



**TACTIEN
GROUP**

USE CASE

CONOPS, SOPS, & SMS

DEVELOPMENT



**Building resilient foundations for safe & scalable
UAS operations**



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“ We don't write manuals—we build operating systems for trust.



Concept of Operations CONOPS

The why and how behind every UAS program.



Standard Operating Procedures SOPS

How operations are executed, standardized, and reviewed.



Safety Management System SMS

Transforming data into discipline.

Introduction



For organizations expanding their Unmanned Aircraft Systems (UAS) programs, structure is everything. As flight operations grow in complexity—larger airframes, longer missions, and higher regulatory expectations—the difference between success and stagnation lies in three cornerstones:

Concept of Operations (CONOPS) – The CONOPS serves as the strategic blueprint for an organization’s UAS operations, articulating the overarching vision, goals, and methods for how unmanned flights are planned, executed, and managed. It defines the scope and boundaries of operations, including mission types, operational environments, stakeholder roles, and the integration of technology and personnel. By establishing clear governance and intent, a well-developed CONOPS ensures all team members and stakeholders share a unified understanding of operational objectives, risk tolerances, and pathways for growth, setting the stage for safe and efficient scaling of UAS activities.

Standard Operating Procedures (SOPs) – SOPs are the tactical core of any successful UAS program, providing step-by-step instructions and detailed workflows for every phase of flight operations. These procedures standardize tasks such as pre-flight checks, mission execution, emergency response, and post-flight debriefs, ensuring every crew member operates with consistency and in

full compliance with regulatory and organizational requirements. By codifying best practices and lessons learned, SOPs minimize variability, reduce human error, and create a repeatable framework that supports safety, accountability, and continuous improvement across all missions.

Safety Management Systems (SMS) – An SMS is an integrated, ongoing process that transforms operational data, incident reports, and frontline feedback into actionable safety improvements and organizational learning. It provides a systematic approach for identifying hazards, assessing and mitigating risks, and monitoring the effectiveness of safety interventions. Through regular safety audits, transparent reporting, and a culture of accountability, SMS empowers organizations to proactively address emerging risks, comply with evolving regulatory standards, and embed safety as a core value. Over time, this continuous oversight elevates operational maturity and resilience, supporting both safe expansion and regulatory confidence.

01

De-Risking Operations

Tactien combines real-world operational experience with recognized aviation frameworks from the FAA, NASA, and ICAO to help organizations architect these systems with precision and purpose. Our development process aligns directly with:

- FAA Order 8000.369 (Safety Management System Guidance)
- FAA Order 8040.4B (Safety Risk Management Policy)
- ICAO Annex 19 (Safety Management Systems)

The Risk of Informality

Without codified SOPs, flight crews operate inconsistently and safety data is lost.

- **Regulatory Exposure:** Informal operations often overlook evolving FAA and local requirements, leaving organizations vulnerable to non-compliance, missed waivers, or even grounding. Proactive documentation and structured procedures are essential for demonstrating compliance and earning regulatory trust.
- **Loss of Organizational Memory:** When processes aren't documented, knowledge stays with individuals. Staff turnover, promotions, or absences can lead to critical information gaps, causing teams to repeat past mistakes or lose operational continuity.
- **Difficulty Troubleshooting and Improving:** Without a baseline for operations, identifying root causes of incidents or inefficiencies becomes guesswork. Formalized procedures and reporting mechanisms make it possible to learn from every mission and steadily raise the bar for performance and safety.
- **Reduced Stakeholder Confidence:** Clients,

partners, and insurers expect evidence of disciplined operations. Informality can erode trust and limit opportunities, while structured practices demonstrate professionalism and readiness for larger projects.

Scaling Without Structure

As UAS programs expand, complexity multiplies. SMS is the mechanism that translates growth into sustainable, safe operations.

- **Mission Diversity and Complexity:** Expanding fleets and varied mission profiles introduce novel risks. Without structured oversight, the chance of incidents increases as teams face unfamiliar scenarios.
- **Integration of New Technologies:** The adoption of advanced payloads, automation, or AI-driven analytics requires updated policies, training, and oversight. A robust SMS ensures new capabilities are integrated safely and efficiently.
- **Scalable Training and Qualification Pathways:** Rapid growth can outpace the ability to train and qualify new personnel. Documented SOPs and competency-based training pathways ensure that all team members meet the same high standards, regardless of program size.
- **Data-Driven Decision Making:** As flight hours and operations multiply, data collection becomes critical. An effective SMS turns operational data into actionable insights, driving targeted improvements and enabling predictive risk management as the organization grows.
- **Continuous Improvement Culture:** Structure supports a feedback loop—incident reporting, safety audits, and lessons learned—that fosters a culture where safety and excellence are everyone's responsibility, not just management's mandate.

