Yesterday

Safety is written in stone
- Standards were prescriptive
- Safety relies on local experience
- Policies were reactive

Today

The rise of the risk-based approach
- Standards feature risk-based approach
- SMS* & experience sharing increase safety
- Policies are proactive

Tomorrow

Data & algorithms enable a new level of safety
- Standards will be risk-based
- Safety benefits from data mining
- Policies are predictive

* Safety Management System

Long-Term Trends in Aviation Safety

A Success Story: Aviation Safety During Construction

Prior 2010
Standards and practices are not efficient. Accidents are regularly nearly avoided. Safety Risk Assessments are not systematic.

2010-2015
Individual airports become aware of these weaknesses through SMS and team together to create new practices.

2015-2020
These new practices are codified and adopted worldwide. They are being implemented at a growing number of airports.

2020-2025
Dissemination in the less developed countries. Lessons learned and experience sharing become widespread worldwide.

Toward 2040+
Airports providing real-time information to aircraft and automation increase awareness.

Airfield engineering has reached a **high maturity**. Some novelty could still be introduced (e.g., RPZ in Annex 14, EMAS for smaller aircraft).

The new safety nets (RWSL, RIPS/ROPS) are **systems** and **operational requirements**.

The step forward will be data mining and ground-board data sharing for **predictive** safety.

The average global effective implementation of ICAO's SARP with regard to aerodromes is of 62.29%. We shall **fill the safety gap** with the less developed countries.

A strong commitment of their governments and international cooperation is **urgently needed** to increase safety before air traffic demand skyrockets.

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