



# EASA

European Aviation Safety Agency

# Use of training devices including FSTDs Rotorcraft Simulator Devices

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An agency of the European Union 

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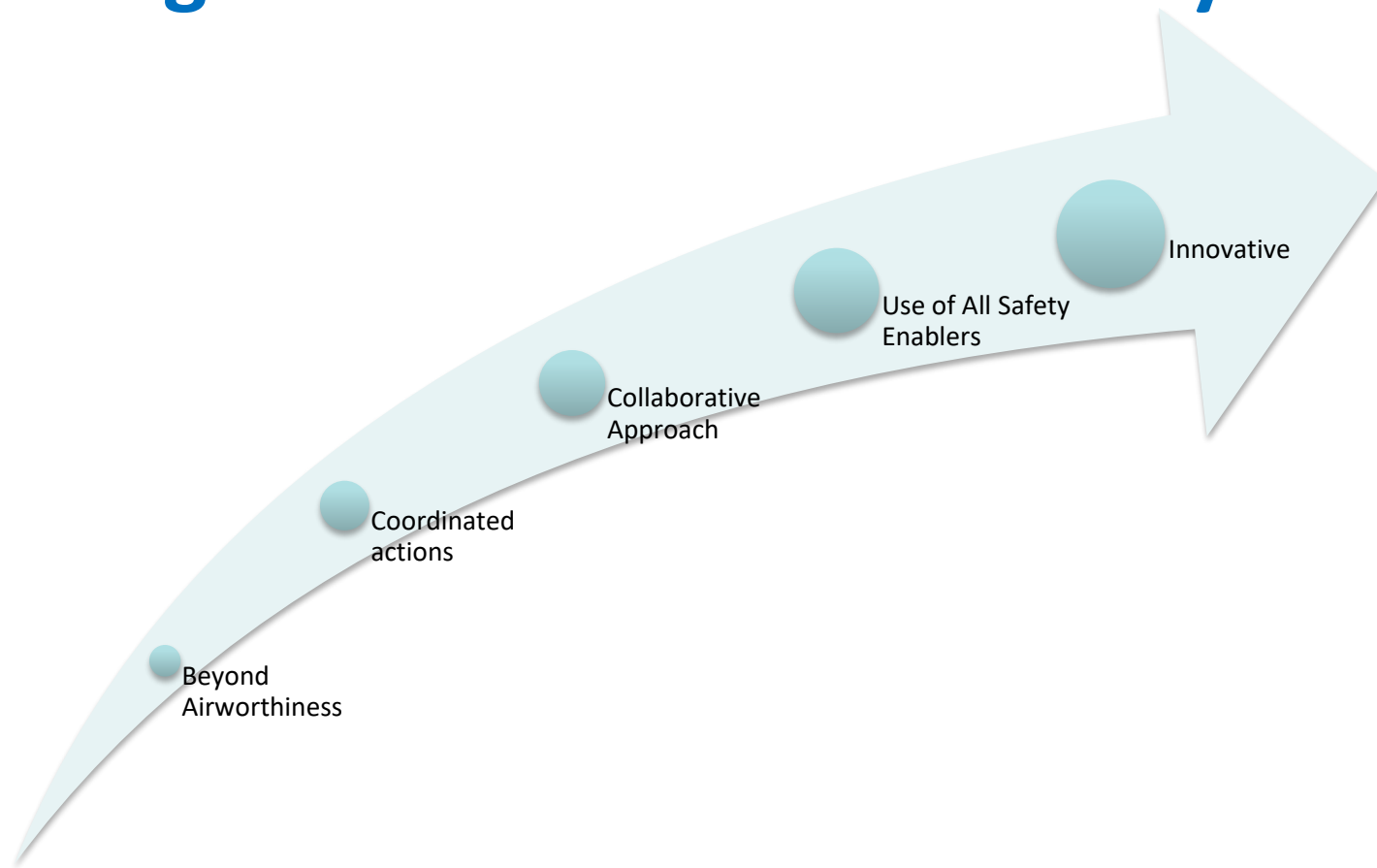


