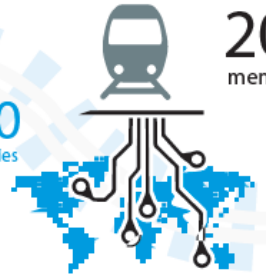
INTERNATIONAL UNION OF RAILWAYS

unity, solidarity, universality

Towards a positive railway safety culture

Christian NEVEU SNCF
Bernard PENNERS UIC

UIC, the worldwide railway organisation

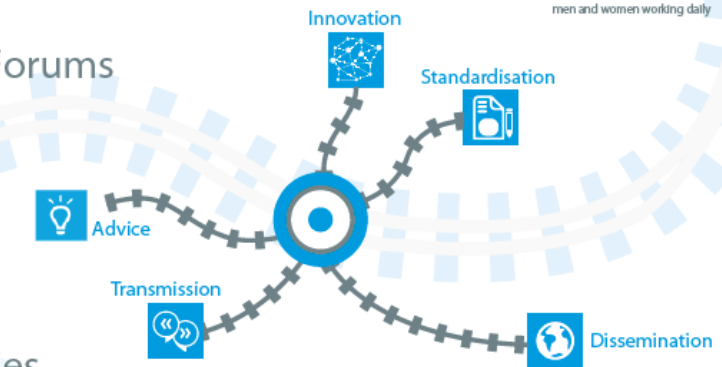


1 million km route

7million
men and women working daily

International cooperation

- UIC coordinates the visions of the 6 major railway regions
- technical rail projects are provided by 8 Forums and Platforms



Expertise at the service of its Members

UIC provides its Members with:

- technical and operational expertise
- regulations, technical solutions and studies
- exchange of ideas, good practice and innovative concepts

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UIC Safety Unit

> **Safety Platform** (Plenary, Steering Group)
> **6 Advisory Groups – 6 items**

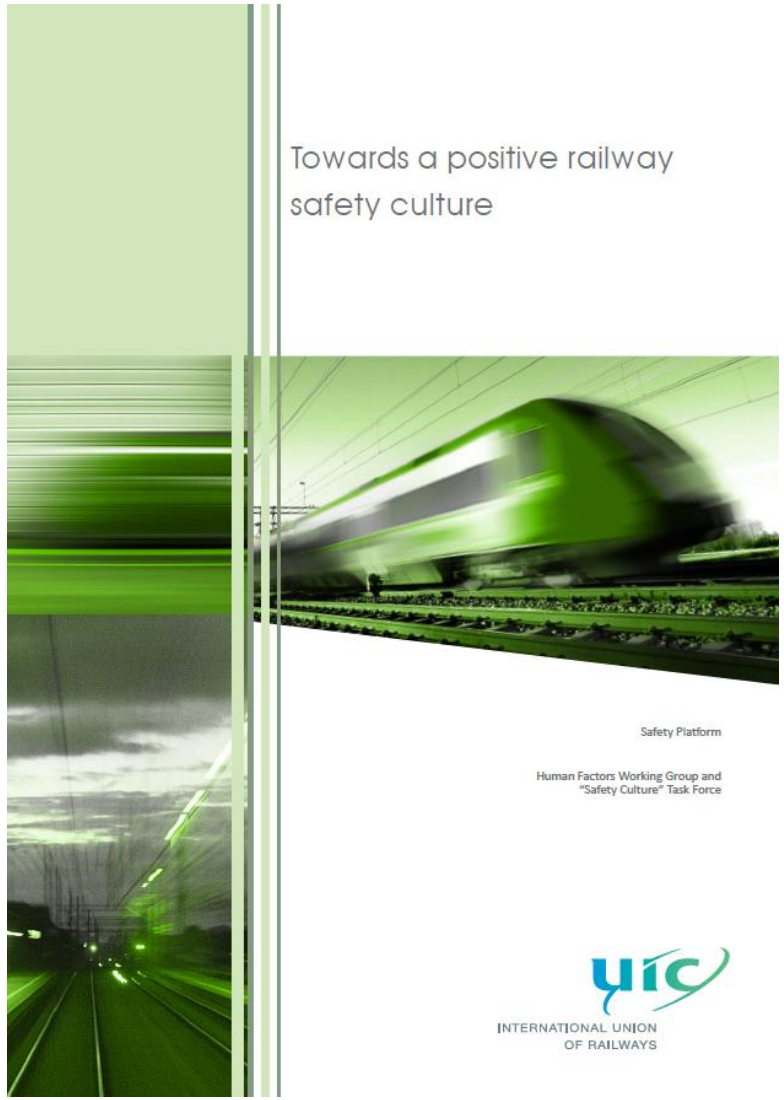
* System Safety Management Group/ (SSMG)
  CER Safety Support Group
* Human Factors HFWG
* Occupational Health and Safety (OHSG)
* International Railway Safety Network (IRSN)
* Safety Performance/UIC Safety Database (SPG)
* European Level Crossing Forum (ELCF)

