When you need to be sure

WORLDS LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY

Nº1 WORLD LEADER

85,000 EMPLOYEES

1,650 OFFICES AND LABORATORIES

13 GLOBAL INDUSTRIES

GLOBAL SERVICE LOCAL EXPERTISE
SOLUTIONS FOR MANAGING AVIATION RISK

FURTHER EXCELLENCE

WHEN YOU NEED TO BE SURE
The emerging RPAS industry has been compared to the initial chaos of the automobile boom of the 1920’s (Hobbs and Herwitz 2006).

Fortunately, lessons learned from 110 years of aviation have been recognised as crucial to operational success by other safety critical industries.

It is now time for the application of this type of safety culture to progress into the commercial RPAS world, a new generation of Airmanship, for a new generation of aviation – the Drone Age.
IS IT OKAY IF NO ONE GETS HURT?

LAO TWIN OTTER ACCIDENT

- Pilots experience on twin engine aircraft deemed to be insufficient
- Poor Co Pilot support
- Company audited by SGS prior to accident and clients advised not to charter the Twin Otter aircraft – Risk mitigation works.
AVIATION SAFETY, DOES IT APPLY TO DRONES AND WHY?

72 Tonne               2kgs
CONTRIBUTING FACTORS IN DRONE MISHAPS
(TVARYANAS, THOMPSON, & CONSTABLE, 2006).

60.2% of mishaps are due to human factors. In CIVIL OPERATIONS it is likely to be closer to 90%.
UAV flight presents human factors challenges different from and in some ways greater than those of manned aircraft (Gawron 2008).

RPAS mishap rates are up to 300 times greater than that of general aviation conventionally piloted aircraft fleets (Carrigan, Long, Cummings, & Duffner, 2008).
BALANCING THE **INCREASE IN SAFETY WITH THE DIFFERENT AND EMERGING RISKS**

- Lack of shared fate
- Complacency
- Boredom
- Distraction
- Resignation
- Curiosity
- Disposability
- Accessibility
- Accountability
- **COMMERCIAL PRESSURE**
- **PERCEPTION OF LOW RISK**
EMERGING CHALLENGES

THE COSTS:

- EQUIPMENT DAMAGE
- COLLISION
- PLANT SHUTDOWN
- SUPPLY INTERRUPTION
- LOST DATA
- INJURY OR DEATH
- LOSS OF RPA
- CORPORATE IMAGE
- LIABILITY
- INCREASED COSTS
- ENVIRONMENTAL DAMAGE
- LEGISLATIVE NON-COMPLIANCE
- CONSEQUENTIAL LOSSES
Safety culture ‘the type of relationship that an organisation has with safety’.

High Risk Operations; nuclear and power organisations, industrial installations, off shore installations, mines sites, rail organisations, wind farms, aviation and aerospace organisations and medical organisations (Helmerich & Merritt, 2001).

SAFETY CULTURE
LITHIUM BATTERY FIRE IN AIRCRAFT CARGO HOLD
BOEING 737 - 153 PASSENGERS, 6 CREW

Images courtesy CASA
NEW GENERATION OF RISK MANAGEMENT FOR A NEW GENERATION

- **ALARP** - As Low As Reasonably Practical
- **SFAIRP** – So Far As Is Reasonably Practical
  - **ALARP** utilises target levels of safety (TLS) as decision making benchmark
  - Input based process
  - If risk assessment is inaccurate (probability, High C low L) controls may not be implemented
  - **SFAIRP** utilizes reasonable controls available to be put in place
  - Focuses on precautions, controls mitigation earlier in the process
  - Output based process
  - **SFAIRP** is more robust in post event forensic analysis of due diligence
DRONE RISK MANAGEMENT

CONSOPS: RPAS, AIRSPACE, ENVIRONMENT, PILOT COMPETENCE, HUMAN AND ORGANISATIONAL FACTORS. (JARUS SORA, EASA 3.6 2016)
SERIOUS AVIATION INCIDENTS AND ACCIDENTS ARE RELATIVELY RARE, BUT ARE HIGH CONSEQUENCE EVENTS
## HELIDeCK INSPECTION AND CERTIFICATION

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ASSESSING AIRLINE SAFETY

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- Systematic approach to aviation risk assessment
- Profiles and risk ratings for global commercial airlines
- Objective safety assessment
- Demonstrate duty of care
- Expert aviation analysis
- Select competitive airlines without compromising safety
SUNDANCE Resources said today there were no survivors of the crashed plane in West Africa that was carrying its entire board.

The entire Sundance board died when the twin turboprop CASA C212 went down on a flight from Cameroon to Yangadou in the Republic of Congo.

The aircraft operator was audited by HART Aviation just prior to the accident.

We advised our clients to never put their on flights with this operator, or their aircraft.
SOLUTIONS FOR MANAGING AVIATION RISK

tracy.lamb@sgs.com