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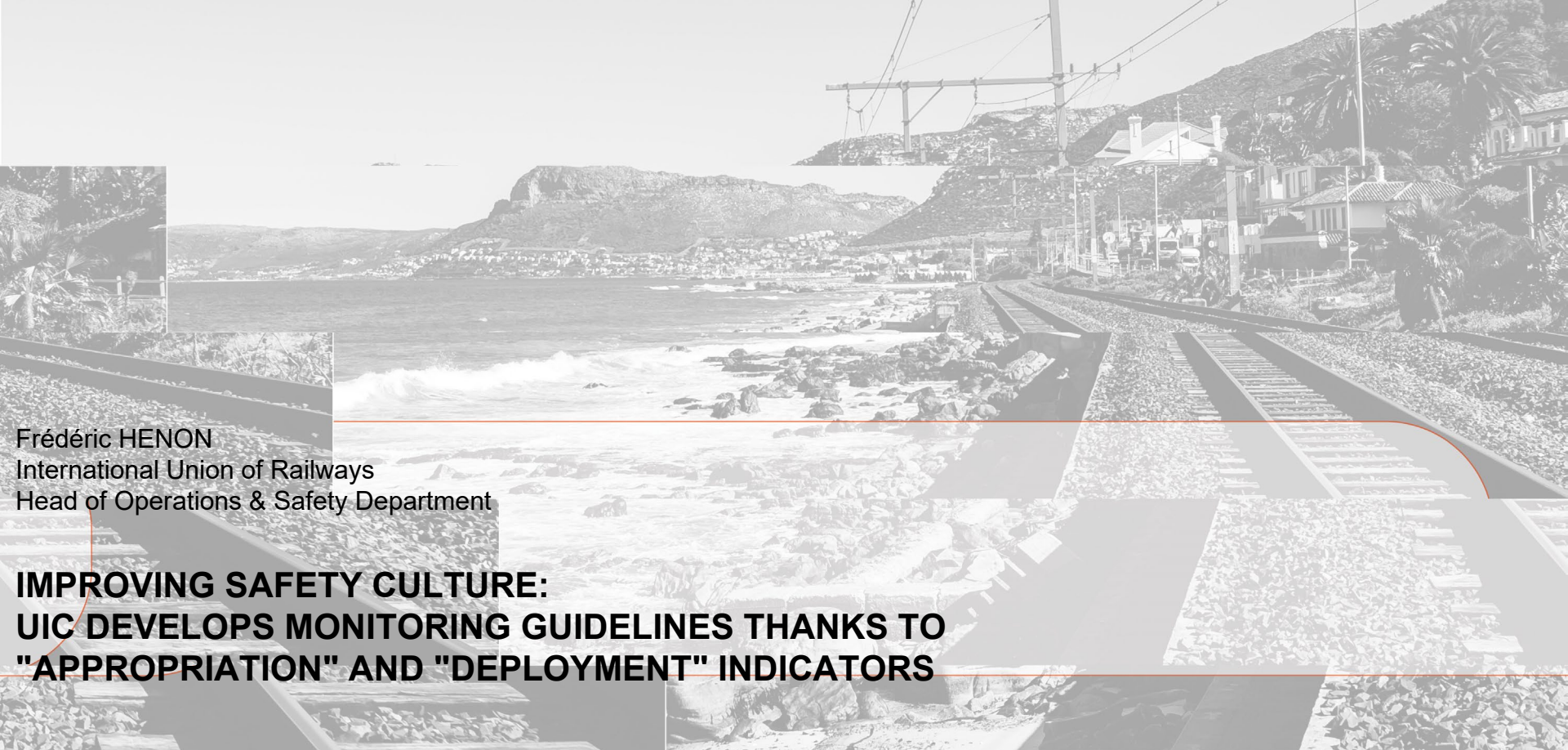
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INTERNATIONAL RAILWAY SAFETY

"Recharging Railway Safety"

CAPE TOWN, SOUTH AFRICA



Frédéric HENON  
International Union of Railways  
Head of Operations & Safety Department

# IMPROVING SAFETY CULTURE: UIC DEVELOPS MONITORING GUIDELINES THANKS TO "APPROPRIATION" AND "DEPLOYMENT" INDICATORS

## UIC and ERA Task Force post ERA SCS - Safety Climate Survey Campaign



UIC and ERA task force post ERA – SCS aims at supporting railway organizations towards “positive safety culture” by :

