

SSP Implementation Process CANADA



ICAO NAM/CAR Regional SSP Workshop
Mexico City
November 20 – 22, 2018

SSP Implementation Workshop

NAM/CAR Regions – Mexico City
November 20-22, 2018

Canada's SSP Implementation Strategy

Lessons Learned

Challenges

Strengths





Head of State

**Monarch
(Governor
General)**

Executive/Legislative

Head of Government
(elected official)

**Prime
Minister**

Head of Department
(elected official)

**Transport
Minister**

Head of Transport Canada
(head civil servant - appointed)

**Deputy
Minister**

**Associate
Deputy
Minister**

Heads of
Business
Lines

**ADM
Policy**

**ADM
Programs**

**ADM
Corporate
Services**

**ADM
Safety and
Security**

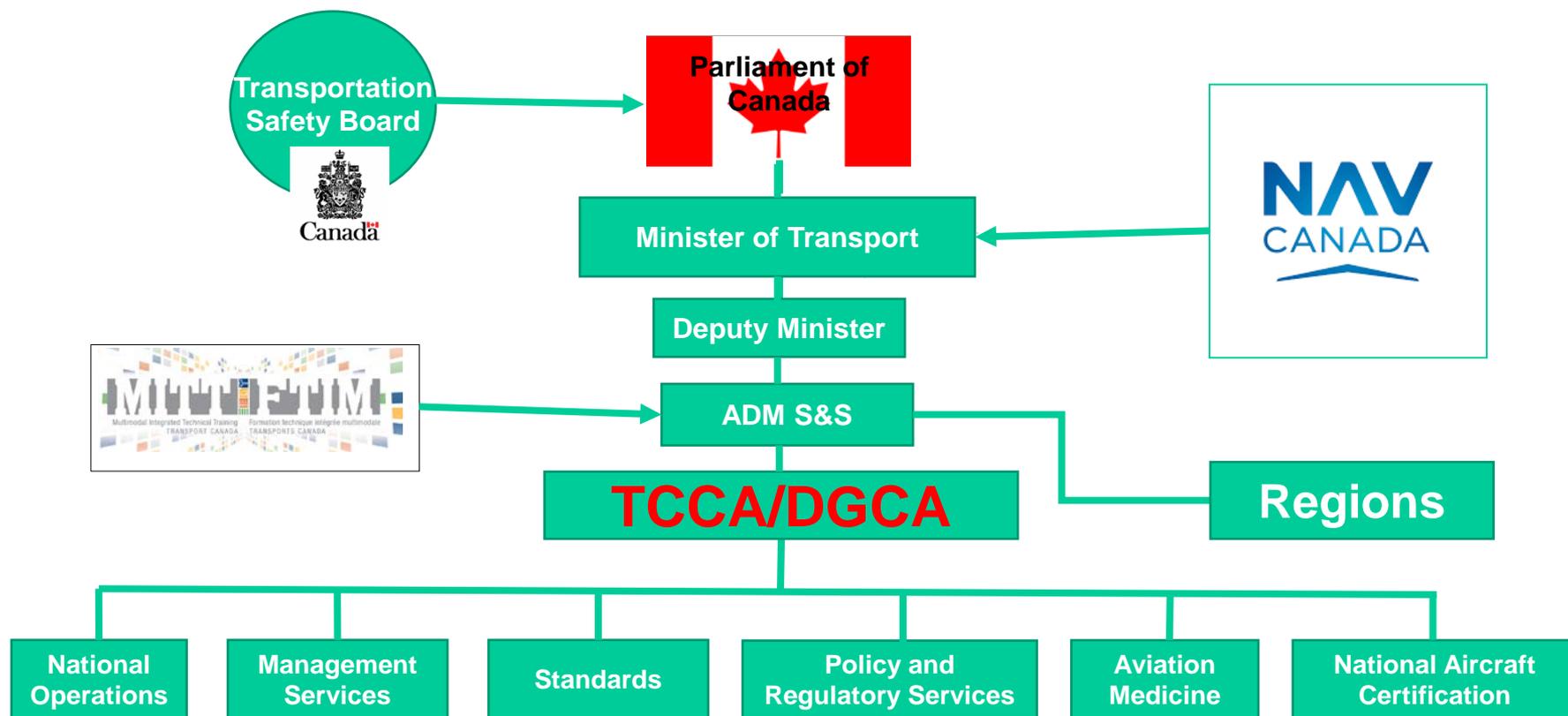
**DG
Communications**

**Chief
Audit,
Evaluation
and Advisory
Services**

**DG
Corporate
Secretariat**

**RDGs
(5)**