> **Multidisciplinary Task Forces**

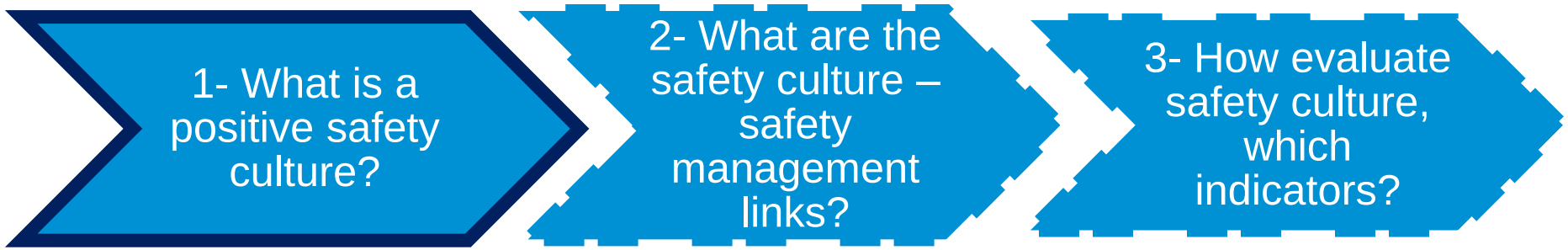
> **Conferences/Seminars/Workshops**

Force, the members of which include:

SNCF	C. Neveu B. Dandeville C. Platini MN. Obrist
Infrabel/UIC	B. Penners
DB	O. Kroczek
ÖBB	L. Koschutnig
ProRail	H. Van Spaandonk
SBB/CFF	J. Thuerler
RENFE	F. Garcia
RSSB	A. Mills
Trenitalia	C. Molinaroli
FTA	R. Lappalainen
PKP	K. Zubilewicz
RZD	A. Ivanenko
Japan	K. Matsumaru R. Uenishi
UIC	M. Belhaj



Safety culture & Safety management



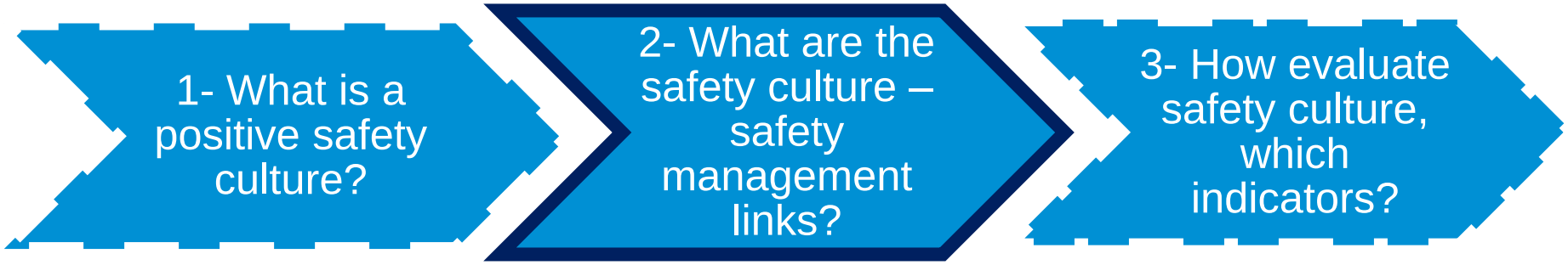
Model of a positive safety culture : a culture which really improves safety

