Risk-based oversight

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PBE = PBR + RBO
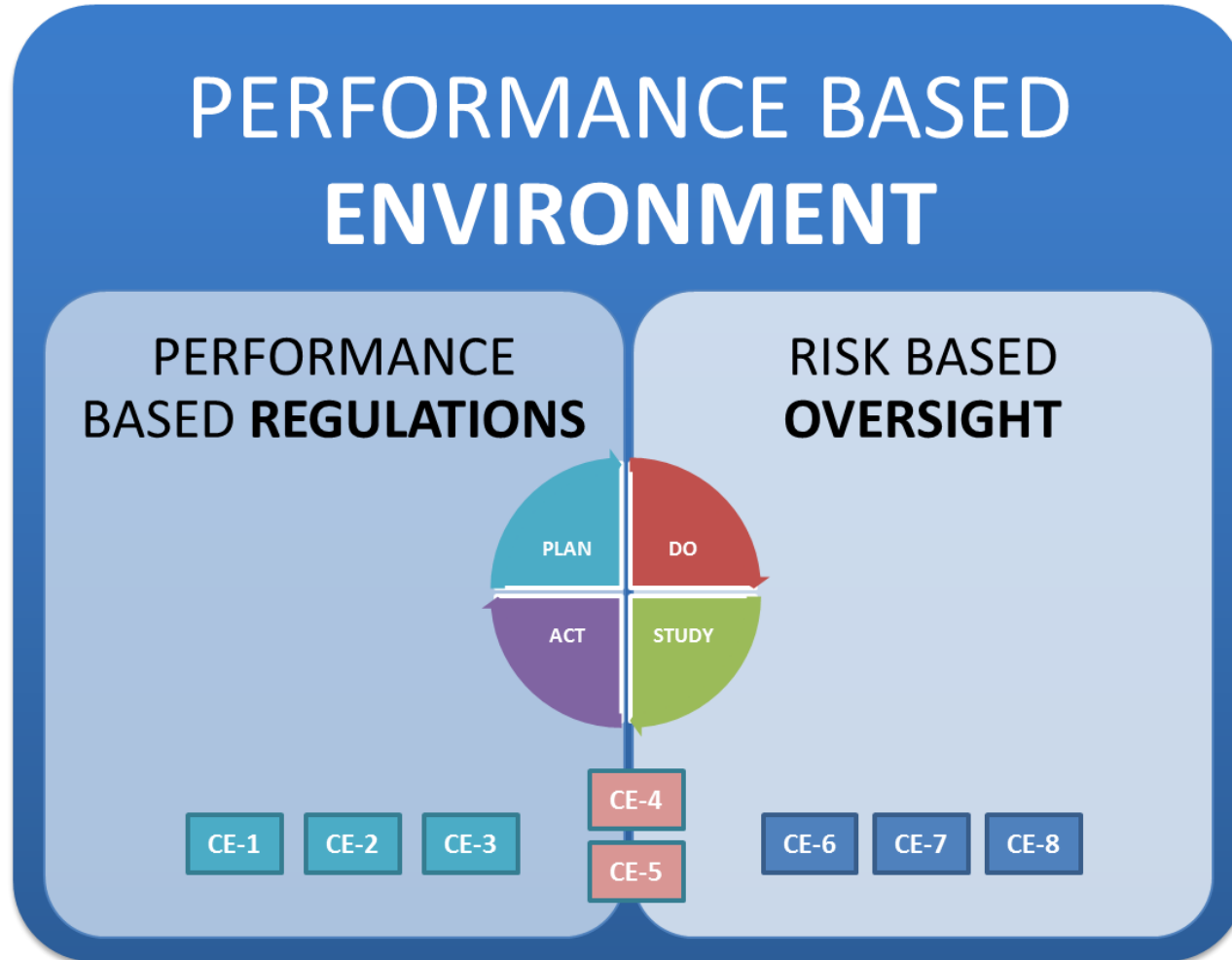

EASA paper: [A Harmonised European Approach to a Performance-Based Environment](#)
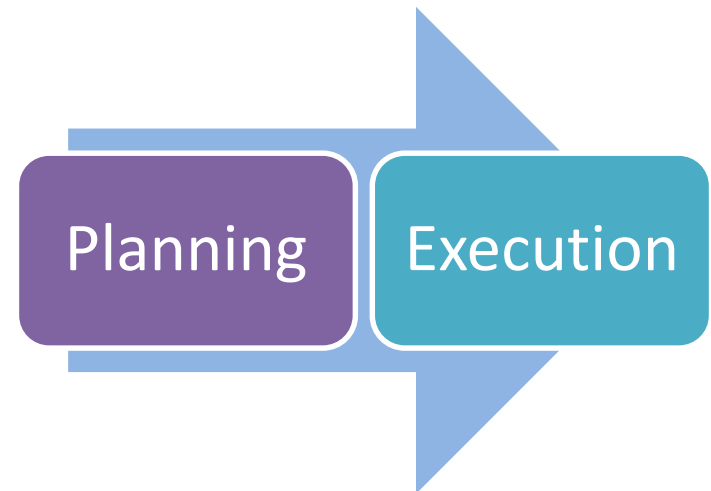
What is RBO? Definitions:

