SAFETY
CULTURE
PEER REVIEW
HANDBOOK

EUROPEAN
UNION
AGENCY
FOR RAILWAYS

uic

INTERNATIONAL UNION
OF RAILWAYS

CONTENTS

1. Introduction

1.1   BACKGROUND

Peer Reviews are commonly used in many industries as a tool to enhance safety, quality, and robustness of products, processes, and systems. The rationale behind this practice is that having multiple and experienced eyes on a particular item or process can help identify potential issues, oversights, or vulnerabilities that might be missed by a single individual or team.

The benefits of Peer Review include not only enhanced safety but also better overall quality, increased transparency, and the opportunity for professionals to learn from one another.

Nevertheless, "Peer Reviews" are not developed and sufficiently used, yet, within the EU Railway Community.

Therefore, following the development of the first version of the ERA Safety Culture Model (ERA-SCM) in 2018, ERA devised the Peer Review methodology and decided to test it by conducting a Safety Culture review using the model as a basis for Safety Culture markers. This Peer Review, inspired by the Safety Culture assessments in the nuclear industry done by WANO took place in 2019. It was successful and provided many learnings for the reviewed company, Nordjyske Jernbaner (NJ), as well as inputs for the improvement of the ERA-SCM into the present version.

After this, the Peer Review methodology was drafted, and training material was produced to facilitate the training of reviewers from the pilot organisations Trenitalia, SNCF, SBB and ÖBB, which was organised in collaboration with CER.

The recent 18-months TWINNING II[1] European project, funded by the European Commission and coordinated by the UIC, began in January 2022 and ran until June 2023. It aimed to improve the Safety Culture in the European rail sector. One of the objectives was to conduct Peer Review exercises, carried out by experienced staff who received dedicated trainings, starting from a high-level approach and finishing with practical arrangements. Three Peer Review exercises were organised in railway organisations of different sizes and cultures, namely ÖBB in Austria, CFL in Luxembourg and the Belgian Infrastructure Manager Infrabel.

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1.   TWINNING II: Enhancing the cooperation between Railway Stakeholders for improving Safety Culture.

This project was of great added value to the consortium members and to the UIC, as it gave us the opportunity to validate and formalise a common methodology for carrying out Peer Reviews.

It was a major gain both for the team of Reviewers, to develop our experience in terms of conducting the Peer Review and for the Host Companies both in organising the Peer Review and in gaining an insight into their Safety Culture at all levels of their organisation.

This project has the potential to be both beneficial and instructive for the railway community overall that the UIC decided, following TWINNING II, to continue the technical coordination of Peer Review activity, at the service of its members and non-members both in Europe and beyond, at an international level.
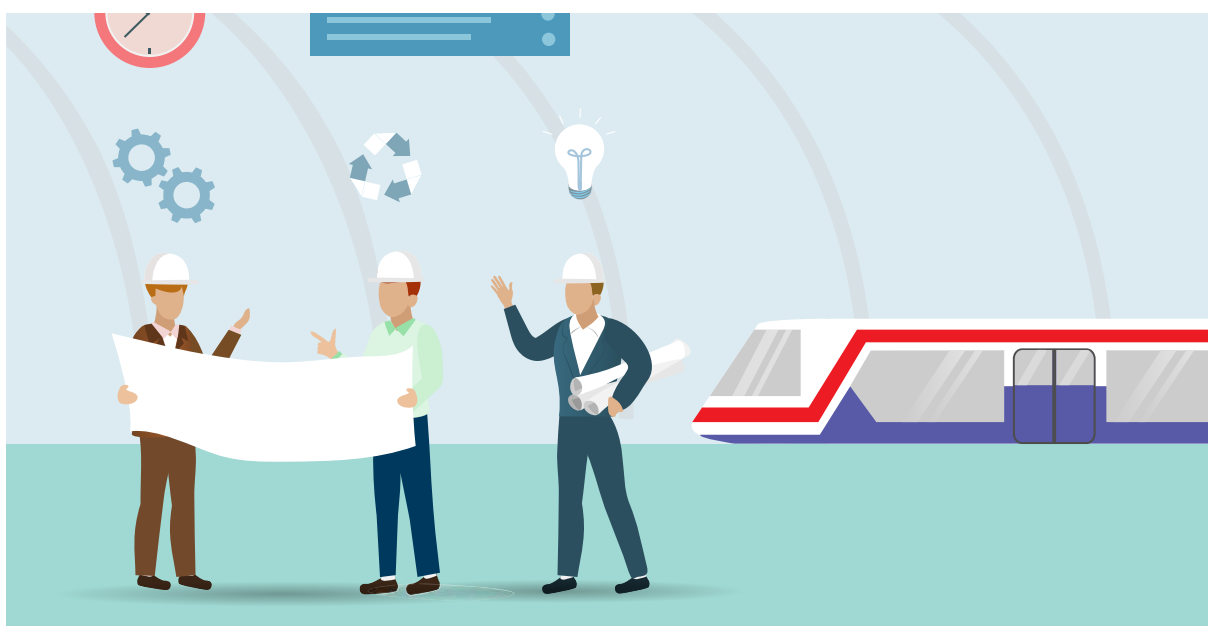
1.2   OBJECTIVES OF THE HANDBOOK

The objective of this publication is to provide guidance for companies on how to perform a Safety Culture Peer Review.

The information provided will be of practical value to companies seeking to improve their own Safety Culture and will enhance the effectiveness of their Safety Culture monitoring efforts, especially in quality assurance, knowledge sharing, safety improvement methodologies, accountability, team building and collaboration.

The proposed methodology is based on the good practices used in similar approaches in various fields of activity. It also draws on feedback from interventions carried out as part of Peer Review pilots and the TWINNING II project.

It examines the roles to be played by the various stakeholders in preparing and conducting a Safety Culture Peer Review in order to support final useful deliverables.

1.3   SCOPE

These guidelines are intended for all rail activities (mainly RU, IM, ECM[2]) wishing to implement a Safety Culture Peer Review. More specifically, the guidelines are to be used by:

- The team of reviewers involved in the process, from planning and then conducting the review, through to drawing up and presenting the conclusions,
- The senior managers of the host company who sponsor the Peer Review and the resulting actions.
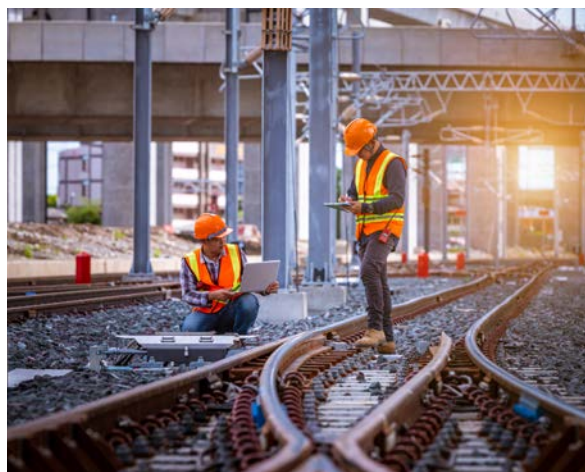
1.4   STRUCTURE OF THE HANDBOOK

A short overview of the concept of Safety Culture is given in Section 2 to make the reader familiar with the subject of Organisational and Safety Culture.

- The Reason's Elements of Safety Culture,
- The attributes of the ERA Safety Culture Model that make up the various components of Safety Culture in an organisation,
- The main purposes of a Safety Culture Peer Review.

Section 3 describes the Peer Review process. It describes in more detail the definition of the scope and extent of a Peer Review in railway organisations, the prerequisites, the planning, the data collection process, its analysis, and the determination and communication of the results.

Finally, the appendices provide examples and illustrations of the practices described in the main text of the publication.

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2.   Railway Undertaking (RU), Infrastructure Manager (IM), Entity in Charge of Maintenance (ECM)

2. Safety Culture

2.1 WHAT IS SAFETY CULTURE?

Culture is a complex concept. It is very important in attempting to understand how the attitudes and behaviours of groups of people are influenced, especially when organised in a corporate organisation. Different authors have described organisational culture with various models. Schein (2016) describes 'organisational culture' as follows:

'The culture of a group can [now] be defined as a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems'.

If the experience of a behavioural pattern is positive for an individual member of staff, an individual and their colleagues, a group, an organisational unit or even the whole organisation, there is a good chance that the same patterns of behaviour will be used again. They become part of daily life. All group members accept this, and new members are taught to behave this way in this specific situation. Finally, this behaviour is taken for granted. Nobody needs to talk about it anymore. It becomes part of the culture of the group. If, eventually, one asks one of the group members why he/she behaves like this, they may not even be able to answer the question. By this stage, they form the culture of the organisation. They are 'the essence' of the culture. It takes a long time for certain behavioural patterns or ways of thinking to be adopted, used and shared by the members of an organisation. The way such patterns develop cannot be controlled. Success or failure of a pattern determines how it will be recognised by most of the staff.

However, success and failure may be influenced by internal and external circumstances. For instance, if the response of internal members at higher levels in the hierarchy to success or failure of such patterns is recognised by individuals, they will react accordingly in the future. Therefore, the "role model" behaviour presented by senior and middle managers is of the utmost importance. The managers' behaviours, their way of thinking, and their way of recognising success and failures, will have a strong influence on the way in which behaviours are fostered or impeded.

These basic cultural references influence the way group members think and the way they act in the group. They determine what is important to the group and what is not. Thus, they also determine the style of collaboration and communication. They determine what people find acceptable or not acceptable; what is highly regarded and representative within the organisation and what is not.

Another influencing factor to take into account is the overall culture of the country in which an activity takes place. There are some very different cultural approaches around the world both in terms of what is considered to be the accepted safety-level, and the associated behavioral traits found in the whole country's society at large.

Moreover, when working in a very international environment the culture of the employees who come from other countries, can create a mix of different cultures or different approaches to the same challenge.

The Safety Culture is that part of the organisational culture that influences the behaviour of individuals (staff and management), organisational units and the overall organisation in dealing with safety. It will include the attitudes and behaviours of the management, for example in promoting a questioning attitude, commitment, and motivation at all levels of the organisation. It can be described by characteristics that determine how safety is considered in the organisation.

Many models that attempt to define Safety Culture have been developed; one of the most popular was developed by Reason (1998) who defines that Safety Culture as consisting of five elements:

- An Informed Culture
- A Reported Culture
- A Just Culture
- A Flexible Culture
- A Learning Culture

Figure 1 - Elements of Safety Culture (James Reason)

In an *informed culture*, the organisation collects and analyses relevant data, and actively disseminates safety information. Those who manage and operate the system have up-to-date knowledge about the human, technical, organizational, and environmental factors that determine the safety of the system as a whole.

A *reporting culture* means cultivating an atmosphere where people have confidence to report safety concerns without fear of blame. Employees must know that confidentiality will be maintained and that the information they submit will be acted upon, otherwise they will decide that there is no benefit in their reporting.

