

## **SOAR+ AND SOAR APP**

Combined, SOAR+ AND SOAR APP represent a breakthrough in safety of operations auditing, risk assessment, safety assurance, flight data monitoring, flight training and asset protection. To facilitate executive-friendly reporting, response and return on safety investment analysis, the risk-ranked safety assurance/auditing and flight data monitoring (FDM)-based risk management modules share identical resolution of safety issues processes. Combined, they optimize practical tactics for the art and best practice of aviation.

## **FOUNDATIONAL PRINCIPALS**

Principal questions driving the creation of SOAR+ and SOAR AAP were,

- When evaluating and operation how best can we assess corresponding levels of risk as they relate to the standards under review.
- Having identified “Non-conformities” (“Findings:” process errors/opportunities for improvement), how best to prioritize action plans, next steps, and to communicate to executives, investors, and decision-makers?
- How do safety centric action plans correlate to the prioritization of production and operations activities?
- What is the best means to monitor the development, documentation and implementation of complete and permanent corrective actions?
- What other practical factors can be encompassed in the resolution of safety issues process?
- How do we render safety assurance a valuable, viable, practical and sustainable component of the enterprise optimization process?

## **NEXT GENERATION SMS**

The SOAR+ Safety of Operations Audit, Risk Assessment and Resolution of Safety Issues (ROSI) utility supports any completion of any standards-based audit protocol including the International Air Transport Association’s (IATA’s) Operational Safety Audit (IOSA)...(ideal for demonstrating compliance with the new “Enhanced IOSA” requirements), Department of Defense (DoD) Flight Operations or Maintenance Standards, SAE International’s Aerospace Standard (AS), Coordinating Agency for Supplier Evaluation (CASE), or the Federal Aviation Administration (FAA) International Air Safety Audit (IASA), Safety Attribute Inspections (SAIs), Element Performance Inspections (EPIs), and the Code of Federal Regulations (CFRs: the CFR piece can accommodate a proprietary letter of compliance and interface matrix [LOCIM]); it can be customized for unique applications; or adapted to support our own Flight Data Monitoring (FDM)-

based Safety of Operations Assurance, Risk Management, Airmanship Enhancement and Asset Protection services (SOAR AAP).

### **SOAR+ distinguishing attributes-**

- Each audit question is risk-ranked prior to the audit.
- Audit questions can be uniquely created, extracted from other audits, or combined from several existing audit formularies.
- Operators are given the opportunity to self-assess, before the actual audit, to make corrections if possible, and to attach documentation demonstrating conformity with audit standards.
- Reports depict scored results normalized to 100%. This supports -
  - An expedient frame of reference for non-technical personnel, and
  - Establishes an empirical means for quantifying return on investment: safety, financial, or otherwise.
- The prioritization, root-cause, risk assessment, and corrective actions validation/refinement processes constitute a best-practices ICAO-conforming means to close vital gaps in most SMS and quality assurance programs:
- SOAR+ includes mechanisms for verifying the creation and implementation of complete and permanent corrective actions...starting with prioritization and root-cause analyses and culminating with process-enhancement subroutines. And,
- Provides a means to assure that operators are not simply solving symptomatic impacts of deeply rooted systemic issues: that they are, in fact, addressing and correcting problems at their core: solving the causes, not merely their effects.

### **SOAR AAP**

A unique application of flight data monitoring (FDM) technologies providing means for -

- Leadership to routinely confirm compliance with standard operations procedures (SOPs) on the ground and in the air, whenever the aircraft is operating.
- Pilots to review and critique their own flights, and
- Flight instructors to inform pilot training activities in support of airmanship assurance/enhancement programs as they relate to the specific attributes of individual pilots.
- SOAR AAP includes pilot assessment and training subroutines as the foundation for the development of career-spanning training programs...and can even encompass pay-for-performance salary administration plans.
- Effective implementation of SOAR APP could persuade underwriters to reduce air operator/lessor insurance premiums to minimum practicable rates.

## **ASSET PROTECTION**

Equally as importantly for air operator, aircraft leasing companies, and investors, SOAR AAP can support operational surveillance to demonstrate compliance with lease obligations ... potentially saving millions of dollars in litigation expense encountered at lease termination, to counter claims to the DOT and to optimally inform a fully functioning FAA sponsored Air Safety Action Program (ASAP).

For example, instead of air operators submitting periodic engine condition monitoring (ECM) reports, SOAP APP can provide investors, lessors and airlines with chock-to-block operational data spanning each and every flight. Internally, airlines, investors and lessors could access computer analyzed data to identify potential issues ranked as Level 1, Level 2 and Level 3 "Events." (Level 3 Events are evaluated by flight data analysis experts who confirm the severity of each event by assessing and highlighting corresponding information at the inception of the SOAR AAP resolution of safety issues process). SOAR AAP is FDM liberated from the constraints of flight operations quality assurance (FOQA) programs which deprive the operator, lessor and investors of information essential to flight safety and the mechanical well-being of company aircraft. SOAR AAP is an optimized application of FDM technology to promote the art and best-practice of commercial aviation.

## **AIRMANSHIP ASSURANCE**

Through SOAR AAP, air operators capture empirically derived flight operations data shortly after the conclusion of each flight. Thereafter, it is used to identify, address and correct flight training and operational concerns, real-time, as opposed to correcting them only forensically, long after the fact, if ever.

## **FLEXIBILITY**

SOAR+ and SOAR AAP works with fixed-wing and helicopter flight operations, AMOs, MROs and flight training centers, indeed, in any environment where quality, safety assurance, and return on investment is an important consideration including medical environments, railways, bus companies, metro-transport concerns, and more.

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## APPLICABILITY

Using this technology, SOAR+ has been developed into a proprietary sequential guide that can lead air operators through the succession of events required to meet the requirements of IOSA, to attain IATA registration, to satisfy the new requirements for "Enhanced IOSA," and to satisfy airline operations requirements of the US Department of Defense, CASE, Specific Regulatory Requirements (SRRs), Safety Attribute Inspection Items (SAIs), Element Performance Inspection Items (EPIs), and more.

