



| ICAO

SKY TALKS

WORKSHOPS

Data-driven Prioritization

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Data-driven Decision Making

- Effective and informed decisions are based on the analysis of data and information.
- Using valid and relevant data helps place the “problem” in the right context.



Data-driven Decision Making

- It allows us to identify risks and opportunities.
- Relying on data also helps us determine a best-fit solution.



Benefits of Data-driven Decision Making

Decision making based on the right data enables managers to focus on strategy and policy issues such as:

- changes in statutory and regulatory requirements, emerging technologies or resources which may affect the organization;
- risks that need to be identified, managed or minimized;
- various priorities that need to be established and managed, e.g. strategic, operational, resources;

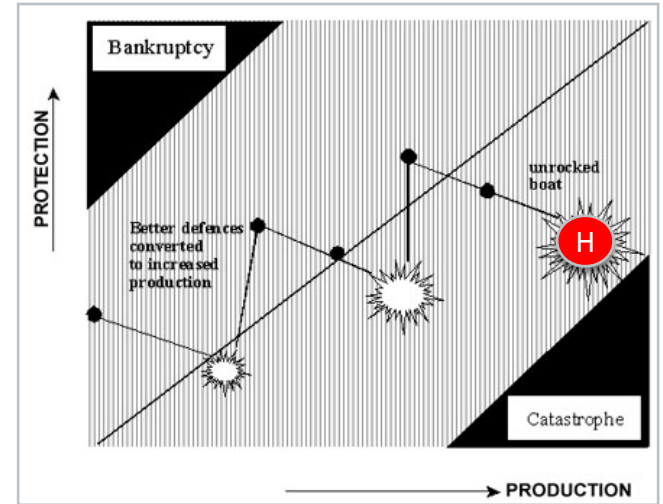


Benefits of Data-driven Decision Making

- the evolving demands on the organization by its stakeholders;
- the impact of emerging technologies on the organization; and
- new competencies that may be needed.

ICAO's Reason Model for Prioritization

- **Protection = Implementation of SARPs**
Metric: ICAO USOAP effective implementation (EI) score
- **Production = Flights**
Metric: Number of scheduled commercial international departures



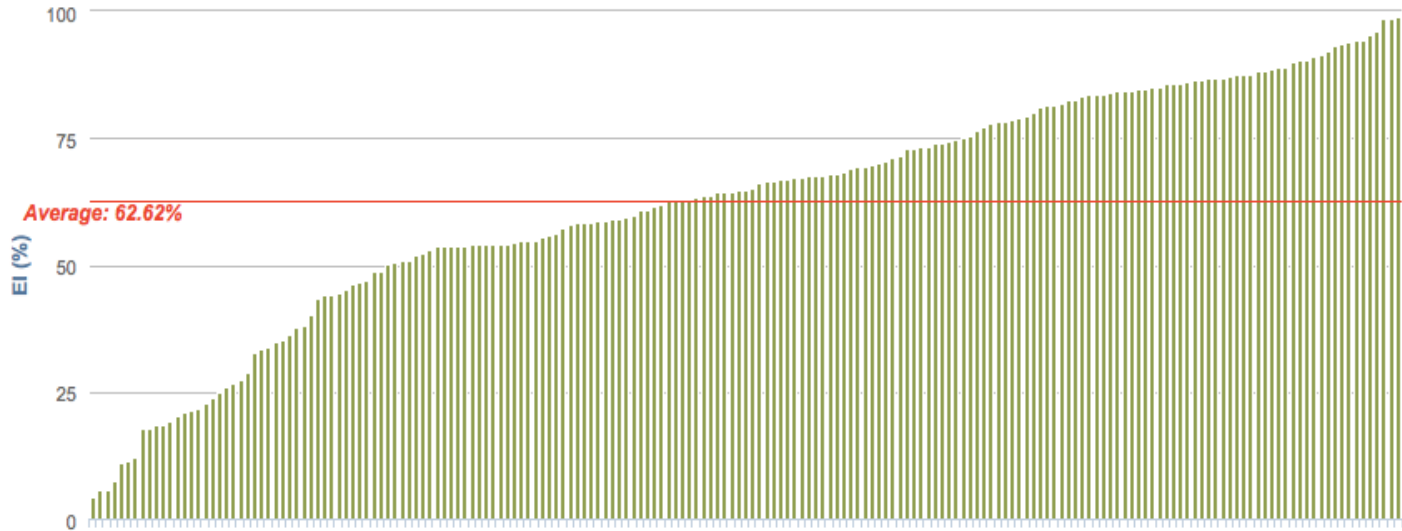
James Reason: Managing the Risks of Organizational Accidents, 1997