## **Leading the way for Vertical Take-off and Landing safe operations**



# CT3 Top Priority Objective

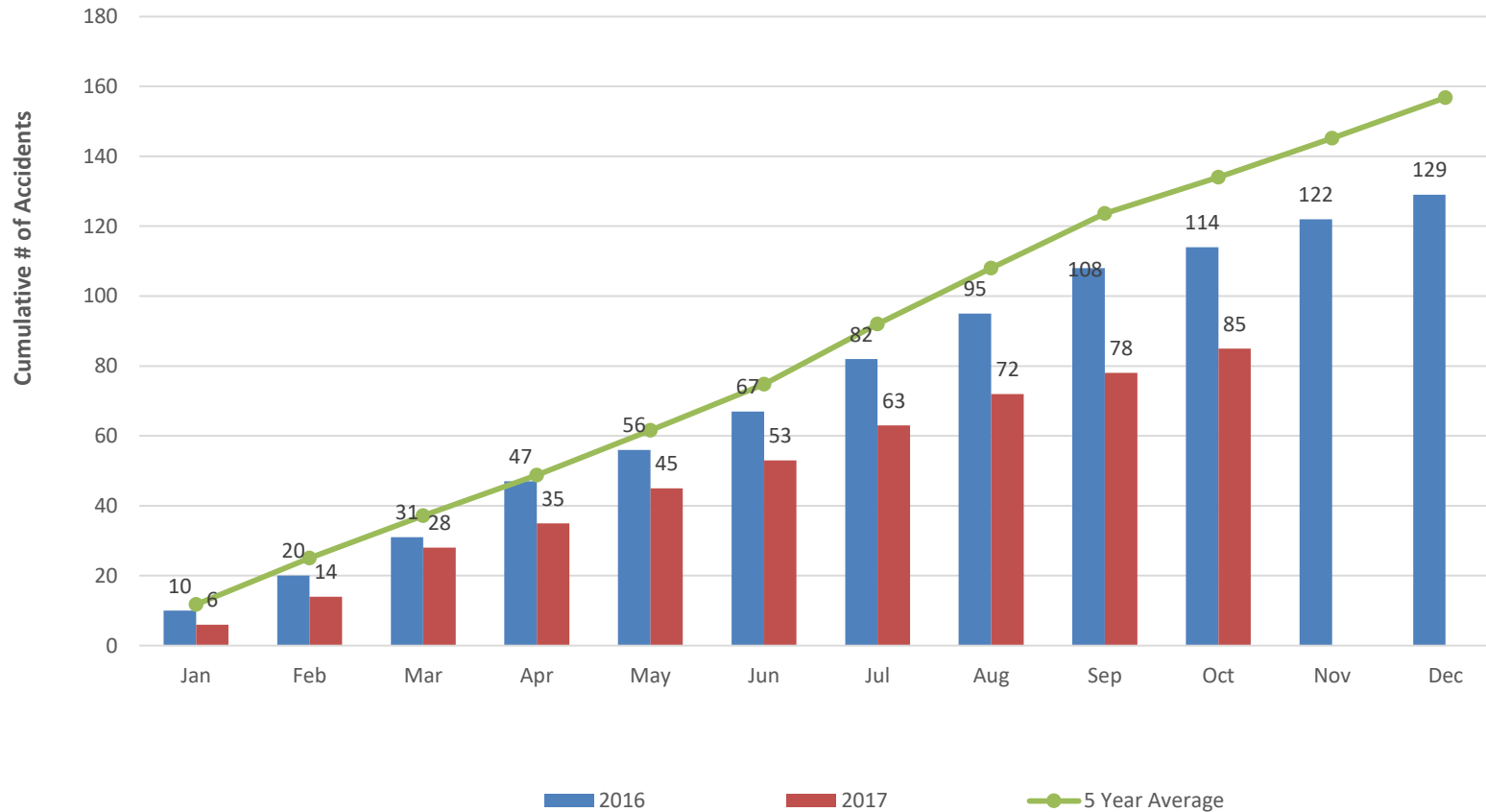
## Increase Rotorcraft Safety by one order of Magnitude in the next 5 to 10 years





# Rotorcraft Accidents 2017 vs 2016

Cumulative Number of Accidents by Month, 2017 vs 2016  
and 5-yr Average - All Rotorcraft Accidents

