

# Qualität im Schienenverkehr

Vergleich 9001 et al. und IRIS.

Wie wird in den Regelwerken mit *Kennzahlen* umgegangen?

oder

Was können auch "*Nicht-Eisenbahner*" aus der IRIS nutzen?



# Qualität in Schienenverkehr

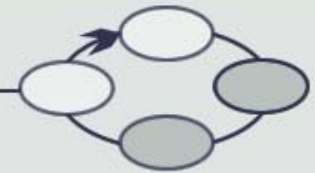
## Inhalte

- 👤 **Begrüßen / Vorstellen**
- 👤 **ISO 9001 / IRIS**
- 👤 **IRIS (Was, Warum, Wer, Wie)**
- 👤 **Erfahrungen von EVAC GmbH**
- 👤 **Besonderheiten (auch für „andere“)**
- 👤 **Quellen / Hinweise**

# Qualität in Schienenverkehr

## Begrüßen / Vorstellen

us4quality



### Startseite

#### Unsere Leistungen

- in Ihren Projekten
- in Ihrem Projektmanagement
- in Ihrem Unternehmen
- bei Ihren Lieferanten

#### Unsere Produkte

- das SPRINTprojects
- die projectPROFIT
- das Excellence Ansatz
- das rate4Quality
- die Berater-Entwickler
- das Management auf Zeit
- die Bücher / Schulungen

#### Unser Unternehmen

- die Wurzeln
- die Zusammenarbeit
- die Kompetenzen
- der Ansprechpartner
- die Netzwerke
- die Gesellschaft
- die Referenzen

#### Ihr Kontakt zu uns

- Ihre Suche nach Lösungen
- Ihre Quelle für Lösungen

**... und unter anderem leisten wir auch:  
Vorbereiten auf und Aufrechterhalten  
von Zertifizierungen, z.B. nach**

**ISO 9001**

**TS 16949**

**IRIS**

Gemeinsam Qualität definieren

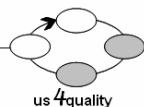
- in Ihren Projekten
- in Ihrem Projektmanagement
- in Ihrem Unternehmen
- bei Ihren Lieferanten



Willkommen bei  
**us4quality**

**Udo Schmidt**

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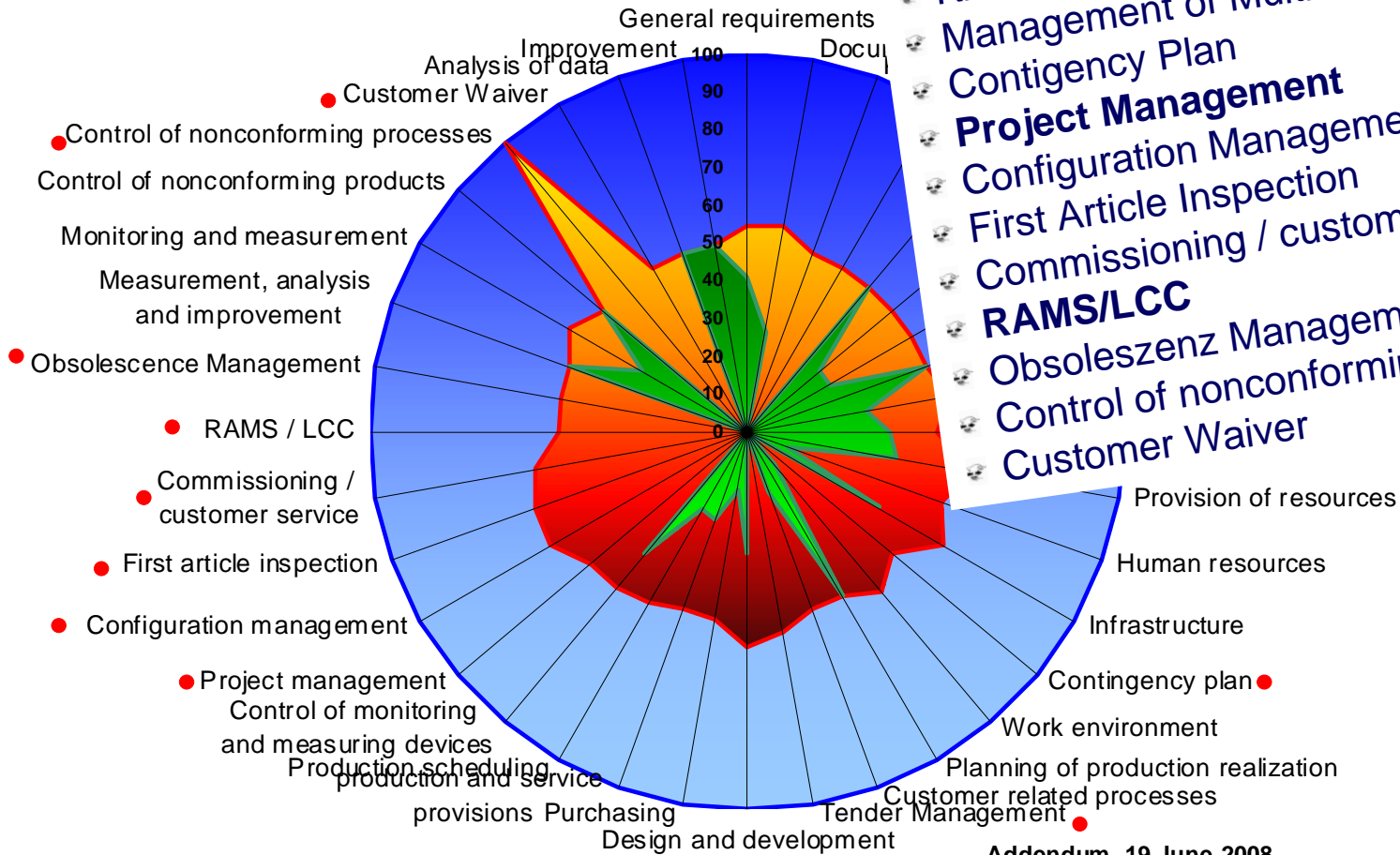


