



EHEST



Component of ESSI

European Helicopter Safety Team

EAB meeting

Cologne, Germany, 12 March 2010

The European Helicopter Safety Team

What's new in European Helicopter Safety?

Gunter Carloff, Executive Director of NewEHA

Prepared by Michel Masson, EASA

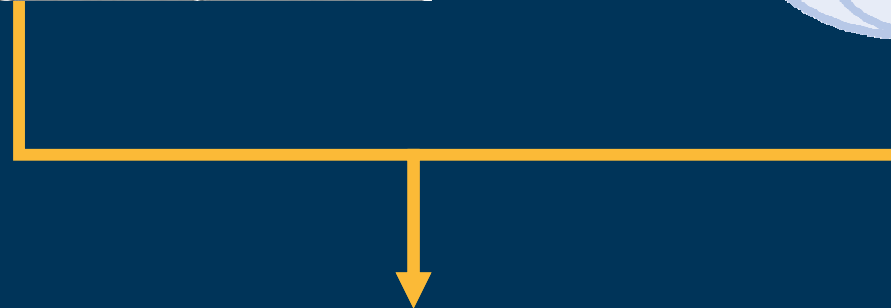
1. SETTING THE SCENE

2. METHODOLOGY and INTERIM RESULTS

3. IMPLEMENTATION ASPECTS and CONCLUDING REMARKS



Photo Eurocopter



EHEST is the helicopter component of ESSi
and the European branch of IHST

ESSI

The European Strategic Safety Initiative

- **10 year programme (2006-2016) aimed at improving aviation safety in Europe, and for the European citizen worldwide**
- **Partnership, with more than 150 organisations**
- **Powered by industry and facilitated by EASA**



www.easa.europa.eu/essi

1. SETTING THE SCENE

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Photo Eurocopter

Methodology

- Analysis of helicopter accidents using the JHSAT method
- Added HFACS by Wiegmann and Shappell to better understand the circumstances in which pilot errors occur, and to analyse Human Factors in general

