

Flight Data Monitoring: *Accountability + Culture = Safer Operations*

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Understanding Safety Performance

Safety Performance:

A State or a service provider's safety achievement as defined by its safety performance targets and safety performance indicators.



Safety Performance Indicator:

A data-based parameter used for monitoring and assessing safety performance.

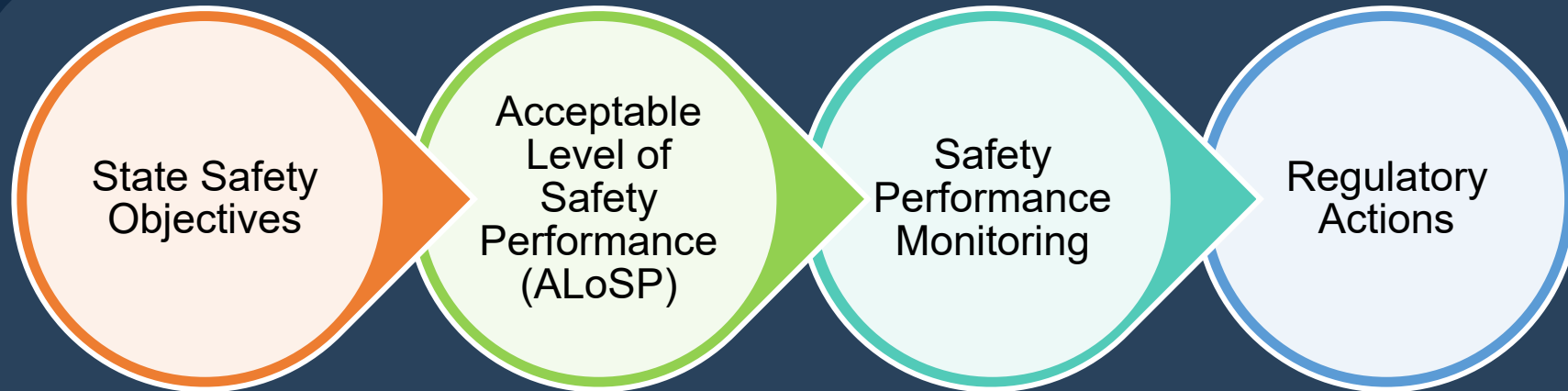
Safety Performance Target:

The State or service provider's planned or intended target for a safety performance indicator over a given period that aligns with the safety objectives.



