



# EASA

European Aviation Safety Agency

## RMT.0674 Balloon OPS

# Impact Assessment Status

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SM.2.1. Impact Assessment Team

OPS Balloon Workshop 15/10/2015

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TE.GEN.00409-001



- RIA report structure
- Setting the scene: which information do we have on balloon activity?
- Summary of the issues
- List of options
- Hot topics



# RIA report structure

- Issues Analysis
  - Description of the problem and stakeholder affected
  - Safety Analysis
  - How could the situation evolve?
- Objectives
- Options
- Impact Analysis
  - Safety impact
  - Economic impact
  - GA and proportionality impacts, ...
- Conclusion

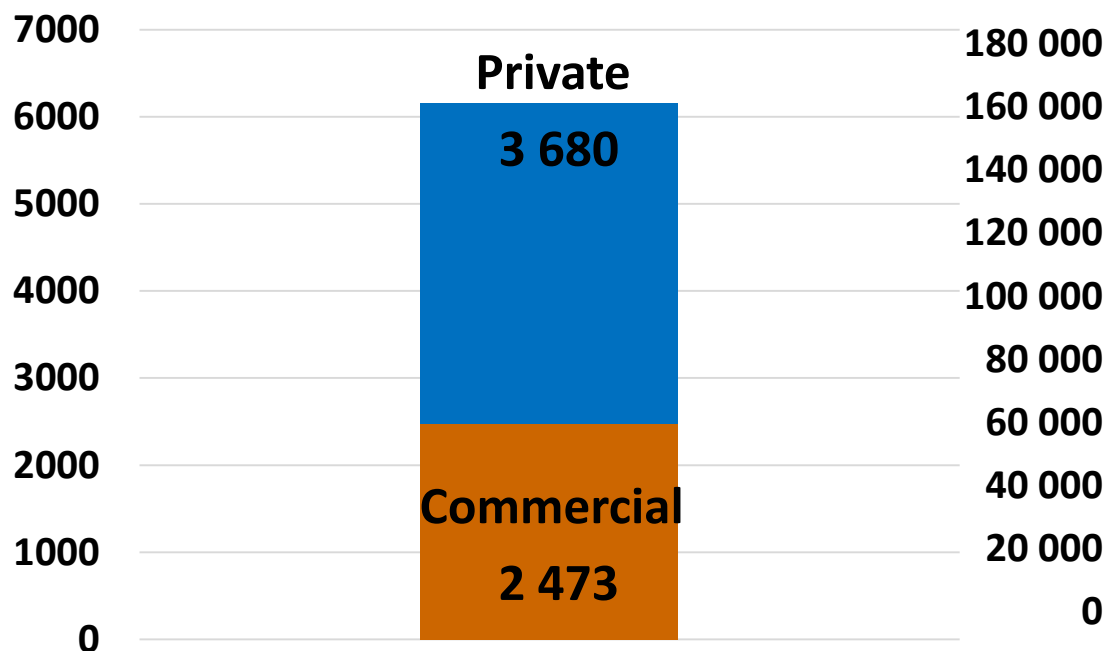
**ITERATIVE PROCESS**



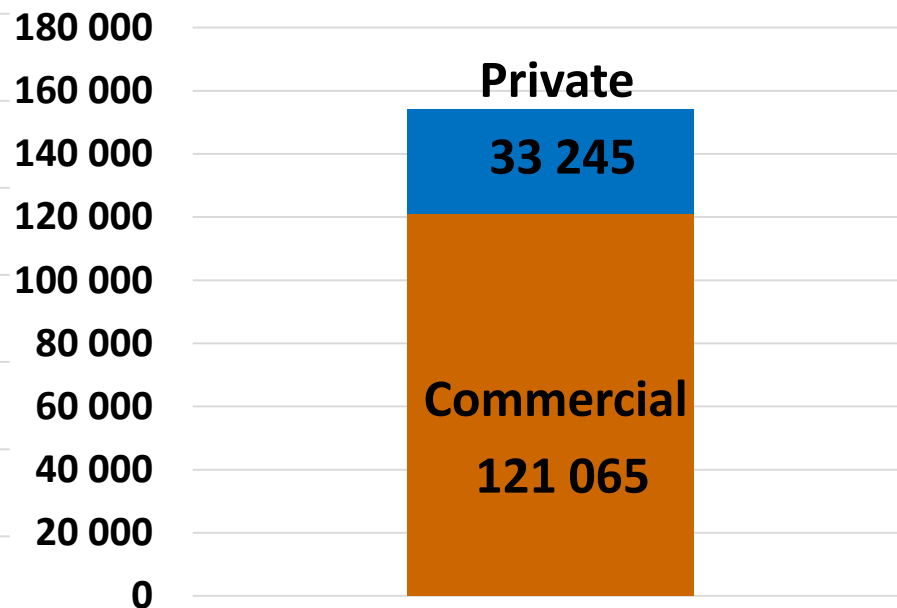
# Setting the scene : balloon fleet

Scope: EASA MS, Estimates for 2015

## Balloon fleet



## Balloon flights

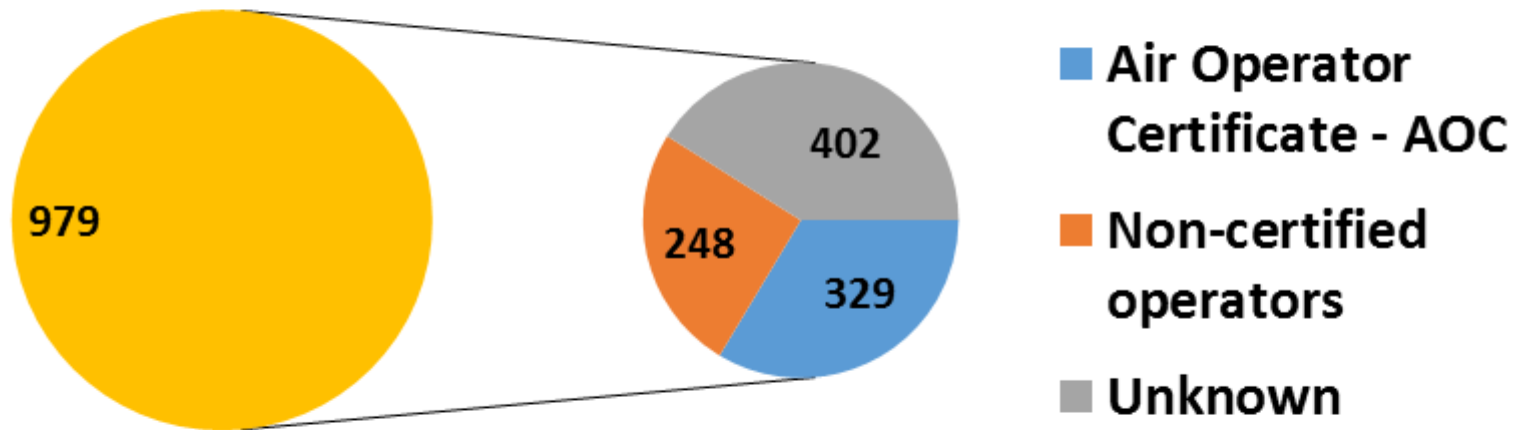


Source: EASA EUSurvey 2015 and Balloon Register of the World 2015" by Sandra Mitchell