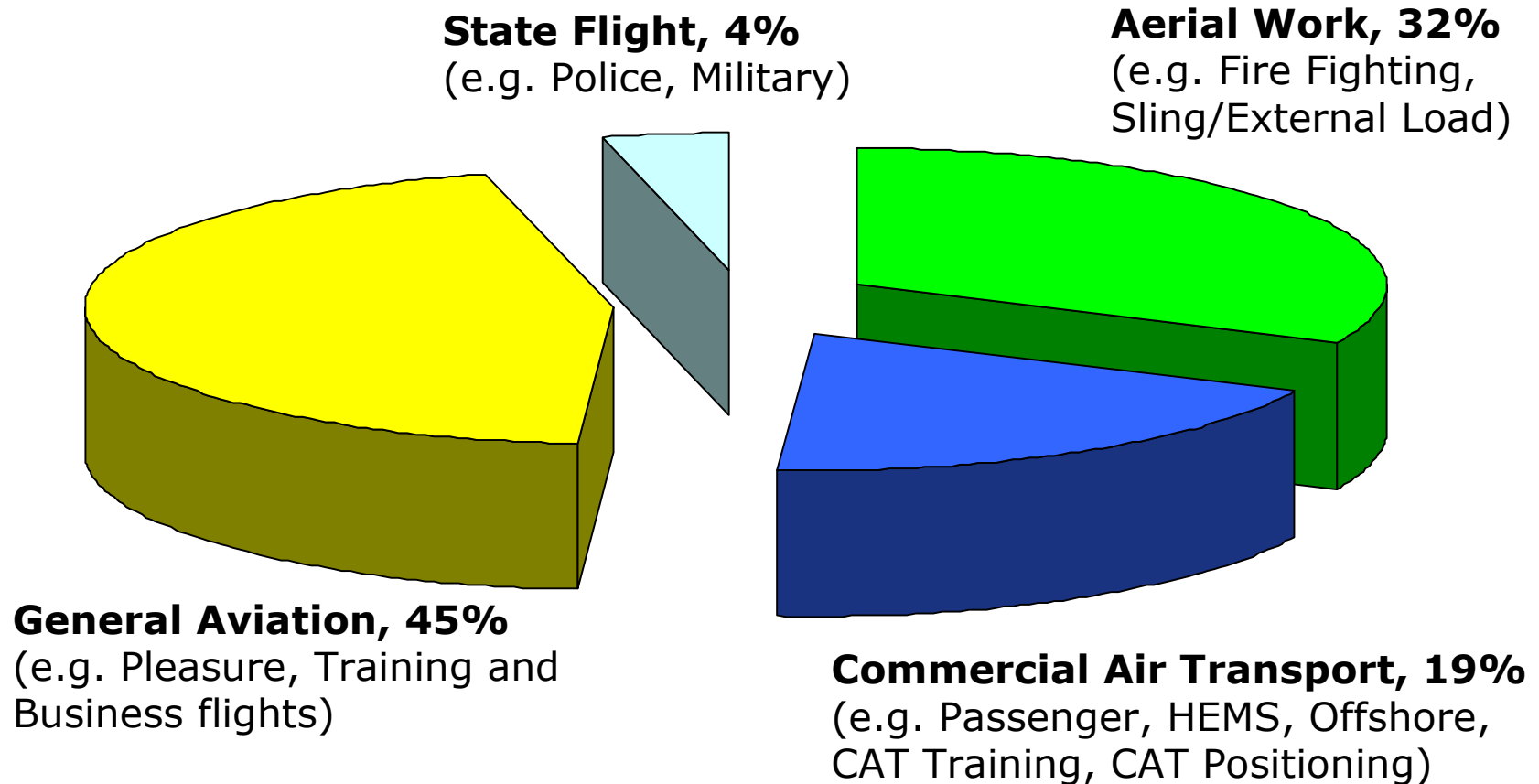
Scope of analysis

- Data driven approach
 - ✦ Accidents (definition ICAO Annex 13)
 - ✦ Date of occurrence year 2000 - 2005
 - ✦ State of occurrence located in EASA Member States
 - ✦ Where a final report from AIB is available
- Preliminary results presented Portugal – Oct. 08
 - ✦ 186 accidents
- Interim results presented IHSS, Canada – Sep. 09
 - ✦ 303 accidents
 - ✦ Estimated to be some 75% of the published reports
 - ✦ Published on the EHEST website
- Final report 2000-2005 planned for mid 2010



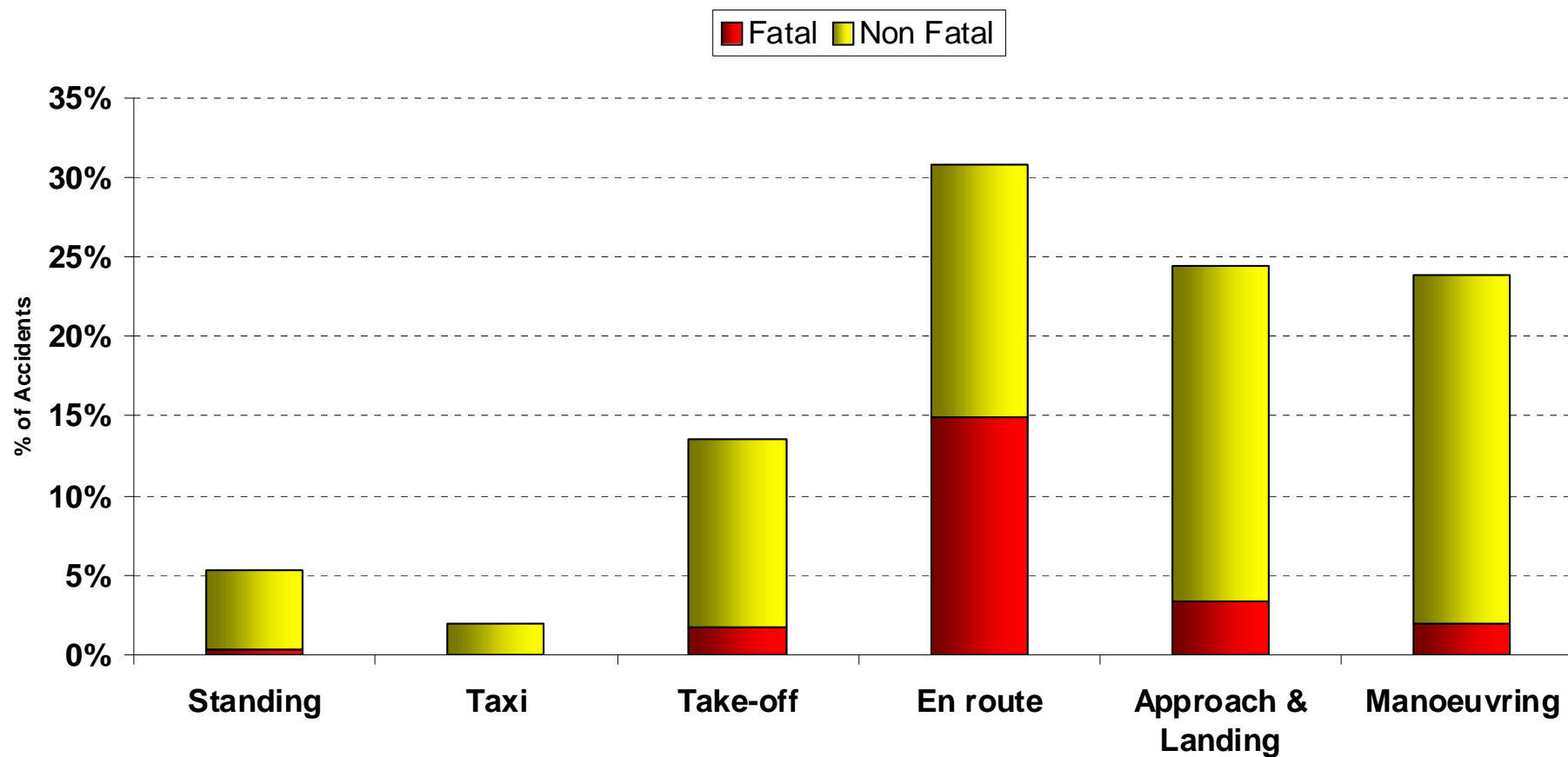
Accident Distribution over Type of Operation

