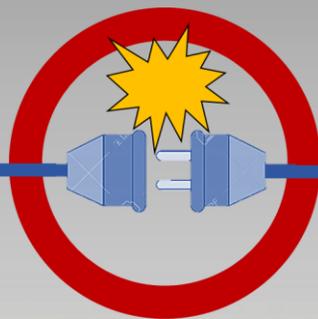


POSTCOVID-19



Let us avoid the end of crisis becoming another crisis !



FACTEURS HUMAINS

Richard Bonnier



Capt. Edward E, Barbey

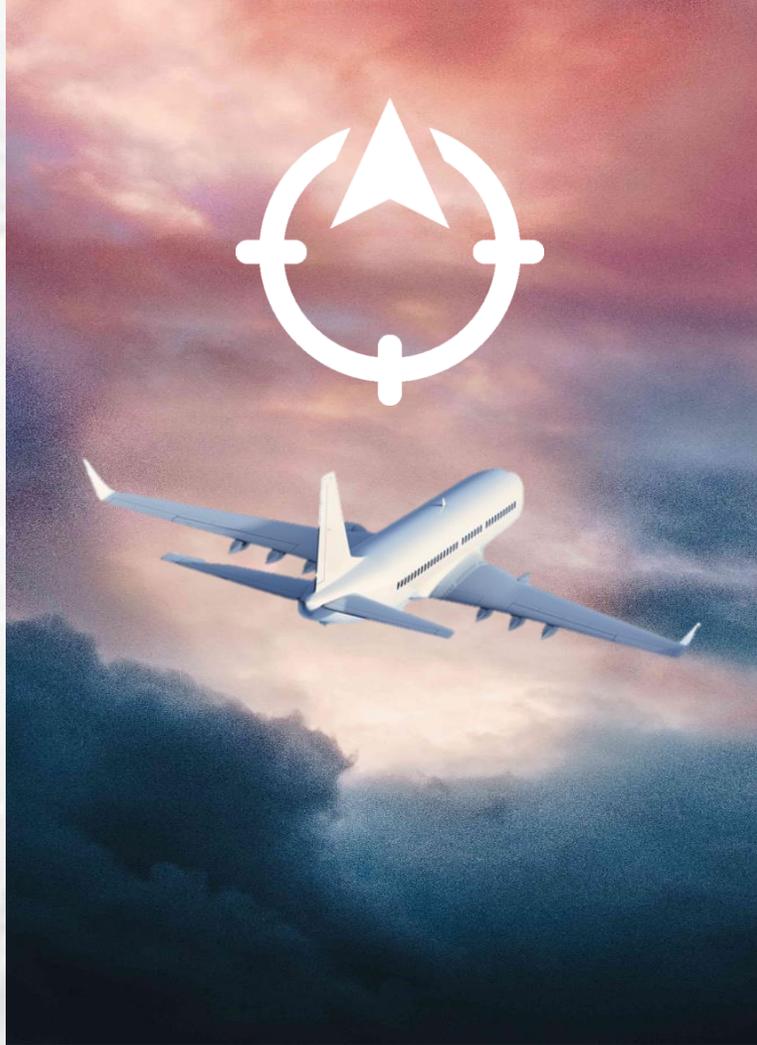


English Version

1.2 / 14 Avril 2020



Summary



1. Some definitions to introduce the subject
2. Safety management through the COVID crisis 19
3. Human Operational Factors (HOF) and management of the COVID crisis
4. The role of the Safety Management System in the approach HOF crisis management
5. Crisis management: many changes at different stages
6. Characteristics of the different functioning stages
7. Safety impact assessment of changes to support changes
8. Conclusion



1. Some definitions to introduce the subject



Uriel Rosenthal

What is a crisis :

It's a "serious threat to the basic structures or the fundamental values and standards of a social system in a situation of high pressure and high uncertainty, which requires crucial decision-making"

Two fundamental aspects :

The interdependence of the two stakeholders that are the system (or the organization), and the individual actors (men), in the genesis and the onset of the crisis;

Coordination processes are important in managing and resolving the crisis



1. Some definitions to introduce the subject

What is a resilient organization ?

Applied to post crisis organizations...

Resilience refers to the functioning of collectives, in particular:
in terms of availability of means and resources, their ability to reorganize in the face of the unexpected,

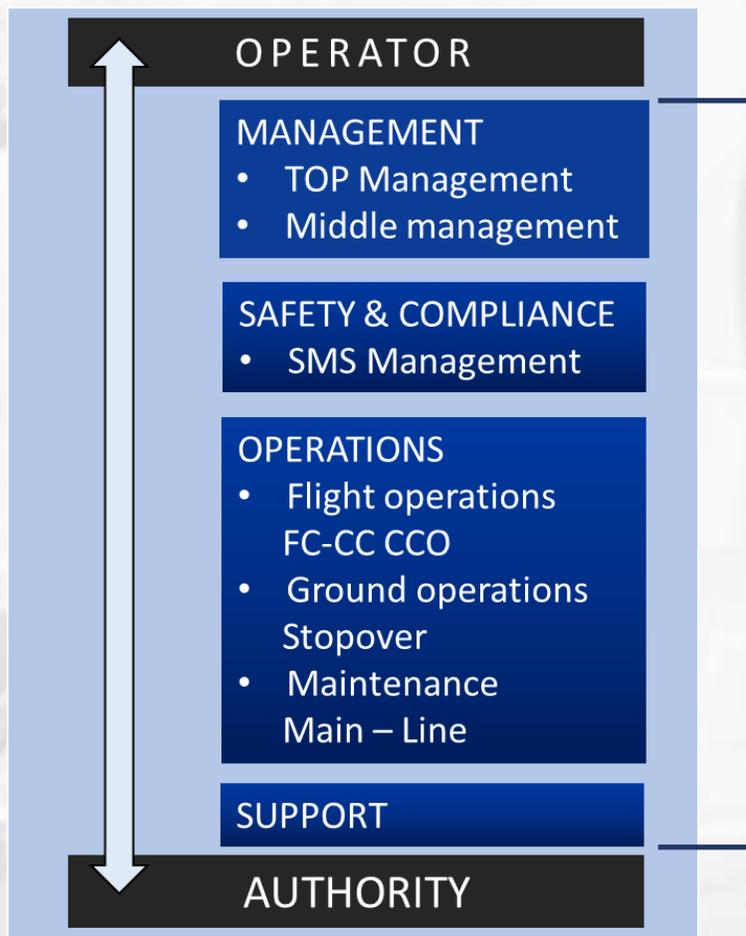
to define and implement solutions to unanticipated problems,
to the methods of coordination and communication between the various entities responsible for post-crisis management, to the capacity of the organization

