

Developing Safety Intelligence

5th Safety Summit
26th - 28th Nov 2024
Kuwait





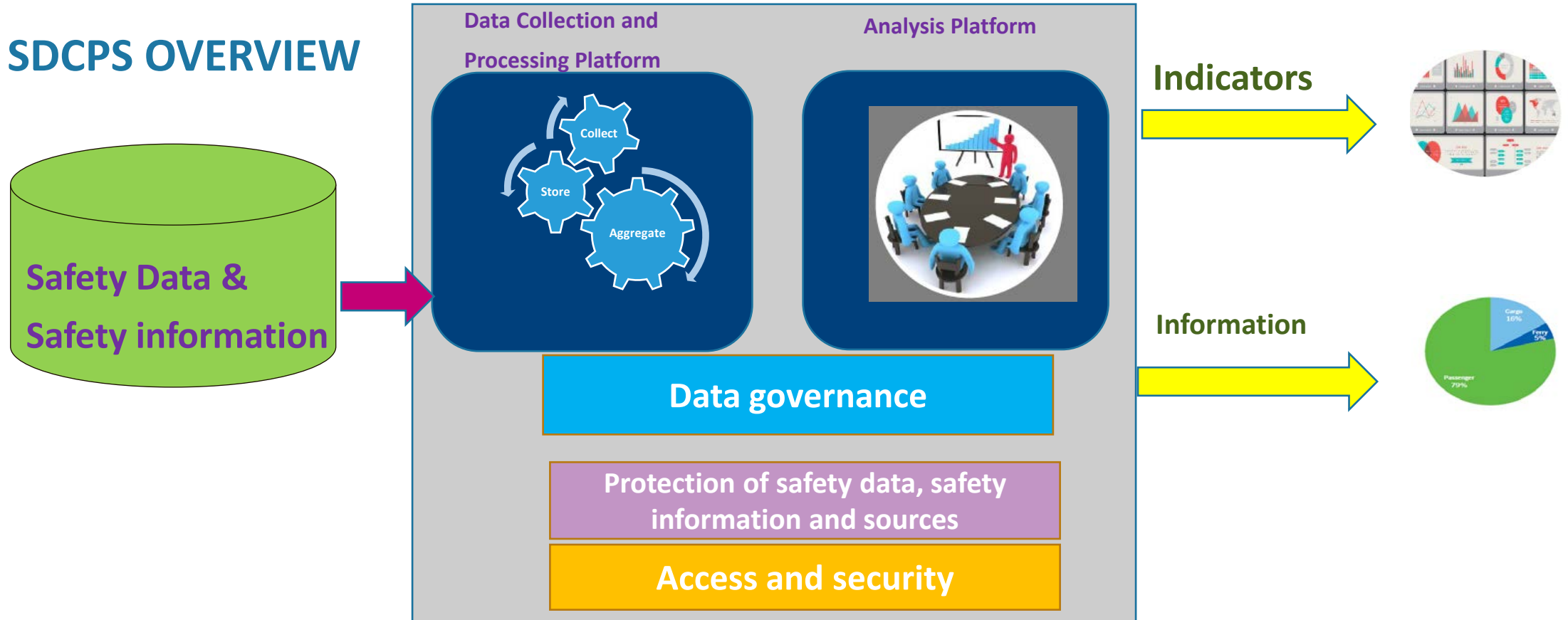
SAFETY DATA COLLECTION AND PROCESSING SYSTEMS

- **Annex 19 requires States** to establish safety data collection and processing systems (**SDCPS**) to capture, store, aggregate, and enable the analysis of safety data and safety information
- **Similarly, Chapter 8 of Annex 13** — Aircraft Accident and Incident Investigation requires States to establish and maintain an accident and incident database to facilitate the effective analysis of information on actual or potential safety deficiencies, and to determine any preventive actions required.

