



# Overview of Runway Excursion Statistics

Logan JONES – Runway Safety Specialist  
20 November 2017

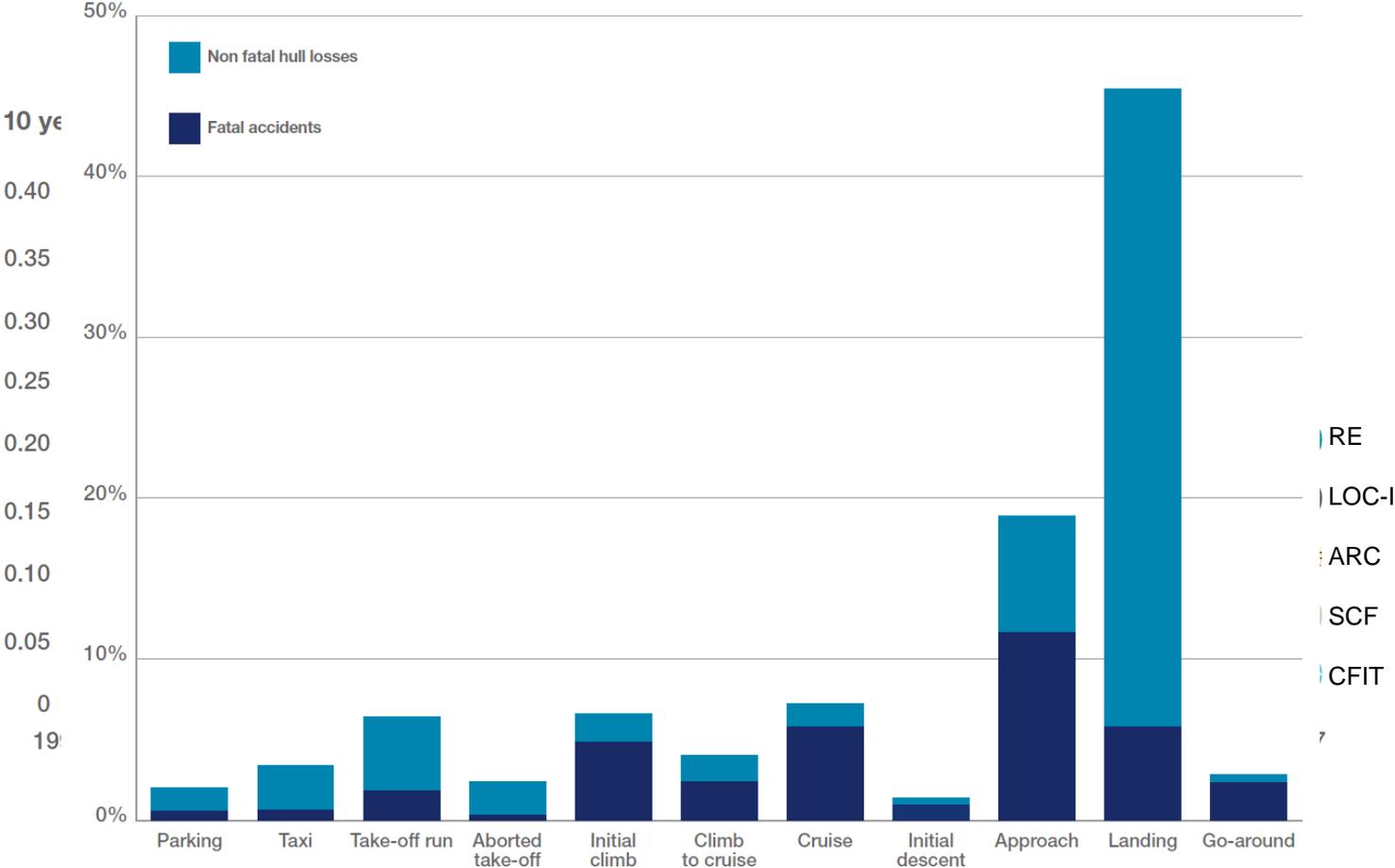
**AIRBUS**

# A statistical Analysis of Commercial Aviation Accidents 1958-2016

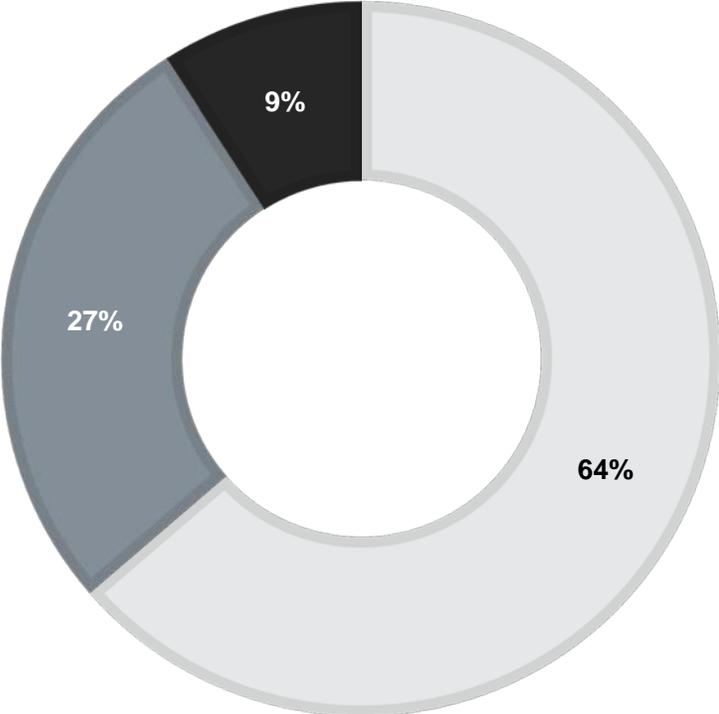
<b>First Generation</b> Early commercial jets 	<b>Second Generation</b> More integrated Auto Flight System 	<b>Third Generation</b> Glass cockpit and FMS 	<b>Fourth Generation</b> Fly-By-Wire with flight envelope protection 
<b>671 flights</b> <b>13 aircraft</b>	<b>269.722 flights</b> <b>567 aircraft</b>	<b>16,6 million flights</b> <b>12.782 aircraft</b>	<b>14,1 million flights</b> <b>10.862 aircraft</b>