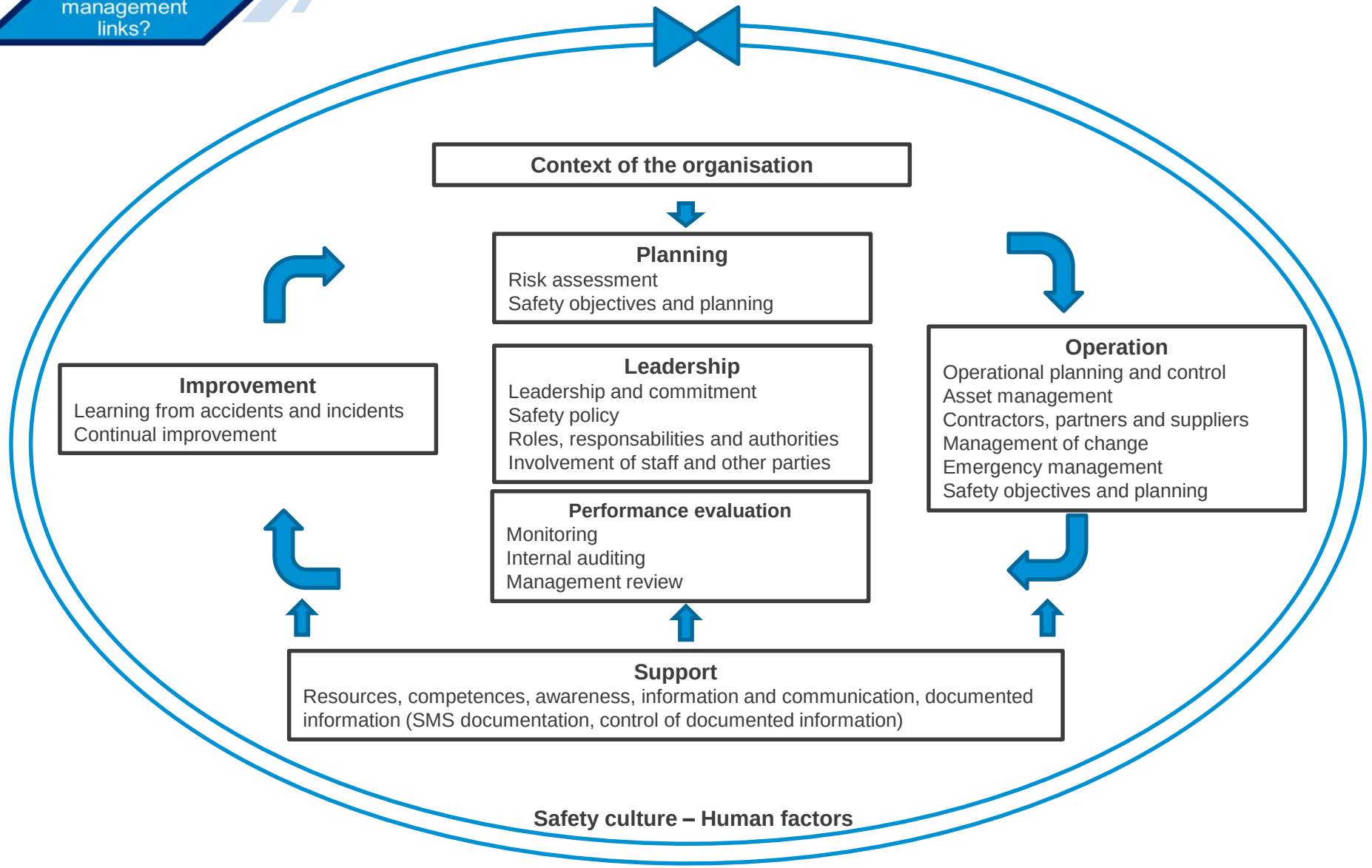
Some lessons and reflections on the definition of a positive safety culture