# Qualität in Schienenverkehr

## Vergleich ISO 9001 / IRIS (Quelle: UNIFE)

Themen die nur in IRIS sind:

- Knowledge Management
- Management of Multisite Projects
- Contingency Plan
- Project Management**
- Configuration Management
- First Article Inspection
- Commissioning / customer service
- RAMS/LCC**
- Obsoleszenz Management
- Control of nonconforming Processes
- Customer Waiver



Addendum, 19 June 2008

■ max IRIS Rev01

■ min IRIS rev01

■ ISO

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# Qualität in Schienenverkehr

## Vergleich ISO 9001 / IRIS (Rev01) (Quelle: UNIFE-Vortrag am 2009-03-10 beim VDMA in HH)

### 1. An adequate level of formalization :

- 15 procedures to be documented (ISO 9001: 6)
- 21 processes required (ISO 9001: 3)

*siehe Annex 3 im Booklet*

### 2. A pre-requisite before starting the audit :

- Readiness review
- 12 KO questions

*siehe Chapter 1 und Annex 4 im Booklet*

### 3. Defined rules controlling the :

- Actors (CB, auditors)
- Evaluation process
- Assessment guidelines

*siehe Chapter 1 im Booklet*  
CB = Certification Bodies

### Part 1: IRIS Objectives

- ▶ **IRIS certifies following activities:**
  - ▶ Design & development
  - ▶ Manufacturing
  - ▶ Maintenance
  
- ▶ **IRIS does NOT include:**
  - ▶ The financial evaluation of suppliers as well as performance management.
  - ▶ The technical evaluation of Suppliers / Equipments
  - ▶ The evaluation of all project / contract specific requirements necessary before a supplier contract can be launched.
  - ▶ The assessment of product compliance towards standards.

