



Risk Based Oversight Initiative



DGCA INDONESIA

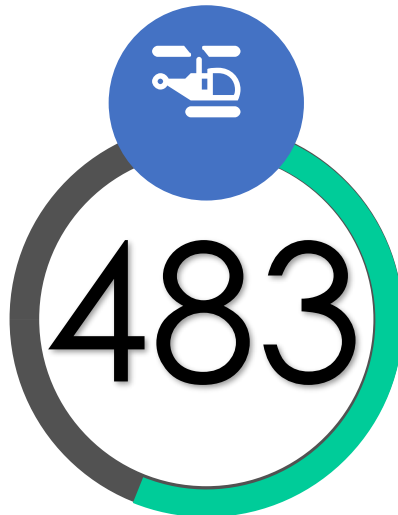


Operational Context

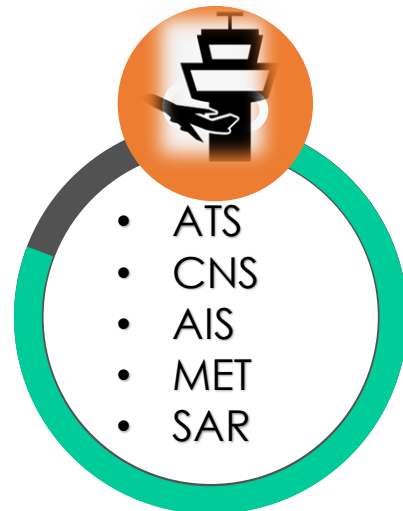
AIRPORT CERTIFICATE



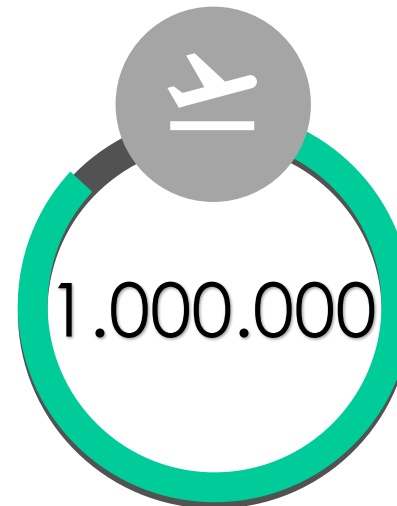
REGISTERED HELIPORT



AIR NAVIGATION SERVICE PROVIDER



MOVEMENTS IN THE PERIODE OF 5 YEARS (2015-2019)



AIR OPERATOR CERTIFICATE (AOC) Commercial Air Transport



OPERATING CERTIFICATE (OC) General Aviation, Pilot School, and Agricultural Operation



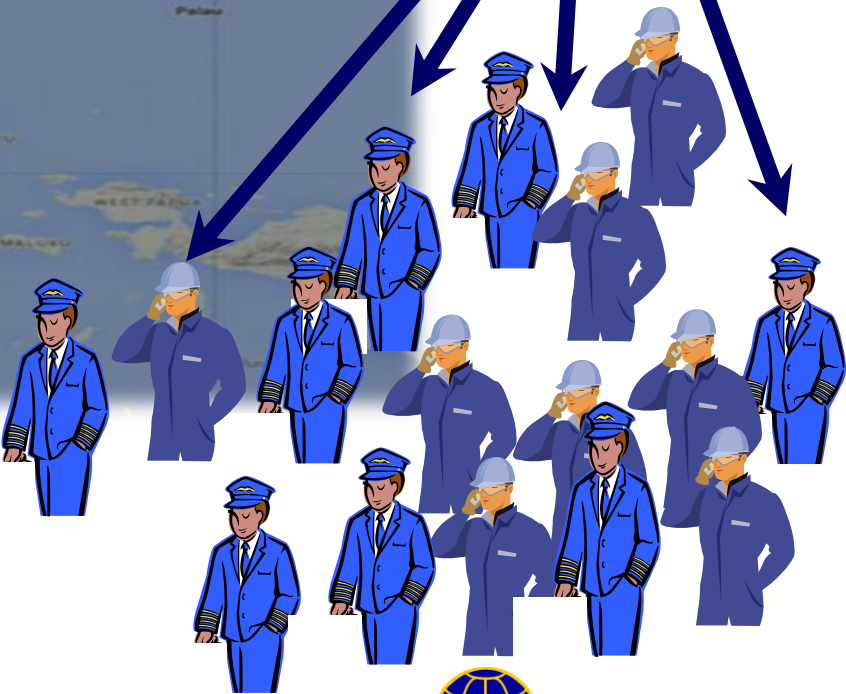
The Existing Condition Challenges

DGCA Inspector



1 : many

Operators



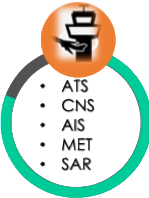
AIRPORT
CERTIFICATE



REGISTERED
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MOVEMENTS IN
THE PERIOD OF
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AIR OPERATOR
CERTIFICATE
(AOC)
Commercial Air
Transport



OPERATING
CERTIFICATE
(OC)
General Aviation,
Pilot School, and
Agricultural Operation



DIRECTORATE GENERAL OF CIVIL AVIATION

Where are our safety data ?



