



Croatian Civil Aviation Agency

REPUBLIC OF CROATIA STATE SAFETY PROGRAMME

June 18th 2013



Croatian Civil Aviation Agency

Croatia



- Total 14 Commercial Aircraft Operators:
 - 9 CAT operators (**2 operators of transport category aircraft**)
- Training:
 - 1 FTO, 1 TRTO and 11 PPL Registered Facilities
- Aircraft Register:
 - Total 374 Aircraft of all categories in Register
 - Around 20 registered transport category aircraft
- 22 CAMO/Part 145 Organizations (20 small organizations)
- 2 Certified FSTDs

- 11 international airports (future "EASA" airports)
- Total 5,9 mil passengers per year
- Top three airports: ZAG (2,3 mil), (DBV 1,5 mil), SPU (1,4 mil)
- Total of 100.000 commercial operations per year
- Licenced personnel:
 - 730 FCL pilot licences (250 ATPL, 150 CPL, 330 PPL)
 - 260 ATCO licences
 - 260 AMT (Part 66) licences
- In aviation terms Croatia is very small

Croatian Aviation Industry cont'd

SSP requirements introduced in Air Traffic Act in 2009.

Article 56: The Government, with the aim of achieving an acceptable level of safety in the Republic of Croatia, at the proposal of the Croatian Civil Aviation Agency Aviation Safety Management Board (revised in 2011) , in accordance with the relevant ICAO documents, adopts the State Aviation Safety Programme.

Reasons for revision:

Financial resources (state as major owner) -
Ministry responsible for Civil Aviation

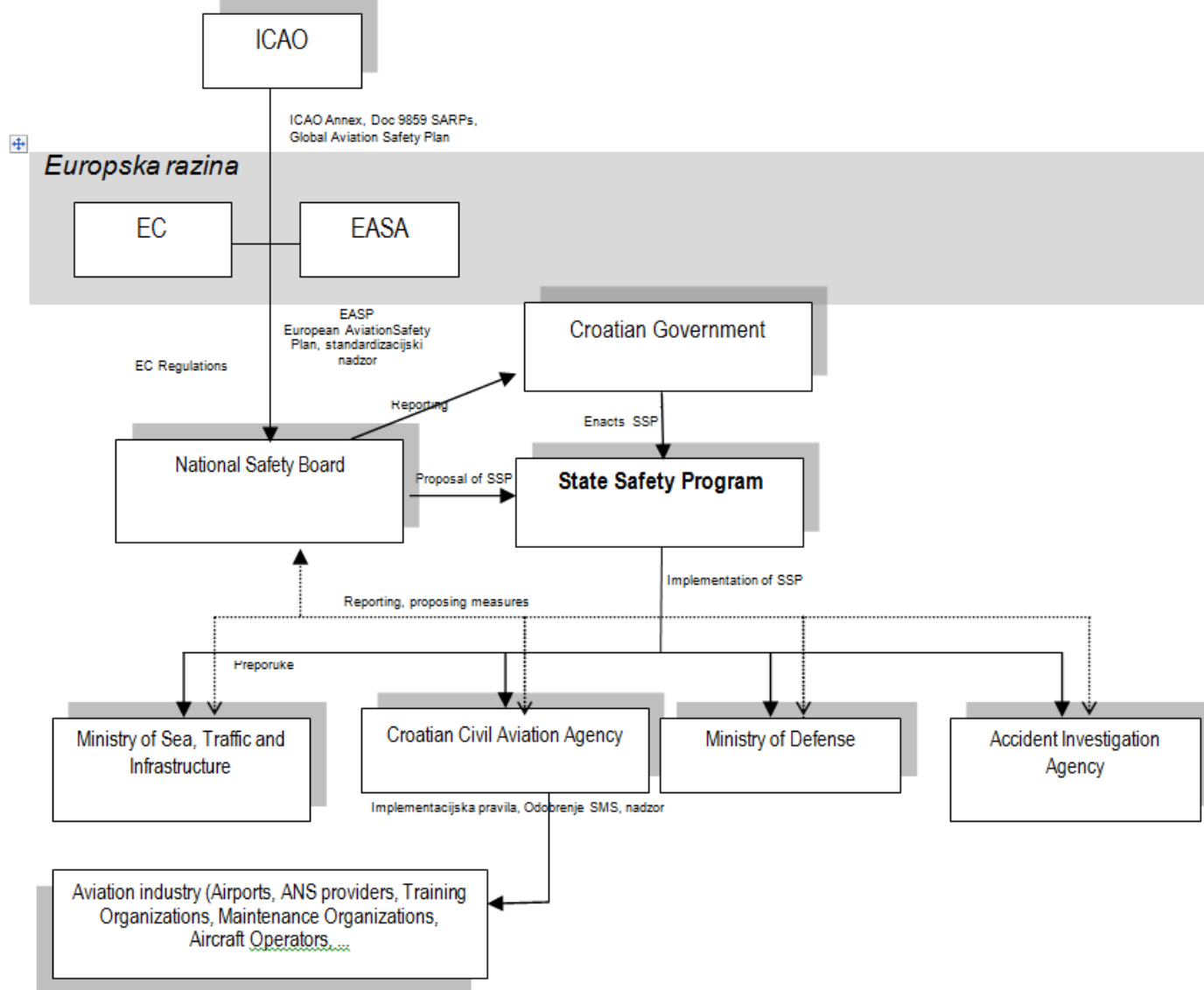
Accident/incident/occurrence database - Agency for investigation

