



**ICAO Regional Workshop on Safety Management Systems (SMS) and State Safety Programme (SSP) Implementation
(Bangkok, Thailand : 29-31 Oct.2008)**

Obstacles	Proposed solutions	ICAO contribution	Agreed results
<p>Safety Management System (SMS)</p> <p>Objectives:</p> <ol style="list-style-type: none"> 1. To identify potential obstacles on the implementation of Safety Management Systems (SMS). 2. To discuss possible alternatives to overcome these obstacles. 3. To propose courses of action to ICAO. 4. Any other relevant aspects 			
<p>Component: 1. Safety policy and objectives – Element: 1.1 – Management commitment and responsibility</p>			
<p>Group 1</p>			
<p>➤ CEO and delegates often have commercial backgrounds. There can be obstacles for providing resources for the safety functions</p>	<p>More education and training of CEOs needed; “Fit and proper” tests for CEOs to establish commitment to safety;</p>		<ol style="list-style-type: none"> 1. Lack of awareness of SMS from the senior management and also the importance to support those processes from top to bottom levels 2. Enhance awareness and education for CEOs in Safety Management issues. 3. Approved Training Programme on SMS for all levels as a requirement by the local regulation
<p>➤ There may be a need to provide examples of safety policies;</p>	<p>Examples of appropriate policies could be provided to facilitate what is required</p>		
<p>➤ Other officers may also be accountable within an organisation. There may be different national requirements that could be applied.</p>	<p>Further education and training aimed at CEOs and other office bearers could be provided</p>		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 2			<p>4. <i>Conflict of interest where State owns and operates SP (No clear distinction between regulatory role and service provider's functions within the State)</i></p> <p>5. <i>Define distinct responsibilities and accountabilities for regulatory and service provider's functions within the State ;</i></p> <p>6. <i>Change reporting relationship within the government. Must separate the person responsible for the SSP from the AE for the SMS</i></p> <p>7. <i>Unclear applicability of safety policy for some particular small organizations, especially AMOs requires more focussed guidance.</i></p> <p>8. <i>Lack of appropriate legislation and regulations makes more difficult the management commitment and responsibility regarding the SMS</i></p> <p>9. <i>Develop legislation and regulations on SMS requirements</i></p>
1. Conflict of interest where State owns and operates SP	SP and Authority should be structured to be separate entities; accountable executives should be different people for each function.	Clarify requirement in SMS documentation with respect to accountability.	
2. Not clear how to define Safety policy appropriate to size/nature of organization.	Specific guidance needed particularly for small organizations/AMOs	More focussed guidance material	
Group 3			
➤ Lack of awareness of SMS and it's importance from top to bottom levels	Approved Training Programme on SMS for all levels – make it mandatory requirements of the organization	<p>1. Comprehensive SMM for guidance to States/Service providers including best practices and examples.</p> <p>2. ICAO symposium on GASP/GARM/SMS for DGCA and CEO of aviation industries. Establish international forum for SMS Programme.</p>	
➤ Lack of resources (Human and financial)	Authority to allocate adequate human and financial resources for resolving safety critical issues		
➤ Lack of appropriate legislation and regulations	Develop legislation and regulations on SMS requirements		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
<ul style="list-style-type: none"> ➤ Lack of distinction between regulatory and service provider's functions in CAA 	<ul style="list-style-type: none"> i) Make distinct responsibility and accountability for regulatory and service provider's functions in CAA; ii) Review existing org. structure and establish separate unit for safety oversight within the organization 		<p><i>ICAO to provide:</i></p> <ul style="list-style-type: none"> a) <i>Examples of safety policies</i> b) <i>Guidance on training different management levels regarding SMS</i> c) <i>More focussed guidance material on the development of safety policies for small organizations/AMOs</i> d) <i>High level conference or symposium for States and service providers regarding SMS</i>
<p>Group 4</p>			
<ul style="list-style-type: none"> ➤ Shortage of qualified personnel ➤ Small operators: few personnel. 	<ul style="list-style-type: none"> ➤ doubling up of positions (can the accountable manager be the Safety Manager?) 		
<ul style="list-style-type: none"> ➤ commitment and responsibility is impaired by the fact that the Service provider is also the regulator. 	<ul style="list-style-type: none"> • Change reporting relationship within the . government. Must separate the person responsible for the SSP from the AE for the SMS • Create independent organizations • Through documentation, clearly identify how issues are to be managed. • Create Standard that the AE of the SSP cannot be the AE for a service provider 		
<ul style="list-style-type: none"> ➤ Lack of understanding 	<ul style="list-style-type: none"> ➤ Training, preparation 		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Component: 1. Safety policy and objectives – Element: 1.2 – Safety accountabilities			
Group 1			<ol style="list-style-type: none"> 1. <i>Unclear distinction between responsibilities vs. Accountabilities requires more clear definition</i> 2. <i>Lack of communication of safety accountabilities between safety manager and front line employee/workers</i> 3. <i>Apply the ICAO guidance on safety accountabilities</i> <p><i>ICAO to provide:</i></p> <ol style="list-style-type: none"> a) <i>Further clarification of the distinctions of accountability and responsibility on guidance</i> b) <i>Reviewed guidance regarding the identification of AE</i>
➤ Responsibilities versus accountabilities – the distinction is unclear and very often conflicting responsibilities can occur. Authority does not always come with the associated responsibility	More guidance on the differences between accountability and responsibility	Guidance material may be needed to clarify the distinctions	
Group 2			
➤ Commitment of snr mgmt	Benefits of SMS to be underlined, particularly better targeting of financial resources in tackling safety issues; protection of AOC etc.	Briefing for accountable execs, snr mgrs.	
Group 3			
➤ Lack of full time safety manager	Qualified and competent staff shall be appointed as a safety manager	Comprehensive SMM manual for guidance to States/Service providers including best practices and examples	
➤ Lack of job description for safety manager	Develop specific job description for safety manager	do	
➤ Lack of communication of safety accountabilities between safety manager and front line employee/workers	Safety accountabilities and responsibilities shall be communicated throughout the organization		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 4			
➤ Large companies; too many people with safety authorities - - uncertainty regarding who is responsible for what	<ul style="list-style-type: none"> • Apply the ICAO guidance • ICAO to review guidance regarding the identification of AE 		
➤ Similar to 1.1			
Component: 1. Safety policy and objectives – Element: 1.3 – Appointment of key safety personnel			
Group 1			<ol style="list-style-type: none"> 1. Lack of qualified and competent staff to be appointed as a safety manager 2. Lack of full time safety manager 3. Lack of job description for the post requires to be define 4. Finding suitably qualified key personnel <p><i>ICAO to provide:</i></p> <ol style="list-style-type: none"> a) Guidance on SMM related qualifications on key safety positions
➤ No specific obstacles			
Group 2			
➤ Finding suitably qualified key personnel	Need for training, particularly in such areas as hazard and risk.	Guidance material, workshops on specific issues e.g. hazard identification, risk assessment. COSCAPs to help.	
Group 3			
➤ Lack of qualified and trained personnel	Approved Training Programme on SMS for all levels – make it mandatory requirements of the organization	ICAO approved training programme for certification of aviation safety personnel	
➤ Lack of delegation of authority and recognition for his/her contributions	Safety accountabilities, responsibilities of key safety personnel and delegation of authority shall be documented and communicated throughout the organization	Comprehensive SMM manual for guidance to States/Service providers including best practices and examples	
➤ Lack of appropriate job description	Incorporate safety performance indicators as part of the corporate key performance indicators	do	



