HOUSE RULES

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INTERNATIONAL UNION
OF RAILWAYS

DEEP DIVE INTO
QUALITY & SAFETY MANAGEMENT

10 June 2024

Speakers

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LET’S GET TO KNOW YOU BETTER

POLL

Agenda

1 **Quality & Safety**
key principles and benefits for railway business

2 **Safety Culture**
a key to excellence

3 **UIC expertise**
shaping quality & safety

INTERNATIONAL UNION
OF RAILWAYS

QUALITY & SAFETY
KEY PRINCIPLES AND BENEFITS FOR RAILWAY BUSINESS

Stefan Hackl — UIC Quality / Rail Cargo Group
Roland Rieder — BLS Cargo

Quality & Safety Management

Quality Management System (QMS)

- Overview
- Structure
- Integrated approach
- Case study

Safety Management System (SMS)

- Overview
- Entity in Charge of Maintenance (ECM)
- Integrated approach
- Leadership

Overview: Quality Management Systems (QMS)

Most important definitions

Quality Management System

- A set of policies, processes and procedures used by an organisation to ensure it can fulfill the tasks required to achieve its objectives

Example

- A freight operator has a quality target to achieve 99% punctuality and ensures it through a quality policy and processes, e.g. deviation management.

Overview: Quality Management Systems (QMS)

Most important definitions

Certification (Certificate)

- The process of testing, inspecting, and confirming that a product, service, or system meets specific requirements set by an independent body provided through a written assurance (certificate)

Example

- An external party e.g. TÜV Rheinland verifies processes and products e.g. maintenance of wagons including the process of changing brake blocks.
  A certificate is provided by TÜV Rheinland.

CERTIFICATE

of Conformity

Registration No.:
Report No.:
Holder:

Rail Cargo Group
Member of ÖBB

Product:

Type designation listed on the next page

The certificate of conformity refers to the above-mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned on the next page. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

Certification Body

Date:

SIGNATURE

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Precisely Right.

Page 1 of 11

Overview: existing QMS & Certifications

- Quality management (ISO 9001)
- Work safety & health management (ISO 45001)
- Food safety management (ISO 22000)
- IT Security management (ISO 27001)
- Feed safety management (GMP+)
- Railway Safety Management (EU 2018/762)
- Entity in Charge of Maintenance (EU 2019/779)
- … and many more

Structure: what does a QMS consists of?

Management systems usually follow a high level structure provided by ISO (International Standard Organisation) and consists of following elements:

Context of the Organisation (Clause 4)

- This section focuses on understanding the internal and external factors that influence the organization. It considers elements like relevant issues, interested parties (customers, employees), and the organisation's purpose and strategic direction.

Example

- Interested parties are for a freight operator e.g. infrastructure managers, customers, wagon keepers etc. Important factors could be prices, renting contracts, responsibility for maintenance,…

Structure: what does a QMS consists of?

Management systems usually follow a high level structure provided by ISO (International Standard Organisation) and consists of following elements:

Leadership (Clause 5)

- This section emphasizes the role of top management in demonstrating commitment to the management system. It requires leadership to establish the system's policy, allocate resources, and communicate its importance throughout the organisation.

Example:

- Establishing a policy for quality and showing commitment by approving budget and performing regular quality walks thorough the workplace.

Structure: what does a QMS consists of?

Management systems usually follow a high level structure provided by ISO (International Standard Organisation) and consists of following elements:

Planning (Clause 6)

- This section deals with planning how to achieve the goals set by the organisation. It involves identifying risks and opportunities, setting quality objectives, and outlining the necessary resources for achieving them.

Example

- A rail freight operator sets a goal of 99% punctuality by management by objectives (financial compensation for leadership position). Identified risk could be – railway construction sites to (not) achieve punctuality.

Structure: what does a QMS consists of?

Management systems usually follow a high level structure provided by ISO (International Standard Organisation) and consists of following elements:

Support (Clause 7)

- This section highlights the importance of providing the necessary support for the management system to function effectively. It covers aspects like competence of personnel, infrastructure, and awareness training.

Example

- An infrastructure manager instructs their maintenance staff regularly and offers a mobile service to maintenance railway tracks.

Structure: what does a QMS consists of?

Management systems usually follow a high level structure provided by ISO (International Standard Organisation) and consists of following elements:

Operation (Clause 8)

- This section focuses on the operational controls needed to deliver the organisation's products or services. It includes control of processes, products, and services, along with managing external providers.