Analysing results from ERA Safety Climate Survey, in the framework of the SMS

Providing feedback to the whole organization & staff

Exchanging on best practices and in “driving change” methods

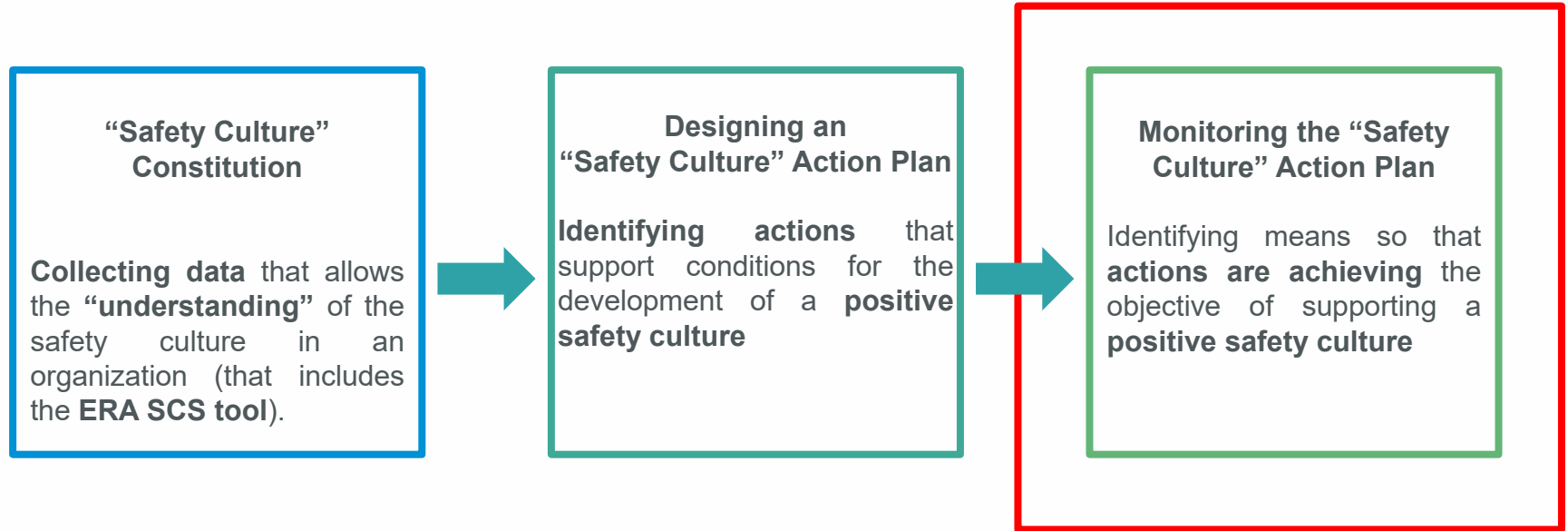
**Final objective:**  
design the “progress plan” towards a “positive safety culture” in the organisation

UIC and ERA task force



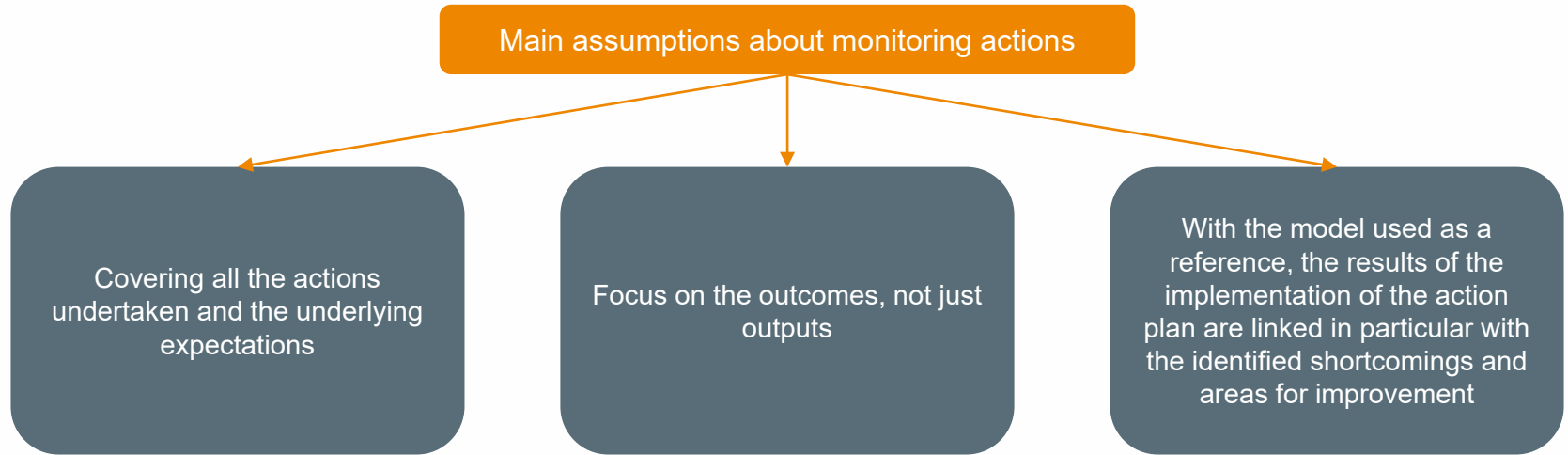
## Developing a “Safety Culture” Action Plan