Military flights, CNS services to General Air Traffic

SSP concept

SSP concept chart

Globalna razina



The members of the National Aviation Safety Management Board are:

- a) Head of internal Ministry unit in charge of civil aviation
- b) Croatian Civil Aviation Agency Director
- c) One representative of the Agency for investigation
- d) State Aviation Safety Programme Coordinator
- e) two aviation industry representatives
- f) one representative of Ministry of Defence
- g) one representative of the air navigation service provider.

+ one representative from National Protection and Rescue Directorate (revision 2013) since this authority is responsible for implementation of ICAO Annex 12



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National Aviation Safety Management Board Composition

Main duties of National Aviation Safety Management Board:

- Strategic body
- Monitoring and coordination of the SSP implementation process
- Proposing ALoSP
- pass recommendation and guidelines to competent bodies in relation to SSP implementation

Competent authorities are responsible to oversee SSP/SMS activities in their respective area of expertise.

National Aviation Safety Management Board Duties

- Effectiveness of implemented complex system with high level decision making vested with Government will have to be proved in years to come.

**Question:
will it
work?**

Status of SSP/SMS implementa tion

- Aviation Safety Management Board started with work in June 2011
- SSP draft produced during 2012. Consultation with TWINING partners
- Consultation process with industry started in November 2012
- Government adopted the SSP in March 2013 with initial set of Safety Indicators.
- Safety Indicators defines in SSP Implementation Plan attached to SSP.
- **Safety performance indicators have been established along the guidelines given by the EASP plus several national indicators** (based on statistics of the national occurrence reporting system).

Safety Performance Indicators

National Indicators

ATC (Occurrences caused by ATC per 1000 operations);
CNS (Occurrence caused by CNS);
TECH (Technical occurrence in flight);
OPS (Operational occurrence caused by flight operations);
MAI (Occurrence in aircraft maintenance)
AP (Occurrence caused by airport operator);
BS (Bird strike)
DG (Dangerous Goods occurrence)
GEN (General Aviation occurrence)
MIL (Civil/Military occurrence)
LAS (Lasers occurrence)
AP-INFR (Airports Infrastructure risk occurrence)

EASp Indicators

RE (EASA EASp Runway Excursion RE risk related occurrence)
AI (EASA EASp Airspace infringement risk occurrence)
MAC (EASA EASp Mid-air collision risk)
CFIT (EASA EASp Controlled flight into terrain CFIT risk)
LOCF (EASA EASp Loss of control in flight risk)
RI (EASA EASp Runway incursion RI risk)

LSSIP Indicators

GO (EASA EASp Ground Operations)
LB (Level Bust risk)
COM (Air/Ground Communication risk)

- **EASp Safety indicators**
 - No accident or serious incidents (CAT operations)
 - Statistical monitoring of the events (**occurrences** as defined in Directive 2003/42) that could contribute to certain risk (identification of risk factors).
 - Evaluation performed by CCAA taking into account data for CCAA database
- Safety plan, as part of SSP, identifies activities for EASp indicators:
 - Most common activities: Risk awareness, workshops, sharing of good practices and safety promotion among stakeholders
 - Responsible bodies and measures with target dates defined
 - Implementation of European Action Plans