## IASA Audit Solutions

- ✓ Total Control of Audit Process
- ✓ Encourages Audit Group Collaboration
- ✓ Quantitative Safety Risk Assessment
- ✓ Corrective Action Resolution
- ✓ Digital Signoff

The screenshot shows a software window titled 'IASA Audit Form'. At the top, there are dropdown menus for 'IASA Question Number' (set to 5.007) and 'IASA Question Summary' (describing the implementation of technical guidance). Below this is a tabbed section with 'Standard' selected, containing a 'TASA Question' field with a detailed description of the question. To the right is a 'References' section listing 'Section 2 Civil Aviation Act 2006', 'Amendments', and 'CAA Rule Chapter 3', with 'CAA Rule Chapter 3' checked. Further down are sections for 'Auditor Assessment' (status April 22, 2014, with 'Documented and Implemented' selected), 'Self-Analysis Score' (green bar at 100%), and 'Assessment Risk Score' (yellow bar at 2). On the right, there's an 'Auditor Notes' section with a timestamp of April 4, 2014, and a note about self-assessment. At the bottom are buttons for 'Operator Form', 'Save', 'Save & Exit', and 'Cancel'.

## IASA Audit Solutions

- ✓ IASA Audit Compliance Tracking Solution
- ✓ Self and Auditor Assessment Tracking
- ✓ Quantitative Safety Risk Assessment
- ✓ Root Cause Analysis
- ✓ Corrective Actions Validation/Refinement
- ✓ Interlinking of Support Documentation and Records
- ✓ Digital Signoff at Different Levels
- ✓ Secure User Login

This screenshot is identical to the one above, showing the 'IASA Audit Form' window with the same question number, summary, and tabs. It displays the 'TASA Question' with its description, the 'References' section with 'CAA Rule Chapter 3' selected, the 'Auditor Assessment' section with 'Documented and Implemented' selected, the 'Self-Analysis Score' (100%), and the 'Assessment Risk Score' (2). The 'Auditor Notes' section contains a note about self-assessment. The bottom buttons are 'Operator Form', 'Save', 'Save & Exit', and 'Cancel'.

## ATTRIBUTES

Elements of the SOAR+/SOAR AAP resolution of safety issues process.

**SOAR+ IASA Auditor Form**

IASA Question Number	IASA Question Summary	Standard-									
3.005	Describe the roles and responsibilities of the operations and the airworthiness inspec										
<a href="#">Auditor Assessment</a> <a href="#">Risk/Priority</a> <a href="#">Safety Risk Assessment</a> <a href="#">Process/Co. Acceptance</a> <a href="#">CAR Acceptance</a> <a href="#">Impact of Changes</a>											
<b>Audit Process Step 1</b> <table border="1"> <tr> <td><b>Probability</b></td> <td><b>Severity</b></td> <td>April 11, 2014</td> </tr> <tr> <td> <input checked="" type="radio"/> High  <input type="radio"/> Medium High  <input type="radio"/> Medium  <input type="radio"/> Medium Low  <input type="radio"/> Low         </td> <td> <input type="radio"/> High  <input checked="" type="radio"/> Medium High  <input type="radio"/> Medium  <input type="radio"/> Medium Low  <input type="radio"/> Low         </td> <td>20</td> </tr> </table>			<b>Probability</b>	<b>Severity</b>	April 11, 2014	<input checked="" type="radio"/> High <input type="radio"/> Medium High <input type="radio"/> Medium <input type="radio"/> Medium Low <input type="radio"/> Low	<input type="radio"/> High <input checked="" type="radio"/> Medium High <input type="radio"/> Medium <input type="radio"/> Medium Low <input type="radio"/> Low	20			
<b>Probability</b>	<b>Severity</b>	April 11, 2014									
<input checked="" type="radio"/> High <input type="radio"/> Medium High <input type="radio"/> Medium <input type="radio"/> Medium Low <input type="radio"/> Low	<input type="radio"/> High <input checked="" type="radio"/> Medium High <input type="radio"/> Medium <input type="radio"/> Medium Low <input type="radio"/> Low	20									
<b>Audit Process Step 2</b> <table border="1"> <tr> <td><b>Priority</b></td> <td><b>Assigned Auditor</b></td> <td><b>Auditor References</b></td> </tr> <tr> <td> <input type="radio"/> High Priority  <input checked="" type="radio"/> Medium Priority  <input type="radio"/> Low Priority         </td> <td>Patrick Major</td> <td> <input type="radio"/> FAA IASA Audit Site  <input checked="" type="radio"/> Root Cause Analysis for Aviation Safety  <input type="radio"/> Risk Management  <input type="radio"/> Bowtie Risk Management         </td> </tr> <tr> <td>April 11, 2014</td> <td>John Doe</td> <td> <input type="button" value="Add"/> <input type="button" value="Delete"/> <input type="button" value="Validate"/> </td> </tr> </table>			<b>Priority</b>	<b>Assigned Auditor</b>	<b>Auditor References</b>	<input type="radio"/> High Priority <input checked="" type="radio"/> Medium Priority <input type="radio"/> Low Priority	Patrick Major	<input type="radio"/> FAA IASA Audit Site <input checked="" type="radio"/> Root Cause Analysis for Aviation Safety <input type="radio"/> Risk Management <input type="radio"/> Bowtie Risk Management	April 11, 2014	John Doe	<input type="button" value="Add"/> <input type="button" value="Delete"/> <input type="button" value="Validate"/>
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April 11, 2014	John Doe	<input type="button" value="Add"/> <input type="button" value="Delete"/> <input type="button" value="Validate"/>									
<b>Root Cause</b> <p>No standard reporting, no anonymous reporting, no incentivized reporting, protecting license holders who disclose unsafe acts or errors; providing their where unintentional and there was no substance abuse or criminal activity involved. Additionally, xxx has no system for triaging and responding to safety issues by order of priority, assignment of responsibility, for identifying root cause, recommending a solutions, conducting a safety risk assessment on the proposed solution prior to implementation, inserting barriers to unacceptably high levels of risk and confirming adequate implementation. Advisory team has a solution for these. OPEN</p>											
<input type="button" value="Operator Form"/> <input type="button" value="Save"/> <input type="button" value="Save &amp; Exit"/> <input type="button" value="Cancel"/>											

