



European Aviation Safety Agency	Date: 16 September 2015
Balloon analysis 2010 - 2014	
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Analysis of Balloon Accidents in Europe 2010-2014

Executive Summary

The Safety Risk Portfolio for the Balloon Sector is now complete, the top five safety issues identified as having a direct contribution to the outcome as a result of a Balloon accident are:

- Incorrect decision making and planning;
- Inadequate or poor weather planning;
- Incorrect control of manual flight path through control of balloon inertia;
- Insufficient pilot knowledge of balloon physics;
- Insufficient passenger safety knowledge.

In line with the Safety Risk Management process the next step is to perform full safety risk assessment of each individual safety issue. This risk assessment will help to support the identification of the most effective actions and the enable integration of provisions for safety promotion for Balloons in the EASp and the Safety Promotion Work Programme. This promotion material would be developed by the Agency with the external support through the Balloon Accident Data Collaboration and Analysis Group (BADCAG).

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1 Introduction

The development of Safety Risk Portfolios (SRP) for each Aviation sector is a key component of the new Safety Risk Management (SRM) process currently being developed within EASA in co-operation with industry and supported by the wider aviation community to better understand the real safety issues and to identify the most effective safety actions.

This paper provides an analysis of the Hot Air Balloon sector to enable the identification of the Key Risk Areas (Outcomes) and associated Safety Issues (causes and contributors).

The process of developing the Balloon Safety Risk Portfolio involved both the analysis of occurrence data and collaboration with the Balloon industry through the Balloon Accident Data Collaboration and Analysis Group (BADCAG). This group met in March 2015 and involved representatives from Balloon Manufacturers, National Aviation Authorities (NAAs) and the operational Balloon community.

2 Scope

The analysis considered at a high level all Balloon accidents and serious incidents and then in more detail all fatal Balloon accidents recorded in the ADREP database¹ occurred between 2010 and 2014 in the EASA MS, This analysis included both Commercial Air Transport operations as well as Non-Commercial operations. In total there were 11 fatal Balloon accidents during this 5 year period.

3 Objectives

The primary objective of this analysis was to identify the most recurrent factors contributing to the identified outcomes (Key Risk Areas) and associated Safety Issues.

As secondary objectives, the analysis aimed to contribute to:

- Provide key data-supported messages for the EASA Annual Safety Review 2014,
- Draw lessons learnt on the challenges in developing data-driven approach to the Balloon SRP with the intention of improving the safety of hot air ballooning.
- Provide information to the balloon community to improve the reporting and analysis of occurrences within the Balloon sector.
- Improve the efficiency of regulation of the sector in support of the EASA General Aviation (GA) Roadmap to improve responsiveness of the regulatory system, allow for innovation, permit problem solving and encourage a safety culture.
- Encourage, through sector engagement, improved adoption of safety management principles.

4 Analysis Methodology

The analysis has been based on two main methods, the analysis using the ADREP/ECCAIRS taxonomy to identify the most recurrent event types (causal and contributing factors)(section 4.3), and the identification of pre-defined safety issues (section 4.4). The process followed was:

¹ The ADREP repository is an EASA owned database containing all accidents and serious incidents worldwide. It is maintained by SM1 Safety Intelligence and Performance Department.

- 1 Selection of occurrences: Review of the potential events from the ADREP repository meeting selected criteria;
- 2 Review of selected events and Recoding: Review of all events including the collection and analysis of the available information (i.e., available final investigation reports), identification of safety issues and contributing factors, and recoding under ECCAIRS Aviation taxonomy 2.5.0.0 (notably occurrence category, event types and flight phases);
- 3 Grouping analysis: The following three approaches were taken in order to maximise the visualisation of safety information:
 - a. Scenario-based: Drawing on operational scenarios based on data. Then, identification of most recurrent factors per scenario. Taxonomy was used but in a flexible manner to accommodate scenarios and the grouping of factors;
 - b. Taxonomy-based: Grouping of factors for all events together;
 - c. Identification of safety issues: Particularisation and quantification of safety issues.
- 4 Discussion of results: Drawing relevant conclusions on both, safety and analysis.
- 5 Preliminary deliverables: Drafting of the contribution to the ASR and to the initial SRP CAT Fixed Wing;
- 6 Finalisation of the analysis report: Agreeing content with EASA staff.

4.1 Analysis

4.1.1 Selection and Review of Balloon Accidents

The initial analysis covered a total of 115 balloon accidents, which consisted of 11 fatal accidents and 104 non-fatal accidents stored in the ADREP repository (ECCAIRS Aviation Taxonomy 2.5.0.0) fulfilling the following criteria:

- Occurred between 2010 and 2014 within continental Europe;
- Categorised as Balloon flight under Commercial, Non-Commercial or General Aviation type of Operation;

Each fatal accident was reviewed by the BADCAG members and the data enriched with information the experts had on the accidents. Additional accidents not initially included in ADREP data were captured and then the Fatal and Non-fatal accidents were recoded with the new taxonomy².

From the overall analysis of the data documented in 4.1.2, it can be concluded that:

- Within the continental Europe (non EU states included) the number of accidents for the same period amounts to 115 of which 11 fatal accidents. The analysis will be based upon these 11 fatal accidents and 104 Non-fatal accidents which occurred within continental Europe.

No flight hours or other exposure data is available to calculate rates either within Europe or for the rest of the world.

² The ADREP taxonomy version 2.5.0.0 introduces a comprehensive 4 level Event types which eliminates the need for descriptive and explanatory factors and provides a better and clearer analysis output.

4.1.2 Data Overview

Figure 1 summarises the number of Balloon accidents included in the study according to the year they occurred.

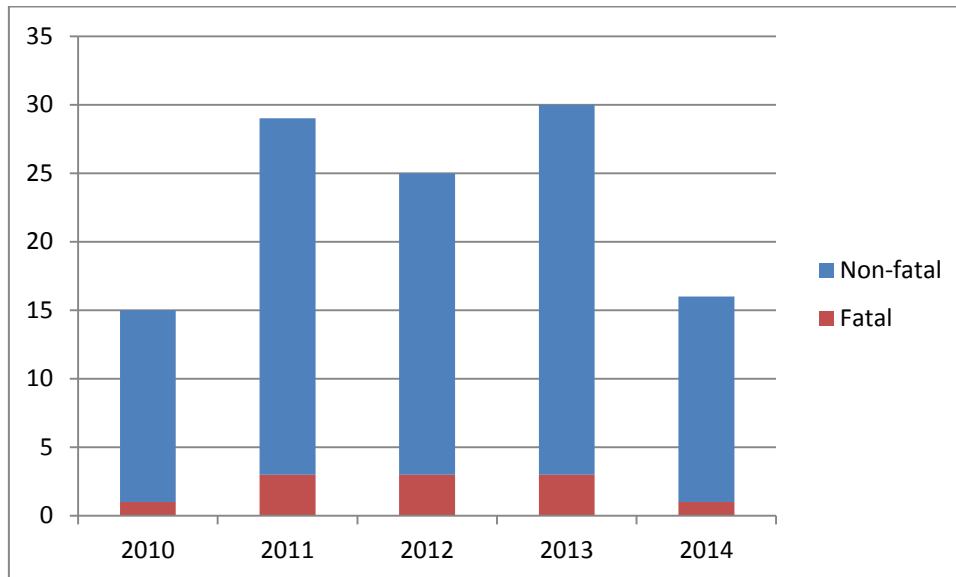


Figure 1: Balloon Accidents 2010-2014 in continental Europe.

Year	2010	2011	2012	2013	2014	Total
Non-Fatal	14	26	22	27	15	104
Fatal	1	3	3	3	1	11
Total	15	29	25	30	16	115

Table 1. Distribution by year and injury level

The key points from the graph are:

- There is no clear trend, of the 115 accidents, 15 took place in 2010, 29 in 2011, 25 in 2012, 30 in 2013, and 16 in 2014. A longer time period and more data might be considered in the future to determine any underlying trend;
- The average number of accidents for 2010 to 2014 are 23 accidents per year;

The occurrences within the study include all types of operation within the balloon sector, both commercial and non-commercial operations as well as general aviation.

Figure 7 summarises the number of accidents per flight phase. It can be seen that vast majority of balloon accidents occur during the landing phase of the flight.

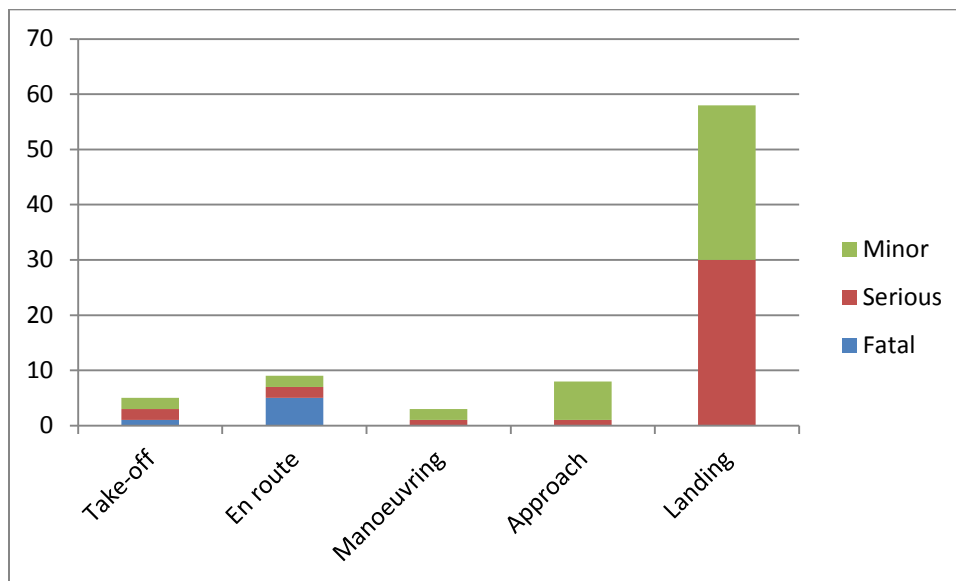


Figure 2. Distribution by flight phase vs. injuries in ballooning

As a further support to the data above it can be seen in Figure 3 that most of the balloon accidents occur during the landing phase of the flight, this equates to 68%. Firstly it is of no particular surprise given the specific challenges of controlling balloons during landing but it does highlight where the greatest effort is required if accidents are to be reduced. Secondly attention should be given to En-route accidents as they are contributing the most in terms of number of fatalities.

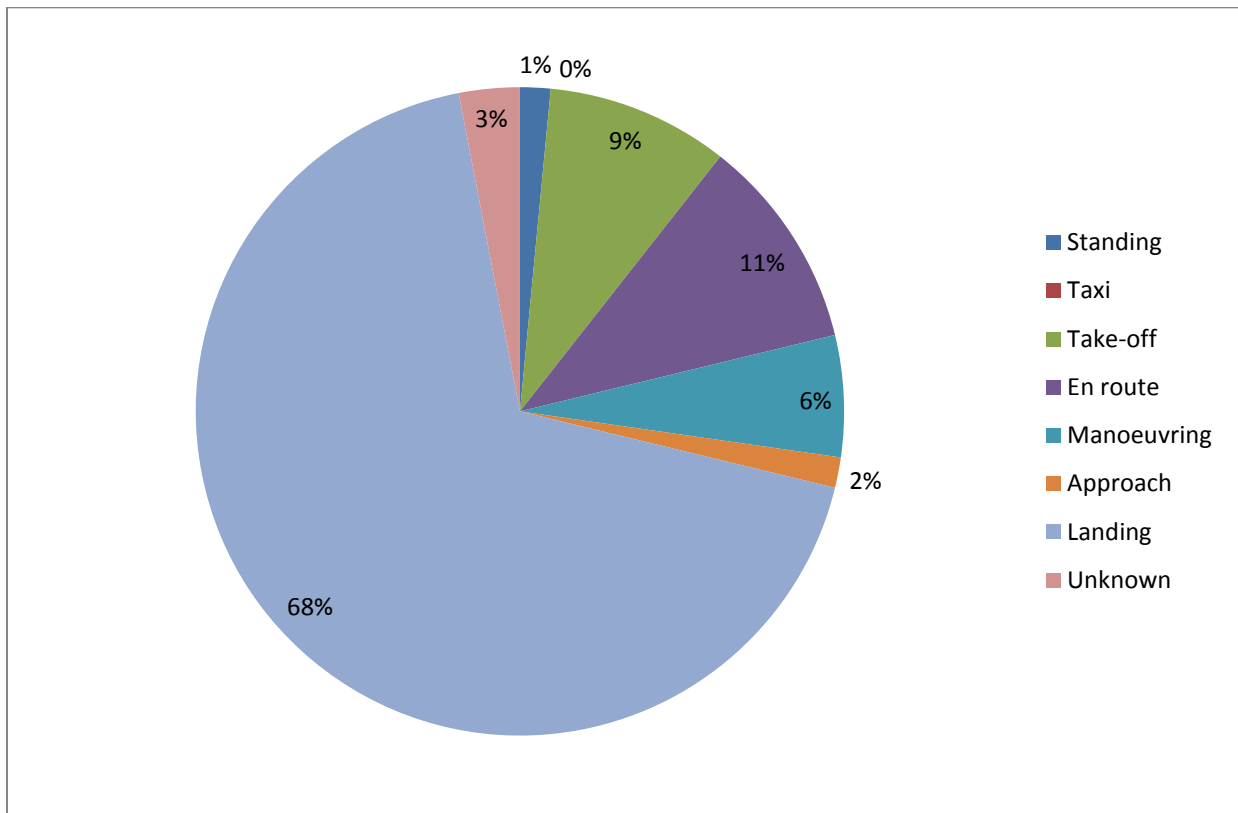


Figure 3. Percentage of accidents per phase of flight - 2009-2014

4.1.3 Grouping of occurrences

In order to identify the Key Risk Areas and the associated causal and contributing factors, occurrences were grouped by different operational scenarios. Operational scenarios were based on the coding given to the 115 occurrences within the study. These scenarios are the result of grouping the occurrences according to the most common initiating or main contributing factors and flight phases.

The data showed the following operational scenarios:

- A. Windshear/Turbulence: Balloon upset due to rapid movement of an air mass around it, either atmospheric or geographic in nature (windshear, mountain wave, gust, etc.).
- B. Wire strikes: Late identification of wires in the flight path. It is often difficult for balloonists to have access to maps which mark power lines and other high objects in the area he is flying. This is more of a challenge in ballooning as landing sites are not limited to aerodromes as in other forms of aviation.
- C. Collisions: Collisions with terrain or objects caused by either a lack of situational awareness, understanding of balloon physics in different environmental conditions and pilots having their view obscured by sunlight or other meteorological phenomena.

Due to the lack of detailed data for incidents, the analysis by scenarios was focused on accidents only.

4.1.4 Key Risk Areas and Top Event Types

Most of the accidents included in this analysis occurred during the landing phase of flight. The most prevalent Key Risk Area was Abnormal Runway Contact (ARC), which involved 50 accidents and includes events such as hard landings. Collisions during Take-off and Landing (CTOL) was the next highest Key Risk Area which was associated with 21 accidents. Other Key Risk Areas included Windshear/ Thunderstorm (WSTRW) with 13 accidents, Turbulence (TURB) with 5, Controlled Flight Into Terrain (CFIT) with 4 accidents, and Loss of Control – In Flight (LOC-I) with 3 accidents.

As the key risk areas are known it is necessary to identify the most frequently recurring contributing factors (event types) before the accident. The method used identifies first the most frequent event types and then considers its relationship to the different outcomes or Key Risk Areas (occurrence categories) and the flight phase where they occurred.

Table 2 shows us the top 5 Event types at Levels 3 and 4 of the taxonomy as they were attributed to the 115 accidents. It can be seen that hard and bounced landings and control of manual flight path score the highest. Under Balloon specific events it is most common for the basket to tip over – typically after a hard or a bounced landing. It can also be seen that the injuries are mostly caused by these hard and bounced landings. If the basket tips over it can result in ejecting persons out of the basket causing even more serious injuries, this is potentially more likely if the passengers have not been well briefed on a correct position and posture before the landing and to hold the grab handles on the basket correctly. For collisions, wire strikes were the most common occurrence and map marking for balloons is a particular challenge. The last event category in Table 2 is weather and environmental encounters where many of those accidents can be linked to an inadequate preparation of the flight or when flights were made in critical weather conditions under commercial pressure.