In a *just culture*, errors and unsafe acts will not be punished if the error was unintentional. However, those who act recklessly or take deliberate and unjustifiable risks will still be subject to disciplinary action.

For that, there must be an atmosphere of trust in which people are encouraged (even rewarded) for providing essential safety-related information, but in which they are also clear about where the line must be drawn between acceptable and unacceptable behaviour.

A *flexible culture* is one where the organization and the people in it are capable of adapting effectively to changing demands.

A *learning culture* means that an organization is able to learn from its mistakes and make changes. It will also ensure that people understand the Safety Management Systems (SMS) processes at a personal level. The organization must possess the willingness and the competence to draw the right conclusions from its safety information system and the will to implement major reforms.

2.2 ERA SAFETY CULTURE MODEL (ERA-SCM) ATTRIBUTES

As explained in Rolina & Accou (2019), for many years, safety performance of high-risk organisations, has continuously improved until a plateau has been reached, focusing more and more on informal organisational aspects and behaviours. And then, in order to push the boundaries, several companies and institutions have launched activities to act on their organisational culture, to enhance their Safety Culture. And Railway socio-technical systems make no exception. Beside a descriptive approach to Safety Culture (what it is), there is now a normative approach, especially in Europe with the fourth railway package, and internationally with safety management systems extended to need of a strategy for the development of Safety Culture and the integration of human and organisational factors.

Safety Culture assessment is considered as an appropriate tool to design such a strategy. Consequently, the EU Agency for Railways has decided to develop methodology, guidance and training courses for Safety Culture assessment. At the core of these materials is the European railway Safety Culture model, which constitutes the evaluation framework.

Experience shows that many senior managers generally lack knowledge about Safety Culture in their organisation. Due to a lack of in-depth understanding of the meaning of Safety Culture, they do not feel comfortable talking and working on the subject and tend to defer their improvement efforts to technical issues with which they are more familiar and comfortable, or to revert to an over-simplistic view that reduces Safety Culture to the good application of rules and procedures.

To better understand the relationship between practices and beliefs, and their impact on safety, it is helpful to use a framework comprising categories which can then be linked back to a Safety Culture Model. This will facilitate the analysis of the data collected during the Peer Review, its evaluation and the communication of the findings relating to the themes included in the model.

Numerous taxonomies relating to Safety Culture Models exist in the railway sector, but also in other sectors such as civil aviation or the nuclear industry and can be used as background reading. Some of them are presented in the appendix.

The European Union Agency for Railways (ERA) Safety Culture Model (ERA-SCM), presented below, has been used in previous TWINNING II Peer Reviews, and is used in this publication as a reference. More information on how collective, scientific-based, and open to rail stakeholders was the building of this model can be found in Rolina & Accou (2019), and Drews & Jakobsen (2021). For a full description of the ERA-SCM and the access to its translation:
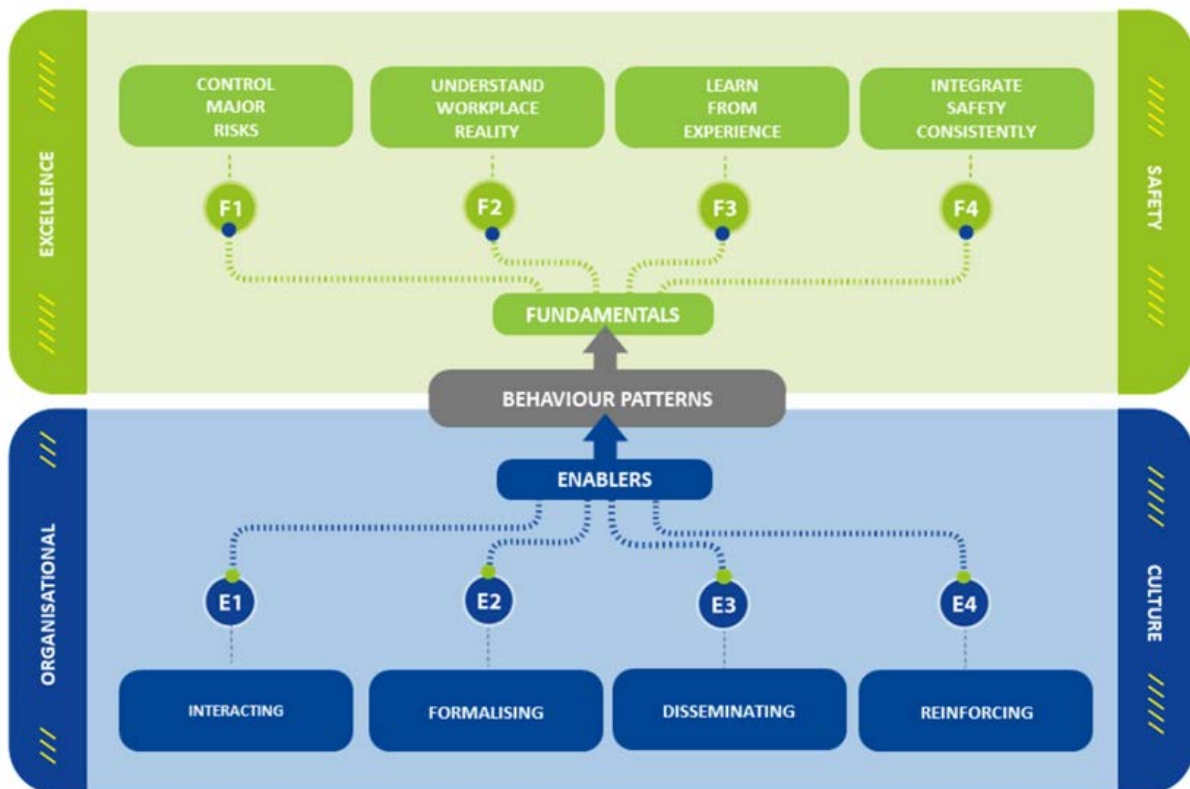

Figure 2 – European Railway Safety Culture Model 2.0 – Components

F1.3 Questioning attitude
Individuals at all levels avoid complacency, challenge assumptions, encourage and consider opposing views.

F2.3 Reporting
Routine and abnormal deviations are recognised and reported. Measures to identify and mitigate organisational silence are implemented.

F3.3 Learning from others
The organisation actively seeks learning opportunities.

F4.3 Decision making
Individuals at all levels are convinced that safety and operations go hand in hand.

F1.2 Resilience
The capability to operate safely under unexpected situations is developed.

F2.2 System complexity
The organisation recognises that its technologies and systems are complex and can fail in unpredictable ways.

F3.2 Improvement
Safety related feedback is perceived as an opportunity to improve performance and is acted upon.

F4.2 Resource allocation
Safety is a primary consideration in the allocation of resources.

F1.1 Risk awareness
Individuals at all levels are aware of major risks and understand their personal contribution to safety.

F2.1 Working conditions
The organisation recognises that working conditions, such as time pressure, workload and fatigue influence safe behaviours.

F3.1 Analysis
Reporting is systematically analysed to identify those factors that allow organisational learning and improvement.

F4.1 Safety vision
The organisation develops and implements a safety vision to support the achievement of business objectives.

CONTROL MAJOR RISKS — F1

UNDERSTAND WORKPLACE REALITY — F2

LEARN FROM EXPERIENCE — F3

INTEGRATE SAFETY CONSISTENTLY — F4

Figure 3 – Railway Safety Culture Fundamentals – Attributes

E1 INTERACTING

E2 FORMALISING

E3 DISSEMINATING

E4 REINFORCING

E1.1 Teamwork and collaboration
Collaboration within and across organisations is nurtured to operate safely.

E2.1 Roles and responsibilities
Roles, responsibilities and authorities are understood and accepted.

E3.1 Communication
Safety information is openly shared within and across organisations.

E4.1 Leading by example
Managers exhibit behaviours that set the standard for safety.

E1.2 Interpersonal values
Trust, respect and openness permeate the organisation and characterise inter-organisational relationships at all levels.

E2.2 Organisational design
Organisational structures support sustainable and safe performance.

E3.2 Competence management
Competence management ensures a knowledgeable workforce.

E4.2 Management intervention
Managers ensure that incentives, sanctions and recognition reinforce behaviours and outcomes that support sustainable and safe performance.

E1.3 Regulatory relationships
Healthy regulatory relationships exist and ensure that the accountability for safety remains with the operating organisation.

E2.3 Organisational systems
Processes, tools and documentation support sustainable and safe performance.

E3.3 Soft skills
Safety leadership and non-technical skills are systematically developed.

E4.3 HOF expertise
Human and organisational factors, including frontline experience, are systematically considered during design and change.
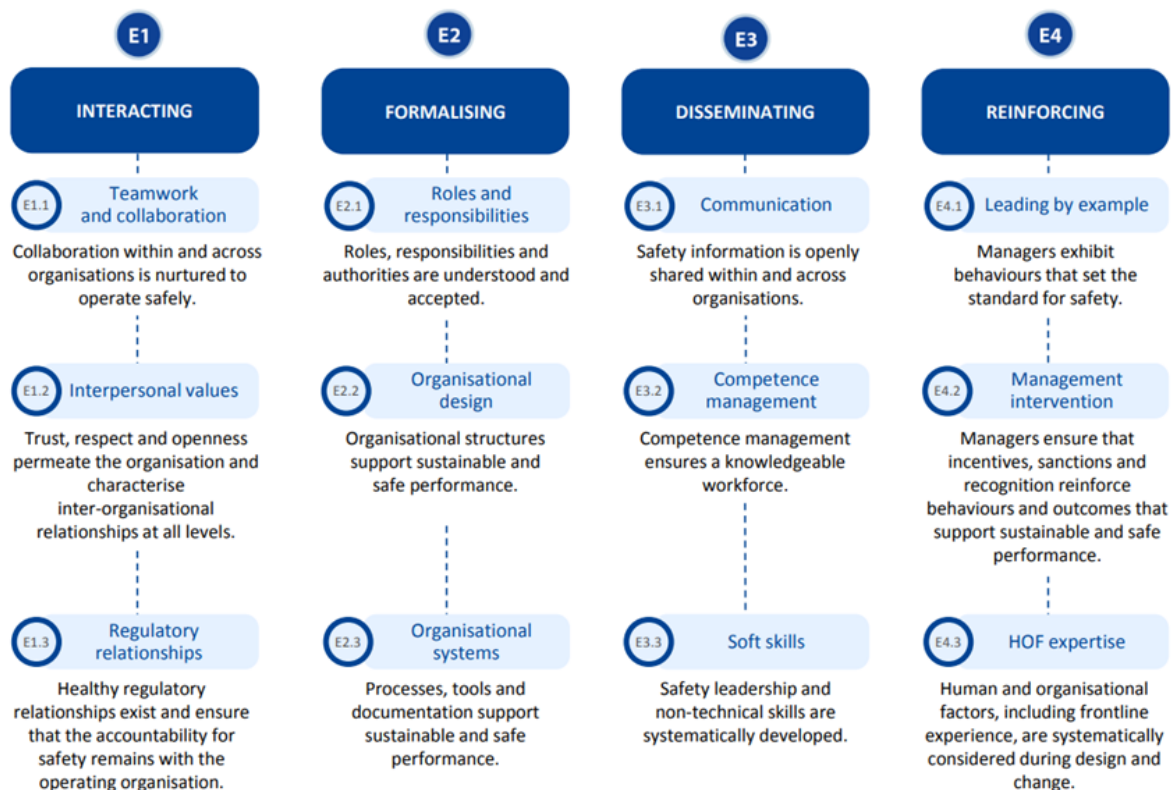
Figure 4 – Cultural Enablers – Attributes

We will see later in this publication that a good knowledge of the model and its characteristics by the reviewers is essential for both analysing the data collected and in communicating the results.