Example

- A freight operator frequently checks whether its suppliers (e.g. shunting yards), are working in accordance with their contracts.

Structure: what does a QMS consists of?

Management systems usually follow a high level structure provided by ISO (International Standard Organisation) and consists of following elements:

Performance Evaluation (Clause 9)

- This section emphasizes the need to monitor and measure the performance of the management system. It involves tracking key metrics, conducting internal audits, and analysing customer feedback.

Example

- A freight operator holds a bi-weekly meeting to discuss its key performance indicators (punctuality, asset utilisation, ...).
- Additionally, before each client contract renewal, clients are asked for feedback and measures are taken to improve customer satisfaction.

Structure: what does a QMS consists of?

Management systems usually follow a high level structure provided by ISO (International Standard Organisation) and consists of following elements:

Improvement (Clause 10)

- This final section highlights the continuous improvement aspect of the management system. It requires the organisation to identify areas for improvement, address nonconformities, and implement corrective actions.

Example

- A certain type of locomotive is always defect on international traffic with a certain type of electricity frequency. The pantograph is checked in specialized maintenance workshop and specific measures are taken.

Integrated approach: QMS in a company

Management systems usually follow a high level structure provided by ISO (International Standard Organisation)

Each managementsystem demands a policy

- Quality / Safety / IT-Security / Maintenance / Environmental /….

Example

- ….We are compliant with safety, environmental laws, regulation and standards. We strive to achieve usage of environmental technologies e.g. electricity recuperation and significantly reduce accidents and spillages of dangerous goods….

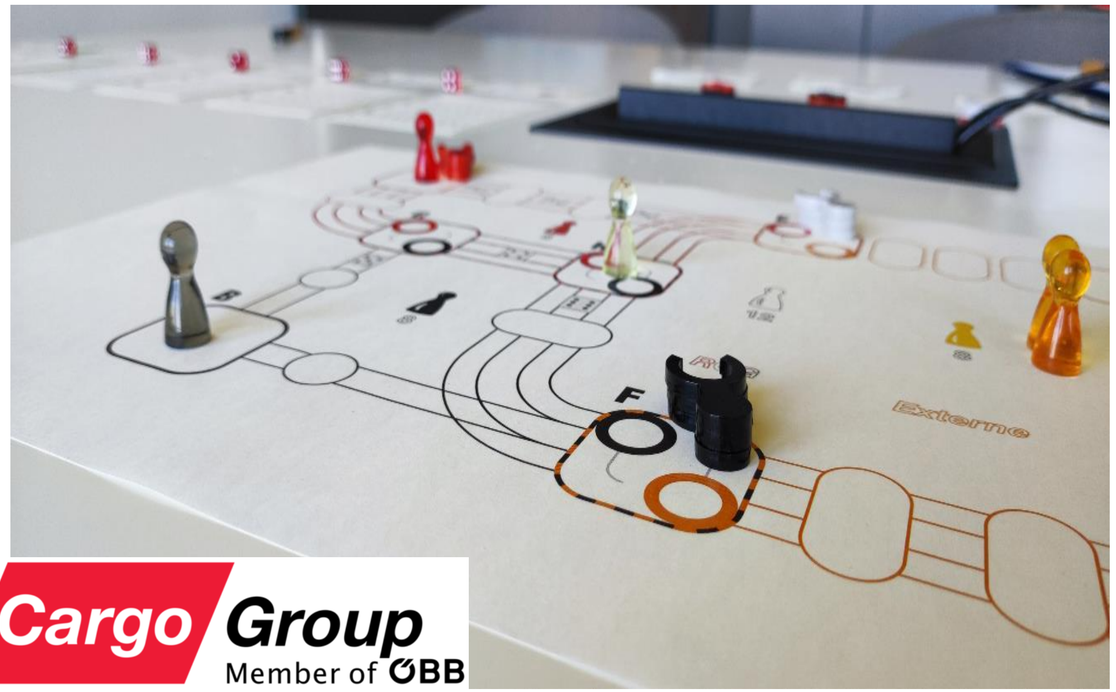
Case study: quality toward excellence

Support (Clause 7)

- This section highlights the importance of providing the necessary support for the management system to function effectively. It covers aspects like competence of personnel, infrastructure, and awareness training.