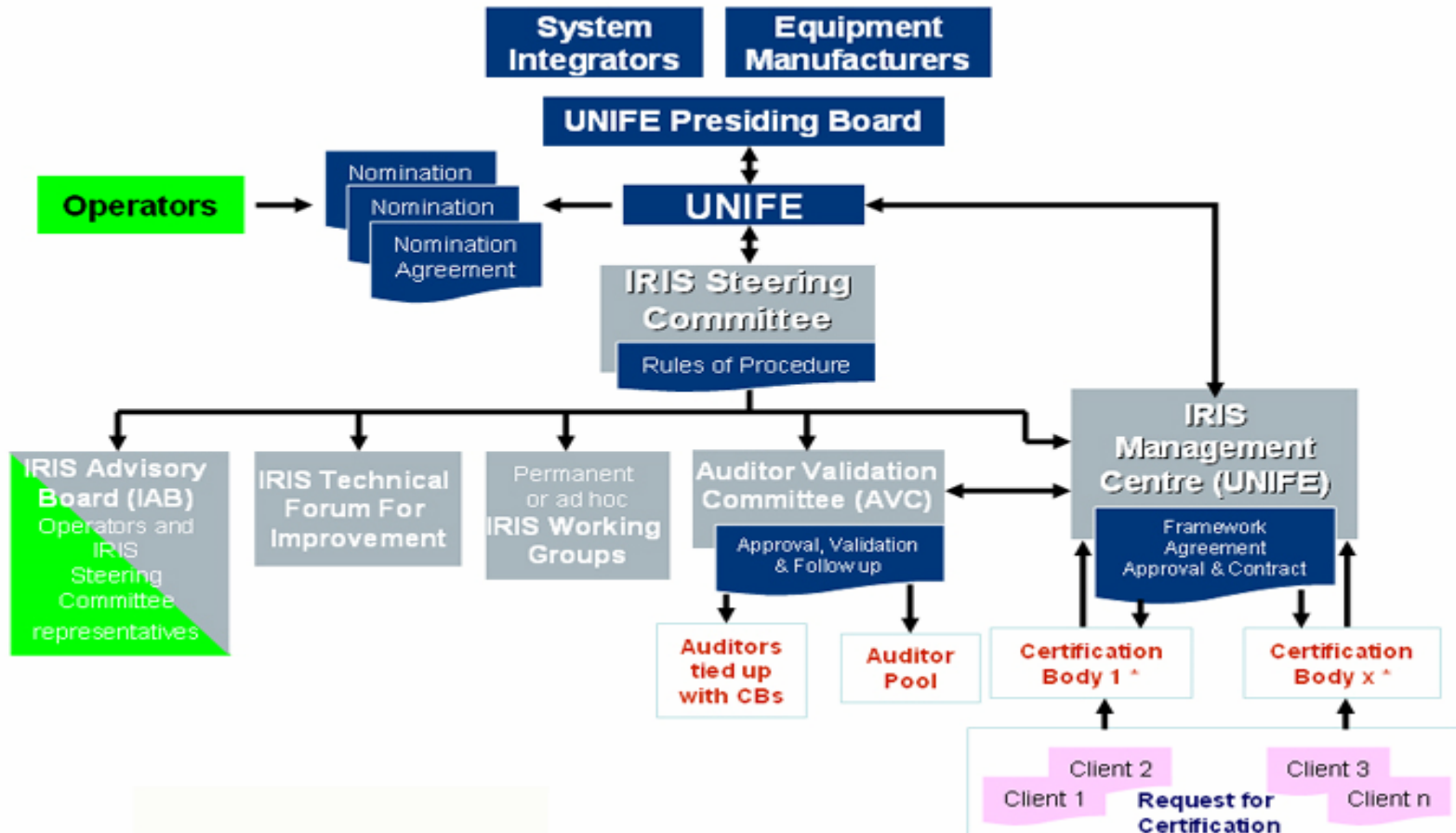
### Part 1: IRIS Objectives

- ▶ **One common standard for the Railway Industry**
- ▶ **100% of the requirements** from ISO 9001:2008
  - ▶ we built on a large and recognized foundation
  - ▶ but we are convinced about the specificities of Railways
- ▶ **Adequate requirements** from Aerospace, Automotive and Food Industry integrated
- ▶ All needed **railway specificities** taken into account

# Qualität in Schienenverkehr

IRIS (Was, Warum, **Wer**, Wie) (Quelle: [www.iris-rail.org](http://www.iris-rail.org))

## IRIS Governing Structure



### Part 2: What does it mean?

#### 1. Evaluation process:

- ▶ Questionnaire & scoring
- ▶ Scopes of certification
- ▶ Readiness review & Audits
- ▶ Award & withdrawal

#### 2. Assessment guidelines:

- ▶ Audit-tool
- ▶ KO questions
- ▶ Corrective & Improvement actions

#### 3. Actors:

- ▶ CBs
- ▶ Auditors

### Part 2: What does it mean?

#### ▶ Railway equipments (18) such as:

- ▶ Car body, door systems, braking systems, interiors,..
- ▶ On board vehicle control, passenger information syst