Bridging the Gap: Moving from Informality to Structure

Transitioning from practices to a structured, documented approach doesn't have to be overwhelming. Start by mapping current workflows, identifying gaps, and prioritizing high-risk areas for standardization. Engage frontline personnel in building and refining procedures—they are closest to the work and best positioned to highlight practical challenges and solutions. Regularly review and update procedures as your operations and technology evolve, ensuring your program remains resilient, compliant, and ready for future growth.

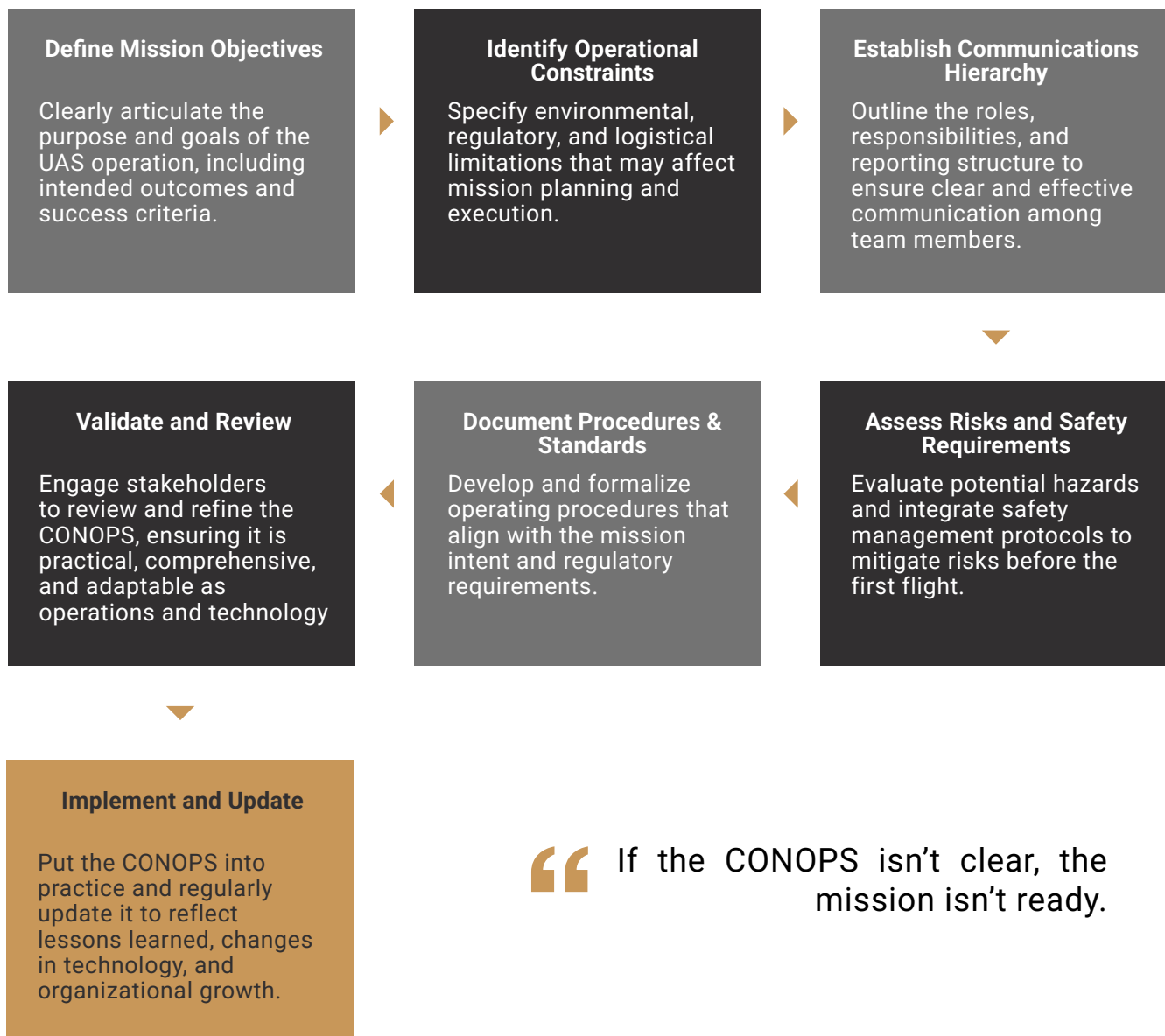
02

Critical Components

Concept of Operations CONOPS

A Concept of Operations establishes the why and how behind every UAS program. It defines mission intent, operational constraints, communications hierarchy, and environmental limitations—all before the first flight ever takes place.

A validated CONOPS becomes the foundation for FAA authorizations, client trust, and scalable operational models—especially for programs anticipating expansion under Part 91, waiver-based, or Part 108 environments.



“ If the CONOPS isn’t clear, the mission isn’t ready.