A more positive safety culture in an organization can be built around the development of a **3-steps action plan** : safety culture assessment, designing an action plan, and monitoring the action plan.



## Monitoring the « Safety Culture » Action Plan – Purpose

Monitoring aims at ensuring that the planned actions contribute to “change” in the organisation, focusing on outcomes/results rather than outputs/products.



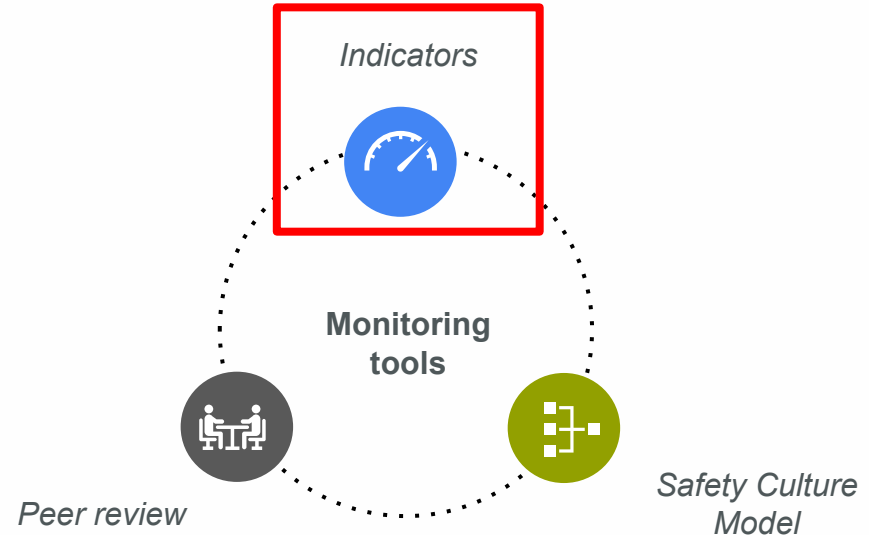
## Monitoring the « Safety Culture » Action Plan – Tools

KPIs (Key Performance Indicators) serve as a tool to measure the performance of different processes and outcomes within an industry. They provide valuable insights into whether an organization is on track to achieve its strategic objectives

While railway operators usually manage to formalize their safety policies and monitoring systems, the indicators they use vary between entities and **do not necessarily** allow the **identification of weaknesses** in the **safety management system**.

**Peer Reviews & the use of a “Safety Culture Model”, demonstrates that other types indicators can be accurate**

Performance is not necessarily instantaneous: establish a link between ongoing actions and safety objectives. Monitoring serves to develop the robustness of activities so that they reflect the safety policy. There are many areas of work, often requiring several months of development and deployment, and their effects, depending on the scale of the actions, are not always immediate.



## Monitoring the « Safety Culture » Action Plan – Tools

**Appropriation indicators and deployment indicators are specific types of KPIs that complement each other in a dashboard setting**

Appropriation indicators **measure the resources that are being allocated to safety**, such as budget, staffing, and training. Deployment indicators **measure how those resources are being used**, such as the number of safety audits conducted, the number of safety training hours provided, and the percentage of employees who have completed safety training.

Both appropriation and deployment indicators are important for safety, but they complement each other in different ways. Appropriation indicators say how much is invested in safety, while deployment indicators say how effectively those resources are used.

