

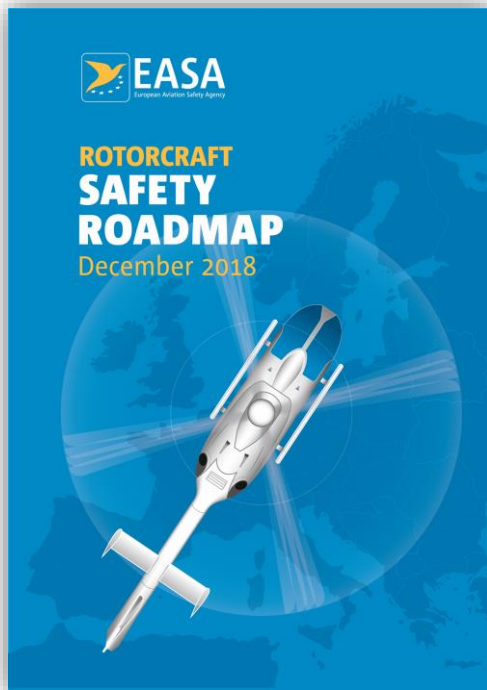
# **Presentación EASA Rotorcraft Safety Roadmap**

**17 de Octubre de 2019**

## EASA Rotorcraft Safety Roadmap

- Overview of the Roadmap as a strategic activity,
- Safety Data analysis and Prioritisation,
- Strategic Objectives,
- Work-streams and activities,
- Additional information.

## Overview



- Safety records were stable over the last decades,
- EASA Management decided to take action,
- Expectations for Safety are high,
- New players will enter the market and the conventional helicopters are pushed to improve
- Roadmap initiated as an EASA strategic activity,
- Development of ambitious actions in partnership with all stakeholders.

## Vision and Strategic objectives



### **Vision:**

Achieving significant safety improvement for Rotorcraft with a growing and evolving aviation industry

### **Strategic objectives:**

1. Improve the overall Rotorcraft safety by 50% within the next 10 years.
2. Make positive and visible changes to the Rotorcraft safety trends within the next 5 years.
3. Develop performance-based and proportionate solutions.



## Safety Performance Indicator

- Number of Rotorcraft accidents in Europe with at least a fatality or a serious injury.
  - There were **25** occurrences in this category in 2017.
  - Although fatal accidents can be monitored with a high level of confidence in the completeness of the data, the fatal accidents are not fully representative of the overall risk levels.
- Additional KPIs based on European Risk Classification Scheme (ERCS).
  - To provide a better overview of the actual risk levels, performance will be monitored using the European Risk Classification Scheme (ERCS). This scheme identifies high risk occurrences independently from the ICAO Annex 13 definitions. This provides a more consistent measure of safety performance to determine the effectiveness of the Roadmap.
- Complemented by data collection activity using D4S to built robust accident rates data.

# Main helicopter types in operation

## Europe (TOP 10 Types)

R44	1,014
H125 / AS350	670
R22	611
H135 / EC135	379
Bell 206	357
Hughes 269	283
AW109	280
AS355	200
H120	200
H145 / EC145	136

## World (TOP 20 Types)

R44	5,491
Bell 206	4,136
Mi-8	3,699
H125 / AS350	3,607
R22	2,975
MD500 / Hughes 369	1,794
Hughes 269	1,433
Bell 407	1,333
H135 / EC135	1,069
AW109	1,051
Bell 412	1,050
Bell 212	796
AW139	753
Mi-2	719
H120	717
S-76	688
Bo105	621



