VERTICAL AVIATION SAFETY TEAM

Safety Above All

VERTICAL AVIATION SAFETY TEAM (VAST)

An Introduction

2023

www.vast.aero

Who We Are

Enabling Safety Collaboration for the Global Vertical Aviation Industry

- A public–private initiative to enhance worldwide flight operations safety in all segments of the vertical aviation industry.
- Members include international safety teams, safety authorities, and other stakeholders seeking to elevate vertical aviation safety.
- More information at vast.aero/about-vast

Our Vision

A worldwide vertical aviation community with zero fatal accidents achieved through cooperation and collaboration.

Issues/Needs

- The international vertical flight industry benefitted from regional safety teams (under the IHST) and other stakeholders focused on developing safety information and resources to reduce the likelihood and severity of accidents.
- However, collaboration and coordination of those initiatives or sharing of the final outputs was limited or nonexistent.

- Needs:
  - Identify, collect, harmonize, and deliver centralized access to safety information and resources globally.
  - Provide and coordinate a forum where regional safety teams, safety authorities, and other industry stakeholders can work together on vertical aviation safety issues.

Our Mission

VERTICAL AVIATION SAFETY TEAM

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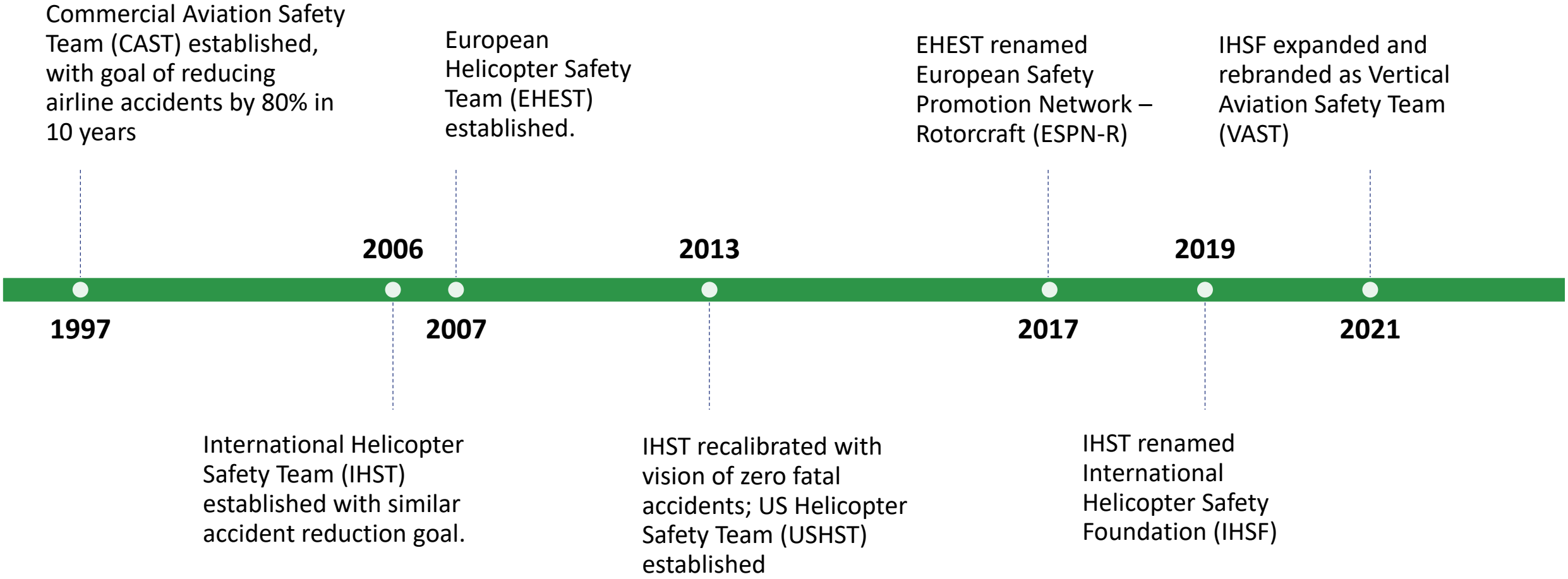
Continuously improve the community's safety culture and operational performance through harmonization, coordination, and implementation of global safety information, resources, and programs while supporting regional safety team data that promotes vertical aviation's societal contributions.