Aircraft Registration



Accident,
Serious Incident



Ramp Inspection



Enforcement



FDA



Exemption



Personnel Licensing



Safety Recommendation



Aircraft Inspection



MOR/VOR



Financial



etc....



Surveillance, Inspection, Audit, Monitoring



Organization Register



Flight Cycles,
Flight Hours



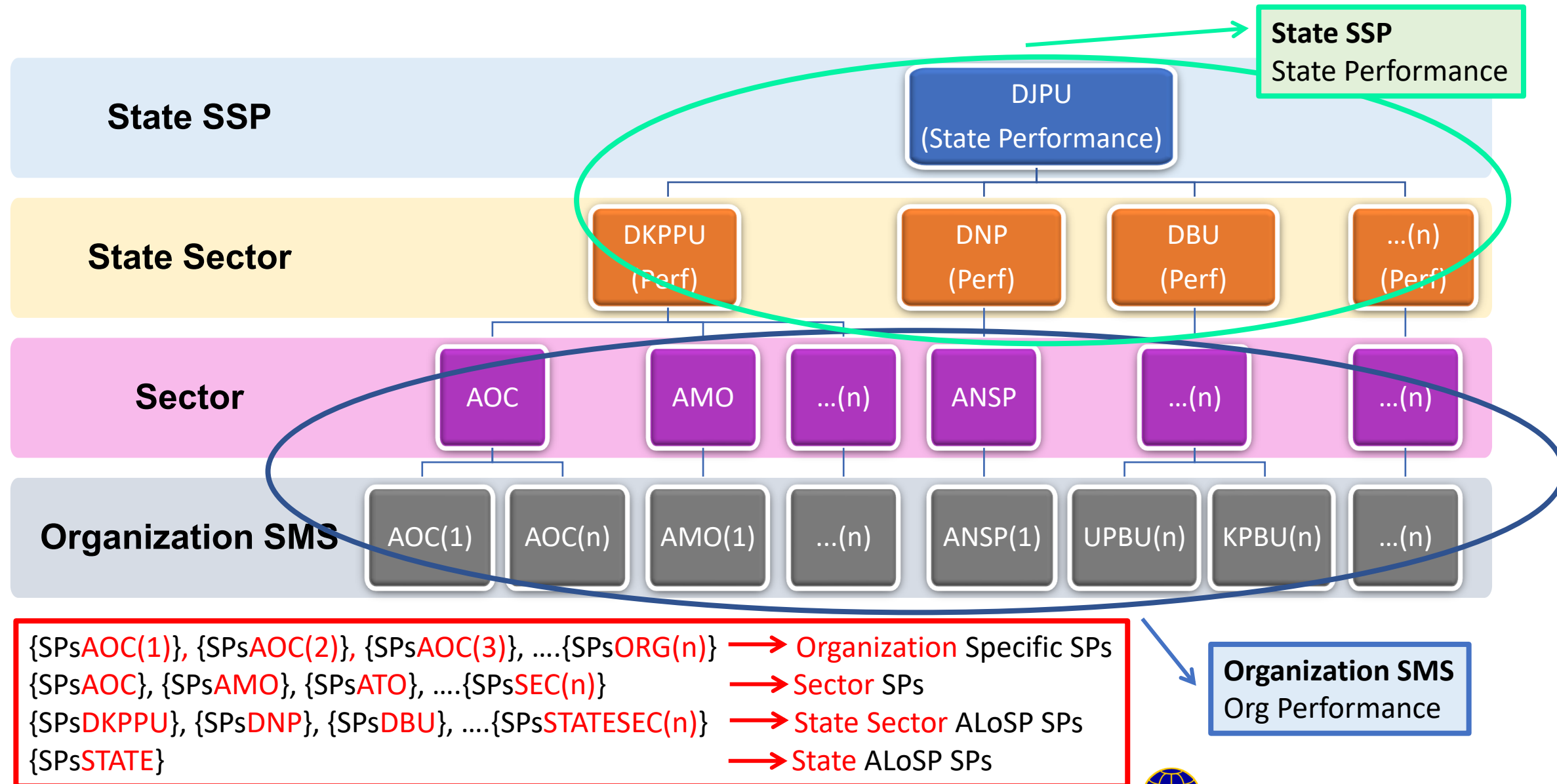
Size & Complexity



Data Driven Decision-making



Performance Measuring & Monitoring Scheme



Performance Formula

Calculating the Performance in the function of **Compliance**, **Improvement**, dan **Deviation**.