**Appropriation and deployment indicators can be complementary on a dashboard for decision makers**

A dashboard for decision makers could include both appropriation and deployment indicators to provide a **holistic view of safety performance**. The dashboard could be designed to show trends over time, as well as comparisons to industry benchmarks. This would allow decision makers to identify areas where safety performance is improving or declining, and to take steps to address any areas of concern.

## Three « types » indicators to monitor the « Safety Culture » Action Plan

Although the performance of SMS is not necessarily instantaneous, it can be assessed through indicators that track the achievement of safety objectives and the development of a safety culture.

Three indicators can be used to monitor these results and evolution:

1

### Appropriation indicator

To assess **where the resources company are** in relation to its safety objectives.

2

### Deployment indicator

To measure **what is being done** to develop the safety culture.

3

### Result indicator

To measure whether **the actions underway are producing a positive and sustainable outcome**.

It is relevant to associate them together, to put them in relation with each other in order to develop a systemic reflection. The choice of indicators, their sensitivity to variations in results, the identification of the processes behind, are relevant reflections.



# Safety Culture



	Appropriation	Deployment	Result
<b>System Safety Safety Events (taxonomy)</b>	Just Culture Policy / error # violation / Trainings- Briefings	Increase of REX volume / Integrated in inquiries methods and conclusions	Full transparent and anonymised REX available / distributed
<b>Surveillance Anomalies detection</b>	Frequency of engagements, workshops, or collaborations with external safety organizations, ensuring the appropriation of the latest industry-standard/best practices	Adoption of New Surveillance Technologies:  Percentage of trains equipped with the latest surveillance systems / rail junctions equipped with modern surveillance sensors	Number of incidents or accidents per million miles traveled. Duration and frequency of train delays due to safety concerns.
<b>Technical Safety (infrastructure, rolling stocks...)</b>	Integration of end-users in the design phase = co-design	This criteria is integrated in the Project Management Policy + level of training of PMO	Level of customer/end-user satisfaction CBO targets achievement
<b>Continuous Improvement Actions from the Safety Action Plan</b>	All committed to safety	Safety Recognition Programs: Percentage of staff who have been recognized or awarded for their safety-related efforts or initiatives. Engagement in safety recognition programs, such as nominations by peers	Safety Resource Usage : Tracking the use of resources like safety manuals, online safety modules, or safety helplines. High usage can indicate staff commitment

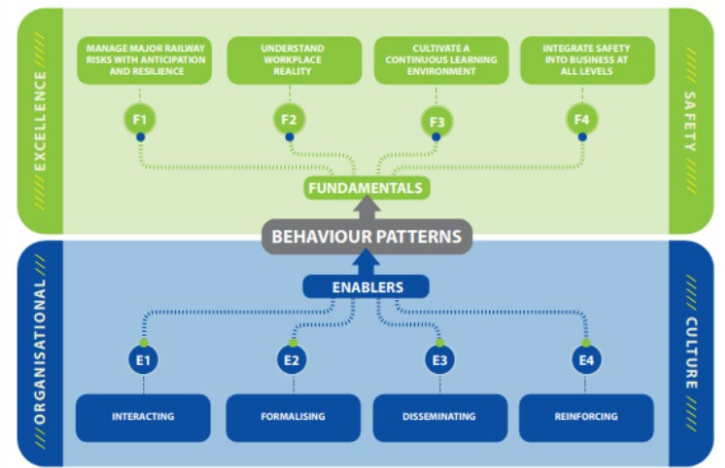
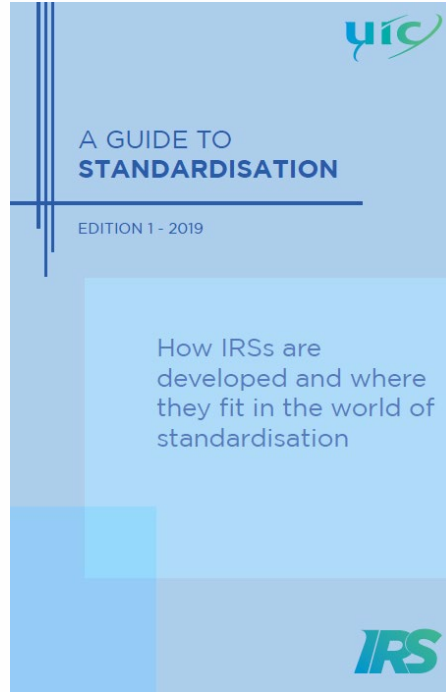
Performance & SMS

- Four issues are cited as examples (System Safety, Surveillance, Technical Safety, Continuous Improvement).
- The choice of topics depends on the specificities and needs of each entity. **Adaptation is essential in order to aim for effectiveness and efficiency.**
- The **3 indicators** are used to monitor the results and evolution of the safety culture in the company:
  - “Where am I in relation to my objectives?”
  - “What is being done to develop the safety culture?”
  - “Do the actions deployed lead to a positive and sustainable result ?”