# Balloon operators (15 EASA MS – 2015)

## Balloon operators

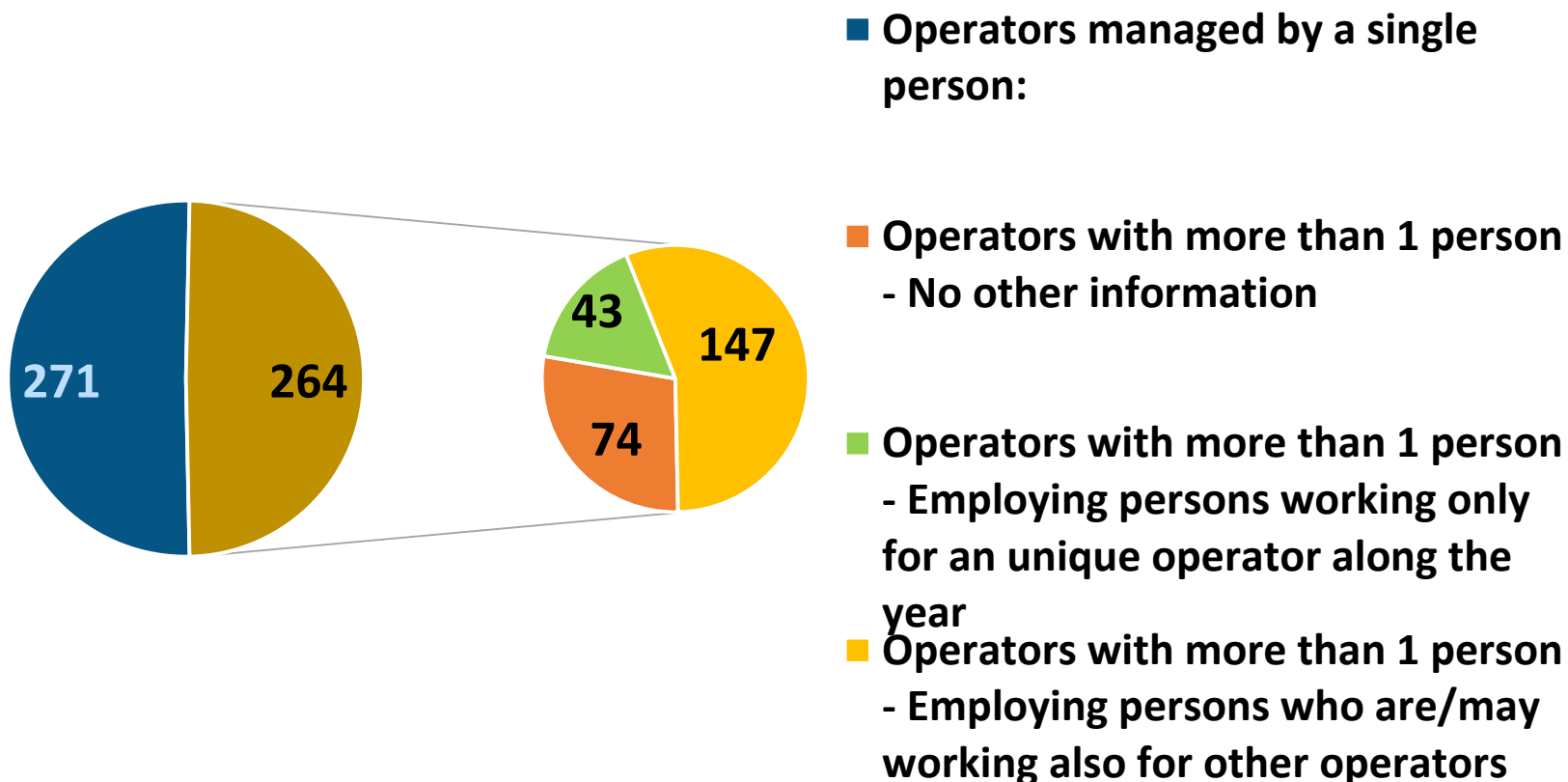




# Size of operators according staff number

9 MS answered to this question

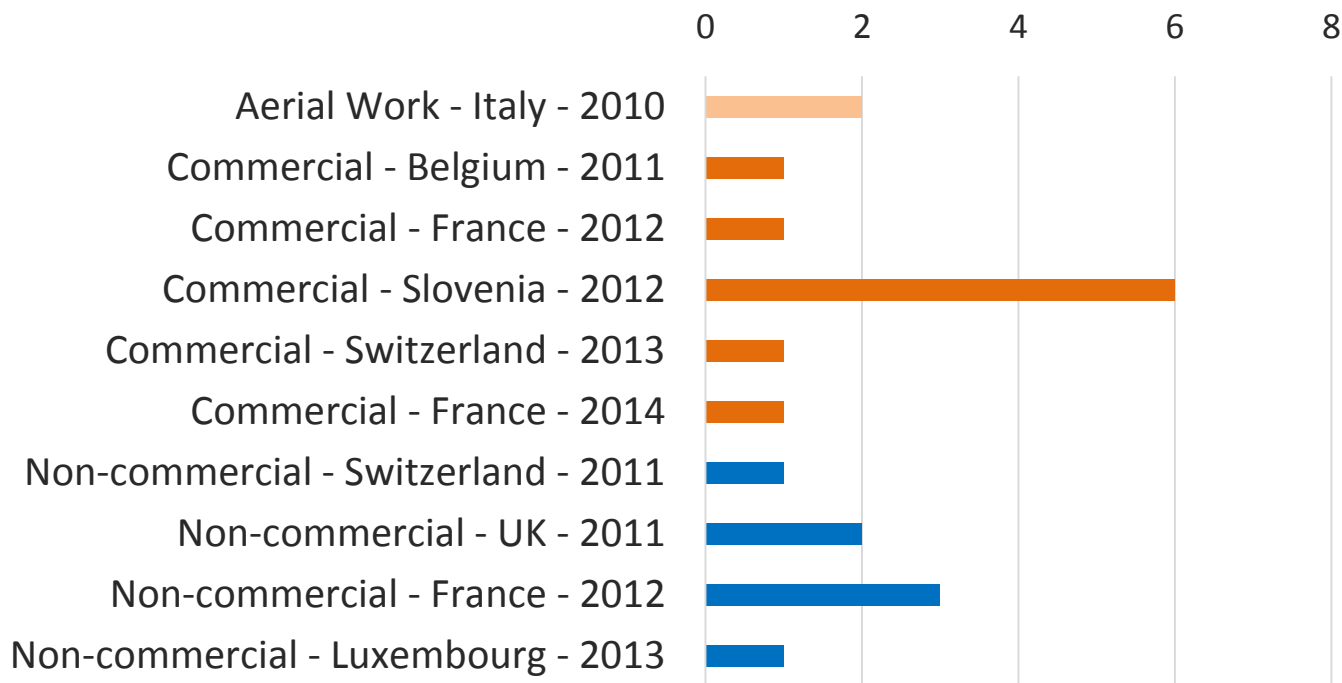
## Size of operators according staff number





# Fatal accidents

## Fatalities per event and per operation



Fatal accident  
rate for  
commercial  
balloon flight:  
 $5.10^{-5}$

Fatal accident rate for CAT  
aeroplane flight:  $2.2.10^{-7}$

➔ **45 times higher with balloon!**

Scope: EASA Member States , 2010-2014



# Summary of the issue analysis

- GA Roadmap to tackle overregulation
- Only one MS implemented 965/2012 for balloon: PL
- What are the issues with Balloon rules in 965/2012?
  - Level of details in the rules;
  - Threshold between non-commercial and commercial operations
  - Level of oversight for commercial operations;
  - Level of granularity of safety management system for commercial operators.





# How could the situation evolve?

## ► Impact of 965/2012:

Expert group member:

“it has been estimated that the number of AOC could rise from 80 to 200 if an AOC was required for all CAT operations, hence doubling the amount of workload for the aviation authority without answering any safety concerns”



# List of Options

## ➤ Option 0:

- Regulation 965/2012 to be implemented;
- Baseline for the assessment of the changes

## ➤ Option 1:

- Amend 965/2012 with proportionate rules;
- Address the previous identified issues

## ➤ Option 2:

- Stop Regulation 965/2012 implementation and rely only on national rules.
- Option 2 is **discarded** because RM expert group wants to have proportionate common European requirements



# Level of details of the rules

- Option 1:
- Great effort was provided by the Agency and the RM expert group to establish simpler and lighter requirements adapted for balloon operations:
  - Dangerous goods
  - Task specialists
  - MEL
  - ...
- Item addressed later in the Agenda



# Non-commercial operations

## Option 1:

- Threshold to distinguish non-commercial from commercial operations
- Assessment performed to assess when cost-sharing flights could become profitable
- Cost-sharing = direct + annual costs in the following slide
- Conclusion: cost-sharing flights with 4 persons are **non profitable**