EASp indicators

- Occurrences analysed in accordance with methodology introduced in EASp 2011-2014 - Risk factors contributing to specific occurrence for example, Controlled Flight Into Terrain (CFIT):
 - Fatigue and disorientation.
 - Misunderstanding in communication with controllers.
 - Weather related (e.g. rain, turbulence or icing).
 - Unclear approach procedures.
 - Inadequate crew reaction to TAWS.
 - Navigation error

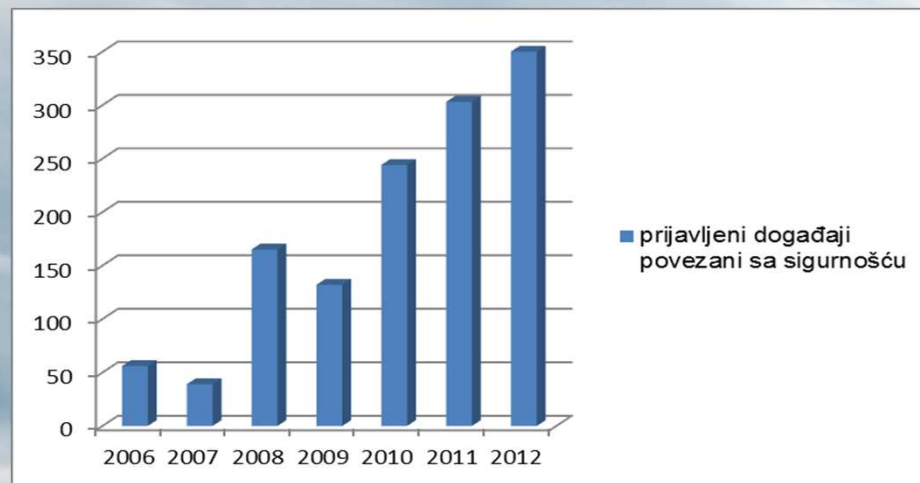
Statistical monitoring started in 2012.

Results:



Occurrences related to EASp Risk Areas in 2012

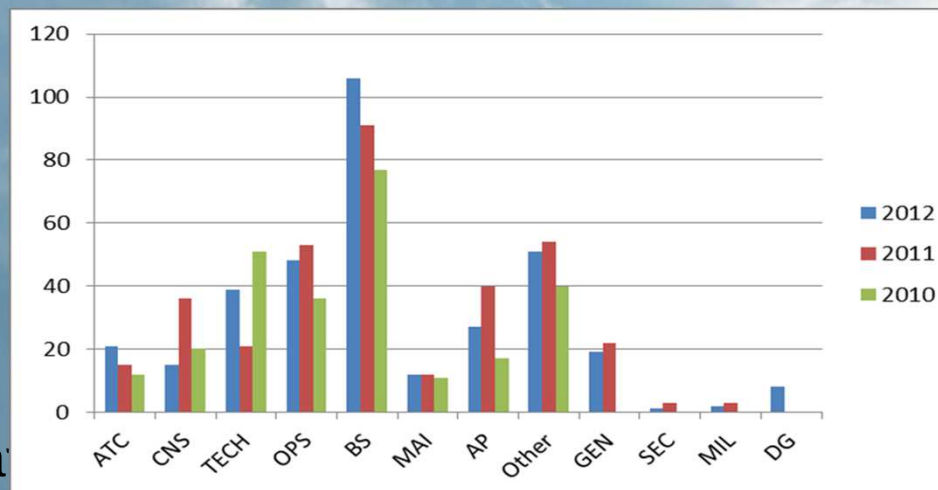
- **National Safety indicators** based on statistics of the national occurrence reporting system