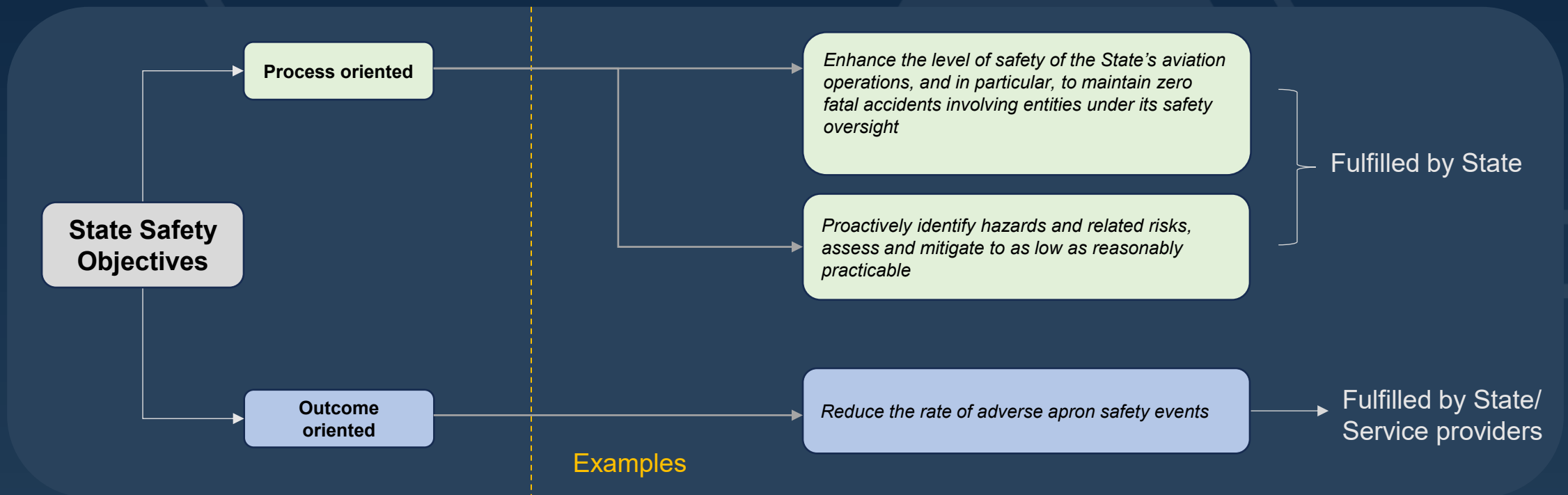
Oversight Process

Key Elements



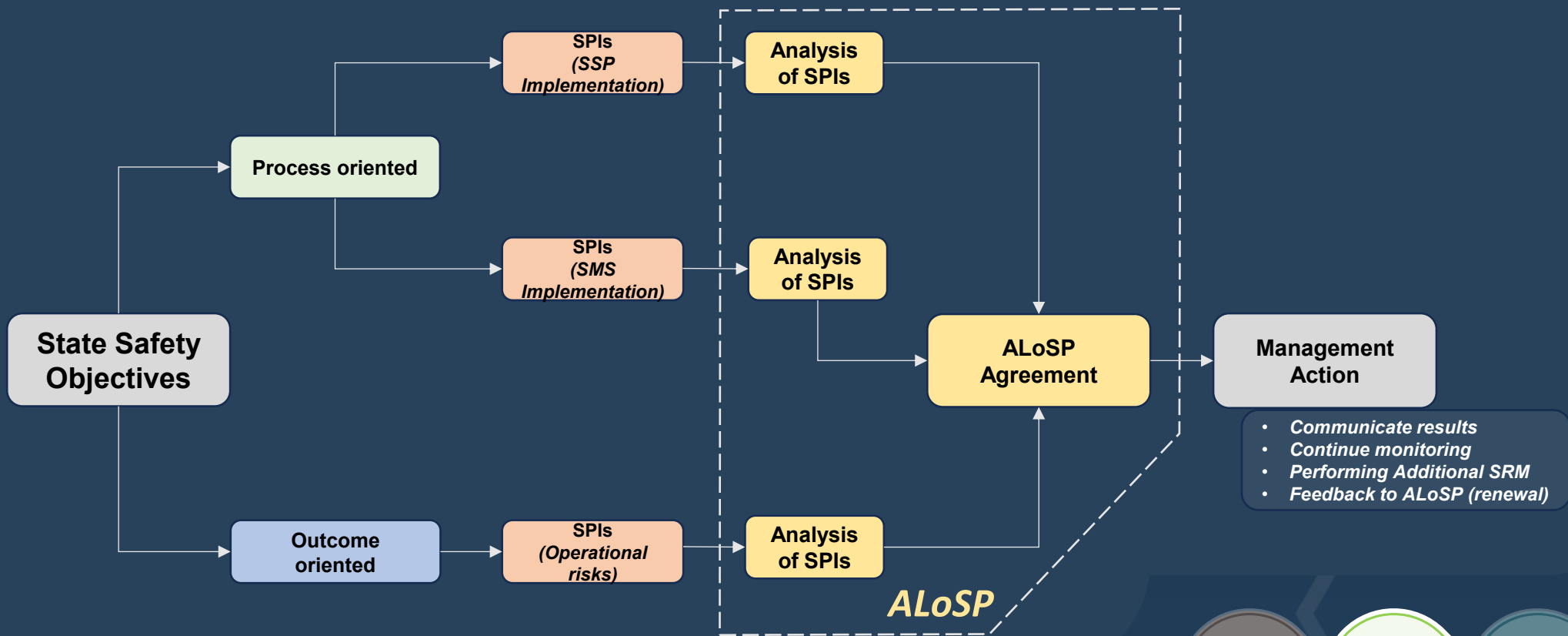
State Safety Objectives

Measures to Achieve Acceptable Level of Safety Performance (ALoSP)



Acceptable Level of Safety Performance

How State Safety Plans use Safety Performance Indicators (SPIs)



Source: https://www.easa.europa.eu/sites/default/files/dfu/2021-05-31_alosp_for_publication.pdf