EHSAT Dataset



State Flight data only indicative

Accident Distribution over Phase of Flight EHSAT Dataset



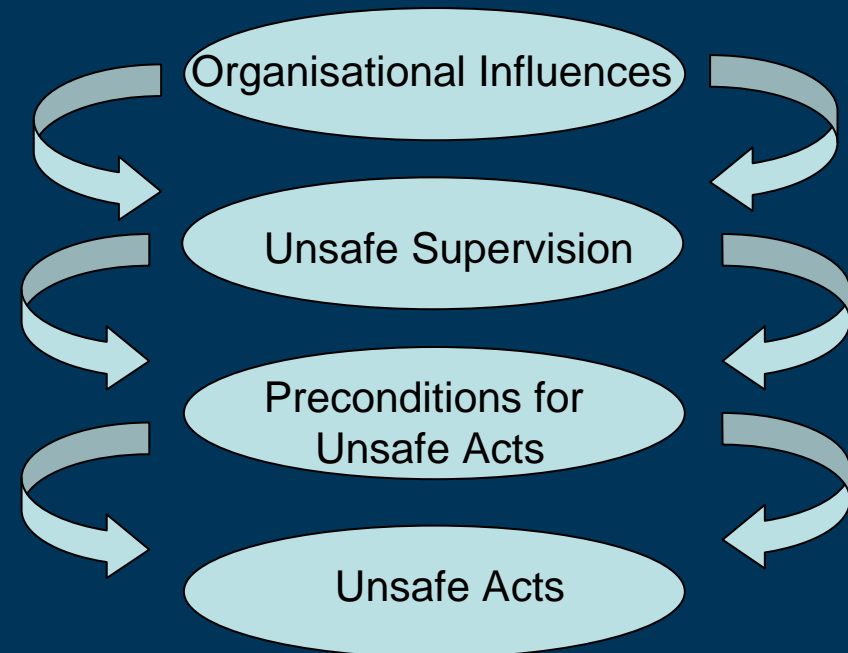
Models for Identification of Factors

- Standard Problem Statements (JHSAT)