Oversight: the function by means of which a competent authority **ensures that the applicable requirements are met** by regulated entities

Surveillance: The State activities through which the State proactively verifies through inspections and audits that aviation licence, certificate, authorization or approval holders continue to meet the established requirements and function at the level of competency and safety required by the State. ICAO Annex 19, Second Edition, July 2016.
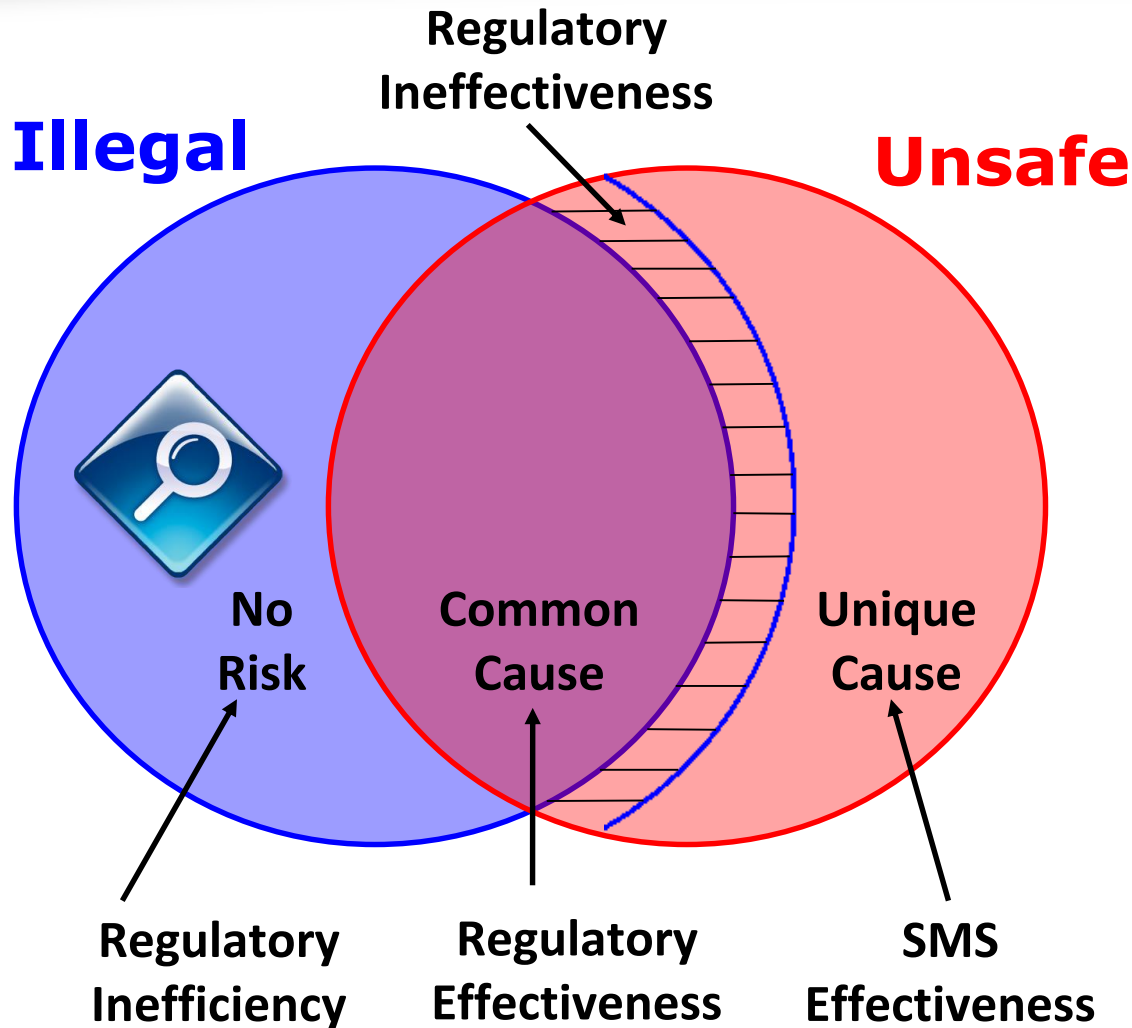
Risk Based Oversight:

A way of performing oversight, where **planning** is driven by the combination of risk profile and safety performance; and **execution** focuses on the management of risks, besides ensuring compliance.