#### ▶ Rolling stock divided into:

- ▶ Light Rail Vehicles
- ▶ Regional and Commuter Trains
- ▶ Metros
- ▶ Coaches and passenger cars
- ▶ High speed trains
- ▶ Locomotives
- ▶ Freight wagons

#### ▶ Signalling linked to:

- ▶ On board
- ▶ Wayside if requested

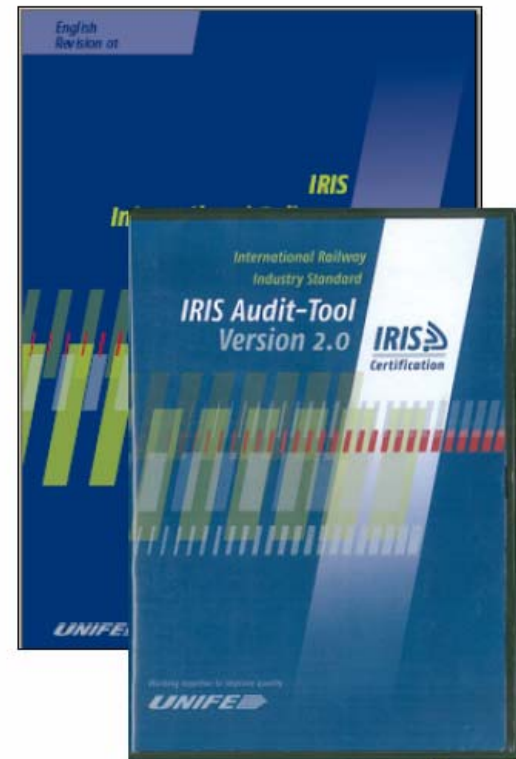
**siehe Annex 1 im Booklet**

# Qualität in Schienenverkehr

**IRIS** (Was, Warum, Wer, **Wie**) (Quelle: UNIFE-Vortrag am 2009-06-23 beim Tüv Rheinland)

## Part 3: IRIS Evolutions

- ▶ **IRIS Addendum 19th June 2008** applicable
- ▶ **250 certificates** issued,
- ▶ **280 auditors** trained and approved,
- ▶ **2402 booklets Rev 01** and **577 Audit-tool** sold by end of May 09,
- ▶ **14 global Certification Bodies** approved,
- ▶ **534 companies** active in the IRIS Portal.
- ▶ **Booklet** available in **7 languages**