Example

- Rail Cargo Group uses Serious Games to train its employees to better understand core processes and challenges within its business activities.



Rail Cargo Group
Member of ÖBB

Overview: Safety Management Systems (SMS)

Most important definitions

Safety Management System (SMS)

- A structured approach designed to ensure safety of railway operations.
- Everybody operating in the railway system (RU, IM) bears full responsility for the safety of the system, each for their own part.
- Establishing a properly functioning SMS is the appropriate way to ensure safety.

A properly functioning SMS

- Ensures that the organisation achieves its business objectives in a safe manner and complies with all the safety obligations that apply to it.
- Enables the identification of hazards and the continuous management of risks related to an organisation’s own activities, with the aim of preventing accidents.
- Is a living set of arrangements which grows in maturity and develops as the organisation which it serves does so (vs. simple compliance with regulatory framework).

Entity in Charge of Maintenance (ECM)

ECM = Entity in Charge of Maintenance (Directive (EU) 2019/779)

- Applying the ECM framework is a vital component of the SMS in European railways.
- ECM aims to ensure that all vehicles are properly maintained.

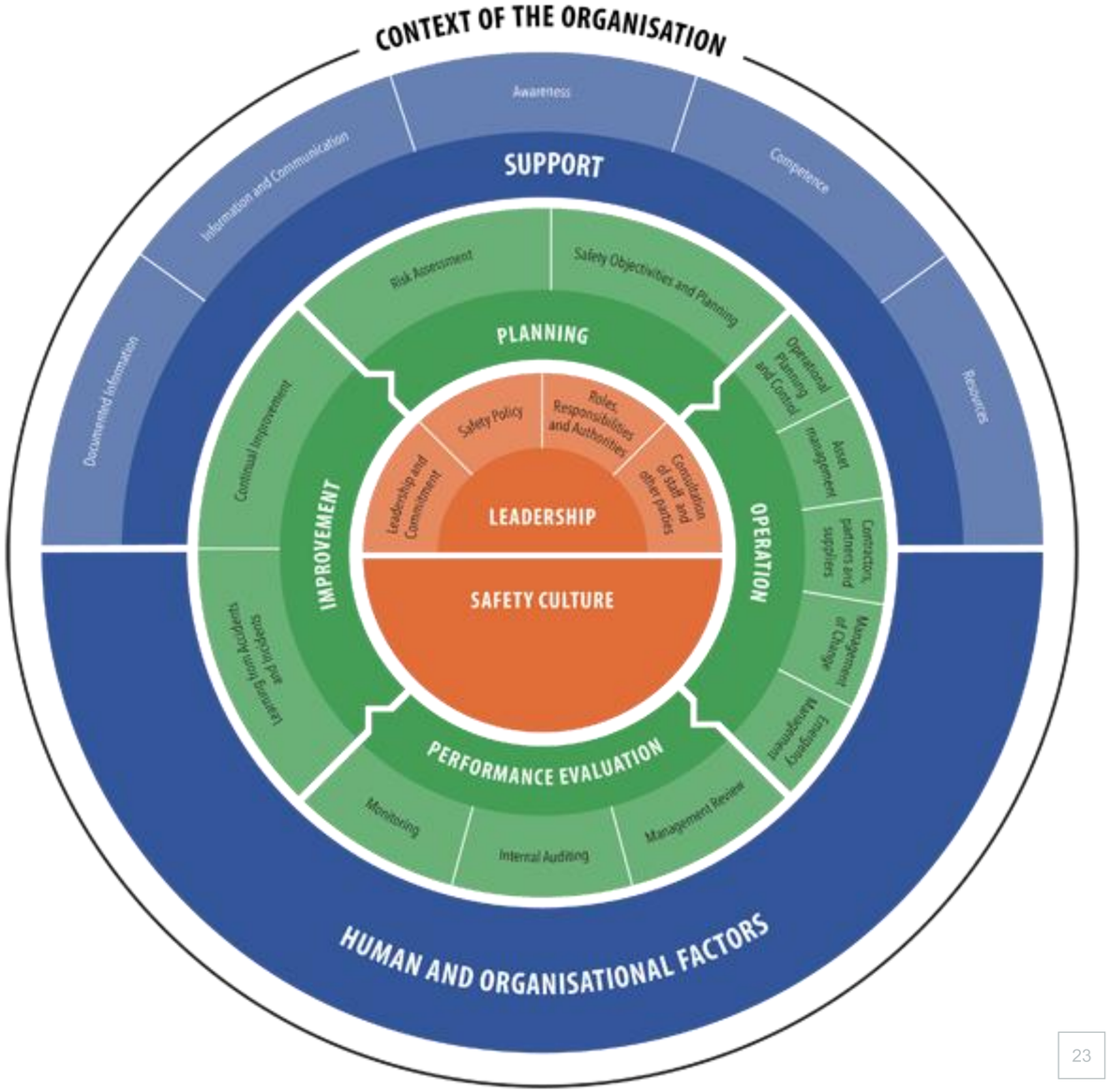
Clear responsibilities – 4 functions:

- **ECM I: ECM Management**
  Overall responsibility for structure and effectiveness of ECM system.
- **ECM II: Maintenance Development**
  Definition of maintenance specifications and monitoring of vehicle fleet.
- **ECM III: Maintenance Management**
  Ensuring that the vehicles are taken out for maintenance at the right time and place.
- **ECM IV: Maintenance Delivery**
  Processing of maintenance order and documentation of work completed.

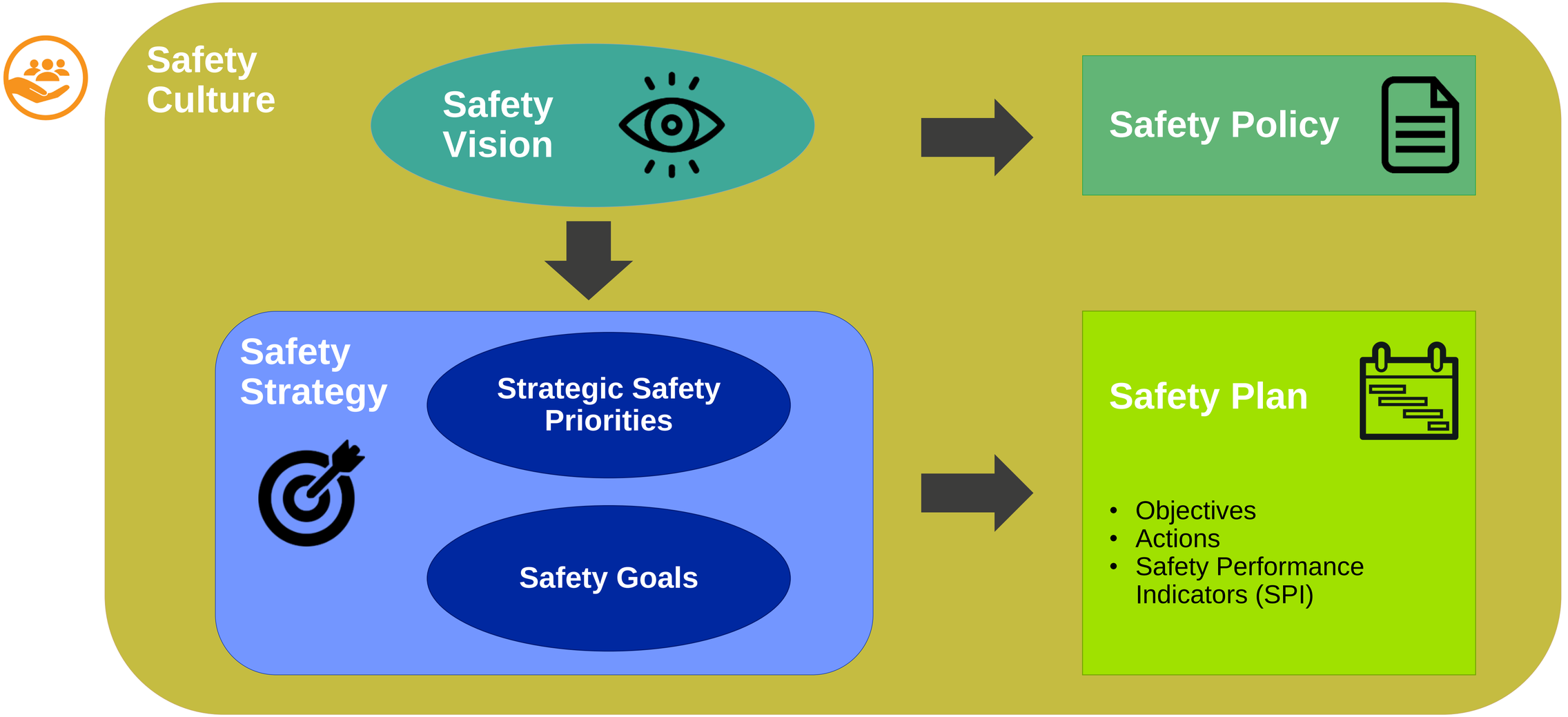
Integrated approach: SMS in a company

How to get a properly functioning SMS?