Planning → Execution

Illegal

Unsafe

Regulatory Ineffectiveness

No Risk

Common Cause

Unique Cause

Regulatory Inefficiency

Regulatory Effectiveness

SMS Effectiveness

- Data driven
- Targeted use of resources
- Focus on safety
- Positive effect of prescriptive requirements is maintained

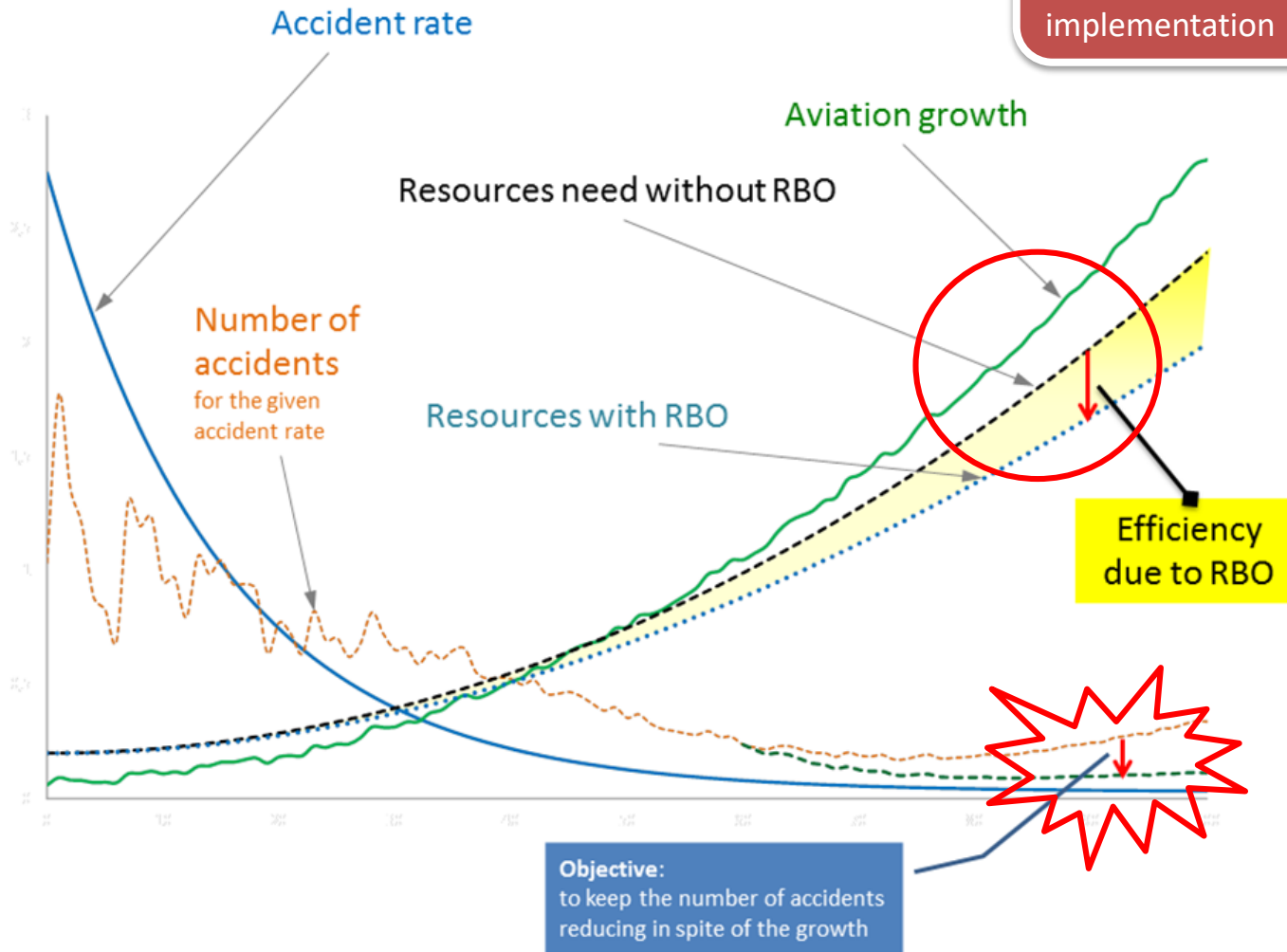adapted from M. Sparrow, 'The Regulatory Craft'