Canadian Civil Aviation (SSP) Governance Structure



TCCA Statistics

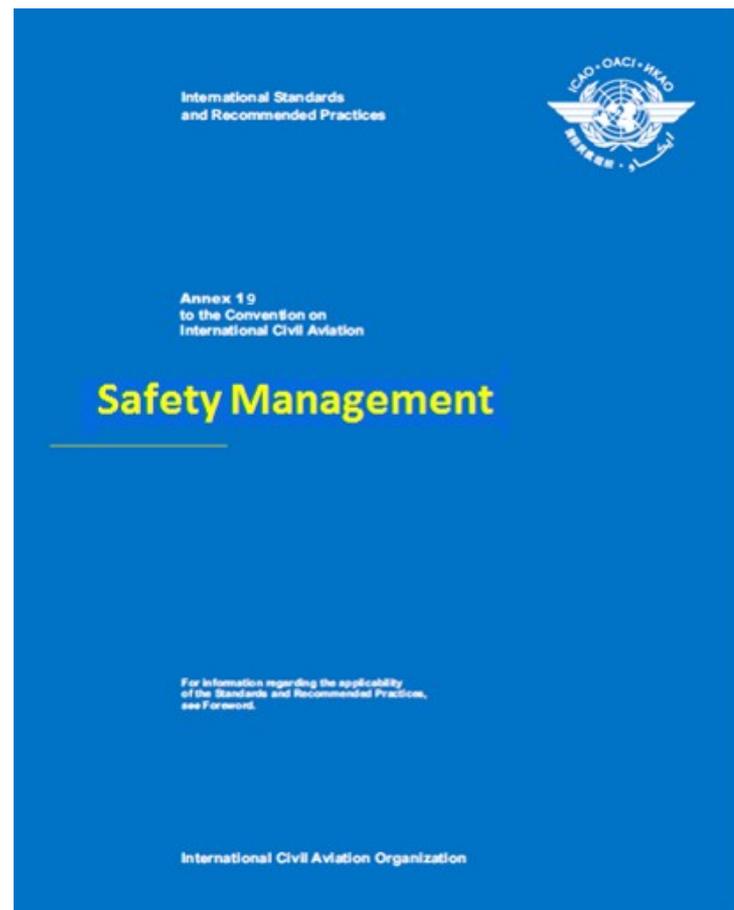
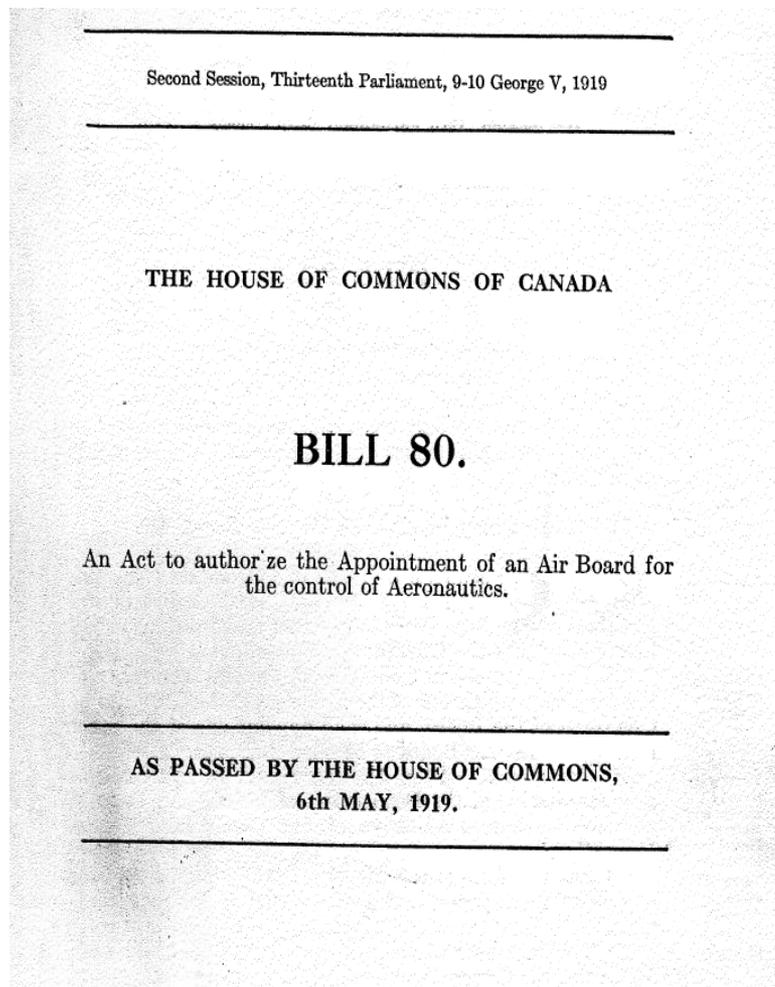
- Approximately 1,350 employees
- Over 1,100 employees responsible for oversight
- 36,376 Canadian registered aircraft
- 65,257 licensed Pilots
- 18,155 licenced Aircraft Maintenance Engineers (AME)
- 2361 air carriers (31% Canadian; 69% Foreign)
- 866 Approved Maintenance Organizations (AMO)
- 170 Flight Training Units
- 74 Design Approval Representatives
- 559 certified aerodromes and 1,642 non-certified aerodromes
- 15,000,000 km² of airspace managed by the largest single Air Navigation Service provider in the world (NAV CANADA)

Evolution of Safety Philosophy

1919



2019



Canada's Experience

Canada's Transition from prescriptive regulation/compliance, to a risk-managed performance-based aviation safety program.