**SOAR+ IASA Auditor Form**

IASA Question Number	IASA Question Summary	Standard-
3.005	Describe the roles and responsibilities of the operations and the airworthiness inspec	
<a href="#">Auditor Assessment</a> <a href="#">Risk/Priority</a> <a href="#">Safety Risk Assessment</a> <a href="#">Process/Co. Acceptance</a> <a href="#">CAR Acceptance</a> <a href="#">Impact of Changes</a>		
<b>Proposed Corrective Action</b> April 18, 2014		<b>Safety Risk Assessment</b> April 20, 2014
<p>The MPAT proposes a comprehensive ROSI system comprised of sequential steps in the corrective actions process to address the findings. Guide xxxx leadership and inspector cadre in quantifying a risk and prioritizing the order for addressing each finding as the NCA formulates its corrective action plans;</p> <p>Assigning accountability: department heads, inspectors and staff;</p> <p>Conducting root cause analyses in order to assure solutions address the foundational cause of findings, not merely the effects;</p> <p>Exploring and documenting alternatives for complete and permanent corrective solutions; and Subjecting proposed solutions to safety risk analyses during process development prior</p>		<p>Safety Deficiencies and Incident Analysis Unit (SDIAU) referenced throughout regulations as primary actor in ROSI, under DAWIS, but does not appear to be staffed. There is no process actively in place. No reporting form from field. No structure. No follow through.</p> <p>Consideration, based on reference 30 &amp; 31 Sect 1.2 – change levels of categorization 0 being lowest risk, 3 being highest, also Answers need to be in order, such as the Act, regulations, guidance, A/C's, etc.</p>
<b>Final Action including Controls and Risk</b> April 24, 2014		
<p>Exploring and documenting alternatives for complete and permanent corrective solutions; and Subjecting proposed solutions to safety risk analyses during process development prior in order to assure the emplacement of effective barriers to risk (controls) that serve to prevent the intrusion of additional errors (risk) as a result of the corrective actions/ROSI process</p>		
<p><i>Authorization</i></p> <p><input checked="" type="checkbox"/> The corrective action now documented, implemented, and accepted by the company accountable authority, satisfies the intent of this corrective action.</p> <p><b>Mike the Manager</b></p>		
<input type="button" value="Operator Form"/> <input type="button" value="Save"/> <input type="button" value="Save &amp; Exit"/> <input type="button" value="Cancel"/>		

**SOAR+ IASA Auditor Form**

IASA Question Number	IASA Question Summary	Standard-
3.005	Describe the roles and responsibilities of the operations and the airworthiness inspect	
<a href="#">Auditor Assessment</a>   <a href="#">Risk/Priority</a>   <a href="#">Safety Risk Assessment</a>   <a href="#">Process/Co. Acceptance</a>   <a href="#">CAR Acceptance</a>   <a href="#">Impact of Changes</a>		
<p><input checked="" type="checkbox"/> <b>Process Flow/Depiction</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Section 2 Civil Aviation Act 2006</li> <li><input checked="" type="checkbox"/> Advisory circular</li> <li><input type="checkbox"/> CAA Book chapter 9</li> </ul> <p><input checked="" type="checkbox"/> <b>Description</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Section 2 Civil Aviation Act 2006</li> <li><input type="checkbox"/> Advisory circular</li> <li><input checked="" type="checkbox"/> CAA Book chapter 9</li> </ul> <p><input checked="" type="checkbox"/> <b>Controls Mitigating Risk</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Section 2 Civil Aviation Act 2006</li> <li><input checked="" type="checkbox"/> Advisory circular</li> <li><input type="checkbox"/> CAA Book chapter 9</li> </ul> <p><input checked="" type="checkbox"/> <b>Assignment of responsibility/authority</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Section 2 Civil Aviation Act 2006</li> <li><input type="checkbox"/> Advisory circular</li> <li><input type="checkbox"/> CAA Book chapter 9</li> </ul>		
<p><b>Authorizations</b></p> <p><b>Accountable Manager</b></p> <p><input checked="" type="checkbox"/> The corrective action herein described meets company requirements for acceptable levels of risk.</p> <p><b>Signature</b> April 15, 2014</p> <p><b>Director of Safety</b></p> <p><input checked="" type="checkbox"/> The accountable manager is authorized by the company to accept the process and level of risk described above.</p> <p><b>Signature</b> April 15, 2014</p>		
<p><b>Process Documents</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> FAA IASA Audit Site</li> <li><input checked="" type="checkbox"/> Root Cause Analysis for Aviation Safety</li> <li><input checked="" type="checkbox"/> Risk Management</li> <li><input type="checkbox"/> Bowtie Risk Management</li> </ul> <p><a href="#">Add</a> <a href="#">Delete</a> <a href="#">Validate</a></p>		
<p><a href="#">Operator Form</a> <a href="#">Save</a> <a href="#">Save &amp; Exit</a> <a href="#">Cancel</a></p>		

