



State Safety Programme Ireland

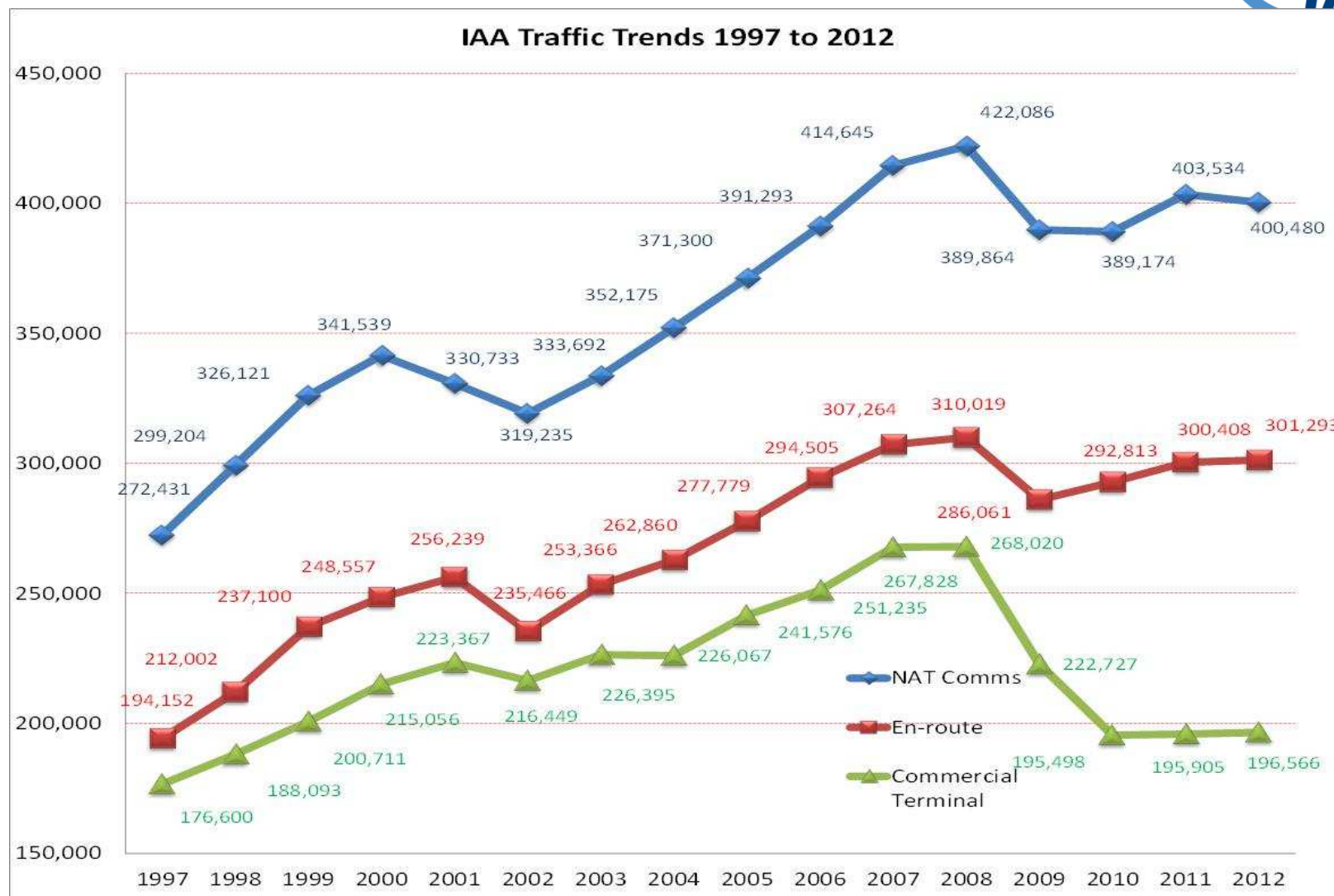
Presented by: Frank Tone

Chief Aviation Safety Analysis

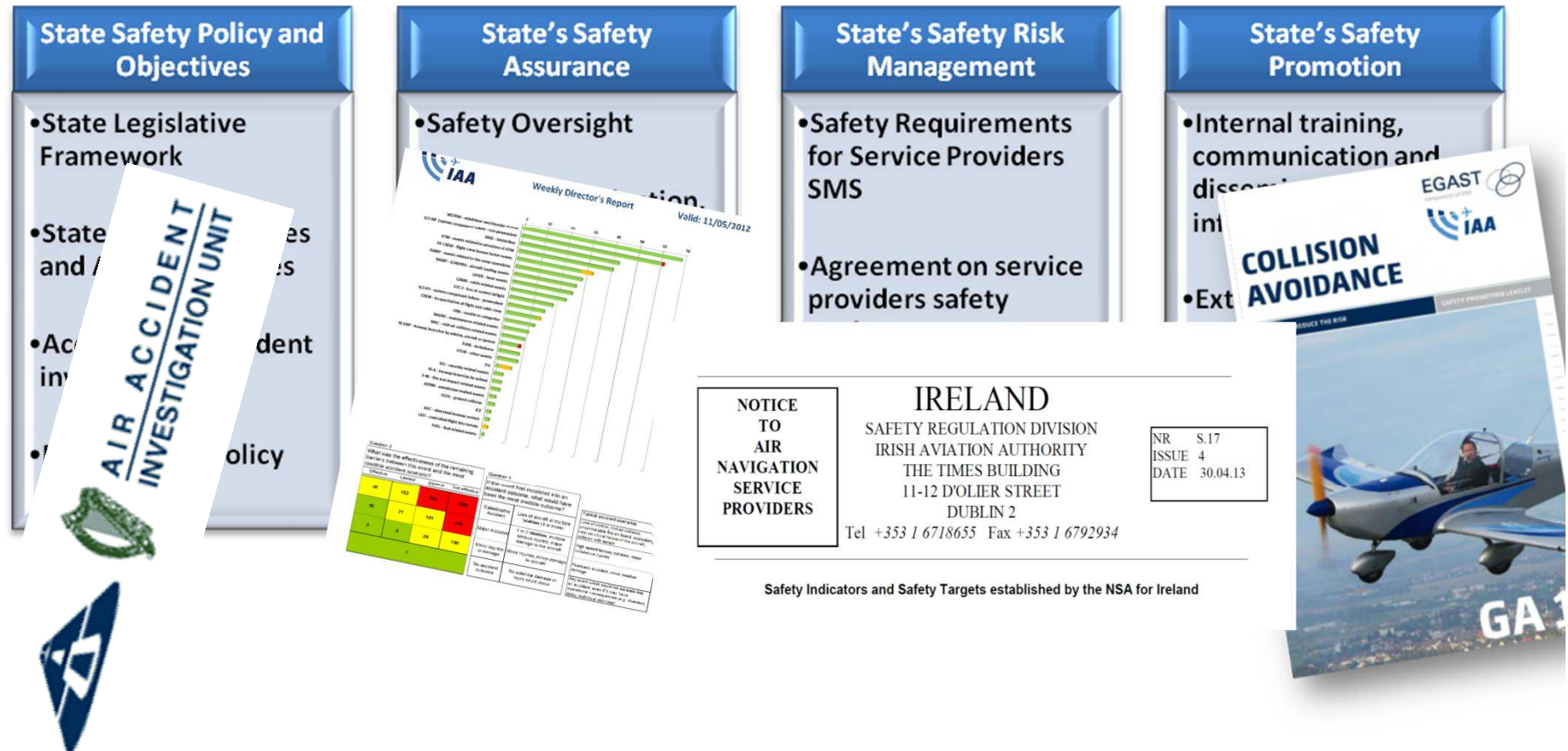
Level of Activity in the State:



- **1225 registered aircraft**
 - 771 large aircraft (~40% leased)
 - 45 helicopters
- **13 Air Operator Certificates, 40 Aerial Work Permissions**
- **45 ATO's (TRTO, RTF), 9 FSTD**
- **28 licensed aerodromes in Ireland**
 - 3 State, 6 Regional, 6 Public and 13 Private
- **Licences**
 - 7501 Pilots, 1351 Aircraft Maintenance Engineers, 361 Air Traffic Controllers, 66 Radio Officers.
- **27 Part 145 AMO**
- **8 Part 147 AMTO**
- **27 Part MG , 6 Part MF CAMO**
- **1 Aeromedical Centre.**
- **7 Part 21 DO and 2 Part 21 PO (parts only)**
- **General Aviation**
 - 3 Parachute Centres, General and Sport Aviation, Balloons, Gliding, Autogyros etc.