to meet the needs of personnel management and risk situations





2. Safety management through the COVID crisis 19



To optimally manage this Covid crisis -19



Coordination



Cooperation

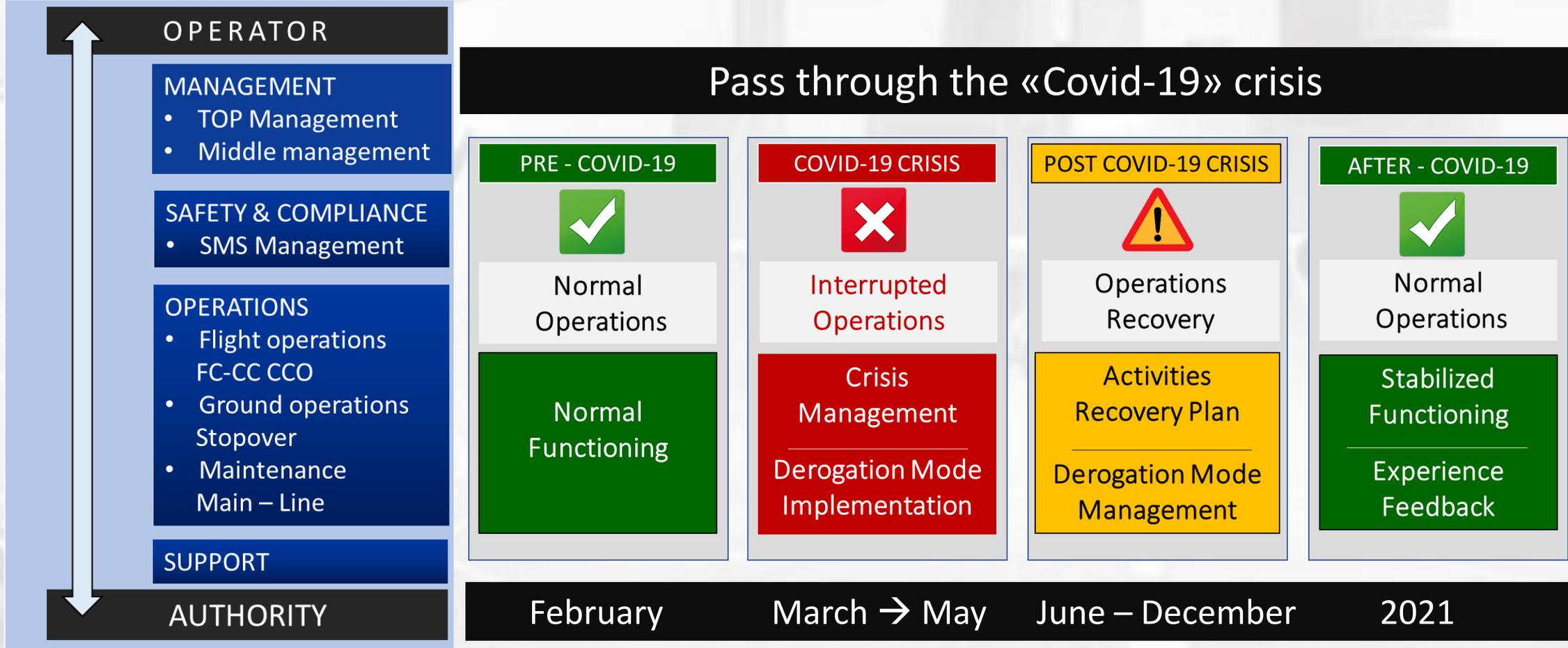


Communication

of all the actors are essential at all levels of the organization



2. Safety management through the COVID crisis 19





3. Human and Organizational Factors (HOF) and management of the COVID crisis

ORGANIZATIONAL FACTORS APPROACH AND HUMAN AND CRISIS ?

The Human and Organizational Factors (HOF) approach to safety consists in "identifying and implementing the conditions that favor a positive contribution of operators and groups to industrial security" (Daniellou, Simard & Boissières, 2010)

To understand OHF: two fundamental concepts of safety



Regulated Safety

It consists in anticipating the rules of all expected situations



Managed Safety

It consists of coping with unexpected situations by adapting





3. Human and Organizational Factors (HOF) and management of the COVID crisis

Regulated Safety :

It consists in anticipating the rules of all expectable situations

- To do this, imbalances are identified and analyzed in order to provide specific responses.
- It is a defensive attitude that reduces variability.
- **Efforts are focused on the prescribed and the formal** (specifying tasks, automating processes and developing operational documentation and procedures, training in the application of procedures).





3. Human and Organizational Factors (HOF) and management of the COVID crisis

Managed Safety :

It consists of coping with unexpected situations by adapting

- It can be described as a resilient approach, since **it aims to develop the adaptive capacities** of actors at all levels of the company and organization.
- It is also a proactive attitude which seeks to control variability, by allowing the achievement of objectives through the production of acceptable conditions for the institution, the collectives and the individuals.
- Here, the informal sector fills the gaps in the rules and regulates tensions (weak signals are listened to, feedback and continuity between strategy and the local are favored, debate is brought to each level).





3. Human and Organizational Factors (HOF) and management of the COVID crisis



Regulated Safety

It consists in anticipating the rules of all expected situations



Anticipation



Actions



Outcome



Managed Safety

It consists of coping with unexpected situations by adapting



Adaptation



Actions



Outcome



3. Human and Organizational Factors (HOF) and management of the COVID crisis

The role of the leader



Regulated Safety

It consists in anticipating the rules of all expected situations

Anticipation

All situations are provided for in the procedures

Actions

Follow the procedures

Outcome

Reduced variability



Managed Safety

It consists of coping with unexpected situations by adapting

Handling unexpected situations when they arise

Anticipation

Initiative of the actors of the front line operators

Actions

Development of adaptive capacities

Outcome

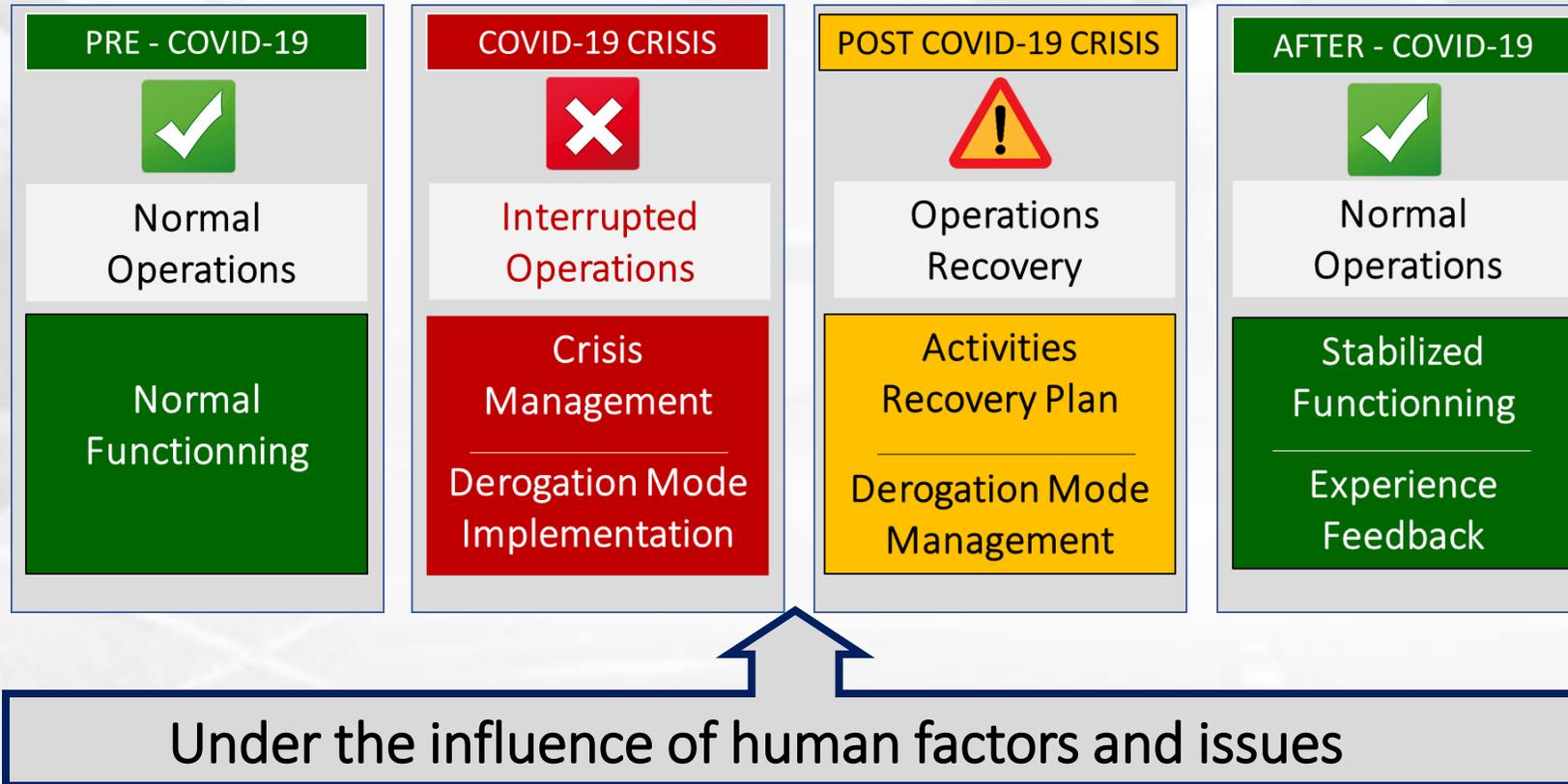
- Motivation of the teams
- Decision making
- Time pressures
- Economic pressures
- Terms of engagement