Standard Operating Procedures SOPs

SOPs are the tangible expression of the CONOPS. They define how operations are executed, standardized, and reviewed. Without them, even experienced flight crews introduce risk through inconsistency.

Major elements of a Standard Operating Procedure (SOP) include clear definitions of roles and responsibilities, detailed step-by-step instructions for routine and emergency operations, and requirements for documentation and reporting. SOPs should also incorporate safety risk management processes, training standards, and mechanisms for continuous improvement. By integrating these elements, organizations ensure that operations are conducted consistently, safely, and in accordance with industry best practices.

Every SOP framework we produce is tailored to the customer's aircraft class, mission type, and regulatory posture. They are written in language operators actually use—making them functional, not ornamental.

Tactien's approach to SOP development begins with a thorough assessment of organizational needs, starting by establishing a clear communications hierarchy. This step ensures every team member understands their roles, responsibilities, and reporting lines, laying the foundation for seamless information flow. Simultaneously, Tactien carefully

evaluates potential risks and safety requirements, integrating proven safety management protocols designed to mitigate hazards before any operational activity takes place.

Once the groundwork is set, the next phase involves documenting procedures and standards that match each client's aircraft class, mission objectives, and regulatory posture. These procedures are written in straightforward, operator-friendly language, making them genuinely functional for day-to-day use. Tactien then engages stakeholders in a rigorous validation and review process, refining every detail so that the SOPs remain practical, comprehensive, and ready to adapt as technology and operational needs evolve.

Implementation is not the end—Tactien emphasizes ongoing improvement. SOPs are put into practice and routinely updated to capture lessons learned, advances in technology, and growth within the organization. By weaving in safety risk management, training standards, and systems for continuous improvement, Tactien ensures that every SOP framework supports operational consistency, safety, and alignment with international best practices, making them true operating systems for trust and compliance.

Safety Management System SMS

A Safety Management System (SMS) is much more than a collection of documents—it's a comprehensive framework that turns operational data into disciplined action. Unlike a simple binder of policies, an SMS is a proactive mindset embedded in daily operations, built on principles of process, accountability, and transparency. True safety is reflected in organizational culture, measured by trust and sustained practices, not just by checklists or templates.

While Standard Operating Procedures (SOPs) and SMS frameworks are closely related, they serve distinct but complementary roles in aviation safety and operations. SOPs are the practical, step-by-step instructions that guide personnel through routine and emergency tasks, ensuring consistency and clarity in execution. They define roles, responsibilities, and the “how-to” for operations—making sure everyone is on the same page and risks arising from inconsistency are minimized.

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SOPs operate within the framework established by the SMS. While SOPs define the specific procedures for tasks, the SMS ensures those procedures are continually assessed, updated, and improved based on feedback, incident reports, and evolving risks. The SMS interacts with SOPs by providing the mechanisms for reporting hazards, conducting risk assessments, and promoting a learning environment where procedures are refined over time. This synergy ensures that operational consistency is maintained while safety standards adapt to changing technology and regulatory requirements.

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SAFETY MANAGEMENT SYSTEM

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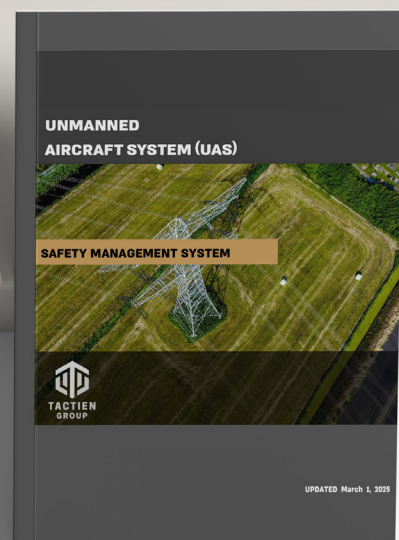
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Revision	Date	Description	Author	Approved By
1.0	10/07/2025	Initial release	J. Smith	A. Johnson
1.1	10/07/2025	Updated risk assessment section	J. Smith	A. Johnson
1.2	10/04/2025	Added specification packages for new models	J. Smith	A. Johnson
1.3	10/15/2025	Reviewed industry best practice resources	K. Lee	M. Carter
1.4	10/20/2025	Updated website addresses section	K. Lee	M. Carter
1.5	10/25/2025	Added new hazard identification worksheet	K. Lee	M. Carter

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Why it Matters

Building CONOPS, SOPs, and SMS frameworks isn't about compliance—it's about confidence. Programs that implement these systems early are more credible to regulators, safer in execution, and faster to scale.

As UAS programs explore new use cases—from package delivery to infrastructure inspections—the frameworks underpinning their operations must adapt accordingly. Advancing your CONOPS, SOPs, and SMS to address emerging mission profiles allows your organization to anticipate challenges, integrate cutting-edge technology, and remain agile in a rapidly changing industry. This forward-thinking approach not only supports scalability but also ensures you are prepared for evolving regulatory requirements that accompany novel applications and increased operational complexity.