$$F(P) = F(C(p)D(p)I(p)) = 100\%$$

Where :

- $F(P)$ = *Perfromance Factor*
- $C(p)$ = *Compliance Factor*
- $D(p)$ = *Deviation Factor*
- $I(p)$ = *Improvement Factor*
- $F(P)$ *maximum* is **100%**.

The maximum Performance $F(P) = 100\%$ can be achieved if the organization have high Level of Compliance $C(p)$, Number of Deviation $D(p) = 0$, continuing for Improvement $I(p)$.



Performance Factor

Compliance Factor

- ❖ Surveillance
- ❖ Audit
- ❖ Ramp Inspection
- ❖ Enforcement
- ❖ Aircraft Inspection
- ❖ etc...

Deviation Factor

- ❖ Accident
- ❖ Serious Incident
- ❖ Incident
- ❖ Pilot report
- ❖ MISR
- ❖ etc...

Improvement Factor

- ❖ SMS & QMS Maturity
- ❖ Occurrence / Finding Follow-Up Process
- ❖ Occurrence Reporting System
- ❖ Occurrence Reporting Culture
- ❖ etc...



PROCESSING LOOP

INPUT

No	Operator	Nilai Kriteria Exposure							Eksposure Indicators	Eksposure Level
		Jumlah penerbangan tahunan	Jumlah Karyawan	Jumlah pesawat	Jumlah model pesawat	Jumlah tujuan	Operasi internasional	Usia armada rata-rata		
1	A Airlines	3	3	3	2	3	2	3	3	E
2	B Airlines	3	3	3	3	3	1	1	3	E
3	C Airlines	2	1	2	3	1	1	2	2	D
4	D Airlines	2	1	1	2	1	1	1	1	B
5	E Airlines	2	1	1	1	1	1	1	1	A

No	Operator	Compliance Indicators	Deviation Indicators	Improvement Indicators	Risk Indicators	Risk Indicators
1	A Airlines	99.85%	1.75%	100%	98.09%	1
2	B Airlines	99.55%	11.58%	85.37%	84.35%	2
3	C Airlines	99.35%	29.06%	52.60%	58.51%	4
4	D Airlines	98.50%	26.20%	87%	69.24%	3
5	E Airlines	98.50%	14.06%	100%	84.46%	1

PROSES



Database IMSIS

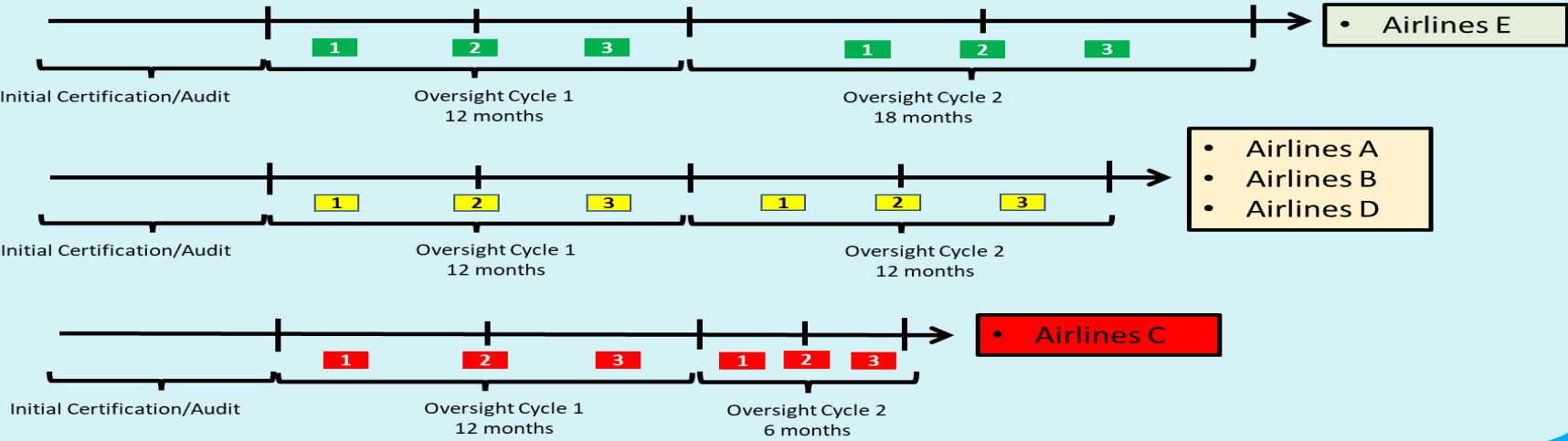
Operator	Risk Indicators	Risk Indicators	Eksposure Indicators	Eksposure Indicators	Risk x Eksposure Level	Intensita Surveilan
A Airlines	98.09%	1	22	E	1E	12 Bular
B Airlines	84.35%	2	20	E	2E	12 Bular
C Airlines	58.51%	4	14	D	4D	6 Bulan
D Airlines	69.24%	3	10	B	3B	12 Bular
E Airlines	84.46%	1	9	A	1A	18 Bular

