Development and implementation of the IRIS System, including:
  - International standard
  - Evaluation process with an audit and scoring methodology
  - Global database
- Admittance and removal of members
- Cooperation with other organization/associations
- Approval of certification bodies
- Setting up Working Groups
- Setting up and monitoring the IRIS Management Centre

Role of the IRIS Management Centre

- Implementing and promoting of IRIS System
- Setting up, administrate and maintaining:
  - IRIS website
  - IRIS database
  - IRIS audit software
- Contracting and monitoring certification bodies
- Organizing of IRIS information sessions and seminars
- Managing the day-to-day operation and activities:
  - Administrates the standard and training material
  - Administrates the IRIS database
Certification Bodies

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Requirements to Certification Bodies

- ISO 9001 accreditation and IRIS approval
  - consent to framework agreement:
    1. At least 25 certificates specific to the railway industry
    2. Global presence
    3. Capability and experience in the railway industry
    4. Availability of experienced auditors

- Mutual recognition of IRIS certificates between approved certification bodies
  (to enable issuing of corporate certificates for multi-site organizations)

- Acceptance of « witness audits »

- Execution of IRIS in-house training/examination by certification bodies
IRIS Benefits (1/2)

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- One demanding International recognized Standard for the Railway Industry.

- Reduction of non conformity costs due to suppliers deficiencies

  => IRIS will support the manufacturers and the suppliers in improving their process quality continuously.

- Increase the number of approved suppliers

  => whilst stopping of audits performed by internal resources.

IRIS Benefits (2/2)

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- Reduction of efforts in terms of time and expenses for approving suppliers

  => Thus enhance focus on supplier performance and on specific product requirements.

- Reduction of costs for maintaining the “approved supplier lists” in ERP systems.

  => They will become obsolete. In future, the data will be maintained on one common IRIS web database.

- Improvement of Quality of Equipments & Rolling Stock
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IRIS Management Centre

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