2.3   OBJECTIVES OF A SAFETY CULTURE PEER REVIEW

A Safety Culture Peer Review provides an opportunity for the company's management to identify strengths and performance deficiencies and to initiate improvements that are understood and 'acquired', and then 'owned' by all at all levels.

In regard to the legal requirements set out in Annex I of the Regulation 2018/762, EU for development of SMS, and demonstration of promoting a positive Safety Culture. Conducting a structured Peer Review of your organisation by inviting external expertise from the rail industry to visit and critique your working practices demonstrates a strong commitment to self-analysis, focusing and therein developing your organisations Safety Culture and meeting with the spirit of the legislation.

The elements identified are those that foster or block the development of positive behavioural patterns. And these elements can be then incorporated into a programme or action plan, and thanks their field-orientation and involving process, the necessary change management can be even facilitated and empowered.

Compared to Perception Surveys, Safety Culture Peer Reviews can be seen as more practical, more inspirational in terms of illustrated findings which are complementary to the more global and generic findings obtained through surveys.

Senior management that engages in a Safety Culture improvement programme need to understand Safety Culture, the process of cultural change and the factors which can influence culture within their company. This will help to establish an effective programme or action plan for developing their Safety Culture and thus have a positive impact on it.

Being involved and obtaining a deeper understanding can improve both capability and confidence in addressing the issues related to safety.

The benefits to the capability of all people inside the company may include:

- An enhanced focus on safety in the context of daily work
- The development of a more systemic view of safety
- Improved communication between leaders and staff, and among teams, thus leading to improved internal collaboration
- Achievement of greater transparency, trust, and confidence, leading to a more positive working environment
- Improved effectiveness and efficiency of the safety functions resulting in more timely and cost-effective operations
- A shift from reactive to more proactive management of safety
- Increased vigilance in responding to weak signals and in establishing an enhanced reporting culture.

3. Safety Culture Peer Review

3.1 OVERVIEW OF THE METHODOLOGY

The proposed methodology is a means of harmonising the practices of organisations wishing to carry out a Safety Culture Peer Review. It is based on a process involving several successive stages, including sometimes iterative activities such as data collection and analysis. To ensure its effectiveness, certain principles and prerequisites must be respected.

The Safety Culture Peer Review is a methodology to take a snapshot of the Safety Culture with a company. It takes into account previous results of surveys (such as the ERA Safety Climate Survey, see paragraph 3.3.1.1) and internal documents providing descriptions of the company's safety management systems, and objectives set to monitor performance. Interviews with staff and management, focus groups and on-site observations form the basis for the assessment and the synthesis of findings within the Peer Review team.

At the end of the process, the company management will be presented with an overview describing the level of Safety Culture observed, good practices identified, and improvement areas proposed. These are based on the European Safety Culture model.

By using this model, the objective is also to foster a common methodology to develop Safety Culture approaches across the European Railway area.

3.1.1   Process

The process can be broken down into three main phases, which are described in detail in the following chapters:

- Preparation
- Execution
- Feedback of results

In the diagram below, the underlined elements have hypertext links that allow to navigate through the document and go directly to the relevant chapter.
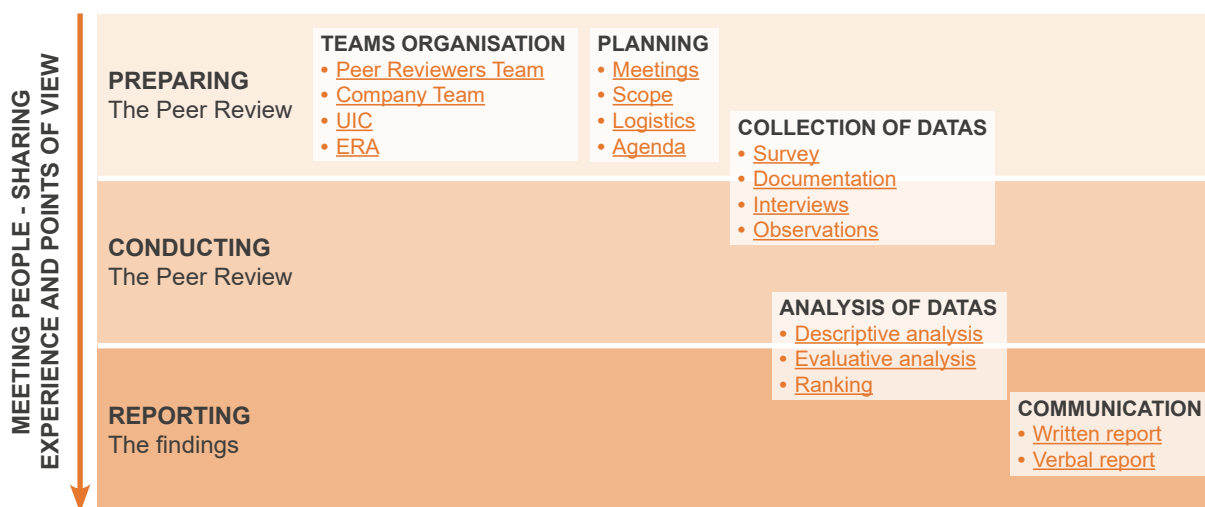

Figure 5 – Overview of the Peer Review process

3.1.2   Principles & Prerequisites

The principles of anonymity and confidentiality must be respected in order to guarantee the trust necessary for exchanges with the employees consulted within the organisation. Care must also be taken to ensure that no one can be punished for mentioning information or a malfunction, or for any undesirable behaviour that may have been observed.

The general prerequisite is that the organisation being reviewed has to be open, transparent and actively supporting the review. They must not try to hide their issues, indeed it is important that they let us know what they are. A relationship of trust must therefore be established.

The first prerequisite for carrying out a Safety Culture Peer Review is that the members of the Peer Review Team must have mastered the required methodology and have sufficient knowledge in this area. This implies that they have undergone theoretical and practical training, and that some of them already have experience in deploying such an approach.

It is also strongly recommended to diversify the profiles of the reviewers to ensure that all the necessary knowledge and skills are available within the team.

The second, and extremely important, prerequisite is a strong commitment from senior management to get involved in Safety Culture activities and in the Safety Culture Peer Review process. Managers must be credible and genuine, and the commitment must be clear to staff through the management actions that will follow. If this is not the case, any subsequent efforts may result in a waste

of time, human resources and money, as well as a loss of credibility.

The third prerequisite is to develop knowledge and understanding of Safety Culture concepts among managers. Time must be set aside for discussions and workshops to help people with a technical orientation who are not familiar with the human and social sciences to grasp these concepts. It is very important that the teaching material is adapted to the problems encountered by managers. For example, it was found that highlighting the organisational and cultural precursors to safety events that had taken place in the companies helped to develop interest and understanding of the relevance of the subject.

The fourth prerequisite is preparation for the process and coordination between the various stakeholders. The choice of the Host Coordinator is fundamental to ensure the interface between the Peer Review Team and the company staff involved.

3.2 PREPARING THE PEER REVIEW

3.2.1 Organisation of the Teams

Conducting a Safety Culture Peer Review requires effective preparation and coordination of the various stakeholders involved: the Peer Review Team; the Host Company; UIC; (ERA on explicit request for reviewers and team leaders training and for the methodological support of the final report production).

Within these different groups, anticipation is a central element of success, as is ensuring the mastering of the required key skills and knowledge, or the identification of key players with specific profiles or competencies.
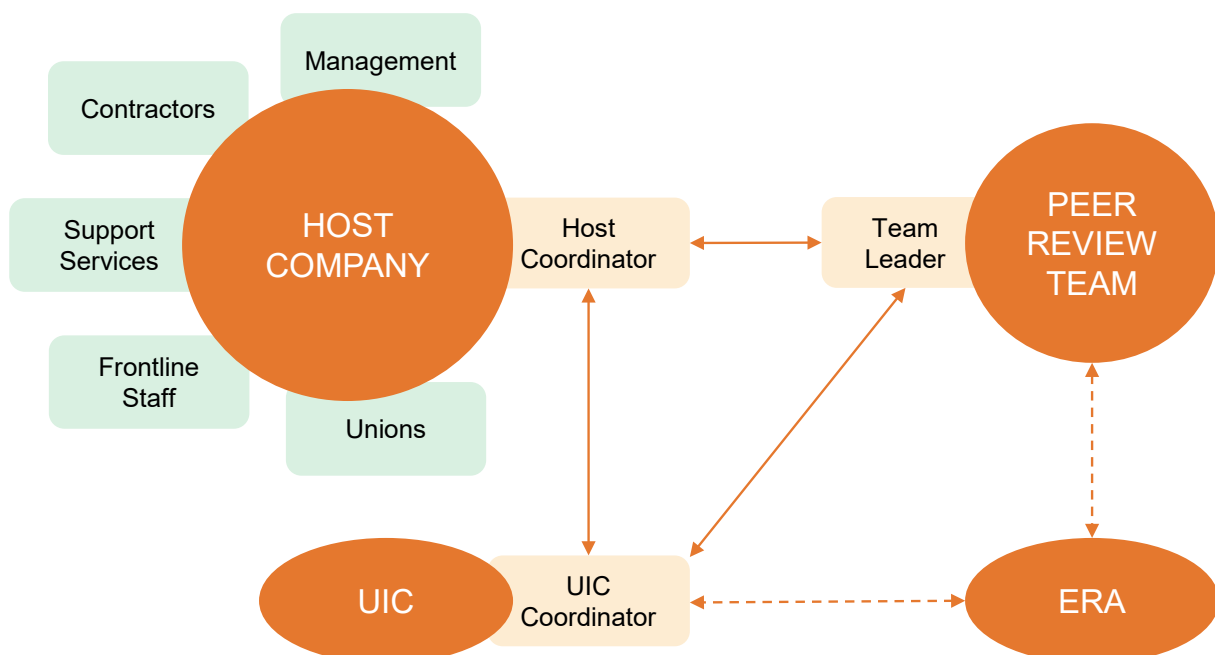
Figure 6 – Synthetic representation of the different stakeholder groups involved, the key players within each group and the necessary links between them.