Our Approach

Using a data-informed, consensus-based approach, the VAST seeks to integrate and globally distribute valued safety data and proven risk reduction strategies.

Our Story


Commercial Aviation Safety Team (CAST) established, with goal of reducing airline accidents by 80% in 10 years
1997
International Helicopter Safety Team (IHST) established with similar accident reduction goal.
2006
European Helicopter Safety Team (EHEST) established.
2007
IHST recalibrated with vision of zero fatal accidents; US Helicopter Safety Team (USHST) established
2013
EHEST renamed European Safety Promotion Network – Rotorcraft (ESPN-R)
2017
IHST renamed International Helicopter Safety Foundation (IHSF)
2019
IHSF expanded and rebranded as Vertical Aviation Safety Team (VAST)
2021

Why the VAST?

VERTICAL AVIATION SAFETY TEAM

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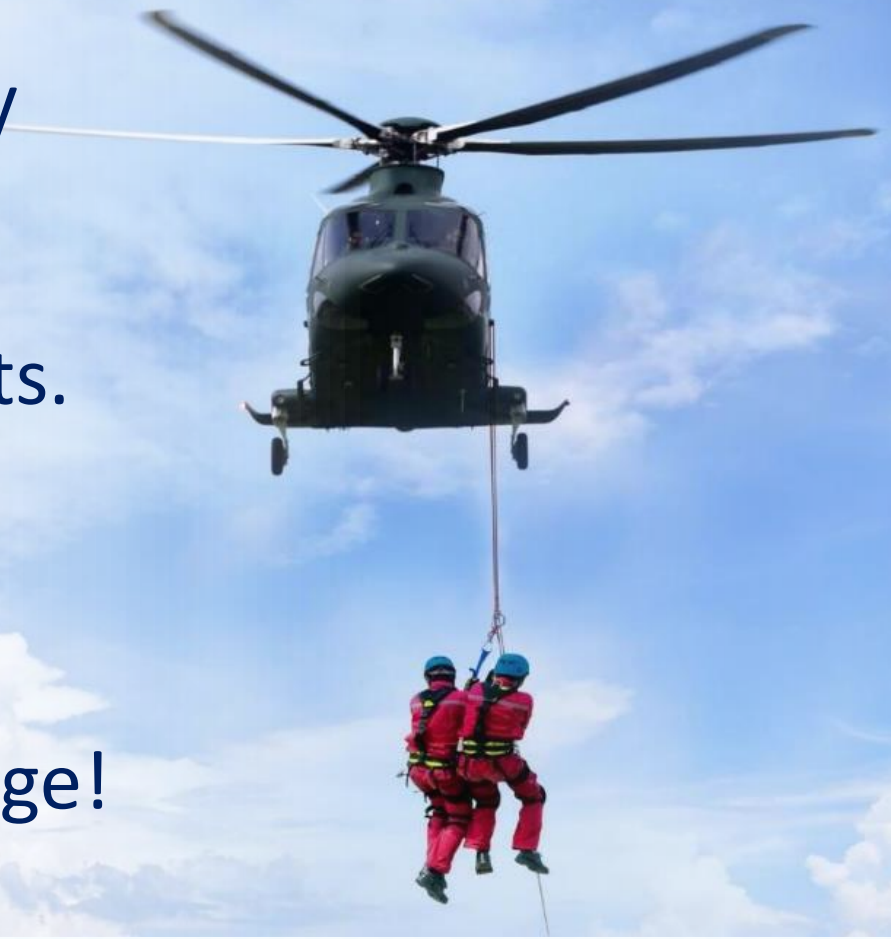
Overcoming our legacy challenges

The international vertical aviation community benefitted from regional safety teams and others who developed safety resources to reduce the likelihood and severity of accidents.

