

# Aviation Safety Management Systems (SMS) Services

Safety Management Systems (SMS) are rooted in safety and reliability functions that Operators have been practicing for years. Where SMS requirements go further is that they pull these safety efforts together into a programmatic approach built on risk management concepts, designed to be proactive at all different levels of an Operator's organization.

Developing an SMS requires many different elements to come together. While an SMS is a regulatory requirement, it can also provide significant value for an Operator. Accomplishing compliance and value for the organization requires a strategy with initiatives grounded in a firm understanding of the SMS requirements and how your organization works.

Data and information from different systems and manual processes are critical to driving safety under the SMS. Operators need ways to manage and analyze disparate data to create safety insight that can be delivered to those that need it. This insight is used to support daily work tasks as well as analytics that drive enterprise risk management.

People supporting an SMS use information to drive decision making and foster collaboration. To accomplish this effectively, an SMS needs to reflect the specific organization—the people, operations, the fleet, and the mix of services provided.

NCG helps Operators get their arms around the different elements that go into a successful and compliant SMS that

## Empowering People for SMS Compliance and Value



### Insight Delivered

User-centric tools and data to develop risk management skills and capabilities.

### Corporate Culture of Safety

Tools and methods to measure and influence the importance of safety in the corporate culture.



### Managing Compliance

FAA and aviation industry experience combined for an effective and pragmatic approach to compliance.

**Data Integration & Automation**  
Technical capabilities to integrate systems and leverage existing data to support safety efforts.



### Awareness & Training

Innovative approaches that improve the learning experience for all needs.

supports safety on a daily basis and supports events such as accident investigations. Our service delivery takes a people-centric approach that is focused on empowering individuals and teams for success. We use our technical capabilities to get the right data and information into the hands of those that need it. We work with leaders and managers to help them understand how to influence their corporate cultures for safety and the highest levels of service to customers.



Our Team has a mix of aviation industry background and direct experience working with the FAA. This combination helps us interpret and advise on regulations and guidance, while also accounting for what provides value for an Operator's business.

NCG uses a risk-based approach to safety management. This approach is proven in highly complex environments that have many different variables and interconnections. Our risk-based approach also scales to match different levels of complexity, size, and service scope.

From helping Operators adopt or enhance risk management processes for safety, we have developed processes and frameworks proven effective with different types of data. This includes working with both quantitative and qualitative data. This capability helps operators leverage human-based insight along with analytics that use vast amounts of data for testing and validation to provide greater levels of assurance.

We work with stakeholders to craft tailored policies, workflows, processes, and procedures that guide efforts consistently and facilitate communication and coordination across all levels. As with other aspects of the SMS, these materials need structures to keep them current and to periodically validate that they continue to provide value.

Once an Operator has a compliant and value-producing SMS, we ensure that frameworks are in place to maintain currency as the organization and the operating environment evolve. This ability to manage change is a key success factor for an SMS from both a compliance and operational value perspective.

### **Technology and Data to Empower People**

Operator safety data comes from many sources—different automated systems, as well as manual and paper-based processes. This data needs to be organized and accessible so that it can support safety efforts, decision making, and situational response capabilities. NCG's risk-based methods orchestrate full life cycle processing and sharing of data and information. Our processes start with initial data acquisition and continue thorough processing and then validation of the data's utility to support safety efforts.

Figure 1 illustrates our approach to using data and information to support safety. We start with accessing the data, with full consideration for security and access controls. That data is analyzed and used to generate consumable information that is distributed and delivered. That information is then used to support safety decision making and compliance demonstrations.

Safety data can be voluminous and complex—well beyond anything suitable for manual or paper-based processes. NCG's data integration services connect data from existing systems and tap into the knowledge and insight across systems. We use discovery and mapping tools to get an accurate view of an Operator's data resources, which is essential for maturing reporting and analytic capabilities. We then use the latest technologies and cloud-based tools to deliver data and information directly to those that need it—the people on the front lines for safety across the organization.