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 4			
➤ Shortage of qualified personnel			
Component: 1. Safety policy and objectives – Element: 1.4 – Coordination of emergency response planning			
Group 1			
➤ Has generally been very accident-oriented. There are other occasions where emergency planning needed. Eg situations which cause disruptions (IT, for example) ie, there is no specific guidance on what constitutes an “emergency”	Guidance could be provided on the extent of “emergencies” that are covered		<ol style="list-style-type: none"> 1. <i>Interfacing is often a practical problem in complex situations</i> 2. <i>Assess the relevance to AMOs and small MROs in relation to the ERP</i> 3. <i>Lack of familiarization with emergency plan of other organizations interacting during emergency situations– role of each agency involved</i> 4. <i>Establish a sound coordination of ERP among different organizations</i> 5. <i>Uncertainty regarding the relevance of a MRO on the ERP</i> <p>ICAO to provide:</p> <ol style="list-style-type: none"> b) <i>Guidance on SMM related qualifications on key safety positions</i> c) <i>Guidance in the new SMM related to the coordination among different organization of the ERPs</i>
➤ Interfacing is often a practical problem in complex situations	Guidance could be provided?		
➤ Policy needs to be established before producing the emergency response plan?	Amendment to the element?		
Group 2			
➤ Relevance to AMOs and small MROs	Specific guidance needed	ICAO briefing material	
Group 3			
➤ Lack of familiarization with emergency plan – role of each agency involved	Conduct periodic exercise involving all agencies involved	-	
➤ Lack of clear understanding of subject matters to be included under this topic		Comprehensive SMM manual for guidance to States/Service providers including best practices and examples	



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 4			
➤ Coordination of ERP among different organizations	Promotion, education, CAA-facilitated exchange sessions, CAA oversight of certificate holder		
➤ Foreign Operator ERP	CAA coordination with State of Operator		
➤ Uncertainty regarding ERP for a MRO	Improve guidance regarding the content of the ERP for other than air operator ERP		
Component: 1. Safety policy and objectives – Element: 1.5 –SMS Documentation			
Group 1			<ol style="list-style-type: none"> 1. <i>Lack of understanding of particular requirements in SMS manual related to hazard identification</i> 2. <i>Problems producing SMS manual appropriate to operation using current guidance material from ICAO and CAA</i> 3. <i>Lack of guidance for SMS manual development for Aerodrome operators and ATS service providers in case of single organization and in case of separate organizations.</i>
➤ Samples needed to provide a basis for service providers and states to follow	Sample documents could be available to all states		
Group 2			
➤ 1. Problems producing SMS manual appropriate to operation using current guidance material from ICAO and CAA	Guidance/training	Courses/workshops, perhaps best through COSCAPs	
➤ 2. Lack of understanding of particular requirements in SMS manual e.g. hazard identification, on the part of both operators and inspectors. They don't understand how they should carry out the function, or where to seek advice.	Need for more training	Courses/workshops specifically targeted at problem areas	