Collaboration and sharing of these “vast” resources was, however, severely limited.

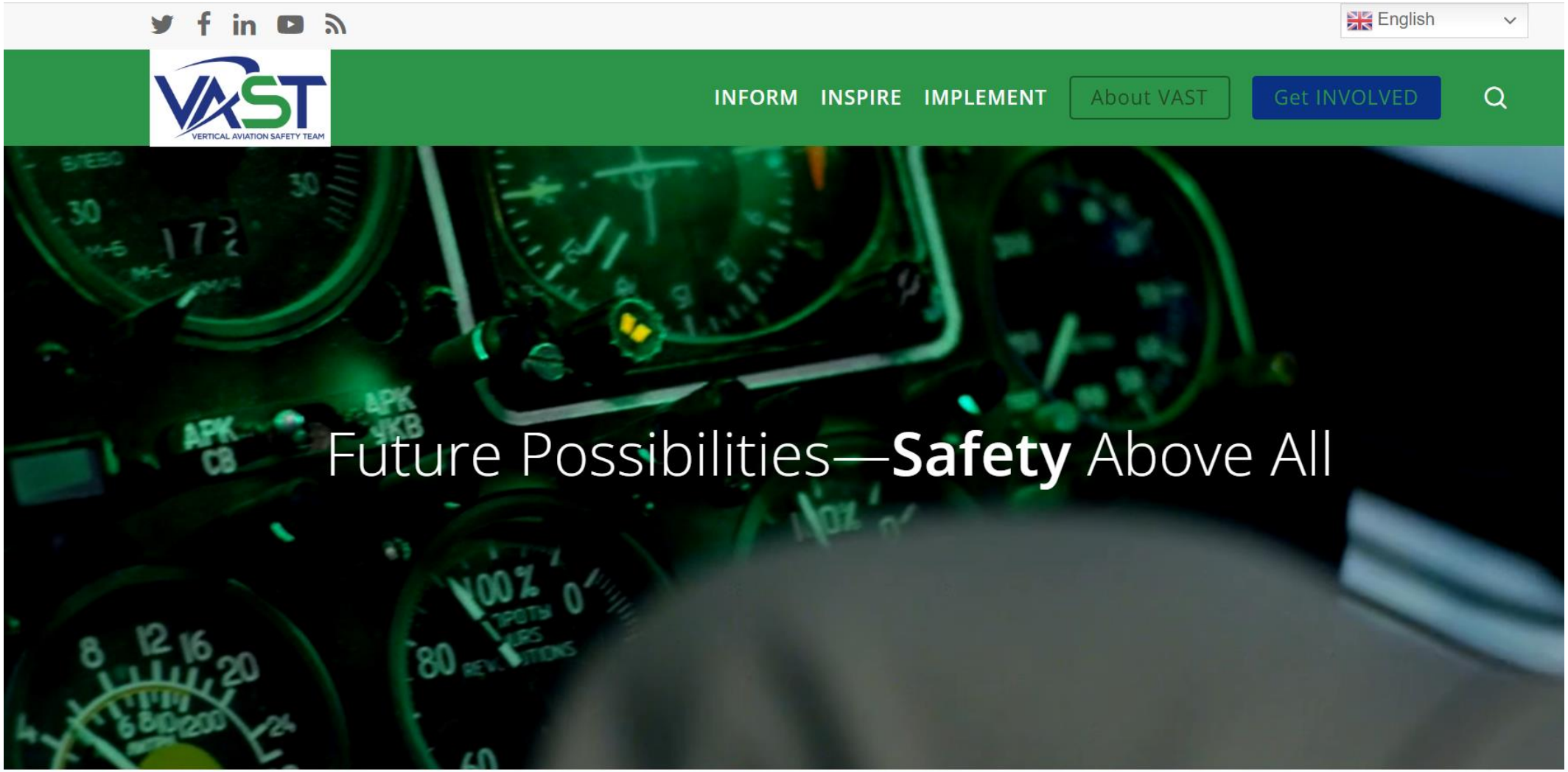
The VAST was formed to address that challenge!