**SOAR+ IASA Auditor Form**

IASA Question Number	IASA Question Summary	Standard-
3.005	Describe the roles and responsibilities of the operations and the airworthiness inspect	
<a href="#">Auditor Assessment</a>   <a href="#">Risk/Priority</a>   <a href="#">Safety Risk Assessment</a>   <a href="#">Process/Co. Acceptance</a>   <a href="#">CAR Acceptance</a>   <a href="#">Impact of Changes</a>		
<p><input checked="" type="checkbox"/> <b>Evidence of Documentation</b></p> <p>We put documentation discussion verbage</p> <p><b>Documentation Evidence Items</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Section 2 Civil Aviation Act 2006</li> <li><input checked="" type="checkbox"/> Advisory circular</li> <li><input checked="" type="checkbox"/> CAA Book chapter 9</li> </ul> <p><a href="#">Add</a> <a href="#">Delete</a> <a href="#">Modify</a></p> <p><input type="checkbox"/> <b>Evidence of Implementation</b></p> <p>We put implementation discussion verbage</p> <p><b>Implementation Evidence Items</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Section 2 Civil Aviation Act 2006</li> <li><input type="checkbox"/> Advisory circular</li> <li><input type="checkbox"/> CAA Book chapter 9</li> </ul> <p><a href="#">Add</a> <a href="#">Delete</a> <a href="#">Modify</a></p> <p><input type="checkbox"/> <b>Evidence of Training</b></p> <p>We put training discussion verbage</p> <p><b>Training Evidence Items</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Section 2 Civil Aviation Act 2006</li> <li><input type="checkbox"/> Advisory circular</li> <li><input type="checkbox"/> CAA Book chapter 9</li> </ul> <p><a href="#">Add</a> <a href="#">Delete</a> <a href="#">Modify</a></p>		
<p><b>Authorizations</b></p> <p><input checked="" type="checkbox"/> I have reviewed the evidence presented and find the standards have been met.</p> <p><b>Mike the Manager</b> April 15, 2014 <b>Auditor Signature</b> April 15, 2014</p>		
<p><a href="#">Operator Form</a> <a href="#">Save</a> <a href="#">Save &amp; Exit</a> <a href="#">Cancel</a></p>		

The screenshot shows a window titled "SOAR+ IASA Auditor Form". At the top left is the "IASA Question Number" field containing "3.003". To its right is the "IASA Question Summary" field with the text "What type of State Civil Aviation System and Safety Oversight organizational structure". A "Standard-" link is located at the top right of this section. Below these are several tabs: "Auditor Assessment", "Risk/Priority", "Safety Risk Assessment", "Process/Co. Acceptance", "CAR Acceptance", and "Impact of Changes". The "Impact of Changes" tab is currently selected. It contains two sections: "Impact of Change" dated April 25, 2014, and "Validation-Review/Follow-Through" dated April 25, 2014. The "Impact of Change" section contains a detailed text block:

By adopting this approach, the xxx will -  
Become empowered to systematically formulate and to initiate implementation of a prioritized series of complete and permanent corrective actions which target issues at their root within the time-period required by the FAA IASA Program;  
While demonstrating the activation of a methodology emblematic of fully functional safety oversight systems.  
The successful implementation of an effective ROSI process within the xxx is essential to the development of a hazard and safety issues reporting process to serve the Nigerian civil aviation industry.

## HOSTING

SOAR+ and SOAR APP is intended to be hosted on the cloud, licensed on enterprise platforms, or set up SOAR+ subject matter experts (SMEs) can manage the program on behalf of clients.

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**Next-Gen SMS-Leading  
Safety of Operations Audit & Resolution of  
Safety Issues Process**

**SOAR+**

- **Password-Protected Secure Utility Supporting Safety Audits, Regulatory Evaluations and Conformance Assessments.**
- **Means to Ensure Regulatory Compliance**
  - Standards Conformance
- **Includes - Resolution of Safety Issues Process-**
  - Captures Root Cause Analysis
  - Documents Safety Risk Assessment
  - Validates Implementation
  - Means to Monitor/Prevent Process Creep, and
  - Supports On-Going Continuing Enhancements in Safety and Regulatory Compliance

**Ensures Regulatory and/or Standards Conformance**  
**Validates Implementation**  
**Monitors Process Creep**

**Establishes Process for Continuing Enhancements in Safety and Regulatory Compliance**

Variably Applicable/User-Friendly

**Operator IEP Tool –**  
Safety Standard Assessment  
Quality Assurance  
Regulatory Compliance  
Process Optimization

**Next-Gen ROSI Process**

**Resolution of Safety Issues –**  
Audit Findings translate to Hazards  
Hazards Assessed for Risks  
Risks are ranked for Severity & Probability.  
Action prioritized on basis of assessed risk and business import.  
Assignment of Accountability  
Root Cause Analyses  
Corrective Action Development  
Safety Risk Assessment  
Interface Management  
Impact of Changes  
Implementation Validation

Imminently Practical

**Validation - Evidence of Implementation -**  
Implementation Confirmation.  
Identify & Correct Performance Creep.  
Quantify Return on Investment in Safety and Compliance.  
Residual opportunities for improvement, deficiencies, and/or performance-creep ... reinitiate ROSI process in a track subordinate to the initial finding.

## **Key Attributes**

- Captures Specific Regulatory Requirements and Audit/Assessment Standards
  - IASA
  - ICAO
  - AOC Certification Process
  - Regulatory Requirements
  - IOSA
  - Virtually any standards from any source.
- Standards/Requirements are Safety-Risk-Ranked.
  - Results are mathematically manipulated to present safety-risk-ranked prioritization of corrective actions.
  - Thereafter, to quantify returns on investment in safety, regulatory compliance, and standards conformance.

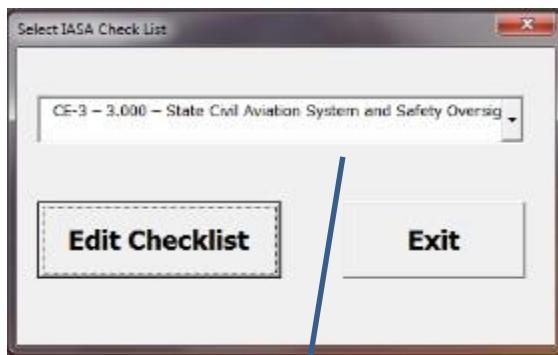
## Key Attributes, Continued

- Intuitive, sequential process.
- Captures relevant assessment comments, evaluator insights and analyses.
- Hyperlinks process documents and implementation-validation records for rapid access, retrieval and presentation.
- Each edit is date-stamped for archival along-with corresponding user login.
- Digital Signatures attest to Risk and/or Compliance Acceptance & Authorization.
- Lifecycle support and trend analyses.