## Figure 1. Putting Safety Data to Work

### Data Collection

Providing tools and processes to streamline data collection and eliminate duplicative efforts. Automation to streamline and validate data to make sure it is correct and complete from the start.

### Analysis

Tools to sift through and organize information to make it consumable at all levels of the organization. Specialized functions for specialists to dig deep into the data and cull greater insights.

### Decision Making

Dashboards, information aggregation, and reporting to support executive, management, and operational efforts.

### Documentation

Demonstrations of compliance, mappings to requirements, and specific work instructions that help keep people on the same page. Automation to maintain currency as operations evolve.



Empowering your people to know what to do and when to do it. Giving them the tools for success in meeting compliance, safety, and risk management goals.

### Safety and Corporate Culture

While data, technology, and processes are important—it is people that drive and execute an SMS. Procedures and frameworks need to focus efforts on steps that provide value for safety. Our services and tools foster independence in people to take on compliance and risk management efforts. NCG has developed tools and processes that engage people from all corners of the organization to be proactive in understanding and managing safety risks. Not everyone needs to be an analyst with specialty skills, but everyone does need to be aware of the basics and practice the fundamentals of safety and risk management in their everyday jobs.

Safety is neither a separate culture nor a subculture—it is something that needs to be fundamental to the overall corporate culture. SMS functions need to promote safety and risk management processes in everyday activities. The corporate culture is a powerful force for safety. Not every safety scenario can be worked into a procedure or incorporated into a training program, but when safety is part of the culture there is a much greater likelihood that people will take the best actions for safety, regardless of the event.

NCG has developed cultural assessment tools and methods for understanding where the culture currently stands. We can then target areas for improvement through tailored efforts such as reward and incentive structures, messaging, and reinforcing actions. As steps are implemented, we track them to measure effectiveness and retarget efforts as needed.

## Awareness & Training

NCG leverages the latest research and science to deliver learning solutions for a given Operator's environment and workforce. Techniques such as time distributed learning and retrieval practice are very effective in getting complex and highly interrelated concepts to stick with various types of learners. These approaches develop baseline awareness as well as capabilities for identifying steps and actions that can best mitigate or manage such hazards. These efforts foster better safety decision making and action taking when people are presented with scenarios beyond their basic training.

## SMS Service Catalog



### SMS Program Development

Building compliant and sustainable programs that provide business and operational value. Get the most out of your SMS and keep it going as the organization evolves.



### SMS Program Gap Analysis

Gap Analysis services provide a third-party view of an organization's current SMS program focusing on identification of compliance gaps and process improvement recommendations.



### SMS Training & Development

Training and instruction on SMS and Safety Risk Management provided at Operator facilities, which are conducted in both classroom and interactive workshop formats.



### SMS DCT Mapping

Mapping services to connect programs, policies, procedures, and manuals to the FAA's Data Collection Tools—the basis for the FAA's SMS evaluation.



### SMS Improvement Roadmaps

Development of Operator-tailored roadmaps to get from current state to a compliant or enhanced SMS.



### SMS Policy & Procedure

Tailored policies and procedures to define general and specific work instructions to drive SMS efforts across the enterprise.



### Safety Culture Assessments

Safety Culture Assessments provide insight of the current corporate culture as it pertains to safety, highlighting drivers and structures that influence the culture.



### Safety Culture Evolution Services

Design and implementation of techniques and structures to foster safety in the corporate culture, with tools to track and measure progress.



### Organization Structure Development

Designing and implementing compliant SMS organizational structures with defined roles and responsibilities, supporting charters, and processes.

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The Northcross Group (NCG) delivers business system and technology services. NCG makes it our business to ensure that technology serves our clients, allowing them to meet business goals, gain competitive advantage, enhance security, implement governance, ensure compliance, and stabilize operations.

NCG consultants bring a blend of technical and business acumen with a proven track record in the public, private, and non-profit sectors. We approach business challenges head-on and figure out the most effective way to leverage technology to reach objectives.

NCG uses disciplined processes, refined from decades of experience. Flexibility is a cornerstone of our industry-tested methodologies—giving NCG the ability to adapt to changing environments and needs.

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