DISCLAIMER
Qualitative assumption based on successful implementation

Accident rate

Aviation growth

Resources need without RBO

Number of accidents
for the given accident rate

Resources with RBO

Efficiency due to RBO

Objective:
to keep the number of accidents reducing in spite of the growth

EASA
European Aviation Safety Agency

Flight Standards Directorate

Practices for risk-based oversight

➤ Simple
➤ Practical
➤ Easy to implement

Cross-domain team

FS1: Maintenance & Production

FS2: Air Operations

FS3: Aircrew & Medical

FS4: ATM/ANS & Aerodromes

FS5: project coordination

Available on EASA website:

http://www.easa.europa.eu/document-library/general-publications/practices-risk-based-oversight

RBO Paper - TOC

2. Introduction
- 2.1 Why RBO
- 2.2 Definitions, conceptual model and link with the EASA rules
- 2.3 EASp, SSP and management system as drivers to RBO
- 2.4 Limits of RBO

3. Risk Profile and oversight planning

4. Enablers and tools
- 4.1 Management of safety information
- 4.2 Information sharing with other Competent Authorities
- 4.3 Training and qualification of inspectors

5. Conduct of Risk-Based Audits
- 5.1 UK experience: transforming the CAA and strengthening the people capability to operate in a RBO environment
- 5.2 Risk based audit: issues for discussion
- 5.3 Attitude during the conduct of risk based audits
- 5.4 Accountabilities and enforcement

6. Experiences – success stories
- 6.1 RBO in practice by Switzerland
- 6.2 Success stories from UK-CAA
- 6.3 Success story from Ireland
- 6.4 An approach scaled to one specific sector – helicopter safety in Norway
- 6.5 Experience from Sweden

I Risk profile - Best practices
- I - 1   AT as example of simple risk profile
- I - 2   The Irish method – another simple model
- I - 3   ES more elaborated risk profile, collaboration between components of the CAA
- I - 4   CH risk profile linked with SSP
- I - 5   Contribution from Finland

II Tools supporting RBO
- II - 1   SMICG tools
- II - 1   ICAO tools

III Questionnaire used for the collection of the best practices
- III – 1   Introduction
- III – 2   Questions on Risk Based Oversight

IV Draft documents from the WG of ATM Competent authorities
- IV - 1   Elements for establishing an RBO audit plan
- IV - 2   Outcome of a questionnaire on ATM RBO Processes

ARx.GEN.305(b)

For organisations certified by the competent authority, the oversight programme shall be developed taking into account

- the **specific nature** of the organisation,

- the **complexity** of its activities,

- the **results of past certification and/or oversight activities** required by ARO.GEN and ARO.RAMP, and

shall be based on the **assessment of associated risks**.

WHICH RISK SHOULD WE CONSIDER?

Types of Risk

Business risk	Any event or issue that could occur and adversely impact the achievement of the Agency's political, strategic and operational objective. Lost opportunities are also considered as risks.
Hazard	A condition or an object with the potential to cause or contribute to an aircraft incident or accident.
Safety risk	The predicted probability and severity of the consequences or outcomes of a hazard.
Operational risk	*The safety risk connected with the performance of operations*

RISK BASED OVERSIGHT: a way of performing oversight allowing the competent authority to:

i) prioritise and plan its activities based on compliance, risk profiling and assessment of the safety performance; and

ii) verify compliance with a focus on management of operational risks.