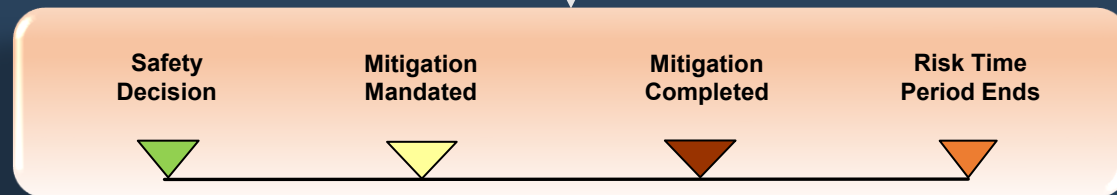
Safety Performance Monitoring (SPM)

Verifying safety performance & validating safety risk control effectiveness

Safety Risk		Severity				
Probability		Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
Frequent	5	5A	5B	5C	5D	5E
Occasional	4	4A	4B	4C	4D	4E
Remote	3	3A	3B	3C	3D	3E
Improbable	2	2A	2B	2C	2D	2E
Extremely improbable	1	1A	1B	1C	1D	1E

ALoSP

State Safety Objectives



Source: ICAO Doc 9859 Safety Management Manual

Regulatory Actions

Implementation of Regulatory actions must consider change management:



Overall risk caused
by the issue



Complexity of the
fix (change)