Event types - Level 3 and 4	Number of Event types
Aircraft Handling	80
Landing - Hard	42
Control of Manual Flight Path	22
Landing - Bounced	12
Rate of Climb/ Descent - High	4
Balloon specific events	58
Basket Tipped Over	25
Person Fell/ Ejected from Basket	8
Envelope Ripped	8
Basket Caught in Obstacles	6
Envelope Panels Burned	5
Basket Sliding/ Dragging	3
Envelope Skirt Burned	3
Medical and Injury	51
Injuries due to Other Sources	40
Injuries due to Aircraft Component/s	4
Medical/ Incapacitation - Passenger	3
Medical/ Incapacitation - Flight Crew	3
Injuries due to an Abrupt Manoeuvre	1

Terrain/ Obstacle Conflict (CFIT)	32
Collision with Cable/ Wire	17
Collision with Tree/ Tall Vegetation	8
Collision with Level Terrain	4
Collision with Tall Structure	1
Near Collision with Tall Structure	1
Collision with Elevated Terrain	1
Weather and Environmental Encounters	29
Unexpected Weather Encounter	8
Turbulence Encounter	6
High Wind Encounter	6
Windshear/ Microburst Encounter	6
Crosswind Encounter	1
Lightning Strike	1
Loss of Visual Reference - Brownout/ Whiteout	1

Table 2. Top 5 Level 3 Event types and subsequent Level 4 Event types.

The full list of Event types can be seen in Appendix B of this document.

4.1.5 Identification of Safety Issues

The event types analysis was combined with the discussion on potential Balloon safety issues that were initially identified during the first meeting of the BADCAG group in March 2015. The BADCAG meeting identified their main safety issues from the available fatal Balloon accidents in Europe for the previous 5 years. The safety issues identified at the BADCAG were augmented with the data analysis to develop further analysis on the individual safety issues.

The report will now consider the safety issues in more detail. The portfolio itself (see Table 3) is split into four sections, Operational, Technical, Human and Organisational. Outcomes (Key Risk Areas) are shown as the specific Occurrence categories. Systematic issues (SYS) and Emerging issues (EME) are also represented where they have been identified.

4.1.5.1 Operational

Inadequate or poor weather planning

The first operational identified safety issue is 'Inadequate or poor weather planning'. The data shows that 11 fatalities and 26 serious injuries have been linked to this safety issue. This means that the identified safety issue is a significant factor in contributing to accidents. Pilots often take the decision to fly in weather that might not be suitable for safe flight or that might reduce safety margins. This is often because pilots have either not gathered appropriate weather information before flying or planned ahead to consider possible landing options in worsening weather. This safety issue is a cause of accidents with the following outcomes (Key Risk Areas):

- ARC: Abnormal Runway Contact;
- WSTRW: Windshear or thunderstorm;
- TURB: Turbulence;

- CTOL: Collision with obstacles during take-off or landing;
- OTHR: Other which covers human factors and other causes;

It can be seen that from the list above the F-POST and UNK categories have been omitted in the portfolio as the FIRE relates to technical issues causing fire during flight. F-POST relates to fire starting after impact with ground. UNK or unknown simply means that the causes have not been fully identified.

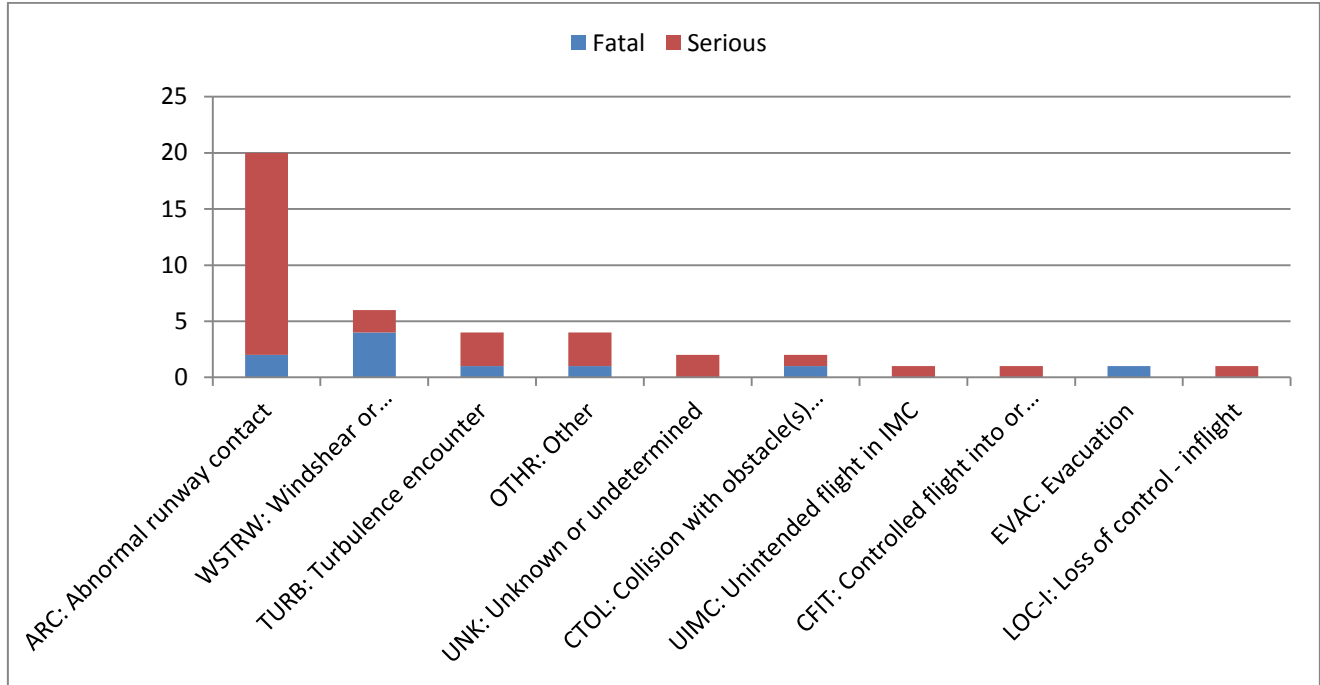


Figure 4. Outcomes for the 'inadequate or poor weather planning' safety issue.

Row Labels	Fatal	Serious	Grand Total
ARC: Abnormal runway contact	2	18	20
WSTRW: Windshear or thunderstorm.	4	2	6
TURB: Turbulence encounter	1	3	4
OTHR: Other	1	3	4
UNK: Unknown or undetermined		2	2
CTOL: Collision with obstacle(s) during take-off and landing	1	1	2
UIMC: Unintended flight in IMC		1	1
CFIT: Controlled flight into or toward terrain		1	1

Table 3. Data table supporting Figure 4.

Incorrect control of manual flight path through control of balloon inertia

The next operational safety issue identified is the 'Incorrect control of manual flight path through control of balloon inertia'. The size and volume of balloons varies greatly. Due to that fact the inertia increases with balloon size, this means that it takes longer to change course with a larger balloon than a small one. This means that the pilot has to start the burners earlier to stop a decent and climb again on a big balloon. Smaller balloon – like a small aircraft – are quicker to manoeuvre during flight.

The ability to control the balloons flight path is closely linked to situational awareness and accidents are often due to poor flight path management, late identification of obstacles like power lines, buildings, fences or masts and an understanding of the local weather conditions. Correct decision making is vital during the landing phase of the flight and it is therefore important to make an effective assessment of the landing area and gain relevant information like position of the major obstacles and landscape of the area where the pilot intends to land. A sudden identification of an obstacle ahead can cause incorrect decision making.

It is worth noting that due to the nature of a hot air balloon it is generally considered to be safer to land close to a power line and have the balloon envelope hit it rather than trying to fly over it and risk hitting the line with the basket.

This safety issue is proving to be causing accidents with the following outcomes:

- ARC: Abnormal Runway Contact;
- OTHR: Other which covers human factors and other causes;
- CTOL: Collision with obstacles during take-off or landing;
- WSTRW: Windshear or thunderstorm;
- CFIT: Controlled Flight Into Terrain;

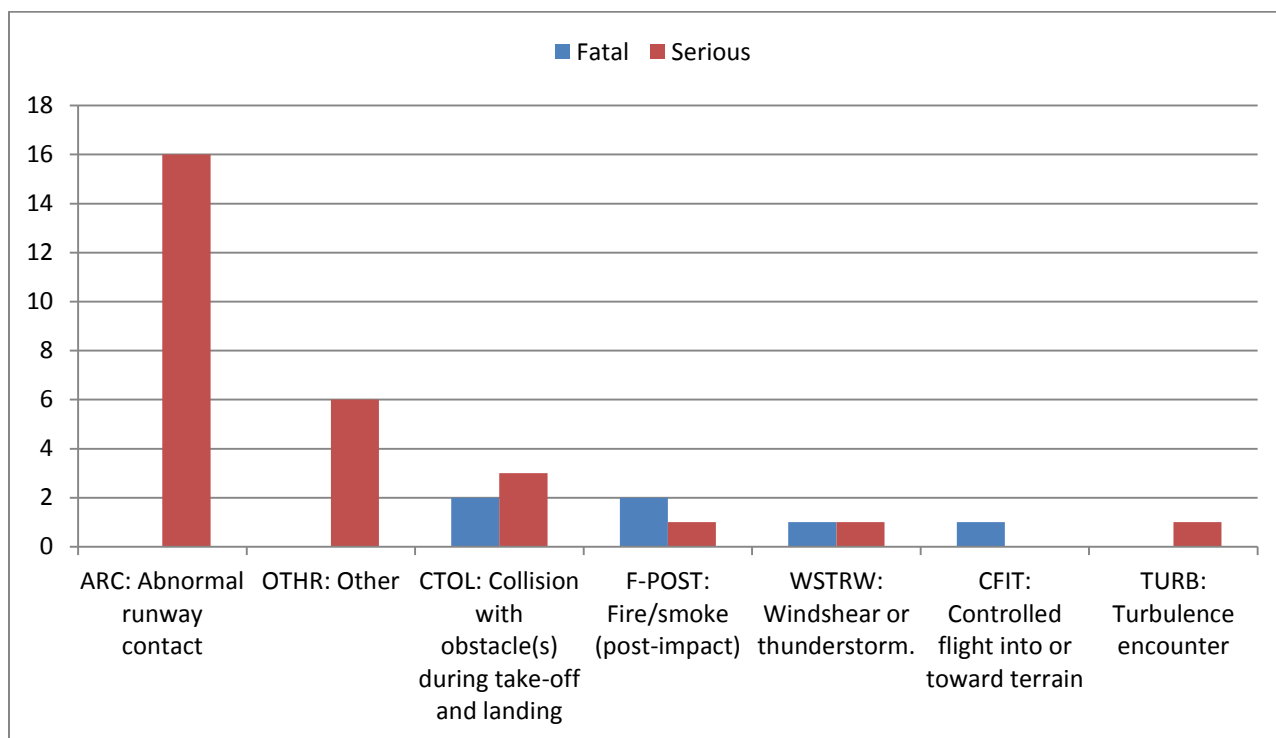


Figure 5. Outcomes for the 'Incorrect of manual flight path through control of balloon inertia' safety issue.

Row Labels	Fatal	Serious	Grand Total
ARC: Abnormal runway contact		16	16
OTHR: Other		6	6
CTOL: Collision with obstacle(s) during take-off and landing	2	3	5
F-POST: Fire/smoke (post-impact)	2	1	3
WSTRW: Windshear or thunderstorm.	1	1	2

CFIT: Controlled flight into or toward terrain	1		1
TURB: Turbulence encounter		1	1

Table 4. Data table supporting Figure 5.

Loss of separation – Particularly during mass balloon launches

Mass launches of balloons are spectacular events, however, it there have been occasions where they have led to Mid-Air Collisions (MAC), causing both fatal and non-fatal accidents. The causes are mainly lack of communication due to poor event management. This also touches another identified safety issue which is the lack of markings on the top of the balloons. It is practically impossible for a balloon pilot below another balloon to see what is above him. The balloon envelope hinders the pilot to see the sky above him. During mass launches a pilot above another can notify through a radio or by shouting if he notices that a balloon below him is ascending faster than his own causing a risk of a collision between the two. The prevent of a collision relies on using the correct radio procedure and being able to quickly identify the relevant balloon and communicate this to the pilot. Because the pilot in the balloon most likely to prevent a collision is above cannot see the registration, which is on the side of the balloon rapid communication is often difficult.

The safety issue of loss of separation is, unsurprisingly the main cause of causing accidents with the following outcome (Key Risk Area). Although the number of accidents is low, the balloon experts at the BADCAG considered that this was a common near-miss event:

- MAC: Airprox/ACAS alert/loss of separation(near) midair collisions.

Row Labels	Serious	Fatal
MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions	2	2
Grand Total	2	2

Table 5. Key Risk Area for Loss of Separation.

4.1.5.2 Technical

Propane System Fire

When looking at the European data only two accidents are identified that could fit under this safety issue. Many European citizens take balloon flights on holiday in Egypt, Kenya and other parts of the world and in the future the dataset could be extended to includes accidents such as a recent one in Egypt where a gas hose broke causing an uncontrollable fire resulting in a catastrophic accident. The accident which triggers this safety event has other precursors. The main cause of fire events has been where the basket flips over during second touchdown after a bounced landing. In this type of accident, fire has then broken out during evacuation. In the other accident the basket flipped over and damage was caused to the propane system causing a gas leak and a fire.

This safety issue has been related to accidents with the following outcomes:

- ARC: Abnormal Runway Contact;
- EVAC: Evacuation;
- FIRE-NI: Fire – non impact;
- TURB: Turbulence;

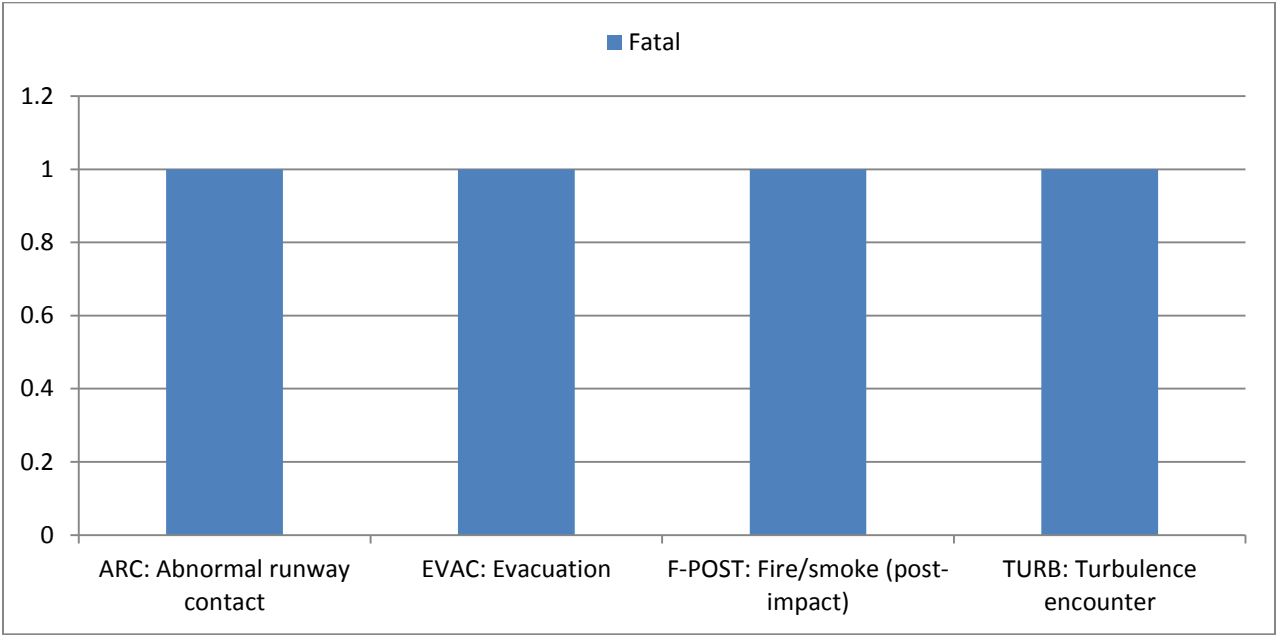


Figure 6. Outcomes for the 'Propane System Fire' safety issue.

Row Labels	Fatal	Grand Total
ARC: Abnormal runway contact	1	1
EVAC: Evacuation	1	1
F-POST: Fire/smoke (post-impact)	1	1
TURB: Turbulence encounter	1	1
Grand Total	4	4

Table 6. Data table supporting Figure 6.