A positive safety culture is based on the combination of:

- a renewed vision of the manner in which safety is produced : engagement, leadership, fairness
- a correct implementation of fundamentals of safety management : good rules, adequate ressources
- in a climate of trust, cooperation and communication

Safety culture & Safety management



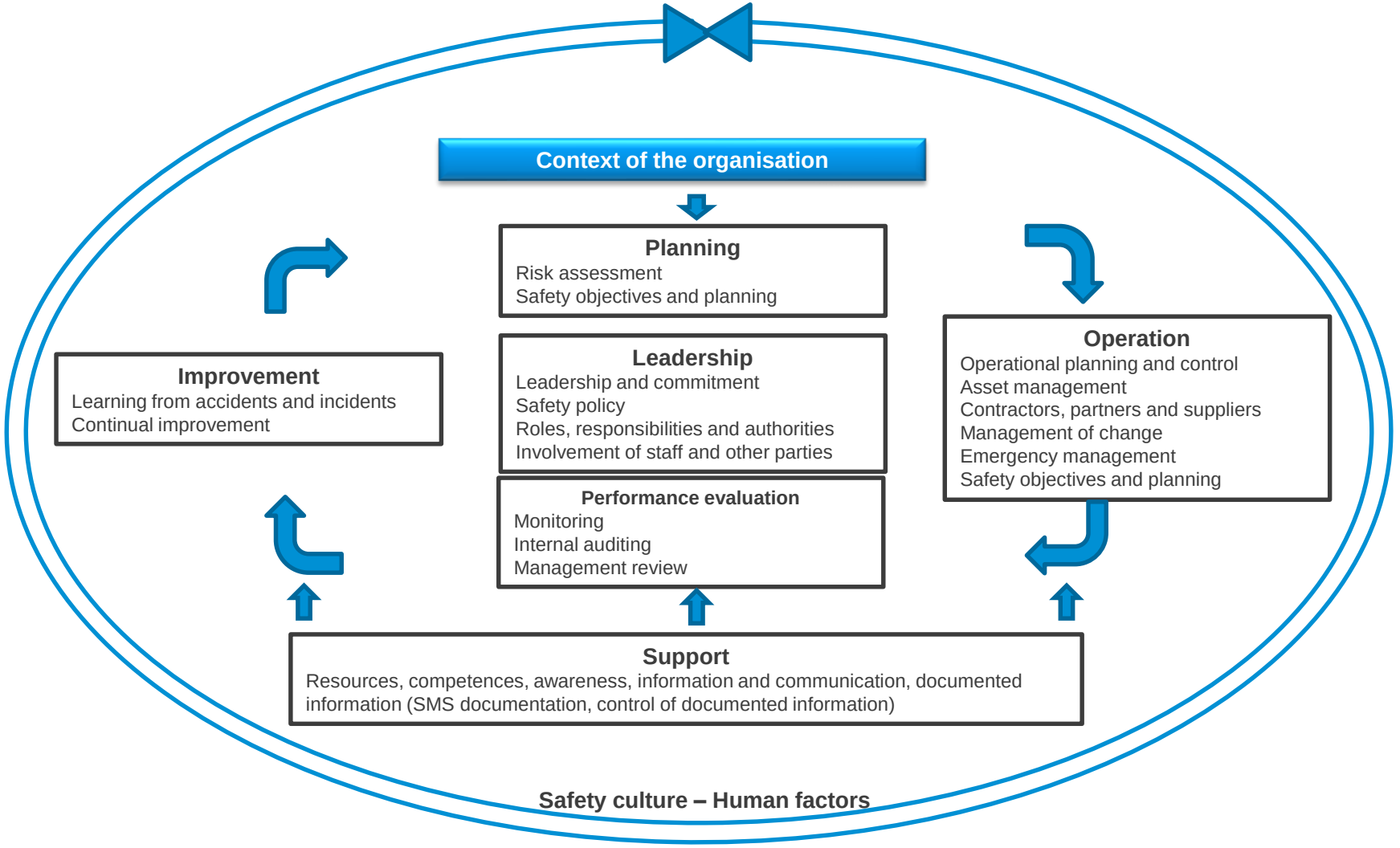

Context of the organisation
Planning
Risk assessment
Safety objectives and planning
Operation
Operational planning and control
Asset management
Contractors, partners and suppliers
Management of change
Emergency management
Safety objectives and planning
Improvement
Learning from accidents and incidents
Continual improvement
Leadership
Leadership and commitment
Safety policy
Roles, responsabilities and authorities
Involvement of staff and other parties
Performance evaluation
Monitoring
Internal auditing
Management review
Support
Resources, competences, awareness, information and communication, documented information (SMS documentation, control of documented information)
Safety culture – Human factors

Objective and work method

- Analyse the SMS process by process
- For each process, identify how applying it can foster a positive safety culture
- Identify positive influences on one or more features of safety culture

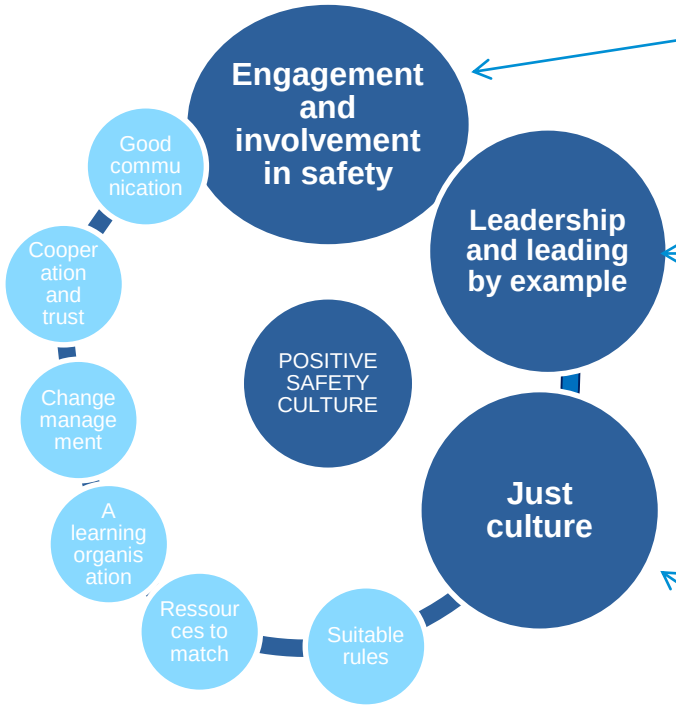
In order to 1) demonstrate that implementing a safety management system (SMS) is an effective way of improving safety culture and 2) describe the SMS's conditions of implementation

The links between our model of safety culture and the SMS



The links between our model of safety culture and the SMS

Example 1 - Context of the organisation



SMS must cover a wider field than only the organisation and its internal actors, it must integrate subcontractors and other stakeholders.

The involvement of each party (internal or external to the organisation) should lead managers of each of these stakeholders to exemplarity (and thus positive safety behaviours among operators).

As part of a positive safety culture, a just and fair policy is extended to various stakeholders. This helps

- Fostering transparency and trust among all the stakeholders
- Preventing subcontractors from “window dressing” safety outcomes (i.e. saying they are better than they are) by hiding events in order to avoid sanctions

Towards a positive **railway safety culture**

Using **safety management** as a lever to improve **safety culture**

Safety Platform

Human Factors Working Group and "Safety Culture" Task Force

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1. CONTEXT OF THE ORGANISATION

Incorporation of stakeholders

✓ Encourage a healthy exchange with all stakeholders, take into account feedback from these parties on any mismatch between rules and resources in order to foster the climate of trust and cooperation that is needed for smooth operations and create a learning organisation conducive to ongoing improvement.