Operational
Schedules



Time needed to develop,
certify and incorporate

Source: ICAO Doc 9859 Safety Management Manual Chapter 6.5



FDM in Safety Data Ecosystem



Flight Data Monitoring

General Process Used by Operators



Fly &
Record



Offload Data
Securely



Process
Data



Validate &
Analyze Data



Identify Trends &
Statistics



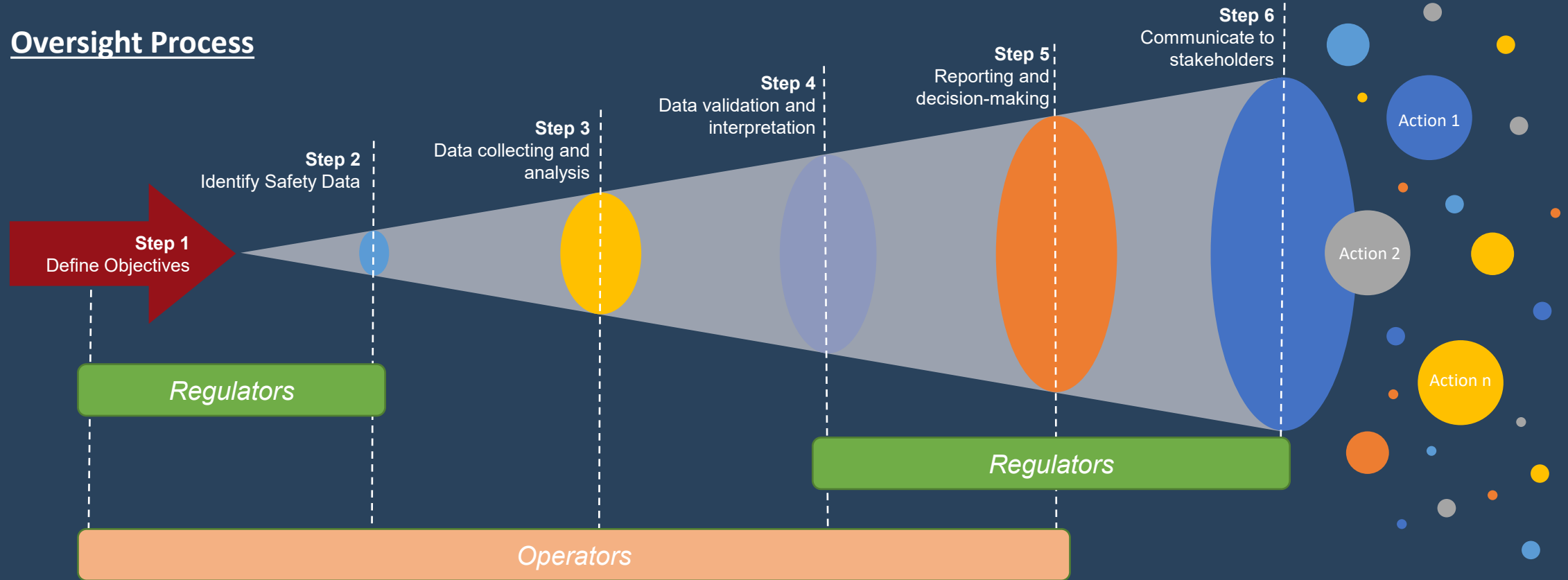
Reports &
Dashboards



Monitoring &
Corrective Actions

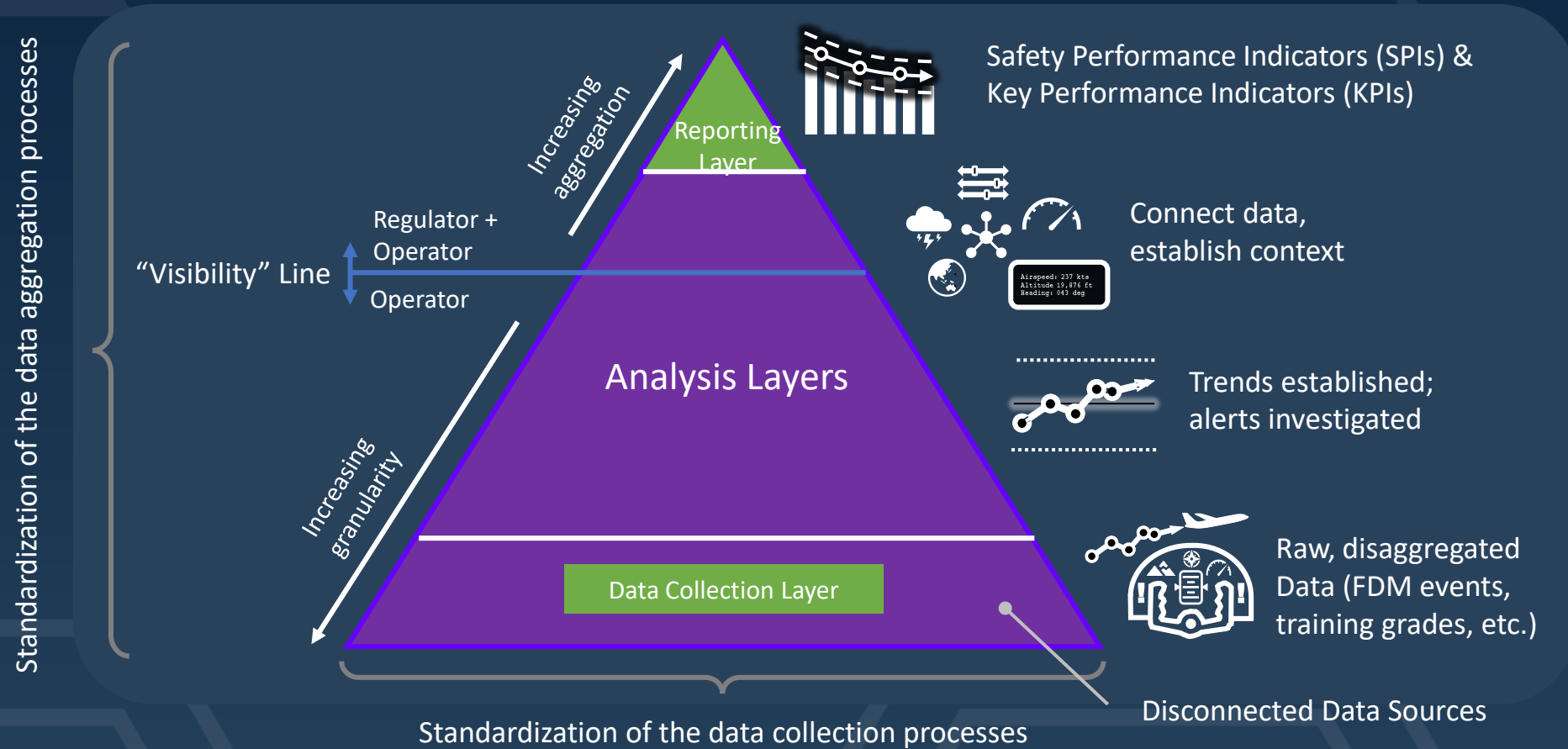
FDM in Oversight

Oversight Process

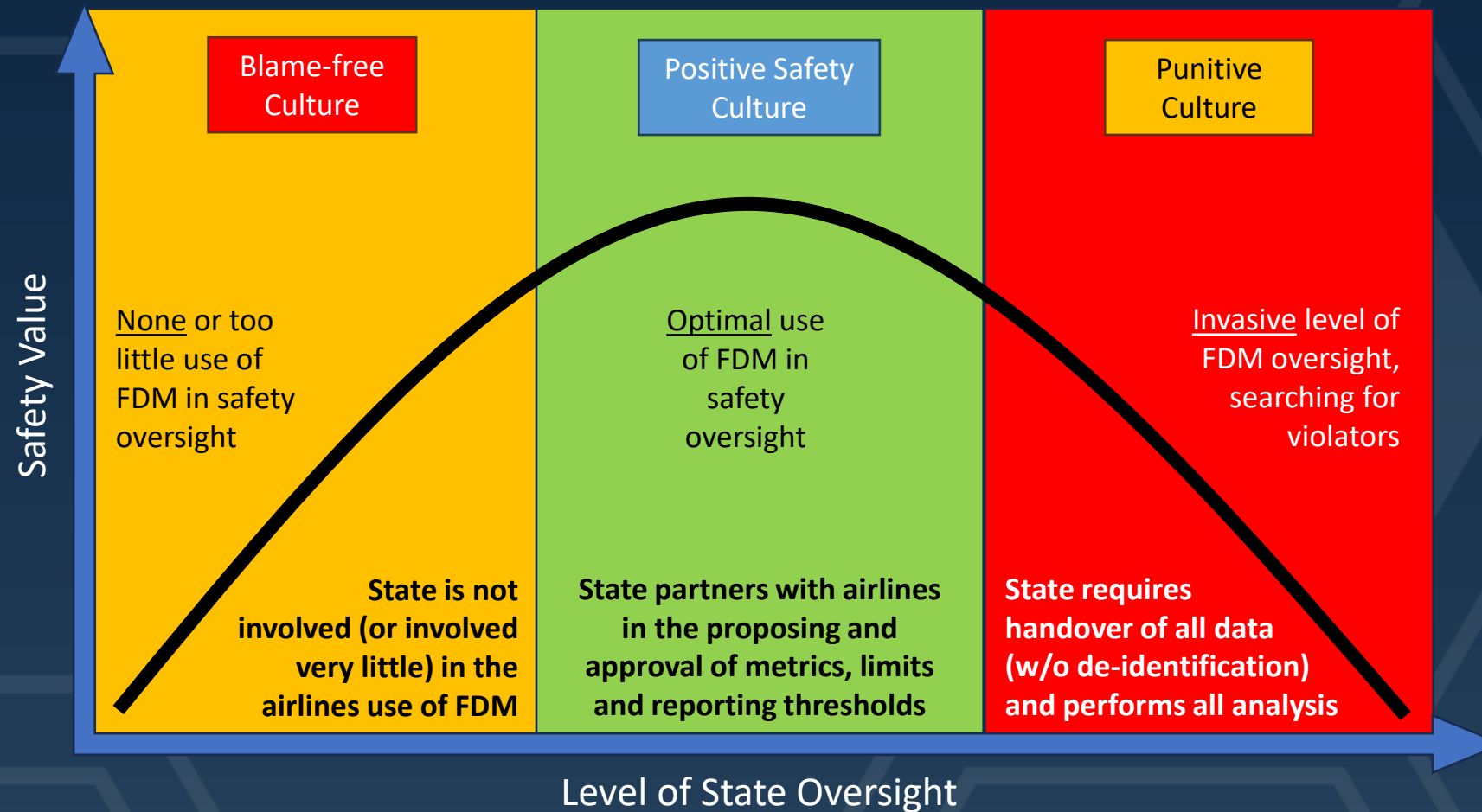


Flight Data Monitoring

Regulator and Industry Roles



Maximizing the Safety Value of FDM Oversight



Call to Action

1. Airlines and Regulators are encouraged to work collaboratively (e.g. performance-based compliance) to establish SPIs. Instead of mandating and directing all elements, focus on the desired outcome, not prescriptive methods.
2. Carefully consider whether a SPI is “simple” or “complex”. Avoid setting rigid thresholds for complex SPIs that are highly context dependent and technical.

Example of a simple SPIs: high approach speed, excessive bank angle, or pitch-rate on takeoff

Example of a complex SPI: use of *CG Load Factor* to set thresholds to define hard-landing occurrence

3. Airlines and Regulators are encouraged to carefully consider the potential outcomes of the SPIs they establish, continuously improve policies and regulations, looking for and eliminating unintended consequences.
4. Positive safety culture: When implementing FDM in safety oversight, it’s important to target a balance to foster a positive safety culture.

Questions / Feedback