1920 - 1970's - Prescriptive Reactive regulatory processes

1980's - Human Factors (HF)

1990's - Quality Management Systems (QMS)

1996 - Canadian Aviation Regulations (CARs) introduced.

- Introduction of Performance-based regulatory philosophy

2000's - Risk Management

2003-2010 - Safety Management transformation

- Safety Management Systems (SMS)
- Integrated Management Systems (IMS)
- Enterprise-based Organization Structure

2015 - Regulatory Review/Transformation

2016 - Annex 19 SSP Foundation

Canada's SSP Implementation Strategy

1. Legacy Regulatory Program
2. Program Foundation ICAO Audit EI
3. USOAP-CMA Self-Assessment
4. USOAP-CMA SSP PQs
5. iSTARS SSP Gap Analysis
6. Sub-Projects to address SSP Gaps
7. USOAP-CMA Self-Assessment
8. ICAO Maturity Assessment

SSP Implementation Team Established

- Standards (TPEC) identified as the OPI for Annex 19 Implementation
- 2016 – Evaluations team (TPEC) initiated USOAP-CMA Self-Assessment
- April 2017 - Dedicated Executive Advisor assigned to manage SSP implementation
- Implementation project plan and terms of reference established
- Project Management and tracking tools developed
- Documentation control established
- Resources assigned to conduct Annex 19 Gap Analysis

USOAP CMA Self – Assessment

The first significant step towards SSP implementation

- December 2015 – DGCA's commit to ICAO that Canada would complete the USOAP CMA Self Evaluation.
- **In July 2016, TPEC, in collaboration with OPIs, completes the response to the 1099 Protocol Questions.**

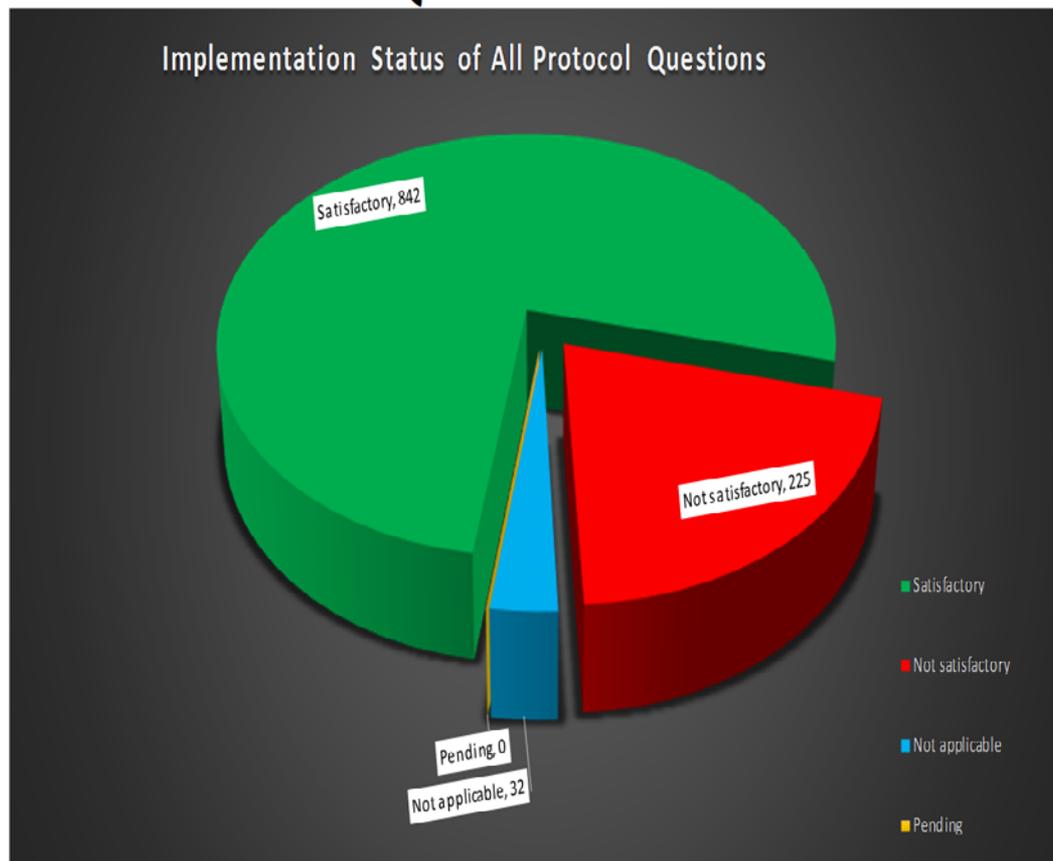
Status in July 2016 (Baseline Established)

Self - Assessment of ICAO CMA Protocol Questions Status 2016

<u>Overall Implementation</u>		<u>% total</u>
Satisfactory	842	76.6%
Not satisfactory	225	20.5%
Not applicable	32	2.9%
Pending	0	0.0%
Total	1099	