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 3			<p>4. <i>Lack of reporting systems in SMS documentation.</i></p> <p><i>ICAO to provide:</i></p> <p><i>Update guidance in ICAO SMM for service providers to elaborate their SMSM</i></p>
➤ Lack of qualified and trained personnel	Develop training programme	Comprehensive SMM manual for guidance to States/Service providers including best practices and examples	
➤ Lack of guidance for SMS manual development for Aerodrome operators and ATS service providers in case of single organization and in case of separate organizations		ICAO guidance on this issue.	
➤ Lack of standardized format for recording/storing data		do	
Group 4			
➤ Lack of understanding ➤ Lack of expertise ➤ Lack of time: to identify applicable hazards	<ul style="list-style-type: none"> • Increase the sharing of hazard information • Improved guidance from ICAO for developing hazard identification • Practice 		
➤ Lack of reporting	➤ Accessible reporting systems ➤ Promotion ➤ Education ➤ Feedback		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
<ul style="list-style-type: none">➤ Restricted distribution of accident and incident investigation information	<ul style="list-style-type: none">➤ Increase sharing of safety information➤ Report on accident and incident investigations➤ Integration of investigation report (rearward-looking) and hazard identification (forward-looking). Explicit question at the end of an accident investigation Are there any factors here that would merit a Risk Assessment?		
<ul style="list-style-type: none">➤ Failure to respect non-punitive policy	<ul style="list-style-type: none">➤ Education of senior management➤ Respect policy➤ Institute confidential reporting➤ Promote and reward behaviours that are consistent with a positive safety culture➤ Clear delineation between error and violation		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Component: 2. Safety risk management – Element: 2.1 – Hazard identification			
Group 1			
➤ Possible difficulties with freely reporting hazards (willingness to report)	Assistance with reporting system examples? Educational issue/ assistance with education		<ol style="list-style-type: none"> 1. <i>Limited acquisition of data because lack of willingness to report</i> 2. <i>Lack of knowledge of hazards and what kind of hazards should be reported</i> 3. <i>Encourage potential sources of information;</i> 4. <i>Promote confidential reporting systems</i> 5. <i>Develop means to protect sources of information</i> 6. <i>Promote trust between management and operative levels and also to regulators.</i> 7. <i>Encourage behaviours in support of a positive reporting culture</i> 8. <i>Need a clear delineation between error and violation</i> 9. <i>Failure to respect non-punitive policy</i>
➤ Lack of practical guidance for Hazard Reporting forms?	Sample formats could be provided		
➤ Formal response to authorities is sometimes slow...(within compulsory reporting systems)	Guidance/training on mandatory reporting		
Group 2			
➤ 1. Acquisition of data	Encourage potential sources of information; Share information Protect sources e.g. whistleblowers Promote trust between management and operatives; providers and regulators.	Promote confidential reporting Encourage use of ECCAIRS and similar Encourage protection of sources Seminars/workshops/ legal advice	



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 3			
➤ Safety manager is not properly trained and experienced	Appropriate training programme covering all aspects SMS	Comprehensive SMM manual for guidance to States/Service providers including best practices and examples	<i>ICAO to provide:</i> a) <i>Encourage use of ECCAIRS and similar to acquire safety-related information</i> b) <i>Promote confidential reporting systems</i> c) <i>Supplementary material on Safety assessment case studies to be provided to States</i>
➤ Lack of non-punitive and confidential reporting system	Develop non-punitive reporting policy and simple reporting forms		
➤ Lack of appropriate infrastructure facilities throughout the organization	Provide appropriate infrastructure facilities throughout the organization		
➤ Lack of knowledge of hazards and what kind of hazards should be reported	1. Training/awareness programme for all levels 2. Maintain hazard logs	1. Comprehensive list of hazards to be maintained 2. Supplementary material on Safety assessment case studies to be provided to States	
Group 4			
Failure to respect non-punitive policy	Education of senior management Respect policy Institute confidential reporting Promote and reward behaviours that are consistent with a positive safety culture Clear delineation between error and violation		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Component: 2. Safety risk management – Element: 2.2 – Risk assessment and mitigation			
Group 1			
➤ Risk assessment is not a simple activity. The concepts can be quite difficult to describe.	Concepts could be simplified		
➤ Each assessment is always in the context of the particular certificate and there are many techniques that can be applied and it is difficult to describe what is appropriate for each circumstance (eg when to use numerical assessment versus qualitative analysis)	Education and training is needed. Lots of examples where the techniques could be used would assist		
Group 2			
➤ 1. Lack of experience and knowledge of subject – how to begin?	Training/education	Workshops/training. Consider the Risk Management framework being developed through ISO as possible model.	
➤ 2. Use of and possible need for development of risk assessment matrix	Training in use of matrix. Expansion of matrix to encompass other variables.	Consider if any further development of matrix is necessary	

1. Risk assessment perceived not as simple activity. There is a need to assess every possible operational context to apply an effective risk assessment making difficult to describe what is appropriate in each situation
2. Examples and techniques in risk management to be assessed
3. Lack of experience and knowledge on subject
4. Use of and possible need for development of risk assessment matrix to encompass other variables
5. Insufficient resources to implement mitigation measures
6. Make senior management aware that they should give higher priority in implementation of mitigation measures
7. MRO self-limit to worker / workplace hazard analysis. Unable to project the risk to the greater aviation system. That is, risk assessment is too shallow