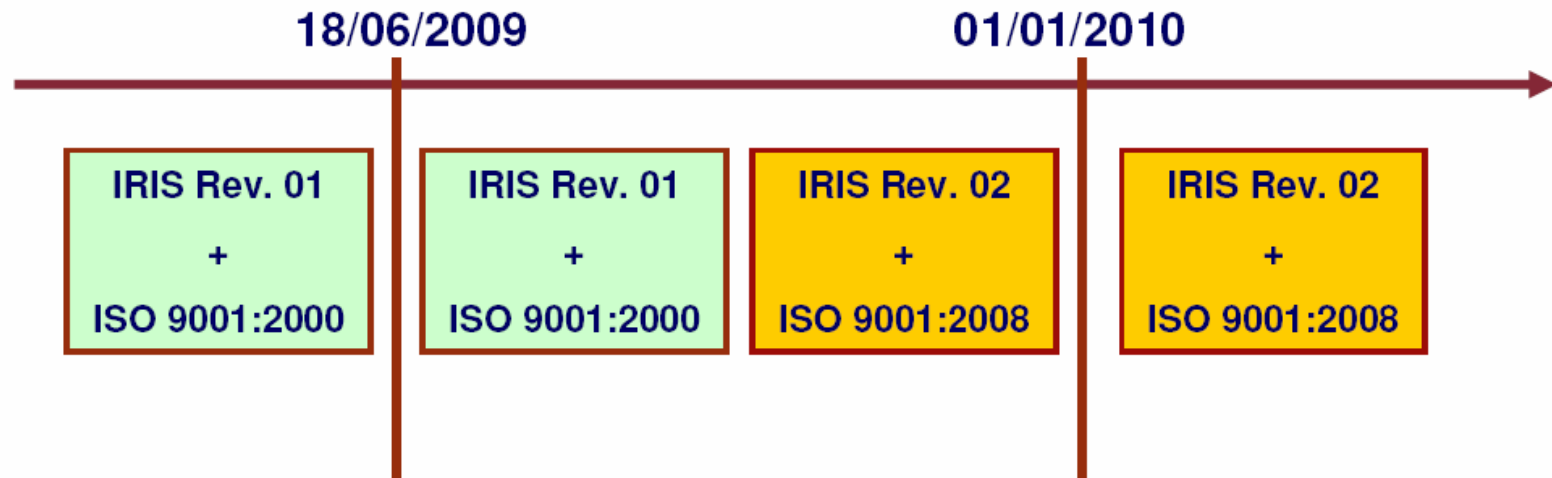


# Qualität in Schienenverkehr

**IRIS** (Was, Warum, Wer, **Wie**) (Quelle: UNIFE-Vortrag am 2009-06-23 beim Tüv Rheinland)

## IRIS Revision 02 introduction

### ■ Transition phase



Launch of  
IRIS Rev. 02

# Qualität in Schienenverkehr

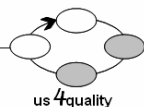
**IRIS** (Was, Warum, Wer, **Wie**) (Quelle: UNIFE-Vortrag am 2009-06-23 beim Tüv Rheinland / [www.cc-rail.com](http://www.cc-rail.com))

Question	INSUFFICIENT	POOR	DEFINED	QUALIFIED	OPTIMIZED
<b>Compliance</b>	Non compliant		Compliant		
<b>Points</b>	0	1	2	3	4
<b>Quality management system</b>					
<b>General requirements</b>					
How does the organization a) identify the processes needed for the quality management system and their application throughout the organization? b) determine the sequence and interaction of these processes? c) determine criteria and methods needed to ensure that both the operation and control of these processes are effective?  <b>“Open” question</b>	No Evidence	Management manual	Management manual. Process landscape with links and responsibilities. Regular review of processes.	Plus: Implementation of action plans and follow up of actions.  <b>3</b>	Plus: Efficiency of actions.
Has the organization established, documented, implemented and maintained a quality management system and continually improved its effectiveness in accordance with ISO 9001:2000?  <b>“Closed” question</b>	No evidence		Documented quality management system certified by 3rd party.  <b>2</b>		
<b>Action requested</b>	corrective action mandatory; to be re-audit within 90 days	corrective action mandatory; to be closed within 90 days	improvement action to be requested	improvement action might be recommended	no specific action expected

$\sum \text{ of points} / \text{ max points} \geq \text{ Threshold } (\sim 50 \%)$

**IRIS**  
Certification

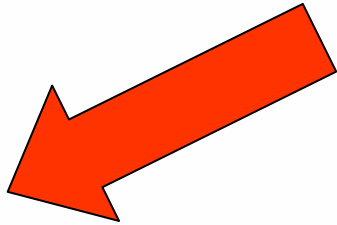
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# Qualität in Schienenverkehr

**IRIS** (Was, Warum, Wer, **Wie**) (Quelle: Booklet IRIS Revision 02)

Compliance	Level	Points	Actions requested	
			open question	closed question
Compliant	optimized	4	no specific action expected	–
	qualified	3	improvement action might be recommended <sup>2)</sup>	–
	defined	2	improvement action as per auditor's request <sup>1)</sup>	no specific action expected
Non Compliant	poor	1	<b>corrective action mandatory;</b> to be closed within 90 days	–
	insufficient	0	<b>corrective action mandatory;</b> to be re-audited within 90 days	<b>corrective action mandatory;</b> to be re-audited within 90 days