Total completed	1099	100.0%
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<u>Completed PQs</u>	<u>% of completed</u>
Satisfactory	76.6%
Not satisfactory	20.5%
Not applicable	2.9%



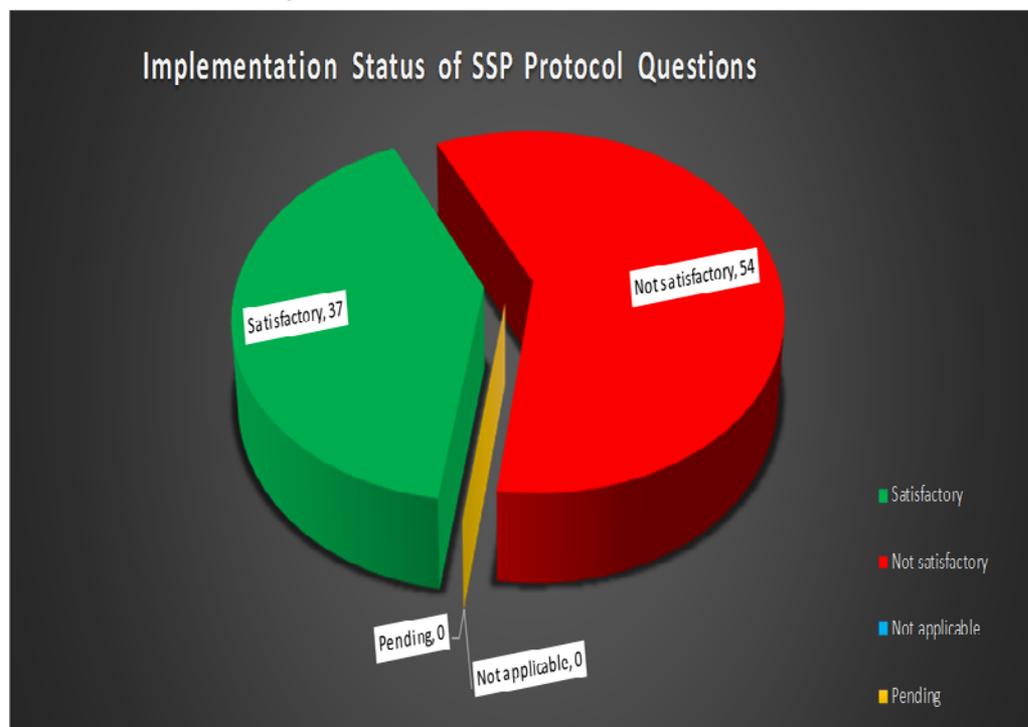
Impact of State Safety Program (SSP)

Self - Assessment of ICAO CMA SSP PQs

Status of Implementation		% total
Satisfactory	37	40.7%
Not satisfactory	54	59.3%
Not applicable	0	0.0%
Pending	0	0.0%
Total	91	

Total completed 91 100.0%

Is SSP? YES



iStars - SSP Gap Analysis

- Questions distributed to subject matter experts for research and response.
- Gap analysis questions completed November 2017
- Gap analysis results report submitted to Sr. Management December 2017 for review and approval
- 14 Sub-projects identified based on SSP areas that require improvement
- Project leaders assigned to each sub-project
- Project Charter document developed as a terms of reference for each project

Project Number	SSP Sub-Project Description
1	SSP Document/Manual - Content development and approval process
2	Integrate SPI (ALoSP) concepts and functions into Canada's Safety Program
3	SSP Advisory Council - Identification, Engagement and collaboration with other State Partners
4	Integrate IMS/Internal SSP Maturity Evaluation/QA/Continuous Improvement
5	Safety data collection, analysis, sharing and exchange. Integration of safety data analysis as significant safety program driver
6	SMS for Service Providers (Enterprises) - Scope expansion
7	SMS for Service Providers (Enterprises) – Program content update
8	SSP Promotion and Awareness – Internal and External
9	GCconnex - SSP Group creation and promotion
10	GCPedia - Creation of SSP pages and community
11	SSP Training for GC employees - Develop training and learning tools for SSP. CAD ADM-005 Revision
12	Transformational Change Management – Support for pro-active Safety Culture
13	ICAO Annex 19/ISO 31,000 Gap Analysis and Harmonization
14	Support broader TC GC projects - Transformation

Integrated Management System (IMS)