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 3			<p><i>ICAO to provide:</i></p> <ul style="list-style-type: none"> a) <i>Within the SMM supplementary material on more precise method of risk assessment</i> b) <i>ICAO guidance on developing simple and effective method of safety data analysis</i>
<ul style="list-style-type: none"> ➤ Lack of effective measures of risk assessment 	<ol style="list-style-type: none"> 1. Develop an effective measures of risk assessment 2. Study the risk assessment process of other specialist areas apart from Civil Aviation 	<ol style="list-style-type: none"> 3. Comprehensive SMM manual for guidance to States/Service providers including best practices and examples 4. Supplementary material on more precise method of risk assessment 	
<ul style="list-style-type: none"> ➤ Insufficient resources to implement mitigation measures 	<p>Make senior management aware that they should give higher priority in implementation of mitigation measures</p>		
<ul style="list-style-type: none"> ➤ Lack of standards for acceptable level of safety 	<p>SSP should provide standards for acceptable level of safety</p>	<p>ICAO safety standards for acceptable level of safety</p>	
Group 4			
<ul style="list-style-type: none"> ➤ uncertainty concerning acceptability of high consequence / low probability events 	<ul style="list-style-type: none"> ➤ Improved guidance material. (include financial, environmental risk, etc.) ➤ Caution against over-reliance on a simple, one-size-fits-all model ➤ Practice ➤ 		
<ul style="list-style-type: none"> ➤ MRO self-limit to worker / workplace hazard analysis. Unable to project the risk to the greater aviation system. That is, risk assessment is too shallow 	<ul style="list-style-type: none"> ➤ Education and improved standards and guidance. ➤ Ensure that terminology in use is defined and understood and meaningful for the organization. 		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Component: 3. Safety assurance – Element: 3.1 – Safety performance monitoring and measurement			
Group 1			<ol style="list-style-type: none"> 1. <i>Difficulty in identifying safety performance indicators and targets;</i> 2. <i>Industry cooperation, sharing of expertise based on best practices.</i> 3. <i>Collect and analyse safety data</i> 4. <i>Lack of effective measures for safety data analysis</i> 5. <i>Lack of understanding of concepts of safety performance measurement</i> 6. <i>Education, guidance material, practice need to be improved in the area of safety performance</i> 7. <i>Inability to identify leading indicators</i> 8. <i>Promote the identification and sharing of meaningful indicators</i> 9. <i>Lack of meaningful State-level leading indicators to elaborate performance indicators by service providers</i> 10. <i>States to develop meaningful leading indicators</i>
➤ Targets are difficult to establish and measure			
➤ What to measure is also difficult			
➤ Internal audit is not specifically mentioned as a process (only "safety audit")	Perhaps make this more explicit		
Group 2			
➤ 1. Difficulty in identifying safety performance indicators and targets; need for standardization	Industry cooperation, sharing of expertise	Training, development of standards.	
Group 3			
➤ Determination of appropriate numerical safety indicators and safety performance targets	Collect and analyse safety data	Comprehensive SMM for guidance to States/Service providers including best practices and examples	
➤ Lack of effective measures for safety data analysis	Develop simple and effective method of safety data analysis	ICAO guidance on developing simple and effective method of safety data analysis	
Group 4			
➤ Obtaining external information relevant to service provider	Education , promotion of the value of external information to the CAA / State (i.e., CAA / State to release information) Promotion of value of data sharing between service providers		
➤ Personnel to complete activities in small organization	Education, task definition, assignment of responsibility		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
➤ Lack of understanding of concepts	Education, guidance material, practice		ICAO to provide: a) <i>Training in the area of safety performance monitoring and measurement</i>
➤ Inability to identify leading indicators	➤ Improved education and guidance ➤ Promote the national and international identification and sharing of meaningful indicators		
➤ Insufficient data	Promote the national and international identification and sharing of data		
➤ Lack of meaningful State-level leading indicators	➤ States to develop meaningful leading indicators ➤ Guidance material		
➤ Incomplete reporting of occurrences and safety concerns (i.e., failure to respect reporting system requirements)	Promotion by AE of importance of reporting, follow-up to reporters, sharing of results (i.e., demonstrating the value of the raw reports)		
Component: 3. Safety assurance – Element: 3.2 – The management of change			
Group 1			1. <i>Identification of 'significant change'; lack of guidance in identification of, and managing significant change.</i> 2. <i>Lack of information and assessment of operational changes</i> 3. <i>Understanding that management of change is dynamic. Risk management must be revised if circumstances change.</i> 4. <i>Resistance to address operational changes</i> 5. <i>Defining, identifying and</i>
➤ There are some circumstances where responsibilities for managing the change process is not clear (eg airside operators versus ATC provider in aerodrome changes)	It should be clear whose responsibility it is to manage the change process in these situations; Guidance may be needed (see slide 55)		
Group 2			
1. Identification of 'significant change'; lack of guidance in identification of, and managing significant change.	Documentation, education, templates, checklists.	Facilitate process through workshops etc.	
Group 3			
➤ Lack of information of changes	1. Keep safety policy intact 2. Establish a method of effective communication		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 4			<i>monitoring areas / activities subject to change</i> 6. <i>Availability of tools to assist assess and manage change</i> ICAO to provide: a) <i>Training in the area of management of change</i>
➤ Understanding that management of change is dynamic. Risk management must be revised if circumstances change.	Guidance material, education, oversight by the CAA		
➤ Resistance to change	Education		
➤ Defining, identifying and monitoring areas / activities subject to change	Availability of tools to assist assess and manage change Education		
Component: 3. Safety assurance – Element: 3.3 – Continuous improvement of the SMS			
Group 1			1. <i>Promotion of value of data sharing between service providers</i> 2. <i>Share industry best practices; training courses.</i> 3. <i>Lack of gathering information of sub-standards performance of the unit or organization</i>
➤ The wording may be difficult to interpret, ➤ Eg “sub-standard performance of the SMS”	More clarity on what is required would be of assistance		
➤ A link to the performance measurement element may also be needed			