- Requirements are set out in Railway Safety Directive (EU) 2016/798 (Annex I and II)
- Follow a PDCA cycle (Plan, Do, Check, Act)



Leadership: the roof of every SMS



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QUESTIONS & ANSWERS

INTERNATIONAL UNION
OF RAILWAYS

SAFETY CULTURE
A KEY TO EXCELLENCE

Roland Rieder BLS Cargo


bls cargo
With a resilient SMS
and a sound safety culture
safely on track
FIT FOR
FREIGHT

Safety Culture BLS Cargo Group

What kind of safety culture do we want?
→ **“Just Culture” as a central element to foster a positive safety culture**

Basic assumption of Just Culture:
Failures are not solely due to individual mistakes, but also have a systemic / organisational reason

→ When confronted with incidents, do not ask “who is accountable?” but rather “why could this happen?”

→ Just Culture ≠ Blame Culture
→ Just Culture = Reporting and Learning Culture

How to foster a reporting and learning culture?

1. **Trust** → Protection from sanctions (if no “red lines” have been crossed)
2. **Confidentiality** → Protection of the reporters (confidential but not anonymous)
3. **Transparency** → Use of all available information
4. **Fairness** → Clear processes in incident and data analysis

James Reason (1997): «Managing the Risks of Organizational Accidents»

Case study: what can we learn from incidents?

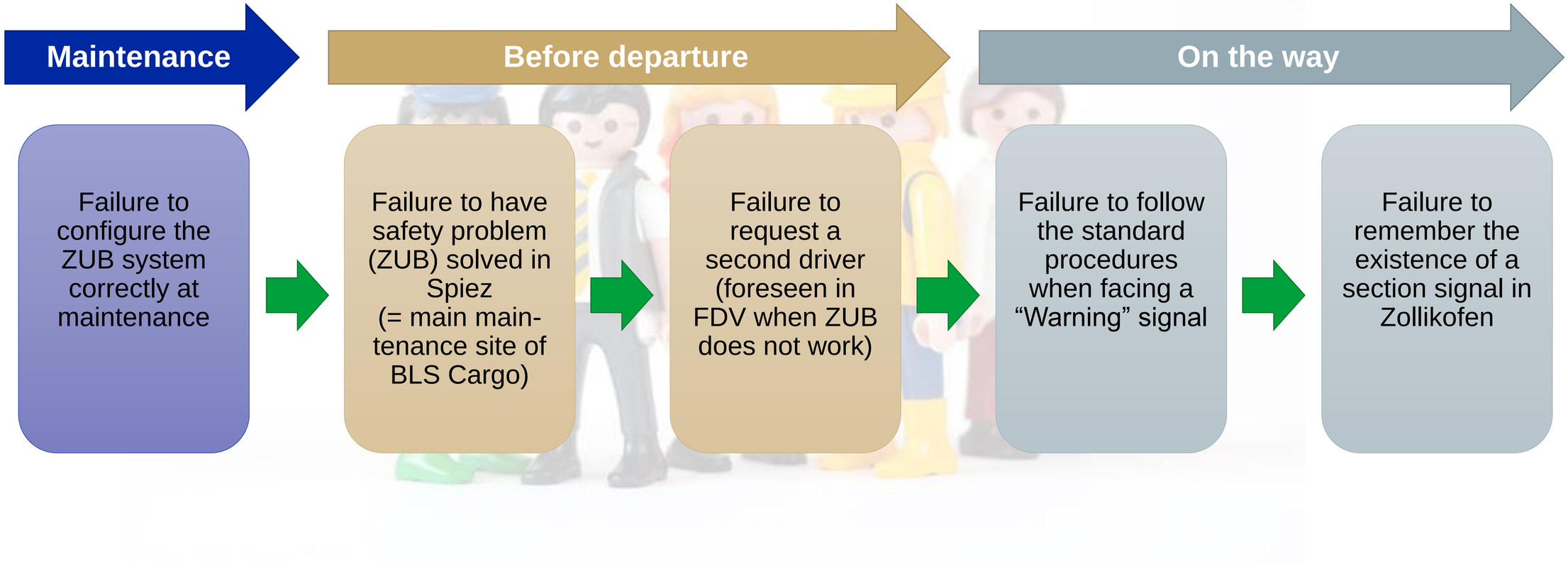
- On 2 June 2022, a BLS Cargo locomotive train collided at Zollikofen station with a departing SBB Cargo freight train consisting of special vehicles for construction works.
- No fatalities or major injuries, but major financial damage.
- Soon after the accident, it became clear that the locomotive train was running with a switched-off railway safety system (ZUB), which provoked interest in the entire industry.