# Identification of priorities

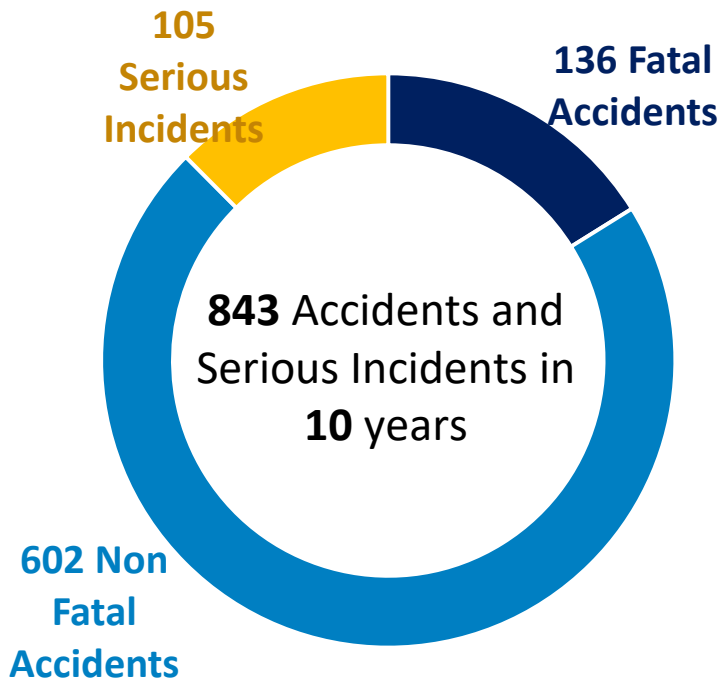
## Light conventional rotorcraft is the priority

- Data review indicated that priorities are light rotorcraft. This is not due to the inherent design deficiencies but to the wide type of operations and high risk exposure.
  - R22/R44,
  - H125/AS350,
  - H135/EC135 and
  - Bell 206.



# Identification of priorities

## Safety data



**230** of these occurrences led to at least 1 Fatal or Serious Injury

### Safety Dataset used to support the Prioritisation

- Accidents or Serious Incidents
- Over the period 2008-2017
- Involving a certified Helicopter
- Performing one of the following operation types:
  - CAT
  - SPO
  - NCO
- With an EASA Member State as being either:
  - State of occurrence
  - State of operator
  - State of registry