3.2.1.1   The Peer Reviewers Team

The Team is made up of between 6 and 10 Reviewers (including the Team Leader – see next paragraph), depending on the number of sectors to be reviewed and the number of interviews and observations to be carried out. It is not advisable to go beyond this number, for reasons of coordination efficiency.

The Peer Review Team is divided into sub-teams of 2 or 3 people conducting the various interviews/focus groups/observations. Two people in each sub-team is a minimum, so as to avoid the potential "interpretation bias" that using a single person would bring. Three members is a maximum, to avoid the "overwhelming effect" when interviewing a single person, for example. In addition, it was found that teams of three had the advantage of facilitating exchanges within the sub-group and arriving at a common vision in the event of differences of interpretation.

Each member of the team must possess a certain amount of knowledge and skills to ensure the success of the mission, and must be able to complement, if necessary, the other members. The composition of sub-teams should consider each member's skills and knowledge, as well as their affinities, to ensure a balanced distribution of roles and optimized efficiency. The importance is that the team can cover all the below competencies.

These skills and knowledge can be divided into two categories: technical and non-technical.

Technical:

- Operational experience in the railway environment
- Understanding of company processes, particularly regarding SMS
- Understanding of Human and Organisational Factors (HOF) concepts and the Safety Culture Model used
- Experience in data collection and analysis, interviewing and observation techniques
- Proficiency in the language(s) used by the stakeholders to be met. It is essential to have good English speaker in the reviewer team
- Ability to ask the "right" question during interviews and focus groups
- Ability to link the conclusions to the Safety Culture model used for the Peer Review

To ensure they are fully acquainted with the Safety Culture Model, team members are required to have taken the training related to the used Safety Culture model and the methodology to be applied (ERA-SCM & Safety Leadership training in Europe and/or any other training delivered by an organisation at international level). In addition, the UIC will soon propose a specific and complementary training on practical cases for mastering the whole approach. This dual training will enable Team Members to be fully operational from their very first assignment.

Non-technical:

- Integrity, ethical and honest
- Fair presentation, trustful and accurately reporting
- Due professional care, diligence and judgement
- Confidentiality, discretion and security of information
- Independence, impartiality and objectivity
- Open-mindedness
- Ability to listen and ask for clarification
- Ability to communicate, debate and accept compromise
- Ability to learn
- Ability to work in a team
- Ability to synthesise

3.2.1.2   The Team Leader

The Team Leader has a central role within the Reviewer team. He/she is there to provide a clear vision of the objectives, and to reiterate them whenever necessary. He/she is responsible for coordinating the entire process, whether it involves the Reviewer Team, the Host Coordinator, the UIC or the ERA. He/she must also ensure a balance of skills within each Reviewer sub-team, as well as the coherence of the work of all the sub-teams, manage disagreements and find compromises, while being integrated into one of these sub-groups.

To ensure that the Team Leader has a sound knowledge and mastery of his/her role, he/she must have taken the specific Team Leaders training offered by ERA. The Team Leader should also have experience in carrying out such Peer Review and – if possible – he/she should have done a Peer Review before with the support of an experienced colleague.

3.2.1.3   The Host Coordinator

The Host Coordinator plays a central role in the success of the Safety Culture Peer Review. He/she is responsible for the overall scope and practical planning and logistics of the project within the company and with the Reviewer Team Leader. The Host Coordinator will be available during the onsite review to facilitate practical issues during the review, e.g., replanning due to unavailable staff, rooms etc. He/she can be assisted by one or several local coordinators from the company.

For example, the Host Coordinator defines the specific area and themes to be covered by the Peer Review; as an example: ÖBB's Peer Review focused on shunting, CFL's on train driving and Infrabel's on engineering work.

The Host Coordinator is also responsible for ensuring the communication of the project to all relevant people in the organisation (an example of communication is shown in Appendix). It is important that the Host Coordinator explains the aim and the method and plan for the Peer Review to all concerned parties; including Senior Management, who must be engaged and aware of what is at stake, and towards the field operators who need to feel confident about the process.

For this mission to be successful, he/she must have a very specific profile:

- He/she must be known, perceived and accepted as being an authoritative voice in terms of safety within the company (prior experience in this field is essential).
- He/she must be at a sufficiently high hierarchical level to have easy access to all the stakeholders concerned, whatever their position in the company, including the Management Committee.
- Leadership ability.
- He/she must have fluid relations with all stakeholders in the company, so as to be listened to.
- Ability to communicate and explain.
- Good language abilities in English to interact with the reviewers' team.
- Knowledge of company's internal processes.
- Knowledge of company SMS processes.
- Knowledge of HOF and Safety Culture concepts.

The training provided by ERA/UIC on the Peer Review ensures that the Host Coordinator has a sound knowledge and mastery of his/her role.

3.2.1.4   Management

Safety Culture studies show that field operators' perception of management's sincerity and proactive commitment to safety has the biggest influence on their safety behaviour. A lack of management involvement in the Safety Culture Peer Review would therefore be perceived as a lack of interest in safety. Consequently, for the process to be a success, the entire management team must be fully involved in its preparation and execution, in particular by allocating the necessary time and resources. Management should be convinced of the approach, the added value and benefits that the organisation can derive from the Peer Review and must show exemplary commitment by actively participating in the entire process. They must take part in the information meetings and the information campaign organised by the Host Coordinator.

To be effective in this area, management must be aware that a Safety Culture Peer Review is not a compliance audit, nor the quest for certification, but a support for understanding how the organisation's Safety Culture influences all stakeholders' behaviours when dealing with safety. Management should work with the Host Coordinator to identify the issues and areas to be analysed. They should be willing to find out what is really happening in the field, including practices they may not be aware of, and must be prepared to accept the final result and act upon it.

3.2.1.5   Frontline Staff

Frontline Staff will play an important role in the interviews, focus groups and observations. As such, it is essential that they are properly informed of the objectives, principles and timetable of the Safety Culture Peer Review, prior to its execution. Sufficient time for discussions and resources should be allocated so that staff are encouraged and enabled to be involved in the Peer Review.

This preparation is essential if the operational staff are to feel confident and open during the process (survey – if conducted; interviews; focus groups; observations).

The preparation can be divided into two distinct elements:

- A comprehensive communication campaign aimed at all company personnel, explaining the process and inviting volunteers to take part. The goal is to help staff understand the review as an opportunity to identify the strengths and weaknesses of the organisation's Safety Culture and certainly not as an assessment of their performance, which it is not.
- A direct meeting between participants and the Host Coordinator to ensure that they understand the fundamental principles of the approach: improved safety, transparency and confidentiality. The managers of the frontline staff should be prepared to explain to them the objectives of the review.

3.2.1.6   Support Services

One of the basic principles of an HOF and Safety Culture approach is to realize that it is not possible to understand the performance of field operators without taking into account the whole system in which they operate. Consequently, it is essential to also assess the Safety Culture of support departments such as HR, Communication, Procurement etc. and to involve them in the preparation and execution of the Safety Culture Peer Review. They must also therefore be the target of the communication campaigns and information meetings so as to encourage their participation.

The role of support departments does not stop at active participation in the Safety Climate Survey, interviews or focus groups. They also play an essential role in the logistical management of the process (see paragraph 3.2.2.3).

3.2.1.7   Unions

When it comes to safety, all actors are important, including representative professional organisations. Trade unions have an essential role and are generators of part of a company's Safety Culture, and their contributions in this field, outside any political dimension, may be entirely relevant to take into account in its evaluation. As such, they are fully entitled to be involved in the Safety Culture Peer Review.

Professional organisations can play an important role in the preliminary communication campaign, helping to build the necessary trust for this type of approach, and employee representatives can take part in focus groups or be interviewed.

3.2.1.8   Contractors

These days, a large proportion of industrial activities are often outsourced to contractors. As a result, many different companies may be working in parallel or together. This often makes task planning and execution more complex, especially as each company may have its own Safety Culture. It may therefore be worthwhile, whenever necessary, to include relevant contractors in the scope of the Peer Review.

3.2.1.9   UIC

The UIC plays a major coordinating role between the Host Company, the Team Leaders, the Team of Reviewers and the ERA, etc... It guarantees the methodology applied throughout the process. It supports the Team Members on defining the Review scope and planning, and how to conduct the Peer Review all along the process. UIC will also be responsible for the future practical training.

3.2.1.10 ERA

ERA is the owner of the model used: the European Railway Safety Culture Model 2.0. (ERA-SCM).

ERA and UIC will keep coordinating so that the Return of Experience is organised and allows for the Peer Review process, method, tools and training to be updated.

ERA undertakes to provide free of charge an annual training session for all members who are willing to conduct Peer Reviews.

3.2.2 Organisation of the process

As seen earlier, preparation is an essential part of the process to ensure that the Peer Review runs smoothly. This requires activities to be planned with precision and anticipation, through preliminary meetings, to define the scope, the agenda (see appendix 4.1.2 for an example of the detailed agenda) and to ensure the logistics.

3.2.2.1 Definition of the scope

The determination of the scope of the Peer Review is defined by the learning objectives pursued. The choice of subjects to be analysed in depth, the nature of the operational activities to be observed and the functions of the people to be interviewed depend on the reasons for launching the Peer Review, which can be varied. The scope relies on the wish of the organisation to learn and improve Safety Culture in a certain location, vocation or to learn more about specific known issues in a defined area. Whether this wish origins from the result from a survey, number of occurrences or unsolved findings from audits or something else. In any case the review will usually not be able to cover the entire organisation. It is a diagnosis of strengths and weaknesses in a defined area of the organisation, that provides information about the current situation and can be used as a starting point for the management to decide on implementation of actions.

Coordination meetings during the preparation phase should make it possible to define the activities and interfaces between departments that will be the subject of a detailed analysis, in order to meet the Host Company's expectations. This requires a good understanding of the organisational and cultural specificities of the Host Company.

Although the choice of topics to be reviewed is discussed in advance, additional themes can be analysed in depth at the time of the onsite data collection, depending on the learning value they represent during the onsite discussions between reviewers and during the data collection.

3.2.2.2 Meetings

Between the Host Coordinator and the Team Leader

Prior to the Peer Review execution, numerous meetings are organised between the Team Leader and the Host Coordinator, for example to plan the Peer Review:

- What is the scope and why?
- How is the top and local management commitment, which staff profiles and geographical areas to be covered?
- How many observations, interviews, focus groups etc. are needed and possible?
- How is the logistics possible and arranged?

They also discuss the most appropriate type of documentation to give to the Team of Reviewers to prepare them properly for the Peer Review. Essentially, these meetings are a way of exchanging ideas, communicating and, above all, moving forward together to organise the Peer Review in the best possible way.