1110 Exterior Colour Schemes and Markings – Insufficient Visibility of Balloon Registration

Normally the Balloon registration marking is on the lower, side part of the balloon’s envelope which makes the registration visible from the ground. However, it is not that easy for balloon pilots during mass launches to communicate their position to other balloons if they cannot see the registration marks of other balloons. To prevent mid-air collisions due to mass launches it would be preferable to have the registration visible also on the top of the envelope. This safety issue is proving to be causing accidents with the following outcome:

- MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions

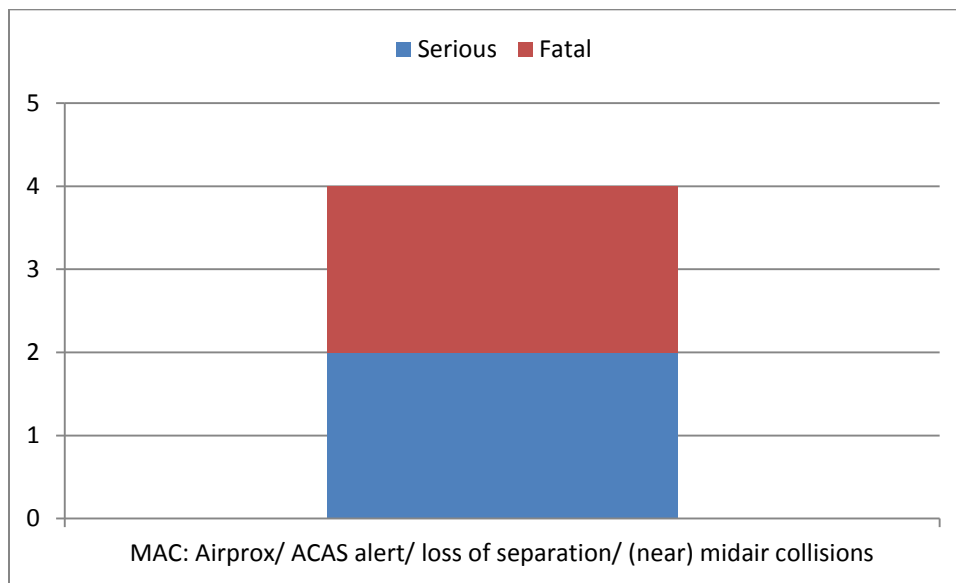


Figure 7 Outcomes for the ‘Exterior Colour Schemes and Markings – Insufficient Visibility of Balloon Registration’ safety issue.

Row Labels	Serious	Fatal	Grand Total
MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions	2	2	4
Grand Total	2	2	4

Table 7. Data table supporting Figure 7.

It needs to be noted that the ADREP taxonomy needs to be modified to better support this safety issue.

Sharp edges on baskets

This is an emerging safety issue, identified from an accident investigation recommendation. It was noted in an accident in 2015 during a mass launch and a following mid-air collision that sharp edges on the upper balloon caused the envelope on the lower balloon to rip open and the lower balloon crashed. Curved edges would probably have prevented critical damage to the other Balloon as well as soften landings as sharp edges can cause baskets to tip over and tumble during landing. Some manufacturers have already started to manufacture their baskets with curved corners for prevention purposes.

As 2015 data is not considered in the dataset being used in this analysis, this item is set as an Emerging issue which will be supported further in the next version of the safety risk portfolio.

4.1.5.3 Human

Insufficient Pilot Knowledge of Balloon Physics

It has been noted that many balloon accidents have the Key Risk Area of ARC as an outcome. An insufficient Pilot Knowledge of Balloon Physics is evident to be a part of that problem. Either it is a general lack of knowledge of the balloon inertia or pilots fail to recognise the difference of the inertia between the different sizes of balloons they may fly causing incorrect decisions to be made. This safety issue is proving to be causing accidents with the following outcomes:

- ARC: Abnormal runway contact

- CTOL: Collision with obstacle(s) during take-off and landing
- OTHR: Other

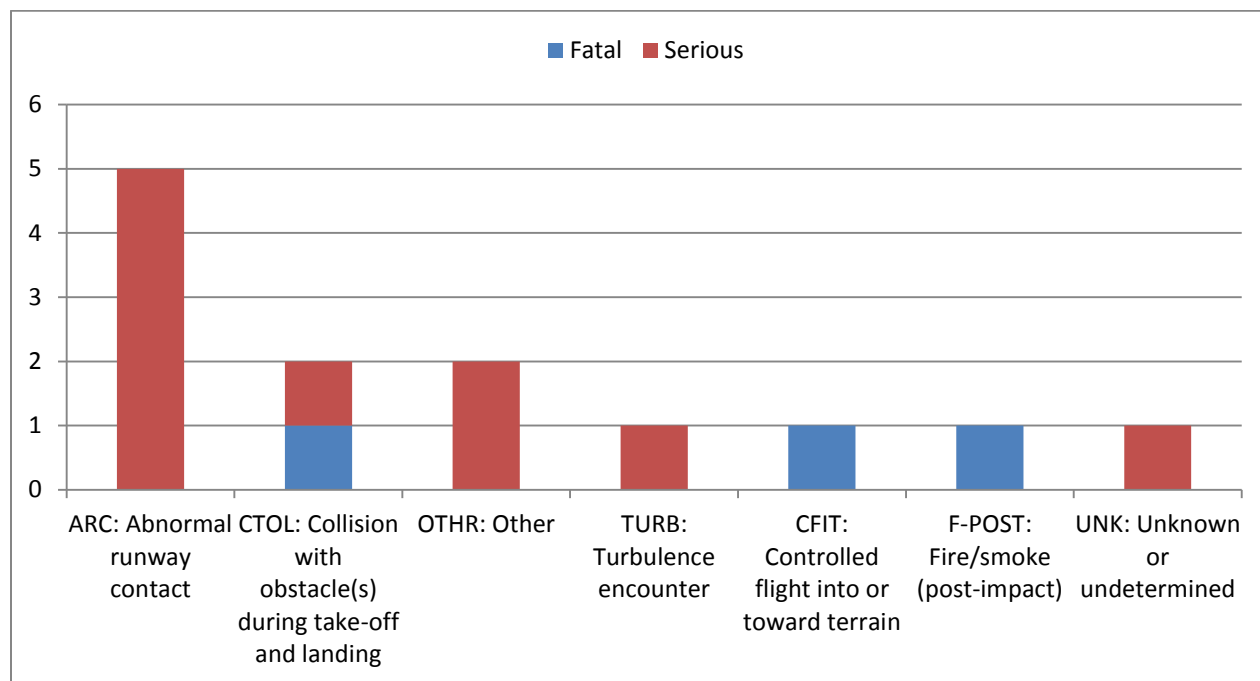


Figure 8. Outcomes for the 'Insufficient Pilot Knowledge of Balloon Physics' safety issue.

The data in Table 9 shows that there were 3 fatalities and 10 serious injuries linked to insufficient Pilot knowledge of Balloon physics. There were 5 serious injuries related to ARC.

Row Labels	Fatal	Serious	Grand Total
ARC: Abnormal runway contact		5	5
CTOL: Collision with obstacle(s) during take-off and landing	1	1	2
OTHR: Other		2	2
TURB: Turbulence encounter		1	1
CFIT: Controlled flight into or toward terrain	1		1
F-POST: Fire/smoke (post-impact)	1		1
UNK: Unknown or undetermined		1	1
Grand Total	3	10	13

Table 8. Data table supporting Figure 8.

Commercial and Competitive Pressure to Initiate Flights

This issue was quickly identified by the BADCAG group and it was evident that the ADREP taxonomy did not manage to capture these events as well as it could, which will be included in the 2016 Strategic Taxonomy Review. The Commercial Pressure problem lies with the issue that a Balloon pilot does not get paid unless he flies. This increases the pressure on them to fly in questionable weather and therefore increase the risk of hard landing, basket tip over or collision with objects on ground. Even encounters with thunderstorms have forced balloons to make precautionary and even emergency landings in unfavourable winds causing both harm and unnecessary risk to the people on board.

Competitive pressure comes up both with pilots flying sponsored Balloons and in Balloon competitions, which has caused Balloons to enter difficult weather as the crew has been waiting for favourable winds and ignoring meteorological advice given to them during the race. This safety issue is proving to be causing accidents with the following outcomes:

- ARC: Abnormal runway contact
- WSTRW: Windshear or thunderstorm.
- CTOL: Collision with obstacle(s) during take-off and landing.

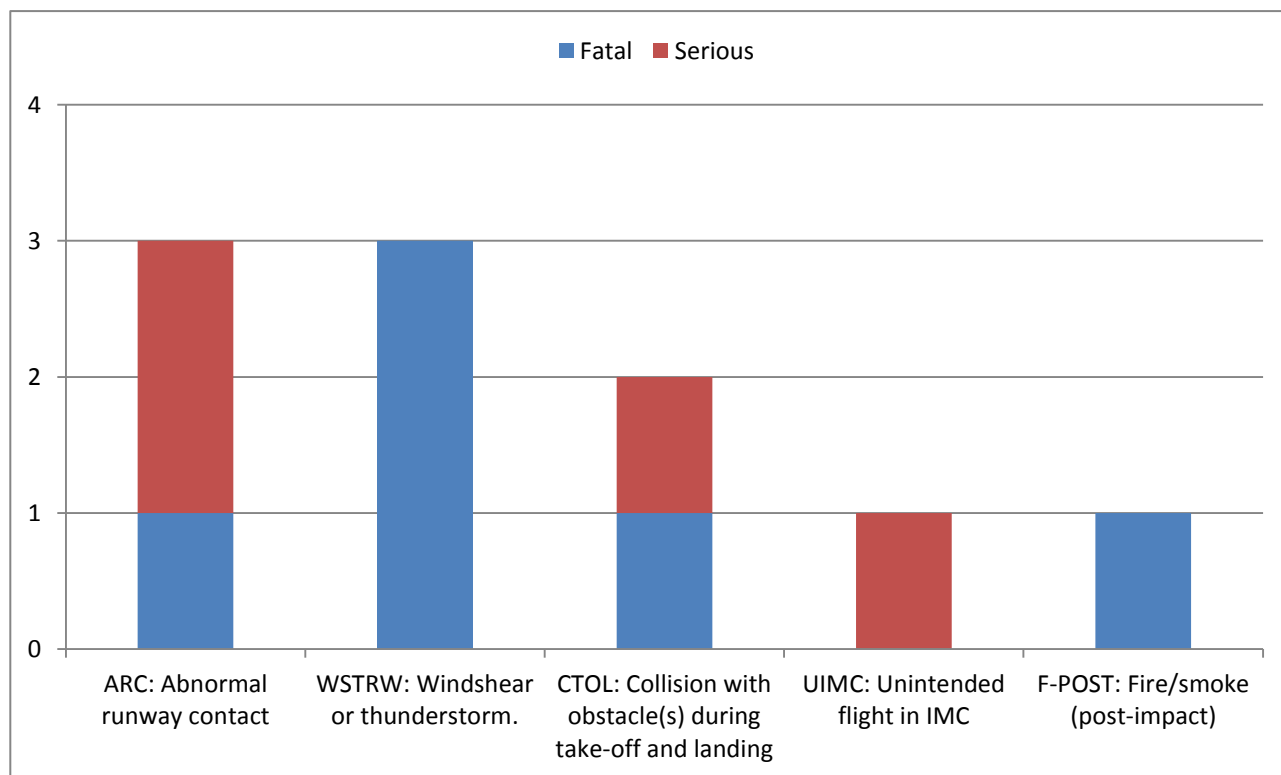


Figure 9. Outcomes for the ‘Commercial and competitive pressure to initiate flights’ safety issue.

Figure 9 and Table 10 show us the data behind this safety issue. Supporting it are 6 fatalities and 4 serious injuries.

Row Labels	Fatal	Serious	Grand Total
ARC: Abnormal runway contact	1	2	3
WSTRW: Windshear or thunderstorm.	3		3
CTOL: Collision with obstacle(s) during take-off and landing	1	1	2
UIMC: Unintended flight in IMC		1	1
F-POST: Fire/smoke (post-impact)	1		1
Grand Total	6	4	10

Table 9. Data table supporting Figure 9.

Incorrect Decision Making and Planning

This safety issue has the most data behind it. It also emphasizes the need for Human Factors to be more used when coding occurrences. This issue also raises questions like: What factors trigger the incorrect decision making process and the planning for the flight? What events precede the actual decision? What information did the pilot miss in his decision making process? This information is hard to capture, especially if the pilot is among the deceased from the accident. It is therefore very important to be able to capture this information from other accidents and serious incidents and discussions within the Balloon community to be able to form a model for the main scenarios. This could be done using Bow-Tie models.

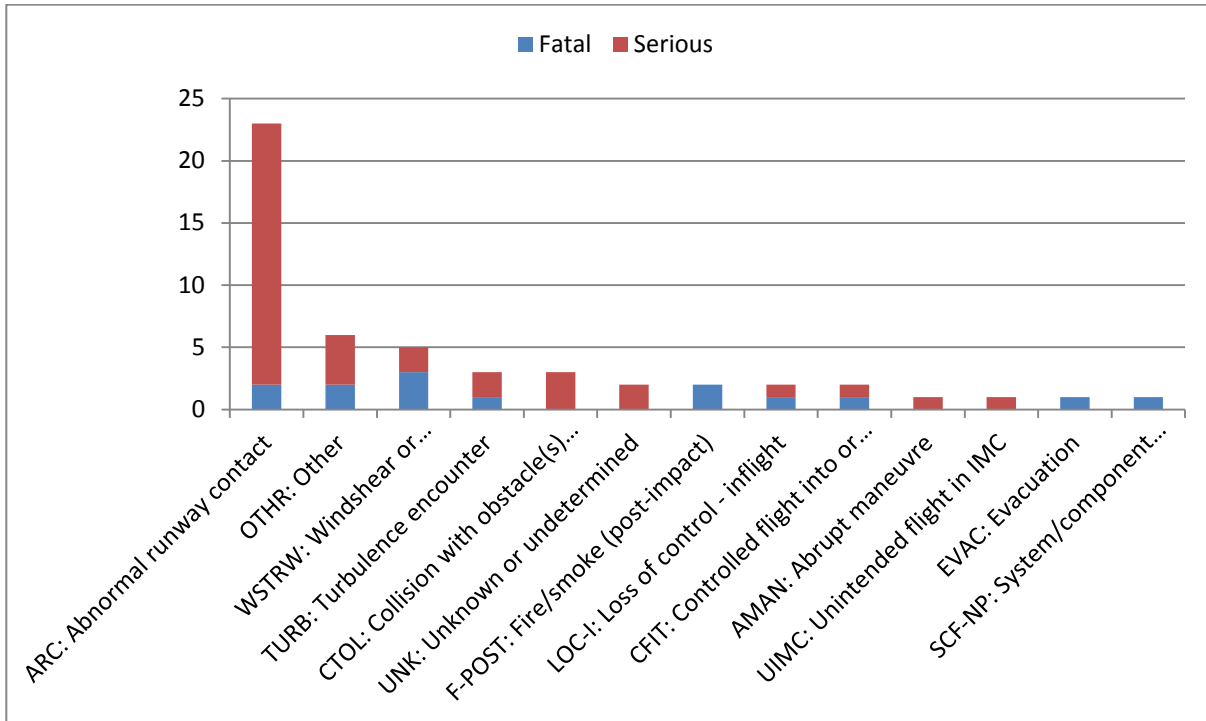


Figure 10. Outcomes for the 'Incorrect decision making and planning' safety issue.

It is evident that most of the accidents involving incorrect decision making and planning are linked to the landing phase of the flight as the main occurrence category is ARC or Abnormal Runway Contact. But ARC is mostly an outcome which has some other preceding events taking place before it comes to an ARC. This therefore also includes the planning of the flight. The decision to initiate the flight or a late decision to land as weather has been deteriorating quicker than the pilot thought it would. This has also to do with not seeing obstacles until too late and to decide to abort landing when a landing would have been a better option. This safety issue is proving to be causing accidents with the following outcomes:

- ARC: Abnormal runway contact
- CTOL: Collision with obstacle(s) during take-off and landing
- OTHR: Other
- WSTRW: Windshear or thunderstorm.
- LOC-I: Loss of control - inflight
- CFIT: Controlled flight into or toward terrain
- TURB: Turbulence encounter

Row Labels	Fatal	Serious	Grand Total
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ARC: Abnormal runway contact	2	21	23
OTHR: Other	2	4	6
WSTRW: Windshear or thunderstorm.	3	2	5
TURB: Turbulence encounter	1	2	3
CTOL: Collision with obstacle(s) during take-off and landing		3	3
UNK: Unknown or undetermined		2	2
F-POST: Fire/smoke (post-impact)	2		2
LOC-I: Loss of control - inflight	1	1	2
CFIT: Controlled flight into or toward terrain	1	1	2
AMAN: Abrupt manoeuvre		1	1
UIMC: Unintended flight in IMC		1	1
EVAC: Evacuation	1		1
SCF-NP: System/component failure or malfunction [non-powerplant]	1		1
Grand Total	14	38	52

Table 10. Data table supporting Figure 10.