## Small operators will be the main focus of actions

- 90% of European operators have a fleet of 5 or less helicopters

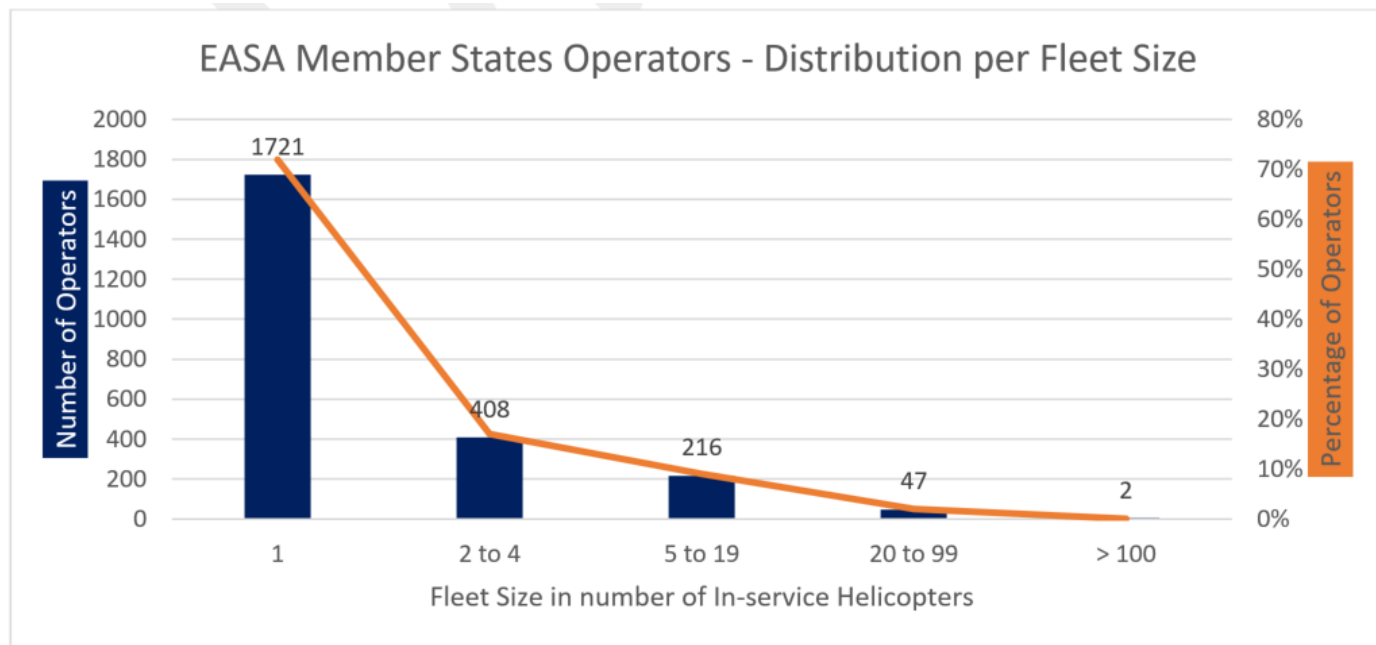
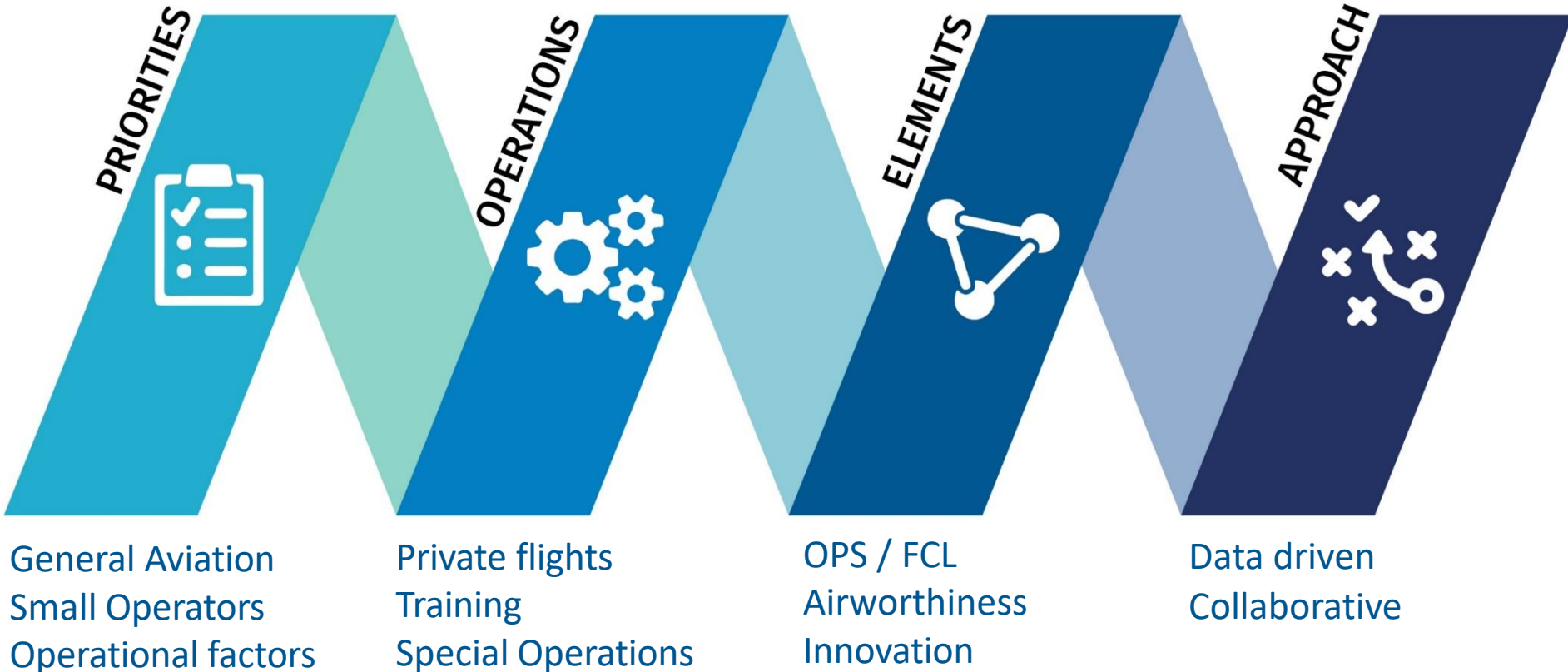