No. of

Occurrences sorted by National Safety Indicators

Initial classification



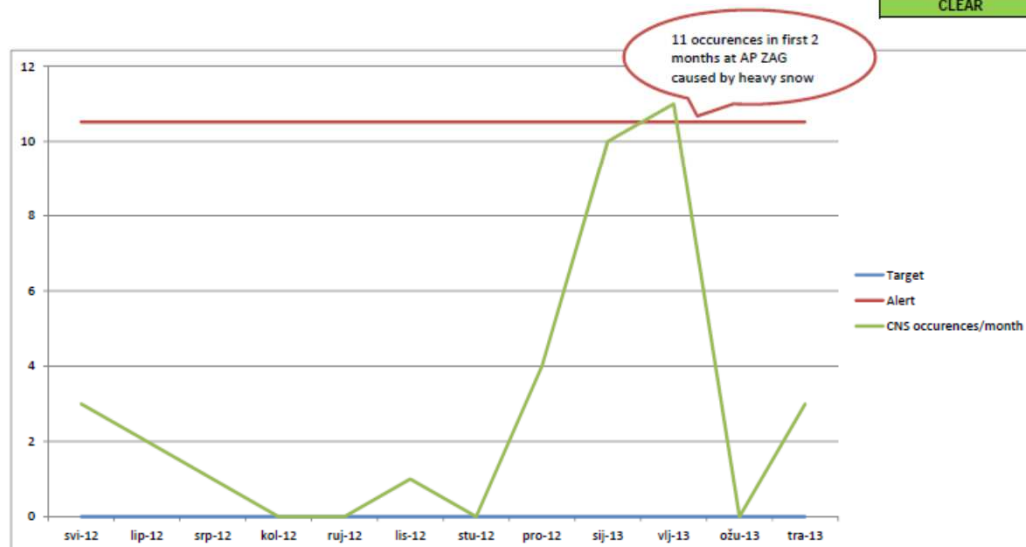
Statistical monitoring

Monthly Safety Report

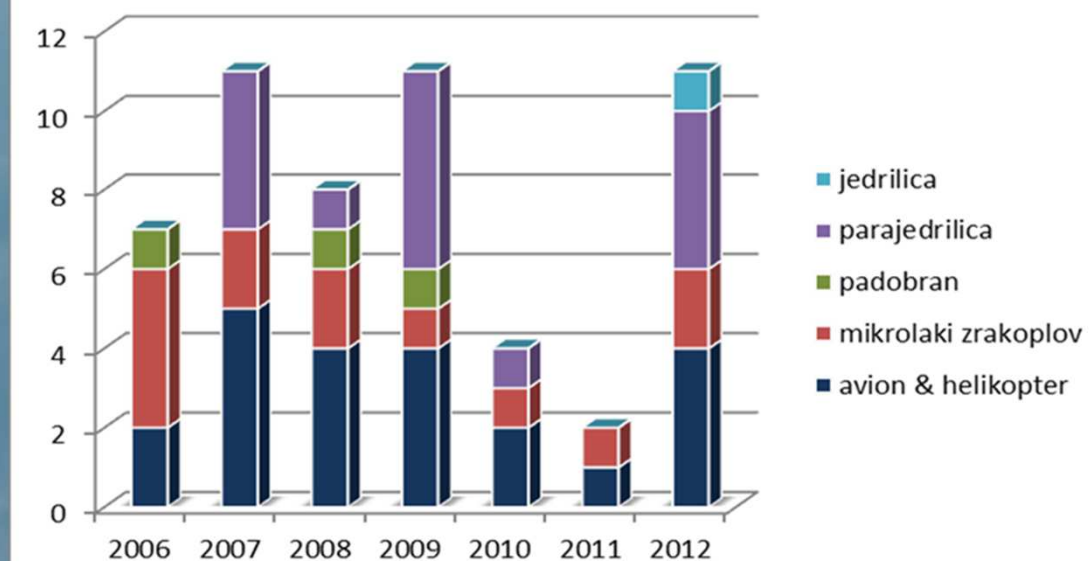
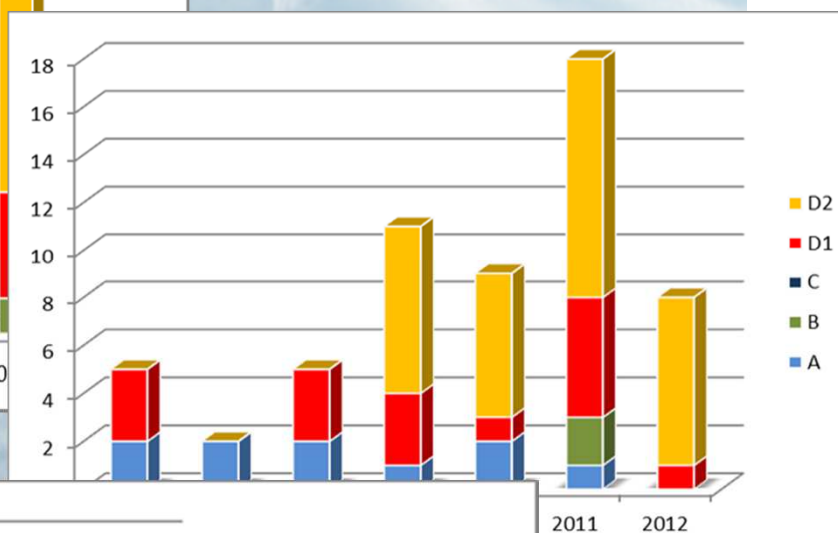
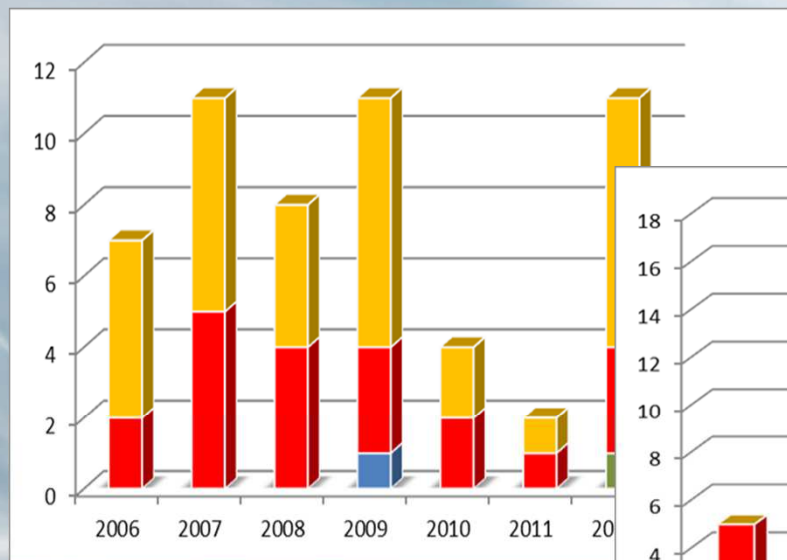
Number of CNS safety occurrences per month