Insufficient or Poor Communication – Insufficient Situational Awareness during Mass Balloon Launches

This safety issue mentions the third element relating to mass balloon launching. There are currently no rules which address the way communication between Balloons should be conducted. Sometimes the organiser of the event makes sure that every balloon has a radio which he can coordinate the launch to minimize the risk of a mid-air collision. This also addresses the situational awareness of the pilot – realising the risk of balloons above his balloon during take-off. This also emphasises the need for better markings on balloons to enable good and clear communication between Balloon pilots. This safety issue is proving to be causing accidents with the following outcomes:

- Mid-Air Collisions (MAC)

Row Labels	Serious	Grand Total
MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions	2	2
Grand Total	2	2

4.1.5.4 Organisational

Insufficient Passenger Safety Knowledge

Safety instructions on board an aircraft are important to ensure the safety of the passengers. Balloons are not exempted from that fact. The data shows that the importance of both providing and ensure that passengers follow these instructions is the way to minimise these type of fatalities. This safety issue is proving to be causing accidents with the following outcomes:

- Abnormal Runway Contact

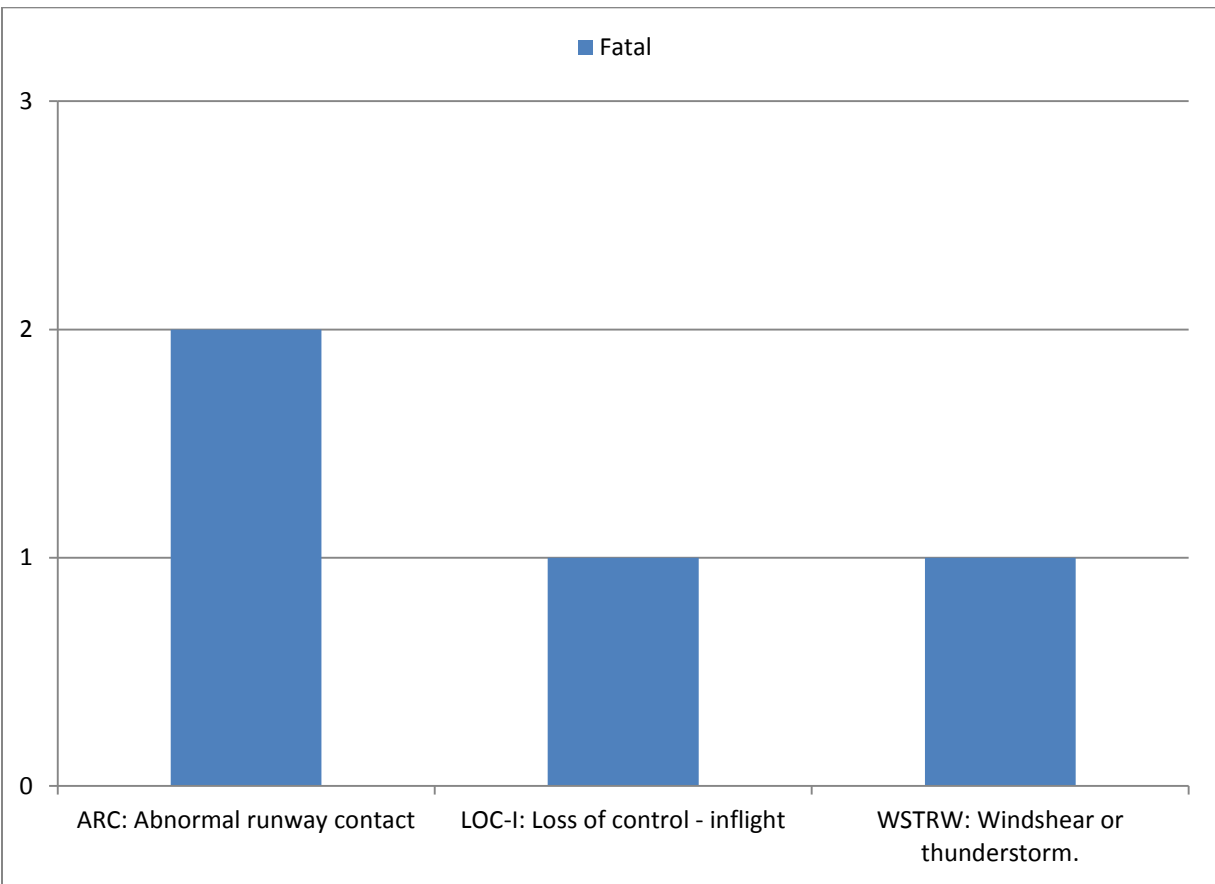


Figure 11. Outcomes for the 'Insufficient Passenger Safety Knowledge' safety issue.

Row Labels	Fatal	Grand Total
ARC: Abnormal runway contact	2	2
LOC-I: Loss of control - inflight	1	1
WSTRW: Windshear or thunderstorm.	1	1
Grand Total	4	4

Table 11. Data table supporting Figure 11.

Insufficient Availability of Operational Documentation – e.g. Map Marking with Power Wires

The availability of maps showing obstacles like power or telephone wires are not always easy to access. The data shows several accidents where power lines were spotted to late causing the balloon to either hit the ground or the power lines hard due to expedited landing or late spotting of the danger or hitting the power lines as a result of aborted landing in the attempt to avoid the collision. This safety issue is proving to be causing accidents with the following outcomes:

- Abnormal Runway Contact (ARC)
- Collision with obstacle(s) during take-off and landing (CTOL)

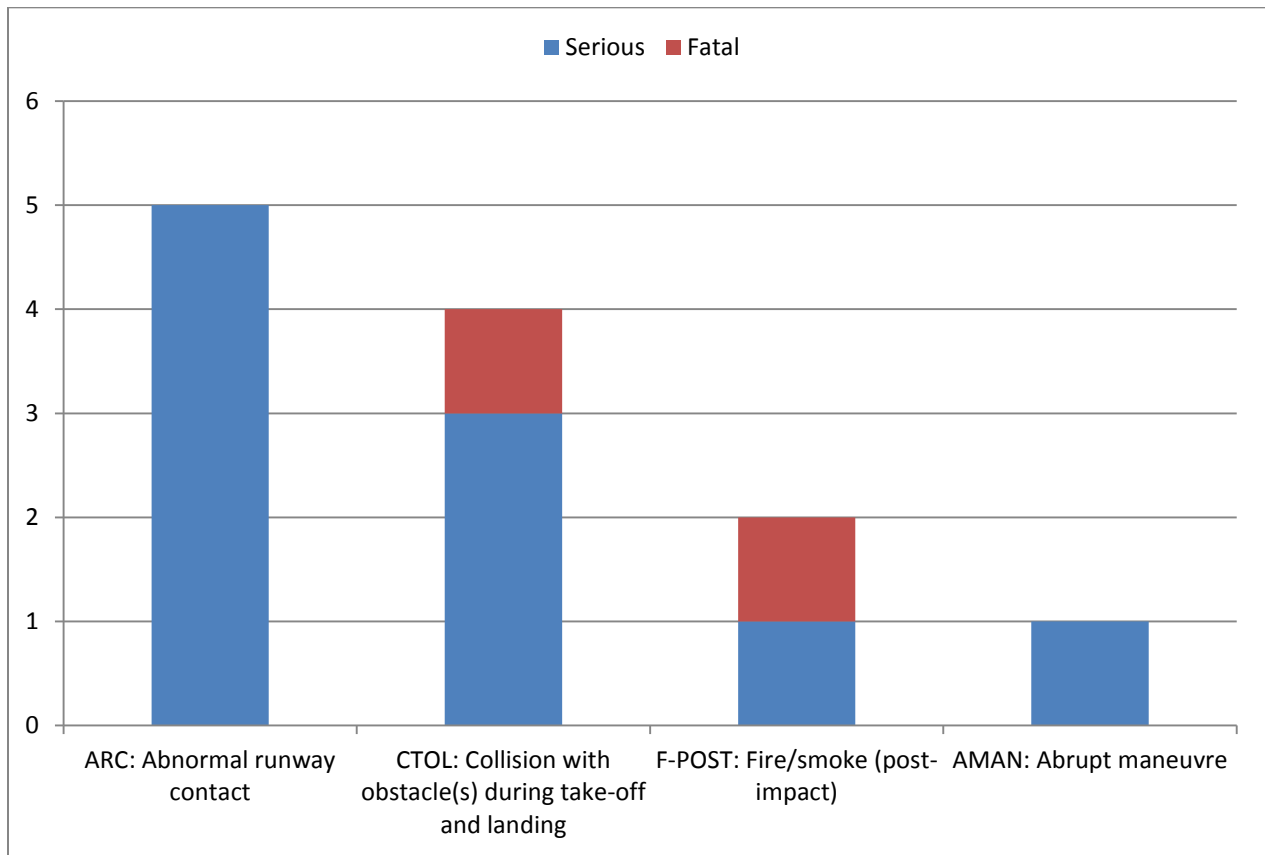


Figure 12. Outcomes for the 'Insufficient Availability of Operational Documentation' safety issue.

Row Labels	Serious	Grand Total
ARC: Abnormal runway contact	5	5
CTOL: Collision with obstacle(s) during take-off and landing	3	3
F-POST: Fire/smoke (post-impact)	1	1
AMAN: Abrupt manoeuvre	1	1
Grand Total	10	10

Table 12. Data table supporting Figure 12.

4.2 Summary of results

GA - Balloons		SYS	Outcomes									EME
Safety Issue			ARC	CTOL	OTHR	WSTRW	FIRE	LOC-I	MAC	TURB	CFIT	
Operational	Inadequate or poor weather planning		•	•	•	•				•		
	Incorrect control of manual flight path through control of balloon inertia		•	•					•		•	
	Loss of separation – Particularly during mass balloon launches								•		•	
Technical	Propane system fire		•				•					
	1110 Exterior Colour Schemes and Markings – Insufficient Visibility of Balloon Registration								•			
	Sharp edges on baskets											•
Human	Insufficient pilot knowledge of balloon physics		•	•	•				•		•	
	Commercial and competitive pressure to initiate flights		•	•	•	•						
	Incorrect decision making and planning		•	•	•	•		•	•			
	Insufficient or poor communication – Insufficient situational awareness during mass balloon launches								•		•	
Organisational	Insufficient passenger safety knowledge	•	•									
	Insufficient availability of operational documentation – e.g. Map Marking with Power Wires		•	•								

Table 13. Safety Risk Portfolio including identified safety issues and outcomes.

This paragraph summarises the analysis done above . The analysis particularised the list of safety issues identified by BADCAG. The top five safety issues, the ones contributing most frequently to LoC-I Balloon accidents, were:

- Incorrect decision making and planning
- Inadequate or poor weather planning
- Incorrect control of manual flight path through control of balloon inertia
- Insufficient pilot knowledge of balloon physics
- Insufficient passenger safety knowledge

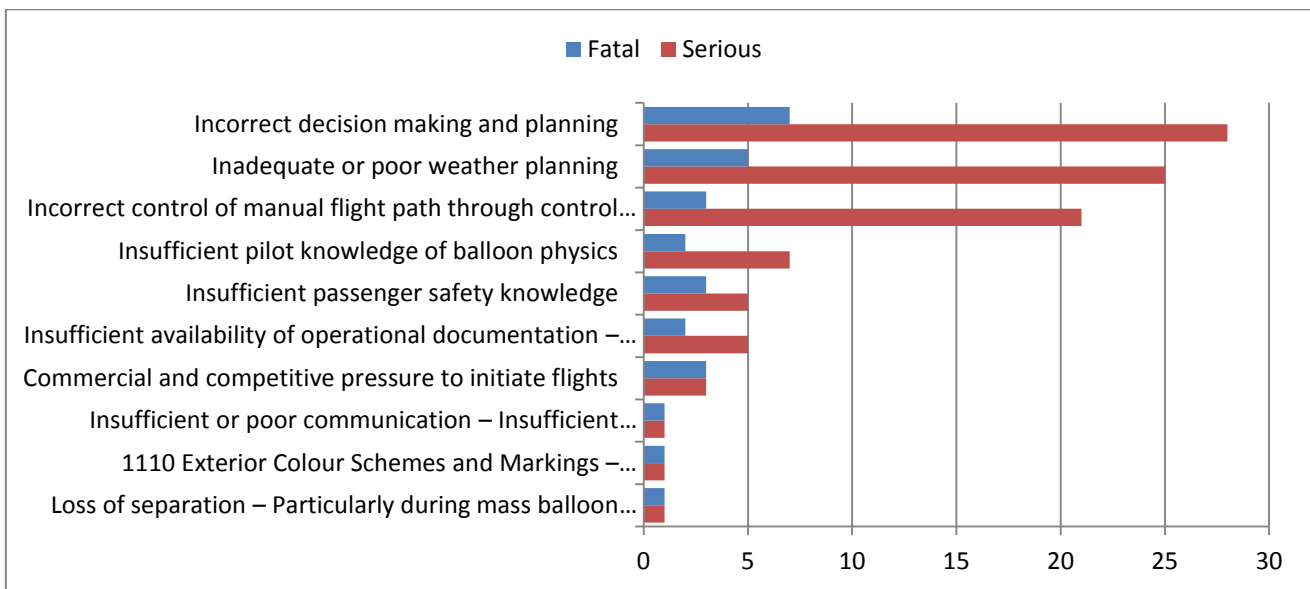


Figure 13. Distribution of Balloon accidents by safety issues and injury level

Incorrect decision making and planning: This area covers the inadequate decision making by the flight crew regarding if the flight should be done or not according to the available weather information. The area also covers the information gathering and processing during the landing phase and the decision making and planning based on the compilation of that information during the landing phase of the flight.

Inadequate or poor weather planning: This area covers the inadequate or inefficient efforts by the flight crew to collect and evaluate available data on the current weather and its future development and to plan the flight accordingly.

Incorrect control of manual flight path through control of balloon inertia: This area covers the flight crews inadequate understanding or knowledge of the balloon inertia and the associated procedures. This safety issue normally leads to an inadequate response by the flight crew on how to handle the balloon during landing. It is mostly revealed in an unexpected or unfamiliar situations especially when risk of collision is imminent. It also affects the physiological and psychological factors that may lead to an inadequate response (fatigue, startle effect, tunnel vision, etc..). This safety issue normally leads to the flight crew failing to properly manage the balloon inertia to benefit a safe flight.

Insufficient pilot knowledge of balloon physics: This area covers the flight crews inadequate understanding or knowledge about the operation or behaviour of the Balloon physics. This is mainly related to the crews ineffective use of available knowledge and skills, with particular emphasis on those aspects connected with the crews ability to timely recognise the aircraft state, the inappropriateness of tools or procedures that have affected the crew’s response in terms of balloon design and available features (warnings, data, ergonomics, etc..).

Insufficient passenger safety knowledge: This area covers the use of procedures in preparing the passengers both before and after the flight has started and before the landing when a correct position/posture is necessary to avoid injuries during landing.

5 Conclusions

The systematic approach used in this analysis provides a rigorous data driven methodology to identify safety issues and to prioritize them based on their contribution to accident outcomes.

Regarding the key points from the statistical analysis of Balloon occurrences are:

- There were reports available on a total of 115 Balloon accidents over the period considered;
- The identified safety issues are strongly supported by the available data.
- Modifications on ADREP taxonomy still needed for better connection between identified safety issues and event types.

The analysis concluded that the main contributors to Balloon accidents and its scenarios are:

- A. Windshear/Turbulence: Balloon upset due to rapid movement of an air mass around it, either atmospheric or geographic in nature (windshear, mountain wave, gust, etc.).
- B. Wire strikes: Late identification of wires in the flight path. It is often difficult for balloonists to have access to maps which mark power lines and other high objects in the area he is flying. This is more of a challenge in ballooning as landing sites are not limited to aerodromes as in other forms of aviation.
- C. Collisions: Collisions with terrain or objects caused by either a lack of situational awareness, understanding of balloon physics in different environmental conditions and pilots having their view obscured by sunlight or other meteorological phenomena.

The top five safety issues identified as having a direct contribution to the outcome as a result of a Balloon accident are:

- Incorrect decision making and planning;
- Inadequate or poor weather planning;
- Incorrect control of manual flight path through control of balloon inertia;
- Insufficient pilot knowledge of balloon physics;
- Insufficient passenger safety knowledge.