Protection Only

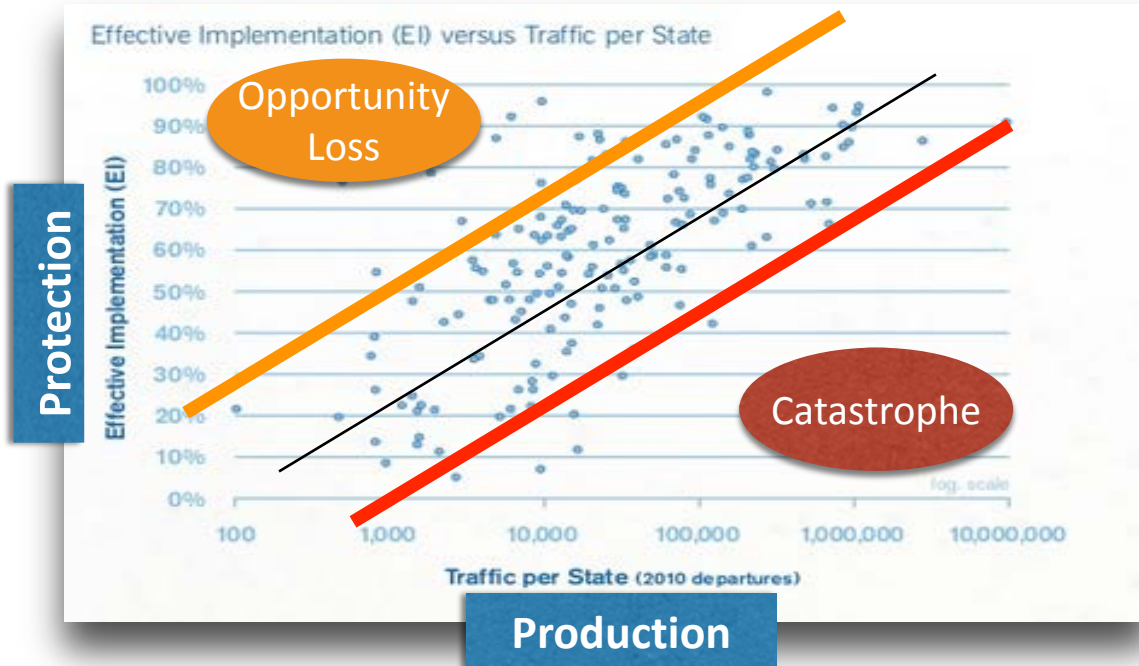
Overall EI by State
World

Protection





USOAP EI vs Traffic





iSTARS

- A web-based system on the ICAO Secure Portal.
- Quick and convenient interface to a collection of safety and efficiency datasets and web applications.
- Helps data-driven prioritization and decision-making regarding **safety, efficiency and risk analyses.**

Latest News

- 20 JUL** REVISED: Upcoming Maintenance (29-30 July) [Read +](#)
- 19 JAN** Register your Runway Safety Team [Read +](#)
- 11 DEC** New APPs and Discussion Forum [Read +](#)

Welcome to iSTARS 3.0

You and 22 other users are currently online

Hello, Manosh! Welcome to iSTARS. You have installed 17 apps.