Figure 4 – Distribution of EASA MS Operators by fleet size of In-service Helicopters. Source: [FlightGlobal](#) (aka Ascend)

# Overview of prioritise



# Rotorcraft Safety Roadmap

## Work-stream on CS modernisation and design improvement

This task aims to support industry and improve the efficiency of the certification activity by maintaining the Certification Specifications up to date with the advancements in technology.

- RMT.0127 Pilot compartment view
- RMT.0708 Controlled flight into terrain prevention with HTAWS
- RMT.0709 Prevention of catastrophic accidents due to rotorcraft hoist issues
- RMT.0710 Improvement in the survivability of rotorcraft occupants in the event of a crash
- RMT.0711 Improving vibration health monitoring systems
- RMT.0712 Enhancement of the safety assessment processes for rotorcraft designs
- RMT.0713 Reduction in human-factor-caused rotorcraft accidents that are attributed to the design
- RMT.0714 Enable the safe introduction of rotorcraft Fly-by-Wire technology
- RMT.0724 Rotorcraft flight crew operating manuals (FCOMs)
- RMT.0725 Rotorcraft chip detection system
- RMT.0726 Rotorcraft occupant safety in event of a bird strike

# Rotorcraft Safety Roadmap

## Work-stream on Continued Aviation Education

### Credit-based system to maintain the currency of responsible persons

- The requirement to maintain the currency of responsible persons exists mainly for pilots and some technicians for safety purposes. For most additional stakeholders, in particular accountable and nominated persons, no (or almost no) requirements exist to maintain a certain currency for their functions. After the approval by the competent authority in most cases no additional education or checks are conducted. As safety can be created only in a holistic approach by pilots, supervisors, operators, associations and the regulator. All of these required stakeholders must be involved in an overall regulatory requirement for a continued aviation education (CAE). To overcome the problem, a dynamic system for a continued aviation education (CAE) with a certain minimum number of credits per year/term for all stakeholders would be a powerful tool. In a credit-based system, EASA can define the necessary continued training topics and the respective credit values that the various stakeholders can achieve after successfully attending a certified course or training. Already existing regulatory training requirements can be easily included in such a system.
- The CAE initiative could be introduced in the same way as the continued medical education (CME) that has been established in Europe — and also achieve the same safety and quality benefits. Due to the dynamic system, EASA can steer training according to current and also future safety aspects.

# Rotorcraft Safety Roadmap

## Work-stream on Simplification

The objective of this task is to identify and ultimately reduce the administrative burden on the operators.

- An evaluation of small helicopter operations will be launched to assess the administrative burden put on the operators and to identify proposals for simplification and reducing the administrative burden and ultimately the cost for the operators.

# Rotorcraft Safety Roadmap

## Work-stream on Safety Data

Objective: Data collection and analysis activity to provide a comprehensive safety intelligence picture for Rotorcraft in Europe

- **Objective:** Data collection and analysis activity to provide a comprehensive safety intelligence picture for Rotorcraft
  - Task 1: Data collection and aggregation
  - Task 2: Encouraging the carriage and use of on-board recorders when they are not already required by the regulations.
  - Task 3: Establish Safety analysis capacity at European-level
  - Task 4: Introduce Rotorcraft in EASA D4S Initiative

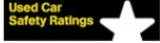






# Rotorcraft Safety Roadmap

## Work-stream on Safety Rating

The objective is to develop a concept for a voluntary safety rating scheme for rotorcraft in European.