6 Next steps

In line with the Safety Risk Management process the next step is to perform full safety risk assessment of each individual safety issue. This risk assessment will help to support the identification of the most effective actions and the enable integration of provisions for safety promotion for Balloons in the EASp and the Safety Promotion Work Programme. This promotion material would be developed by the Agency with the external support through the Balloon Accident Data Collaboration and Analysis Group (BADCAG).

This two-dimensional analysis (across risk areas and in-depth within each safety issue), should provide a more accurate risk picture of the Balloon sector and it should facilitate the visualisation of the most critical factors which safety actions should focus on.

7 Appendix A: Notes on the analysis

This chapter summarises the main issues encountered during the analysis work, with particular focus on the availability and quality of the data, the use of the new ECCAIRS Taxonomy 2.5.0.0 and the methods and tools used. The aim of these notes is to propose changes in the SM1 processes and tools to ensure the availability of the adequate data, methods and tools to enable a more efficient and accurate analyses.

Issues related to data quality

Most of the issues encountered related to the content of the record and the coding applied to the occurrence. The data was all recoded from ADREP Taxonomy version 1.3.0.8 to version 2.5.0.0. The new taxonomy version does still not have event types necessary to describe e.g. issues with balloon inertia.

The following bullets provide more details on those findings:

- Occurrence records were not always consistently coded, either in terms of completeness, the incorrect use of taxonomy or both;
- Accident records for which an official investigation was conducted and finalized did not have the final investigation report attached, nor the summary of the investigation results;
- The coding of occurrences (class, categories and events mainly), was sometimes inconsistent with available data;
- Contextual factors not associated with a specific moment in time during the occurrence but which contributed to the final outcome, were not present in the coding. For example, issues such as a lack of training, inadequate oversight, preparation and planning etc., were not visible in the chain of events, and therefore, not immediately retrievable for the analysis.

Issues related to the use of ECCAIRS Taxonomy 2.5.0.0

Most of the issues encountered relate to the conversion of records from previous taxonomy versions. The following bullets detail those findings:

- In general, the new taxonomy allows a more detailed description of the occurrence in a simpler manner, especially at event level;
- The use of some values in the event tree was restricted to a specific context, rendering the historical data potentially inaccurate. For example, values related to “collision with terrain” was associated to CFIT but not CTOL as most of the balloon accidents occur during the landing phase of the flight;
- It is not possible to identify how each event contributed to the final outcome of the occurrence. That is, to differentiate between contributing, contextual and failing or functioning barriers. For example, the event taxonomy does not distinguish between contributing and contextual factors or between preventive and recovery barriers. This would be required for a bow-tie analysis;
- It is still not possible to reflect in the chain of events those positive factors preventing the event to escalate to a fatal outcome (preventive or recovery barriers);
- The taxonomy has no direct link with all of the safety issues identified. It covers most safety issues associated with the operation of the aircraft, but not those related to organisational or the human factor issues as well;
- The taxonomy is still unbalanced in some domains. This causes difficulties in visualising detailed issues in domains less extensively covered (i.e., design and production) or in specific type of operations (i.e., drones, guilders, balloons);
- The new taxonomy has greatly improved our ability to extract useful information. However, the title of the event cannot always be used as a “factor”. For example “Icing Encounter Conditions”, “Unstabilised Approach” and “Lack of Communication” are self-explanatory however “Use of Policy/ Procedures”, “Monitoring of Equipment/ Instruments” and “Go Around” are not;
- In summary, the structure and the content of the taxonomy imposed a bias on the analysis, which needed to be understood by the analyst so that it could be overcome.

Issues related to the analysis methods and tools

Most of the issues relate to the lack of standardised tools and methods to carry out an analysis. The following bullets detail the findings:

- There is no standard or common analysis process. While it is not advisable to have a stringent process, it would be beneficial to have high level guidelines on a standard analysis process. This would facilitate structuring any analysis work and would standardise its content. The process should cover how to identify the scope, data collection, possible analysis methodologies or risk assessment, expected outcomes, etc.;
- The analysis methodologies should consider the bias of working with rigid taxonomy and should have ways to overcome this bias. Performing the analysis straight from taxonomy causes the outcome to visualise only what the taxonomy describes and with the level of granularity that the taxonomy has;
- There was no exposure data for parts of the timeframe analysed (2010-2014). This is an essential enabler with which to monitor safety performance;
- There was no access to tools that merge datasets easily. For example, analysis of contributors in time sequence (what is the most recurrent sequence of events pre- or post- aircraft upset) was not possible with the available tools. These data merging and cleaning capabilities are necessary to identify patterns over a large volume of data;
- To continue the analysis based on scenarios, it will be necessary to use a software tool to build bow-tie analysis and with the possibility to link the elements in the bow-tie with other relevant data sources (i.e., occurrence data, safety risk portfolio).

Recommended improvements for SM1 processes and tools

Based on the issues listed in the paragraphs above, the following changes in SM1 processes could be considered:

1. Review the data entry and reviewing process to ensure all available information on accidents and serious incidents is collected and stored in the relevant occurrence record. This should be followed by a review of the coding applied to the occurrence based on the new data available;
2. Launch a recoding exercise of occurrence data in the ADREP repository. Scope and content of this review needs to be aligned with the expected use of the data;
3. Consolidate a common understanding of occurrence coding and the use of the current taxonomy. This is a necessary enabler for a sound analysis and monitoring of identified safety issues. This can be achieved by:
 - a. Holding an inter-team review of occurrences during the Weekly Review (i.e., ensure all SM1 processes are represented in the Weekly Review);
 - b. Develop coding templates for each safety issue listed in the Agency's risk portfolios. These templates would provide a common understanding of the safety issue and would harmonise coding;
 - c. Raise awareness of the content of the risk portfolios within the Department to gain synergies and avoid duplication of work (i.e., research, IORS, SFDAT). This is essentially a communication activity to ensure all related activities involving SM1 are properly integrated;
4. Define a catalogue of analysis methodologies for SM1, including reference material on how these methodologies should be applied. Analysis methodologies may include ARMS, bow-tie or any methods suitable in the scope of the analysis in SM1;
5. Develop analysis guidelines to facilitate and standardise the analysis work. These guidelines may include the basic skeleton of a safety analysis method, common criteria for the selection of data sources, risk assessment and outcomes;

6. Ensure continuous support to multi-team analysis work. To the greatest possible extent, all analysis work should be a cross-team effort (different people from the various teams in SM1);
7. Develop an Analysis Request Template to ensure analysis requests contain all of the information necessary to scope the analysis;
8. Discuss potential changes internally in the CICTT taxonomy for occurrence categories to gather the precursors of accidents in the categorisation of incidents (i.e., reviewing the LoC-I definition to capture minor upsets and genuine triggering of stall warnings);
9. Raise the potential miscoding of historical data after the upgrading ECCAIRS Environments to the Aviation Taxonomy 2.5.0.0 with the ECCAIRS Taxonomy WG.

8 Appendix B: List of Event types

Row Labels	Number of accidents
2801 Fuel Leak	1
(blank)	1
4730 Inert Gas Control System	1
(blank)	1
Abrupt Manoeuvre	1
Crew Induced Manoeuvre	1
Airborne Conflict	4
Airborne Collision with Aircraft	3
Airspace Infringement	1
Aircraft Handling	64
Control of Manual Flight Path	1
Landing - Bounced	12
Landing - Hard	42
Rate of Climb/ Descent - High	4
(blank)	5
Aircraft Related Regulatory Events	1
(blank)	1
Aircraft Upset	5
Aeroplane Buffet/ Stall	1
(blank)	4
ATM Regulation Deviation	1
(blank)	1
Balloon specific events	67
Basket Caught in Obstacles	6
Basket Sliding/ Dragging	3
Basket Tipped Over	25
Envelope Panels Burned	5
Envelope Ripped	8
Envelope Skirt Burned	3
Person Fell/ Ejected from Basket	8
(blank)	9
Damage to Aircraft	4
Aircraft Sank in Water	1
Lightning Strike Damage	1
Post-Crash Fire	1
(blank)	1
Declared Emergency	14
Aircraft Abandoned / Crew Ejected	1
Ditching	1

Emergency Descent	1
Evacuation	2
Forced Landing	9
Effect on Operations	2
Diversion - Operational Reasons	1
Diversion - Weather	1
Fire	5
Fire - Other Location	1
Fire - Passenger Cabin	1
(blank)	3
Flight Planning and Preparation	14
Pre-Flight Briefing and Flight Preparation	9
(blank)	5
Ground Conflict	8
Ground Collision with Building	1
Ground Collision with Other Ground Object	4
Ground Collision with Person	1
(blank)	2
Medical and Injury	57
Injuries due to Aircraft Component/s	4
Injuries due to an Abrupt Manoeuvre	1
Injuries due to Other Sources	40
Medical/ Incapacitation - Flight Crew	3
Medical/ Incapacitation - Passenger	3
(blank)	6
Outcome Events	14
Nosed Down/Overturned	1
Precautionary Landing	9
Rejected Landing	2
Rejected Take-Off - Low Speed	1
Rotation - Early	1
Personnel Communication Events	2
Lack of Communication	2
Personnel Decision Making	6
Incorrect Decision/ Plan	6
Personnel Impairment and Incapacitation Events	1
Hypoxia	1
Personnel Memory Related Events	1
Forgot Planned Action	1
Personnel Perception Events	1
Perception of Visual Information - Illusion/Disorientation	1
Task Management Events	1
Time Pressure	1

9 Appendix C: List of occurrences part of the analysis

This section only contains a summary of each occurrence (115) part of the analysis. Full records are available in the EASA ADREP repository. Some accidents in the list do not have any safety issues attached as there was not sufficient data to attach any of the safety issues to them.

Occurrence 1 of 115		Headline		Gas Balloon during Competition - Lightning strike and Uncontrolled Descent and Impact with Sea						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
29/09/2010	Accident	Lighter than air	BALLONBAU - KSTU - 1000	N801NM	Italy	Destroyed	2			
Occurrence Categories	WSTRW: Windshear or thunderstorm. -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - - <i>during</i> - - En-route - Level flight - Event 2 : Consequential Events - Damage and Injuries Events - Damage to Aircraft - Lightning Strike Damage - <i>during</i> - - En-route - Level flight - Event 3 : Personnel - Personnel Task Performance Events - Personnel Decision Making - Incorrect Decision/ Plan - <i>during</i> - - En-route - Level flight - Event 4 : Personnel - Personnel Task Performance Events - Task Management Events - Time Pressure - <i>during</i> - - En-route - Level flight - Event 5 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Lightning Strike - <i>during</i> - - En-route - - Event 6 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Envelope Ripped - <i>during</i> - - En-route - Level flight - Event 7 : Consequential Events - Flight Operations Outcome Events - Declared Emergency - Ditching - <i>during</i> - - En-route - En-route: Uncontrolled descent - Event 8 : Consequential Events - Damage and Injuries Events - Damage to Aircraft - Aircraft Sank in Water - <i>during</i> - - Post-impact - -									
Occurrence 2 of 115		Headline		Balloon deflated during flight and fell to the ground						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
01/01/2011	Accident	Lighter than air	CAMERON - O120	G-BVXF	United Kingdom	Destroyed	2			
Occurrence Categories	LOC-I: Loss of control - inflight -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Rate of Climb/ Descent - High - <i>during</i> - - En-route - Stabilized climb - Event 2 : Personnel - Personnel Task Performance Events - Personnel Memory Related Events - Forgot Planned Action - <i>during</i> - - En-route - Stabilized climb - Event 3 : Personnel - Physiological Events - Personnel Impairment and Incapacitation Events - Hypoxia - <i>during</i> - - En-route - Stabilized climb - Event 4 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Envelope Ripped - <i>during</i> - - En-route - Stabilized climb - Event 5 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Level Terrain - <i>during</i> - - En-route - En-route: Uncontrolled descent - Event 6 : Consequential Events - Damage and Injuries Events - Damage to Aircraft - Post Crash Fire - <i>during</i> - - Post-impact - -									

Occurrence 3 of 115		Headline		Flight initiated inspite of poor weather forcast. High speed landing caused the basket to flip 180 degrees						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
22/04/2011	Accident	Lighter than air	KUBICEK - BB37 - N	OO-BHA	Belgium	Minor	1	3	2	
Occurrence Categories	WSTRW: Windshear or thunderstorm. - ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - Pre-Flight Briefing and Flight Preparation - <i>during</i> - - Standing - - Event 2 : Personnel - Personnel Task Performance Events - Personnel Decision Making - Incorrect Decision/ Plan - <i>during</i> - - Standing - - Event 3 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - High Wind Encounter - <i>during</i> - - Landing - Touch-down - Event 4 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down - Event 5 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - <i>during</i> - - Landing - Touch-down - Event 6 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Tumbling - Event 7 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Person Fell/ Ejected from Basket - <i>during</i> - - Landing - Tumbling -									

Occurrence 4 of 115		Headline		Loss of control of a balloon and hard landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
25/06/2011	Accident	Lighter than air	BALLONBAU (Woerner NL-1000/STU)	HB-QHJ	Switzerland	Destroyed	1		2	
Occurrence Categories	SCF-NP: System/component failure or malfunction [non-powerplant] - OTHR: Other -									
Events and Descriptive Factors	Event 1 : Equipment - 4700 Inert Gas System - 4730 Inert Gas Control System - - <i>during</i> - - Take-off - - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Envelope Ripped - <i>during</i> - - Take-off - Initial climb - Event 3 : Consequential Events - Flight Operations Outcome Events - Declared Emergency - Forced Landing - <i>during</i> - - En-route - En-route: Emergency descent -									

Occurrence 5 of 115		Headline		Collision avec une ligne électrique lors d'un baptême de l'air, incendie						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
13/05/2012	Accident	Lighter than air	OTHER (Schroeder Fire Balloon)	F-HTML	France	Destroyed	3	1		

Occurrence Categories	CFIT: Controlled flight into or toward terrain - F-POST: Fire/smoke (post-impact) -
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - during - - En-route - - Event 2 : Personnel - Personnel Task Performance Events - Personnel Decision Making - Incorrect Decision/ Plan - during - - En-route - Stabilized descent - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Caught in Obstacles - during - - Post-impact - - Event 4 : Equipment - 2800 Fuel System - 2801 Fuel Leak - - during - - Post-impact - - Event 5 : Consequential Events - Flight Operations Outcome Events - Declared Emergency - Aircraft Abandoned / Crew Ejected - during - - Post-impact - - Event 6 : Equipment - Aircraft General Explosions / Fire/ Fumes / Smoke Outcome Events - Fire - - during - - Post-impact - -

Occurrence 6 of 115		Headline	Cameron Balloons Z-750 - Hard landing, One passenger was ejected and hit by the basket - 34 POB - 1 OB Fatal - No damage							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
19/08/2012	Accident	Lighter than air	CAMERON (Z-750)	F-HDJH	France	None	1			33
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Sliding/ Dragging - during - - Landing - Touch-down - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Person Fell/ Ejected from Basket - during - - Landing - Dragging - Event 4 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Bounced - during - - Landing - Touch-down - Event 5 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Aircraft Component/s - during - - Landing - Touch-down -									

Occurrence 7 of 115		Headline	Lindstrand LBL600C - Hot air balloon crash in storm - 32POB - 6OB Fatalities - 12OB Serious - 14OB Minor - A/C Destroyed							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
23/08/2012	Accident	Lighter than air	LINDSTRAND - LBL600C	S5-OLO	Slovenia	Destroyed	6	12	14	
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing - F-POST: Fire/smoke (post-impact) - WSTRW: Windshear or thunderstorm. -									

Events and Descriptive Factors	Event 1 : Organisational - Regulatory - Aircraft Related Regulatory Events - - <i>during</i> - - - - Event 2 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - - <i>during</i> - - Landing - - Event 3 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down - Event 4 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Bounced - <i>during</i> - - Landing - - Event 5 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Tree/ Tall Vegetation - <i>during</i> - - Landing - - Event 6 : Equipment - Aircraft General Explosions / Fire/ Fumes / Smoke Outcome Events - Fire - - <i>during</i> - - Post-impact - -
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Occurrence 8 of 115		Headline		Balloon Mid-air collision						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
20/05/2013	Accident	Aircraft 1 Lighter than air Aircraft 2 Lighter than air	Aircraft 1 LINDSTRAND Aircraft 2 UNKNOWN	Aircraft 1 Aircraft 2	Turkey	Substantial	A/C 1 3 A/C 2	A/C 1 22 A/C 2	A/C 1 A/C 2	A/C 1 0 A/C 2
Occurrence Categories	MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions -									
Events and Descriptive Factors	Event 1 : Personnel - Personnel Task Performance Events - Personnel Communication Events - Lack of Communication - <i>during</i> - - Take-off - - Event 2 : Operational - Aircraft Flight Operations - Airborne Conflict - Airborne Collision with Aircraft - <i>during</i> - - En-route - - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Envelope Ripped - <i>during</i> - - En-route - - Event 4 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Elevated Terrain - <i>during</i> - - En-route - En-route: Uncontrolled descent - Event 5 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Person Fell/ Ejected from Basket - <i>during</i> - - Post-impact - -									