Part 1 – Management Responsibilities

Leadership,
Responsibility and
Authority

Communication

Strategic Direction
and Business
Planning

Risk
Management

Management
Review

Reporting
System

Part 2 – Documentation

Documentation
Requirements

Records
Management

Part 3 – Program Design and Delivery

Stakeholder
Focus

Program
Design

Program
Delivery

Part 4 – Training

Competence and
Learning

Awareness



Part 5 – Evaluation

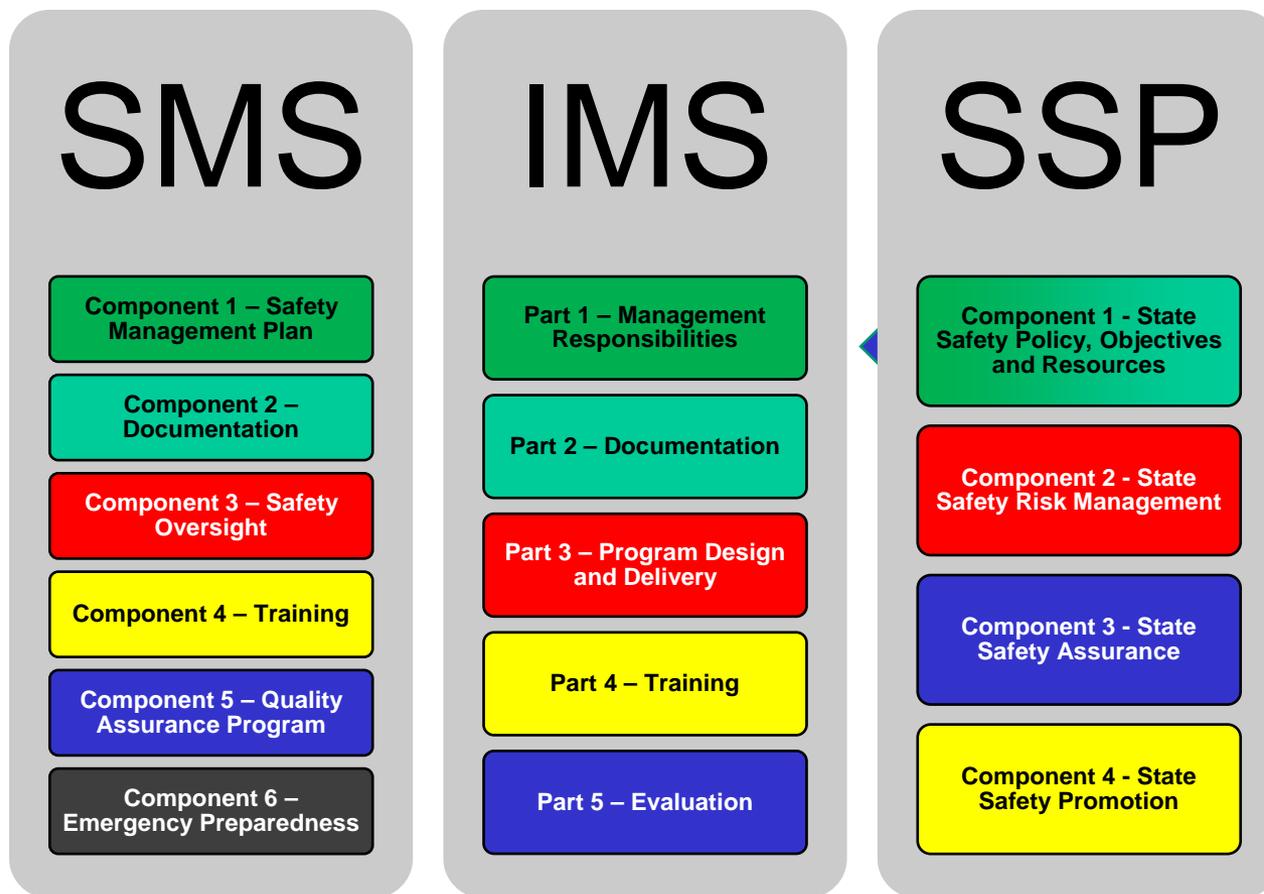
Quality
Assurance

Quality Control

Performance
Measurement

Corrective
Actions

SSP-SMS-IMS Alignment



Benefits to SSP/SMS Integration

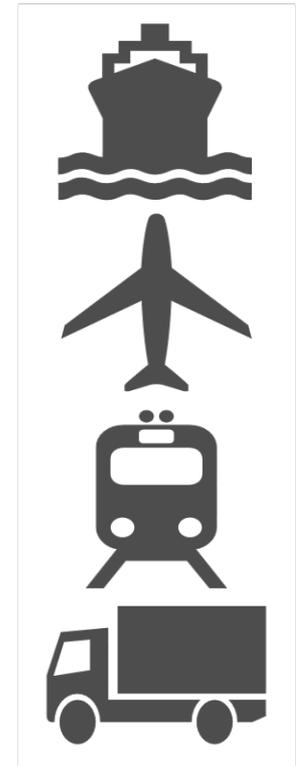
- Consistent application of SMS concepts to service provider and the State Safety Program (SSP)
- Common safety language between the State and Service Providers facilitates safety promotion and education
- Increased accountability of State management for SMS implementation
- Increased supply of available safety data/information for proactive safety management
 - Enables data-driven decision making
 - Early detection and mitigation of safety risks
- Improved safety performance / measurement

SSP-SMS integration in Canada

- Challenges:
 - Consolidate and enhance existing processes
 - Further integrate performance measurement with innovative risk-management concepts and tools
 - Integrate data collection, analysis, sharing and exchange
 - engage other government departments/agencies as partners in SSP
 - Engage industry as partners in implementation of SMS framework