View the Catalogue for the full list of all iSTARS apps, which allow provide granular user access and faster response as they are connected to our cloud based Safety Intelligence Engine (SIE).

Keep in mind that some iSTARS apps are in beta (pre-release), so please contact us if you experience any problems.

View the Catalogue...

You are on a free account. Enjoy.

Most Installed Apps

Total Apps Installed: 16286 (+12 per day)

- ICAO DOCs (1179)
- USOAP Charts (955)
- ADREP et al. (1014)

[Go to my Apps >](#)



Safety Margins App on iSTARS

- Tool for risk-based prioritization
- Target EI score calculated based on a global linear regression of traffic versus EI



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Safety Margins

Risk-based prioritization for operations, air navigation and support functions

The below application allows to perform a risk-based prioritization of operational, air navigation and support related USOAP areas.

In each of the 3 functional areas, a State is given a target effective implementation score which is calculated based on a global linear regression of traffic versus effective implementation of all ICAO Member States. A State with a positive safety margin would be considered to have sufficient regulatory controls in place to cover its existing traffic volume. A State with a negative safety margin would be considered to have an insufficient oversight system taking into consideration its traffic volume.

The operational safety margins are calculated taking into consideration only flights performed by carriers from the State, whereas the other margins are calculated using all departures from the State.

Safety margins are best used in conjunction with the Solution Center which provides solutions for the various USOAP areas.