Main finding: individual errors occurring in a system unable to prevent them led to the accident

Individual / human factors

Systemic / organisational factors

The chain of individual/human factors that led to the accident



«Zollikofen» led to several improvements in the systemic/ organisational setup

Maintenance

Adjustments to the test protocol; new cross-check after ZUB-configuration

Before departure

Changes to operating instructions BLS Cargo as of 1 September 2022 (tightening of Swiss regulations “FDV”):

- Departures from maintenance sites are no longer allowed without functioning ZUB
- Departures from train driver sites only with second driver (without ZUB)

On the way

Changes to operating instructions BLS Cargo as of 1 September 2022 (tightening of Swiss regulations “FDV”):

- With second driver: maximum speed 80 km/h (FDV: no limitation)
- Without second driver: maximum speed 40 km/h (FDV: 80 km/h)

Looking ahead: challenges for the future

- The safe and efficient border handling of freight trains has made too little progress in recent years.
- Exchange of data on safety relevant findings is still insufficient.
- Despite ETCS international operations are not possible without multi-system locomotives.
- It is still unclear how the ECM Regulation can be implemented in the wagon sector in an efficient and legally compliant manner.
- An overly orthodox application of CSM SMS makes co-operation between partners and suppliers difficult and complicated.

Defining and enforcing clear **responsibilities** is not enough; we must also focus on safe and efficient **collaboration**!