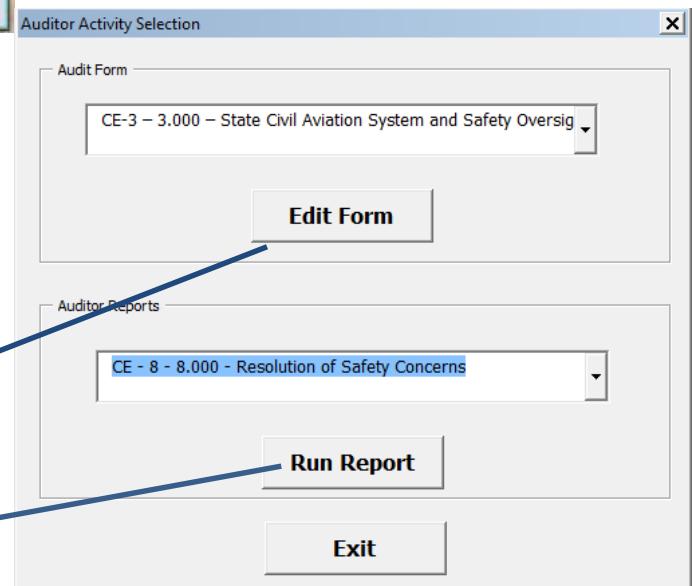
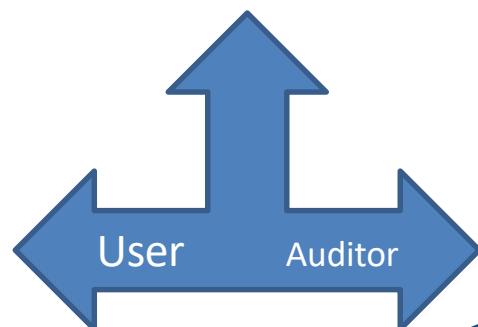
## Initial Entry



USER  
Dropdown  
Selection

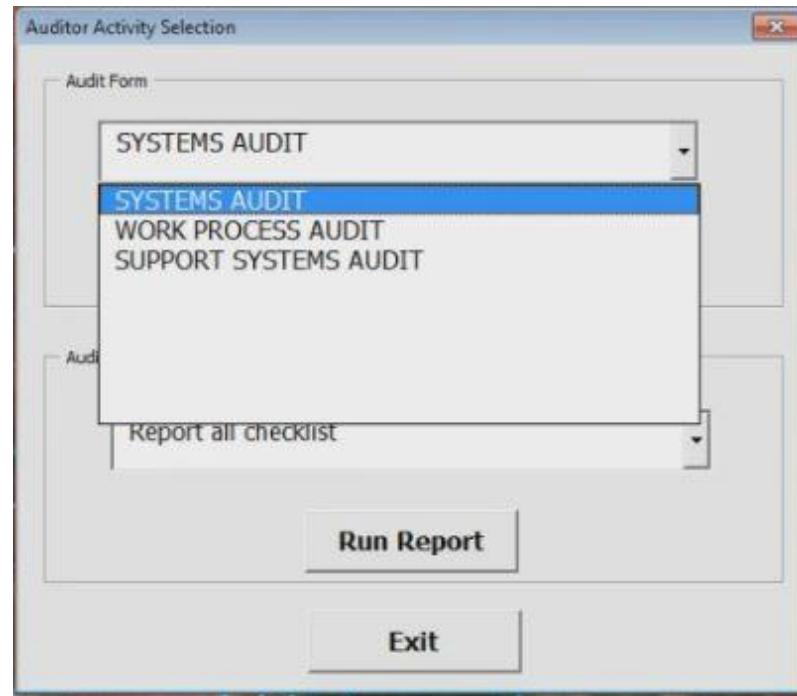


Dropdown Selection of  
Checklist To Edit



Audit Report  
Generation  
Selection

# Audit Selection Menu



## Operator Self-Assessment – Optional (recommended)

Risk Ranked Audit  
“Standards” establish basis for scored-reports and for quantifying returns on investment in safety.

The screenshot shows the Operator Survey Form interface. At the top left is the "IASA Number" field containing "4.002". To its right is the "IASA Question Summary" field with the question: "If the CAA does not have a training center, describe how and where training is provided". Below these are two tabs: "Operator Assessment" (selected) and "Guidance Material". The main area contains the "IASA Question" and "Standard" sections. The "IASA Question" section contains the question: "If the CAA does not have a training center, describe how and where training is provided to inspectors and technical personnel?". The "Standard" section has a radio button labeled "CAA Book chapter 9" which is selected. Below this are "References" (with "CAA Book chapter 9" also selected), "Add", "Delete", and "Validate" buttons. The bottom part of the form is titled "Operator Self Assessment". It includes "Assessment Status" (radio buttons for "Documented and Implemented" (selected), "Implemented, Not Documented", "Documented, Not Implemented", "Not Documented and Not Implemented", and "NA"), "Operator Response" (text area with date "April 2, 2014" and content about TGM Vol. 3 Operations Handbook, PPM Chpt. 2.2, etc.), "Self Analysis Score" (green progress bar with value "6"), and "Operator Enters Manual & Document Location Designations". At the bottom right are "Save", "Save & Exit", and "Cancel" buttons.

Audit questions (standards) are sequenced in numerical order or selected by ID number: short description indicated for each.

Audit questions are differentiated as “Standards” (required) or “Recommended Practices” (Compliance-is-Recommended-but-Optional at the operator’s discretion).

Operator hyperlinks references to supporting records & documents.

Date of most-recent edit: user name is archived.

Save, Exit or Cancel updates

Operator internal evaluation.

- “Operator Self-Assessment” score can be compared to “Auditor’s Assessment” (next slides).
- Operator Enters Manual & Document Location Designations.

