



QUALITY



RISK MANAGEMENT



COMPLIANCE



EFFICIENCY



FURTHER EXCELLENCE



SKILLS



SAFETY



KNOWLEDGE



TRUST

SOLUTIONS FOR REMOTELY PILOTED AIRCRAFT SYSTEM (RPAS) OPERATORS

SAFETY, COMPLIANCE, QUALITY ASSURANCE AND RISK MANAGEMENT SERVICES

SOLUTIONS FOR REMOTELY PILOTED AIRCRAFT SYSTEM (RPAS) OPERATORS

SAFEGUARD QUALITY AND SAFETY, MITIGATE RISKS, DEVELOP A SUSTAINABLE BUSINESS AND IMPROVE YOUR OFFERING TO THE WIDER MARKET.

Remotely piloted aircraft systems (RPAS) offer a new way to perform operations such as industrial and aerial photography, surveying, power line inspection, border patrol, maintenance assessment, and other tasks which have previously required the use of conventional aircraft and/or a person working in dangerous situations.

For these operations, remotely piloted aircraft offer a lower risk to personnel and improved cost efficiency over mobilising conventional aircraft. However, utilising this new technology can pose significant risks to stakeholder investments, property and productivity that are unique to RPAS operations. RPAS mishap rates are up to 300 times greater than general aviation

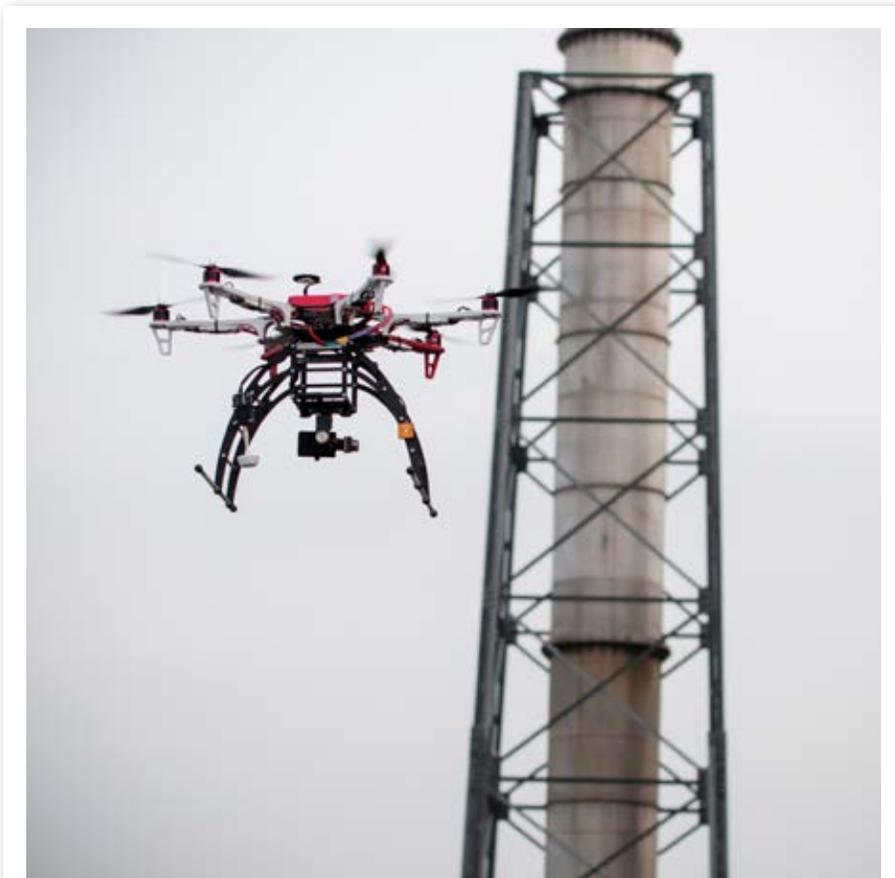
(Gawron, 2008), while costs for damage to equipment can run into hundreds of thousands of dollars, notwithstanding provision for indirect costs relating to injury, death or derivative liability.