Accidents by flight phase as a percentage of all accidents 1997-2016

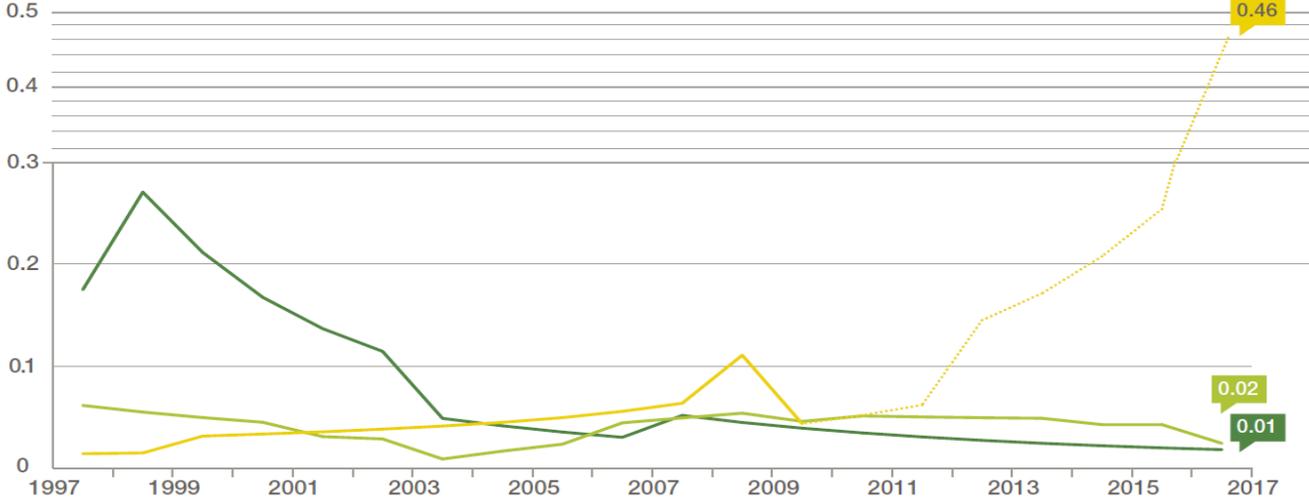


# A statistical Analysis of Commercial Aviation Accidents 1958-2016



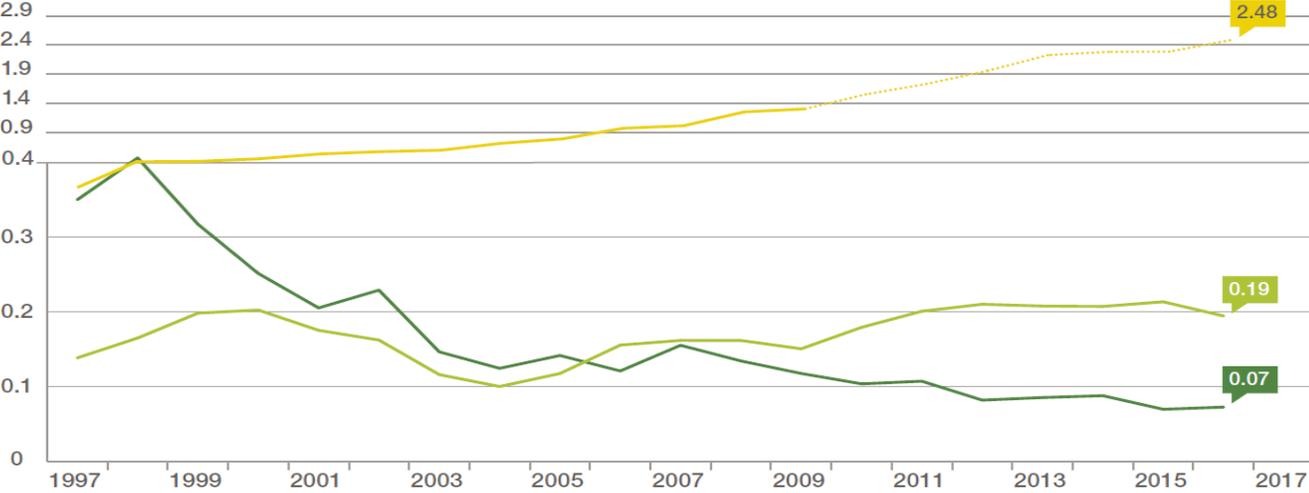