These discussions are also an opportunity for the Host Coordinator to report any difficulties encountered in preparing the Peer Review.

Between the Host Coordinator the Team Leader and the Reviewers

Preparatory meetings between the Team Leader and the Reviewers, generally done at distance, are essential to the success of the process. The purpose of these meetings is to create a group dynamic, to unite the team, to prepare each team member for his/her role, to define the sub-groups, to ensure that the model used is properly understood, that everybody knows the link between the analysed points and the Safety Culture Model, and to draw up the overall schedule for the week of work. For this last point, the meetings are used to share a first picture of the Host Company, and the information gathered during the document review or during the analysis of surveys, as well as to prepare themes to explore during the onsite review.

The Arrival Team meeting is held in the week immediately before the Peer Review, to one last time share the planning, the objectives, the understanding of the model and the risks to which the team will be exposed during the field observations. The aim is to create a shared vision and a positive dynamic within the group, enabling it to be as effective as possible during the week in which the Peer Review takes place.

Of course, internal coordination meetings between the Team Leader and the Reviewers can be organised on a need to basis.

Between the Host Coordinator and company stakeholders

It is a prerequisite to have the commitment of the top management of the host company to perform the Peer Review. The outcome and objectives should be clear for the management. This includes:

- What is the method?
- Who are the review team members?
- What is the scope (and what is not part of it)?
- What is the concrete timetable and the resources involved in the review?

It is the management responsibility to appoint the necessary resources and to support the review. The Host Coordinator should inform the management by written communication (which will be sent to everybody in the given department) and by personal contact with an explanation and the opportunity to answer questions.

The Host Coordinator might need Local Coordinators to assist with information and communication, the planning, assignment of resources to participate in the data collection and logistics (see paragraph 3.2.2.3).

Of course, it is also the task of the Host Coordinator to coordinate with unions, safety team, frontline staff, support services.

Between the Team Leader and the UIC Coordinator

On request from organisations wishing to conduct a Peer Review, UIC coordinates with a Team Leader to start organising the Peer Review. A Review Team is put together from a pool of trained reviewers, and depending on the Peer Review and the experience of the Team Leader, a number of meetings may be organised to discuss the logistics and planning of the Review, and also the Team Reviewers composition. Discussions also cover the choice of documentation to be made available to the Team of Reviewers and the presentation to be made at the kick-off meeting with the Host Company Team. To ensure a high quality of Peer Review, UIC may be called upon to help and advise the Team Leader.

The Arrival Team meeting

On Sunday[3] arrival, the Team will meet to go through the scope, the week planning, the markers found during the document review and surveys that could be interesting to understand better. It is also the time for the Team Leader to remind about the behaviour during the review and to go through the data collection and the processing of the data to fit the final report. The Team Leader is responsible for the meeting, which might be held online in the week before the onsite review if the Team is experienced.

The Host Company Kick-off meeting

For each Peer Review exercise, a kick-off meeting is organised on the Monday[3] morning between the Host Company Team and the Team of Reviewers, UIC and ERA. Generally, the Host Company makes an introductory presentation showing its commitment and support for the Peer Review exercise. The Team Leader then chairs the meeting, presents the aim and scope of the review, and manages expectations of the review and the final output; he/she explains the methodology that will be used. The team leader asks the Host Company to take part in a concrete exercise and invites them to identify the 3 fundamental safety principles on which they think they are the strongest and the weakest, and similarly for the facilitating elements of the used Safety Culture Model. He/she then explains how the Peer Review will be conducted, and finally invites them to meet on Friday[3] for the final presentation and the results.

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3. Although the execution of a Peer Review has been successfully organised from Sunday to Friday several times, other arrangements can be tried and feedbacked.

3.2.2.3   Logistics

The preparatory meetings are also an opportunity to discuss the logistical organisation required to conduct the Peer Review. This includes travel, accommodation and catering for members of the Peer Review Team. It also concerns the facilities provided by the Host Company:

- Booking of rooms used for meetings, interviews and focus groups
- Booking of rooms for the coordination meetings and all teams
- Booking a room for the whole week for the coordination meetings for the report
- Hotel pre-booking for 5 nights for all Teams of Reviewers, UIC and ERA staff. Payment is then made by each participant.

- Organisation of transport for travelling from one site to another
- Invitation to all participants with rooms and objectives
- Access to a WIFI connection in all meeting rooms for working purposes
- Access to buildings and to the field for observations (PPE, badges, authorisations, travels, etc.)
- Preparations for the dinner (reservation in a Restaurant, …) and organisation of catering for lunches.
- Organisation of "guides" to direct and support the review team
- If necessary, organisation of translation

3.2.2.4   Agenda timeline

A timeline of the activities making up the Peer Review process is an aid to planning the various stages, in particular those taking place during the data collection and results communication phases, which are explained in the following chapters of this document.

Detailed examples are provided in the appendices. The preparation phase is generally spread over several months, so that the next two phases can be carried out over the course of a week (Sunday to Friday[3]).
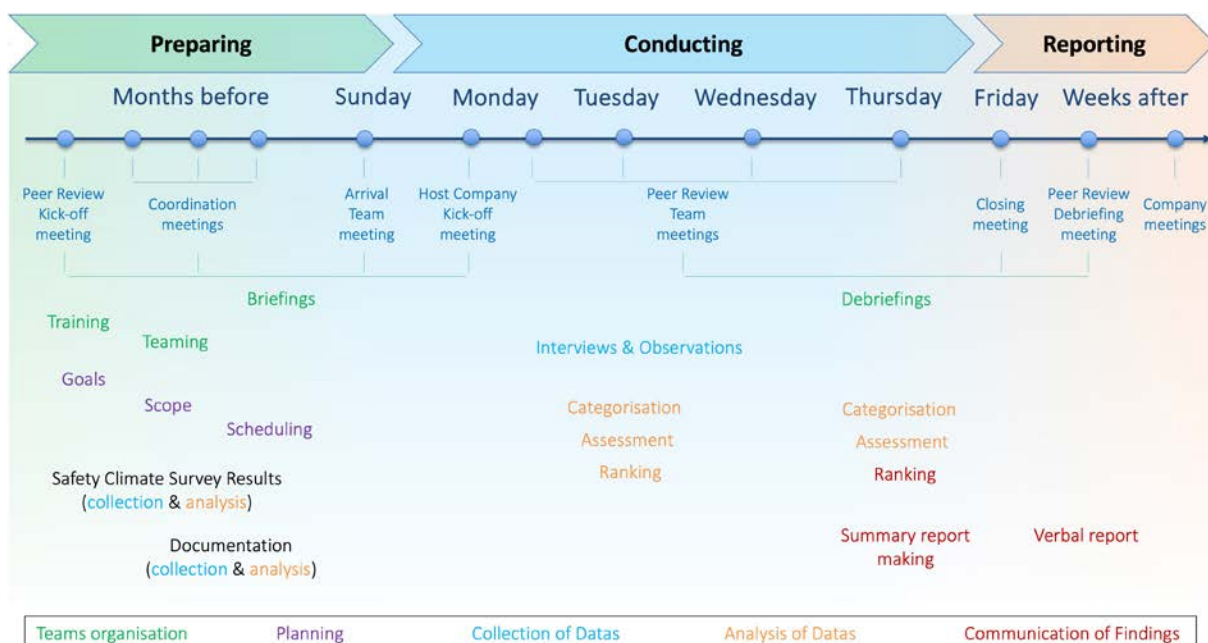

Figure 7 – Peer Review Timeline example

3.3 CONDUCTING THE PEER REVIEW

Most of the data collection and analysis is carried out when the team is in the field, although it begins during the preparation phase.

These two activities have been separated in this document for the sake of simplicity, but they are most often concurrent and recursive.

In the course of a single day, there are several interviews or observations which correspond, strictly speaking, to data collection; they are systematically followed by a debriefing during which a succinct analysis of the data and a first level of prioritisation take place.

These debriefings are themselves followed by a collective analysis at the end of the day. They are also used to prepare the next day's work, defining priorities and identifying attributes that may have been overlooked and that need to be addressed the following day, or information needing to be cross-checked. On Thursday, an overall analysis of the data collected enables the Peer Review team to draw up the final report and present the results on Friday.

3.3.1 Collection of data

After the Peer Review plan is approved and endorsed by senior management, the organisation and the team are prepared and the Peer Review plan is established, the data collection phase may start. It is important to organise this process carefully since the activity requires substantial human resources and the availability of staff members and managers for interviews, focus groups and observations.

All interactions should start with a presentation of the reviewers and the objective of the intervention. A very important issue is the confidentiality of all the exchanges for the participants (see paragraph 3.1.2). It should be stressed that the whole process is not to evaluate individuals, but to investigate what helps the organisation to perform better.

There shall be no disclosure to the company (nor the Host Coordinator) of information linking findings to individuals; the aim is to collect commonalities in behaviour and thinking within the organisation. The ways in which confidentiality might be breached should be carefully considered before data collection begins and explicit measures put in place for protection.

A secure data base for maintaining information collected should be established and used by all team members as a common resource.

Data collection takes place in two distinct stages:

- The first phase, which takes place prior to the face-to-face field phase: Surveys (optional) and document review.
- The second takes place in the field: interviews, focus groups and observations.

3.3.1.1   Surveys

A survey is an effective way of gathering information from a large population; it is used as a tool in a Safety Climate Survey possibly conducted prior to the Peer Review. The respondents have the same set of questions. It is important to allow staff sufficient and specific time during their work in order to consider and complete the survey, and to respond without any interference. It is important to try to achieve a high response rate from across the entire organisation. The data collected reflects perceptions on various topics including personal behaviour. It can be used to reveal the diversity of thinking of different sub-groups on certain topics.

However, surveys normally identify symptoms rather than causes, so it is not possible to understand the basis of underlying cultural beliefs and assumptions from the responses given. Surveys are therefore a basis for further investigation but if used as the sole source of data or in the absence of findings from other methods, understanding of the organisational culture will almost certainly be partial and incomplete. Surveys are useful for establishing a baseline of information to prepare the face-to-face phase of the Peer Review.

Thus, such surveys are highly recommended, not only because they draw a baseline to start from, but also because the survey approach prepares all the organisation to consider Safety Culture involving all the staff.

ERA has developed a Safety Climate Survey (ERA-SCS). It is an online survey hosted on the EU Survey platform, accessible in 22 European languages on smartphones, tablets and computers and it is available under request to any railway organisation willing to obtain an overview of their staff safety perceptions.

3.3.1.2   Documentation

Key documents for the review are such as Safety Management System Manual, Safety Culture Manual, Human and Organisational Factors Manual, Standard Operating Procedures, checklists, safety indicators, annual reports, inspection reports, safety investigation reports or analyses, actions plans and safety training programs.