# Qualität in Schienenverkehr

**IRIS** (Was, Warum, Wer, **Wie**) (Quelle: Booklet IRIS Revision 02)

**Die Bedeutung von Project Management in IRIS wird deutlich z.B. durch:**

**13 % der Fragen im IRIS Questionnaire befassen sich direkt mit PM**

**12 % der Fragen im IRIS Questionnaire befassen sich mittelbar mit PM über das design and development**

**30 % der Knock-Out Fragen stammen direkt aus dem PM**

**30% der Knock-Out Fragen stammen mittelbar aus dem PM über das design and development**

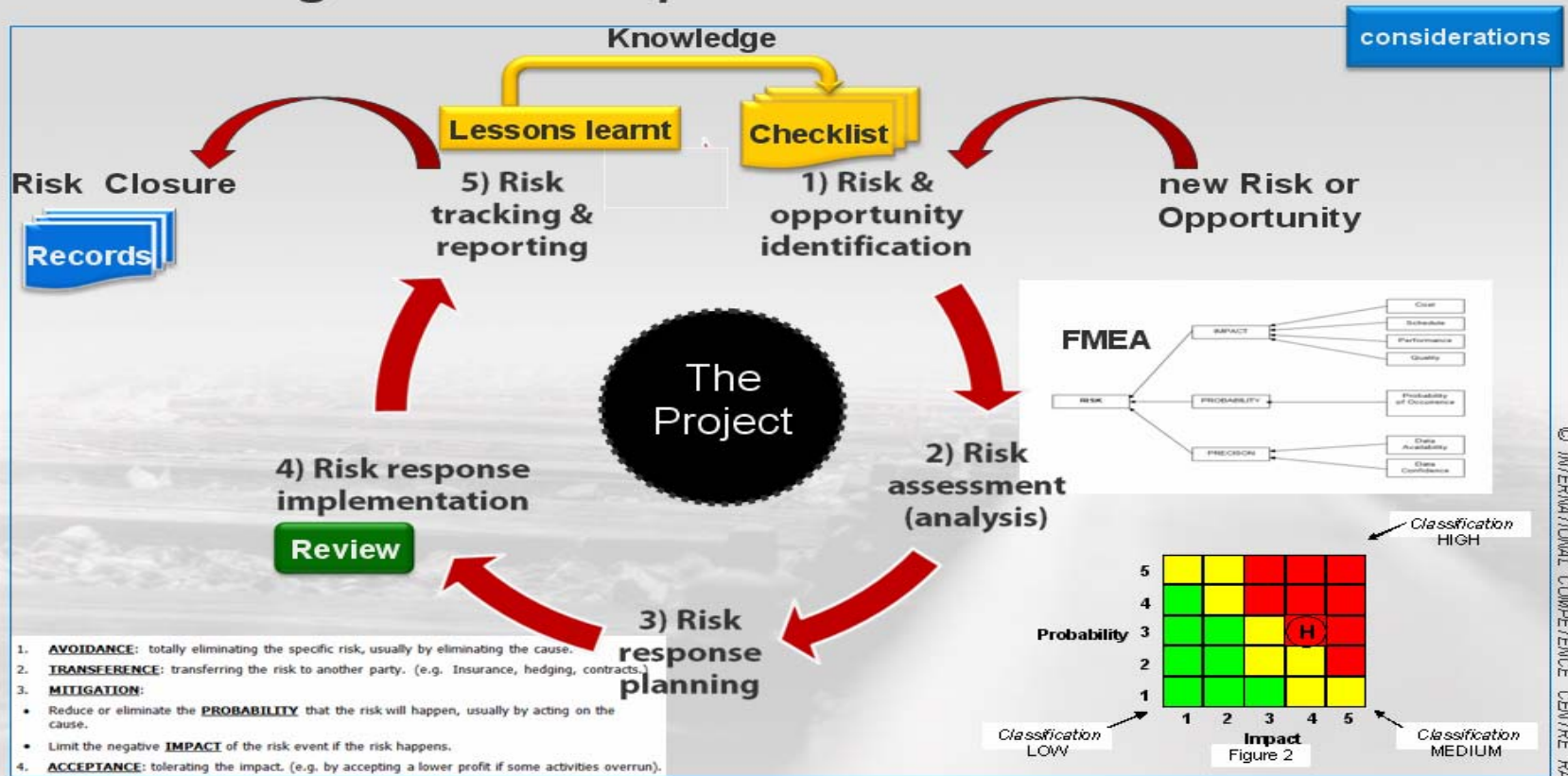
**→ 67 % der „shall“-Fragen stammen aus dem PM**  
(Rest sind „should“-Fragen)

# Qualität in Schienenverkehr

**IRIS** (Was, Warum, Wer, **Wie**) (Quelle: Unterlagen von International Competence Center Rail, www.cc-rail.com)

Purchasing | Production | **Project Management** | Configuration – FAI - Customer Service - RAMS / LCC - Obsolescence |