- Just culture: setting the limits of what is acceptable and unacceptable
- Learning organization
- Autonomy of actors
- Decision-making consultation



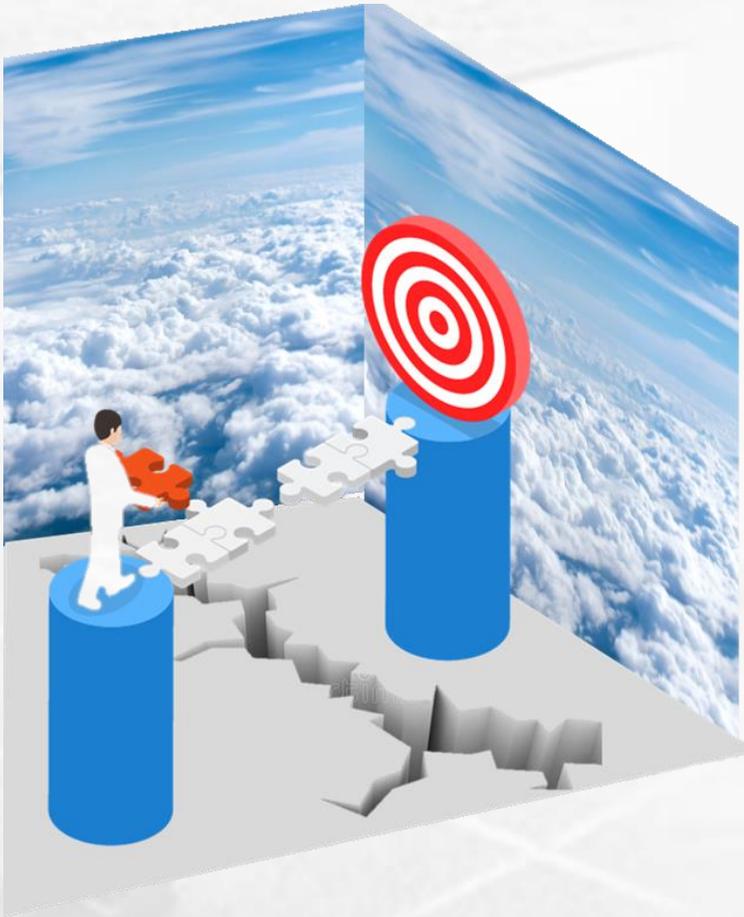
3. Human and Organizational Factors (HOF) and management of the COVID crisis

An essential approach to crisis management, but especially in POST CRISIS management:





3. Organizational Factors and Human (HOF) and management of the COVID crisis



Human factors and challenges

They are influenced by

- **physiological dimensions** (fatigue, sleep, diet, physical exertion),
- **cognitive** (information research and processing, reasoning, decision bias),
- **cultural, emotional** (experience, source of satisfaction) social (management of uncertainties, communication, need to belong, identity).



3. Human and Organizational Factors (HOF) and management of the COVID crisis

Issues related to the situation

People are always looking for the balance between





3. Human and Organizational Factors (HOF) and management of the COVID crisis

The organization must **regulate the tensions between the objectives to be achieved and the resources made available** through appropriate decision-making processes



 You have to accept to see these risks in order to manage them conscientiously and objectively!



4. The role of the Safety Management System in the HOF crisis management approach

Role of SMS in this HOF Approach

The Safety Management System aims to prevent, protect and manage the occurrence of unwanted situations and can be approached **according to two approaches** (Hollnagel 2014):

The first, risk management, aims to reduce the frequency of occurrence of unwanted situations and minimize the impact of their occurrence on the organization and its environment.

The second, resilience management, aims to develop and maintain the organization's ability to cope and continue to function despite the occurrence of unwanted situations.





4. The role of the Safety Management System in the HOF crisis management approach

Risk management aims at defining, implementing, and managing the prevention and protection barriers of a system against undesirable events or ultimate events.

The management of these barriers can be approached according to a continuous improvement loop structured around three processes:

1. **Investigating the root causes** of events and the consequences of past events, Investigating the past involves understanding the factors that caused the damage.
2. **Risk analysis** consists in formalizing and prioritizing all the configurations and scenarios of a system that can cause damage.
3. **Security performance measurement**, which aims to assess the hierarchy of all the configurations and scenarios of a system that can cause damage, the relevance of the barriers implemented with regard to proven threats and potential threats.





4. The role of the Safety Management System in the HOF crisis management approach

In an ideal world, the effectiveness of a safety management system can be approached according to three hypotheses:

1. **The system has the ability to identify and formalize** all the threats that can affect it with a degree of precision making it possible to specify the prevention and protection devices;
2. **The system has the means to design, implement, deploy and maintain** all of the prevention and protection devices for all of the threats identified;
3. **Prevention and protection systems fulfill their roles whatever the situation**





4. The role of the Safety Management System in the HOF crisis management approach

In reality, safety systems must be completed so that they can cope with the diversity of situations (economic, social, etc.) it is difficult to guarantee the satisfaction of the previous hypotheses, safety management systems must be completed so that it can allow organizations to deal with the diversity of situations that may arise depending on the three situations below:

- **regular situations** whose origin and frequency of occurrence allow us to understand the causes, the effects and thus develop representations and appropriate prevention and protection strategies;
- **irregular situations** whose origin but above all the frequency of occurrence do not allow, for scientific, technological or economic reasons, to put in place suitable standard responses;
- **exceptional situations** which relate to events unknown or not directly controllable by the organization.





4. The role of the Safety Management System in the HOF crisis management approach

Exceptional situations should not obscure good practices in terms of reporting. It is all the more necessary when the adaptation mechanisms (Violations) are present and consequently increase the risks



Risky events are mainly known by the notification made by all the actors in the chain. They have key safety information and information in their hands.



Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 concerning the reporting, analysis and monitoring of events in civil aviation

Commission Implementing Regulation (EU) 2015/1018 of 29 June 2015 establishing a list classifying events in civil aviation which must be notified in accordance with Regulation (EU) N ° 376/2014 of the European Parliament and of the Council



4. The role of the Safety Management System in the HOF crisis management approach

SMS guarantor of the organization's Safety policy : Just Culture

Ensure compliance with the safety policies and just culture (non-punishment policy) defined within the organization

To remind that **INDISCIPLINES (Voluntary variances with a personal (non-professional))** are **UNACCEPTABLE** whether they are carried out by frontline operators or by the Management of the Organization.

Anyone who considers that he has suffered prejudice related to non-compliance with the principles of just culture mentioned in article 16 of Regulation 376/2014 may refer to the observatory which, in the light of the documents which have been provided to it, will give an opinion.