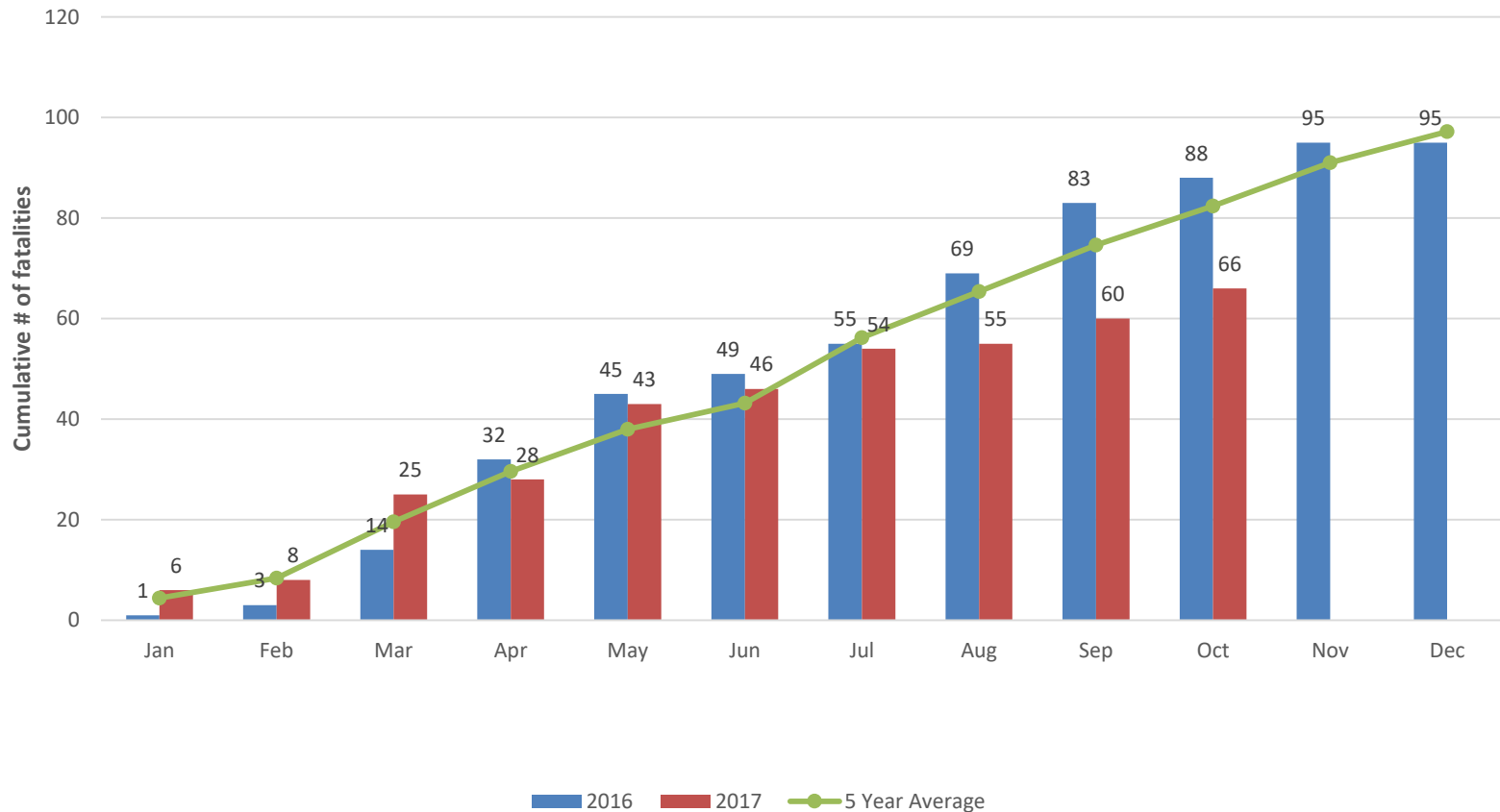


Caution: Not normalised data



# Rotorcraft Fatalities 2017 vs 2016