Our Objective

Support the Open Exchange of Timely, Relevant, and Harmonized Global Vertical Aviation Safety Information

VAST.AERO – A Wealth of Information!



What's Next?

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The VAST seeks to…

- Inspire: Promote vertical aviation's value to society by protecting lives and property and fulfilling dreams
- Inform: Expand global awareness of aviation safety tools and resources
- Implement: Provide proven tips and tactics to support global growth of safe vertical aviation operations

VERTICAL AVIATION SAFETY TEAM

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Want to elevate vertical aviation safety in your region?

Individuals Join your regional safety team
https://vast.aero/regional-safety-teams/

Organizations Take the VAST Pledge
https://vast.aero/join-the-vast/

info@vast.aero

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OUR VISION

A worldwide vertical aviation community with **zero fatal accidents** achieved through cooperation and collaboration.

Global safety analyses, accident statistics, risk mitigations, and recommended practices.

Aviation safety promotion and educational videos, courses, and presentations

Proven helicopter and uncrewed vertical aviation safety tools, tips, and tactics.

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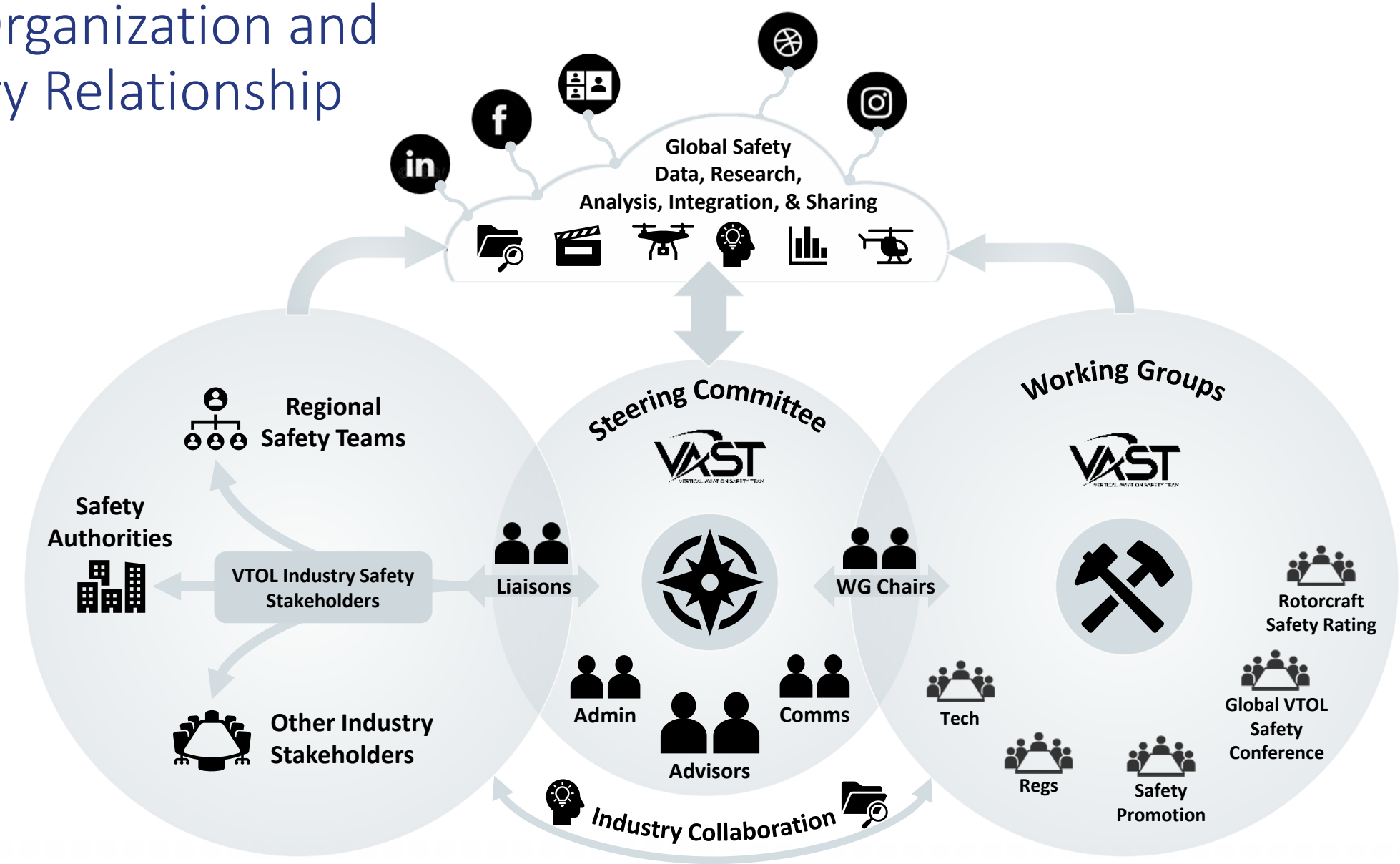
VERTICAL AVIATION SAFETY TEAM