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 2			<i>ICAO to provide: Training in continuous improvement of SMS processes</i>
➤ 1. Lack of experience in operation of SMS	Share industry best practices; training courses	Facilitate training etc.	
Group 3			
➤ Lack of gathering information of sub-standards performance of the unit or organization	Establish safety culture throughout the organization	Comprehensive SMM manual for guidance to States/Service providers including best practices and examples	
Component: 4. Safety promotion – Element: 4.1 – Training and education			
Group 1			<ol style="list-style-type: none"> 1. <i>Lack of tools to assist with training across organization</i> 2. <i>Need for standardized training packages</i> 3. <i>Need for training for key safety personnel, particularly the areas of hazard identification and risk management</i> 4. <i>Lack of financial resources for safety training</i> 5. <i>Integration of SMS-related training into established training programme</i> 6. <i>Lack of support material for the use of safety managers related to safety training</i>
➤ Appropriate training for different levels in the organisation is needed.	Many example templates could be provided to cover different situations.		
➤ Framework is appropriate, but providing the training is difficult	Sharing across states would be appropriate.		
Group 2			
➤ 1. Resource limited			
➤ 2. Lack of tools to assist with training across organization	Standardized training packages	Develop STPs; web based/ CDROM?	
Group 3			
➤ Resources	Management commitment through safety policy		
➤ Appropriate training programme	Develop training programme	Comprehensive SMM manual for guidance to States/Service providers including best practices and examples	



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 4			
➤ Lack of support material for the use of safety managers	Central development of support material Identification of sources of support material (e.g., ICAO, FSF, IATA, IALPA, etc)		7. <i>Identification of sources of support material (e.g., ICAO, FSF, IATA, IALPA, etc)</i>
➤ Lack of time / Lack of funding	<ul style="list-style-type: none"> ➤ Focus training on responsibility of position ➤ Integration of SMS-related responsibility training into established training programme 		8. <i>Service provider to ensure that all employees are trained in safety management principles and specific SMS responsibilities for their job</i>
➤ Resistance to participate in training (lack of appreciation of need for training)	<ul style="list-style-type: none"> ➤ Service provider to make mandatory ➤ Service provider to ensure that all employees are trained in foundation concepts and specific SMS responsibilities for their job ➤ State CAA to ensure that required training is completed ➤ Promotion that training is necessary 		9. <i>State CAA to ensure that required training is completed</i>
➤ Lack of understanding on the part of contractors	Service provider to ensure that contractors and sub-contractors are trained as necessary (should be related to hazard analysis completed by service provider)		10. <i>Service provider to ensure that contractors and sub-contractors are trained as necessary (should be related to hazard analysis completed by service provider)</i>
			<i>ICAO to provide:</i> <ul style="list-style-type: none"> a) <i>ICAO's approved training programme for certification of aviation safety personnel</i> b) <i>Guidance material and workshops on hazard identification, risk management and safety assurance</i> c) <i>.COSCAPs to support in the training process</i> d) <i>Develop STPs; with different tools such as web based/etc., CD Rom etc.</i>



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Component: 4. Safety promotion – Element: 4.2 – Safety communication			
Group 1			<ol style="list-style-type: none"> 1. <i>Passing on of urgent safety information/bulletins</i> 2. <i>Urgent safety information from manufacturers/ regulators etc. to be promulgated within specified time</i> 3. <i>Lack of channel and means for communication from top to bottom</i> 4. <i>Establish appropriate system to disseminate the information to all areas</i> 5. <i>Resistance to share safety data, safety information, lessons-learned at the level of the State</i> 6. <i>State to take steps to aggregate and distribute safety-related information</i> 7. <i>Lack of support for safety managers in developing communications</i>
➤ No specific obstacles			
Group 2			
➤ 1. Need for timely feedback to providers of safety data	Set time limits on provision of responses	Review for possible SARPs	
➤ 2. Passing on of urgent safety information/bulletins	Urgent safety information from manufacturers/ regulators etc. to be promulgated within specified time	Review for possible SARPs	
Group 3			
➤ Lack of channel and means for communication from top to bottom	Establish appropriate system to disseminate the information to all areas		
Group 4			
➤ Resistance to share safety data, safety information, lessons-learned at the level of the State	State to take steps to aggregate and distribute safety-related information		
➤ Lack of Safety Culture	State and Service provider to promote and support behaviours that are consistent with a strong safety culture.		
➤ Lack of support for safety managers in developing communications	Identification of resources, tools to support safety managers		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
General Obstacles to the Implementation of SMS			
Group 1			<ol style="list-style-type: none"> 1. <i>Smaller companies have more difficulty in understanding and implementing SMS. Larger companies have the resources to implement the SMS.</i> 2. <i>More and better education is needed. Expertise is needed to identify gaps.</i> 3. <i>How do we accept a particular service provider's SMS? Eg formal issue of a letter once assessment of the SMS is accepted</i> 4. <i>Guidance from ICAO needed on what means are available to accept the SMS.</i> 5. <i>Skills/expertise in assessing SMS are difficult to find</i> 6. <i>Difficulty in keeping the assessors "aligned"</i> 7. <i>Safety/cost balance is difficult to maintain. It is important to regulate only what is practical to achieve</i> 8. <i>Difficulty in defining what is meant by "adequate numbers of trained staff", for example</i> 9. <i>Perception that SMS is "self-regulation"</i>
➤ Smaller companies have more difficulty in understanding and implementing SMS. Larger companies have the resources to implement the SMS.	More and better education is needed. Expertise is needed to identify gaps.		
➤ How do we accept a particular service provider's SMS? Eg formal issue of a letter once assessment of the SMS is accepted	Guidance from ICAO needed on what means are available to accept the SMS.		
➤ Skills/expertise in assessing SMS are difficult to find	Syllabus to be developed to meet the requirements Guidance for the type of person that is needed		
➤ Difficulty in keeping the assessors "aligned"	More guidance?		
➤ Safety/cost balance is difficult to maintain. It is important to regulate only what is practical to achieve			
➤ Difficulty in defining what is meant by "adequate numbers of trained staff", for example			
➤ Perception that SMS is "self-regulation"	More involvement from ICAO in "educating" international communities on what SMS achieves		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
<p>➤ Slide 21: commensurate with "...availability of resources". Is this contradictory or compromising too much?</p> <p>The requirement for each certificate holder to agree measures with the regulator also assumes a level of industry sophistication that will not be present for a very long time.</p> <p>Can assessment processes be outsourced?</p> <p>SMS do need to be commensurate with the size/complexity of the operation</p> <p>Cost to small operations is a difficulty (may be short term)</p>	<p>Training aimed at small organisations to develop SMS that are appropriate to their organisations</p> <p>Education is needed to get organisations through that initial cost issue</p> <p>Example SMS documentation for small organisations?</p>		<p>10. Difficulty in defining what is meant by "adequate numbers of trained staff", for example</p> <p>11. Perception that SMS is "self-regulation"</p> <p>12. More involvement from ICAO in "educating" international communities on what SMS achieves</p> <p>13. Slide 21: commensurate with "...availability of resources". Is this contradictory or compromising too much?</p> <p>14. The requirement for each certificate holder to agree measures with the regulator also assumes a level of industry sophistication that will not be present for a very long time.</p> <p>15. Can assessment processes be outsourced?</p> <p>16. SMS do need to be commensurate with the size/complexity of the operation</p> <p>17. Cost to small operations is a difficulty (may be short term)</p>
<p>➤ Slide 37 example of safety responsibilities– what is the bare minimum that is expected? Especially for small organisations.</p>	<p>More guidance needed? Training course?</p>		
<p>➤ Mandate date for operators' SMS – 1 January 2009. What is the minimum requirement for the SMS at this date – ie what is an acceptable level of implementation?</p>			
<p>➤ Maintenance organisations – some difficulties in applying some SMS elements? Is a robust QMS with HF requirements added preferable?</p>			