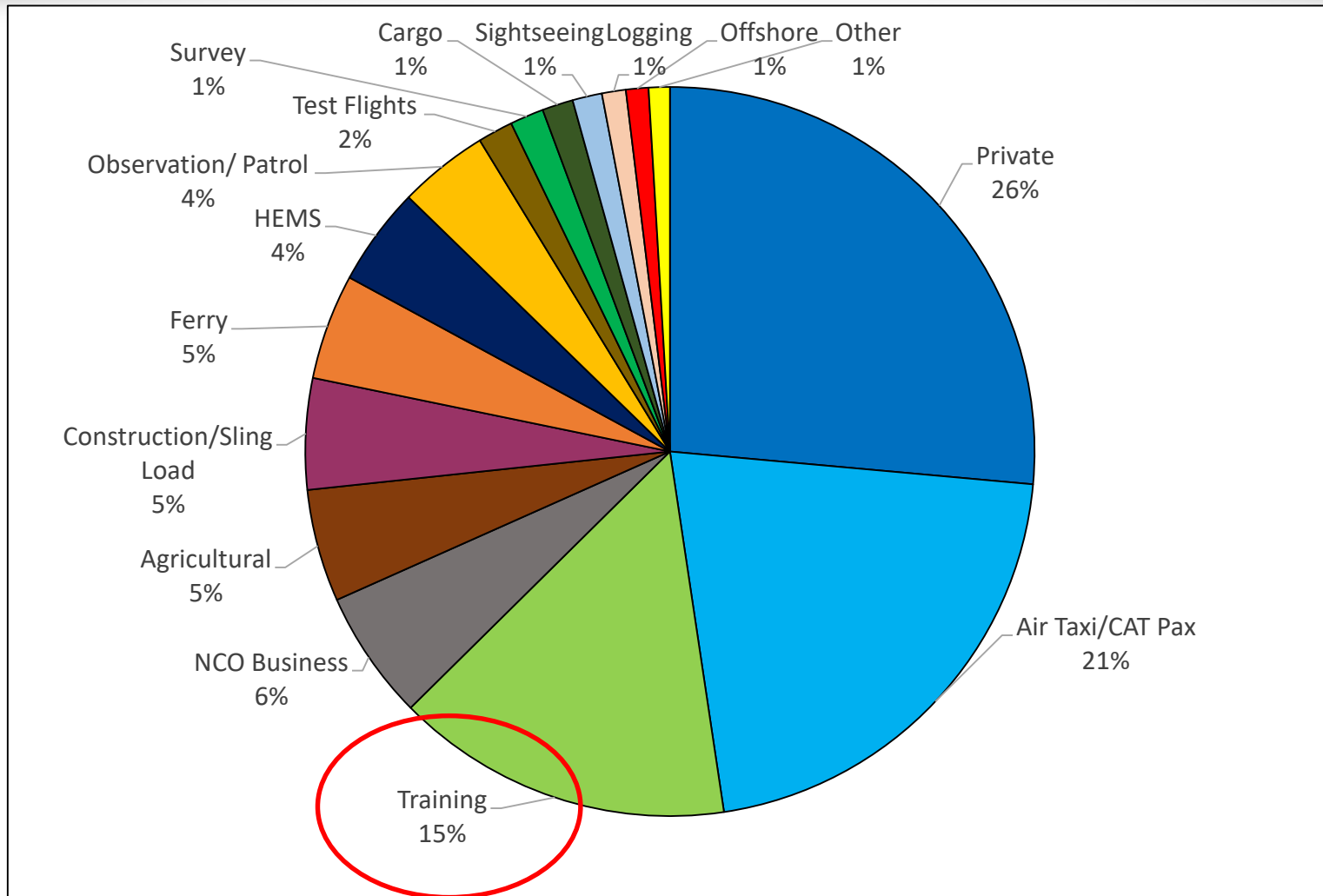
Cumulative Number of Fatalities by Month, 2017 vs 2016  
and 5-yr Average - All Rotorcraft Accidents