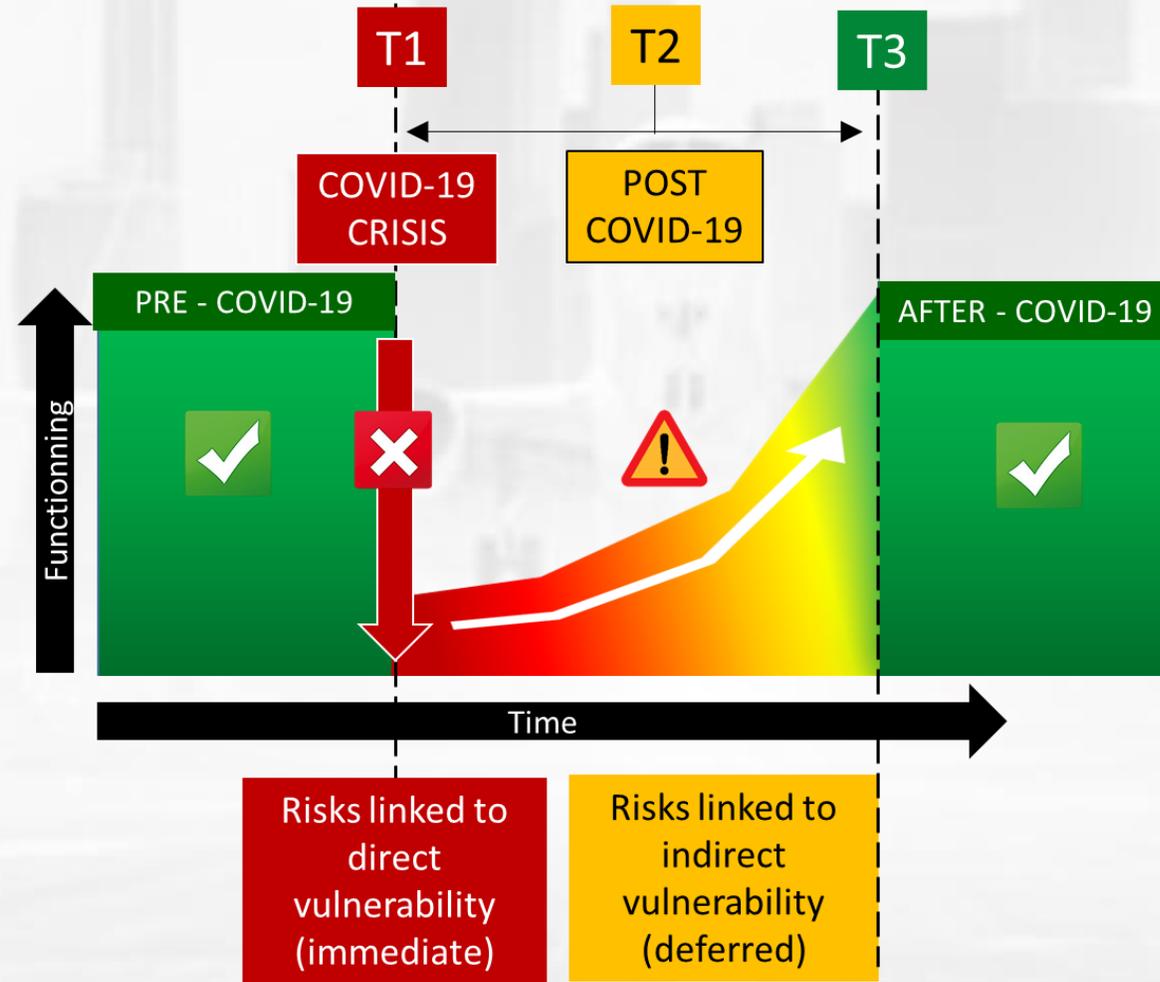




5. Managing the crisis : many changes at different stages



Organization of services
% of operation in "normal" operations



Copyright © April 2020 SynRjy & Inuk International



5. Managing the crisis : many changes at different stages

The change from one mode to another is subject to a CHANGE (of an obstacle) to which special attention must be devoted



Our approach is to make you aware of the consequences of these changes in each of these phases !



6. Characteristics of the different functioning stages

✓ PRE-COVID-19



PRE - COVID-19	COVID-19 CRISIS	POST COVID-19 CRISIS	AFTER - COVID-19
✓	✗	⚠	✓
Normal Operations	Interrupted Operations	Operations Recovery	Normal Operations
Normal Functioning	Crisis Management Derogation Mode Implementation	Activities Recovery Plan Derogation Mode Management	Stabilized Functioning Experience Feedback

Normal Operations
Normal Functioning



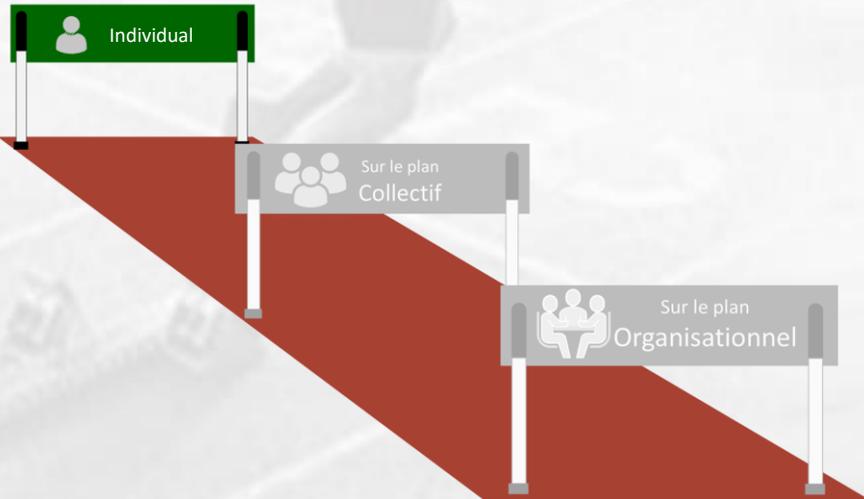
6. Characteristics of the different functioning stages

Normal operations / Normal functioning

✓ PRÉ-COVID-19



PRE - COVID-19	COVID-19 CRISIS	POST COVID-19 CRISIS	AFTER - COVID-19
✓ Normal Operations	✗ Interrupted Operations	⚠ Operations Recovery	✓ Normal Operations
Normal Functioning	Crisis Management Derogation Mode Implementation	Activities Recovery Plan Derogation Mode Management	Stabilized Functioning Experience Feedback



At an individual level

- Socially "secure" situation
- No health problem
- Management of the usual constraints (known and controlled): good individual awareness of the risks



6. Characteristics of the different functioning stages

Normal operations / Normal functioning



PRE - COVID-19	COVID-19 CRISIS	POST COVID-19 CRISIS	AFTER - COVID-19
✓ Normal Operations	✗ Interrupted Operations	⚠ Operations Recovery	✓ Normal Operations
Normal Functioning	Crisis Management Derogation Mode Implementation	Activities Recovery Plan Derogation Mode Management	Stabilized Functioning Experience Feedback