- ✦ From the original, US team's methodology
- ✦ 1775 factors recorded

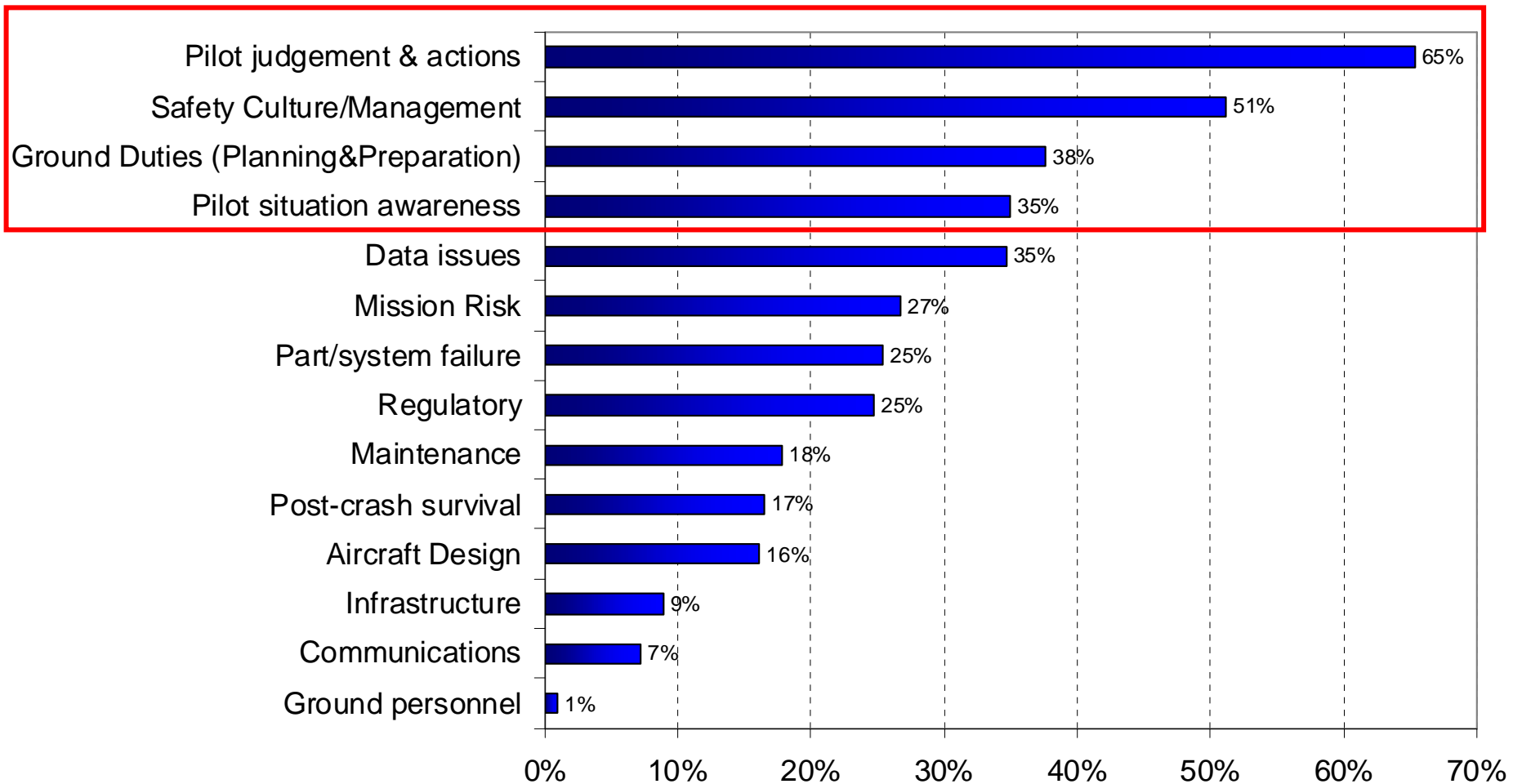
- HFACS by Wiegmann and Shappell

- ✦ 818 factors recorded



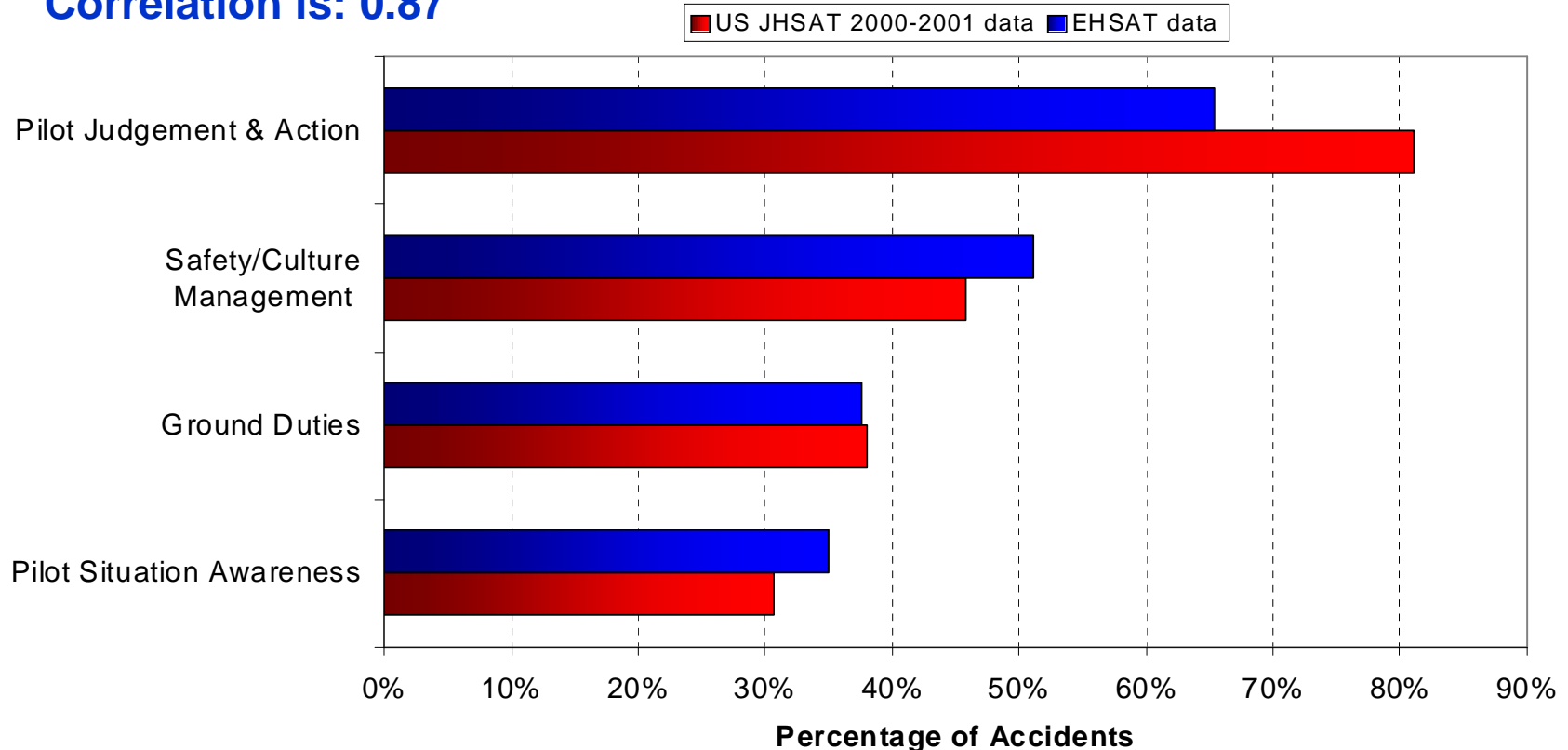
<http://hfacs.com/>

% of Accidents where SPS level 1 has been identified at least once EHSAT Dataset



Comparison of EHSAT data with US JHSAT data SPS level 1, Top 4

Correlation is: 0.87



- High correlation with US results on SPS level 1
- Lower levels SPS show some differences

An example Commercial Air Transport scenario

- During a HEMS mission after the patient had been loaded the helicopter crew decided to continue the mission in deteriorating weather conditions.
- The decision to continue was taken because an ambulance was waiting to transfer the patient to hospital.
- During the take-off in poor visibility and falling snow the right front skid of the helicopter struck the surface and as a result it nosed over uncontrollably and impacted the ground.

An example Commercial Air Transport scenario

- During a HEMS mission after the patient had been loaded the helicopter crew decided to continue the mission in deteriorating weather conditions.
Loss of Visual Reference
- The decision to continue was taken because an ambulance was waiting to transfer the patient to hospital.
Inadequate decisions
- During the take-off in poor visibility and falling snow the right front skid of the helicopter struck the surface and as a result it nosed over uncontrollably and impacted the ground.
Pilot felt pressure