2. LEADERSHIP

Leadership and engagement

✓ Managers develop a positive safety culture as one of their primary objectives.

✓ They show the example by complying with its principles.

Safety Policy

✓ The safety policy is consistent with three essential principles needed to build a positive safety culture:

- a just culture,
- a learning organisation,
- importance placed in a climate of trust.

Organisation of roles, responsibilities, accountabilities and authority

✓ The apportionment of roles and responsibilities is described in the SMS and all related internal documents. Everyone in the organization is aware of this.

Consultation of staff and stakeholders

✓ Consultation of all staff and stakeholders on matters related to safety facilitates the voluntarily observation of instructions, helps construction of realistic organisations and requirements and reinforces a climate of trust and cooperation.

3. PLANNING

Action to address risk

✓ Planning of operations factors in the outcome of risk evaluations.

✓ Risk evaluation is not limited to action taken by operational staff, but includes organizational risks.

Planning for change

✓ The purpose of planning in the case of change is to anticipate any risks related to the scheduled change itself (proactive safety management).

Safety objectives and planning

✓ Objectives are realistic, which means that rules match available resources.

✓ Each person's contribution to achieving the goal is made clear.

4. SUPPORT

Resources

✓ Resources are managed in consideration of the requirements found in rules, standards and procedures, to ensure they are always sufficient and relevant.

✓ Training and skills match the work to be carried out.

Competence

✓ Non-technical skills are part of the skills that must be acquired through initial and ongoing training; they are checked.

✓ Management ensure staff are able to recognise a hazard and to manage it. This means ability to survey one's surroundings, personal skills and ability to take a suitable decision.

Awareness

✓ Top management must ensure that themselves and all their staff involved in key safety roles are aware of the importance of what they do and the consequences of their actions on safety, including how they contribute to safety targets.

Information and communication

✓ Information about safety - policy, objectives, risk evaluation, processes, changes, results - is disseminated through official channels.

✓ Staff can also inform management the way in which work is carried out, of any problems and of possible solutions, ensuring that this input is used in safety management at all levels in the company.

Documented information

✓ Documented information is suitably communicated to the relevant personnel (including partner company staff and suppliers, when applicable). It is easily accessible for reference by staff with their available means.

✓ Having reliable, practical and accessible documented information serves to reinforce the trust that employees have in the company's management.

Integration of human and organisational factors

✓ Incorporation of Human Factors into the organisations processes includes design and use of equipment, tasks and working conditions, as well as their breakdown.

✓ Taking into account HOF involves all personnel in order to ensure that all possible difficulties encountered on an operational level are considered.

5. OPERATION

Operational planning and control

✓ Make realistic and achievable plans, involve knowledge of people from all layers of the company and improve where necessary.

Asset management

✓ Management encourage staff to report on the state of equipment being used and take into account staff feedback on non-compliancy of equipment.

✓ Equipment and installations are designed to permit staff to work safely from a technical, organisational and human factor point of view.

Sub-contractors and partners

✓ Include your outside contractors in the process of risk management and in consequence extend just culture and continuous learning procedures to them.

✓ Do not externalise risk to contractors.

Safe management of change

✓ Plans for change include anticipated impact on safety. Care is given to the effect of modifications on daily operations.

✓ Change management addresses human factors requirements.

Emergency management

✓ Management show leadership by putting safety first in all their decisions and ensuring that operations run as smoothly as possible.

✓ Each emergency event is followed by a debriefing session with all relevant players including external parties.

6. PERFORMANCE EVALUATION

Monitoring

✓ Monitoring carried out by line management is an opportunity to engage and involve staff in safety issues.

✓ Monitoring is organised and carried out in an open way with staff properly informed and aware of the purposes of the evaluation.