State Safety Programme Structure



SSP Status



Status of IAA State Safety Plan

Item	Objective	Status							Comment	Action to be taken		
		ANSD	FOD	RPFL	ASD	AGA	AAU	DOT				
Safety Policies and Objectives												
Safety Legislation Framework	1.01	Inland promulgates a national safety legislative framework and specific regulations that define the management of safety in the State?								Legislative framework and specific regulations are in place. This has been fully reviewed during our preparation for the ICAO USQAP audit in 2010 and shall be maintained to date in accordance with IAA SRD procedure SRD.011. ASA awaiting EU regulation to implement latest ICAO annex GADPs.	Annex 18 to be assigned	
	1.02	Inland defines the specific activities related to the management of safety in the State that each Irish aviation organization must participate?								Responsibilities for each annex are clearly defined. Issue with oversight of SAR for DOT. Some greater clarity on occurrence reporting is necessary - mandatory/voluntary, etc.	Close ICAO finding on oversight of SAR	
	1.03	Inland establishes requirements, responsibilities and accountability regarding the management of safety in Ireland by its aviation organizations?								Detailed in legislative framework for each approved organization	Annex 18 to be assigned	
	1.04	The legislative framework and specific regulations are periodically reviewed to ensure they remain relevant and appropriate to Ireland?								The Department of Transport and the IAA have accepted an agreed procedure SRD.112, however, we are already falling behind on this procedure. For example two rounds of amendments to ICAO annexes and we have not updated CCs. Also new regulations are not being entered in Sharepoint. A lot of this work is now done through the EASA MS and the four year rulemaking programme.	IAA Procedure SRD.112 needs amendment to ensure it is implemented and that it includes review of all documents issued by IAA including ADs, AIs, AMs, AOCs, etc.	
	1.05	The legislative framework and specific regulations are periodically reviewed to ensure that they are up-to-date with respect to international standards								The safety policy for Ireland is contained in IAA policy document SRD.004, however, provision of the policy has not been completed. Policy is included in the SSP General Advisory Memorandum.	Safety Policy needs to be published in a more prominent manner to all stakeholders, possible as part of a mixed Strategy document.	
	1.06	Inland establishes a safety policy								SRD.004 is signed by IAA and Director SRD.004, however, Director SRD expressed concern about its contents during SSP training. Need to confirm he is still happy to be the accountable manager and agrees with the safety policy statement.	Confirm Director SRD commitment to the policy statement by resubmitting it to him as part of the periodic review.	
	1.07	Inland's safety policy is signed by the accountable managers for aviation safety in Ireland								To be reviewed once a year. Need to determine if we need to establish an industry consultative group to help establish the policy.	Submit the policy to Kevin Humphreys to ensure he is happy it still applies.	
	1.08	Inland's safety policy is reviewed periodically								Yet to be published to DOT, AAU etc. Plan to include it in initial release of State Safety Plan 2011 so that public are also aware.	Safety Policy needs to be published externally, possible as part of the State Safety Plan document to be updated annually.	
	1.09	Inland's safety policy is communicated with visible endorsement to all employees in all Irish aviation organizations with the intent that they are made aware of their individual safety responsibilities								Published internally SRD.004 and externally GADP.02.10.	Need review and update	
	1.10	Inland develops documentation that describes the SSP, including the interrelationship between its components and elements								Record system documented in IAA procedures. Will be subject to further enhancement with the completion of EMRIC OAS and other systems.	Implement EMRIC	
	1.11	Inland has a record system that ensures the generation and retention of all records necessary to document and support the SSP activities								Record system documented in IAA procedure. Will be subject to further enhancement with the completion of EMRIC OAS and other systems.	Implement EMRIC	
	1.12	The record system provides the control processes necessary to ensure appropriate identification, legibility, storage, protection, archiving, retrieval, retention time, and disposition of records										
	Safety responsibilities and accountability		Objective	ANSD	FOD	RPFL	ASD	AGA	AAU	DOT	Comment	Action to be taken
2.01		Inland has identified and defined the State requirements, responsibilities and accountability regarding the establishment and maintenance of the SSP									Implicit in the assignment of ICAO annexes. Publication of Annex 19 will require explicit assignment. In interim we can investigate letter with DOT, AAU and IAA which outlines the requirements, responsibilities and accountability.	Change legislation to assign annex 18 to IAA.
2.02		The requirements include directive and activities to plan, organize, develop, control and continuously improve the SSP in a manner that meets inland's safety objective									Most requirements already defined in SRD procedures, however, will require amendment to reflect annex 19. Publication of a State Safety Plan also necessary.	Publish State Safety Plan 2011-2013
2.03		The requirements include a clear statement about the provision of the necessary resources for the implementation and maintenance of the SSP									Already in the IAA Act, however, will need to be revised to reflect Annex 19 requirements.	Change legislation to assign annex 18 to IAA.
2.04		The State has identified and appointed an Accountable Executive as the qualified person having direct responsibility for the implementation, operation and supervision of the SSP									Director SRD is assigned this role	
2.05		The SSP Accountable Executive fulfils the required job functions and responsibilities										
2.06	The SSP Accountable Executive coordinates, as appropriate, the activities of the different State aviation organizations under the SSP									Elise Brogan, DOT and Kevin Humphreys organizing monthly co-ordination meeting with DOT and AAU.	Director SRD to organize coordination meeting	



SSP Policy and Objectives

Implementation

- State Legislative Framework in place and subject to on-going review
- State organisations and responsibilities defined
- SSP First Published in 2010 (Signposting document)
 - Update planned for end 2013 in line with Annex 19
- IAA State Safety Plan published annually
 - Latest version 2013-2016 publication imminent.