- Identify and review safety rating schemes established around the globe and in different industries.

### Schemes reviewed

- Used Car Safety Rating ([UCSR](#)) 
- Safety Helmet Assessment and Rating Programme ([SHARP](#)) 
- Motorcycle Clothing Assessment Programme ([MotoCAP](#)) 
- European Road Assessment Programme ([EuroRAP](#)) 
- Housing Health and Safety Rating System ([HHSRS](#)) 
- Food Hygiene/Safety Rating Schemes ([UK](#) & [South Australia](#)) 
- [SafePlus](#) 

### New Car Assessment Programs (NCAPs)

- Global NCAP ([Global NCAP](#)) 
- United States NCAP ([US NCAP](#)) 
- European NCAP ([Euro NCAP](#)) 
- Australasian NCAP ([ANCAP](#)) 
- Japan NCAP ([JNCAP](#)) 
- Korean NCAP ([KNCAP](#)) 
- China - NCAP ([C-NCAP](#)) 
- NCAP for Southeast Asia ([ASEAN NCAP](#)) 
- Latin NCAP ([Latin NCAP](#)) 
- Insurance Institute for Highway Safety ([IIHS](#)) 

# Rotorcraft Safety Roadmap

## Work-stream on Training

### Where the most safety gains could be achieved!

- Task 1: Training needs identification for light helicopters
- Task 2: Reduce high-risk training scenarios in flight
- Task 3: Introduce a Mandatory Safety Awareness in recurrent training
- Task 4: Review Regulations to promote less checking more training
- Task 5: Reconsider recurrent training requirements for rotorcraft



# Rotorcraft Safety Roadmap

## Work-stream on Training Devices and Simulators

Paradigm shift to focus on the training scenario and on operational training

- Investigate developing CS-FSTD requirements that take into consideration the introduction of new technologies in training
- Encourage the development of new types of training devices to better address light and medium in operation helicopters
- Perform a training needs analysis and define the training capacities and limitations for each types of training devices
- Develop Mission Specific training recommendations and best practices



# Rotorcraft Safety Roadmap

## Work-stream on Safety Promotion

### European Rotorcraft Safety Promotion Network (ESPN-R)

- New EASA Safety Promotion brand
  - Web-portal Rotorcraft on the EASA website (in development)
  - Rotorcraft safety promotion plan with Monthly Safety Topics
  - Continued aviation education
  - Led by EASA in partnership with
- 
- The ESPN-R develops, disseminates and evaluates Safety Promotion (SP) material and actions on a voluntary basis in support of the R.COM, of EASA and of the industry.

## Helicopter industry worldwide

Region of the world (by state of registration)	Number of civil rotorcraft
USA	9,073
EASA Member states	<b>7,762</b>
Asia	5,363
Latin America	4,383
Russia	3,249
Oceania	2,885
Africa	2,446
Canada	2,409
Middle East	1,056
Europe (non-EASA)	954
Central America	511
<b>Grand Total</b>	<b>40,091</b>

