



EASA Member States Common Safety Performance Indicators

Introduction

EASA member states, through the Network of Analysts Safety Performance Indicator (SPI) Sub Group, have agreed a common set of SPIs. These indicators are not intended to replace states' internal measures, but to provide them with a way of understanding their own performance relative to EASA member states as a whole. The nature of the available data limits the ways in which the data can be used to draw conclusions and the principles of a sound reporting culture should be respected when using the data.

Tier 1 Safety Performance Indicators

Tier 1 SPIs have been agreed by the group as follows:

Data scope:

- Accidents, as defined by ICAO Annex 13, by state of operator.
- EASA Member States: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, The Netherlands, United Kingdom.
- Normalisation of data is calculated as a rate per (million) flights. The data is sourced from Eurocontrol's STATFOR.

SPI 1: Commercial Air Transport Large Aeroplanes

- Turboprop
- Turbofan/jet
- Piston

This SPI is defined using the Part-CAT interpretation of Commercial Air Transport. In the ECCAIRS taxonomy, this translates to the following Operation Types: passenger, cargo, ferry/positioning, air taxi, emergency medical service, off-shore and sightseeing. The SPI is shown first as an overall figure and then broken down into three propulsion categories: piston, turboprop and turbofan/jet.

SPI 2: Commercial Large Helicopters

- Helicopters above 3,175kg MTOW and incorporating both CAT, State Flights and Aerial Work.

There is currently no weight category in ECCAIRS to divide large and small helicopters, however a review of available aircraft data has shown that the divide can be made by using the turboshaft and piston propulsion types. For "Large Helicopters" use the turboshaft propulsion type. Analysts are recommended to check their data to ensure that this work-around is effective. Commercial Air Transport is defined in the same way as for SPI 1, Aerial Work and State Flights are defined using the ECCAIRS Level 1 Operation Types categories.

SPI 3: Commercial Light Helicopters

- Defined as below 3,175kg MTOW and incorporating both CAT, State Flights and Aerial Work

There is currently no weight category in ECCAIRS to divide large and small helicopters, however a review of available aircraft data has shown that the divide can be made by using the turboshaft and piston propulsion types. For “Light Helicopters” use the piston propulsion type. Analysts are recommended to check their data to ensure that this work-around is effective. Commercial Air Transport is defined in the same way as for SPI 1, Aerial Work and State Flights are defined using the ECCAIRS Level 1 Operation Types categories.

SPI 4: Other Commercial Fixed Wing

Covering revenue operations and aeroplanes not included in SPI 1, therefore aeroplanes below 5,700 kg MTOM, Aerial work flights involving all aircraft types, State flights involving all aircraft types.

SPI 5: Private Flying

- Business flights
- Recreational flying

This section is defined using the ECCAIRS Level 1 Operation Type, “General Aviation”. Recreational Flying includes training/ instructional flights and the ECCAIRS Level 2 category “Other” in the General Aviation section. Although not part of this indicator, states may wish to differentiate between small flying clubs and larger scale air training organisations.

Tier 2 Safety Performance Indicators

Tier 2 SPIs are based on occurrence types instead of operation types. Because tier 1 monitors accidents and by operation type, tier 2 may be subdivided to monitor accidents and incidents by occurrence type. The indicators are mainly designed using commercial air transport aeroplane risks, however it is the view of the subgroup that the indicators may also be used on all operation types, to see which are most exposed to each risk.

The scope of the tier 2 indicators is as follows:

- Accidents, serious incidents and incidents, as defined by ICAO Annex 13, by state of operator.
- EASA Member States: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, The Netherlands, United Kingdom.
- Normalisation of data is calculated as a rate per (million) flights. The data is sourced from Eurocontrol’s STATFOR.

A shortlist of occurrence types was taken using the CICTT taxonomy and prioritised using the European Aviation Safety Plan (EASp). In the EASp, Ground Collision covers both runway and taxiway, therefore both GCOL and RI-VAP are used. The difficulty in separating causal factors for

GCOL and RAMP collisions means that RAMP has also been included. In addition to the EASp categories, the SPI subgroup has selected System-Component Failure (powerplant and non-powerplant) as an additional aspect to monitor.

At tier 2, in addition to looking at accident types, the precursors should be examined. This expands the available data to incidents, increasing the number of occurrences and therefore enabling more meaningful analysis. Rather than try to monitor every single type of incident that could be related to an accident type, the proposed SPIs have been selected as key indicators of the accident type, based on their more reliable definitions, reporting and coding.

In order to maximise the benefit of aligning the SPIs across Europe, the measures proposed by the EAFDM group were also considered. Wherever possible, the occurrence and FDM indicators should overlap, however the two sources of data are different in their nature, therefore some different indicators were also proposed for the occurrence data and some of the FDM indicators were omitted.

The proposed tier 2 indicators are as follows:

Category	Indicators
LOC-I: Loss of control - inflight	<ul style="list-style-type: none"> • Stick shaker • Increased roll attitude or rate • High pitch angle • Overspeed (vertical or configuration) • Failure of primary flight instruments
CFIT: Controlled flight into or toward terrain	<ul style="list-style-type: none"> • EGPWS hard warnings • Descent below MSA • Navigation errors
RE: Runway excursion	<ul style="list-style-type: none"> • Abnormal runway contact • Loss of control on ground • Long or fast landings • Occurrences with crosswind conditions • High speed rejected take-offs • ATA32 related occurrences
MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions	<ul style="list-style-type: none"> • Losses of separation • Inadequate separation • Level Busts • Airspace Infringement
RI-VAP: Runway incursion - vehicle, aircraft or person	<ul style="list-style-type: none"> • Runway Incursions
GCOL: Ground Collision and RAMP: Ground Handling	<ul style="list-style-type: none"> • Taxiway incursions • Avoiding manoeuvres during taxi • Aircraft collisions and collisions with aircraft
System Component Failure	<ul style="list-style-type: none"> • Engine failure • Flight control problems • Helicopter tail rotor and main rotor blade failures or malfunctions

These indicators will be monitored by the NoA SPI subgroup over the course of 2014, to determine their accuracy and usefulness.