Such events will inevitably lead to an investigation and questions being asked, as stakeholders and legal and insurance companies seek compensation for any damages and cost recovery.

Ensuring that your operation is safe and compliant is essential in protecting both you as the operator and your valued clients.

Professional aviation safety standards, training and risk management strategies are imperative for ongoing safety performance and assurance. That is where SGS can help.

Our risk management, audit and consulting services can help you improve processes, access skilful talent, ensure consistent and compliant supply chains, and build more sustainable customer relationships.



SAFETY

**TRUSTED RPAS SOLUTIONS FROM A
WORLD LEADER IN AVIATION SERVICES**

SGS HART Aviation has more than 20 years experience providing professional audit and advisory services globally on all aviation matters, for many of the world's largest organisations from the resource industry, government and professional bodies, and aircraft operators. Our clients rely on us to ensure the safety of their employees when they fly, and the protection and security of their investment, property, high value cargo and equipment.

We are continuously involved with the latest research and industry updates, offering expert advisory, audit and assessment services to help you gain competitive advantage, minimise operational risks, ensure compliance and add value to your offering to a wider professional market.



COMPLIANCE

**ENSURING THAT YOUR OPERATION IS
SAFE AND COMPLIANT IS ESSENTIAL
IN PROTECTING BOTH YOU AS THE
OPERATOR AND YOUR VALUED CLIENTS.**



EFFICIENCY

WHAT SETS YOU APART FROM THE REST?

With the unmanned aircraft industry expanding rapidly, and entry into the commercial market being widely available to many and varied operators, it can be hard to differentiate professional, quality, appropriately licensed and insured operators, from those who are not.

End users are looking for safety assurance and confidence in contracted unmanned aircraft operators. Even if they have a current Operators Certificate, unmanned aircraft operators interested in providing services to large, safety conscious enterprises such as the resource and energy sector for example, will often find a higher level of due diligence and safety assurance is required.

SGS HART Aviation offers a number of solutions including assessments, audits and training to ensure your operations meet the highest standards, and help you to set yourself apart from the competition.

BASIC COMPLIANCE VERIFICATION (BCV)

Basic Compliance Verification (BCV) is a fundamental assessment that will ensure your company is recognised as a safe and reputable RPAS operator. It provides assurance to potential clients that operations are carried out safely and in accordance with all applicable national and international regulations.

The review involves a desktop assessment of an operator's operational and maintenance procedures. A BCV Certificate is issued, verifying compliance with specified regulatory requirements, and that appropriate insurance and safety procedures are in place.

This remote assessment includes the following areas:

- Organisational/management structure and supporting documents
- Operational approvals, exemptions and privileges, and supporting documents
- Presence of a safety management system, OH&S framework, quality risk management frameworks and systems



QUALITY

- RPA fleet details to be used for the proposed flight
- Supporting documentation for RPA pilots and crew
- Insurance documentation
- Safety performance review
- Risk assessment example

ONSITE OPERATIONAL SAFETY AND TECHNICAL AUDIT

For operators operating large and/or high value unmanned aircraft, operating near people, in sensitive locations or in high risk environments (such as in industrial plants, offshore installations, around powerlines), it is recommended that an onsite audit should be conducted.

A full onsite audit is an in-depth review and analysis of a company's operational and maintenance practices and processes, against relevant national legislation, international standards and guidelines and industry best practices. We also go further than a simple compliance audit and make recommendations for improvement, based on our extensive experience in the industry. This breadth of experience allows us to express with confidence, our findings at a global, industry best practice level.

WITH THE UNMANNED AIRCRAFT INDUSTRY EXPANDING SO RAPIDLY, IT CAN BE HARD TO DIFFERENTIATE BETWEEN PROFESSIONAL, QUALITY, APPROPRIATELY LICENSED AND INSURED OPERATORS, FROM THOSE WHO ARE NOT.