An example Commercial Air Transport scenario

SPS

Pilot decision making

Self induced pressure

Failed to follow procedures

Flight profile unsafe

Inadequate oversight

Reduced visibility

Selection of inappropriate landing site

Management – Failure to enforce company SOPs

HFACS

Decision Making - Operation

Risk assessment – Operation

Skill-based errors

Whiteout/Vision restricted

Channelized attention

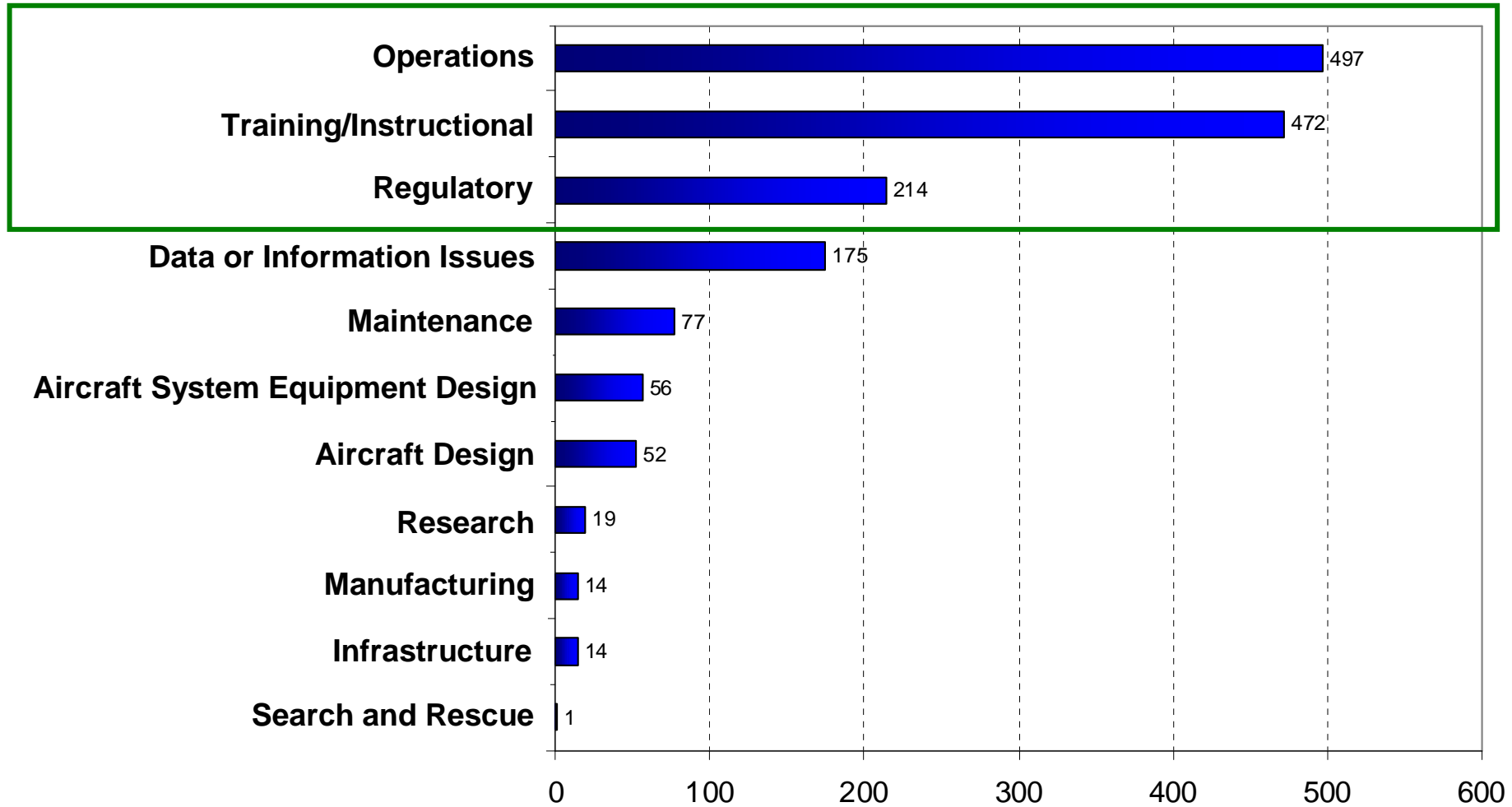
Communication critical information/Planning

Pressing

Procedural Guidelines

EHSAT Intervention Recommendations

Total number of Intervention Recommendations (Level 1)



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Photo AgustaWestland

EHEST and EHSIT Sub-Teams

- EHEST Communication Sub-Group
Tasked to reach all European stakeholders,
with particular focus on General Aviation

- EHSIT Specialist Teams
launched in 2009 on:

- ✦ SMS and Operations
- ✦ Training
- ✦ Regulation



Deliverables 2010-2012

- **Safety actions towards organisations:** Operators and Operators Associations, FTOs, NAAs, ANSPs, DOAs, POAs, Part145, and Part M Organisations
- **Safety promotion material** targeting individual pilots and instructors and others
- **Best practice material** on Safety Management Systems (SMS), Standard Operating Procedures (SOPs), operational Risk Management, Safety Culture, and Training targeting in particular but not exclusively small operators
- **Rulemaking proposals** to be submitted to the competent authorities (ICAO, EASA, or NAAs) using standard rulemaking processes

SMS and Accreditation scheme: EHEST promotes IS-BAO

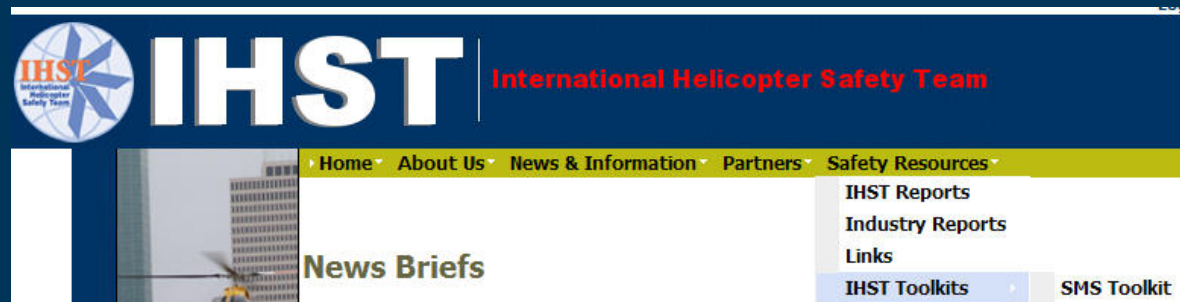
- EHEST promotes IS-BAO by IBAC
 - ✦ **SMS + Accreditation scheme**
 - ✦ European CEN Standard
 - ✦ Helicopter version in development
 - ✦ Europe-US coordination

<http://www.ibac.org/isbao.php>



The screenshot shows the IBAC website header with the logo and tagline: "International Business Aviation Council. The recognized forum for leveraging strengths of Members to enhance the safety, acceptance and economic contribution of business aviation globally." The navigation menu includes: News, Bulletins, IS-BAO, Aircrew Card, Safety, Security, Environment, Air Navigation. The main content area is titled "Introducing IS-BAO" and features a sidebar menu with items like "IBAC Home", "Introduction to IBAC", "General Information", "Contact IBAC", "Members", "IBAC Governance", "IBAC Update", "Annual Reports", "File Library", "Calendar of Events", and "Links". The main content area lists various resources: Overview, Benefits of IS-BAO, Ordering IS-BAO, Standards Board, IS-BAO Policies, Audit Program, Accredited Auditors, Registered Operators, Keeping Current, Workshop Schedule, Workshop Info, Applications and Fees, Newsletter, Bulletins, Journal Articles, Implementation Support, and Understanding SMS.

- And the SMS Toolkit V2 by IHST

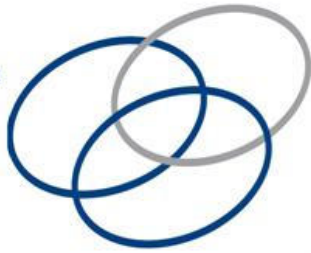


The screenshot shows the IHST website header with the logo and tagline: "IHST International Helicopter Safety Team". The navigation menu includes: Home, About Us, News & Information, Partners, Safety Resources. The main content area is titled "News Briefs" and features a sidebar menu with items like "IHST Reports", "Industry Reports", "Links", "IHST Toolkits", and "SMS Toolkit".

Concluding Remarks

- Top 3 identified accident factor areas:
 - ✦ Pilot judgment & actions
 - ✦ Safety culture/management
 - ✦ Ground duties/Mission preparation
- HFACS enhances the analysis of human factors
- Top 3 recommendation categories:
 - ✦ Operations, SMS, and Safety Culture
 - ✦ Training
 - ✦ Regulation
- EHEST encourages intl. cooperation within IHST

EHEST



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The challenge now is to develop, implement and monitor effective measures to meet the 80% accident rate reduction target

Thank you for your attention

Questions?

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