## UIC guidelines

Even if there is no universal method for managing safety activities, the more a safety culture is developed, the more the SMS is consolidated and gain in robustness.

The UIC is working on developing guidelines on **appropriation indicators and deployment indicators**, in addition to the commonly used KPI or “result indicators”, which make **complementary insights and accurate measurements**, in terms of **progress of safety culture**.

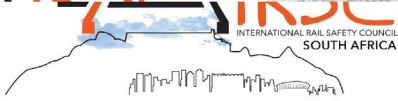


UIC guidelines





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## 3.2 Examples of indicators 1/4



		Appropriation	Deployment	Result
<b>System Safety</b>  Examples: infrastructure management, management of skills, maintenance and work, of circulation, information and communication, assets, etc.	<u>Theme:</u> Management of infrastructure  <u>Objective:</u> 100% in nominal speed.	Share of the network at nominal speed Or Number of speed reduction points	Number of entities that have the equipment and skills to use digitization tools	Number of defects corrected before slowing down thanks to digitization
	<u>Theme:</u> Skills management  <u>Objective:</u> 100% compliance (application of the procedure).	Number of events that are caused by an error in the application of the procedure	Number of practical exercises / training of operators at the workstation (optimal and degraded situation)	Number of procedural error generated by trained operators / number of errors generated by untrained operators

Indicators

## 3.2 Examples of indicators 2/4

		Appropriation	Deployment	Result
<b>Monitoring</b>  Examples: control of subcontractors, internal audits, etc.	<u>Theme:</u> Local control  <u>Objective:</u> The controls are closed at the end of this year	Number of checks carried out compared to the forecast for each SMS theme	Deployment of in-depth control methods	Deadline for closure
	<u>Theme:</u> Control of subcontractors  <u>Objective:</u> 100% deviations detected through controls	Trends in the number of deviations by area	Number of controllers trained	Deadline for closure

## 3.2 Examples of indicators 3/4



		Appropriation	Deployment	Result
<p><b>Technical Safety</b></p> <p>Examples: Equipment management, management of organization, outsourcing, situations of conflict, emergency, etc.</p>	<p><u>Theme:</u> Management of equipment</p> <p><u>Objective:</u> Strengthen technical safety by developing preventive maintenance.</p> <p>Develop a process reprogramming of preventive operations</p>	<p>Number defective, non-operational equipment</p>	<p>Monitoring by number or progress rate (monthly / quarterly / annually) of preventive maintenance (infrastructure for IM, rolling stock for RU)</p> <p>Progress rate of reprogrammed operations</p>	<p>Rate of timely completion of reprogrammed operations</p>

## 3.2 Examples of indicators 4/4



		Appropriation	Deployment	Result
<b>Continuous Improvement</b>  Examples: Business risk management, REX, SAP (Safety Action Plan), change management etc.	<u>Theme:</u> Business risk management  <u>Objective:</u> The good practice are anchored, and automatism are generated.	Number of bad practices identified / good practices identified during safety visits	Development of awareness-raising actions  Proportion of campaigns targeted information / generic top-down information	Rate of progress of corrected bad practices compared to the number of bad practices identified during safety visits
	<u>Theme:</u> REX  <u>Objective:</u> 100% of actual/potential events (accidents and incidents) are reported and are subject to analysis. The causes are clearly identified.	Trend in the number of accident or potential accident events  Rate of identification of causes	Development of safety culture  Number of training courses, events, etc.  Development of root cause analysis and escalation methods  Rate of training of the staff concerned	Rate of spontaneously reported events  Root cause identification rate
	<u>Theme:</u> SAP  <u>Objective:</u> The actions are completed by the end of the year.	Progress rate (number of closed actions out of total actions) of SAP-specific actions (including audits)  Rate of shares sold on schedule	Development of participatory actions in the action plans  Proportion of participatory actions in SAPs	Progress rate (number of actions closed out of total actions) of SAP-specific actions (including audits)  Effectiveness/quality criteria

Indicators