Establishing robust credibility with stakeholders and regulatory agencies is essential for long-term success. Clear documentation, transparent processes, and a demonstrated commitment to safety build trust and foster confidence in your operations. By proactively aligning your frameworks with industry best practices and regulatory expectations, you position your UAS program as a reliable partner—one that is ready to meet future demands and secure ongoing approval from authorities and investors alike.

05

Service Packages

Existing Program Review (SMS, SOP, CONOPS)	SMS, SOP, or CONOPS Development	Recurring Program Support
- Comprehensive assessment of current Safety Management System (SMS), Standard Operating Procedures (SOPs), or Concepts of Operations (CONOPS). - Gap analysis against regulatory standards and industry best practices. - Actionable recommendations for improvements and compliance alignment.	- Design and creation of tailored SMS, SOP, or CONOPS frameworks to address organizational needs. - Development of operational tasks, crew roles, compliance requirements, and emergency procedures - Integration of reporting systems, risk assessment protocols, and safety promotion strategies.	- Ongoing support for maintaining and evolving SMS, SOPs, or CONOPS frameworks. - Regular audits, reviews, and updates to reflect regulatory changes and operational growth. - Continuous training, monitoring, and assistance to ensure sustained compliance and safety culture.

1. What is the difference between Standard Operating Procedures (SOPs) and a Safety Management System (SMS)?

Answer: SOPs outline the specific steps and methods for conducting operations, ensuring consistency and efficiency. An SMS, on the other hand, provides a structured approach to identifying, assessing, and managing risks associated with those operations. When used together, they create a resilient and adaptable framework for safe and reliable UAS activities.

2. Why are SOPs essential for scaling UAS operations?

Answer: SOPs establish standardized procedures across teams and missions, minimizing errors, streamlining training, and demonstrating compliance to regulators and stakeholders. This consistency is critical for scaling operations efficiently and safely.

3. How does an SMS benefit my organization?

Answer: An SMS fosters a proactive safety culture by systematically identifying hazards, reducing accidents, lowering liability, and strengthening your organization's standing with regulatory authorities.

4. What distinguishes Tactien from other providers in SOP and SMS development?

Answer: Tactien goes beyond simply writing manuals; we embed systems tailored to your operations and provide practical training to ensure your crews understand and apply these frameworks daily, driving real behavioral change.

5. Can SOPs and an SMS be updated as operations or regulations change?

Answer: Yes. Our modular approach ensures that your documentation and operational practices can be easily adapted as missions evolve or regulatory requirements shift, keeping your organization agile and compliant.

6. How do SOPs and SMS contribute to regulatory approval?

Answer: Clear, comprehensive SOPs and a robust SMS demonstrate a commitment to safety and compliance, making your UAS program more credible and trustworthy in the eyes of regulators, which can streamline approvals and authorizations.

7. What role does documentation play in building stakeholder confidence?

Answer: Well-structured documentation and transparent processes show stakeholders that your organization operates with professionalism and accountability, fostering trust and supporting long-term partnerships.

8. How does Tactien support knowledge transfer within my organization?

Answer: Tactien prioritizes empowering your teams with the knowledge, tools, and training needed to implement and sustain SOPs and SMS frameworks, ensuring operational resilience beyond initial deployment.

9. Are Tactien's frameworks suitable for both new and established UAS programs?

Answer: Absolutely. Our solutions are customizable, supporting organizations at any stage of development—from startups launching new programs to established operators seeking to enhance or expand their current frameworks.

10. How does adopting SOPs and SMS frameworks position my organization for future growth?

Answer: By proactively implementing and evolving your SOPs and SMS, you ensure your organization remains agile, compliant, and ready to integrate new technologies or mission profiles—maximizing your potential for innovation and long-term success.

Connect With Us

With decades of combined operational experience, Tactien specializes in creating tailored SOPs, SMS, and CONOPS frameworks that go far beyond basic regulatory requirements. Our team understands the complexities and evolving demands of unmanned aviation, and we use this expertise to help organizations build resilient, scalable, and safe UAS programs. By partnering with Tactien, you gain access to proven strategies and best practices that support consistent operations, foster a proactive safety culture, and ensure your organization is well-prepared for future regulatory changes.

We believe that the true value of our work lies in knowledge transfer—empowering your crews with the tools and understanding they need to succeed from day one. Rather than simply providing documentation, Tactien integrates these frameworks into your daily operations and trains your teams to apply them confidently. This approach enables your UAS program to operate with credibility, transparency, and efficiency, positioning you as a trusted leader in the industry and maximizing your potential for long-term growth and innovation.



www.tactiengroup.com