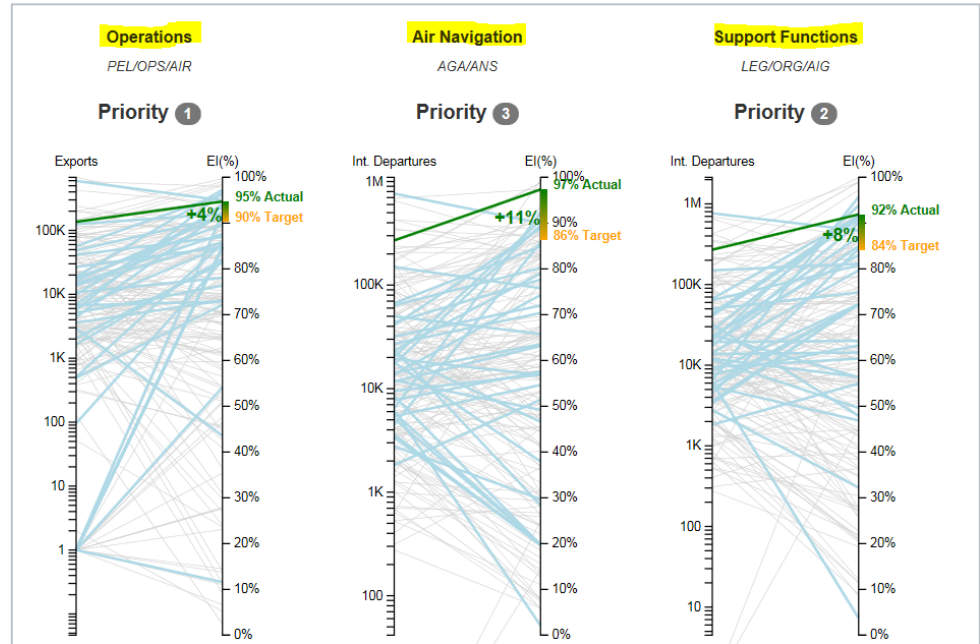
Select a Region or Group

Show States with Margin

Show State Names

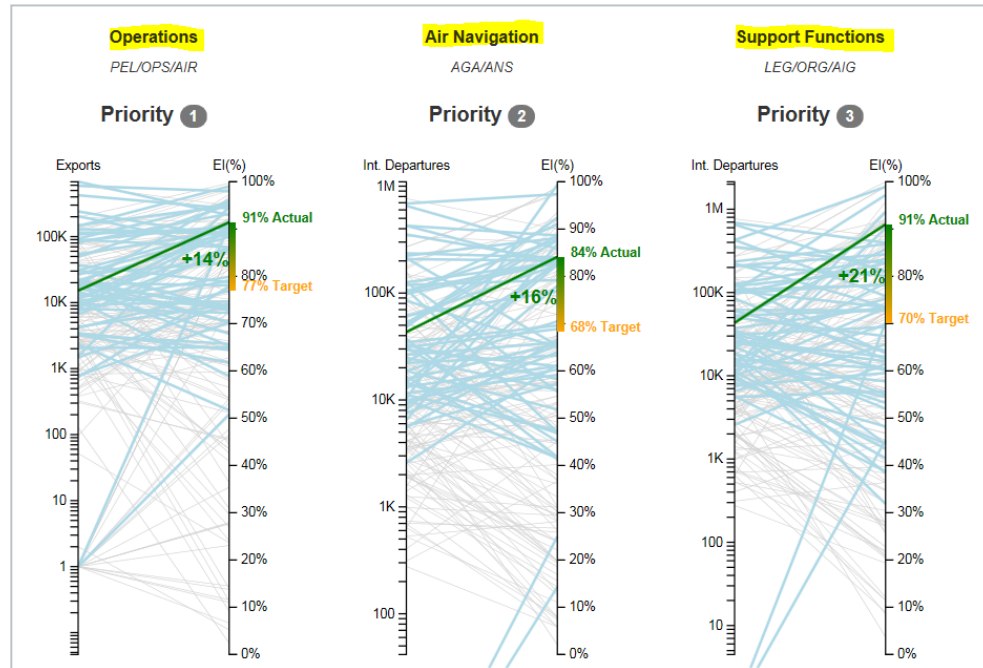
State A: Area-Specific Priorities

- These graphs show the EI vs traffic for “State A” in 3 areas: operations, air navigation and support functions.
- In all areas, the State has healthy **safety margins**. This means that traffic can increase without a negative impact on safety.