Obstacles	Proposed solutions	ICAO contribution	Agreed results
<p>➤ The SMM next update is due for release next month. There will be many changed requirements in the new document. How does this affect the mandate date of 1 January 2009?</p>			<p>18. <i>Training aimed at small organisations to develop SMS that are appropriate to their organisations</i></p>
<p>➤ Phased SMS implementation process for operators</p>	<p>Is there a simple description of the phases that would be acceptable to ICAO (particularly what is acceptable in an implementation plan)?</p>		<p>19. <i>Mandate date for operators' SMS – 1 January 2009. What is the minimum requirement for the SMS at this date – ie what is an acceptable level of implementation?</i></p>
			<p>20. <i>Maintenance organisations – some difficulties in applying some SMS elements? Is a robust QMS with HF requirements added preferable?</i></p> <p>21. <i>The SMM next update is due for release next month. There will be many changed requirements in the new document. How does this affect the mandate date of 1 January 2009?</i></p> <p>22. <i>Phased SMS implementation process for operators</i></p> <p>23. <i>Is there a simple description of the phases that would be acceptable to ICAO (particularly what is acceptable in an implementation plan)?</i></p>



Obstacles	Proposed solutions	ICAO contribution	Agreed results
<p>State Safety Programme (SSP)</p> <p>Objectives:</p> <ol style="list-style-type: none"> 1. To identify potential obstacles on the implementation of State Safety Programme (SSP). 2. To discuss possible alternatives to overcome these obstacles. 3. To propose courses of action to ICAO. 4. Any other relevant aspects 			
<p>Component: 1. State safety policy and objectives – Element: 1.1 – State safety legislative framework</p>			
<p>Group 1</p>			
<ul style="list-style-type: none"> ➤ CLARIFY THE DEFINITION OF STATE SAFETY POLICY. ➤ CURRENT STATEMENTS SUFFICIENTS? 		<p>SAMPLES OF SAFETY POLICY. STANDARD FORMAT? ICAO PERSUASION AT GOVERNMENT LEVEL</p>	
<ul style="list-style-type: none"> ➤ HOW TO DETERMINE AN ACCEPTABLE LEVEL OF SAFETY 	<p>GUIDANCE</p>		
<ul style="list-style-type: none"> ➤ DIFFICULTY IN UNDERSTANDING SAFETY INDICATORS FOR CAA 	<p>CLARIFY THE NOTION OF SAFETY INDICATOR FOR CAA</p>		
<p>Group 2</p>			
<ul style="list-style-type: none"> ➤ Introduction of primary legislation not complete in most countries. Parliamentary approval. 			<ol style="list-style-type: none"> 1. <i>Unclear definition of State safety policy requires clarification</i> 2. <i>Need to determine how State develops its acceptable level of Safety</i> 3. <i>Difficulties in understanding safety indicators for the State</i> 4. <i>Introduction of primary legislation not complete in most countries. Parliamentary approval.</i>



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 3			
➤ Lack of provision in the existing legislation	Proposal for amendment of legislation to incorporate the provision of SSP	Comprehensive guidance to States including best practices and examples for the development of SSP	5. <i>Lack of provision in the existing legislation.</i>
➤ No specific regulation to address SSP	Amend the Civil Aviation Regulations to incorporate all requirements of SSP	do	6. <i>Comprehensive guidance to States including best practices and examples for the development of SSP</i>
➤ Lack of guidance to develop SSP	Search information of development of SSP	do	7. <i>No specific regulation to address SSP</i>
Group 4			8. <i>Comprehensive guidance to States including best practices and examples for the development of SSP</i>
➤ Uncertainty whether or not SMS must be referred to explicitly in the primary aviation legislation	States to determine whether or not explicit reference is required and amend as necessary		9. <i>Lack of guidance to develop SSP</i>
			10. <i>Comprehensive guidance to States including best practices and examples for the development of SSP</i> ICAO to provide: a) <i>Samples of State Safety Policy</i> b) <i>Comprehensive guidance to States including best practices and examples for the development of SSP</i>