These documents may display the Senior Management decision-making process and reflect management practice on safety issues. They are structured up and disseminated, indicating some of the underlying beliefs involved. The Just Culture process of an organisation, the HOF integration and the Safety Culture handbook are examples of documents that can be reviewed.

The process of document review is not an audit of document content or compliance with expectations and standards but provides curiosity on themes of interest to be explored.

Documents and records in the company's management system provide information on formal approaches adopted by the organisation. They also reflect the organisation's thinking and intentions on a wide range of organisational dimensions and may be helpful in identifying gaps between stated intent and actual practices.

To capture cultural influences, it is important to draw upon a broad set of documents. Documents reviewed may include the above-mentioned elements, but also internal reports, notes, correspondence which is generated by various functional groups in their routine work, policy statements, consultancy reports, performance review reports.

Document review is rather time consuming but can be done individually in advance. Where there are limited resources, a focus on a selection of the documents may be a good approach to maximise value.

3.3.1.3   Interviews (individuals & focus groups)

Interviews bring out people's points of view, experiences, perceptions and beliefs. This is why they are essential for understanding the psychological and sociological mechanisms, and therefore the Safety Culture, at work in the organisation. They also are very useful for highlighting controversial or unexpressed topics, or those that have been brought to light by the document review and analysis of surveys.

An important point of attention concerns the Reviewers' mastery of the language spoken by the interviewees, as much of the information to be gathered is perceived in the nuances of the language used. If the Reviewers are not fluent in the language of the interviewees, it is essential to use an Interpreter who must be both fluent in the two languages concerned and familiar with the interviewees' operational environment, to avoid misinterpretations or mistranslations of vocabulary specific to the profession. Where Interpreters are used, it is essential that their role in the process is fully understood, especially regarding the confidentiality of the information exchanged during the meetings in which they are present.

It is important to bear in mind that interviewees may be reluctant to talk about sensitive or controversial subjects. They may therefore perceive certain questions or subjects as intrusive and develop defensive mechanisms that undermine the transparency of the exchanges. It is therefore essential to build a relationship of trust between Peer Reviewers and interviewees right from the start of the interview, by creating a positive atmosphere that protects the individuals and values their points of view. This relationship of trust will be all the easier to establish if the company has run an effective communication campaign about the process before it begins (see paragraphs 3.2.1.4 & 3.2.1.5).

Some themes of the interviews will have been defined during the preparation phase (see paragraph 3.2.2.2). However, it is normal to deviate from the planned themes in the discussion with the interviewees. Be open and keep an open mind, there might be more important themes to cover than the prepared ones.

There are two types of interviews: individual interviews and focus groups.

- Individual interviews: there are several types of individual interviews. The most useful one for gathering cultural facts is the one called "semi-structured interview". It is conducted on the basis of broad pre-defined thematic areas and allows for additional questions to be asked in response to the interviewee's answers. Semi-structured interviews offer flexibility in the choice of important subjects to investigate, which is not possible with other methods where the questions are fully planned. If handled by a skilled interviewer, they can raise complementary questions that can be a valuable contribution to the assessment findings.
- Focus groups make it possible to observe human interactions, while at the same time obtaining useful information that would not be obtained using other methods. Indeed, the interactions and group dynamics bring out other aspects of the Safety Culture than those obtained during individual interviews or observations, such as power dynamics, interaction patterns, dominant beliefs and values, etc. Focus groups should be made up of small groups of 4 to 6 people to allow everyone to express themselves enough, and they should not mix hierarchical levels to counter mechanisms such as obedience to authority or organisational silence. The Reviewers should lead the discussion and ensure that everybody has the chance to take the floor, and nobody is "under or overrepresented" in the group.

The location of an interview is chosen to ensure that participants are not distracted by noise, people passing through or other forms of interference (see paragraph 3.2.2.3). The location should be easily accessible by the participants (this is one of the conditions for the preparation of the interviews or focus groups).

Interviews should normally be carried out by two or three team members – one or two acting as interviewers, and the other taking notes. Some of the issues raised may be complex, especially in focus groups, and not only verbal. Expressions and body language are important too. The presence of two or three Reviewers allows for discussion after the interview to agree on the findings and to rework the written notes.

Interviews and focus groups should not exceed 60-90 minutes. Beyond that, the answers given could become less precise or too generic, and the fatigue of the Reviewers and interviewees could become too great. Once the interviewees have left, the Reviewers should take the time (between 15 to 25 minutes) to synthesise and consolidate the information gathered (see paragraph 3.3.2.2). Note that it is good practice to plan plenty of time for the interviewees to go forth and back and to have a little break before restarting service.

3.3.1.4   Observations

Observations and situational verbalisations form a structured approach to gathering factual information about what is going on in real-time. They capture information on the attitudes and behaviours of the ones observed, the shaping of resulting activities or actions, and their visible interactions, reactions or consequences. They are conducted with as little interpretation as possible from the observer. Observations provide insight into how people behave, interact, prioritise, make decisions, and shape outcomes. They can also be compared with the results of surveys, of documentation and/or interviews to highlight gaps between what local teams think they do and what they actually do.

Observations mostly concern field operators in their day-to-day working environment. It may also include meetings, particularly if they concern arbitrations involving safety (e.g., safety reviews, event classification, endorsement of safety reports or inspection reports…).

In that context, observations give insights into group dynamics and how people interact with each other. This may include how conflict is dealt with in the presence of positional power and how decisions are made.

During field observations, it is important to have a local guide present to protect the activity being observed and to ensure the Reviewers' safety. There must be no risky interference between the Reviewers and the staff being observed carrying out their professional duties. These local guides (possibly experts on observed activity) can also answer the specific questions the observers might have without disturbing the staff on the field. It is also a good idea, where possible, for the observers to attend a team briefing or debriefing on safety.

As for the interviews, observations should normally be carried out by two or three team members. The Reviewers should take the time (between 15 to 25 minutes) to synthesise and consolidate the information gathered (see paragraph 3.3.2.2).

3.3.2 Analysis of data

The analysis phase is expected to identify the strengths and weaknesses of the Host Company's Safety Culture, together with opportunities for improvement and the risks if action is not taken.

It provides the basis for the assessment report, and later for an action plan to allow improvement.

The analysis consists of two distinct steps, descriptive and evaluative, described in the following paragraphs.
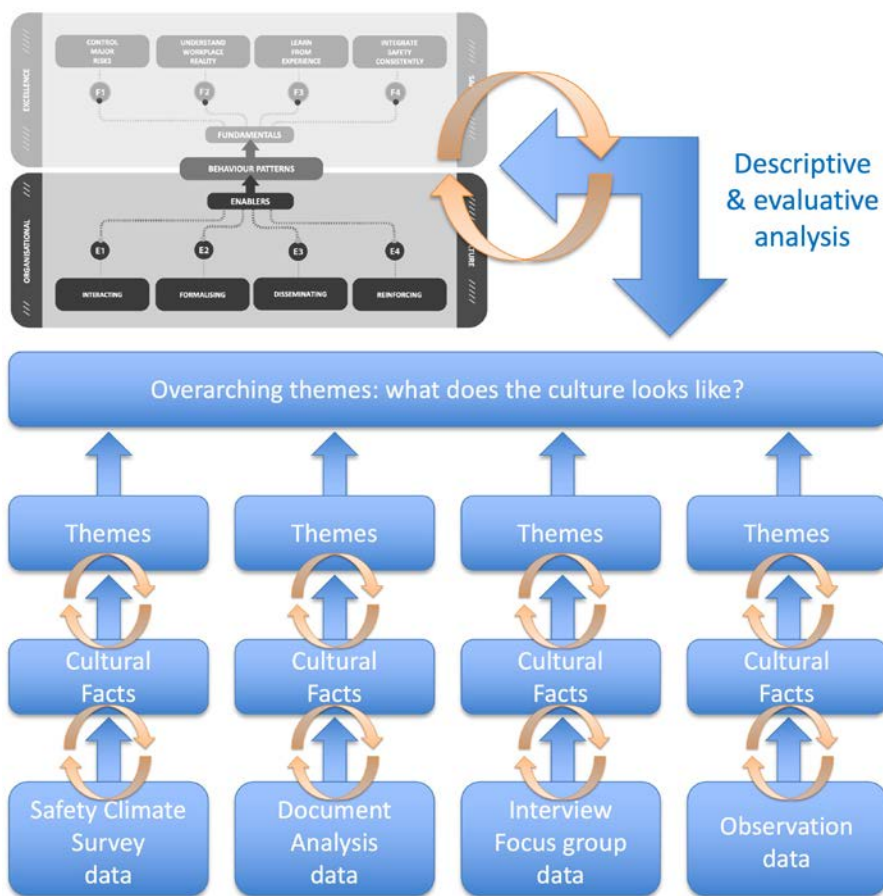

Figure 8 – Descriptive and evaluative analysis, adapted from IAEA (2019)

3.3.2.1 Descriptive analysis

Descriptive analysis involves extracting cultural markers from all the data sets independently, then classifying each into attributes linked to the Safety Culture model used (e.g. ERA-SCM see Fig. 3 and Fig. 4). Sometimes markers can be relevant for more than one attribute, in this case the marker can be used for the most relevant attribute or for more than one when it makes sense to address more attributes.

This is done by extracting relevant data points that reflect stories, events, explanations, and ways of thinking. These markers make it possible to give meaning to the practices reported or observed and to link them to the underlying assumptions and values. Aggregating these elements into different categories will allow a distinct and detailed analysis of the data, while documenting all or part of the themes and sub-themes that make up the model.

A04	Peer review input sheet
Sheet	A04
Reviewers	KB,NB,FH
Date	21/02/23
Data type	3. Interview
Number of persons reviewed	3
Details	Driver Coach

collected data	link to ERA-SCM	attribute
The safety vision was described as taking lessons learnt from incidents.	The organisation develops and implements a safety vision to support the achievement of business objectives.	F4.1
The employees interviewed understood their personal contribution to safety.	Individuals at all levels are aware of major risks and understand their personal contribution to safety.	F1.1

Figure 9 – Descriptive analysis: classifying collected data into ERA-SCM attributes.

The investigation will seek to identify divergences and recurrences of viewpoints between the individuals or populations consulted, by selecting representative examples of the Safety Culture (quotations, anecdotes, stories or observations, while carefully preserving anonymity). The aim will also be to identify the existence of sub-cultures within different groups (jobs, department, hierarchical level), and to seek to understand what is happening within the organisation and the potential implications for safety. This will involve exploring, for example, trends within the organisation that indicate a lack of unsafe behaviour or acceptance of degraded conditions and exploring the impact on individuals - how this affects levels of commitment, demonstration of competence and autonomy, willingness to put the organisation's needs ahead of one's own, and organisational learning.

3.3.2.2   Evaluative analysis

Although the Safety Culture Peer Review is not a compliance audit, such as those that may be carried out elsewhere by a supervisory authority, it may be of interest in revealing practices that deviate from recognised standards, good practices or those mentioned in the company's guidelines. These gaps may reflect weaknesses that could compromise safety within the company, or good practices that should be preserved by the company in case of change management.