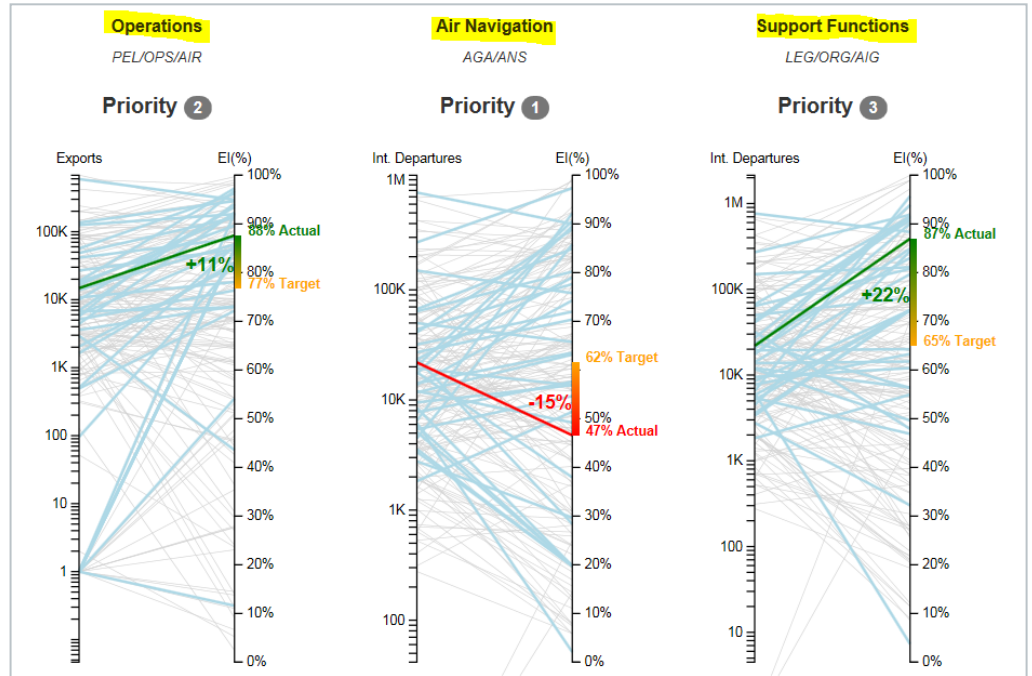
State B: Area-Specific Priorities

- In this example, “State B” has even larger safety margins than “State A”.
- This indicates loss of opportunity.



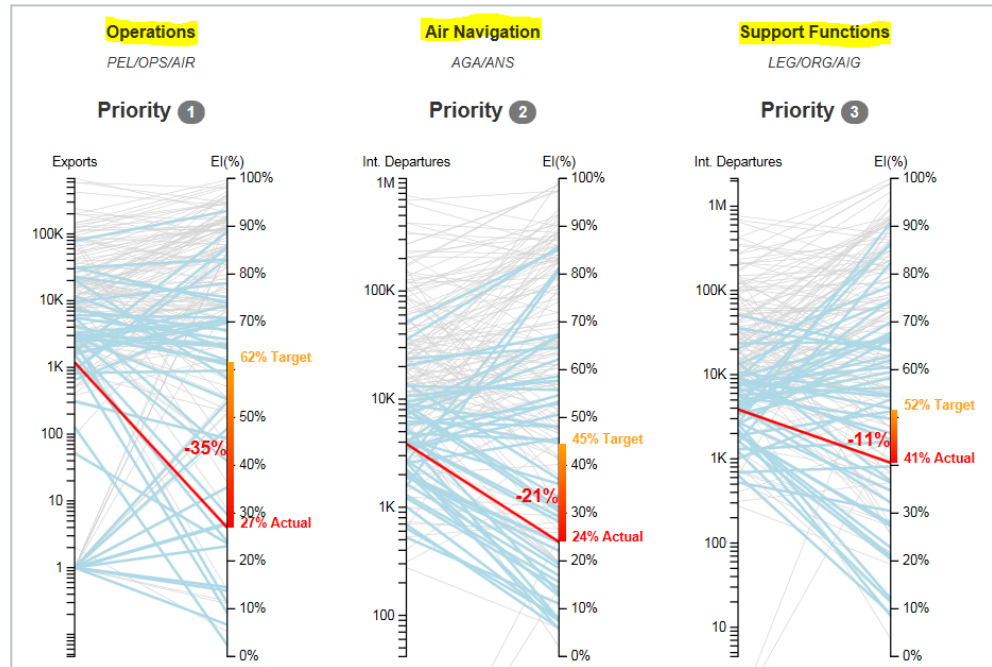
State C: Area-Specific Priorities

- In “State C”, the EI in air navigation is below where it should be at this level of traffic.
- This may indicate a need for assistance in air navigation in this State.