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Component: 1. State safety policy and objectives – Element: 1.2 – Safety responsibilities and accountabilities			
Group 1			
➤ HOW TO MAKE GOVERNMENT ACCOUNTABLE?		GUIDANCE	<ol style="list-style-type: none"> 1. <i>Determine government accountabilities in relation to the SSP</i> 2. <i>LACK OF COMMITMENT, RESSOURCES FROM CAA TO ENSURE PROPER QUALIFICATION OF PERSONNEL ON SMS ISSUES</i> 3. <i>STRUCTURED TRAINING PROGRAMME</i> 4. <i>ACTION TOWARDS CAA TO IDENTIFY CORE GROUP OF EXPERTS IN EACH CAA TO BE TRAINED ON SMS</i>
➤ LACK OF COMMITMENT, RESSOURCES FROM CAA TO ENSURE PROPER QUALIFICATION OF PERSONNEL ON SMS THROUGH THE MEANS OF SUSTAINED TRAINING		<ul style="list-style-type: none"> ○ STRUCTURED TRAINING PROGRAMME ○ ACTION TOWARDS CAA TO IDENTIFY CORE GROUP OF EXPERTS IN EACH CAA TO BE TRAINED ON SMS 	



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 2			5. Senior management commitment to implementing system improvements (eg. SSP) 6. Skill of inspectorate staff in the system 7. Lack of knowledge and importance of SSP within Concerned Authority, CAA and other aviation agencies and industries 8. Uncertainly concerning appropriate person as AE for SSP in situations where there is a clear separation between financial and functional authority <i>ICAO to provide:</i> a) ICAO symposium on GASP/GARM/SSP for DGCA b) Establish international/Regional forum for SSP.
➤ Senior management commitment to implementing system improvements (eg. SSP)			
➤ Constant change of senior management – lack of continuity of policy			
➤ Skill of inspectorate staff in the system			
Group 3			
➤ Lack of knowledge and importance of SSP within Concerned Authority, CAA and other aviation agencies and industries	i) Make distinct responsibility and accountability for regulatory and service provider’s functions in CAA; ii) Review existing org. structure and establish separate unit for safety oversight functions	i. ICAO symposium on GASP/GARM/SSP for DGCA. ii. Establish international/Regional forum for SSP.	
Group 4			
➤ Uncertainly concerning appropriate person as AE for SSP in situations where there is a clear separation between financial and functional authority	States to review guidance material TO be addressed at State level		
Component: 1. State safety policy and objectives – Element: 1.3 – Accident and incident investigation			
Group 2			1. Communication between the Regulator and Accident Investigation agency. Barrier to improving the aviation safety system 2. Improve data sharing
➤ Communication between the Regulator and Accident Investigation agency. Barrier to improving the aviation safety system.	Data sharing		
Group 3			



Obstacles	Proposed solutions	ICAO contribution	Agreed results	
➤ Lack of independent accident and investigation agency	<ol style="list-style-type: none"> 1. State to encourage to establish independent organization 2. Take assistance from CAA, industries and operators as required 		<ol style="list-style-type: none"> 3. <i>Lack of independent accident and investigation agency</i> 4. <i>Should be lack of independence in investigation</i> 	
Component: 1. State safety policy and objectives – Element: 1.4 – Enforcement policy				
Group 3				
➤ Lack of clear provisions in the regulation for CAA enforcement	State to establish enforcement policy which provides service providers to deal with events of safety deviations/violations	Guidance on enforcement policy	<ol style="list-style-type: none"> 1. <i>Lack of clear provisions in the regulation for CAA enforcement</i> 2. <i>COSCAPs have developed a Generic Enforcement Manual</i> 3. <i>Lack of non-punitive reporting policy of CAA</i> 4. <i>Uncertainty whether or not changes at State legislation needed to enable CAA discretion to permit Service provider to undertake corrective action for unintentional violations (i.e., the discretion not impose punishment for each violation)</i> 5. <i>Uncertainty concerning the meaning of "safety data". Which information or which type of data should be included or excluded</i> 	
➤ Lack of non-punitive reporting policy of CAA				
Group 4				
➤ Uncertainty whether or not changes at State legislation needed to enable CAA discretion to permit Service provider to undertake corrective action for unintentional violations (i.e., the discretion not impose punishment for each violation)	Must be addressed at the State Level			
➤ Uncertainty concerning the meaning of "safety data". Which information or which type of data should be included or excluded	Clarification or elaboration of guidance material required.			