SAFETY INTELLIGENCE STRATEGY

- ❑ States to establish a **strategy for the development of safety intelligence** that supports the management of safety and decision-making.
- ❑ Safety intelligence supports key safety management processes, i.e. safety risk management and safety performance management
 - Contribute to the effectiveness of SSP and SMS
 - Improve the analysis of safety data and information
 - Support identification of hazards and safety issues
 - Support risk assessment for safety risk mitigation and management
 - Improve prioritization and allocation of resources
 - Monitor and manage overall safety performance

SDCPS OVERVIEW



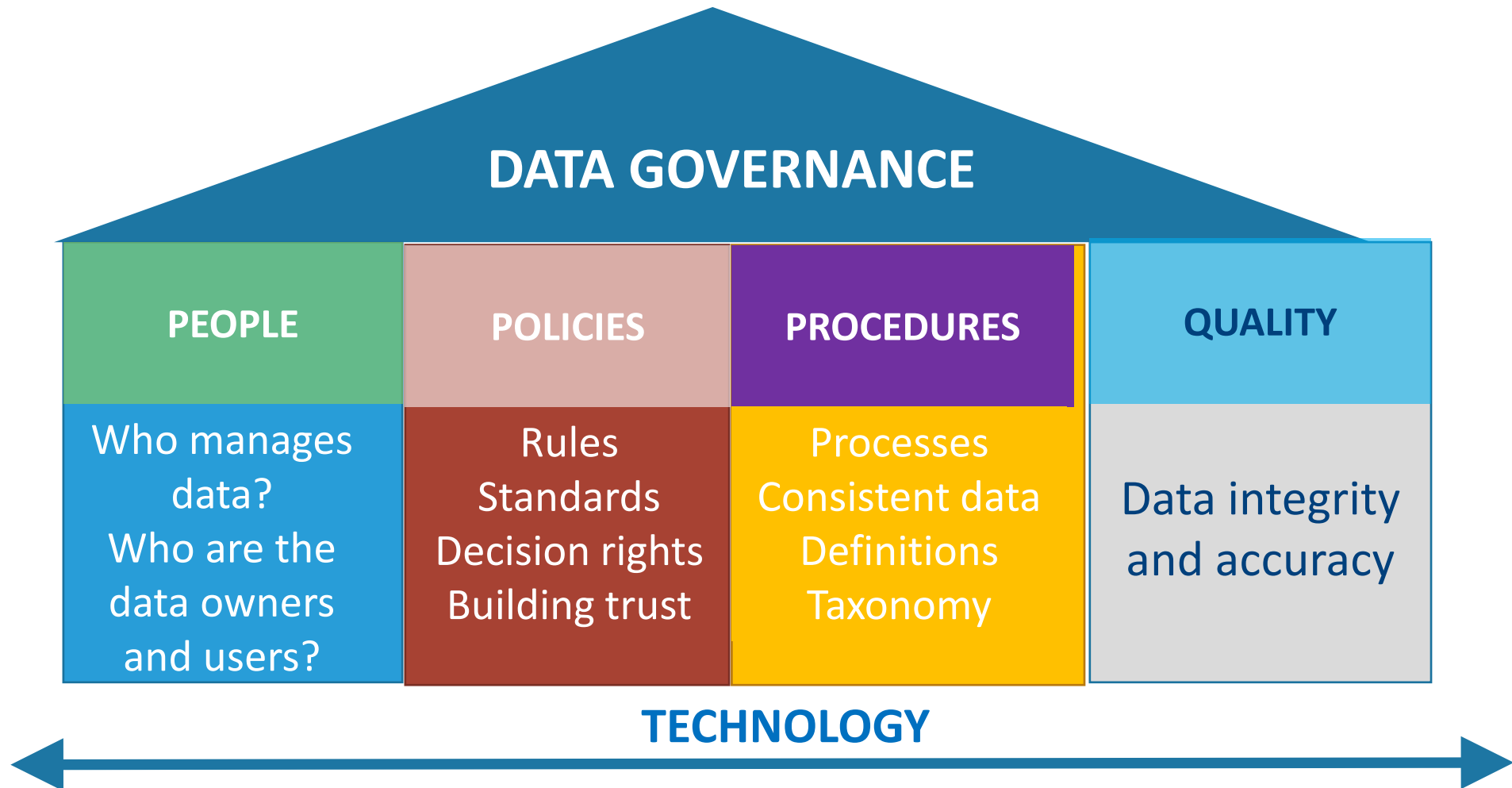
Mandatory & Voluntary reporting systems

Annex 19 requires States to establish:

- **Mandatory safety reporting** system that includes the reporting of incidents.
- **Voluntary safety reporting** system to collect safety data and safety information not captured by mandatory safety reporting systems.
 - Confidential program
 - Non-punitive program



DATA GOVERNANCE



Data Integration

- Aggregation allows data users to query, group, select, sort and perform calculations on the data to generate information.
- Build integration facilities within SDCPS to address existing databases from different sources
- An SDCPS needs aggregation functions to generate intended outputs, measurements and monitoring.
- Data integration process to make sure that all relevant information contributing to risk assessment and decision making is gathered and that all different types of information are combined, enabling the shared understanding of risks and the creation of the risk picture.