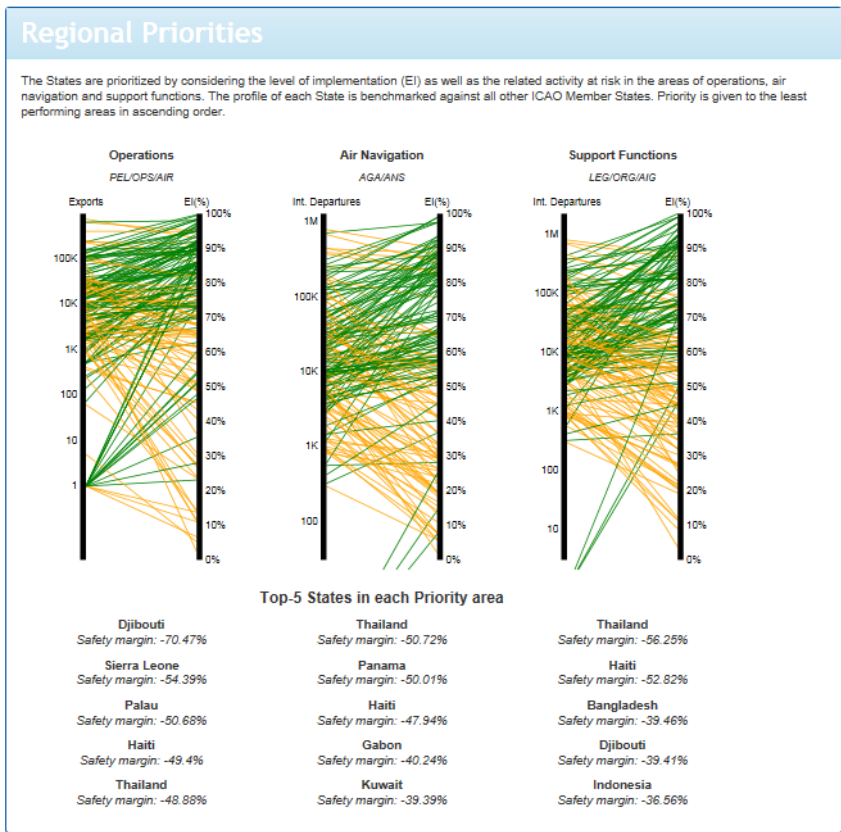
State D: Area-Specific Priorities

- “State D” has large gaps in its safety margins in all 3 areas.
- This flags the State as a potential candidate for assistance; particularly if the State meets other criteria, e.g. open significant safety concern (SSC).



Regional Priorities

- Comparison of the safety margins of States within a region.
- Available in the “Regional Safety Briefings” app on iSTARS.





Solution Center App on iSTARS

- Report on protocol questions (PQs)
- A simple guide for prioritizing the resolution of USOAP findings



Solution Center
Report on Protocol Questions Findings and Guidance for Resolutions

Beta Version: The Solution Center continues to evolve so consider this version a preview or beta version.

Create and view Protocol Question Findings, priorities, and related guidance by State. An example using Canada is shown below.

Click [here](#) to view the data sources and update frequency for this app.

1. Select the State from the drop down menu.

Afghanistan, Kiribati, Iraq and Somalia are not available at this time.

2. Click on the language icons to have iSTARS send the documents to your registered email address.

Please email istars@icao.int with suggestions for additional information to include in the Solution Center.



Solution Center App on iSTARS

Solutions for Canada

Departures (2015)
1068504

Overall EI
95.28%

Flag-Carrier Flights (2015)
1036770

| ALL | LEG | ORG | AIG | PEL | OPS | AIR | ANS | AGA |
|---------------|--------|-----|--------|-----|-----|--------|-----|-----|
| CE-1 | 1 | | | | | | | |
| CE-2 | 1 | | | 2 | 2 | | | |
| CE-3 | | 1 | 1 | | | | | |
| CE-4 | | | | | 1 | 1 | | |
| CE-5 | | | 3 | | 1 | 3 | 1 | |
| CE-6 | | | | | 9 | 2 | 6 | 2 |
| CE-7 | | | | | | | 1 | |
| CE-8 | | | 4 | | | | | |
| Safety Margin | +5.76% | | +9.51% | | | +9.33% | | |



Using Data for Prioritization and Decision-making

- iSTARS

<http://www.icao.int/safety/iStars/>

- Various safety briefings



ICAO

SAFETY

Using Data for Prioritization and Decision-making

- ICAO workshops and training conducted for States
- ICAO computer-based training (under development) – will be launched in 2017



| ICAO

SKY TALKS

WORKSHOPS

THANK YOU

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