TRAINING: HUMAN FACTORS AND CRM FOR SAFETY CRITICAL RPAS OPERATIONS

Airborne inspection tasks are some of the most dynamic and dangerous operations in aviation, independent of flying a fixed wing aircraft, a helicopter or a remotely piloted aircraft (RPA). This is particularly true when operating in the live power line environment, near hot stacks and structures around gas and oil refineries, and in confined areas.

This course has been developed by professional airplane, helicopter and RPAS pilots who have experience in this environment. The training course equips not only RPA pilots and support crew, but also accountable managers (AMs) and safety crews with the essential non-technical skills needed to safely operate an aircraft in and around high risk environments.

A brief overview of the topics covered during the course is as follows;

- Introduction to RPAS operations
- Applying aviation CRM and non-technical skills to RPAS
- The unique challenges in operating RPAS
- Introduction to airmanship
- High risk environments the unique dangers
- Powerline surveys
- Hot stack/chimney inspection
- Structural inspection
- The legal framework
- Threat and error management
- Decision making
- Communication, teamwork
- Aviation accident investigation
- Potential RPAS Accidents in high risk tasks

ONLINE SGS RISK MATRIX TOOL

RPAS are often used to perform tasks that are too dangerous or difficult to be performed by conventional methods; however utilising RPAS can invoke latent risk producing conditions. RPAS operations present both unique and hidden risks that have the potential to inflict operational loss, injury, death and litigation.

Each job utilising RPAS must proceed only after a comprehensive risk assessment is undertaken.

The SGS Online Risk Matrix provides a comprehensive tool for risk assessment and also functions as a risk prompt sheet to assist in identifying hidden risks.

The risk assessment process is compliant to the ICAO SMM, OHSAS 18000, ISO 31000 and other regulations and standards. This process includes an interactive risk matrix that can produce Job Safety Assessments (JSAs) in minutes, and incorporates an online repository to store previous JSAs, as well as making them available to clients (if requested).

The Online Risk Matrix tool also incorporates an Incident/Event Register, which links incidents and events to the original JSA completed prior to the operation. Over time, users can generate statistics and reports, which will make it possible to identify operational weak areas, track positive and negative trends, make comparisons, target weak areas with remedial actions and so on.

Benefits:

- Online repository of JSAs and event/incident records
- Ability to generate invaluable statistical data and reports, making it possible to identify and target weak areas with remedial actions and so on
- Provides confirmation of the effectiveness of existing risk mitigation strategies and can improve safety defences
- Demonstrates that due care and diligence to safety outcome was undertaken
- Functions as a risk prompt sheet to assist in identifying hidden risks

When the risk assessment is performed during the feasibility planning stage, it provides assistance in determining whether the flight is viable, and uncovers possible latent conditions that would potentially lead to an incident or loss.



KNOWLEDGE

WE SET THE BENCHMARK

GET THE RIGHT ADVICE FROM INDUSTRY EXPERTS

As a world leader in quantifying and qualifying risk management and protection strategies in all areas of general aviation and RPAS activities, we set the benchmark for RPAS standards. Identifying and treating the risks in RPAS operations is the speciality of SGS HART Aviation, who are leading the way in RPAS risk management.

We can help you:

- Reduce risk, improve safety and build confidence in the reliability of your operations
- Implement a robust safety management system to improve the efficiency and safety of your organisation
- Gain competitive advantage
- Ensure compliance, due diligence and corporate responsibility

- Promote your commitment to quality and safety
- Implement a risk management programme to track and improve your key safety performance indicators, increase reliability, traceability and improve your mitigation strategies and controls
- Identify gaps in your operation and procedures against a range of industry standards and best practice, as well as assist in compliance
- Comply with national and international regulatory and custom requirements
- Ensure personnel have adequate training and competency

MANUAL OF STANDARDS FOR RPAS OPERATIONS

Government regulators worldwide are currently grappling with how to regulate a market that ranges from a sub-2kg quadcopter to the 6.7 ton Global Hawk, in order to promote safety, professionalism and seamless integration into civil airspace.