■ Veer-Off ■ Overrun ■ Undershoot

Fatal



10 year moving average Runway Excursion rate by aircraft generation per million flights

Hull Loss



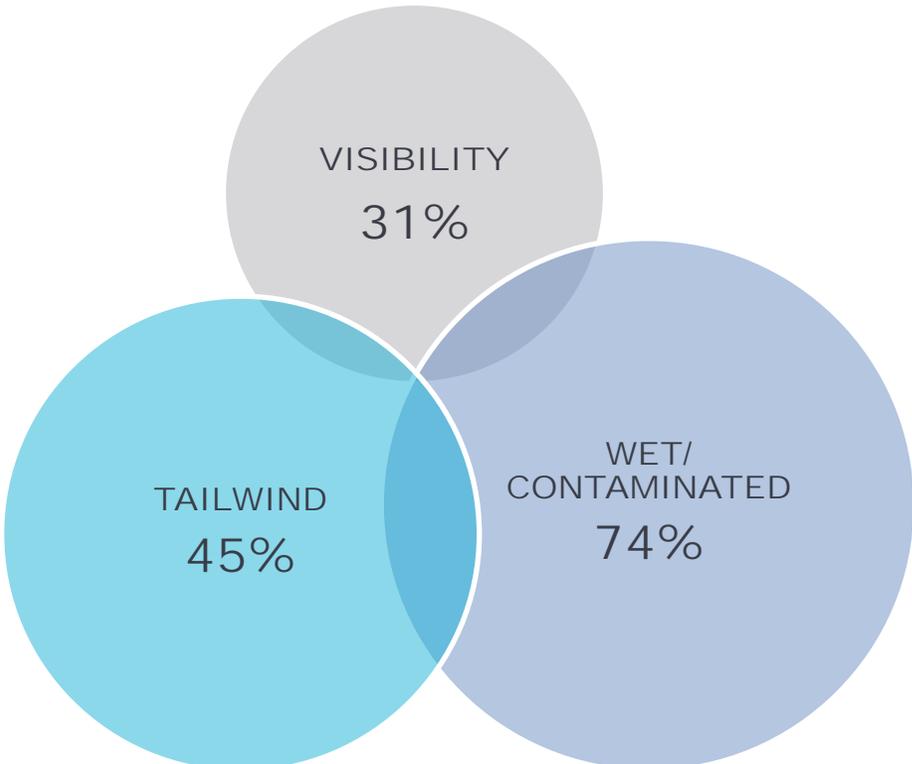
■ Second generation ■ Third generation ■ Fourth generation