# Auditor Assessment

**IASA Auditor Form**

IASA Question Number		IASA Question Summary		Standard-				
5.007		Does the inspector technical guidance contain policy, procedures and standards for:						
Auditor Assessment		Risk/Priority		Safety Risk Assessment		Process/Co. Acceptance	CAR Acceptance	Impact of Changes
<b>IASA Question</b> Does the inspector technical guidance contain policy, procedures and standards for: certification licensing authorizations and approvals surveillance/inspections resolution of safety issues <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe the specific technical guidance implemented by the CAA.		<b>Standard-</b> <b>References</b> <input type="radio"/> Section 2 Civil Aviation Act 2006 <input type="radio"/> Advisory circular <input checked="" type="radio"/> CAA Book chapter 9 <input type="radio"/>		<b>Corrective Action</b> <ul style="list-style-type: none"> <li>Documentation</li> <li>Implementation process description.</li> </ul> <b>Responsible Manager and Auditor digital signatures for CAR Acceptance/Comments.</b>				
<b>Auditor Assessment</b> <b>Assessment Status</b> April 22, 2014 <input type="radio"/> Documented and Implemented <input checked="" type="radio"/> Implemented, Not Documented <input type="radio"/> Documented, Not Implemented <input type="radio"/> Not Documented and Not Implemented <input type="radio"/> NA		<b>Auditor Notes</b> April 4, 2014 Space provided to insert notes, questions or other information desired by the auditor		<b>Implementation-Validation records.</b> <b>Impact of Changes review.</b> <b>Results may warrant sub-finding(s) and recommendation of the ROSI process at "Hazard/Risks" Risk/Priority screen.</b>				
<b>Self-Analysis Score</b> 		<b>Assessment Risk Score</b> 		<ul style="list-style-type: none"> <li>Complete &amp; Permanent Corrective Action?</li> <li>Responsible Manager and Director of Safety digital Acceptance.</li> </ul>				
<input type="button" value="Operator Form"/>				<input type="button" value="Save"/> <input type="button" value="Save &amp; Exit"/> <input type="button" value="Cancel"/>				

**• Hazard/Risks Worksheet.**  
**• Prioritization.**  
**• ROSI Action Team assignments.**

**• Proposed Corrective Action**  
**• Safety Risk Assessment**  
**SRA-Revised Intended Action.**  
**• Responsible Manager acceptance/digital signature.**

**• References transfer to Auditor Assessment.**  
**Auditor can choose to view Operator "Self-Assessment" screen simultaneously.**

**• Complete & Permanent Corrective Action?**  
**• Responsible Manager and Director of Safety digital Acceptance.**

## Auditor Assessment, Continued...

CASE Auditor Form

**CASE Question Number**: Certifications - 1

**CASE Question Summary**: Obtain and review a copy of the current FAA Air Agency or Transport Canada AMD certificate, Operations Specifications (if applicable), and EASA/Canadian approval documents (if applicable). Are they accurate? [2A]

**Auditor Assessment** | **Risk/Priority** | **Safety Risk Assessment** | **Process/Co. Acceptance** | **CAR Acceptance** | **Impact of Changes**

**Legacy System**

**CASE Question**: Obtain and review a copy of the current FAA Air Agency or Transport Canada AMD certificate, Operations Specifications (if applicable), and EASA/Canadian approval documents (if applicable). Are they accurate? [2A]

**Answer**:  Yes  No  NA

**Best Practice Info**: Please further refine your assessment below with best practice

**References**:  CASE Audit Site  Root Cause Analysis for Aviation Safety

Add | Delete | Validate

**Best Practice System**

**Assessment Status**: April 22, 2014

Documented and Implemented  
 Implemented, Not Documented  
 Documented, Not Implemented  
 Not Documented and Not Implemented  
 NA

**Auditor Notes**: April 4, 2014

Space provided to insert notes, questions or other information desired by the auditor

**Self-Analysis Score**: 0

**Assessment Risk Score**: -2

Operator Form | Save & Next | Save | Save & Exit | Cancel

- Auditor evaluates operator self-assessment and documentation.
- Auditor Comments.

Operator documentation.

Comparison of  
• Operator Assessment  
• Auditor Assessment

# Risk Assessment/Priority Analysis

CASE Auditor Form

**CASE Question Number** Certifications - 1    **CASE Question Summary** Obtain and review a copy of the current FAA Air Agency or Transport Canada AMO (

**Auditor Assessment** **Risk/Priority** **Safety Risk Assessment** **Process/Co. Acceptance** **CAR Acceptance** **Impact of Changes**

**Audit Process Step 1**

<b>Probability</b> <input checked="" type="radio"/> High <input type="radio"/> Medium High <input type="radio"/> Medium <input type="radio"/> Medium Low <input type="radio"/> Low	<b>Severity</b> <input type="radio"/> High <input checked="" type="radio"/> Medium High <input type="radio"/> Medium <input type="radio"/> Medium Low <input type="radio"/> Low	April 11, 2014	<b>Potential Impact</b> 20
---	--	----------------	-------------------------------

**Audit Process Step 2**

<b>Priority</b> <input type="radio"/> High Priority <input checked="" type="radio"/> Medium Priority <input type="radio"/> Low Priority	<b>Assigned Auditor</b> Mike Manager	<b>Auditor References</b> <input type="radio"/> CASE Audit Site <input checked="" type="radio"/> Root Cause Analysis for Aviation Safety <input type="radio"/> Risk Management <input type="radio"/> Bowtie Risk Management
April 11, 2014	<b>Assigned Operator Member</b> John Doe	Add Delete Validate

**Root Cause**

An open entry block is provided for the Auditor to enter the Root Cause(s) for the failure of non-compliance. This block should be an open forum to be discussed with the Operator and additional notes added as needed. Even though the discussion may reveal options and answers to fulfilling the requirement of the answer, no deletions or adjustment to the findings should be made based on this block. All input is desired and required for full potential of the program to work properly.

Operator Form    Save & Next    Save    Save & Exit    Cancel

Root Cause(s) for the failure of non-compliance.

Date generated automatically and updated when a selection or input saved.

- Establish priority ranking
- Assigning team members for question
- Any supporting documents/regulations used in assessment

# Risk Assessment/Priority Analysis

CASE Auditor Form

**CASE Question Number** Certifications - 1    **CASE Question Summary** Obtain and review a copy of the current FAA Air Agency or Transport Canada AMO (

**Auditor Assessment** **Risk/Priority** **Safety Risk Assessment** **Process/Co. Acceptance** **CAR Acceptance** **Impact of Changes**

**Audit Process Step 1**

**Probability**  
 High  
 Medium High  
 Medium  
 Medium Low  
 Low

**Severity**  
 High  
 Medium High  
 Medium  
 Medium Low  
 Low

April 11, 2014

**Potential Impact** 20

**Audit Process Step 2**

**Priority**  
 High Priority  
 Medium Priority  
 Low Priority

**Assigned Auditor** Mike Manager

**Assigned Operator Member** John Doe

**Auditor References**  
 CASE Audit Site  
 Root Cause Analysis for Aviation Safety  
 Risk Management  
 Bowtie Risk Management

**Root Cause**  
An open entry block is provided for the Auditor to enter the Root Cause(s) for the failure of non-compliance. This block should be an open forum to be discussed with the Operator and additional notes added as needed. Even though the discussion may reveal options and answers to fulfilling the requirement of the answer, no deletions or adjustment to the findings should be made based on this block. All input is desired and required for full potential of the program to work properly.