TC TRANSFORMATION

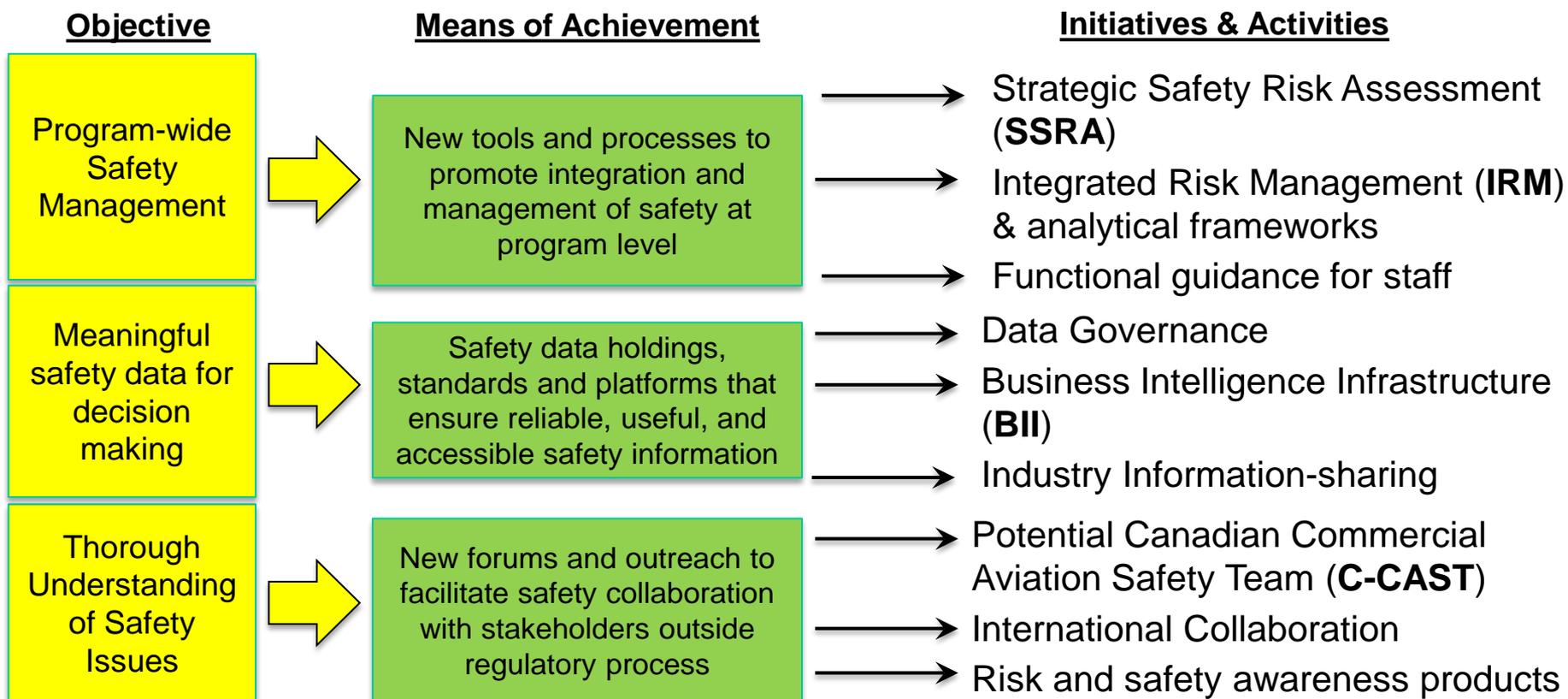
- Many initiatives underway to modernize the way we do business, supporting greater flexibility and innovation, and delivering our programs and services in ways that better serve Canadians.
- Key transformation initiatives include:
 - ✓ Updating Legislation
 - ✓ Modernizing Oversight Regime
 - ✓ Improving Regulatory Framework
 - ✓ Introducing/Updating Fees
 - ✓ Going digital!



TCCA Initiatives

Risk-based Safety Management

- Transport Canada is pursuing complementary risk-based initiatives to enhance its aviation safety decision-making.



TCCA Initiatives

SMS Policy Review

- TCCA is examining the SMS requirements and associated oversight program to identify what can be done to lessen the operational impact while still achieving the greatest safety benefit that SMS provides.
- With the adoption and implementation of the International Civil Aviation Organization (ICAO) Annex 19 – Safety Management, a renewed interest has been sparked in assessing SMS for other sectors including, design and manufacturing.
- TCCA is reviewing how best to expand SMS to other sectors.
- Other sectors include design and manufacturing organizations to ensure continued and seamless access to foreign markets for Canadian aerospace products.

Additional TCCA Safety Initiatives

- Surveillance 2.0
 - Risk-based Targeted Inspections and tools
- Remotely Piloted Aircraft Systems (RPAS)
- Laser Strike Management
- Cannabis
- Flight Data Recorders (FDR) and Lightweight Data Recorders (LDR)

Canada's Change Management (CM) Strategy

Managing Change & Influencing Culture

Supporting people in the transition from a reactive to a predictive aviation safety program.