EU Industry share:  
> 57% of worldwide civil fleet  
> 70% of market share

# Improving Safety globally

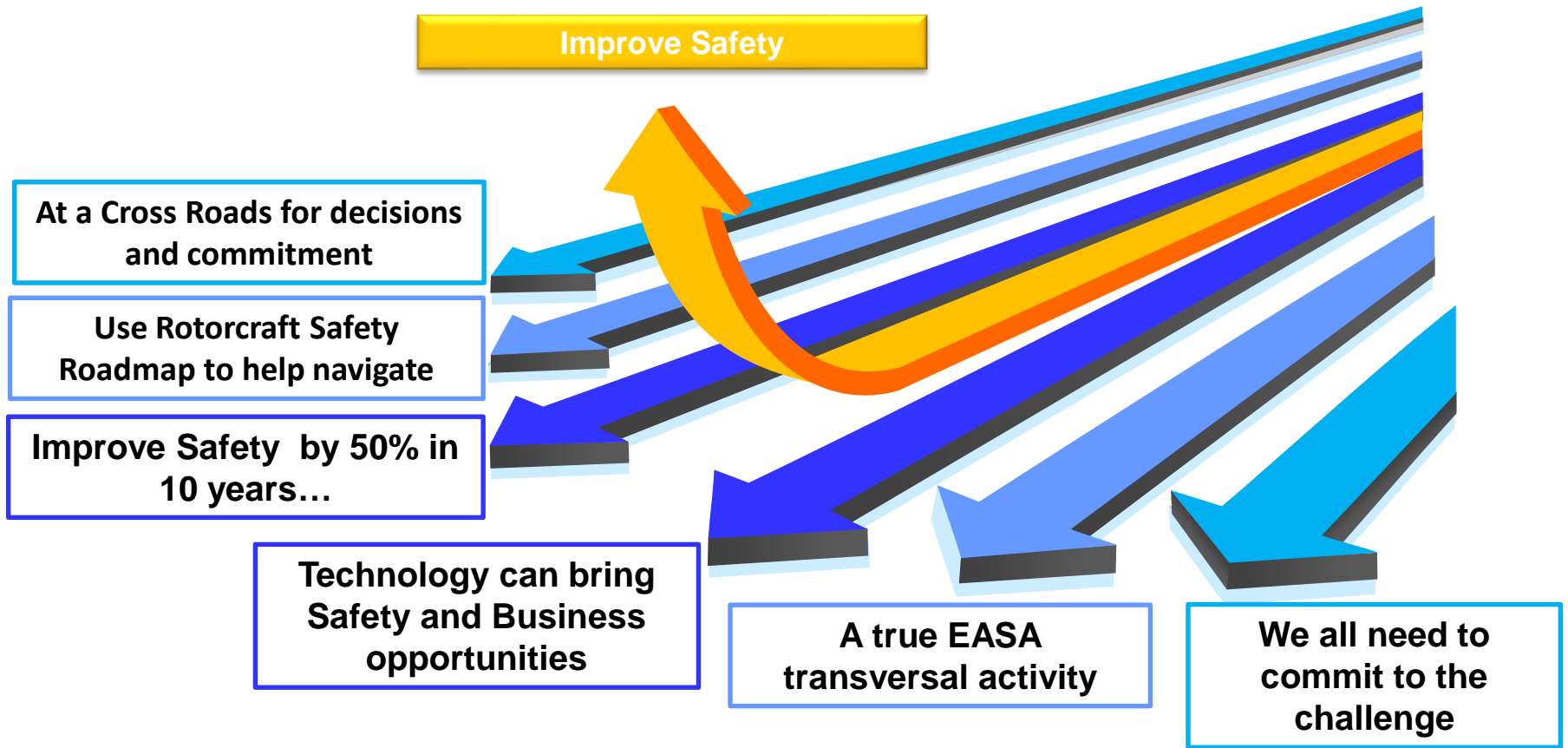
## International Helicopter Safety Foundation (IHSF)