Operator Form    Save & Next    Save    Save & Exit    Cancel

Root Cause(s) for the finding.

Date generated automatically and updated with each input.

- Establish priority ranking.
- Assigned ROSI Action Team.
- Reference to supporting documents and/or regulations.

## Practical Tactics In The Art And Best Practice Of Aviation Safety

# Safety Risk Assessment Tab

**Originated by the Operator ROSI Team.**

**Itemize and organize Corrective Action(s).**

- Controls.
- Accepted Risk(s).

**CASE Question Number** Certifications - 1

**CASE Question Summary** Obtain and review a copy of the current FAA Air Agency or Transport Canada AMO

**Auditor Assessment** | **Risk/Priority** | **Safety Risk Assessment** | **Process/Co. Acceptance** | **CAR Acceptance** | **Impact of Changes**

**Proposed Corrective Action** April 18, 2014

This block allows the Auditor to enter what the proposed corrective action is, originated by the Operator, to answer the question fully and be in compliance. Attention to detail is key and should include personnel affected and responsible for completion.(risk) as a result of the corrective actions/ROSI process.

Dates next to the respective headings are generated automatically and updated when a selection or input is made or modified for their respective blocks. Date shown is the most recent modification. They cannot be manually adjusted.

**Safety Risk Assessment** April 20, 2014

Open entry block allowing the Auditor to enter the risk assessment that the Operator has provided. Consideration and changing levels of risk may be categorized by the following order:

- a. Zero = lowest risk
- b. One = low to moderate risk
- c. Two = moderate to high risk
- d. Three = highest risk

Dates next to the respective headings are generated automatically and updated when a selection or input is made or modified for their respective blocks. Date shown is the most recent modification. They cannot be manually adjusted.

**Final Action including Controls and Risk** April 24, 2014

The open entry block allows the Auditor to itemize and organize final action as provided by the Operator. These will include Controls used in assuring the final action is accomplished along with the risk associated by the implementation of the final action.

Dates next to the respective headings are generated automatically and updated when a selection or input is made or modified for their respective blocks. Date shown is the most recent modification. They cannot be manually adjusted.

**Authorization**

The corrective action now documented , implemented, and accepted by the company accountable authority, satisfies the intent of this corrective action.

**Mike the Manager** April 24, 2014

Operator Form Save & Next Save Save & Exit Cancel

Rating remaining level(s) of residual risk.

Signifies that the Responsible Manager is in agreement with the intent of the corrective action and accepts residual risk.

## Practical Tactics In The Art And Best Practice Of Aviation Safety

# Process Control

how the final action plan will take place

Ensures that critical factors have been addressed to mitigate risks.

Names of those responsible for completion corrective action.

Responsible Manager Accountable for the corrective action.

Director of Safety Acknowledgement/Acceptance.

Description of corrective action.

Documents/text affected by the specific action.

**CASE Auditor Form**

**CASE Question Number:** Certifications - 1

**CASE Question Summary:** Obtain and review a copy of the current FAA Air Agency or Transport Canada AMO.

**Auditor Assessment:** [Tabs: Auditor Assessment, Risk/Priority, Safety Risk Assessment, Process/Co. Acceptance, CAR Acceptance, Impact of Changes]

- Process Flow/Depiction
- Description
- Controls Mitigating Risk
- Assignment of Responsibility/Authority

**Authorizations**

**Accountable Manager**

- The corrective action herein described meets company requirements for acceptable levels of risk.

**Signature:** April 15, 2014

**Director of Safety**

- The accountable manager is authorized by the company to accept the process and level of risk described above.

**Signature:** April 15, 2014

**Process Documents**

- CASE Audit Site
- Root Cause Analysis for Aviation Safety
- Risk Management
- Bowtie Risk Management

**Buttons:** Add, Delete, Validate, Save & Next, Save, Save & Exit, Cancel, Operator Form

## Practical Tactics In The Art And Best Practice Of Aviation Safety

# Corrective Action Acceptance Tab

CASE Auditor Form

**CASE Question Number** Certifications - 1    **CASE Question Summary** Obtain and review a copy of the current FAA Air Agency or Transport Canada AMO.

**Auditor Assessment** | **Risk/Priority** | **Safety Risk Assessment** | **Process/Co. Acceptance** | **CAR Acceptance** | **Impact of Changes**

**Evidence of Documentation** April 15, 2014  
If a checkbox in the beginning of the audit (1st Screen Shot) was checked that the answer was Not Documented then this checkbox is required to be checked here. With the open entry box provided, an explanation of how the lack of documentation is being addressed. The standard needed is identified in #8 above. This item is provided by the Operator.

**Evidence of Implementation** April 15, 2014  
If a checkbox in the beginning of the audit (1st Screen Shot) was checked that the answer was Not Implemented then this checkbox is required to be checked here. With the open entry box provided, an explanation of how the lack of implementation is being addressed. The standard needed is identified in #8 above. This item is provided by the Operator.

**Documentation Evidence Items**  
Add    Delete    Modify

**Implementation Evidence Items**  
Add    Delete    Modify

**Evidence of Training** April 15, 2014  
Should training be required to accomplish Documentation or Implementation then the Evidence of Training checkbox should be checked. This will add substance and validation to the process, if required. A full description of the training is entered in the open entry box. This item is provided by the Operator.

**Training Evidence Items**  
Add    Delete    Modify

**Authorizations**  
 I have reviewed the evidence presented and find the standards have been met.

**Mike the Manager** April 15, 2014    **Auditor Signature** April 15, 2014

Operator Form    Save & Next    Save    Save & Exit    Cancel

Attached documentation pertaining to particular standard/corrective action.