The assessment of the facts gathered in terms of its positive or negative impact on safety therefore relies mainly on the expert eye of the reviewers. To do this, they should be able to use a description of the expected levels mentioned in the different parts of the Safety Culture model used. They can also draw on their knowledge of existing practices in other organisations, identified through benchmarking or from their professional experience.

To ensure the objectivity of the assessment, it is recommended that all reviewers use the same four-level scale for all model attributes, as followed:

- To improve: designates an attribute that needs to be improved because it may have a negative impact on Safety Culture.
- Be aware: designates an attribute that

needs to be kept under surveillance because it could become problematic, even if it isn't at the time.

- No issues: designates an attribute that is neutral, neither a strength nor a weakness
- Working well: designates an attribute that is a strength on which the organization can build and capitalise.

Assessments are made in successive stages, starting with the individual opinion of each Reviewer and arriving at the collegial opinion of the whole group. After each interview, focus group or observation, the sub-teams make an initial assessment of the elements gathered and define the elements that seem most relevant to them. At the end of each day, this initial assessment is then shared with the rest of the team, under the coordination of the Team Leader.

The aim is to compare points of view and reach a consensus. New themes will appear during discussions, and these points are important to share within the Team for the awareness of these themes in the following activities.

These assessments are carried out in 3 phases:

- First, each Reviewer's comments and assessments are pooled.
- Next, each Reviewer's, or sub-team's evaluation is presented to the other member(s) of the sub-team, or to the whole team, for discussion.
- Then, each attribute of the Safety Culture model is assessed on the four-level scale mentioned above.

This progressive and collegial approach guarantees the veracity of the results obtained.

Attribute	Summary	Assessment
F2.1 Working conditions	It was vocalised during numerous interviews that the company is a good place to work with reasonable working conditions. Tools, Protective equipment being of a good standard. Infrabel should place increased focus on recruitment of staff as the shortage in people resources is being felt in daily activities.	Strength
F2.2 System complexity	Occupational Safety is managed in a proactive way.	Strength
F2.3 Reporting	While a reporting system is in place and staff in some departments feel very confident in reporting abnormal deviations, the fear of sanction still exists in some departments thereby facilitating organisational silence. The discipline applied by deduction in the worker personal appreciation value, although a token deduction, is viewed very negatively.	Area for improvement

Figure 10 – Extract of the summary report – e.g., of strength and area of improvement

A04	Peer review input sheet

Sheet	A04
Reviewers	KB,NB,FH
Date	21/02/23
Data type	3. Interview
Number of persons reviewed	3
Details	Driver Coach

collected data	link to ERA-SCM	attribute	assessment
The safety vision was described as taking lessons learnt from incidents.	The organisation develops and implements a safety vision to support the achievement of business objectives.	F4.1	*2. Be aware*
The employees interviewed understood their personal contribution to safety.	Individuals at all levels are aware of major risks and understand their personal contribution to safety.	F1.1	*4. Working well*

Figure 11 – Extract of a Peer Review input sheet – e.g., of "be aware" and "working well"

3.3.2.3 Ranking the findings

To make it easier to take ownership of the results when reporting back and to choose the action plans to be implemented, the findings should be ranked in order of priority. At the end of the day, every review-team should have the 5 most important messages to discuss in the group.

This prioritisation takes place also after each interview or observation, and at the end of each day, to enable the reviewers to select the subjects that should be explored in greater depth during future interviews. That will enable to contribute to the summary of the reports to be produced on Thursday.

3.4 REPORTING THE FINDINGS

Once the team has finished analysing the data, the final report can be presented during the closing meeting with Top Management led by the Team Leader. This report takes three distinct forms: a written report; an oral presentation to be delivered to Senior Management; and communication to the whole organisation.

Before sharing the results, one essential point should be stressed: Some concerns may be perceived to reflect on particular groups or functions and output may thus be sensitive. It is important, again, to stress that the findings are not intended to criticise but to be constructive and to improve the culture of the organisation. In particular, communication to the whole organisation, which is under the responsibility of the company and not of the Team Leader, should be planned and performed carefully.

It is also important to underline that the final report should not include any recommendations. All the actions plan, following the review, are under the responsibility of the company.

3.4.1 Summary written report

When a Safety Culture Peer Review has been effective, the number of findings can be very large.

The main objective to bear in mind when drawing up the final report is therefore to produce something that is digestible and usable by the company.

To achieve this objective, the following structure is proposed:

- An executive summary
- An overall summary of the final result
- A highlighting of the company's 5 main strengths and 5 main areas for improvement, based on the associated findings.
- An exhaustive presentation of all findings for each attribute of the Safety Culture model used.

The clarity and simplicity with which the results are presented will make easier for management and experts to take ownership of them and implement effective action plans. In particular, highlighting the 5 main areas for improvement enables rapid incorporation into the organisation's action plans.

The final report is produced in a web format during the Thursday based on the excel files produced during the three days of data collection from all the teams. The use of the dedicated Excel sheets needs to be very structured and stringent to ensure a correct transfer of the collected data and analysis. ERA will be available to produce the final report until a full web-based version likely will be developed.

Once the report has been issued, it is essential that contact is maintained between the Team Leader and the Host Coordinator so that any questions can be answered.

The written report must, then, be shared with the Senior Management during the closure meeting led on Friday by the Team Leader.

3.4.2 Summary verbal report

This oral report should focus on the main strengths and areas for improvement, with their findings, and should leave enough room for discussion between the Team Leader and his team, on the one hand, and Senior Management on the other.

It is important that the Team Leader and the Team Reviewers set aside extra time after the meeting and remain available to answer any extra questions the managers may have.

3.4.3 Communication to the whole organisation

Although this overall communication is not part of the Safety Culture Peer Review process itself and is not the responsibility of the Team Reviewers but of the company, it is important to underline a few key points that should not be missed.

As already emphasised, this communication needs to be carefully planned. This point is of the utmost importance, as the entire organisation will have invested heavily in the project, and the way in which the results are presented must live up to the generated expectations.

Those involved should be given the opportunity to discuss the findings and sufficient time should be given to digest them and questions and/or feedback invited. This is important so that individuals and groups are able to develop ownership for the results and so that they are better able to understand and accept the importance of the follow-up actions which will be decided by the company.

3.5 FEEDBACK

Once the Peer Review is over, it is important for the team of Reviewers to take some time to get together and debrief the assignment. This can be done by an open debriefing organised as a global closing session activity and a collective learning moment. This provides an opportunity to look back at how the Peer Review went, to highlight what went well and to identify areas for improvement for subsequent Peer Reviews.

It is also important for the different teams of Reviewers to share the Peer Reviews they have carried out in different organisations, so that the entire community of Reviewers can draw inspiration from them to be more effective as the process develops.

All the findings in this process should be documented also with the causes "why" these changes will improve the future Peer Reviews. It should be clear for everybody what is a "good practice" in carrying out the Peer Review. And they should also understand the common approach to improve the whole process.

4. Appendix

4.1 PEER REVIEW SAMPLES OF IMPORTANT ELEMENTS

4.1.1 Host Company's communication

The company Host coordinator should inform all concerned parties about the Peer Review process. It is necessary to inform all participants, but also the managers and employees in the area of the Peer Review.

A written information about the aim and the content of the Peer Review should be available for everybody in the concerned departments. And also, a verbal communication with all managers is important to inform about the Peer Review and also to explain everything that the managers can answer questions from their employees.

Example of letter sent to the employees:

Dear employees,

Our Company is part of the TWINNING II project- which aims to improve the safety culture in the European railway sector - supported by the European Commission (EC) and the European Railways Agency (ERA). This project, coordinated by the International Union for Railways (UIC), brings together a consortium of National Safety Authorities (NSAs), Infrastructure Managers (IMs) and Railway Undertakings (RUs). Safety experts from Ireland, France, Belgium, Luxembourg, and Austria are conducting a "peer review".

The peer review takes place from 20 to 25 November. This peer review is not an audit. It is not about checking documents and findings advice and improvements. It is a first attempt at European cooperation between the railway organisations with the aim of creating benefits and good practices for the organisations and the project participants.

In 2021, we signed the declaration on safety culture and participated in the first safety culture survey launched by ERA. Based on the attributes of the "ERA Safety Culture Model", the peer review team aims to gain a deeper understanding of the safety culture within our Company, by looking closely at activities, habits, and perceptions that everyone may have in their daily work. This aim is to gain a better understanding of what staff do and why. In concrete terms, this will mean interviews with partners at different levels, focus groups with teams working together and observations in the field. The peer-review-team will focus on good practices that create a positive safety culture, but also on opportunities for improvement. The results will then be shared with all of you to encourage change towards good practice and a better safety culture.

The report is confidential and only shared by the parties involved. This report will give us a basis for safety-culture-measures in our safety action plan.

To make this project a success and to benefit from the added value of this peer review, we need your help and your active participation. Please stay open to all questions from the peer-review-team, give them an overview of your daily activities and explain your work and your personal vision of safety culture.

Only with your support, we can create the benefit we want to reach.

Thank you very much.

4.1.2   Agenda

Below is an example of the planning used for the first Peer Review:

Legend:

- HQ = Headquarter Praterstern 3
- NB = Headquarter Nordbahnstraße 50
- I = Interview
- O = Observation
- FG = Focus Group
- HBF = Vienna Main Station
- BFZ = signaling centre East
- ZVBF = shunting yard

Sunday

	18:30-19:00	19:00-20:00
Team 1	coordination meeting HQ 5. th floor room 05.001	
Team 2		dinner
Team 3		

Monday

	09:00-10:30	11:00-12:30	12:30-13:30	13:30-16:30	16:30-18:30	19:00-20:00
Team 1	kick off meeting HQ 5. th floor room 05.001	I Safety Manager HQ, room 06.018 b	lunch	training center HQ 5. th floor room 05.001	exchange of information preparation of the report preparation for site visits HQ 5. th floor room 05.001	dinner
Team 2		I Safety Manager Operation NB, room 01.019 b				
Team 3		I Leader Safety group HQ, room 06.070 a				

Tuesday

	08:30-10:30	10:30-12:00	12:00-13:00	13:00-14:30	15:30-17:00	17:00-18:30
Team 1	FG Shunting ZVBF BG 1 – roter Salon 09:00 - 10:30	O Shunting ZVBF yard – accompanied by FG 11:00 - 12:30	lunch	I site manager shunting ZVBF BG1, 1. Stock VE	coordination report HQ, room 05.001	coordination report HQ 5. th floor room 05.001
Team 2		O train-traffic-management ZVBF signaling box 09:00 - 12:30		I site manager train ZVBF BG1, BE Büro	coordination report HQ, room 06.022	
Team 3	FG monitoring group monitoring + action plan HQ, room 06.021	I leader investigation, checks HQ, room 06.021		I leader shunting management HQ, room 06.021	coordination report HQ, room 06.021	