Civil Aviation Organisation

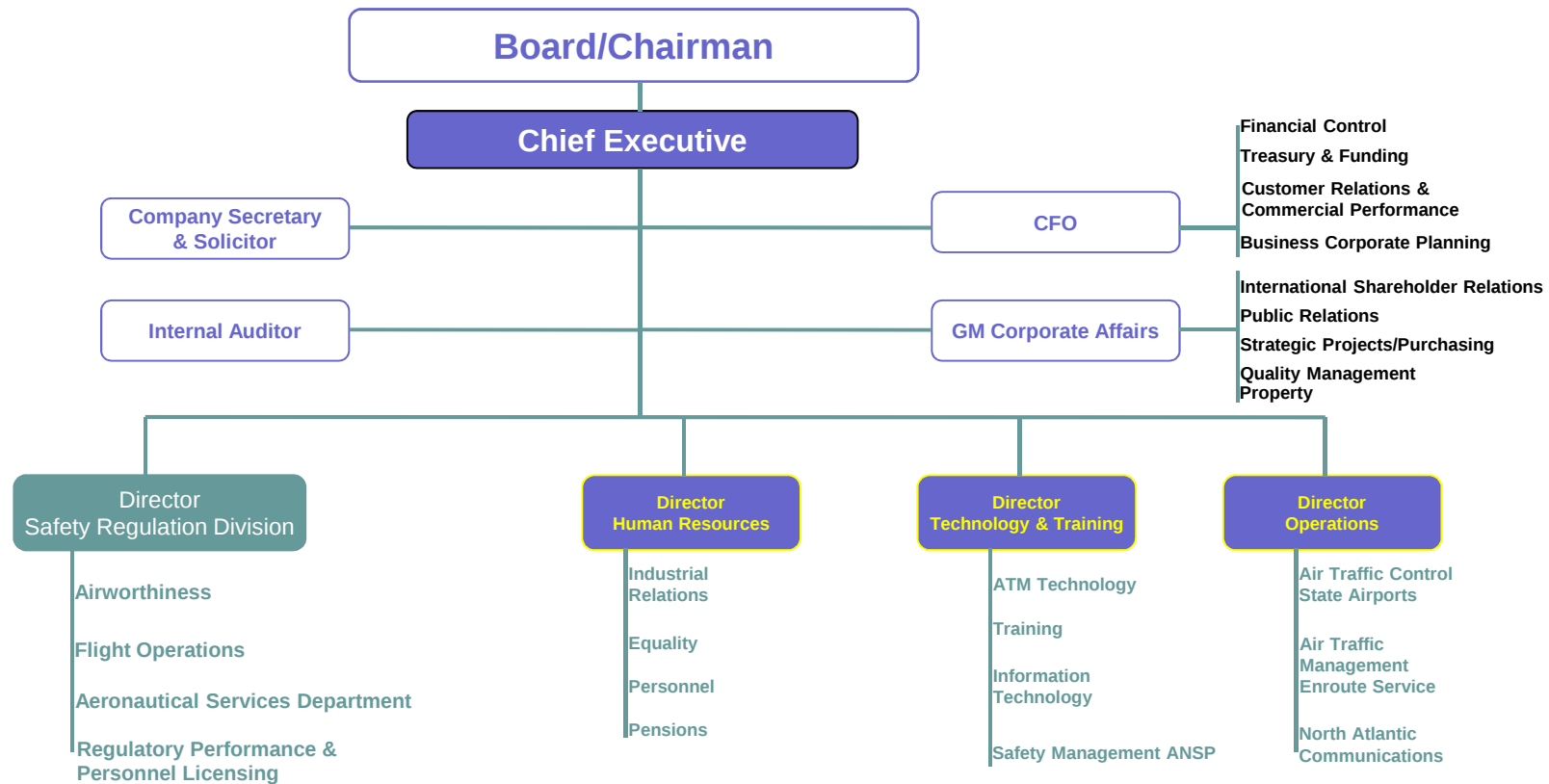


Responsibilities

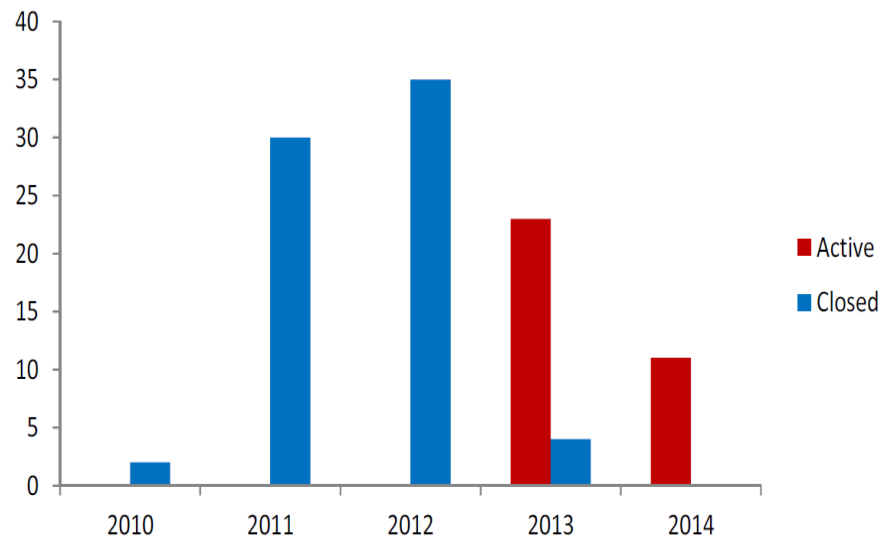
- Department of Transport, Tourism and Sport (DTTAS) is the formal counterpart for ICAO
- DTTAS is responsible for Irish aviation policies and strategy, Chicago Convention and for Annexes 9, 12, 13, 17
 - Except for A12 RCCs and RCSCs – IAA
- Legal responsibility for remaining Annexes has been assigned to the Irish Aviation Authority – Annex 19 pending
- Department of Environment/Met Éireann has responsibility for provision of Annex 3 services
- IAA responsible authority for National Civil Aviation Security Programme (EU Reg 300/2008)