	svi-12	lip-12	srp-12	kol-12	ruj-12	lis-12	stu-12	pro-12	sin-13	vlj-13	ožu-13	tra-13	Average running 12 months
Target	0	0	0	0	0	0	0	0	0	0	0	0	0
Alert	10,519	10,519	10,519	10,519	10,519	10,519	10,519	10,519	10,519	10,519	10,519	10,519	10,519
CNS occurrences/month	3	2	1	0	0	1	0	4	10	11	0	3	2,9167

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- Accident/serious incident analysis



CCAA 1	Sport aircraft operation risk (ultra-light, fitters, gliders, paragliders, parachuters, etc.)	GEN
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Safety-related occurrences contributing to risk:

Flying without two-way communication with air traffic control
 Flying without flight plan;
 Unannounced formation flying;
 Flying of foreign aircraft which are not in accordance with ICAO Annex 8 etc.

Activities aiming at safety improvement				
No.	Measure	Authority	Deadline	Rezultat
1.	Establish systemic follow-up of safety related occurrences contributing to GEN risk	CCAA	2012	GEN trend
2.	Define Upper Control Limits related to GEN risk	CCAA	2013	Upper Control Limits
3.	Define safety target related to GEN risk	Committee	2014	Safety target
4.	Monitor the implementation and follow-up of effectiveness of measures agreed to mitigate the GEN risk	CCAA	2014	Reports
5.	Prepare draft changes and amendments of existing regulation, prepare missing draft regulations	CCAA	2012	Draft regulations
6.	Establish better information dissemination among General Aviation community members	CCAA	2012	Workshops Newsletters
7.	Establish a special registry of micro-light aircraft	CCAA	2012	Registry
8.	Enable provision of simplified procedures for training providers, owners and users for acquiring necessary approvals, certificates, and the like	CCAA	2012	Simplified procedures
9.	Intensify audit of General Aviation operations	CCAA	2012	Audit plan
10.	Promote the importance of reporting culture on safety related occurrences	CCAA	continuously	Workshops Newsletters