Wednesday

	08:30-10:00	10:30-12:00	12:00-13:00	13:00-14:30	15:30-17:00	17:00-18:30
Team 1	FG signaler BFZ meeting room	O train traffic management BFZ signaling box	lunch	I site manager train BFZ 5. Stock Sitzungszimmer	coordination report HQ, room 05.001	coordination report HQ 5. th floor room 05.001
Team 2	I leader train management BFZ Lax2, 5. Stock, SZ groß	I emergency management BFZ Lax2, 5. Stock, SZ groß			coordination report HQ, room 06.022	
Team 3		O shunting HBF yard		I site manager shunting BFZ Lax2/2 ESTW GL VE 19:00-20:00	coordination report HQ, room 06.021	

FG accident investigation and rail net safety groups HQ, room 06.001

Thursday

	08:30-12:00	12:00-13:00	13:00-18:30
Team 1	finalise report HQ 5. th floor room 05.001	lunch	finalise report HQ 5. th floor room 05.001
Team 2			
Team 3			

Friday

	09:00-10:30		
Team 1	closing meeting HQ 5. th floor room 05.001	Closure	HQ 5. th floor room 05.001
Team 2			
Team 3			

- Team 1 = Reviewer 1, Reviewer 2, Reviewer 3
- Team 2 = Reviewer 4, Reviewer 5, Reviewer 6
- Team 3 = Reviewer 7, Reviewer 8, Reviewer 9

4.1.3 Kick-off meeting Host Company

The kick-off meeting Host Company is organised on Monday morning. This is an example of agenda that can be used:

- **Welcome**
- **Tour de table**
- **UIC Peer Review coordination activities**
  - Structure of a Peer review
  - Added value of a Peer Review
- **Introduction to the safety culture peer review**
- **European Railway Safety Culture Model (ERA-SCM)**
  - Culture
  - Safety Culture
  - How does organisational culture develop?
  - A positive safety culture
  - ERA Safety Culture Model
- **Methodology**
  - How behaviours are shaped?
  - Data collection sources
  - On-site data collection
  - Concrete agenda of the week
  - Confidentiality during and after the review
- **Safety culture pilot peer review outcome**

4.1.4 Closure meeting with the Host Company

The closure meeting with the Host Company is organised on Friday. This is an example of agenda that can be used:

- **Welcome and thank you**
- **The Safety Culture Peer Review**
- **Methodology**
  - Data collection sources
  - On-site data collection
  - ERA Safety Culture Model
  - Railways Safety Fundamentals: attributes
  - Cultural enablers: attributes
  - Report summary
  - Magic Wand
  - Questions and Answers
- **Safety Culture Pilot Peer Review Outcome**

4.1.5 Report of findings

Below are extracts from a written report, by way of example. The name of the Host Company has been deliberately masked to protect the confidentiality of the report. As mentioned below, an executive summary is presented, then an excerpt of the detailed tables provided in the full report.

Overall results

Executive summary:

The review team thanks ▮▮▮▮ colleagues for being open and transparent in sharing their views and experience, and acknowledges the commitment of ▮▮▮▮ top management to improve the safety culture.

In general, ▮▮▮▮ have a very well-structured robust operation with a rule-based system in place. There is a strong will to develop a positive safety culture with advanced planning on safety culture initiatives in place including adoption of Safety Leadership Training and continued roll out of the ▮▮▮▮ program. As a means of embedding and underpinning strong safety culture development, a realignment of the organizational structure will take place to move safety, both central, to the heart of ▮▮▮▮ and across the whole of ▮▮▮▮.

A strong team ethic was observed amongst frontline workers with an ideal of 'everyone wants to go home safe' vocalized. It was said during numerous interviews that ▮▮▮▮ is a good place to work with reasonable working conditions.

Good practice exists in the management of Occupational Safety.

Working relationships with contractors need to be further developed, ▮▮▮▮ need to view contractors in the same image as its own employees, they are not integrated into ▮▮▮▮'s safety culture. The company cannot speak about safety culture and at the same time not extend that vision to contractors.

A spirit of trust, respect and openness was observed within work teams however this is offset by a strong "silo mentality" within ▮▮▮▮, with different cultures in different departments. This leads to a lack of consistency in the way that safety is managed.

Although not documented within the report as areas of strength there is progress in a number of the report areas including Soft skills, leading by example, and management intervention.

Attribute	Summary	Assessment
F1.1 Risk awareness	The staff working within the Electrical / Catenary department demonstrated a high understanding of risk, this may be due to the potential fatal consequencies of rule infringment. Genrally rules are followed but the reason for applying the rule or the risk that the rule is mitigating is not always understood. This may be linked to the observation in E3.2 Competence Management where the reason for changing a rule is not always explained to the training academy. The lack of a strong risk based consultation interface between ▆▆▆ and Contractors was referenced.	
F1.2 Resilience	Linking back to attribute E3.2 It appears that there is no refresher training for infrequent safety critical technical activites. This may also impact the ability to operate under unforseen or unexpected circumstances. The acknowledged difficulties and shortage of people / resources will impact negatively on the ▆▆▆ ability to react in a safe and efficient manner in unexpected circumstances .	
F1.3 Questioning attitude	▆▆▆ could do more to encourage people to voice their opinions, even if they are not aligned with ▆▆▆ mainstream positions. In practice barriers still exist to challenging top management assumptions and this could lead to withholding / sharing of information. It was reported, having an opposing view can reflect negatively on an individual.	
F2.1 Working conditions	It was vocalised during numerous interviews that ▆▆▆ s a good place to work with reasonable working conditions. Tools, Protective equipment being of a good standard. ▆▆▆ should place increased focus on recruitment of staff as the shortage in people resources is being felt in daily activities.	Strength
F2.2 System complexity	Occupational Safety is managed in a proactive way.	Strength
F2.3 Reporting	While a reporting system is in place and staff in some departments feel very confident in reporting abnormal deviations, the fear of sanction still exists in some departments thereby facilitating organisational silence. The discipline applied by deduction in the worker personal appreciation value, although a token deduction, is viewed very negatively.	Area for improvement
E1.1 Teamwork and collaboration	Of the 25 findings identified in this attribute, in general there was a strong sense of collaboration observed within the internal department teams, however improvement opportunities exist in collaborating with Contractors and with other internal departments. A strong sense of a 'silo' mindset was detected.	
E1.2 Interpersonal values	A spirit of trust, respect and openness was observed within work teams. There is evidence to suggest this level of trust may not exist in relationships between some workers and management, and inbetween departments. This lack of trust may be inhibiting an open reporting culture because of fear of reprimand in some departments. It needs to be accepted that people are human and will make mistakes, with a more 'just' culture approach adopted.	Strength
E2.3 Organisational systems	Safety Systems exists inclusive of documentation and tools that supports safe performance but inconsistency in the application of rules and application of safety controls was observed.	
E3.1 Communication	The majority of the observations in this attribute demonstrate a need to improve communications. While Safety information is openly shared it is not always accurate, understood and acted upon. Focus needs to be given to improving the collaboration and feedback loop for safety information.	Area for improvement

4.2   MODELS OF SAFETY CULTURE IN OTHER SECTORS

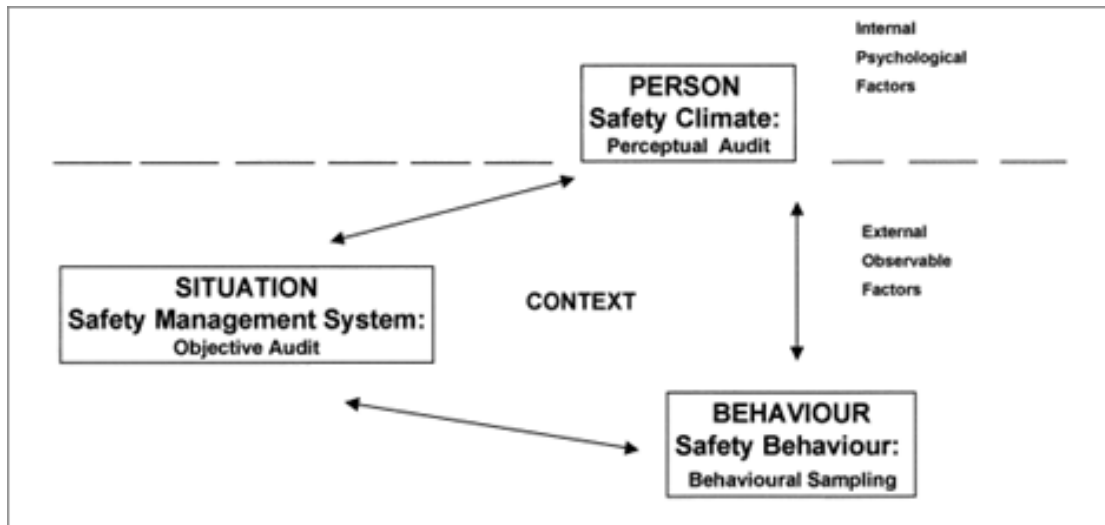*Figure 12 – ICSI: The attributes of an integrated Safety Culture (2017)*

PERSON
Safety Climate:
Perceptual Audit

Internal
Psychological
Factors

External
Observable
Factors

SITUATION
Safety Management System:
Objective Audit

CONTEXT

BEHAVIOUR
Safety Behaviour:
Behavioural Sampling

Figure 13 – Reciprocal Safety Culture model (Cooper, 2000)

Key Element	Factor	Sub Factor
Effective & appropriate safety management systems	Barriers & influences	Practicality of tasks
		Procedure practicality
		Resources & equipment availability
	Training	Personal H&S training
		Priority on H&S training
		Training/Refresher Frequency
	Communications	Management feedback
		Quality of communications
Demonstrable management commitment to H&S (senior and line)	Organisational commitment	Genuine Commitment to H&S
		Resources and systems
		Safety vs. Commercial priority
		Senior managers' attention to H&S
	Management Commitment	Challenging Non-compliance
		Senior Management Visibility
		Management response to H&S suggestions
	Supervisor's Role	My Supervisor
Participation, involvement & workforce attitude to H&S	Personal role	Personal Confidence & Understanding
		Personal Responsibility for H&S
	Work mate's influence	Attitude towards colleagues
		Workmate's H&S behaviours
	Risk taking behaviours	PPE use
		Compliance levels
	Employee participation	Level of Trust
		Management/workforce collaboration
Organisational learning & continuous improvement	Organisational learning	Just culture
		Level of reporting
		Learning attitude

Figure 14 – RSSB Safety Culture assessment approach

Figure 15 – EUROCONTROL Safety Culture Model

Figure 16 – International Atomic Energy Agency Safety Culture Model (2019)

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