## Risk management - 5 steps

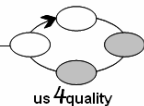


- 1. AVOIDANCE:** totally eliminating the specific risk, usually by eliminating the cause.
- 2. TRANSFERENCE:** transferring the risk to another party. (e.g. Insurance, hedging, contracts.)
- 3. MITIGATION:**
  - Reduce or eliminate the **PROBABILITY** that the risk will happen, usually by acting on the cause.
  - Limit the negative **IMPACT** of the risk event if the risk happens.
- 4. ACCEPTANCE:** tolerating the impact. (e.g. by accepting a lower profit if some activities overrun).

www.cc-rail.com

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## RAMS and LCC performance

considerations

- R Reliability
- A Availability
- M Maintainability
- S Safety
- LCC Life Cycle Cost

Ability to be in a state to perform as and when required, under given conditions, assuming that the necessary external resources are provided  
Measure: e.g. % up time of total

Ability to perform as required for a given time interval under given conditions  
Measure: Mean distance /time between failures

Ability to be retained in, or restored to a state in which it can perform as required, under given conditions of use and maintenance  
Measure: time, man-hours, tools

Safety is the state of being protected against failure, damage, error, accidents, which could be considered non-desirable.

Cost of ownership  
Measure: calculated according to model

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2009-10-12  
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Purchasing | Production | Project Management | **Configuration – FAI - Customer Service - RAMS / LCC – Obsolescence** |

## Main RAMS / LCC activities

considerations



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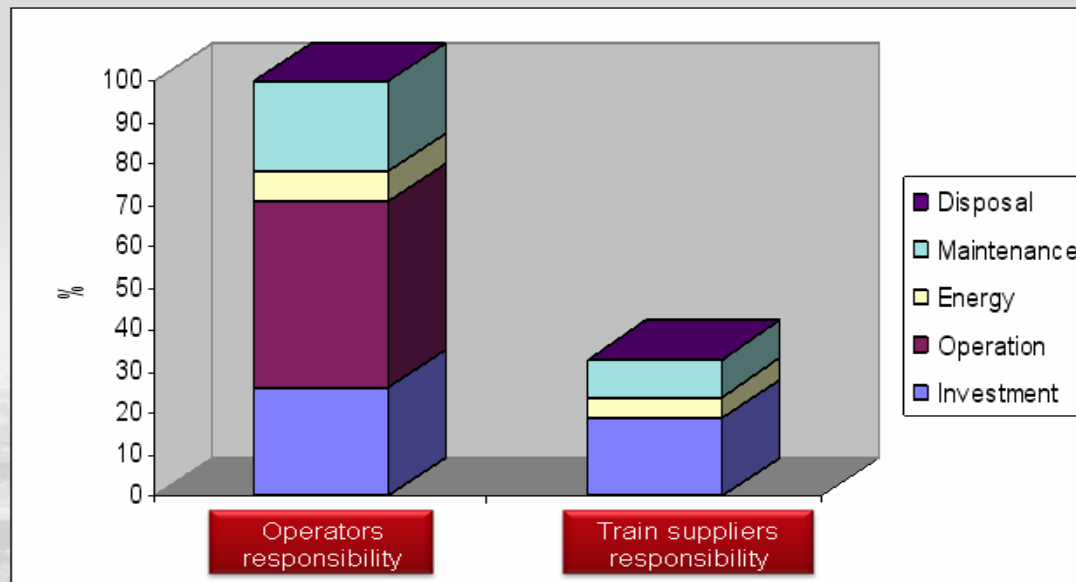
# Qualität in Schienenverkehr

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Purchasing | Production | Project Management | **Configuration – FAI - Customer Service - RAMS / LCC – Obsolescence** |

## Total LCC , incl. supplier part

considerations



- Maintenance cost, incl. overhead
- Cost for cleaning
- Cost for On board personnel
- Track fee

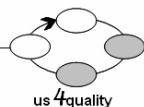
- Cost of trains
- Cost of tools
- Cost of spare parts
- Cost of component repair

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## Inhalte

- ☛ Begrüßen / Vorstellen
- ☛ ISO 9001 / IRIS
- ☛ IRIS (Was, Warum, Wer, Wie)
- ☛ **Erfahrungen von EVAC GmbH** (nicht im hand out)
- ☛ Besonderheiten (auch für „andere“)
- ☛ Quellen / Hinweise