Occurrence 9 of 115		Headline		Hot-air balloon crash during emergency landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
22/07/2013	Accident	Lighter than air	OTHER (BALLOON(MISCELLANEOUS))	F-HMCL	Luxembourg	Substantial	1		3	
Occurrence Categories	WSTRW: Windshear or thunderstorm. - OTHR: Other -									

Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - Pre-Flight Briefing and Flight Preparation - during - - Standing - - Event 2 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Unexpected Weather Encounter - during - - En-route - Level flight - Event 3 : Consequential Events - Flight Operations Outcome Events - Effect on Operations - Diversion - Weather - during - - En-route - Stabilized descent - Event 4 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Windshear/ Microburst Encounter - during - - Landing - Flare - Event 5 : Operational - Aircraft Flight Operations - Ground Conflict - - during - - Landing - Flare - Event 6 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Person Fell/ Ejected from Basket - during - - Landing - Touch-down - Event 7 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Nosed Down/Overturned - during - - Landing - Touch-down -
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Occurrence 10 of 115		Headline		Collision of balloon with powerline						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
06/08/2013	Accident	Lighter than air	CAMERON - Z105	HB-QOW	Switzerland	Substantial	1	4		
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - during - - Landing - - Event 2 : Operational - Aircraft Flight Operations - Ground Conflict - - during - - Post-impact - - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - during - - Post-impact - -									

Occurrence 11 of 115		Headline		Schroeder G50/24 - Precautionary bounced landing - basket flipped on its side - fire - evacuation - 11POB - 1OB Fatal - 3OB Serious - 7OB Minor - A/C Destroyed						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
05/10/2014	Accident	Lighter than air	Not mapped (Schroeder Fire Balloons G50/24)	F-HCCG	France	Destroyed	1	3	7	
Occurrence Categories	ARC: Abnormal runway contact - F-POST: Fire/smoke (post-impact) - EVAC: Evacuation - TURB: Turbulence encounter -									

Events and Descriptive Factors	<p>Event 1 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - - <i>during</i> - - Standing - -</p> <p>Event 2 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Turbulence Encounter - <i>during</i> - - En-route - -</p> <p>Event 3 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Precautionary Landing - <i>during</i> - - Landing - -</p> <p>Event 4 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Rotation - Early - <i>during</i> - - Landing - -</p> <p>Event 5 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Crosswind Encounter - <i>during</i> - - Landing - -</p> <p>Event 6 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Bounced - <i>during</i> - - Landing - -</p> <p>Event 7 : Equipment - Aircraft General Explosions / Fire/ Fumes / Smoke Outcome Events - Fire - Fire - Passenger Cabin - <i>during</i> - - Landing - -</p> <p>Event 8 : Consequential Events - Flight Operations Outcome Events - Declared Emergency - Evacuation - <i>during</i> - - Post-impact - -</p>
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Occurrence 12 of 115		Headline		Collision en vol avec un autre ballon lors d'une manifestation aérienne						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
11/01/2010	Accident	Aircraft 1 Lighter than air Aircraft 2 Lighter than air	Aircraft 1 ULTRAMAGIC (S SERIES (3680 m3)) Aircraft 2 CAMERON - A160 ((4500 m3))	Aircraft 1 F-GOBI Aircraft 2 F-GHKT	France	Destroyed	A/C 1 A/C 2	A/C 1 2 A/C 2	A/C 1 A/C 2	A/C 1 3 A/C 2 7
Occurrence Categories	MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions -									
Events and Descriptive Factors	<p>Event 1 : Personnel - Personnel Task Performance Events - Personnel Communication Events - Lack of Communication - <i>during</i> - - En-route - Stabilized climb -</p> <p>Event 2 : Operational - Aircraft Flight Operations - Airborne Conflict - Airborne Collision with Aircraft - <i>during</i> - - En-route - Stabilized climb -</p> <p>Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Envelope Ripped - <i>during</i> - - Landing - Tear-away panels or valve opening -</p> <p>Event 4 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - En-route - En-route: Uncontrolled descent -</p> <p>Event 5 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Envelope Skirt Burned - <i>during</i> - - Post-impact - -</p>									

Occurrence 13 of 115		Headline		Blessure d'un passager lors de l' atterrissage						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
24/04/2010	Accident	Lighter than air	ULTRAMAGIC (ULTRA MAGIC SA ULTRA MAGIC M SERIES)	F-GSYI	France	None		1		4
Occurrence Categories	OTHR: Other -									

Events and Descriptive Factors	Event 1 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Aircraft Component/s - during - - Landing - Touch-down -
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Occurrence 14 of 115		Headline		During landing the basket turned over						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
16/05/2010	Accident	Lighter than air	BALLONBAU (Wörner - NL-1000/STU)	D-OWBF	Germany	None		1		5
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - during - - Landing - Dragging - Event 3 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Dragging -									

Occurrence 15 of 115		Headline		Hard landing after getting into cloud						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
19/06/2010	Accident	Lighter than air	CAMERON (A135)	EC-JRD	Spain	None		1	1	15
Occurrence Categories	UIMC: Unintended flight in IMC - ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - Pre-Flight Briefing and Flight Preparation - during - - Standing - - Event 2 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Unexpected Weather Encounter - during - - En-route - Stabilized climb - Event 3 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Loss of Visual Reference - Brownout/ Whiteout - during - - En-route - Level flight - Event 4 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - during - - Landing - Touch-down - Event 5 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Dragging -									

Occurrence 16 of 115		Headline		Hard landing of a hot air balloon						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
18/07/2010	Accident	Lighter than air	CAMERON (Z-type)	PH-TYN	Netherlands	None		2		9
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Unexpected Weather Encounter - <i>during</i> - - En-route - - Event 2 : Operational - Aircraft Flight Operations - Aircraft Handling - Rate of Climb/ Descent - High - <i>during</i> - - Landing - - Event 3 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down - Event 4 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Bounced - <i>during</i> - - Landing - -									

Occurrence 17 of 115		Headline		UK Reportable Accident: Balloon landed heavily. One passenger injured with a fracture to the knee. No damage to balloon. AAIB AA						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
28/08/2010	Accident	Lighter than air	LINDSTRAND - LBL180A	G-CBZU	United Kingdom	None		1		6
Occurrence Categories	ARC: Abnormal runway contact - TURB: Turbulence encounter -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Turbulence Encounter - <i>during</i> - - Approach - - Event 2 : Operational - Aircraft Flight Operations - Aircraft Handling - Rate of Climb/ Descent - High - <i>during</i> - - Approach - Final approach - normal - Event 3 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down - Event 4 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Touch-down -									

Occurrence 18 of 115		Headline		Damage and injuries while a hot air balloon was hit by a squall of a cold frontal system						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
12/09/2010	Accident	Lighter than air	LINDSTRAND	D-OBBU	Germany	Substantial		6	6	2
Occurrence Categories	TURB: Turbulence encounter -									

Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - Pre-Flight Briefing and Flight Preparation - <i>during</i> - - Standing - - Event 2 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Turbulence Encounter - <i>during</i> - - Landing - Touch-down - Event 3 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Touch-down -
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Occurrence 19 of 115		Headline		Collision with fence						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
21/09/2010	Accident	Lighter than air	OTHER (Schröder - fire balloons G)	D-OEBS	Germany	None		1		5
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Ground Conflict - Ground Collision with Other Ground Object - <i>during</i> - - Landing - Flare -									

Occurrence 20 of 115		Headline		Balloon Hard Landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
10/10/2010	Accident	Lighter than air	OTHER (Llopis MA-30 (PILATRE DE ROZIER))	F-HDMS	Italy	None		2		
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Windshear/ Microburst Encounter - <i>during</i> - - Landing - Touch-down - Event 2 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down - Event 3 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - -									

Occurrence 21 of 115		Headline		Rollover of the balloon basket						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
14/11/2010	Accident	Lighter than air	KUBICEK - BB34 - Z	OK-8808	Czech Republic	None		1		5
Occurrence Categories	OTHR: Other -									

Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - <i>during</i> - - Landing - Touch-down - Event 2 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Dragging -
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Occurrence 22 of 115		Headline		Atterrissage dur en campagne						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
12/03/2011	Accident	Lighter than air	CAMERON - C90	F-GXTH	France	Minor		1	1	1
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - - <i>during</i> - - Landing - Touch-down -									

Occurrence 23 of 115		Headline		Hard landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
02/04/2011	Accident	Lighter than air	OTHER (THEO SCHRÖDER FIRE BALLOONS GMBH - FIRE BALLOONS G)	D-OWBP	Germany	None		1	1	2
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down -									

Occurrence 24 of 115		Headline		UK Reportable Accident: On landing, basket bounced, tipped on its side and was dragged for 10m before coming to rest. 4 POB, one						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
21/05/2011	Accident	Lighter than air	CAMERON - Z90	G-VKUP	United Kingdom	None		1		3

Occurrence Categories	ARC: Abnormal runway contact -
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - during - - Landing - - Event 3 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Dragging -

Occurrence 25 of 115		Headline								
		Fractur of a foot during landing								
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
17/06/2011	Accident	Lighter than air	ULTRAMAGIC - N210	D-OMKP	Germany	None		1		7
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Touch-down -									

Occurrence 26 of 115		Headline								
		Baptême de l'air, tentative d'atterrissage de précaution manquée par vent fort								
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
02/07/2011	Accident	Lighter than air	CAMERON - A250	CS-BAS	France	Minor		1	7	6
Occurrence Categories	CFIT: Controlled flight into or toward terrain - ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - - during - - Landing - Tumbling -									

Occurrence 27 of 115		Headline								
		Balloon passenger injured during landing								
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
08/07/2011	Accident	Lighter than air	CAMERON - A300	PH-FDT	Netherlands	None		1		12

Occurrence Categories	OTHR: Other -
Events and Descriptive Factors	Event 1 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - -

Occurrence 28 of 115		Headline		Hard landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
28/07/2011	Accident	Lighter than air	ULTRAMAGIC (T Series)	D-OBTL	Germany	None		1		5
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down - Event 2 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Touch-down -									

Occurrence 29 of 115		Headline		Passenger injury during landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
01/08/2011	Accident	Lighter than air	SKY - 120 24	G-OBFE	Germany	None		1		3
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Touch-down -									

Occurrence 30 of 115		Headline		UK Reportable Accident: Balloon struck a wall during attempted field landing due to strong winds. Balloon panel damaged. 12 POB, one serious, one minor injury. AAIB AARF investigation.						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
24/08/2011	Accident	Lighter than air	OTHER (BALLOON)	G-CBZZ	United Kingdom	Substantial		1	1	10

Occurrence Categories	TURB: Turbulence encounter -
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Turbulence Encounter - <i>during</i> - - - Event 2 : Operational - Aircraft Flight Operations - Aircraft Upset - - <i>during</i> - - - - Event 3 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - - <i>during</i> - - - - Event 4 : Consequential Events - Damage and Injuries Events - Medical and Injury - Medical/ Incapacitation - Passenger - <i>during</i> - - - - Event 5 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - - <i>during</i> - - - - Event 6 : Operational - Aircraft Flight Operations - Ground Conflict - Ground Collision with Other Ground Object - <i>during</i> - - - - Event 7 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - - <i>during</i> - - - - Event 8 : Operational - Aircraft Flight Operations - - - <i>during</i> - - - - Event 9 : Operational - Aircraft Flight Operations - Aircraft Handling - - <i>during</i> - - - - Event 10 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Precautionary Landing - <i>during</i> - - - -

Occurrence 31 of 115		Headline		Basket tipped over during landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
26/08/2011	Accident	Lighter than air	OTHER (SCHRÖDER - Fire G)	D-OWJK	Germany	Minor		1	2	4
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - <i>during</i> - - Landing - Dragging -									

Occurrence 32 of 115		Headline		Basket tipped over during landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
26/08/2011	Accident	Lighter than air	OTHER (SCHRÖDER - FIRE G)	D-OCAA	Germany	Substantial		3	3	0
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - <i>during</i> - - Landing - Touch-down -									

Occurrence 33 of 115		Headline		Basket tipped over during landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
26/08/2011	Accident	Lighter than air	OTHER (SCHRÖDER - FIRE G)	D-OCAV	Germany	Substantial		4	2	0
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - <i>during</i> - - Landing - Touch-down -									

Occurrence 34 of 115		Headline		Basket tipped over during landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
03/09/2011	Accident	Lighter than air	KUBICEK - BB42 - Z	D-OMMP	Germany	None		1		5
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - <i>during</i> - - Landing - Touch-down -									

Occurrence 35 of 115		Headline		Hard Landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
04/09/2011	Accident	Lighter than air	KUBICEK - BB34 - Z	OK-4409	Czech Republic	None		3		
Occurrence Categories	OTHR: Other - TURB: Turbulence encounter -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - <i>during</i> - - Landing - Landing: Other -									

Occurrence 36 of 115		Headline	Injury during landing							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
10/09/2011	Accident	Lighter than air	BALLONBAU (WÖRNER - NL-1000/STU)	D-OSTZ	Germany	None		1		4
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Touch-down -									

Occurrence 37 of 115		Headline	Injury during landing							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
11/09/2011	Accident	Lighter than air	LINDSTRAND - LBL150A	D-OBTN	Germany	None		1		6
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - <i>during</i> - - Landing - Touch-down -									

Occurrence 38 of 115		Headline	Pilot's gloved RH thumb caught by rope fixed to basket after quick release was operated. 15POB, 14 no inj							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
22/09/2011	Accident	Lighter than air	LINDSTRAND - LBL330A	G-LRGE	United Kingdom	None		1		14
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Consequential Events - Damage and Injuries Events - Medical and Injury - Medical/ Incapacitation - Flight Crew - <i>during</i> - - -									

Occurrence 39 of 115		Headline		UK Reportable Accident: Whilst boarding, gust of wind caught the balloon. Basket tipped towards boarding passengers. One fell from basket and broke their arm. AAIB AARF investigation.						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
30/09/2011	Accident	Lighter than air	OTHER (BALLOON)	G-VBFV	United Kingdom	None		1		
Occurrence Categories	LOC-G: Loss of control - ground -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - - <i>during</i> - - - - Event 2 : Consequential Events - Damage and Injuries Events - Medical and Injury - Medical/ Incapacitation - Passenger - <i>during</i> - - - - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - - <i>during</i> - - - - Event 4 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - - -									

Occurrence 40 of 115		Headline		Accident - Hot Air Balloon - Serious Injuries						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
28/01/2012	Accident	Lighter than air	THUNDER (Thunder and Colt)	SE-ZGF	Sweden	Minor		1		2
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - - - <i>during</i> - - Landing - Touch-down - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - - <i>during</i> - - Landing - Touch-down -									

Occurrence 41 of 115		Headline		Balloon collision with tree and building.						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
28/04/2012	Accident	Lighter than air	LINDSTRAND - LBL105A	SP-BES	Poland	Substantial		1		2
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing -									

Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - - <i>during</i> - - - - Event 2 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Turbulence Encounter - <i>during</i> - - Take-off - Initial climb - Event 3 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Tree/ Tall Vegetation - <i>during</i> - - Take-off - Initial climb - Event 4 : Operational - Aircraft Flight Operations - Ground Conflict - Ground Collision with Building - <i>during</i> - - Take-off - Initial climb - Event 5 : Consequential Events - Damage and Injuries Events - Medical and Injury - Medical/ Incapacitation - Flight Crew - <i>during</i> - - Post-impact - - Event 6 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Caught in Obstacles - <i>during</i> - - Post-impact - - Event 7 : Operational - Aircraft Flight Operations - Aircraft Handling - - <i>during</i> - - Post-impact - - Event 8 : Consequential Events - Flight Operations Outcome Events - Declared Emergency - Forced Landing - <i>during</i> - - - -
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Occurrence 42 of 115		Headline		Balloon airspace infringement and hard landing.						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
29/04/2012	Accident	Lighter than air	KUBICEK - BB30 - N	SP-BDV	Poland	None		1		4
Occurrence Categories	OTHR: Other - ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - - <i>during</i> - - - - Event 2 : Operational - Aircraft Flight Operations - Aircraft Handling - - <i>during</i> - - En-route - Level flight - Event 3 : Operational - Aircraft Flight Operations - Airborne Conflict - Airspace Infringement - <i>during</i> - - En-route - Level flight - Event 4 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down -									