WE CONSIDER THE OPERATIONAL RISK OF THE AUDITEE

Risk Profile

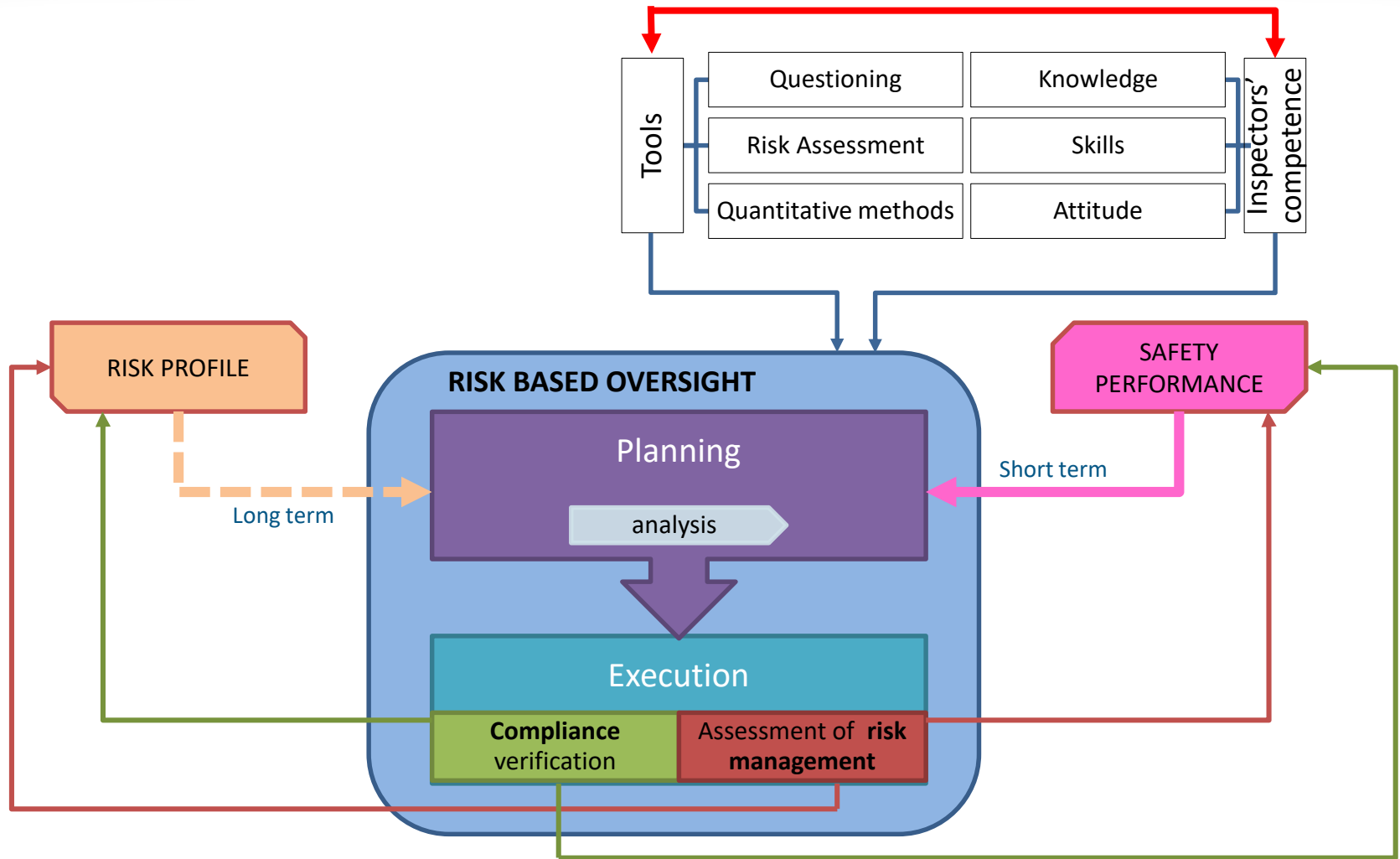The elements of risk that are inherent to the nature and the operations of the regulated entity

Safety performance

The demonstration of how effectively can a regulated entity mitigate its risks

Conceptual RBO Model

RBO Enablers

Management of safety information

Information sharing

Accountabilities, responsibilities and enforcement

Culture

Organisational requirements

Mature safety management

Inspector Competence and qualifications

1
- Oversight planning and determination of oversight cycle for each organisation should take into consideration the risk profile and the assessment of the safety performance.
  When the risk profile relies on expert judgment, the decision making should be made by consensus by a team of experts.

2
- For each organisation, RBO parameters should be continuously monitored at an appropriate frequency in order to identify any trend and to review the oversight programme, its cycle and the safety objectives.
  The competent authority should continuously follow-up and improve the overall RBO system.

3
- The ICAO state safety programme (SSP) should be established and used as a background framework for RBO and the competent authority should have a functioning management system, as required by the rules.

4
- The state oversight system should be mature enough before it can be complemented by RBO. This oversight approach should be linked to the objectives of the SSP and of the management system of the competent authority.
  EASp actions should also be taken in consideration.

5
- The management system of the competent authority should capture the different risk profiles of the regulated entities according to a model.
  When determination of risk profile relies on expert judgment, decision making should be made by consensus by a team of experts.

6

- RBO should be progressively deployed and extension of RBO to additional domains should be consistent and appropriate. Initial introduction of RBO could be facilitated by a dedicated team of "champions' inspectors.

7

- A system in place for the collection, analysis, and exchange of safety data at the level of State and regulated entity is a prerequisite for RBO, as well as safety management principles and a just culture environment.
Exchange of information on safety risks between competent authority and regulated entities should be established.
Development of an integrated risk picture in and across different domains should be done in partnership with involved stakeholders.

8

- Competent Authorities should develop arrangements for cooperation on oversight, exchange of collected safety information, sharing of RBO experience, feedback on experience with the SSP etc…

9

- Initial and continuous training should be given to inspectors implementing RBO, to cover:
  - development of proper culture when interacting with industry
  - use of expert judgment, specially when safety performance and "gut feeling" are blended
  - use of RBO-specific tools available at the competent authority.
  - Support and coaching should be available during the initial phase of RBO deployment.