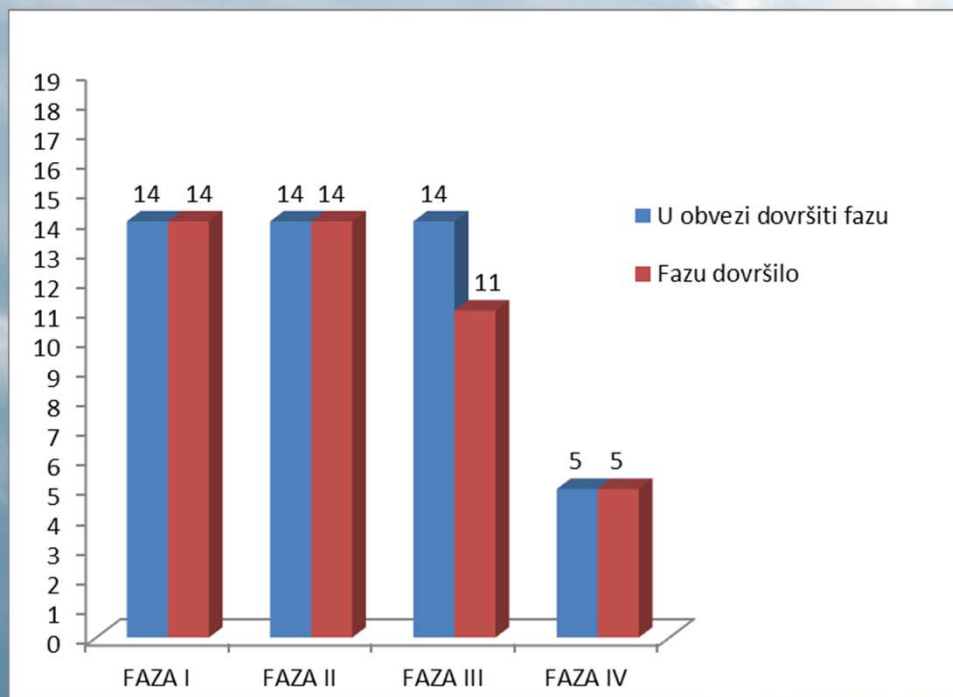
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National indicators- activities aiming at safety improvement

- SMS requirements introduced in Air Traffic Act in 2009.
- Air Traffic Act - On the basis and in accordance with the SSP, service providers, are obliged to develop their SMS which shall be approved by the CCAA, shall ensure that a SMS is in place and shall regularly report to the CCAA the status of the performance of their SMS.
- Air Safety Order (ASO-2010-004, revision 3-2013)[ASO-2010-04 Rev 3 -Implementation of SMS.docx](#)
- ASO - first issue July 2010 - to provide guidance on the implementation of SMS for service providers. The ASO is designed to give basic information on SMS concepts, development of management policies and processes and detailed

SMS

- Operators (CAT, COM other than CAT, NCC) started in 2009. Full implementation 1.1.2013



SMS Implementa tion – phased approach

- Maintenance organisation (Part 145) started with implementation in December 2012. Full implementation planned for 1.4.2015

- FTO and TRTO started with implementation in December 2012. Full implementation will be assured in accordance with deadlines defined in the new Aircrew Regulation.
- Aerodromes

CCAA monitors the implementation of SMS at international airports that were obliged to commence with the implementation of SMS in 2005 under the provisions of the national Ordinance. Today- SMS part of Manuals, Safety Managers appointed, Local Runway Safety Teams in place...

But still all ICAO SMS elements not yet in place!
- ANSP

CCAA monitors the implementation of the SMS at air navigation service provider, SMS requirements ensured through implementation of

SMS Implementation – phased approach

- CCAA Safety Board

Evaluate CCAA Monthly Aviation Safety Report ([link](#)) identify hazards or potential hazards; risk assessment of safety concerns and priority identification; perform continuous monitoring of safety levels achieved; analysis of accident and serious incident investigation and recommendations etc.

- CCAA Safety Procedures Manual

Defines CCAA safety policy and culture, organisation and responsibilities, defines occurrences reporting scheme, defines CCAA safety analysis process etc.

- Initial and recurrent training (2 years cycle) programm for all inspectors (internal and external source)
- Procedures and check-lists developed and in use
- SMS is part of annual oversight programme

CCAA - Safety Activities

Challenges

(just some of them...)