Authorization that the Operator and the Auditor are in agreement the corrective action constitutes a complete solution to the finding.

Documentation attesting to the completion of required training (if applicable).

# Impact of Changes, Implementation Validation, Performance Creep Identification & Response

CASE Auditor Form

CASE Question Number	CASE Question Summary
Certifications - 1	Obtain and review a copy of the current FAA Air Agency or Transport Canada AMO

Auditor Assessment | Risk/Priority | Safety Risk Assessment | Process/Co. Acceptance | CAR Acceptance | Impact of Changes

**Impact of Change** April 25,2014

Both the Operator and Auditor will complete this section. This is a thorough review of the final action plan, its process, and implementation. The open entry block allows the Auditor to describe in detail an overview of that thorough review with Operator input/collaboration.

**Validation-Review/Follow-Through** April 25,2014

This block is for the Validation of the final action plan instituted during the previous audit. The open entry block allows for comments, observations, findings, etc., when the Auditor comes back to audit the finding in question. The secondary audit that takes place in the future is agreed upon by the Operator and Auditor. Sufficient time should pass to allow the effectiveness of the changes originally made to be evaluated, but not so long as to negatively affect safety. The Operator is responsible for determining the length, not the Auditor. Once the Validation-Review is complete, a Follow-Through is also described here showing the results of the secondary audit. If any adjustments need to be made, they are described here and the process begins again from the beginning.

**Review to confirm effective impact of changes assessment.**

**Review to confirm implementation of the corrective action.**

- Validation of the final action.
- Notes detailing any observed performance Creep.
- Serves as foundation for Sub-Finding to recommence at Risk/prioritization phase of the process.

Operator Form | Save & Next | Save | Save & Exit | Cancel

## Flexible Installation, Multi-Modal User Access, Enduring Support

Enterprise/Server  
Installation

Compliance In The Cloud  
Next Generation SMS



Individual Laptop  
or Desktop PC

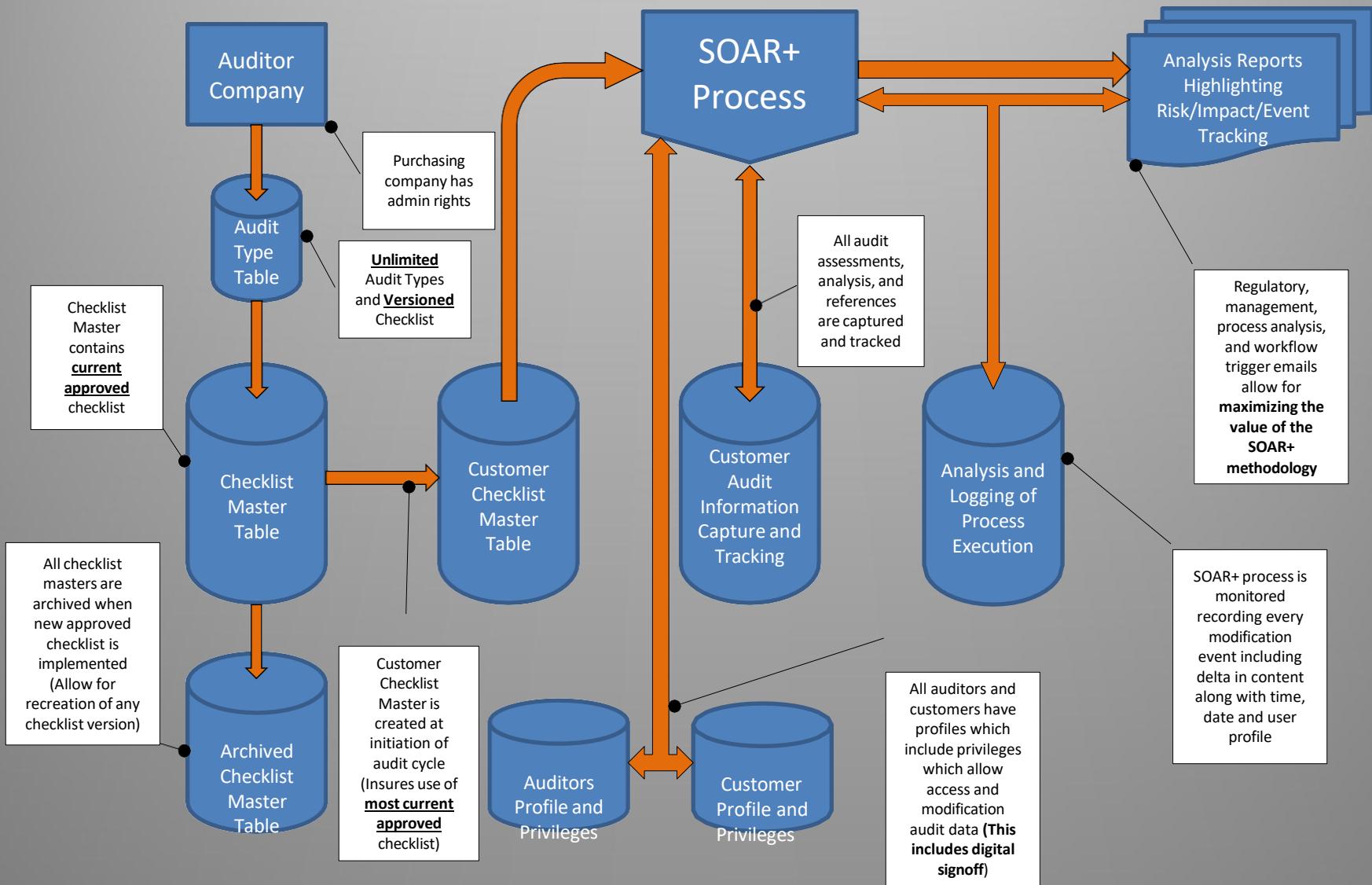
Login Security  
Device Independence  
Interconnected Collaborative Functionality

# **Next-Gen SMS**

# **Audit & Resolution of Safety Issues**

# SOAR+ Solution

## Adaptive Information Technology



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