Occurrence 43 of 115		Headline		Passenger got hurt during landing due to incorrect position						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
14/05/2012	Accident	Lighter than air	LINDSTRAND	F-GXFX	France	None		1		13
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Consequential Events - Damage and Injuries Events - Medical and Injury - - <i>during</i> - - Landing - Dragging -									

Occurrence 44 of 115		Headline		UK Reportable Accident: One passenger suffered broken bones on landing. AAIB AARF investigation.						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
23/05/2012	Accident	Lighter than air	ULTRAMAGIC - N250	G-VBFA	United Kingdom	None		1		12
Occurrence Categories	CABIN: Cabin safety events -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - - - Event 2 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - - -									

Occurrence 45 of 115		Headline		Collision avec une ligne électrique lors de l'atterrissage, incendie, atterrissage dur						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
25/05/2012	Accident	Lighter than air	THUNDER - AX7 77 - Z	PH-ZOZ	France	Destroyed		1	2	
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing - F-POST: Fire/smoke (post-impact) - ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - <i>during</i> - - Approach - Final approach - normal - Event 2 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down -									

Occurrence 46 of 115		Headline		Oro baliono avarija tupiant						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
27/05/2012	Accident	Lighter than air	OTHER (OTHER)	LY-AYA	Lithuania	Destroyed		4		
Occurrence Categories	UNK: Unknown or undetermined -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - - <i>during</i> - - - - Event 2 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - - <i>during</i> - - - - Event 3 : Consequential Events - Flight Operations Outcome Events - Declared Emergency - Forced Landing - <i>during</i> - - Landing - -									

Occurrence 47 of 115		Headline		Balloon Pilot felt out of the basket during landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
23/06/2012	Accident	Lighter than air	LINDSTRAND - LBL105A	D-OLBF	Germany	None		1		2
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Touch-down -									

Occurrence 48 of 115		Headline		Injured Passenger						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
01/07/2012	Accident	Lighter than air	KUBICEK (BB100Z)	OK-0903	Czech Republic	None		1		16
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down -									

Occurrence 49 of 115		Headline		Basket slid after landing causing one serious injury.						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
01/07/2012	Accident	Lighter than air	ULTRAMAGIC - N250	EC-JKX	Spain	Unknown		1		10
Occurrence Categories	UNK: Unknown or undetermined -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Sliding/ Dragging - <i>during</i> - - Landing - -									

Occurrence 50 of 115		Headline		Cameron Z-350 Balloon - Passenger Injured on Landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT	A/C	LOCATION	HIGHEST	INJURIES ON-BOARD			

			MAKE/MODEL	REG⁽²⁾		DAMAGE	F⁽³⁾	S⁽⁴⁾	M⁽⁵⁾	N⁽⁶⁾
31/07/2012	Accident	Lighter than air	CAMERON - Z350	G-VBFH	United Kingdom	None		1		16
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - <i>during</i> - - Landing - Dragging -									

Occurrence 51 of 115		Headline	Ejection d'un passager lors de l'atterissage							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
18/08/2012	Accident	Lighter than air	LINDSTRAND - LBL150A	F-GJOA	France	None		1		
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - High Wind Encounter - <i>during</i> - - Landing - - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Sliding/ Dragging - <i>during</i> - - Landing - Touch-down - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Person Fell/ Ejected from Basket - <i>during</i> - - Landing - Dragging - Event 4 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Dragging -									

Occurrence 52 of 115		Headline	Pasenger injured during balloon landing							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
19/08/2012	Accident	Lighter than air	CAMERON - A210	LX-BGT	Luxembourg	Minor	0	1	0	8
Occurrence Categories	LOC-G: Loss of control - ground -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - - <i>during</i> - - Approach - Final approach - normal - Event 2 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Rejected Landing - <i>during</i> - - Approach - Final approach - normal - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Caught in Obstacles - <i>during</i> - - Approach - Go-around - Event 4 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Touch-down -									

Occurrence 53 of 115		Headline	Hard landing							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
10/09/2012	Accident	Lighter than air	OTHER (THEO SCHRÖDER FIRE BALLOONS GMBH - FB42/24)	D-OHKE	Germany	None		2	2	0
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - Pre-Flight Briefing and Flight Preparation - <i>during</i> - - Standing - - Event 2 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - High Wind Encounter - <i>during</i> - - Landing - Touch-down - Event 3 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down - Event 4 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Touch-down -									

Occurrence 54 of 115		Headline	Hard landing							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
16/09/2012	Accident	Lighter than air	OTHER (THEO SCHROEDER - fire ballons G)	D-OQUE	Germany	None		1		3
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down - Event 2 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Touch-down -									

Occurrence 55 of 115		Headline	Assistent was injured							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
30/09/2012	Accident	Lighter than air	OTHER (Theo Schröder fire balloons GmbH - Fire G)	D-ORHF	Germany	None				6
Occurrence Categories	OTHR: Other -									

Events and Descriptive Factors	Event 1 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Standing - Standing: Other -
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Occurrence 56 of 115		Headline	Hard landing							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
19/10/2012	Accident	Lighter than air	OTHER (THEO SCHRÖDER fire balloons - Fire G)	D-OBBB	Germany	None		1	3	0
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - High Wind Encounter - <i>during</i> - - Landing - - Event 2 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Person Fell/ Ejected from Basket - <i>during</i> - - Landing - Touch-down -									

Occurrence 57 of 115		Headline	Injury during landing							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
14/04/2013	Accident	Lighter than air	BALLONBAU (WÖRNER - NL-STU/1000)	HB-QPJ	Germany	None		1		5
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down - Event 2 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Bounced - <i>during</i> - - Landing - Touch-down - Event 3 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Touch-down -									

Occurrence 58 of 115		Headline	OTHR: Other - Personenschaden bei Außenlandung eines Freiballons							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
14/05/2013	Accident	Lighter than air	ULTRAMAGIC - M120	OE-SLW	Austria	None		1	1	2
Occurrence Categories	OTHR: Other - ARC: Abnormal runway contact -									

Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Dragging - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Person Fell/ Ejected from Basket - during - - Landing - Touch-down - Event 3 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Touch-down -
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Occurrence 59 of 115		Headline		Collision with tree						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
18/05/2013	Accident	Lighter than air	KUBICEK - BB34 - Z	D-OOOA	Germany	None		1		3
Occurrence Categories	ARC: Abnormal runway contact - CTOL: Collision with obstacle(s) during take-off and landing -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Tree/ Tall Vegetation - during - - Landing - - Event 2 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down -									

Occurrence 60 of 115		Headline		Atterrissage dur, rebond, basculement de la nacelle, blessure d'un passager						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
18/05/2013	Accident	Lighter than air	CAMERON (Z-type)	F-GVTN	France	None		1		3
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Control of Manual Flight Path - during - - Approach - Final approach - normal - Event 2 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down - Event 3 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Aircraft Component/s - during - - Landing - Tumbling - Event 4 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Bounced - during - - Landing - Touch-down -									

Occurrence 61 of 115		Headline		Injuries during Hot Air Balloon landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
01/06/2013	Accident	Lighter than air	OTHER (VIKING 84 A)	SE-ZFG	Sweden	None		1		2

Occurrence Categories	OTHR: Other -
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - during - - Landing - Touch-down - Event 2 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Touch-down -

Occurrence 62 of 115		Headline		Passenger injured during leaving the basked after landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
05/06/2013	Accident	Lighter than air	CAMERON - A140	D-OHPS	Germany	None		1		5
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Landing: Other -									

Occurrence 63 of 115		Headline		Thunder & Colt 240A - Ballon hard landing due to high rate of descent probably cause by downdraft - 8POB - 2OB Serious - No damage						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
03/07/2013	Accident	Lighter than air	COLT - 240A	SP-BAM	Poland	None		2		6
Occurrence Categories	ARC: Abnormal runway contact - WSTRW: Windshear or thunderstorm. -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Unexpected Weather Encounter - during - - Approach - Final approach - normal - Event 2 : Operational - Aircraft Flight Operations - Aircraft Handling - Rate of Climb/ Descent - High - during - - Approach - Final approach - normal - Event 3 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Tear-away panels or valve opening - Event 4 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Touch-down -									

Occurrence 64 of 115		Headline		Person injured during balloon landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
06/07/2013	Accident	Lighter than air	OTHER (Schroeder Fireballoons G42/24)	D-OLUL	Germany	None		1		5
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Touch-down -									

Occurrence 65 of 115		Headline		Passenger injured after landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
12/07/2013	Accident	Lighter than air	LINDSTRAND - LBL120A	D-OACA	Germany	None		1		3
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Landing: Other -									

Occurrence 66 of 115		Headline		Rebond à l'atterrissage, basculement de la nacelle, éjection de trois passagers						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
16/07/2013	Accident	Lighter than air	LINDSTRAND - LBL180A	F-GSAE	France	None		1	2	6
Occurrence Categories	ARC: Abnormal runway contact - OTHR: Other -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down - Event 2 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Bounced - during - - Landing - Touch-down - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - during - - Landing - Dragging - Event 4 : Operational - Aircraft Flight Operations - Ground Conflict - Ground Collision with Person - during - - Landing - Dragging - Event 5 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Dragging -									

Occurrence 67 of 115		Headline		Hard Landing of Balloon- Bad Wind Conditions						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
16/08/2013	Accident	Lighter than air	KUBICEK - BB30 - Z	D-OVRR	Germany	Unknown		2	1	
Occurrence Categories	WSTRW: Windshear or thunderstorm. - ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - Pre-Flight Briefing and Flight Preparation - during - - Standing - - Event 2 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - - during - - Landing - - Event 3 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down - Event 4 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Touch-down -									

Occurrence 68 of 115		Headline		Injured Passenger during balloon landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
22/08/2013	Accident	Lighter than air	KUBICEK - BB34 - Z	D-OALZ	Germany	None		1		0
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Touch-down -									

Occurrence 69 of 115		Headline		Blessure d'un passager lors d'un atterrissage dur						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
25/08/2013	Accident	Lighter than air	OTHER (SCHROEDER FIRE BALLOONS G42/24)	F-GXTD	France	None		1		7
Occurrence Categories	ARC: Abnormal runway contact -									

Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - Pre-Flight Briefing and Flight Preparation - <i>during</i> - - Standing - - Event 2 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Turbulence Encounter - <i>during</i> - - Landing - - Event 3 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down - Event 4 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Touch-down -
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Occurrence 70 of 115		Headline	Injured Person during landing							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
27/08/2013	Accident	Lighter than air	KUBICEK - BB42 - Z	D-OACU	Germany	None		1		6
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - <i>during</i> - - Landing - Touch-down - Event 2 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Dragging -									

Occurrence 71 of 115		Headline	Passenger injured during Balloon landing							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
05/09/2013	Accident	Lighter than air	OTHER (Schröder / fire balloons G)	D-OGGG	Germany	None		1		9
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - <i>during</i> - - Landing - Touch-down - Event 2 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Touch-down -									

Occurrence 72 of 115		Headline	Hot air balloon accident							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
09/09/2013	Accident	Lighter than air	CAMERON	LX-BNB	Poland	None		1		
Occurrence Categories	ARC: Abnormal runway contact - OTHR: Other -									

Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - Pre-Flight Briefing and Flight Preparation - <i>during</i> -- Standing - - Event 2 : Personnel - Personnel Task Performance Events - Personnel Decision Making - Incorrect Decision/ Plan - <i>during</i> -- Standing - - Event 3 : Consequential Events - Damage and Injuries Events - Medical and Injury - - <i>during</i> -- Landing - Touch-down -
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Occurrence 73 of 115		Headline		hard landing during a emergency landing due to low fuel						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
14/09/2013	Accident	Lighter than air	ULTRAMAGIC - T210	EC-JVU	Spain	None	0	1	0	8
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - - <i>during</i> -- En-route - - Event 2 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Precautionary Landing - <i>during</i> -- Approach - - Event 3 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Near Collision with Tall Structure - <i>during</i> -- Approach - - Event 4 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Rejected Landing - <i>during</i> -- Approach - - Event 5 : Consequential Events - Flight Operations Outcome Events - Declared Emergency - Forced Landing - <i>during</i> -- Landing - - Event 6 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> -- Landing - -									

Occurrence 74 of 115		Headline		Injured person in balloon basked						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
28/09/2013	Accident	Lighter than air	ULTRAMAGIC - N210	D-OLJA	Germany	None		1		8
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - <i>during</i> -- Landing - Touch-down - Event 2 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> -- Landing - Touch-down -									

Occurrence 75 of 115		Headline		Injured person during touch-down						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
19/10/2013	Accident	Lighter than air	CAMERON - Z180	HB-QNK	Germany	None		1		4
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - during - - Landing - Dragging -									

Occurrence 76 of 115		Headline		Passenger injured during landing - Pilot descend quickly in order to avoid a powerline and the balloon landed at a speed rate higher than usual						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
11/02/2014	Accident	Lighter than air	ULTRAMAGIC - N210	EC-KVT	Spain	None		1		9
Occurrence Categories	ARC: Abnormal runway contact - AMAN: Abrupt manoeuvre -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Abrupt Manoeuvre - Crew Induced Manoeuvre - during - - Approach - Final approach - normal - Event 2 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down - Event 3 : Consequential Events - Damage and Injuries Events - Medical and Injury - - during - - Landing - Touch-down -									

Occurrence 77 of 115		Headline		Balloon passenger hurt during hard landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
08/03/2014	Accident	Lighter than air	OTHER (Z-type(CAMERON BALLOON))	HB-QOT	Switzerland	Minor		1		4
Occurrence Categories	ARC: Abnormal runway contact -									

Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - during - - Landing - Touch-down - Event 3 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - during - - Landing - Touch-down -
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Occurrence 78 of 115		Headline		Rebond lors de l'atterrissage, blessure d'un passager						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
09/03/2014	Accident	Lighter than air	BALLOON WORKS - FIREFLY7 - 15	F-GPHB	France	None		1		3
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Unexpected Weather Encounter - during - - En-route - Level flight - Event 2 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Precautionary Landing - during - - - Event 3 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down - Event 4 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Bounced - during - - Landing - Touch-down - Event 5 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Aircraft Component/s - during - - Landing - Dragging -									

Occurrence 79 of 115		Headline		Balloon accident.						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
23/04/2014	Accident	Lighter than air	KUBICEK - BB42 - Z	SP-BDF	Poland	None		1	3	4
Occurrence Categories	UNK: Unknown or undetermined -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - - during - - - Event 2 : Personnel - Personnel Task Performance Events - Personnel Decision Making - Incorrect Decision/ Plan - during - - Standing - - Event 3 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - - during - - En-route - - Event 4 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Precautionary Landing - during - - En-route - - Event 5 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down -									

Occurrence 80 of 115		Headline		Injuries during landing phase						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
04/05/2014	Accident	Lighter than air	KUBICEK - BB30 - Z	D-OVAW	Germany	None		2		2
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down - Event 2 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Touch-down -									

Occurrence 81 of 115		Headline		Hard bounced landing and the basket flipped - 5POB - 1OB Serious - 2OB Minor - Minor damage						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
08/06/2014	Accident	Lighter than air	ULTRAMAGIC - S130	F-GMBP	France	Minor		1	2	2
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down - Event 2 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Bounced - <i>during</i> - - Landing - - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - <i>during</i> - - Landing - Dragging - Event 4 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - Dragging -									

Occurrence 82 of 115		Headline		Collision avec une ligne électrique, atterrissage dur, blessure d'un passager lors d'un baptême de l'air						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
22/06/2014	Accident	Lighter than air	CAMERON - O84	F-GUTT	France	None		1	0	2
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing - ARC: Abnormal runway contact -									