Backup Slides

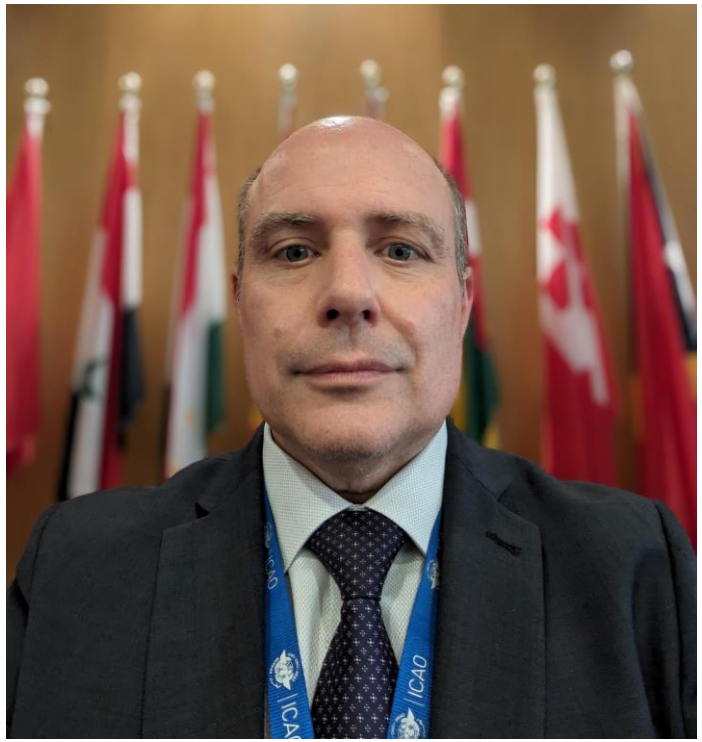
VAST – Organization

- Advisors
- Members & Liaisons
- Steering Committee
- Working Groups

VAST Organization and Industry Relationship



VAST Advisors



Ian Knowles, Acting Chief, Operational Safety Section.
International Civil Aviation Organization (ICAO)

Tim Rolfe, Chief Executive Officer
HeliOffshore, Ltd.