✓ Any deviation detected during a monitoring activity is analysed in the same way as any other deviation or safety event in accordance to the principles of just culture and learning organisation.

Internal audits

✓ Management should encourage open discussions because the audit is the opportunity to progress.

✓ Audit results is be made known to the company and its staff.

Management reviews

✓ Feedback and contributions of staff are taken into account and staff are kept informed about follow-up made in relation to their input.

✓ The conclusions of in-depth analyses into deviations (feedback and safety events) are presented in a way which helps decide the priority of changes to be made whilst ensuring that resources and rules remain consistent or adjusting them.

7. IMPROVEMENT

Learning from accidents and incidents

✓ Make people talk and report, analyse the information and if applicable devise measures for improvement, then communicate and train or make technical improvements.

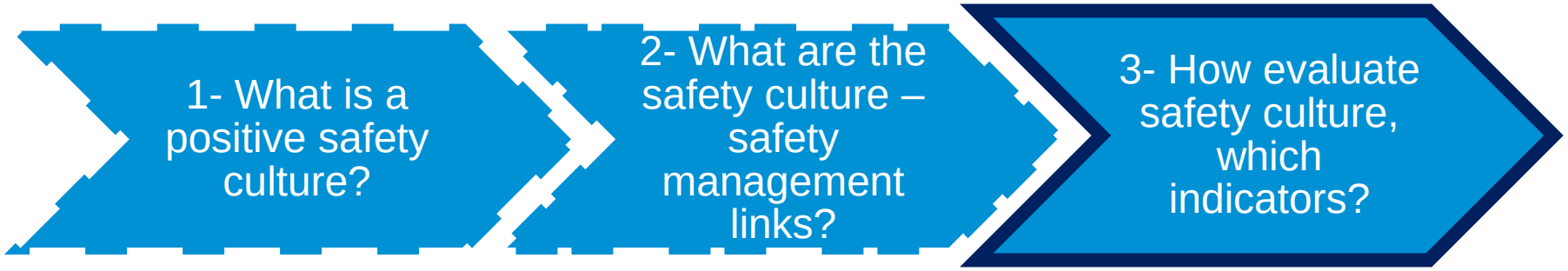
✓ Thank and encourage feedback from "the real world" even without accidents to increase the knowledge base.

✓ Successes are dealt with in the same way as failures.

Continual improvement

✓ Improvement measures are always consistent with the principles underpinning a just culture and a safe management of change.

How evaluate safety culture, which indicators?



EVALUATION OR MEASUREMENT?

Dashboard safety indicators are generally presented as numbers, (number of incidents, …) or ratios

Culture is all about values, beliefs and behaviour, which cannot be reduced to a set of data

The term ‘evaluation’ is preferred over ‘measurement’

ARE CURRENT INDICATORS ENOUGH TO EVALUATE SAFETY CULTURE?

The majority of indicators used in companies measure safety output, and not safety culture.

Indicators that measure accidents and incidents are only a response: they are lagging indicators.

Measuring the level of safety equates to measuring the consequences of the way in which an organisation functions.

It does not help to explain the causal factors and influence that include culture.

"Measuring safety culture is a 'leading' rather than a 'lagging' indicator of safety" (Health Foundation 2011).

How to evaluate safety culture, which indicators?

The safety culture of an organisation is reflected:

- **in its prescriptions (P)**
- **in beliefs and perceptions (B)**
- **in acts (A)**

It is therefore necessary that the evaluation covers these 3 fields

⇨ The indicators are collected in different ways to help to address these 3 fields

HOW SHOULD AN EVALUATION BE MADE?

❑ EVALUATING PERCEPTIONS

One-on-one or group interviews and questionnaires

❑ EVALUATING WHAT IS PRESCRIBED

Observation of documents

❑ EVALUATING ACTION

On-site observation, through recorded data in a database or through decisions recorded in meeting minutes.
Processing such recorded information can contribute to building indicators.