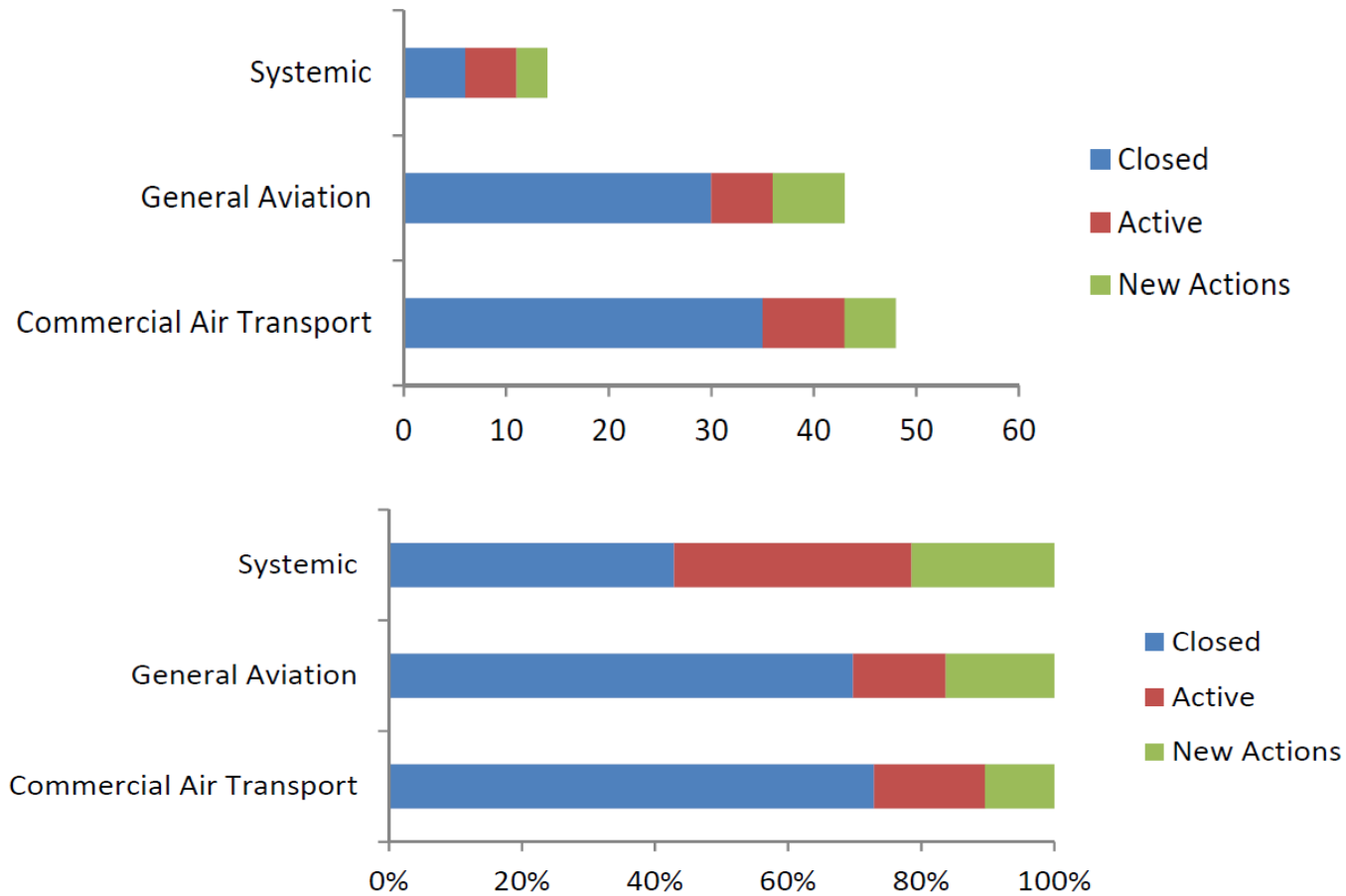
Irish Aviation Authority



IAA State Safety Plan 2013-2016

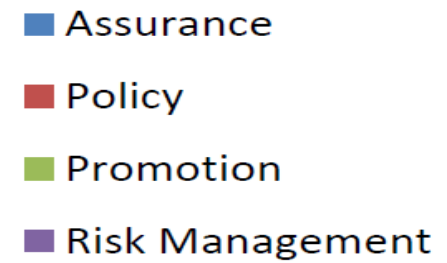
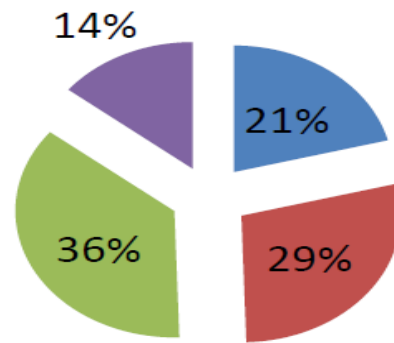


Summary of Action Items

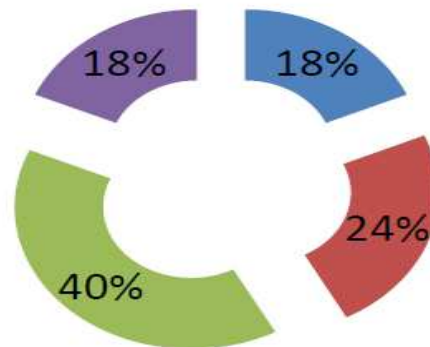


Breakdown of Action Items

All Actions



Open Actions



Origin of Issues in IAA SSp

- Key Risks in Ireland based Safety Analysis:
 - Accident/Serious Incidents
 - MOR Reports
 - Other (VOR, Risk profiles, safety events etc)
 - Examples – Bird Strikes, Ground Handling, HF, ATM
- Key Risks identified Globally
 - EASp items for MS
 - Accident/Incident data from ICAO and other states accident investigation units or other.