What is EASA doing
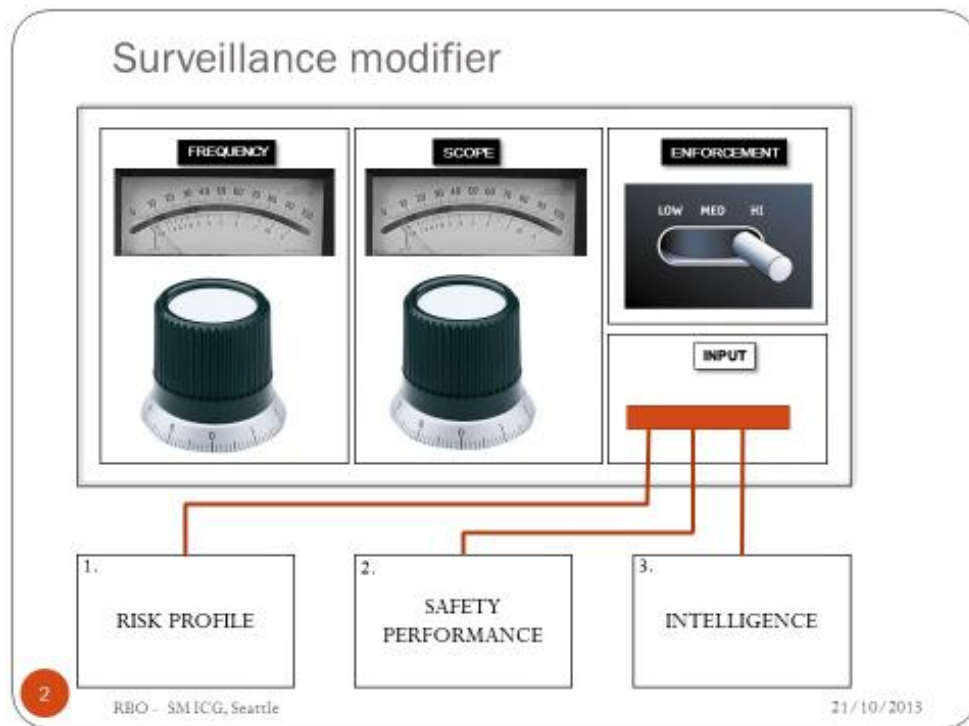
RBO applied to Continuing Airworthiness Organisations

	Country Risk profile	Overall / Intrinsic organisation risk profile	Feedback from the Team Leader	EASA safety risk portfolio for EU Aviation
Oversight period & audit frequency	✓	✓	✓	
Focus areas			✓	✓
Confidence level		✓	✓	
Allocation of oversight task	✓	✓		
Initial oversight period & audit frequency	✓	✓	✓	

RBO principles do not apply

- For planning of initial investigation

- For the allocation of the task (EASA or external partner)

- When ad-hoc oversight is needed due to high in the following areas:

  - **Country Risk Factor**
    E.g.: ICAO SSC flag or an EU Safety lists flag

  - **Organisation Risk Factor**
    E.g.: in case of suspension or limitation of the approval

  - **Team Leader Input Risk Factor**
    specific cases known by the team leader in charge

Ratings & Limitations

Level of maintenance

Number of staff

Specialized service

Maintenance sites

Scope of Approval

Intrinsic organisation risk profile

Outsourcing
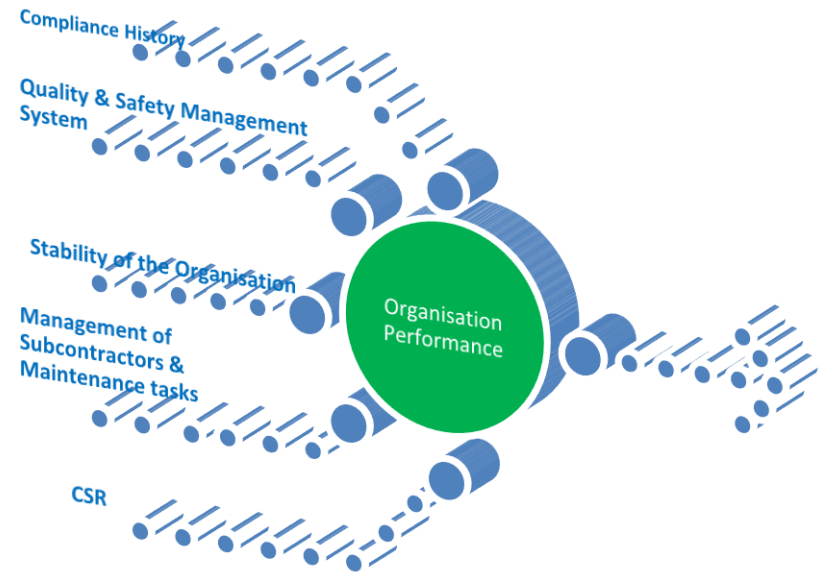
Non Permanent staff & Part-66 licensesd Engineers