# Qualität in Schienenverkehr

## Inhalte

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# Qualität in Schienenverkehr

## IRIS (Besonderheiten) (Quelle: IRIS Audit-Tool 3.0)

7.7.3	Time management					
7.7.3-1	<p>How does the organization ensure timely completion of the project through the identification of:</p> <ul style="list-style-type: none"> <li>- specific activities to produce the project deliverables,</li> <li>- interdependencies of the work packages including those of suppliers,</li> <li>- activity sequences, resource requirements and duration and</li> <li>- the critical path?</li> </ul>	<p>The organization generates an initial project schedule covering:</p> <ul style="list-style-type: none"> <li>- specific activities to produce the project</li> </ul>	<p>The organization generates a detailed project schedule covering:</p> <ul style="list-style-type: none"> <li>- specific activities to produce the project</li> </ul>	<p>Plus: Standardized tools for project scheduling and activity tracking are in place, e.g. software.</p>	<p>Plus: Return of experience and feedback into project scheduling.</p>	
No.:	Question:	Poor:	Defined:	Qualified:	Optimized:	Finding:

**Achtung:**

**Diese Inhalte sind nur im IRIS Audit-Tool zu sehen**

# Qualität in Schienenverkehr

## IRIS (Besonderheiten) (Quelle: IRIS Audit-Tool 3.0)

IRIS Audit-Tool V2.5 - [Test-defined.in2]

File Edit View Window Help

Company master data  
Audit master data  
Product categories  
Audit Questionnaire  
Audit report  
Corrective Action Request  
Improvement Action Request  
Status

IRIS, Revision 1.3 Internal audit

Summary Chapter 4 Chapter 5 Chapter 6 Chapter 7 Chapter 8

Result Summary English Summary Diagram

Data of definitive result:

**General:**

Final result: Passed  
Intermediate result: Passed  
Result in %: 55%  
Points: 475 / 866

**Additional:**

Product categories: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, ...  
Surveillance audit: 23.09.2010

Overview table:

Level:	Chapter 4	Chapter 5	Chapter 6	Chapter 7	Chapter 8
N/A	0	0	0	0	0
Optimized	0	0	0	0	0
Qualified	0	0	0	1	0
Defined	18	16	17	114	30
Yes	6	2	8	20	5
Poor	0	0	0	0	0
Insufficient	0	0	0	0	0
K.O. fulfilled	1	0	0	10	1
	0	0	0	0	0

IRIS, Revision 1.3 Internal audit

Summary Chapter 4 Chapter 5 Chapter 6 Chapter 7 Chapter 8

Result Summary English Summary Diagram

Graphic overview:

**% per Chapter**

Chapter	%
4	55
5	55
6	55
7	55
8	55
Total	55

# Qualität in Schienenverkehr

## Quellen / Hinweise

- ☛ Vortrag von Herrn Bernhard Kaufmann, IRIS General Manager, beim TÜV Rheinland am 23.06.2009
- ☛ Vorträge beim IRIS-Tag des VDMA-Nord am 10.03.2009
- ☛ Unterlagen von International Competence Center Rail, [www.cc-rail.com](http://www.cc-rail.com)
- ☛ Booklets IRIS Revisions 00 to 02 → [www.iris-rail.org](http://www.iris-rail.org)
- ☛ IRIS AuditTool Version 3.0 → [www.iris-rail.org](http://www.iris-rail.org)
- ☛ [www.iris-rail.org](http://www.iris-rail.org)
- ☛ [www.cc-rail.com](http://www.cc-rail.com)
- ☛ [www.evac-train.com](http://www.evac-train.com)
- ☛ [www.projectnetzwerk.de](http://www.projectnetzwerk.de)
- ☛ [www.us4quality.com](http://www.us4quality.com)

# Qualität im Schienenverkehr

Vergleich 9001 und IRIS

Wie wird IRIS umgesetzt?

→

Wie wird IRIS mit  
umgesetzt?

**Vielen Dank für Ihre Aufmerksamkeit**

**Wie wird IRIS durch "Nicht-Eisenbahner"  
umgesetzt? Was der IRIS nutzen?**