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Component: 2 State safety risk management – Element: 2.1 – Safety requirements for service providers SMS			
Group 1			<p>6. LACK OF EXPERTISE ON HIRA</p> <p>7. LACK OF CRITERIA TO MEASURE SAFETY PERFORMANCE (FOR BIG AND SMALL ORGANISATION)</p> <p>8. Lack of clear provisions in the regulations for safety requirements for service providers SMS</p> <p>9. Lack of expertise in CAA to develop the regulations and standards</p> <p>10. Uncertainty whether or not line maintenance activities should be subject to SMS requirements</p> <p>ICAO to provide:</p> <p>a) ICAO Model regulations on SMS and safety management standards</p> <p>b) Guidance on enforcement policy</p>
➤ LACK OF EXPERTISE ON HIRA	MORE TRAINING FOR CAA		
➤ LACK OF CRITERIA TO MEASURE SAFETY PERFORMANCE (FOR BIG AND SMALL ORGANISATION)	POLICY AND GUIDANCE		
Group 3			
➤ Lack of clear provisions in the regulations for <i>safety requirements for service providers SMS</i>	Cooperative approach (CAA, industries and service providers) for the amendment/development of regulations and safety standards	Model regulations and safety standards	
➤ Lack of expertise in CAA to develop the regulations and standards			
Group 4			
➤ Uncertainty whether or not line maintenance activities should be subject to SMS requirements	ICAO to clarify guidance		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Component: 2 State safety risk management – Element: 2.2 – Agreement on service providers’ safety performance			
Group 2			<ol style="list-style-type: none"> 1. <i>Inadequate Regulator resources for working with operators on safety performance indicators and targets</i> 2. <i>Lack of clear provisions in the regulations for the acceptance of the service provider’s acceptable level of safety</i> 3. <i>Harmonized approach for acceptable level of safety globally, no clear guidance in this regards</i> <p><i>ICAO to provide:</i></p> <ol style="list-style-type: none"> a) <i>clear guidance in harmonized approach for acceptable level of safety globally,</i>
➤ Inadequate Regulator resources for working with operators on safety performance indicators and targets			
➤ Quality of historic data to use as the basis of setting safety performance targets.			
Group 3			
➤ Lack of clear provisions in the regulations for the acceptance of the service provider’s acceptable level of safety	<ol style="list-style-type: none"> 1. State to establish the provisions in the regulations and safety standards the acceptable level of safety 2. Develop the guidance on acceptable level of safety based on ICAO guidance 	Harmonized approach for acceptable level of safety globally, no clear guidance in this regards	
Component: 3. State safety assurance – Element: 3.1 – Safety oversight			
Group 1			<ol style="list-style-type: none"> 1. <i>DIFFICULT TO COMPLY WITH FOR SMALL CAA</i> 2. <i>Lack of distinction between regulatory and service provider’s functions in CAA</i> 3. <i>Difficulty in retaining trained and qualified inspectorate staff in CAA</i>
➤ DIFFICULT TO COMPLY WITH FOR SMALL CAA			
Group 3			
➤ Lack of distinction between regulatory and service provider’s functions in CAA	Establishment of full time unit for safety oversight of service providers (specially for aerodrome operators and ATS service providers)		
➤ Difficulty in retaining trained and qualified inspectorate staff in CAA			



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Component: 3. State safety assurance – Element: 3.2 – Safety data collection, analysis and exchange			
Group 1			<i>1. Assessment of the cost and impact of data collection systems</i>
➤ COST IMPACT	CAN ICAO ASSIST IN DEVELOPING A DATA COLLECTION SYSTEM? PROVIDE EXAMPLES?		
➤ LIMITED RESSOURCES	TRAINING		



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 2			2. <i>Lack of clear concept of safety data and what to analyse for what purpose</i> 3. <i>Lack of appropriate software for analysing safety data and exchange of safety information</i> 4. <i>Uncertainty whether or not protection against release to the public is needed for service provider's safety data held by the service provider 's the CAA (e.g., protection against release under State Access to Information legislation)</i> <i>ICAO to provide:</i> a) <i>ASSISTANCE IN DEVELOPING A DATA COLLECTION SYSTEMS AND PROVIDE EXAMPLES</i>
➤ Information technology systems to centralise and analyse data.			
➤ No confidential reporting system in place			
Group 3			
➤ Definition of Safety data and safety information (specially in ATS and aerodrome operations)	1. Standardize the definitions 2. Storage of safety data base	Definitions of safety data and safety information for sharing	
➤ Lack of clear concept of safety data and what to analyse for what purpose			
➤ Lack of appropriate software for analysing safety data and exchange of safety information	1. Simple formats for reporting hazards and safety events occurring 2. State to develop the software and provide necessary training		
Group 4			
➤ Uncertainty whether or not protection against release to the public is needed for service provider's safety data held by the service provider 's the CAA (e.g., protection against release under State Access to Information legislation)	To be reviewed at the State level (reference SMM 15.10.16)		
Component: 3. State safety assurance – Element: 3.3 – Safety data driven targeting of oversight on areas of greater concern or need			
Group 2			1. <i>Inspectorate staff resourcing</i>
➤ Inspectorate staff resourcing			
➤ Lack of prioritisation of data from service providers.			



Obstacles	Proposed solutions	ICAO contribution	Agreed results
Group 3			
➤ Obstacles are 3.1 and 3.2			
Group 4			
➤ State CAA may require major changes to traditional oversight programmes to accommodate the shift to risk-based oversight.	States to review available guidance and seek information from other States States to share best practices in the establishment of RBOP		
Component: 4. State safety promotion – Element: 4.1 – Internal training, communication and dissemination of safety information			
Group 1			<ol style="list-style-type: none"> 1. No training in place for SSP. 2. Outsourcing experts from other organizations and other countries 3. ICAO elaboration on two way communication of safety relevant information
➤ DEVELOPMENT OF A COMMUNICATION AND DISSEMINATION OF SAFETY INFORMATION SYSTEM MAY BE A LONG PROCESS	<i>REMARK ONLY.(no action required from icao)</i>		
Group 2			
➤ No training in place for SSP. Relies on the SSP being in place first.			
Group 3			
➤ Lack of expertise in CAA	Outsourcing experts from other organizations and other countries	ICAO elaboration on two way communication of safety relevant information	
Component: 4. State safety promotion – Element: 4.1 – External training, communication and dissemination of safety information			
Group 3			<ol style="list-style-type: none"> 1. States should nominate a National Coordinator for SMS and SSP and advice ICAO HQ and ROs
➤ Same as 4.1	States should nominate a National Coordinator for SMS and SSP and advice ICAO HQ and ROs		