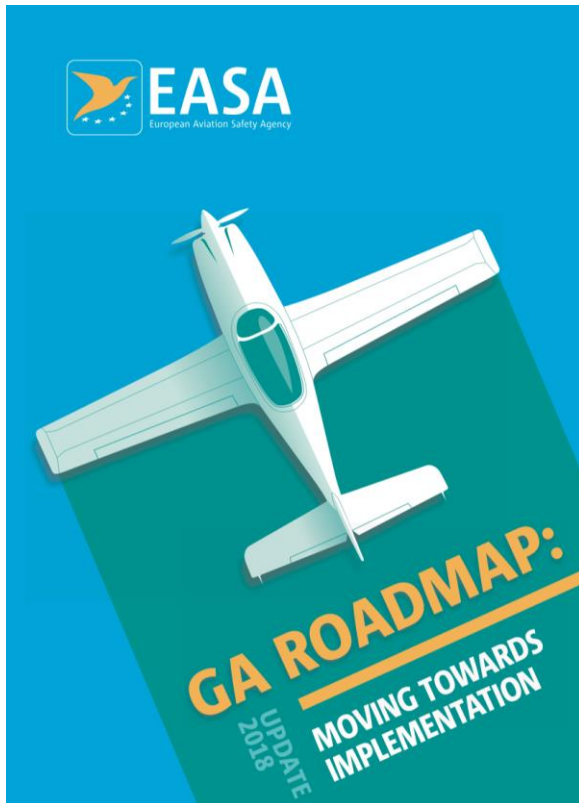
- EASA is part of the IHSF since its creation
- The Roadmap also requests to reinforce **Strategic Safety Partnerships**



The screenshot shows the IHSF website homepage. At the top, the IHSF logo is displayed alongside the text "International Helicopter Safety Foundation" and the tagline "Our Vision: An International Community With Zero Accidents". The navigation menu includes links for Home, About Us, USHST, ESPN-R, Industry Links, Videos, Resources, Risk, Reports, Presentations, Safety Tools, Repository, Supporters, and Contact Us. Below the navigation, there are social media links for Facebook, Twitter, and YouTube, along with a "Survey" button. The main content area features a large image of a helicopter in flight over a canyon, with the text "U.S. Team Proposed Safety Enhancements (click on photo)". To the right, there is a "2017 SURVEY RESULT" button and a "Reel Safety" video player. Below the main image, there is a world map with regional labels: Canada, United States, S. America, Europe, Middle East/Africa, Asia, Russia/CIS, and Oceania. A button below the map says "Click on map for regional partner info.". On the right side, there is a "Download Every Document Here" button with the URL "www.IHSF.aero" and a "Safety Resources" section listing: Safety Bulletins, Essays, Fact Sheets, Safety Guides, Brochures, Key Charts, and Press Releases. At the bottom right, there is a "Toolkits & Videos" section.

# Stakeholders' Support is Essential!





## 2 GA Roadmap - Moving towards implementation

### Moving Towards Implementation

#### Practical results of the GA strategy and next steps

You may be aware of the vision and commitments that EASA established a few years ago. They were about better and lighter regulation for General Aviation, something that was urgently needed after the initial regulations imposed too much 'red tape' on the GA community. Well, in the meantime, a lot has happened! Discover in this leaflet the good progress of the GA roadmap activities and learn more about the changes which already have been implemented and those to come. But firstly, let's do a quick recap and look at the fundamentals:

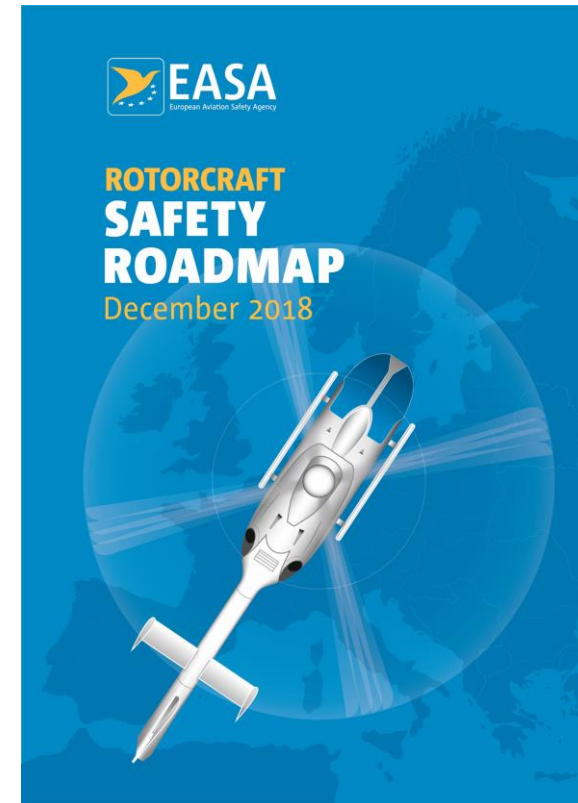
#### 6 GA strategic principles

- One size does not fit all
- Use rules when it is the only or best way to reach the safety objectives
- Adopt a risk-based approach
- Protect 'what shows to work well' unless there are demonstrable and statistically significant safety reasons against doing so
- Apply EU smart regulation principles; and
- Make the best use of available resources and expertise

#### 6 GA key objectives

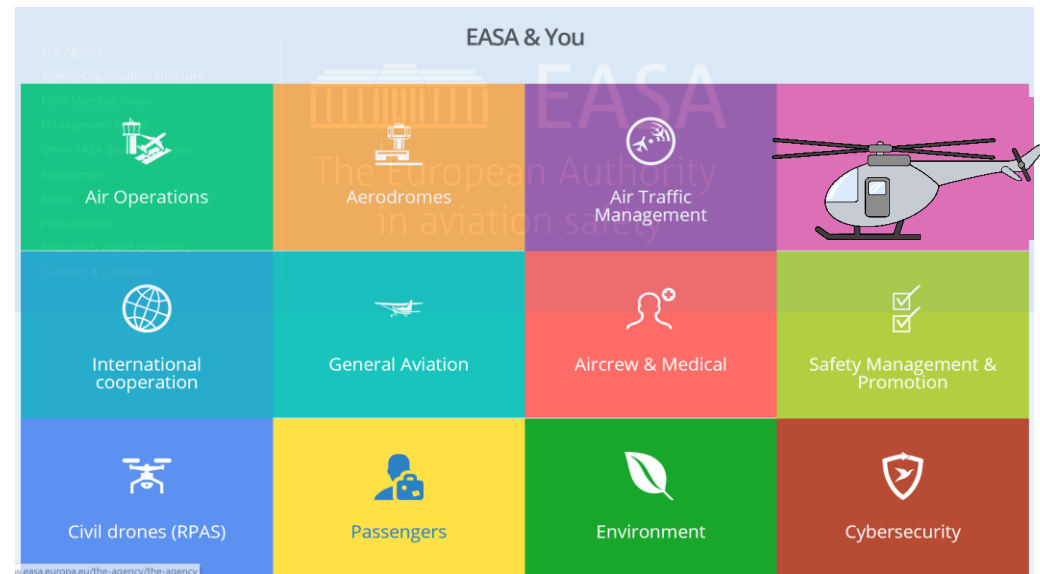
- Facilitate access to IFR Flying
- Allow the training of private pilot outside Approved Training Organisations (DTO concept)
- Simplify and reduce the costs related to the maintenance of your aircraft (Part-M Light, Part CAO)
- Allow and promote the introduction of new technology (or the Standard Changes and Repairs Process)
- Simpler certification process
- Develop the use of Industry Standards (or CS-23 reorganisation)

After developing the GA strategy and GA Roadmap, the past 3 years were already dedicated to action. In the effort to relieve the GA segment of unnecessary regulatory burden, and in taking a proportionate and risk-based approach to rules, we can now present a number of tangible results.



## New EASA public website in November 2019

- EASA new website will include a portal dedicated to helicopters
- The portal will provide easy access to all relevant information



# European Rotorcraft Symposium

10-11 December 2019, Hotel Pullman

- Annual event organised by EASA in Cologne, Germany
- Technical symposium focussing on rotorcraft safety
- Conventional helicopters and new VTOLs
- This year:
  - Interactive Safety Promotion workshop
  - Session dedicated CS VTOLs MoC / AMCs



<https://www.easa.europa.eu/newsroom-and-events/events/rotorcraft-and-vtol-symposium>





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