Key Challenges

- Maintaining ICAO compliance within EU regulatory framework and updating CMA tools
- Resources for increasing level of oversight audits of the authority
 - ICAO CMA
 - EASA Standardisation
 - EASA Accreditation
 - EC/Eurocontrol
 - DTTAS



Key Challenges

- Enforcement Policy
 - Legal uncertainty in publishing policy on “Just Culture”
 - Aviation safety vs judicial system
 - Definition of “gross negligence”
 - EC Reg on occurrence reporting





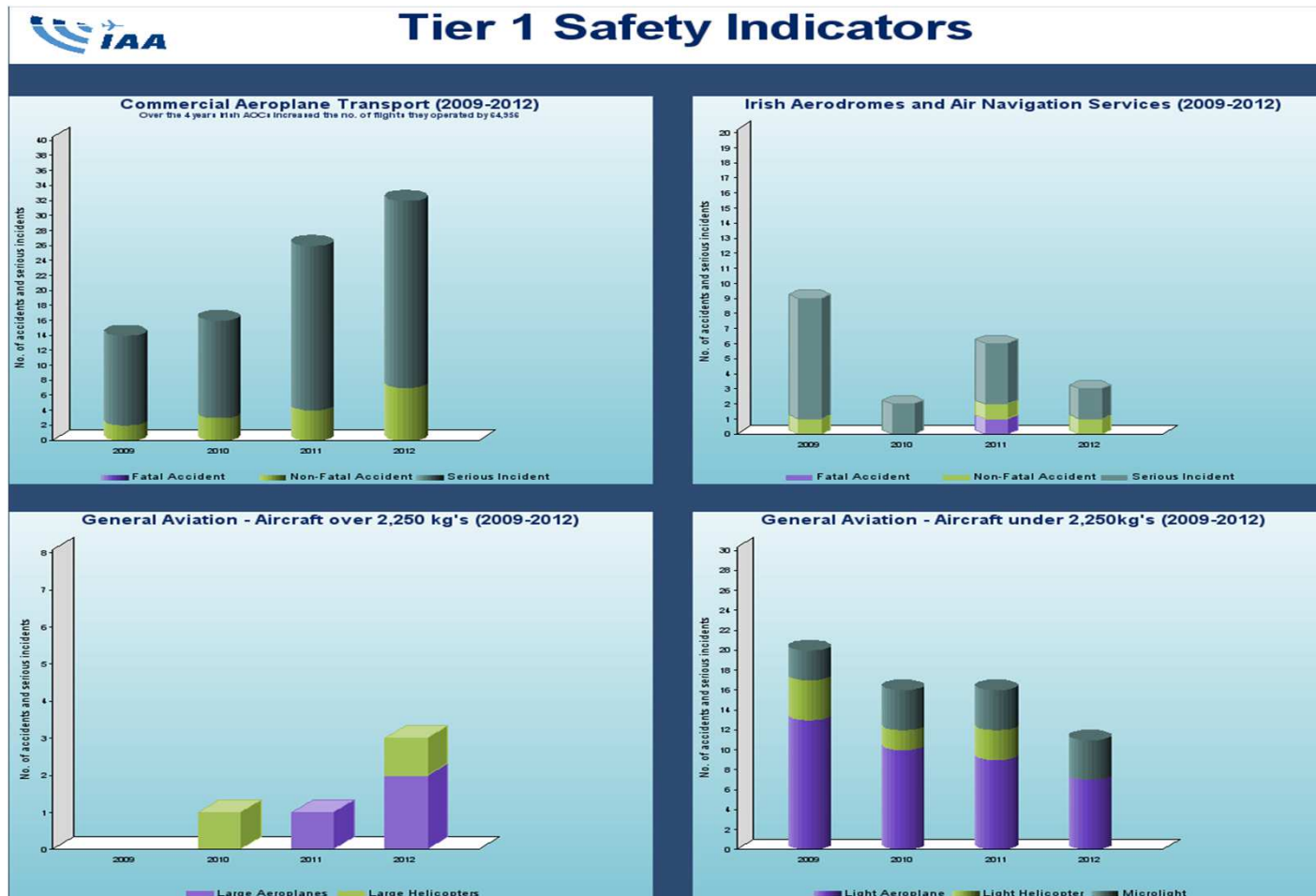
SSP Safety Risk Management

Implementation

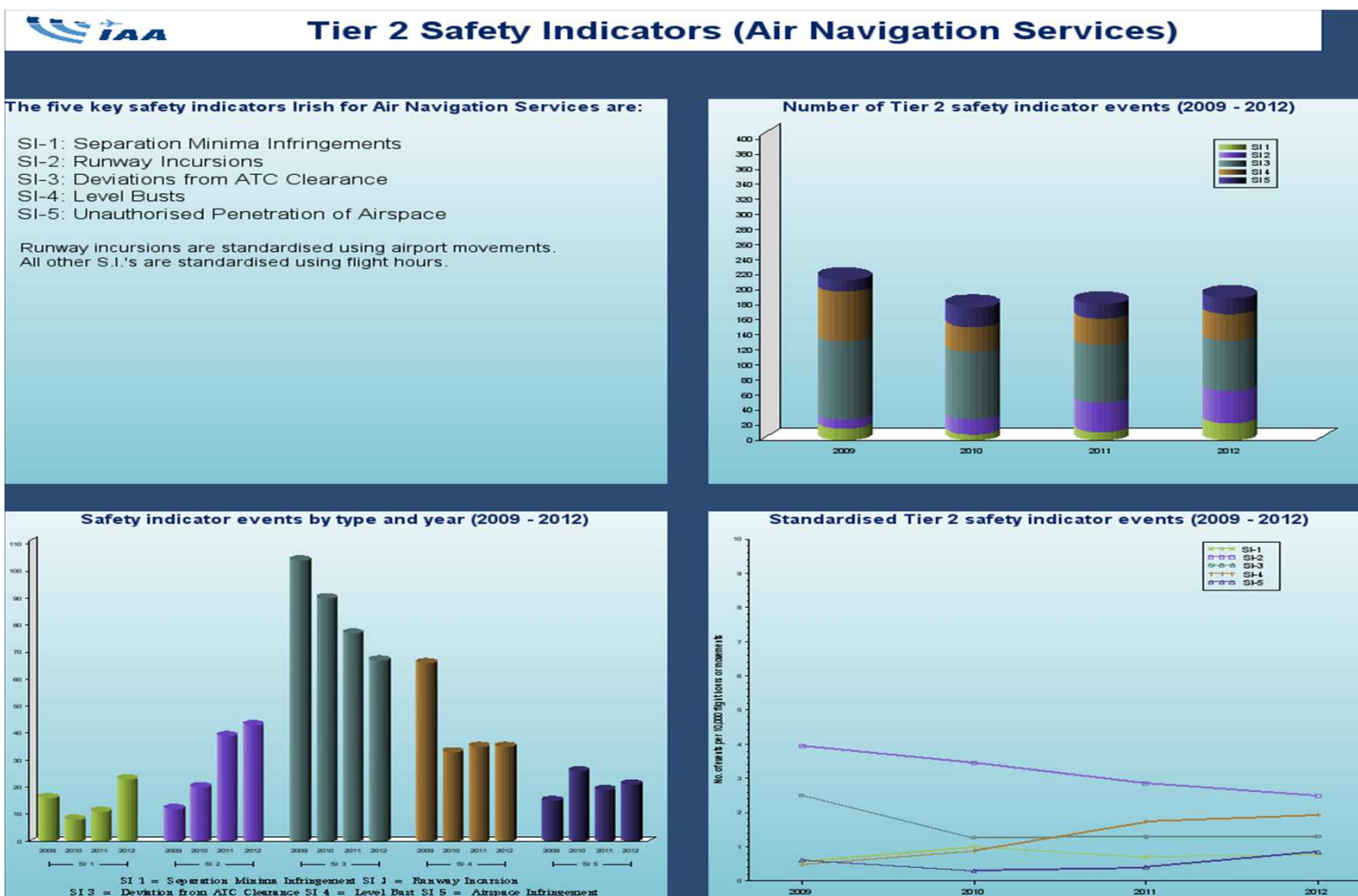
- Specific operating requirements for SMS and Occurrence Reporting published in the state – superseded by EC Regulations as they are published
- Mature SMS systems in Irish ANSP's, Aerodromes and Air Operators – Less mature in other areas
- Safety Targets for Key Safety Performance Indicators published for ANS only
- Training on SMS principles provided for all inspectorate staff
- Organisation risk profiling for AOC holders



Examples



Examples



Examples

Organisation Risk Profile	
Fleet Complexity:	Financial Performance:
Older Fleet, Mixed Types	
Operations Complexity:	Change affecting Personnel:
Route Structure, low/seasonal utilisation	New Post-holder and Safety Manager
Continued Airworthiness Complexity:	Safety Performance and Culture:
Competence, tools and equipment:	

Key Challenges

- Implementation of SMS systems throughout Irish aviation industry
 - Implementation policy in the state in line with forthcoming EC Regulations
- Development of Key Safety Indicators
 - EASA Network of Analysts
- Enhanced Training for SMS inspectorate staff
- Expansion of Organisation Risk Profiling



SSP Safety Assurance

Implementation

- Safety Oversight primarily compliance based auditing (CBA)
- Mature occurrence reporting systems
- Good reporting culture in some areas (OPS/ANS/AWS)
- Poor reporting culture in General Aviation
- Safety Analysis of operational and organisational risks informs CBA (not all areas)
- Inspectorate staff involved in risk classification and assessments

CAUTION

THIS SIGN HAS

SHARP EDGES

DO NOT TOUCH THE EDGES OF THIS SIGN



ALSO, THE BRIDGE IS OUT AHEAD



Safety Analysis: How Risks are Assessed

Severity	No Safety Effect	Minor	Major	Hazardous	Catastrophic
Likelihood	Green	Yellow	Red	Red	Red

Question 2

What was the effectiveness of the remaining barriers between this event and the most credible accident scenario?

Effective	Limited	Minimal	Not effective
50	102	502	2500
10	21	101	500
2	4	20	100
1			

Question 1

If this event had escalated into an accident outcome, what would have been the most credible outcome?