# Non-commercial operations

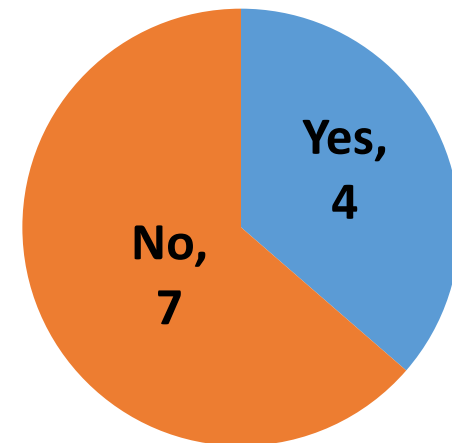
# Parameters	Number of flights per year	Cost shared per passenger (€)	Total passengers on board	Annual revenues (€)	Annual direct costs (€)	Annual costs (€)	Annual expenses (€)	Profit (€)
1 Evidence based of average private balloon pilot doing cost-sharing flights	13	60	2	1560	1651	2285	3936	-2376
<b>OPS Balloon rules (2015)</b>								
2 Cost shared flights with maximum 3 passengers + pilot	13	60	3	2340	1651	2285	3936	-1596
<b>Scenario 1 to 4: objective is to check the sensitivity of the revenues versus the costs when changing parameters</b>								
3 Scenario 1 - 4 passengers + pilot	13	60	4	3120	1651	2285	3936	-816
4 Scenario 1 - 5 passengers + pilot	13	60	5	3900	1651	2285	3936	-36
5 Scenario 2 - Price adapted	13	150	2	3900	1651	2285	3936	-36
6 Scenario 2 - Price and passengers	13	100	3	3900	1651	2285	3936	-36
7 Scenario 3 - Flights adapted to compensate all the costs with 3 passengers in average	43	60	3	7740	5461	2285	7746	-6
8 Scenario 4 - Flights and cost shared adapted to compensate all the costs with 3 passengers	20	80	3	4800	2540	2285	4825	-25



# Commercial operations: Declaration or Certification?

- Conflicting points of view
- NAAs do not think that a declaration for every commercial operations would be sufficient to ensure safe operations,

*Balloon EUsurvey 2015 with NAAs*  
*Do you think that for every*  
*commercial air transport operation*  
*a declaration would be sufficient?*

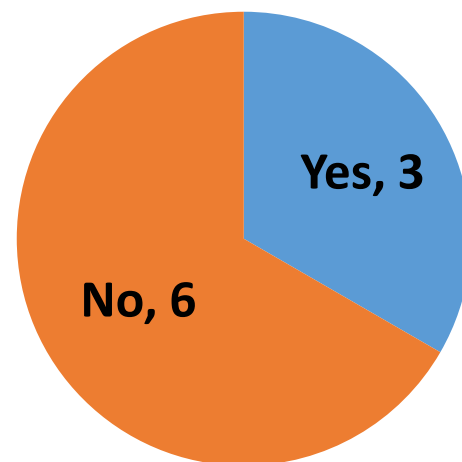




## Commercial operations: Declaration or Certification?

- NAAs do not also think that a declaration up to 6 persons per flight for commercial operations would be sufficient to ensure safe operations

*Balloon EUsurvey 2015 with NAAs  
do you think that for every  
commercial air transport operation  
up to 6 persons a declaration  
would be sufficient?*





# Commercial operations: Declaration or Certification?

- **Other position:** « Most of our members see the AOC of BOC as an administrative burden. Having such documentation will not increase safety [...] We would prefer to have a Notification of a Declaration stating almost the same as the BOC but the involvement of the CA is less. Therefore the cost are less. »
- **Other position:** an AOC is needed for all commercial operations.





# Commercial operations: Declaration or Certification?

## ➤ **To support the discussion**

Don't forget the estimates on commercial balloon fatal accident rate !

What is the safety expected by a passenger in a commercial flight?

➤ Item addressed later in the Agenda



# Management system for one-person operator

- Option 0: the current regulation 965/2012 is too demanding and cannot be implemented by one-person operator.
- Option 1: SMS simplification and adaptation to one-person operator.
- Option 2: No requirements on SMS ➔ this is not possible because of the requirements in the Basic Regulation 216/2008
- Item addressed later in the Agenda



# Draft conclusion

- It is appropriate to amend 965/2012
- Cost-sharing with direct and annual costs is reasonable to be addressed in the future rules
- Controversial points of view with declaration/certification
- Management System simplification is appropriate



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European Aviation Safety Agency

**End slide**

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# Non-commercial operations

## Background data

- Second hand balloon envelope
- Direct costs = 130 €/flight
  - Fuel for car with trailer
  - Weather/ATC per flight
  - Propane, Ventilator fuel per flight
- Annual costs = 1500€
  - Insurance costs, airworthiness review, maintenance
- Investments and repairs (over several years) = 800€/year
  - Envelope, basket, burners, car trailer, ...