TC CMT

Change Management Team (CMT)

Multi-Modal Transformation Initiatives

- Executive Director and a dedicated team of experienced, trained, qualified Change Management (CM) specialists
- PROSCI Change Management methodology
- Provides departments with CM support tools, training, advice, project management.

Canada's Change Management (CM) Strategy

Managing Change & Influencing Culture

SSP Implementation Project - Change Management

Safety culture is arguably the single most important influence on the management of safety.

SMM 4th Edition, Sec 3.2.2

- Transport Canada Civil Aviation CM Co-Champion
- Team Leader Assigned
- 5-Year Project Plan under development, working with CMT and consultant from National Energy Board
- Foundational CM workshop planned Spring 2019 – Directors/Managers
- Use of a variety of promotional, training and awareness tools for all staff

SSP Promotion and Awareness GCConnex

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Description

ICAO Annex 19 State Safety Program (SSP) establishes the international standard for the application of consistent Safety Management System (SMS) concepts for both State (Canada) and Service Provider (Enterprise) safety programs. SSP creates a framework to facilitate data-driven evidence based decision-making and enhances effective and efficient risk-managed regulatory oversight program development and delivery.

Each State shall establish an SSP for the management of safety in the State, in order to achieve an acceptable level of safety performance (ALoSP) in civil aviation.

The SSP shall include the following components :

- State safety policy and objectives;
- State safety risk management;
- State safety assurance; and
- State safety promotion.

ICAO member states are committed to the implementation of Annex 19 SSP by November 2019. Canada initiated the SSP implementation process in early 2017 and is on track to meeting Annex 19 standards.

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- [SSP / PNS Canada](#)
By [Gordon Swanson](#) 18 April 2018 @ 11:41am
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Canada's State Safety Program

Canada's State Safety Program



What is the SSP?	Why does Canada need a SSP?	Who does the SSP apply to?	How is the SSP implemented?	Who is ICAO?	Contact us
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Welcome to Transport Canada Civil Aviation's (TCCA) GCPedia page dedicated to Canada's State Safety Program. Here, you will learn about what the State Safety Program is, why it is important, how it is implemented, and how it applies to Canadian Aviation.

What is the SSP?

Today there is increasing complexity of the global air transportation system and its interrelated activities, and air traffic is projected to double in the next fifteen years. For this reason, having a single Annex dedicated to Safety Management has become critical to civil aviation safety.

With that in mind, the International Civil Aviation Organization (ICAO) supports the continued evolution of a proactive strategy to improve safety performances. The foundation of this proactive strategy is based on the implementation of a State Safety Program (SSP) that systematically addresses safety risks.

The SSP comes from ICAO Annex 19 – *Safety Management* which requires each State to establish a SSP for the management of safety in the State to achieve an acceptable level of safety performance in civil aviation.

Annex 19 says each state's SSP shall include the following components:

- State safety policy and objectives;
- State safety risk management;
- State safety assurance; and
- State safety promotion.

Annex 19 came into force in November 2013. Its creation consolidated material from existing Annexes regarding the

- State Safety Program (SSP);
- Enhanced Safety Management Systems (SMS); and
- Safety data and safety information collection, analysis, protection, sharing and exchange.

Altogether, the SSP creates a framework to facilitate data-informed evidenced based decision-making. It enhances the effective and efficient risk-managed regulatory oversight program development and delivery.

Resources

- GConnex
- Safety Management Manual
- ICAO - Safety Management
- Integrated Management System Standard