Caution: Not normalised data



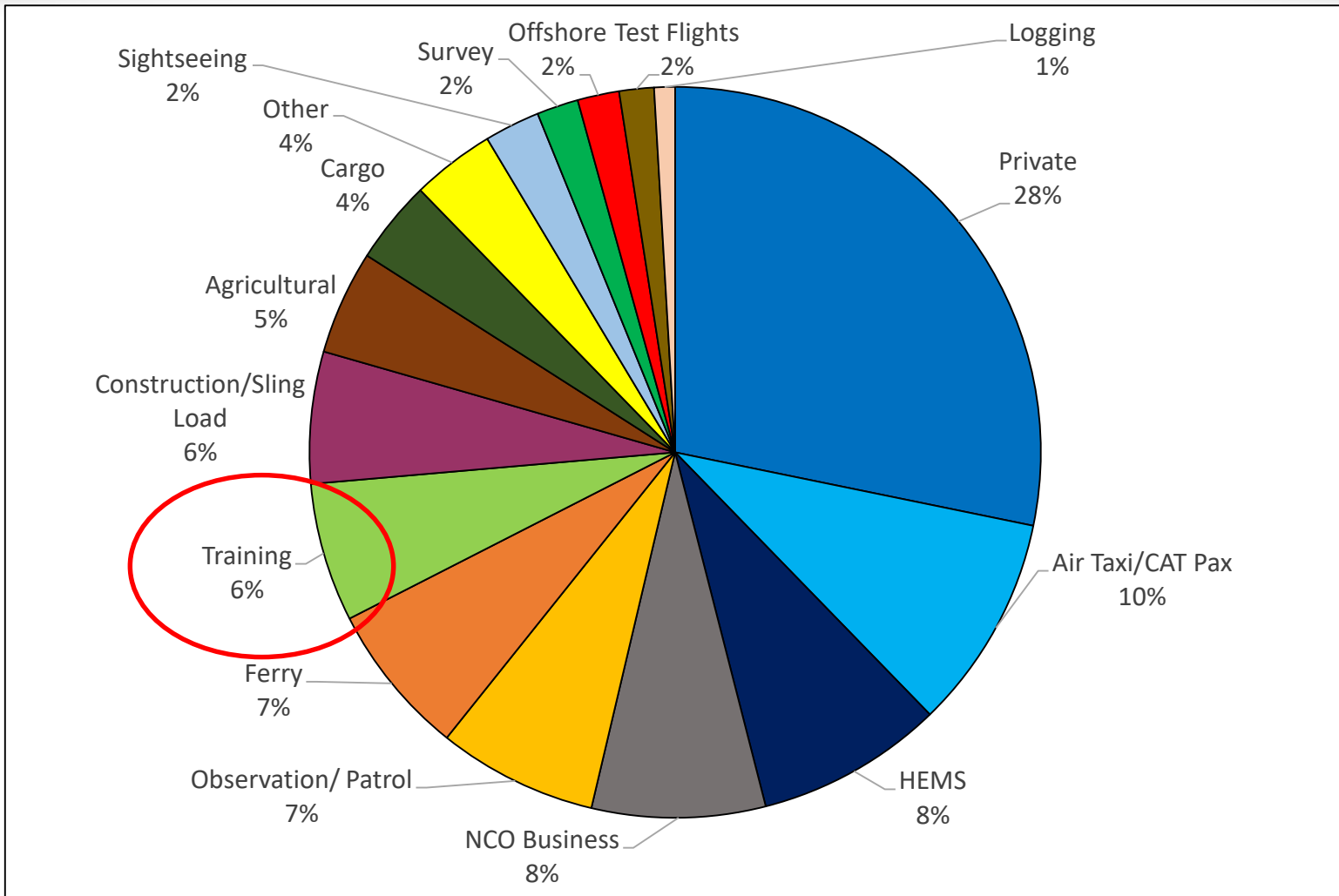
# Accidents by Type of Operation (10 Years)



Source: EASA (2007-2016)



# Fatal Accidents by Type of Operation



Source: EASA (2007-2016)



# Root Causes

- Rotorcraft are delicate to pilot
- Lack of Simulators for GA rotorcraft
- Lack of representativeness
  
- Specific maneuvers are thus **done in flight**
  - Autorotation
  - Hydraulic failures
  - These 2 scenario represent more than 50% of accident in training





# Need Innovative Approach

- Re-think the content of the in-flight training according to the risk introduced
  - We are creating a risk of 1 in training while actual failure rate is  $10^{-5}$  and rotorcraft average usage is less than 600 FH per year
- Promote development of « low cost » simulator addressing
  - Autorotation
  - Hydraulic failures
  - Others



# New Technologies

- New Technologies are an opportunity
  - Virtual reality
  - Augmented reality
  
- Challenge is to enable these technologies in flight simulation
  - Enabling credit
    - At low cost
    - In specific areas





# Joint Flight Standard/Certification activity

- Rotorcraft GA (primarily) Innovative approach for affordable Simulator use and credit
  - Concept development
  - Aligned with EBT tasks RMT 599



# Simulator for specific operations

- Develop also low cost simulator for specific OPS
  - Hoist
  - SAR
  - Fire fighting
  - ....



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You







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**Thank You**

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