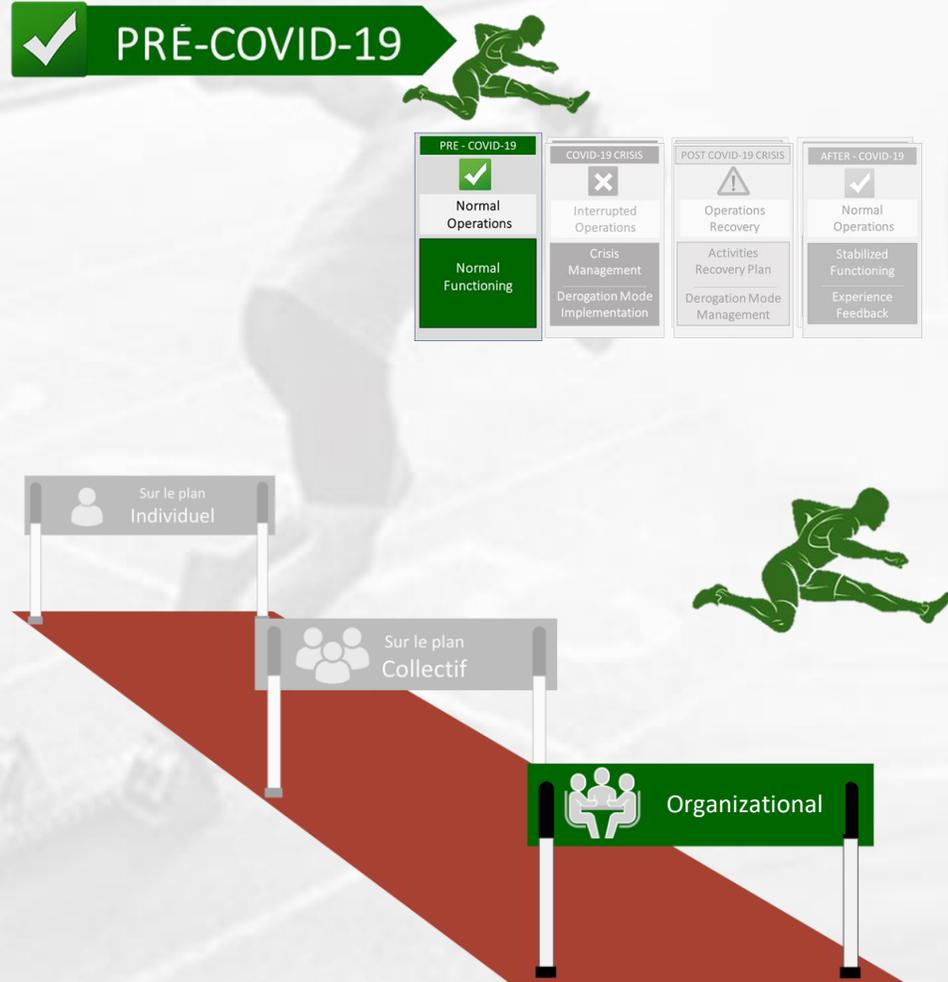
On a collective level

- Teamwork
- Group support
- Strong culture of business security
- Collective adaptation to constraints (collective management of violations... the “normally”): a good collective awareness of the risks



6. Characteristics of the different functioning stages

Normal operations / Normal functioning



at the organizational level

- Normal operations
- FC-CC Crew recruitment (development)
- Anticipation to the flight programs
- Training and skills maintenance of all stakeholders
- Experience management – FC-CC Crew training (recent type experience)
- SMS operation: Management of regular and irregular situations



6. Characteristics of the different functioning stages

✘ COVID CRISIS-19



PRE - COVID-19	COVID-19 CRISIS	POST COVID-19 CRISIS	AFTER - COVID-19
✓ Normal Operations	✘ Interrupted Operations	⚠ Operations Recovery	✓ Normal Operations
Normal Functioning	Crisis Management Derogation Mode Implementation	Activities Recovery Plan Derogation Mode Management	Stabilized Functioning Experience Feedback

**Crisis Management
Derogation Mode
Implementation**



Consequences to manage

To face up to the shock!



6. Characteristics of the different functioning stages Crisis management / Derogation mode implementation

✘ COVID CRISIS-19



PRE - COVID-19	COVID-19 CRISIS	POST COVID-19 CRISIS	AFTER - COVID-19
✓ Normal Operations	✘ Interrupted Operations	⚠ Operations Recovery	✓ Normal Operations
Normal Functioning	Crisis Management Derogation Mode Implementation	Activities Recovery Plan Derogation Mode Management	Stabilized Functioning Experience Feedback

**Crisis Management
Derogation Mode
Implementation**



Consequences to manage

To face up to the shock!

The consequence of COVID 19 on air transportation is the unexpected termination of operations.



6. Characteristics of the different functioning stages

Crisis management /
Derogation mode implementation

❌ CRISE COVID-19



PRE - COVID-19 ✓ Opérations normales Fonctionnement Normal	CRISE COVID-19 ❌ Opérations Interrompues Gestion crise Mise en place mode dérogatoire	POST CRISE COVID-19 ⚠️ Reprise Opérations Plan Reprise Activité Gestion mode dérogatoire	PRE - COVID-19 ✓ Opérations normales Fonctionnement Stabilisé Retour Expérience
---	---	--	---



At an individual level

- Technical unemployment situation
- Profit loss
- Degraded and / or anxiety-provoking social situation
- Scary COVID disease
- Management of unusual constraints (confinement)
- Stress: Acute or Chronic obligation to Cope individually
- Maintaining skills and work is no longer a priority



6. Characteristics of the different functioning stages

Crisis management /
Derogation mode implementation

❌ **CRISE COVID-19**



PRE-COVID-19	CRISE COVID-19	POST CRISE COVID-19	PRE-COVID-19
✓ Opérations normales	❌ Opérations Interrompues	⚠️ Reprise Opérations	✓ Opérations normales
Fonctionnement Normal	Gestion crise	Plan Reprise Activité	Fonctionnement Stabilisé
	Mise en place mode dérogatoire	Gestion mode dérogatoire	Retour Expérience

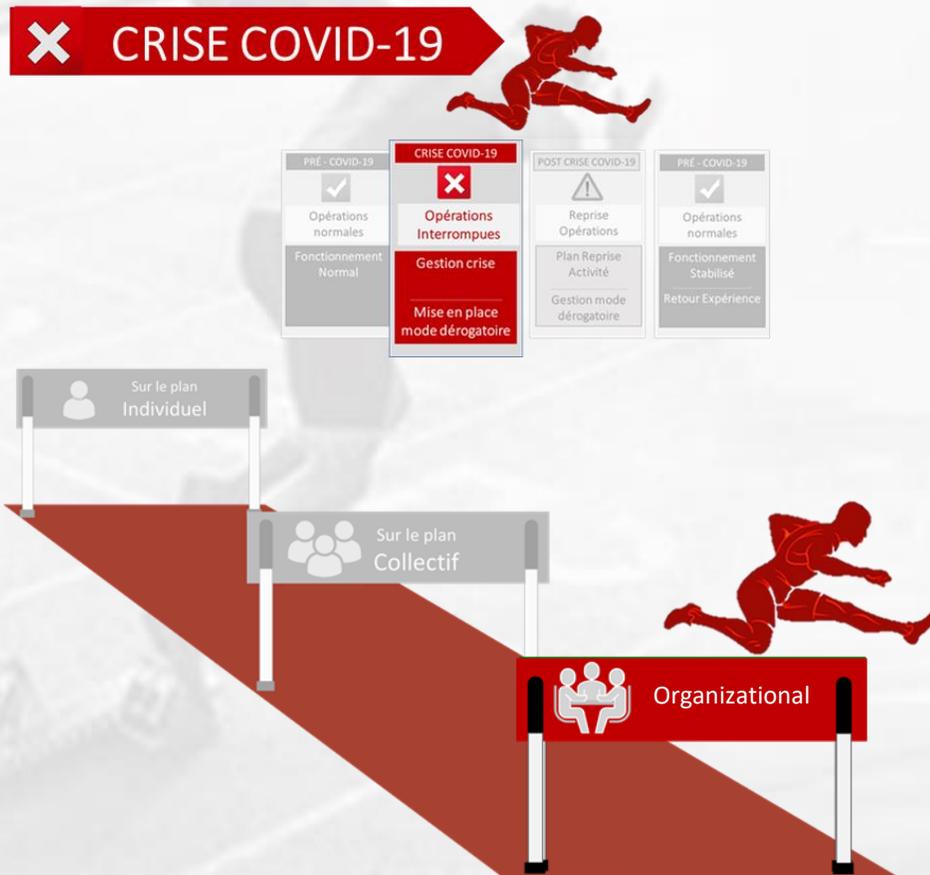


On a collective level

- Isolation (loss of professional contact for FNs)
- Loss of support from others
- Transition from collectivism to Individualism or
- Reinforcement of individualistic behaviors (France)
- Rumors appear, circulation of unfounded, false and or erroneous information...