Catastrophic Accident	Loss of aircraft or multiple fatalities (3 or more)
Major Accident	1 or 2 fatalities, multiple serious injuries, major damage to the aircraft
Minor Injuries or damage	Minor injuries, minor damage to aircraft
No accident outcome	No potential damage or injury could occur

Typical accident scenarios

Loss of control, mid air collision, uncontrollable fire on board, explosions, total structural failure of the aircraft, collision with terrain

High speed taxiway collision, major turbulence injuries

Pushback accident, minor weather damage

Any event which could not escalate into an accident, even if it may have operational consequences (e.g. diversion, delay, individual sickness)

Hazards

100 rue Eliezer Dole
62540 MALAKOFF, France
Web Site: www.aerocontrol.net

Tel: 33 1 40 62 79 90
Fax: 33 1 40 55 62 65
Email: support@aerocontrol.net

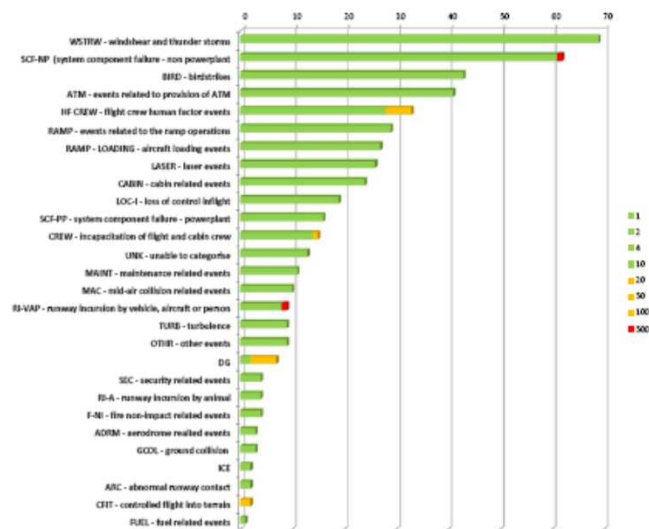


Safety Reports



Weekly Director's Report

Valid: 11/05/2012



Question 2

What was the effectiveness of the remaining barriers between this event and the most credible accident scenario?

Effective	Limited	Minimal	Not effective
50	102	502	2585
10	21	101	530
2	4	29	190
1			

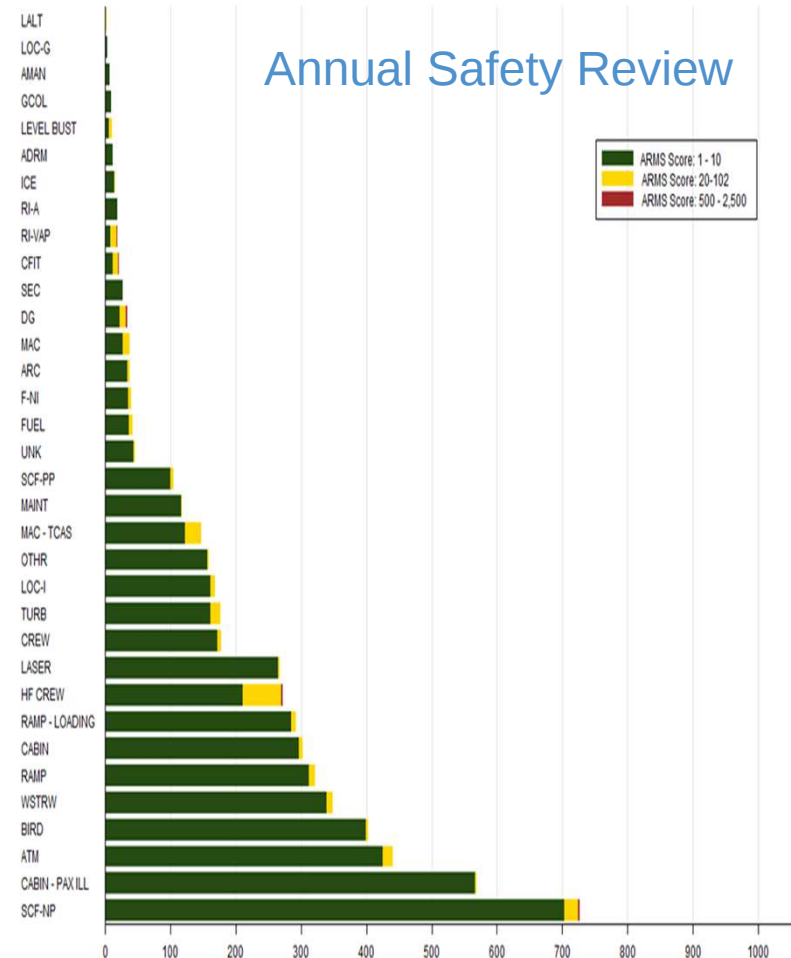
Question 3

If this event had escalated into an accident outcome, what would have been the most credible outcome?

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Annual Safety Review



IAA Annual Safety Review



Annual Safety Review of Aviation
in Ireland during 2012



Challenges

- Development of Risk Based Oversight
 - Structure, policies, procedures, tools, resources
- Training for Risk Based Oversight
 - Staff recruited based on their expertise in CBO
- Safety Analysis - Identification of Key Risks
- Continuous improvement to reporting culture across the civil aviation system



SSP Safety Promotion

Implementation

- Annual Safety Review Meetings with main operators/service providers
- Specific Safety Analysis reports for internal/external promulgation
- Promulgation of Safety Material during specific industry review meetings or via IAA website
 - Eg EGAST/ECAST/EHEST Safety Information promulgated
- Development of the General Aviation Safety Council of Ireland



Challenges

- Communication strategies
- Education/Training on Risk Based Approach
- How to reach the GA community?



Questions

