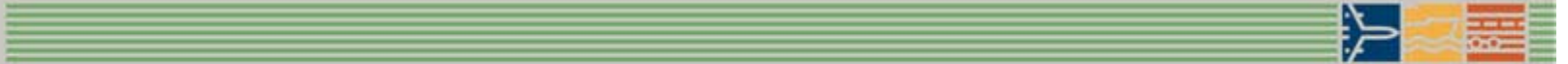




TRANSPORT CANADA RISK BASED SURVEILLANCE

RBS Workshop, 20th March 2018





Outline

Where we started

- Risk based planning was introduced in 2008 with the inception of SMS

Risk based planning overview

- Risk indicator level
- Impact value
- Surveillance interval and instrument

Lessons learned and next steps

- Surveillance 2.0
- Targeted Inspections



Surveillance and SMS

Pre - SMS	Post - SMS Implementation
<ul style="list-style-type: none">• Fixed surveillance interval for all certificates• Audit and inspections aimed at verifying regulatory compliance• Certificate level approach to surveillance	<ul style="list-style-type: none">• Risk based surveillance plan• Focus on ongoing compliance• Enterprise approach to surveillance



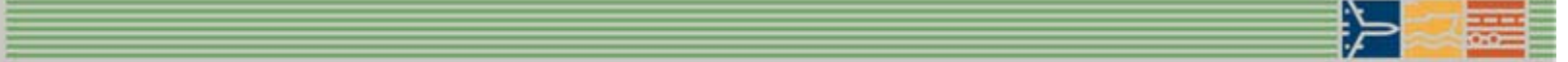
Key concepts:

Inspection Instruments:

- **Process Inspection (PI):** focuses on regulatory compliance of end products and the associated processes within an enterprise
- **Program Validation Inspection (PVI):** focuses on a SMS component or an enterprise's control system
- **Assessment:** All the SMS components are inspected simultaneously

Regions:

- Transport Canada Civil Aviation (TCCA) is organized in **5 regions and 2 operational Branches:**
Atlantic, Québec, Ontario, Prairies and Northern, Pacific, National Aircraft Certification & National Operations



Where we are today

Overview of the risk based surveillance program
currently in place

Surveillance Planning

The Risk Indicator Level of an enterprise is generated automatically based on two components:

- The Risk Indicator Numbers
- Impact Value

It is used to set the surveillance interval and select the inspection instrument





Surveillance Interval Determination

Surveillance Interval Matrix

IMPACT VALUE	Extensive	E	1E	2E	3E	4E	5E
	High	D	1D	2D	3D	4D	5D
	Moderate	C	1C	2C	3C	4C	5C
	Low	B	1B	2B	3B	4B	5B
	Negligible	A	1A	2A	3A	4A	5A
			1	2	3	4	5
			Very Low	Low	Moderate	High	Very High
			RISK INDICATOR LEVEL				



Surveillance Frequency & Instruments

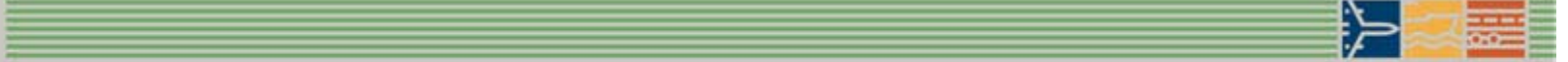
SIM Value	Surveillance Interval	
	Non-SMS Enterprise	SMS Enterprise
1A, 1B, 1C, 2A, 2B	5 year PVI	5 year assessment
1D, 1E, 2C, 2D, 2E, 3A, 3B	4 year PVI	4 year assessment
3C, 3D, 3E, 4A, 4B, 5A, 5B	3 year PVI	3 year PVI, 5 year assessment
4C, 4D, 4E, 5C	2 year PVI	2 year PVI, 4 year assessment
5D, 5E	1 year PVI	1 year PVI, 3 year assessment