VAST Working group Members

- A VAST working group member may include any designated representative of a global VTOL safety stakeholder organization; additionally, any individual who is not affiliated with such an organization may be a VAST member
- A VAST member may serve in the following roles
  - Volunteer and, if elected, serve in a working group co-chair position
  - Volunteer to actively participate in a working group
  - Volunteer to actively participate in the administration or communications team
- One individual of each stakeholder organization may serve as a voting member of a working group; any other individual of the same organization may serve as a backup voter.
- Individuals are not considered a VAST member unless they are contributing to a working group or serving in an advisory role
- Additional VAST member information is available in the VAST Charter

Working Groups

Technology

WORKING GROUP

Technology

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- **Objectives**
  - Identify and evaluate the applicability of safety technologies with a **significant potential to reduce accidents and incidents** as they pertain to the **existing global helicopter fleet** and their potential application to **emerging rotorcraft and other vertical flight aircraft**
  - Promote the **integration of promising new safety technologies** and **foster harmonization** of international safety efforts.
  - Ensure **global consistency** in the application of safety technologies.
- **Accomplishments (2021-2023)**
  - Developed a comprehensive list of beneficial safety technologies
  - Completed a cockpit safety technology use survey with 1,376 responses
  - Concluded a study on Rotorcraft Digital Co-Pilot (i.e. cognitive assistance technology)
  - Examined various encounter scenarios & recovery techniques to address Loss of Control risk via technology solutions
  - Finished an initial study on proposed Vertiport Symbology (Lighting & Marking)
- **Next Steps (2023-2024)**
  - Finish the Glossary of Conflicting Aeronautical Rotorcraft Terms (GoCART) & Understanding Phenomenon [GoCART UP]
  - Create content for white paper on technology for vertical flight infrastructure (low altitude surveillance and radio coverage, reduced separation standards, low altitude routes/procedures, etc.)
  - Complete a further study on Digital Co-Pilot (i.e. cognitive assistance technology) for weather scenarios
  - Perform additional Vertiport Symbology (Lighting & Marking) trials
  - Define proposed stabilized approach criteria for vertical flight (rotorcraft & eVTOL)

Regulations

WORKING GROUP

Regulations Working Group

- Objectives
  - Review & assess full scope of industry issues related to vertical flight rules, regulations, standards, recommended practices, & supporting documents
  - Identify opportunities to harmonize international rules, regulations, & standards
  - Provide recommendations global industry safety enhancements where appropriate
- Current focus areas:
  - Accident Data Harmonization: Develop a list of minimum data points that should be collected by helicopter accident investigative authorities.
  - Work with accident investigative authorities and ICAO to adopt this recommendation.

Regulations Working Group-Output

- Accident Data Points Recommendation
  - At HTTPS: ???????
  - Review and comment through VAST.AERO
  - Encourage Accident Investigation organizations to adopt at lease these minimum data points.

Safety promotion

WORKING GROUP

Safety Promotion

- Objective:
  - Safety information that is critical to meeting the VAST Vision and Mission are brought forward and highlighted to the vertical flight community (Including safety information, recommended practices, safety videos, safety tools, accident data, research results, and global authority regulatory publications.
- Accomplishments:
  - Newly modified VAST.AERO optimized for prompt access and mobile compatibility
  - There are currently over 800 safety related information resources (recommendations, video, studies, presentations, links, etc.) available
  - VAST social media sites include Facebook, YouTube Channel, LinkedIn, and Twitter

Rotorcraft Safety Rating

SPECIAL PROJECT WORKING GROUP

Rotorcraft Safety Rating Working Group

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- Objective
  - Investigate the feasibility of a safety rating concept that would incentivizing innovation and implementation of enhancing technologies into the new and current fleet
  - Develop a concept and an implementation plan for a worldwide voluntary safety rating scheme that is reflective of the helicopter in its operational context.
  - Consider safety technologies designed to reduce the likelihood or severity of rotorcraft accidents.
  - Consider the operational aspects in designing the safety rating.
- Accomplishments:
  - Technologies to be considered have been determined
  - Initial scoring on each technology completed
- Current Focus
  - Refine scoring models
  - Run through various examples to confirm validity

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Thank You