Definitions

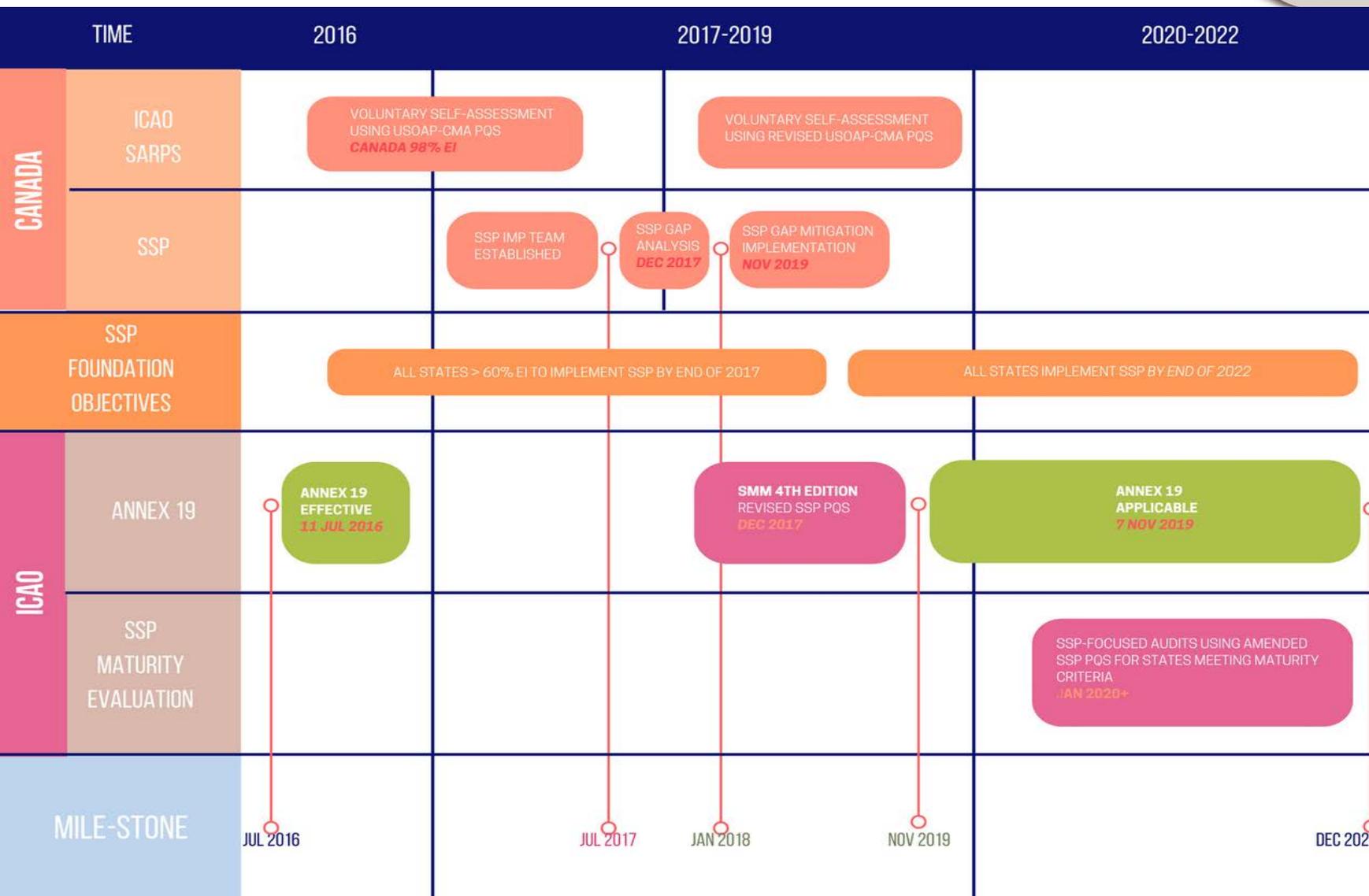
State Safety Program (SSP): An integrated set of regulations and activities aimed at improving safety.

Safety Management Systems (SMS): A systematic approach to managing safety, including the necessary organizational structures, accountability, responsibility, policies and procedures.



SSP Implementation Considerations

- Harmonize with other GC Risk-Management initiatives
- Engagement of other GC departments with civil aviation influence
- Time required for legislative change (if needed)
- Government/industry safety data sharing
- Effective data analysis with feedback to drive the safety program
- Resource allocation for development of software tools to expand scope of safety data collection, integration and analysis
- Cultural change needed to support SSP concepts and principles



TCCA Strengths

- Mature legacy Certification, Surveillance, Personnel Licensing, Enforcement programs
- Validated SSP foundation – over 95% EI
- Mature SMS Program
- Integrated Management Systems (IMS)
- Strategic Safety Risk Analysis (SSRA) Program
- Risk-based Surveillance (2.0) Program
- Enterprise-based organization model for operational program delivery
- Business Intelligence Infrastructure (BII)
- CADORS
- NAV Canada
- TSB

SSP Implementation Challenges

- Integration of numerous key legacy policy documents to form “SSP Manual”
- Harmonization with other GC Risk-Management initiatives (ISO31000)
- SMS enhancements and expansion
- Maturity of SPI development processes and feedback loops
- Safety data sharing and exchange with other State Partners
- Engagement of other GC departments
- Government/Industry safety data sharing - Privacy
- Holistic data analysis with feedback to drive the safety program
- Integration of incompatible legacy databases for robust data analysis
- Development of software tools for data management
- Cultural change to support SSP concepts
- Support for shifting Safety Culture - Change Management
- Time required for legislative change

SMS/SSP Implementation Lessons Learned

1. Sr. Management commitment to SSP
2. Use USOAP-CMA Self-Assessment Baseline
3. Use iSTARS
4. Dedicated staff for SSP
5. Gap Analysis – SME engagement
6. Close Gaps – Sub-Projects
7. Monitor for maturity – USOAP-CMA Self-Assessment
8. ICAO Maturity Assessment
9. SMS – Inspector resource requirements to implement while maintaining oversight commitments
10. IMS – training, promotion and awareness
11. Change management – Support for social and cultural impacts to shift from prescriptive to performance-based philosophy.

On-Going Support from Canada

Long-term partnership engagement: 3-5 years

Ideas to be considered during this support period:

- Build familial relationships with various SSP subject matter experts.
- a “help line” to answer questions over the phone
- peer review of draft policies and other documents
- monthly or quarterly teleconference to share best practices and lessons learned around a theme and review next steps generally
- receive guests in structured training courses and workshops
- Host face-to-face workshops annually (or maybe twice annually) to focus on specific technical subjects of need
- share policies, procedures, tools and other documents as needed

Details on how to “operationalize” this going forward to be determined.

Discussion