TAXONOMY

The safety database should use standardized taxonomy to facilitate safety information sharing and exchange.



Improves safety analysis



Global taxonomies/references exist for flight phases, occurrence categories, airports, etc.



Enables compatibility between different organizations and States

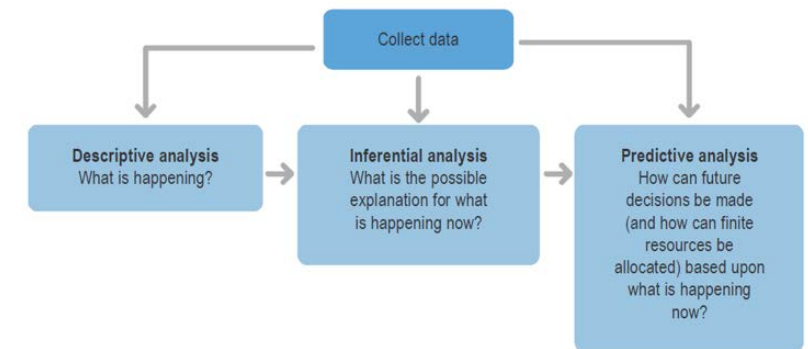
SECURITY ACCESS

- The governance scheme of an SDCPS should include an appropriate level of security through user identification and management of access rights.
- Access through user-specific ID (login and password).
- Determining who can access what data.



SAFETY ANALYSIS

- States shall establish and maintain a process to analyse the safety data and safety information from the SDCPS and associated safety databases.
- **Safety Analysis:**
 - Discovers useful information, suggest conclusions and support data-driven decision-making
 - Helps organizations to generate actionable safety
 - Relies on the simultaneous application of statistics, computing and operations research
 - Presents the safety situation in ways that enable decision makers to make data-driven safety decisions.



Safety Dashboards



Safety Data and Safety Information Protection

- States **shall accord protection** to safety data captured by, and safety information derived from, **voluntary safety reporting systems** and related sources in accordance with Appendix 3.
- States **should extend the protection** to safety data captured by, and safety information derived from, **mandatory safety reporting system** and related sources
- The **protection of** safety data, safety information and related sources is essential to **ensure their continued** availability, since the use of safety data and safety information for purposes other than maintaining or improving safety **may inhibit** the future availability of such data and information, with a significant adverse effect on safety.



Principles of Protection

States shall ensure that safety data or safety information is not used for:

- Disciplinary, civil, administrative and criminal proceedings against employers, operational personnel or organizations;
- Disclosure to the public;
- Any purposes other than maintaining or improving safety.

UNLESS A PRINCIPLE OF EXCEPTION APPLIES



Principles of Protection

States shall protect safety data, safety information and related sources by ensuring that:

- The protection is specified based on its nature;
- A formal procedure has been established;
- It will not be used in a way different from purposes for which they were collected, unless a principle of exception applies;
- When a principle of exception applies this will be carried out only under authoritative safeguards.

SAFETY INFORMATION PROTECTION (SIP)

Principles for the legal protection of safety data and safety information found in **Annex 19, Appendix 3**.

<i>Annex 19 — Safety Management</i>		<i>Table of Contents</i>
		<i>Page</i>
APPENDIX 2. Framework for a safety management system (SMS).....		APP 2-1
1.	Safety policy and objectives	APP 2-2
2.	Safety risk management.....	APP 2-3
3.	Safety assurance	APP 2-4
4.	Safety promotion	APP 2-4
APPENDIX 3. Principles for the protection of safety data, safety information and related sources		APP 3-1
1.	General principles.....	APP 3-1
2.	Principles of protection.....	APP 3-2
3.	Principles of exception	APP 3-2
4.	Public disclosure.....	APP 3-3
5.	Responsibility of the custodian of safety data and safety information	APP 3-3
6.	Protection of recorded data.....	APP 3-3

Safety information sharing and exchange



Safety can be further improved when information is shared or exchanged:

- Sharing within the State
- Sharing between States

States shall promote the establishment of safety information sharing or exchange networks among users of the aviation system, and facilitate the sharing and exchange of safety information, unless national law provides otherwise.

Thank You