QUESTIONS & ANSWERS

INTERNATIONAL UNION
OF RAILWAYS

UIC EXPERTISE
SHAPING QUALITY & SAFETY

Philip Van den bosch UIC

UIC Freight: competence centres

LOAD SAFETY

WAGON UTILISATION

DANGEROUS GOODS

TRAIN OPERATION

COMBINED TRANSPORT

DATA EXCHANGE

CORRIDOR DEVELOPMENT

RAIL FREIGHT FORWARD

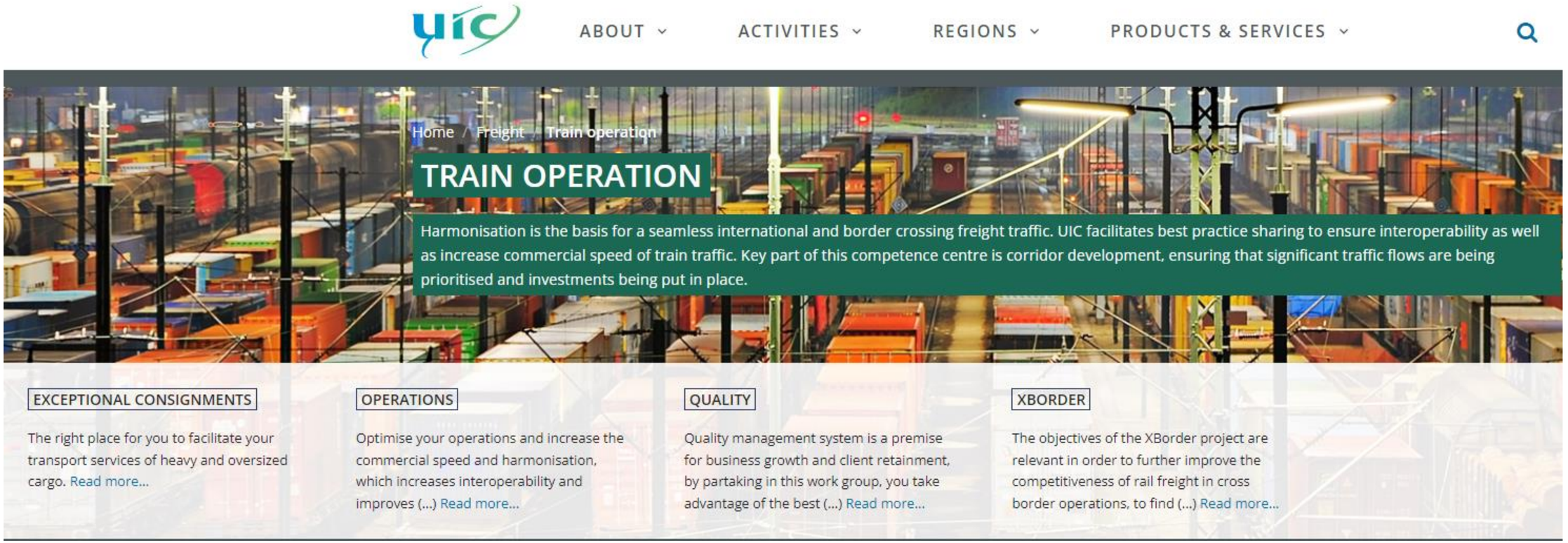
UIC Freight: competence centres

7 + 1 competence centres aim to promoting the development of rail freight to respond to challenges in respect of logistics and sustainable development.

Aiming to	Realised by	In order to
Unlock broader topic understanding	Changing the narrative from what to why & how	Facilitate business
Address the core values & benefits	Collaboration to add value & boost performance	Harmonise operations
Pave a way towards an easy implementation		Meet legislative requirements

UIC Freight: competence centres

Quality Expert Group aims to ensure coherence and harmonisation of quality management and other management systems through exchanging best practices and establishing common standards and guidelines for setting up management systems.



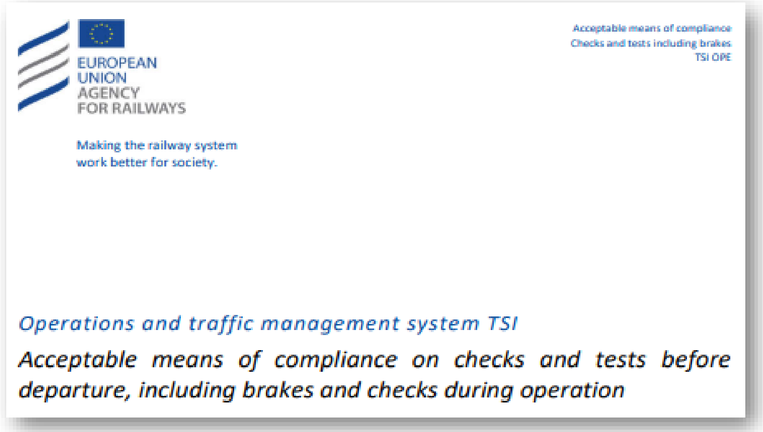
UIC Freight QMS: ATTI

Agreement on freight Train Transfer Inspections

- ATTI is a UIC tool created in 2014 with the objective to reduce train inspections at handover points, thus boosting rail freight productivity and competitiveness.
- ATTI members comprise both UIC and non-UIC RUs.

In the 2019 *Guide for the application of the TSI-OPE* published by the Agency, ATTI was quoted as a trusted handover procedure:

"Trains that operate with partnered RUs across borders may wish to consider the UIC ATTI trusted handover procedure"



In December 2021 the Agency published its first AMoCs. Once again, ATTI is quoted as a good practice to:

"allow better forward planning as well as to increase the quality and safety of trains subject to the agreement"

UIC Freight QMS: ATTI

Agreement on freight Train Transfer Inspections

- ATTI tool proves its key role in achieving interoperability without compromising safety.
- The membership growth from the initial 44 participants in June 2014 to 170+ members.

QMS and Quality Database are central elements of ATTI, covering 3 types of inspections:

- Irregularities detected at wagons during the transfer (as per GCU Appendix 9)
- Dangerous goods inspections according to RID (application of IRS 40471-3)
- Operational irregularities at time of arrival (wagon order, documents, TAF TSI data, …)

Save the date – next ATTI Morning – 21 November 2024

QUESTIONS & ANSWERS

A CLEAR PICTURE ON QUALITY & SAFETY MANAGEMENT

POLL

UIC Freight: competence centres

LOAD SAFETY

WAGON UTILISATION

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for your attention

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