- 100 000 operations per year in Croatia does not represent reliable statistical basis for drawing any conclusion on safety situation with a number of EASp identified Risk Areas (MAC, LOCF, CFIT...)
- Safety Management should be based on FACTS

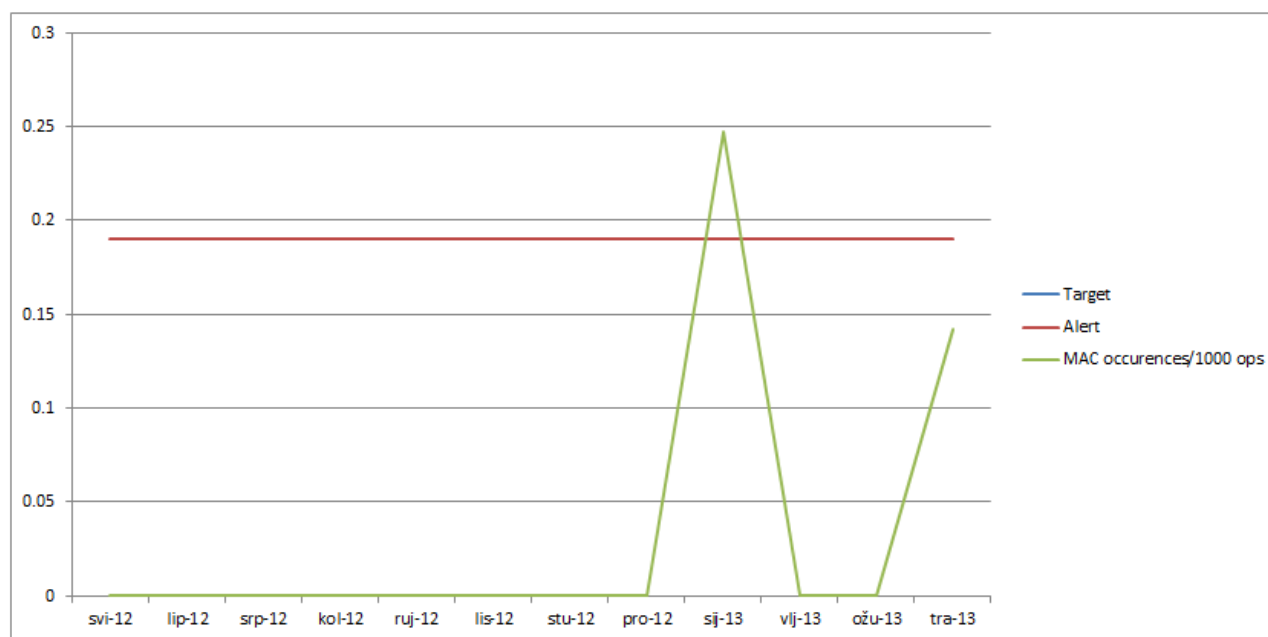
Challenges for Small Countries

Monthly Safety Report

Number of MAC safety occurrences per 1000 operations

	svi-12	lip-12	srp-12	kol-12	ruj-12	lis-12	stu-12	pro-12	sij-13	vlj-13	ožu-13	tra-13	Average running 12 months
Target	0	0	0	0	0	0	0	0	0	0	0	0	0
Alert	0.190	0.190	0.190	0.190	0.190	0.190	0.190	0.190	0.190	0.190	0.190	0.190	0.190
Number of occurrences	0	0	0	0	0	0	0	0	1	0	0	1	0.16666667
MAC occurrences/1000 ops	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2471	0.0000	0.0000	0.1421	0.0324

CLEAR



Challenges for Small Countries cont'd

- EASp should be further developed in order to have European safety performance indicators defined for each determined Risk Area
- 16.100.000 commercial flights annually in EU provides solid statistical base for very precise analysis of actual situation in perceived Risk Areas
- Only with European wide relevant occurrence statistical data that are properly analysed (per risk areas) can we contemplate and enact safety plans! Furthermore, such statistical tool(s) should enable monitoring of effectiveness of safety plans and implemented measures
- Is ECCAIRS used in this direction to its full potential?

European challenges

- FACT BASED SAFETY MANAGEMENT

- So far all guidance materials (and trainings) provided by ICAO and EASA are very generic lacking “on the floor” details and nuances (small organizations)
- There is serious threat that Safety Management will be turned into expensive religion with its “religious” beliefs and sacred big words like “risk management”, “hazard identification” “just culture”
- In Croatia we have saying: “.. A lot of buzzing but not producing honey...”
- We have to establish industry standards and make safety management (on all levels and on SMS level in particular) tangible, operative and fact based activity, following as much as possible KISS policy (Keep It Stupid Simple) – to illustrate opposite *check EASp EME1 1 Final Deliverable*.
- In connection with this problem, what are the competences for safety personnel (hard to find


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challenges:
Lack of
quality
SMS
implementa
tion
guidance
materials
and
dangers
thereof

Thank you for your attention!