Use of the approval & Other approval held

Number of years using the EASA approval

Fabrication of parts

## Organisation Activity

Organisation Performance Risk Profile

Compliance History

Quality & Safety Management System

Stability of the Organisation

Management of Subcontractors & Maintenance tasks

CSR

Organisation Performance

How and when we are going to use it

➤ Conceptual development completed

➤ Test cases run → good correlation

➤ Operational deployment: end 2018, when finding database will be ready

Compliance-based

Level of Compliance

Risk-based
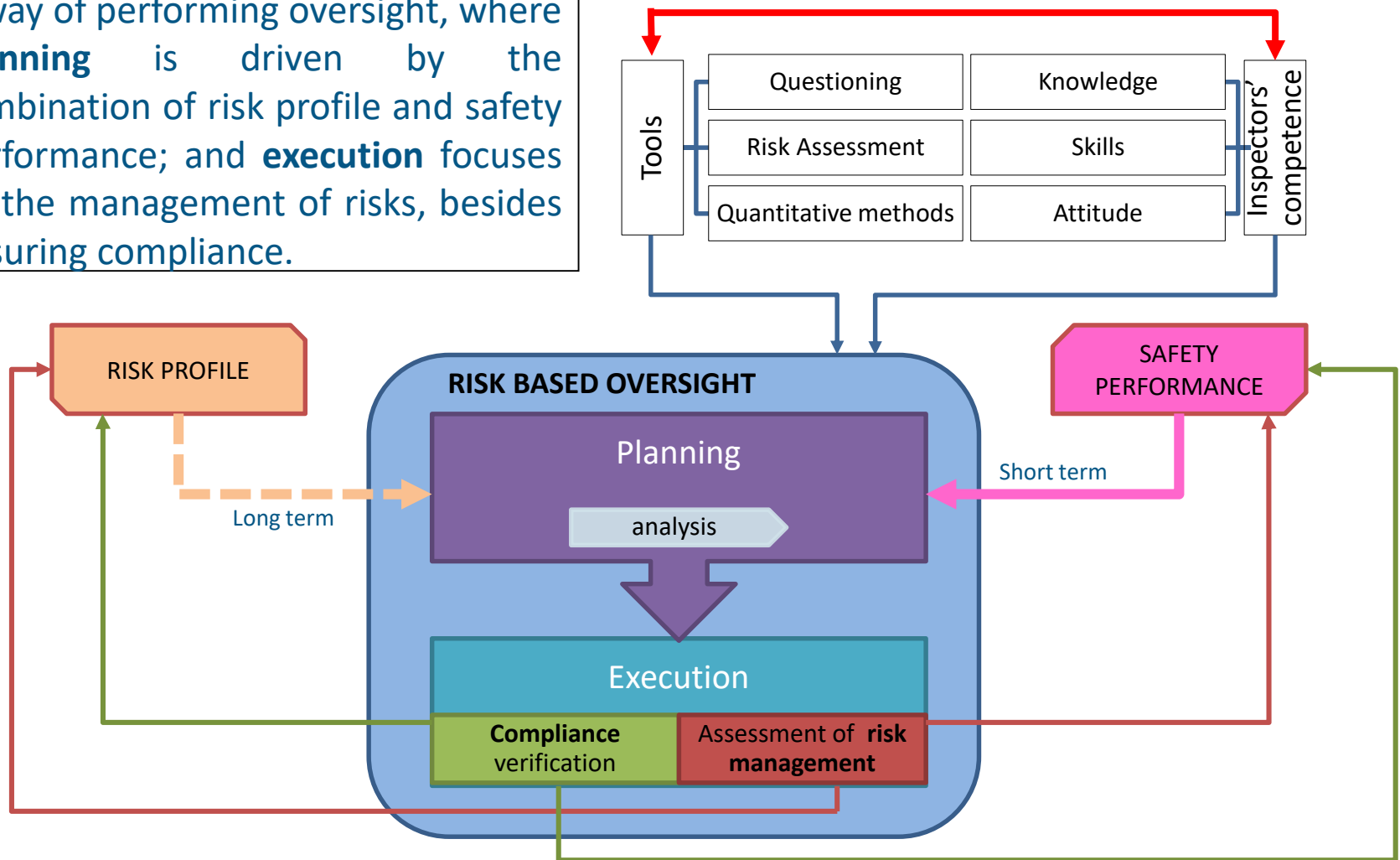
RISK PROFILE

Performance based

SPIs & TARGETS
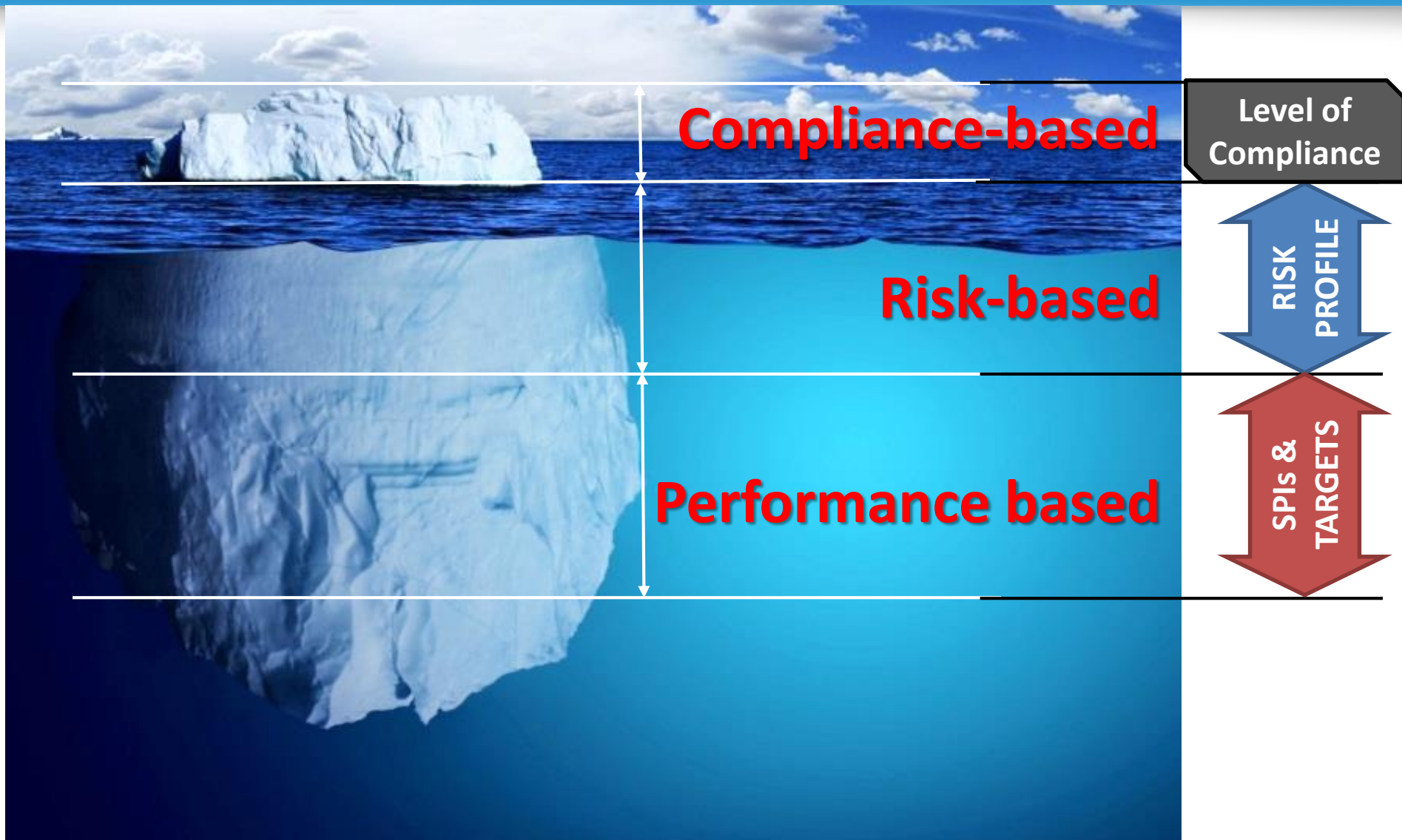
To take home

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A way of performing oversight, where **planning** is driven by the combination of risk profile and safety performance; and **execution** focuses on the management of risks, besides ensuring compliance.

Thanks for your attention

For further information:

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Your safety is our mission.

An agency of the European Union

RBO Benefits – A Regulators View

Safety management

- risk management capabilities in a flexible framework

- better allocation of resources to address the risks identified

Resilience

- regulatory framework capable of anticipating and self-adapting to change

- response to increased complexity, new business models and technological development

Flexibility

- focus on safety outcomes encouraging innovation

- means to control specific risks not restricted in priority

"Without pioneers, the world will turn but never move forward"