Removing the pilot from the aircraft raises important technical and operational issues, the extent of which is being actively studied by the aviation community. The SGS HART Aviation RPAS Manual of Standards provides guidance on many of these issues, and has been developed to ensure compliance against appropriate safety standards, industry standardisation and global best practice in the conduct of RPAS Operations.

We can help you:

- Write a comprehensive manual of standards and operations manual, either integrated or as standalone documents
- Synergise with global practice for international operations
- Provide clear operating standards to compare your operations
- Prepare a transparent auditable and measureable method of ensuring and improving performance



RISK MANAGEMENT

WHY SGS?

SGS is recognised as the benchmark for quality and integrity. We employ over 85,000 people globally and operate a network of more than 1,800 offices and laboratories around the world.

Enhancing processes, systems and skills is fundamental to your ongoing success and sustained growth. Our audit, consulting and training services enable you to continuously improve, transforming your services and value chain by increasing performance, improving quality management, minimising and managing risks, better meeting stakeholder requirements and delivering extra value.

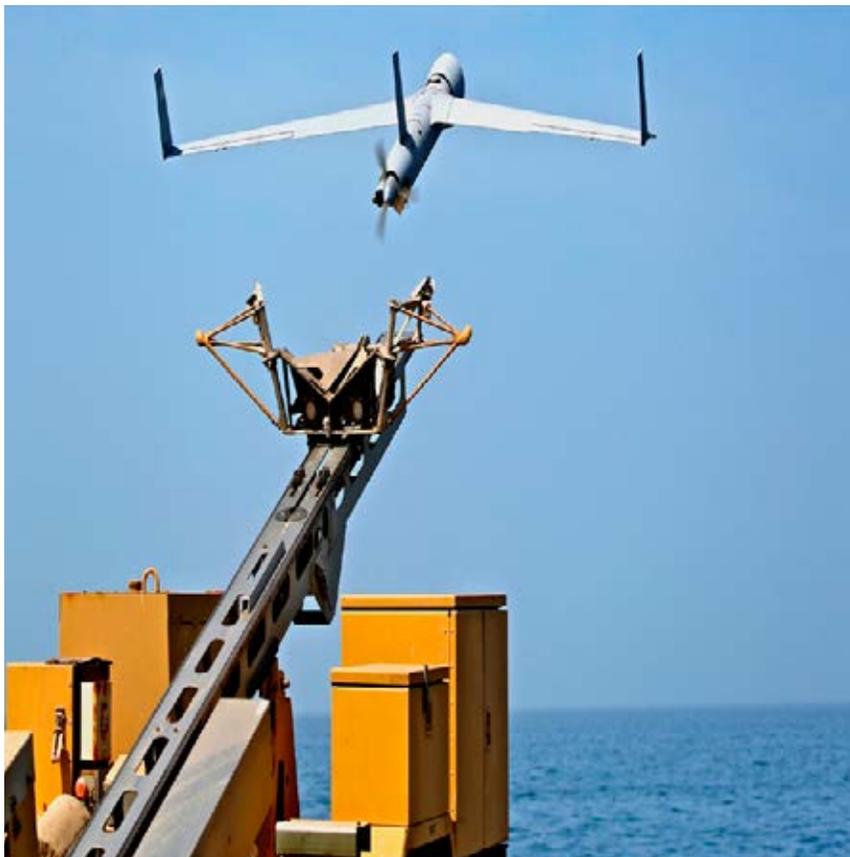
The following is a summary of the services that SGS HART Aviation offers to clients:

- A global team of experienced dedicated aviation advisors
- Technical excellence
- Impartiality and independence



TRUST

- Knowledge and understanding of various industry sector requirements, on a worldwide scale
- Standardisation and quality assurance
- ISO compliant best practice auditing processes
- Local and international project management



FURTHER EXCELLENCE

To find out more about how we can help you improve the safety and reliability of your aviation operations, contact aviation.safety@sgs.com or visit www.sgs.com.

WWW.SGS.COM

WHEN YOU NEED TO BE SURE