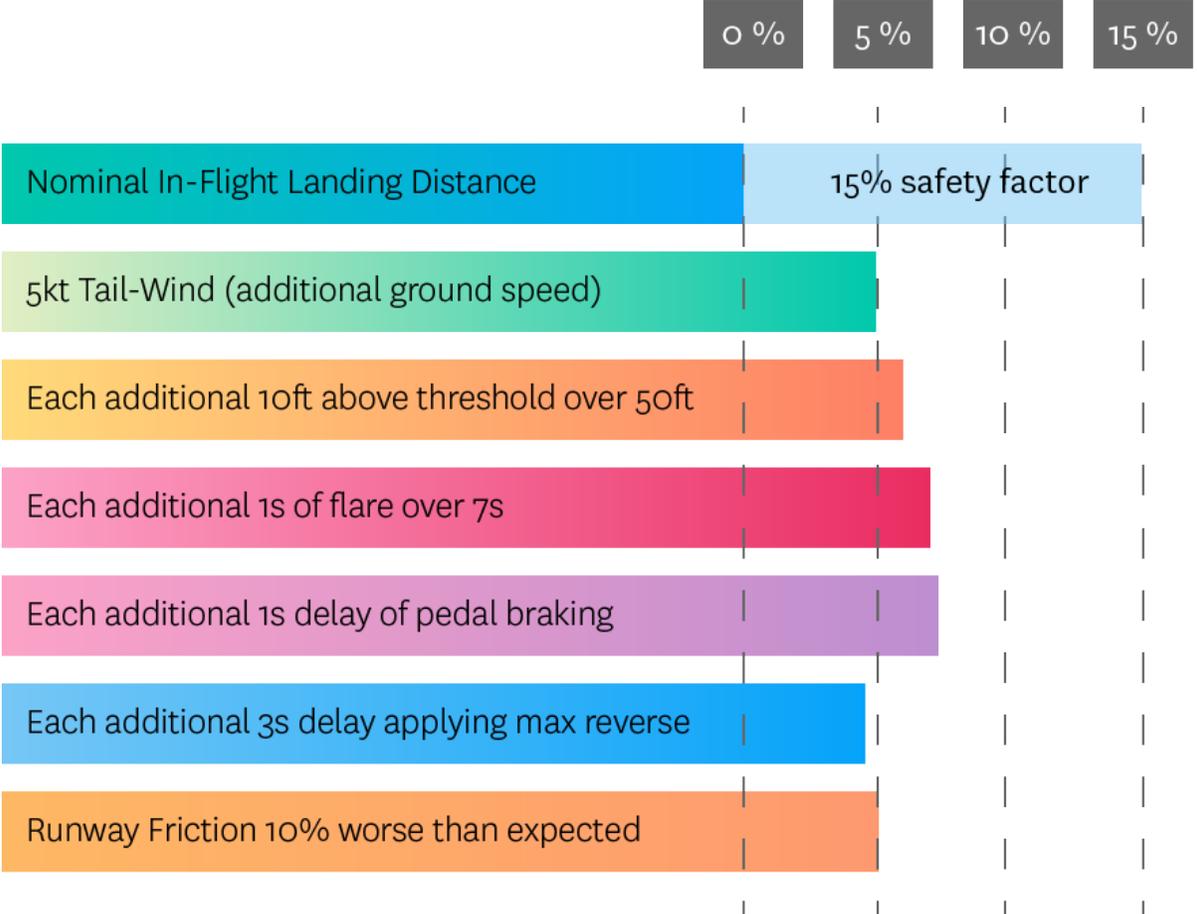
# Focus on Runway Overruns

## Reported events on Airbus aircraft since 2005

- Average of 3 events per year
- 80% of events with weather as contributor



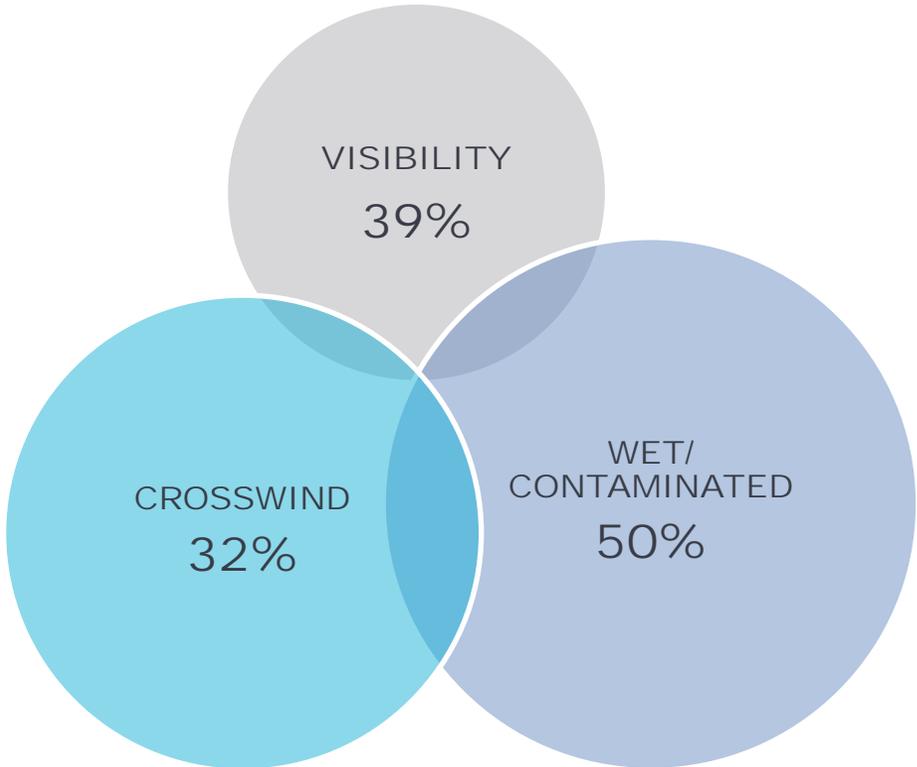
## Every deviation counts in a landing distance.



# Focus on Runway Veer-Offs

## Reported events on Airbus aircraft since 2005

- Average of 7 events per year
- 75% of events with weather as contributor



### High CROSSWIND

- Know the AFM limits and
- Reduced limits recommended if runway wet or contaminated

### Low Visibility

- Loss of visual contact with runway or approach lights, below minima
- Go Around

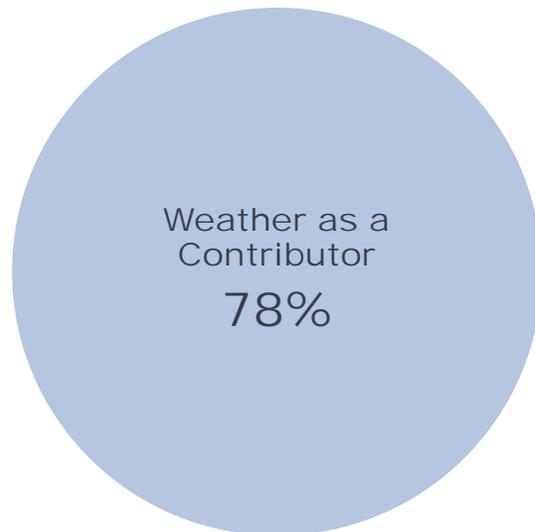
Brief combinations of weather hazards

Use Correct technique

# Focus on Undershoots

## Reported events on Airbus aircraft since 2005

- Average less than 1 event per year
- 7 events with weather identified as contributor:
  - Wind shear, Downburst, Thunderstorm
  - Fog, Mist, Heavy rain, Drifting Snow
- Majority of events were non precision approaches



SOP and training - **Respect the minima...keep visual at or below minimum...if not go around**

## Aircraft Guidance - **xLS Landing System concept**

- Common procedures and symbology for almost all types of approach
- ILS « look alike » guidance for Non Precision Approach
- Precision approach capability when no ILS

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Thank you