Events and Descriptive Factors	<p>Event 1 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - during - - Landing - Tear-away panels or valve opening -</p> <p>Event 2 : Personnel - Situational Awareness and Sensory Events - Personnel Perception Events - Perception of Visual Information - Illusion/Disorientation - during - - Landing - Tear-away panels or valve opening -</p> <p>Event 3 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Tear-away panels or valve opening -</p> <p>Event 4 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to an Abrupt Manoeuvre - during - - Landing - Deflating -</p>
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Occurrence 83 of 115		Headline								
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
12/07/2014	Accident	Lighter than air	ULTRAMAGIC - M77	EC-JAO	France	None		1		2
Occurrence Categories	LOC-I: Loss of control - inflight -									
Events and Descriptive Factors	<p>Event 1 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - Pre-Flight Briefing and Flight Preparation - during - - Standing - -</p> <p>Event 2 : Personnel - Personnel Task Performance Events - Personnel Decision Making - Incorrect Decision/ Plan - during - - Take-off - Let-go -</p> <p>Event 3 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - - during - - Take-off - -</p> <p>Event 4 : Operational - Aircraft Flight Operations - Aircraft Upset - - during - - Take-off - -</p> <p>Event 5 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down -</p>									

Occurrence 84 of 115		Headline								
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
07/09/2014	Accident	Lighter than air	Not mapped (Ballons Libert L3400)	F-HCND	France	None		2		1
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - -									

Occurrence 85 of 115		Headline								
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
07/09/2014	Accident	Lighter than air	Not mapped (SIGA MA 30)	F-GNCI	France	None		1		3
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - -									

Occurrence 86 of 115		Headline								
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
21/09/2014	Accident	Lighter than air	CAMERON - A250	EC-JUK	Spain	None			1	11
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Unexpected Weather Encounter - <i>during</i> - - En-route - - Event 2 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Precautionary Landing - <i>during</i> - - En-route - Level flight - Event 3 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - Touch-down - Event 4 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Bounced - <i>during</i> - - Landing - -									

Occurrence 87 of 115		Headline								
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
13/06/2010	Accident	Lighter than air	KUBICEK - BB26 - Z	G-CFSL	United Kingdom	Substantial			1	
Occurrence Categories	WSTRW: Windshear or thunderstorm. - CTOL: Collision with obstacle(s) during take-off and landing -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Windshear/ Microburst Encounter - <i>during</i> - - Take-off - Let-go - Event 2 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - <i>during</i> - - Take-off - Initial climb -									

Occurrence 88 of 115		Headline		Emergency landing due to adverse weather operations. Two injuries and severe damages for the balloon.						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
04/07/2010	Accident	Lighter than air	OTHER (BALONY KUBICEK)	I-MLSA	Italy	Substantial			2	2
Occurrence Categories	LOC-I: Loss of control - inflight - WSTRW: Windshear or thunderstorm. -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Unexpected Weather Encounter - <i>during</i> - - Landing - - Event 2 : Consequential Events - Flight Operations Outcome Events - Declared Emergency - Emergency Descent - <i>during</i> - - Landing - - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - - <i>during</i> - - Landing - - Event 4 : Operational - Aircraft Flight Operations - Aircraft Upset - - <i>during</i> - - Landing - - Event 5 : Consequential Events - Damage and Injuries Events - Medical and Injury - Injuries due to Other Sources - <i>during</i> - - Landing - -									

Occurrence 89 of 115		Headline		Baptême de l'air, collision avec une barrière puis des arbres lors de l'atterrissage						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
07/01/2011	Accident	Lighter than air	OTHER (CS 3000(BALLONS CHAIZE))	F-GXEB	France	Substantial		0	2	3
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Ground Conflict - Ground Collision with Other Ground Object - <i>during</i> - - Landing - Touch-down -									

Occurrence 90 of 115		Headline		Basket tipped over during landing						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
26/08/2011	Accident	Lighter than air	OTHER (SCHRÖDER - FIRE G)	D-OCAD	Germany	Substantial			2	4
Occurrence Categories	ARC: Abnormal runway contact -									

Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - during - - Landing - Touch-down -
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Occurrence 91 of 115		Headline	UK Reportable Accident: Balloon struck electricity pylon,leaving the basket hanging from wires. Three POB, two minor injuries. AAIB AARF investigation.							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
25/03/2012	Accident	Lighter than air	OTHER (BALLOON)	G-BEEI	United Kingdom	Substantial			2	1
Occurrence Categories	WSTRW: Windshear or thunderstorm. - CTOL: Collision with obstacle(s) during take-off and landing -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Windshear/ Microburst Encounter - during - - - - Event 2 : Consequential Events - Damage and Injuries Events - Medical and Injury - Medical/ Incapacitation - Flight Crew - during - - - - Event 3 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - - during - - - - Event 4 : Operational - Aircraft Flight Operations - - - during - - - - Event 5 : Operational - Aircraft Flight Operations - Aircraft Handling - - during - - - - Event 6 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - during - - - -									

Occurrence 92 of 115		Headline	Collision avec une ligne électrique lors de l'atterrissage, début d'incendie, en baptême de l'air							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
26/07/2012	Accident	Lighter than air	ULTRAMAGIC - N180	F-GOXA	France	Substantial			1	7
Occurrence Categories	UIMC: Unintended flight in IMC - CTOL: Collision with obstacle(s) during take-off and landing - F-POST: Fire/smoke (post-impact) -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Unexpected Weather Encounter - during - - Take-off - Initial climb - Event 2 : Consequential Events - Flight Operations Outcome Events - Effect on Operations - Diversion - Operational Reasons - during - - En-route - Level flight - Event 3 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - during - - Landing - Tear-away panels or valve opening - Event 4 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Envelope Panels Burned - during - - Landing - Touch-down -									

Occurrence 93 of 115		Headline Balloon damaged during landing in a wood								
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
07/08/2013	Accident	Lighter than air	LINDSTRAND - LBL150A	D-OINA	Germany	Substantial			7	0
Occurrence Categories	WSTRW: Windshear or thunderstorm. - CFIT: Controlled flight into or toward terrain -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Tree/ Tall Vegetation - during - - En-route - En-route: Uncontrolled descent -									

Occurrence 94 of 115		Headline Collision avec une ligne électrique lors de l'atterrissage								
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
28/09/2013	Accident	Lighter than air	KUBICEK - BB26	F-HEMA	France	Destroyed			4	
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - during - - Landing - Level off-touchdown - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - during - - Landing - Landing: Other -									

Occurrence 95 of 115		Headline Cameron Z375 - Balloon basket tipped over on landing. - 16POB - 1OB Minor - Substantial damage								
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
11/04/2014	Accident	Lighter than air	CAMERON - Z375	G-VBFR	United Kingdom	Substantial			1	15
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - Landing - Touch-down -									

Occurrence 96 of 115		Headline EASA European light aircraft accident data STATISTIK AUSTRIA Flugunfallstatistik								
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT	A/C	LOCATION	HIGHEST	INJURIES ON-BOARD			

			MAKE/MODEL	REG ⁽²⁾		DAMAGE	F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
13/01/2010	Accident	Lighter than air	OTHER (UNKNOWN(UNKNOWN))		Austria	Substantial				4
Occurrence Categories	ARC: Abnormal runway contact -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - <i>during</i> - - Landing - -									

Occurrence 97 of 115		Headline		Collision avec une ligne électrique lors de l'atterrissage, lors d'un baptême de l'air						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
23/06/2010	Accident	Lighter than air	OTHER (AX8-90(THUNDER AND COLT))	F-GIMT	France	Substantial				3
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing - F-POST: Fire/smoke (post-impact) -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Caught in Obstacles - <i>during</i> - - Approach - Final approach - normal - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Envelope Skirt Burned - <i>during</i> - - Approach - Final approach - normal -									

Occurrence 98 of 115		Headline		Off-field-landing in a forest						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
16/01/2011	Accident	Lighter than air	OTHER (LINDSTRAND BALLOONS - LBL120A)	D-OALT	Germany	Substantial				4
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Tree/ Tall Vegetation - <i>during</i> - - Landing - Touch-down -									

Occurrence 99 of 115		Headline		UK Reportable Accident: Gust of wind during approach caused reduction in lift. Collided with a tree. Landing aborted but a/c pus						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
05/03/2011	Accident	Lighter than air	CAMERON - Z350	G-VBFG	United Kingdom	Substantial				17
Occurrence Categories	WSTRW: Windshear or thunderstorm. -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Windshear/ Microburst Encounter - during - - Approach - - Event 2 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Tree/ Tall Vegetation - during - - Approach - - Event 3 : Consequential Events - Damage and Injuries Events - Medical and Injury - Medical/ Incapacitation - Passenger - during - - - -									

Occurrence 100 of 115		Headline		Collision with obstacle						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
07/05/2011	Accident	Lighter than air	OTHER (Ballonbau Wörner - NL-1000/STU)	F-GSEY	Germany	Destroyed				2
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Tall Structure - during - - Landing - Flare -									

Occurrence 101 of 115		Headline		Atterrissage d'urgence près d'une ligne de chemin de fer						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
21/05/2011	Accident	Lighter than air	LINDSTRAND - LBL180A	F-GSUI	France	Substantial			0	9
Occurrence Categories	GCOL: Ground Collision - F-POST: Fire/smoke (post-impact) - EVAC: Evacuation -									

Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Aircraft Upset - - <i>during</i> - - Landing - - Event 2 : Consequential Events - Flight Operations Outcome Events - Declared Emergency - Forced Landing - <i>during</i> - - Landing - - Event 3 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - <i>during</i> - - Landing - Deflating - Event 4 : Consequential Events - Flight Operations Outcome Events - Declared Emergency - Evacuation - <i>during</i> - - Landing - -
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Occurrence 102 of 115		Headline	Collision with tree							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
29/05/2011	Accident	Lighter than air	OTHER (Schröder - Fire G)	D-OWSG	Germany	Substantial				4
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Tree/ Tall Vegetation - <i>during</i> - - Landing - Flare -									

Occurrence 103 of 115		Headline	Unbeabsichtiger Flug nach Riss des Halteseils							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
19/08/2011	Accident	Lighter than air	OTHER (Kubicek BB60N)	HB-QSC	Switzerland	Substantial				1
Occurrence Categories	WSTRW: Windshear or thunderstorm. -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - High Wind Encounter - <i>during</i> - - Standing - Hot air inflating - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - - <i>during</i> - - Standing - Standing: Other - Event 3 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Precautionary Landing - <i>during</i> - - Landing - -									

Occurrence 104 of 115		Headline	UK Reportable Accident: Hot air balloon impacted overhead power line. Gentle descent to ground. Nine POB no injuries. Significant damage to envelope, no damage to basket. Subject to BBAC investigation							
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
13/04/2012	Accident	Lighter than air	LINDSTRAND - LBL210A	G-BZDE	United Kingdom	Substantial				9

Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing -
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - - during - - - - Event 2 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - during - - Landing - - Event 3 : Consequential Events - Damage and Injuries Events - Damage to Aircraft - - during - - - -

Occurrence 105 of 115		Headline		European light aircraft accident data 2012						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
26/05/2012	Accident	Lighter than air	ULTRAMAGIC (M Series)		Austria	Destroyed				7
Occurrence Categories	WSTRW: Windshear or thunderstorm. -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - Windshear/ Microburst Encounter - during - - En-route - Level flight - Event 2 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - High Wind Encounter - during - - En-route - Level flight - Event 3 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Hard - during - - En-route - Level flight -									

Occurrence 106 of 115		Headline		Collision with a powerline						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
06/07/2012	Accident	Lighter than air	OTHER (Balóny Kubíček s.r.o., Brno / BB34Z)	OK-7536	Czech Republic	Minor				6
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Caught in Obstacles - during - - Landing - Flare -									

Occurrence 107 of 115		Headline		Décollage interrompu, atterrissage d'urgence, collision avec une ligne électrique						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
25/04/2013	Accident	Lighter than air	CAMERON	F-HIAG	France	Substantial				3

Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing -
Events and Descriptive Factors	Event 1 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Rejected Take-Off - Low Speed - during - - Take-off - Initial climb - Event 2 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - during - - Landing - - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Envelope Ripped - during - - Post-impact - -

Occurrence 108 of 115		Headline		Balloon collision with power lines.						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
22/06/2013	Accident	Lighter than air	OTHER (Schroeder Fire Balloons G22/24-Balloon)	SP-BDK	Poland	Substantial				3
Occurrence Categories	LALT: Low altitude operations -									
Events and Descriptive Factors	Event 1 : Organisational - Regulatory - ATM Regulation Deviation - - during - - - - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Caught in Obstacles - during - - En-route - Level flight - Event 3 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - during - - En-route - Level flight - Event 4 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Precautionary Landing - during - - - -									

Occurrence 109 of 115		Headline		UK Reportable Accident: Balloon hit the ground very hard during landing. Burner was knocked 'ON' causing the lower part of the balloon to catch fire. Subject to BBAC investigation.						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
13/07/2013	Accident	Lighter than air	CAMERON	G-MILE	United Kingdom	Substantial				
Occurrence Categories	ARC: Abnormal runway contact - F-POST: Fire/smoke (post-impact) - LOC-G: Loss of control - ground - OTHR: Other -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - - during - - - - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Envelope Skirt Burned - during - - - - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - during - - - - Event 4 : Consequential Events - Flight Operations Outcome Events - Declared Emergency - Forced Landing - during - - - - Event 5 : Operational - Aircraft Flight Operations - Flight Planning and Preparation - - during - - - -									

Occurrence 110 of 115		Headline		Basculement de la nacelle à l'atterrissage, incendie, lors d'une manifestation aérienne						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
31/07/2013	Accident	Lighter than air	CAMERON - O77	G-BRTV	France	Substantial				2
Occurrence Categories	OTHR: Other -									
Events and Descriptive Factors	Event 1 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - - during - - Landing - Pilot light extinction - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Basket Tipped Over - during - - Landing - Touch-down - Event 3 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Envelope Panels Burned - during - - Post-impact - -									

Occurrence 111 of 115		Headline		Balloon damaged by fire on filling area						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
12/08/2013	Accident	Lighter than air	LINDSTRAND - LBL240A	D-OSOG	Germany	Substantial				
Occurrence Categories	F-NI: Fire/smoke (non-impact) -									
Events and Descriptive Factors	Event 1 : Equipment - Aircraft General Explosions / Fire/ Fumes / Smoke Outcome Events - Fire - Fire - Other Location - during - - Standing - Hot air inflating -									

Occurrence 112 of 115		Headline		Cameron O-120 collided with an electricity line during landing.						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
20/08/2013	Accident	Lighter than air	CAMERON - O120	F-GJTT	France	Substantial				3
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - during - - Landing - Landing: Other -									

Occurrence 113 of 115		Headline		Balloon has a collision with a flood-light pole						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
29/03/2014	Accident	Lighter than air	OTHER (Theo Schröder fire balloons / G 42/24)	D-OLHH	Germany	Substantial				6
Occurrence Categories	CFIT: Controlled flight into or toward terrain -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Ground Conflict - Ground Collision with Other Ground Object - <i>during</i> - - Landing - Touch-down -									

Occurrence 114 of 115		Headline		Cameron Z-375 - Balloon struck power line during landing, Tearing and burning to envelope - 17POB - No Injuries - Substantial damage						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
04/04/2014	Accident	Lighter than air	CAMERON - Z375	G-VBFS	United Kingdom	Substantial				17
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing -									
Events and Descriptive Factors	Event 1 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - <i>during</i> - - Landing - - Event 2 : Operational - Balloon/ Glider/ RPAS/ Sailplane Specific Events - Balloon specific events - Envelope Panels Burned - <i>during</i> - - Landing - - Event 3 : Consequential Events - Flight Operations Outcome Events - Declared Emergency - Forced Landing - <i>during</i> - - Landing - -									

Occurrence 115 of 115		Headline		Lindstrand LBL 90A - struck powerline on landing - 3POB - No Injuries - Unknown damage						
DATE	OCC. CLASS ⁽⁷⁾	A/C CAT ⁽¹⁾	AIRCRAFT MAKE/MODEL	A/C REG ⁽²⁾	LOCATION	HIGHEST DAMAGE	INJURIES ON-BOARD			
							F ⁽³⁾	S ⁽⁴⁾	M ⁽⁵⁾	N ⁽⁶⁾
25/07/2014	Accident	Lighter than air	LINDSTRAND - LBL90A	G-MUPP	United Kingdom	Substantial			3	0
Occurrence Categories	CTOL: Collision with obstacle(s) during take-off and landing - ARC: Abnormal runway contact -									

**Events and
Descriptive
Factors**

Event 1 : Operational - Aircraft Flight Operations - Weather and Environmental Encounters - - *during* - - En-route - -
Event 2 : Consequential Events - Flight Operations Outcome Events - Outcome Events - Precautionary Landing - *during* - - Landing - -
Event 3 : Operational - Aircraft Flight Operations - Aircraft Handling - Landing - Bounced - *during* - - Landing - Touch-down -
Event 4 : Operational - Aircraft Flight Operations - Terrain/ Obstacle Conflict (CFIT) - Collision with Cable/ Wire - *during* - - Landing - Deflating -