*In 2016, we piloted more frequent use of the Process Inspection



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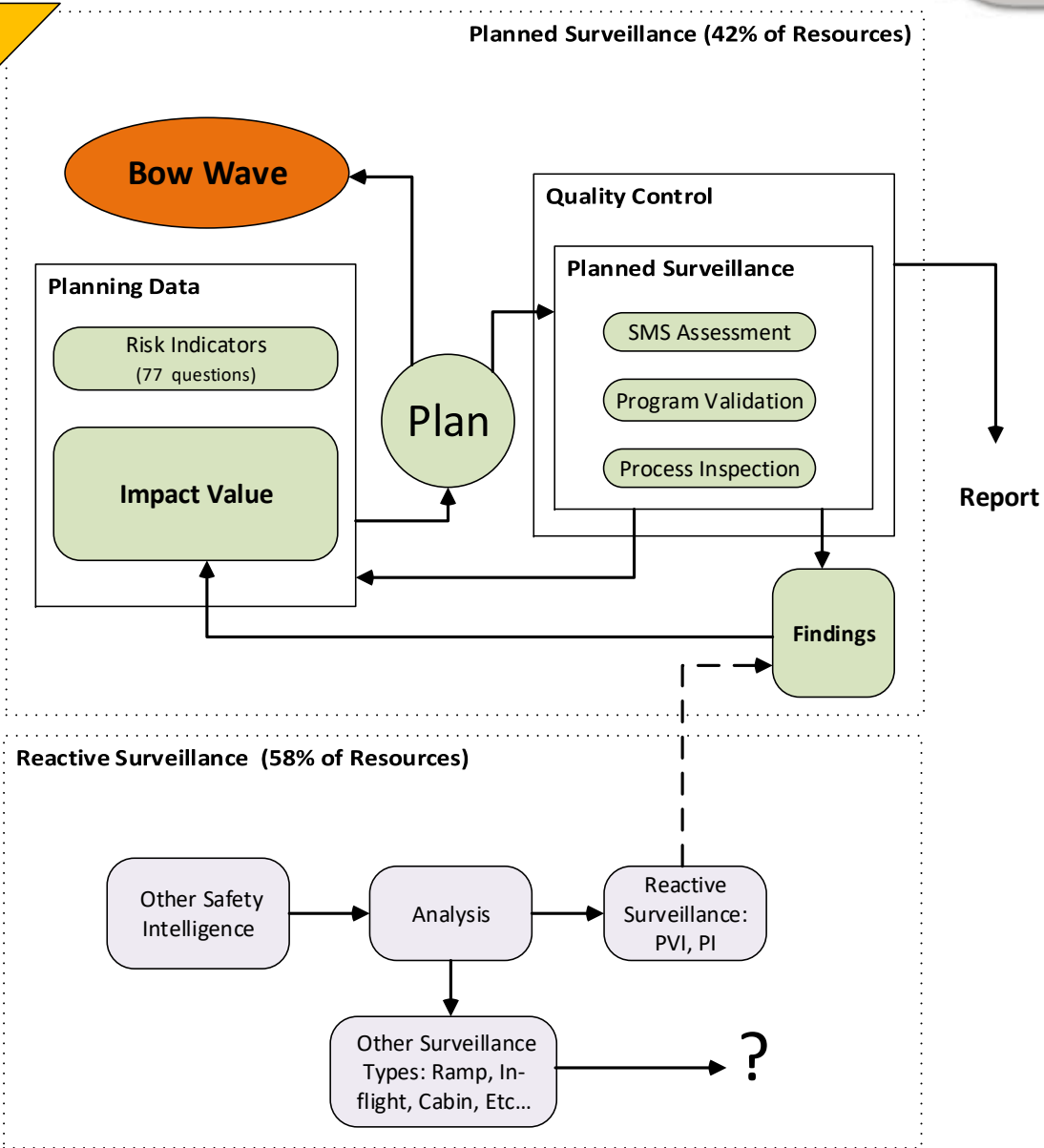
Lessons Learned

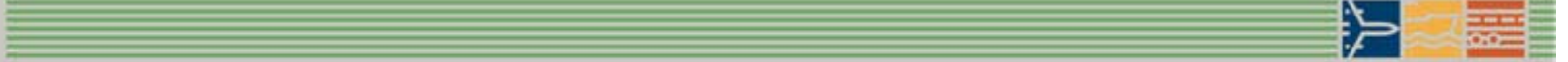


Actual Surveillance Model

Impact:
Created a bow wave effect that continues to grow

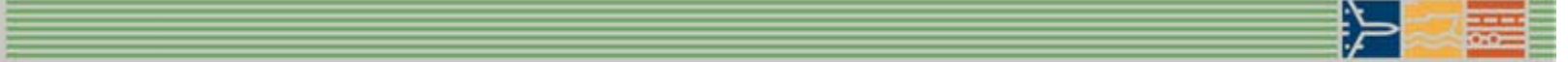
Impact:
Lost opportunity to understand systemic risks in the system





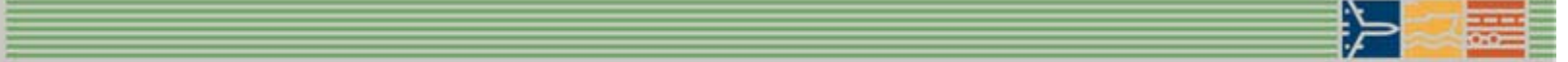
Lessons Learned:

- One size fits all approach to Risk Indicator Level and Impact Values is not the most effective
- Lean and nibble instruments should be used for early detection of systemic problems
- Local intelligence and professional judgment must be at the center of the surveillance process
- It is possible to be data rich and information poor! Data has to be shared and analyzed
- Information technology Infrastructure has to be built on a flexible platform that will keep evolving with the risk based methodology



Where we are going:

TCCA is launching an updated
surveillance program



Surveillance 2.0

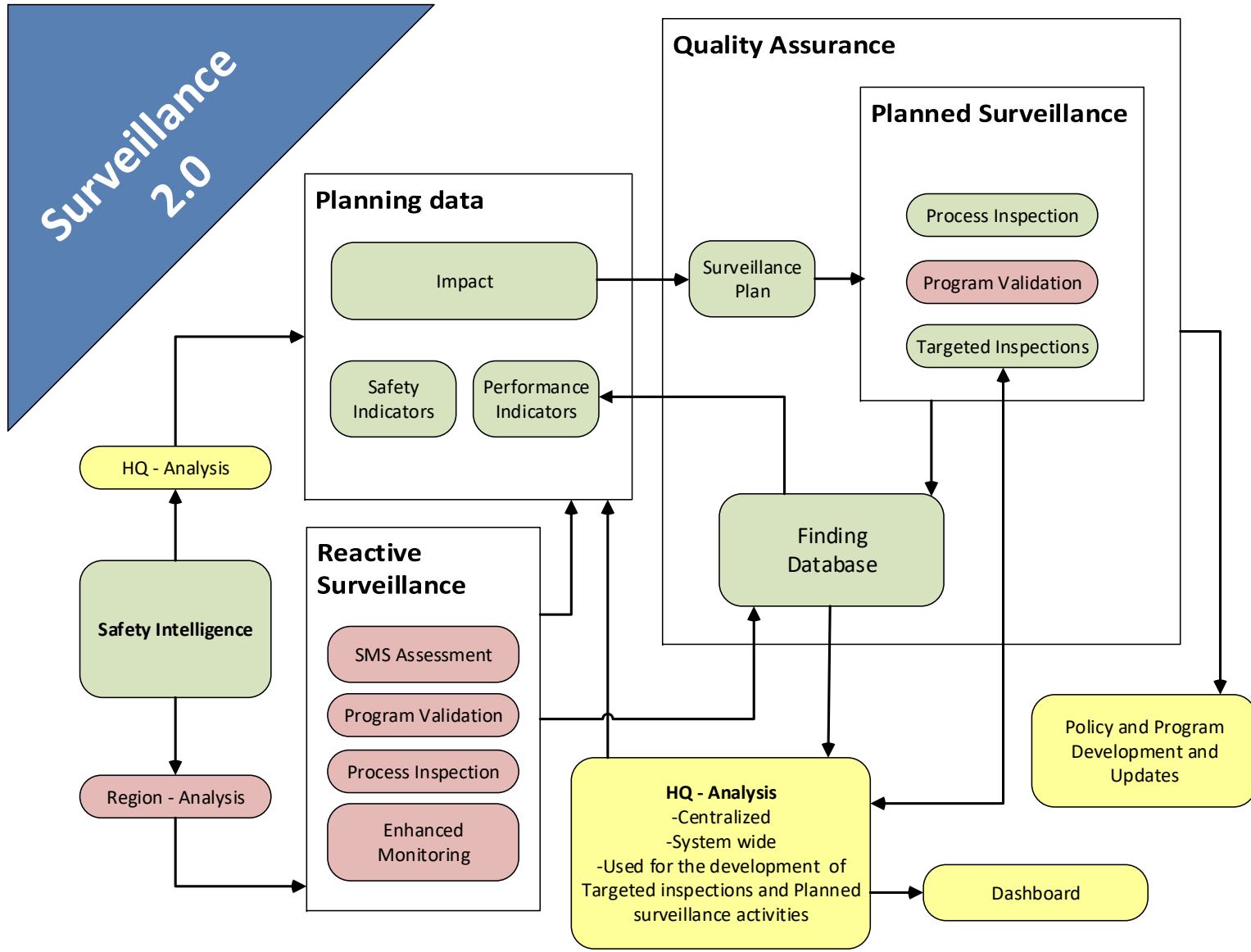
Effective April 1, 2018

- Using leaner more efficient tools to effectively determine compliance and risk
- Providing a balance between system and process level (e.g. ramp inspections) surveillance
- Continuing to use system level surveillance (PVIs and Assessments) only when supported by enterprise risk and compliance data
- Making extensive use of data to determine surveillance intervals and scope
- Providing TC with a proactive understanding of risk areas through targeted inspections

NEW - Targeted Inspection

A new surveillance instrument:

- An oversight approach that mixes compliance monitoring with collecting evaluative information to gain contextual knowledge
- A method of collecting data that supports evaluation questions and methodologies (e.g. Did that approach work?)
- A method of investigating safety hazards and how industry is managing them
- Input to sector risk profiles that feeds risk based planning
- Flexible, adaptable tool that can be tailored to the specific risks and needs





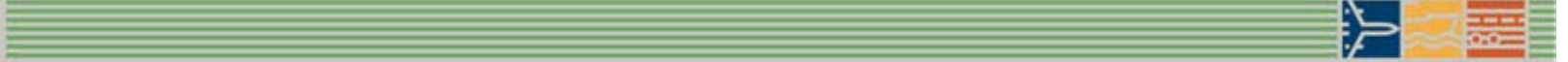
Summary

- Surveillance 2.0 is effective April 1, 2018
- Performance indicators are currently being developed
- Oversight program data is being captured, analyzed and shared
- Targeted Inspections will enable TCCA to better understand industry compliance and the effectiveness of its regulatory framework
- TCCA is actively looking at IT infrastructure solutions to support future evolution of its oversight regime



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Questions?