6. Characteristics of the different functioning stages

Crisis management /
Derogation mode implementation



At the organizational level

- Crisis management
- Short-term decision-making
- Continuation of operations in degraded mode before stopping operations
- Preservation of the organization's interests: HR / social management / suspension of contracts with subcontractors ...
- Establishment of a derogatory operating mode with the authority (regulatory stops)
- Management of a recovery plan
- Security impact study for recovery
- Psychological cell and or PEERS activation support
- Communication management
- SMS operation: Management of exceptional situations



6. Characteristics of the different functioning stages

! POST COVID-19 CRISIS



PRÉ - COVID-19 PRE - COVID-19	CRISE COVID-19 COVID-19 CRISIS	POST COVID-19 CRISIS	PRÉ - COVID-19 AFTER - COVID-19
✓	✗	!	✓
Normal Operations	Interrupted Operations	Operations Recovery	Normal Operations
Normal Functioning	Crisis Management Derogation Mode Implementation	Activities Recovery Plan Derogation Mode Management	Stabilized Functioning Experience Feedback

Activities Recovery Plan
Derogation Mode Management

! Consequences to manage

To face up to the change!



6. Characteristics of the different functioning stages

Essential adaptation to changes in objectives



To face up to the change!





6. Characteristics of the different functioning stages



PRÉ - COVID-19 PRÉ - COVID-19 ✓ Normal Operations Normal Functioning	CRISE COVID-19 COVID-19 CRISIS ✗ Interrupted Operations Crisis Management Derogation Mode Implementation	POST COVID-19 CRISIS ⚠ Operations Recovery Activities Recovery Plan Derogation Mode Management	PRÉ - COVID-19 AFTER - COVID-19 ✓ Normal Operations Stabilized Functioning Experience Feedback
--	---	--	---

Activities Recovery Plan
Derogation Mode Management

Consequences to manage

To face up to the change :

No coordination of technical actions will be possible without communication

The involvement of all staff requires **a strong involvement of LEADERS** in communication and exchange (in order to "make sense", to create this "sensemaking" undermined by the crisis situation.



6. Characteristics of the different functioning stages

Activities recovery plan /
Derogation mode management



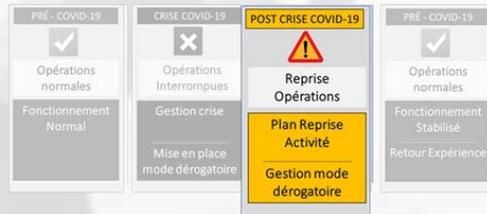
At an individual level

- Apprehension linked to recovery (can we have confidence, more risk? ...)
- Chronic stress (two months of worry, anxiety, etc.)
- Possible psychological impacts (Contact PEERS support Organization)
- Demotivation or over-motivation
- Adaptation to new constraints linked to recovery (instability of organizational processes)
- Takeover of your knowledge / skills: reactivation of skills (beware of NPs in the skills acquisition process)
- Increased fatigue linked to recovery (rehabilitation of the circadian cycle)



6. Characteristics of the different functioning stages

Activities recovery plan /
Derogation mode management



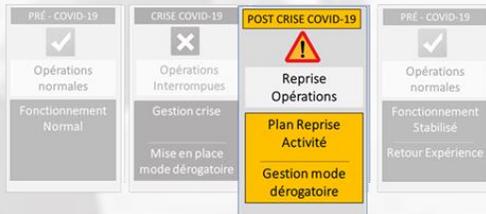
On a collective level

- TECH...Reconstruction of work groups
- Pay an special attention to your colleagues (PEERS Support) as necessary
- Essential leadership (legitimacy of the head of mission, strengthening the role of leaders)
- Reminders by leaders of essential knowledge for resumption of activity
- Coordination / cooperation
- TEM (Threat Error Management) Briefing
- reinforced (FC-FC, FC-CC, FC-TA, FC-MT))



6. Characteristics of the different functioning stages

Activities recovery plan /
Derogation mode management



On a collective level

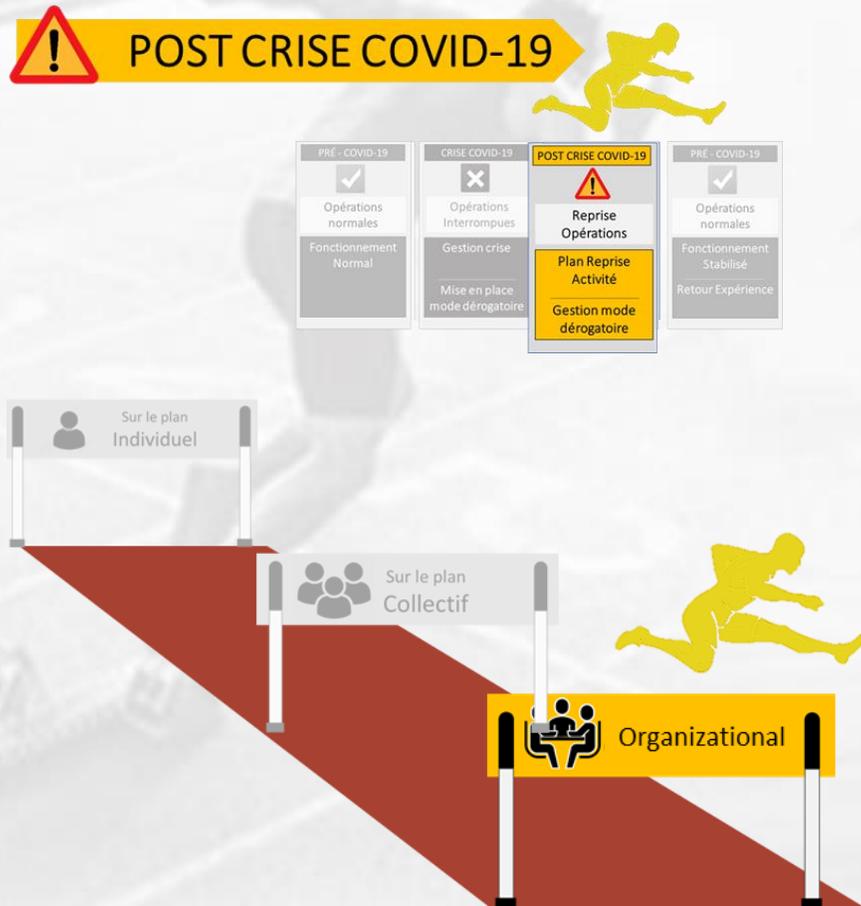
Continued from the previous page :

- Collective validation of the countermeasures implemented to manage Threats Error Management (TEM)
- Generate and maintain the group's commitment to the resumption of activities
- Return of the +++ managed safety culture and its associated risks
- Concern about the future maintained by rumors



6. Characteristics of the different functioning stages

Activities recovery plan /
Derogation mode management



At the organizational level

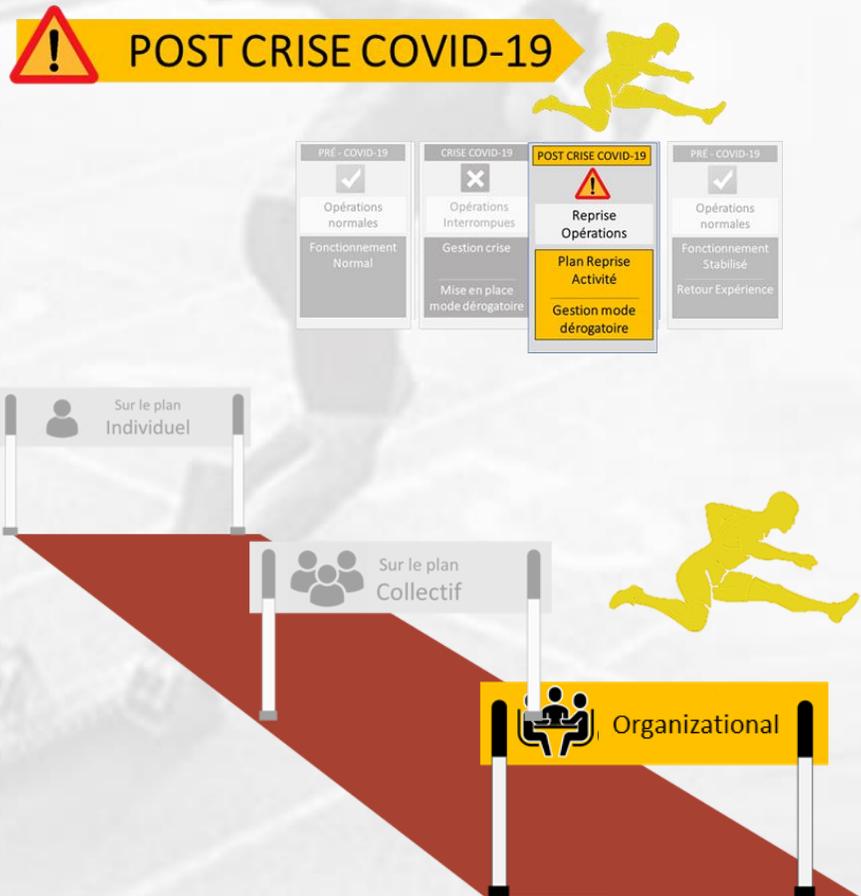
Essential Role of Leadership

- **The Chef is in charge and above all VISIBLE**
- **Generate and maintain the commitment of everyone's** to the resumption of activities
- Implementation of the recovery plan
- Analysis and consideration of PEERS Support remarks
- Definition of performance objectives and associated dashboard
- Management of exemptions



6. Characteristics of the different functioning stages

Activities recovery plan /
Derogation mode management



At the organizational level

Continued from the previous page:

Definition and implementation of the FC-CC Crew training plan

SMS operation: Management and **accompaniment** of exceptional situations

Implementation of safety action plans and measurement of their effectiveness

Implementation of an operational feedback allowing daily monitoring of the risks and effectiveness of the safety barriers in place and

Visibility of actual practices



6. Characteristics of the different functioning stages



✓

AFTER COVID-19 CRISIS



PRE - COVID-19	COVID-19 CRISIS	POST COVID-19 CRISIS	AFTER - COVID-19
✓ Normal Operations	✗ Interrupted Operations	⚠ Operations Recovery	✓ Normal Operations
Normal Functioning	Crisis Management Derogation Mode Implementation	Activities Recovery Plan Derogation Mode Management	Stabilized Functioning Experience Feedback

Stabilized Functioning

Experience Feedback

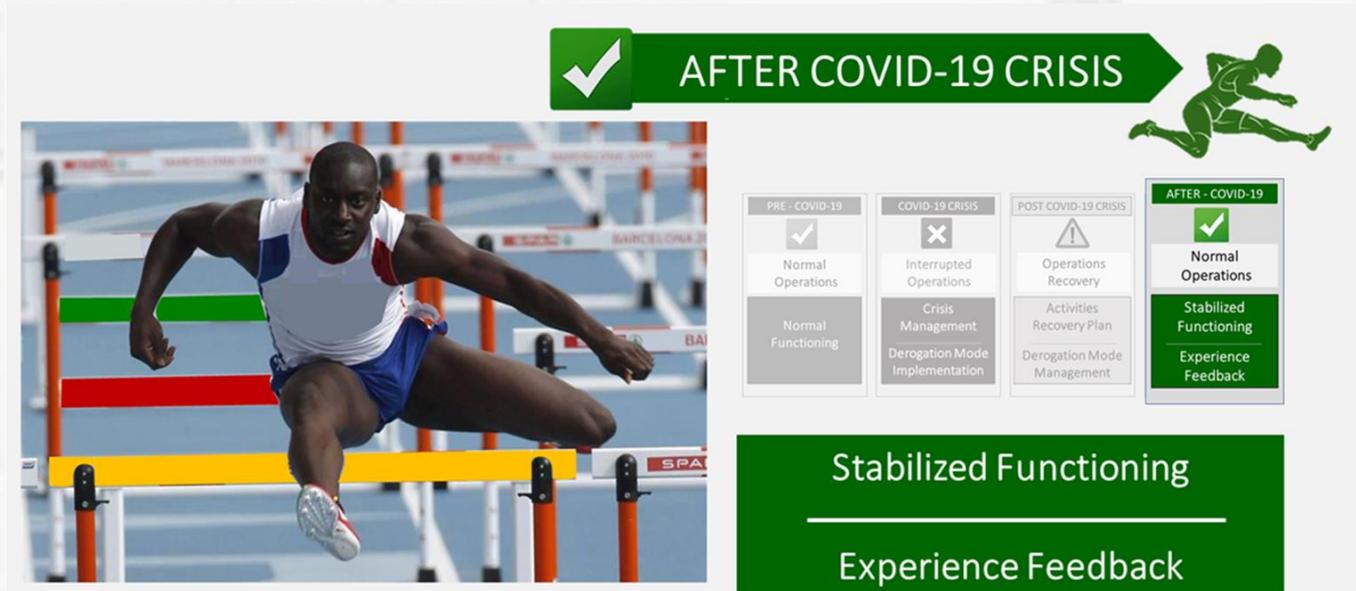
To adapt and be resilient

!

Consequences to manage



6. Characteristics of the different functioning stages



Consequences to manage

To adapt and be resilient :

To learn from the crisis to increase the organization resilience in the face of a new turbulence.

Organizational resilience is understood here as the capacity of an organization to resist a threat or regain a state of stability after having suffered it (Hollnagel, 2006)



6. Characteristics of the different functioning stages

Stabilized functioning / Experience feedback



Individual

Sur le plan Collectif

Sur le plan Organisationnel

At an individual level

- Social reconstruction
- Return to a stable situation
- Possible management of post traumatic stress
- Unlearning "coping mechanisms (Violations)
- Actively participate in feedback in order to make practices visible: Just culture
- (acceptable / unacceptable behavior)
- Back to good practices (Respect of procedures)



6. Characteristics of the different functioning stages

Stabilized functioning / Experience feedback



On a collective level

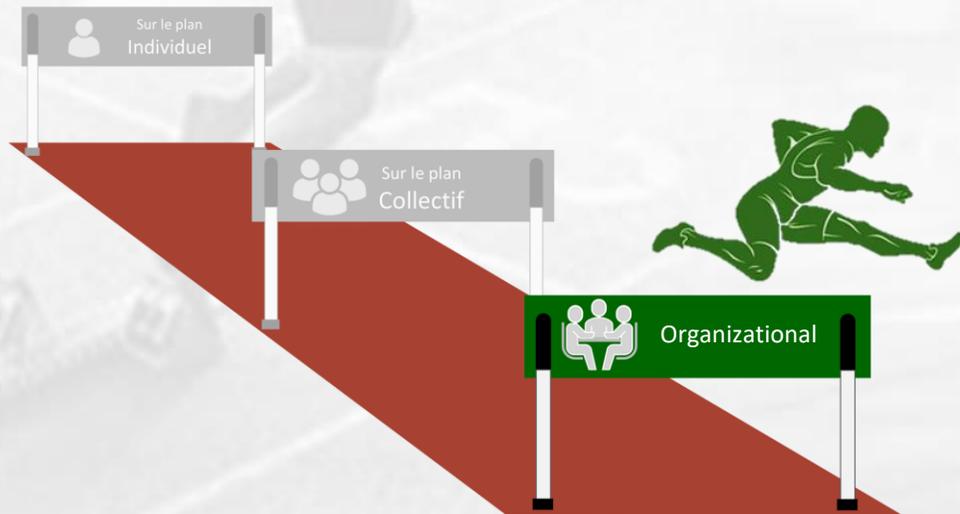
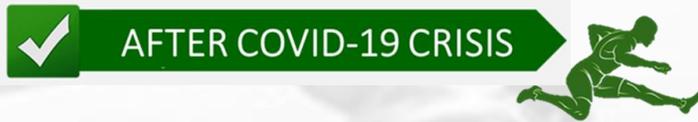
- Routine collective practices
- Reinforcement of the collective if R.A.P * succeeded
- Back to good practices
- Managed safety culture to evolve towards an integrated security culture
- For leaders: Foster and actively participate in feedback in order to make practices visible: Just culture (acceptable / unacceptable behavior)
- Unlearning "coping mechanisms (Violations)"

* *Return to activity plan*



6. Characteristics of the different functioning stages

Stabilized functioning / Experience feedback



At the organizational level

- End of the derogation mode / return to regulatory compliance
- Managing the consequences of the crisis
- Analysis of crisis feedback
- Identification and analysis of vulnerable barriers (direct and indirect)
- Reinforcement of security barriers
- SMS operation: Return to the management of regular and irregular situations
- Unlearning the "coping mechanisms (Violations)" put in place at the organizational level
- Anticipation of other crises
- Post-crisis communication



7. Safety impact assessment of changes to support changes



Whatever the situation (regular, irregular, exceptional), the purpose of the Safety Impact Assessment is to collect information allowing the following questions to be answered:

Does the change impact system safety?

Are the impacts identified acceptable?

Do the impacts identified require modifying the change process?

Do the identified impacts require modification of the safety management system and, if so, how?

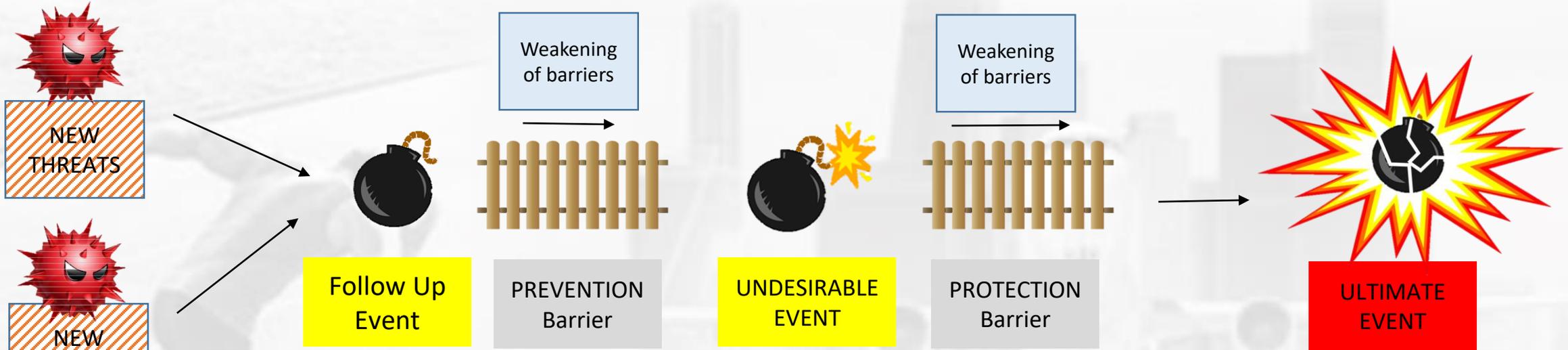
The impacts identified



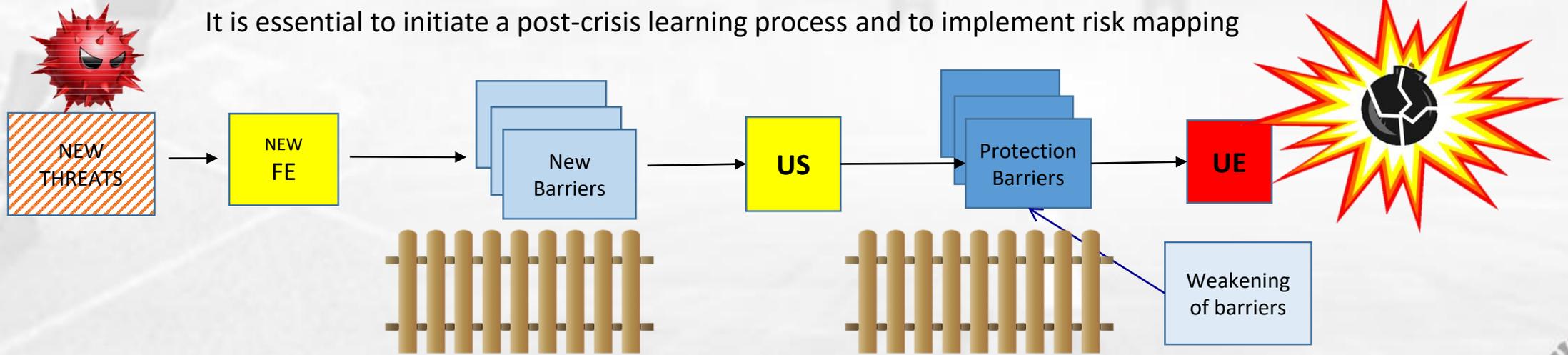
Pay particular attention to the management of interfaces with the organization (Subcontractors - Airports - Handling - ATC - Maintenance, etc.). They also suffered the COVID-19 crisis



7. Safety impact assessment of changes to support changes



Crisis allow to reveal weaknesses that are hardly visible during periods of stability. It is essential to initiate a post-crisis learning process and to implement risk mapping





7. Impact assessment on safety for accompaniment of changes

Some methodological reminders



1: Definition of the context of the EIS.

This phase aims to collect information to describe the change, the systems that can be impacted and to identify potential consequences.

2: Identification of potential consequences.

This phase aims to identify the possible consequences. The result is presented in the form of a list of consequences.

3: Analysis of risks and opportunities.

From the list of potential consequences, an analysis of risks and opportunities is carried out in order to formalize scenarios that can lead to these consequences (Identification of EIS that can lead to these consequences and evaluation of the effectiveness of the barriers).

4: Risk level

will be defined according to the severity of the consequences of the Undesirable Events and its probability of occurrence



7. Safety impact assessment of changes to support changes

Some methodological reminders



5: Risk mitigation

determination of the risk reduction measures necessary to make the risk acceptable with regard to the organization's risk matrix;

6: Determination of the acceptability of the change

(with regard to the identified EI and taking into account the measures previously defined);

7: Decision taken by the Responsible Officer of the Organization

With summary of any risk reduction measures to be implemented (This step should allow the organization to plan as best as possible in effective risk management during the change, and to plan the follow-up of the measures decided and a feedback from experience on this change).



Don't forget interface management! !

8. Conclusion



We are going through an unprecedented crisis for Commercial Civil Aviation, even on September 11, 2001, the SARS crisis, that of the subprime in 2008 and the volcanic eruption of 2010, had no such consequences.

We must be aware that this crisis and its recovery will lead to **exceptional situations which we will all have to face.**

We must prevent this crisis from turning into a recovery crisis when the Aviation System starts up!

All the players in the Air System must manage this crisis and its exit from the crisis through their Safety Management System. We must **ACCEPT to SEE** and **MANAGE** all the **RISKS** linked to the changes that will appear and for which it will be necessary **TO ADAPT** to resume air operations **IN SAFETY.**



Realization of the document



FACTEURS HUMAINS

bonnier@synrjy.com



eddyjet737@gmail.com