OUTPUT

frekuensi RBS	Indikator paparan (FIDE)	Memperincikan indikator (ERp)				
		Sangat tinggi	Tinggi	Sedang	Rendah	Sangat rendah
Sangat tinggi	E	5E	4E	3E	2E (Airlines B)	1E (Airlines A)
Tinggi	D	5D	4D (Airlines C)	3D	2D	1D
Sedang	C	5C	4C	3C	2C	1C
Rendah	B	5B	4B	3B (Airlines D)	2B	1B
Sangat rendah	A	5A	4A	3A	2A	1A (Airlines E)

frekuensi RBS	tingkat intensitas RBS		
	Keras	Normal	dikurangi
frekuensi RBS	6 bulan	12 bulan	18 bulan

Risk Based

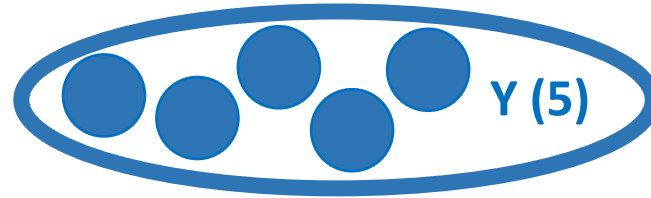


INPUT (SAMPLE FOR 5 OPERATORS)

INPUT

No	Operator	Nilai Kriteria Exposure							Eksposure Indicators	Eksposure Level
		Jumlah penerbangan tahunan	Jumlah Karyawan	Jumlah pesawat	Jumlah model pesawat	Jumlah tujuan	Operasi internasional	Usia armada rata-rata		
1	A Airlines	3	3	3	2	3	2	3	22	E
2	B Airlines	3	3	3	3	3	1	1	20	E
3	C Airlines	2	1	2	3	1	1	2	14	D
4	D Airlines	2	1	1	2	1	1	1	10	B
5	E Airlines	2	1	1	1	1	1	1	9	A

No	Operator	Compliance Indicators	Deviation Indicators	Improvement Indicators	Risk Indicators	Risk Indicators
1	A Airlines	99.85%	1.75%	100%	98.09%	1
2	B Airlines	99.55%	11.58%	85.37%	84.35%	2
3	C Airlines	99.35%	29.06%	52.60%	58.51%	4
4	D Airlines	98.50%	26.20%	87%	69.24%	3
5	E Airlines	98.50%	14.06%	100%	84.46%	1



- Number of FC Annually
- Number of Employees
- Number of Fleets
- Number of Aircraft Model
- Number of Route
- International Operation
- Fleet Age Average
- Number of Domestic Base

**DATA
COMPLEXITY**

- Compliance Factor (Surveillance, Audit) :
 - Number of NCP Finding
 - Number of NCF Finding
 - Number of NAD Finding
- Deviation Factor :
 - Number of Accident/ Serious Incident
 - Number of Incident/SDR
 - Number of MISR

**DATA
PERFORMANCE**



OUTPUT DATA ANALYSIS BASED ON PERFORMANCE & COMPLEXITY

No	Operator	Compliance Indicators	Deviation Indicators	Improvement Indicators	Performance	Performance Rating
1	A Airlines	99.85%	1.75%	100%	98.09%	1
2	B Airlines	99.55%	11.58%	85.37%	84.35%	2
3	C Airlines	99.35%	29.06%	52.60%	58.51%	4
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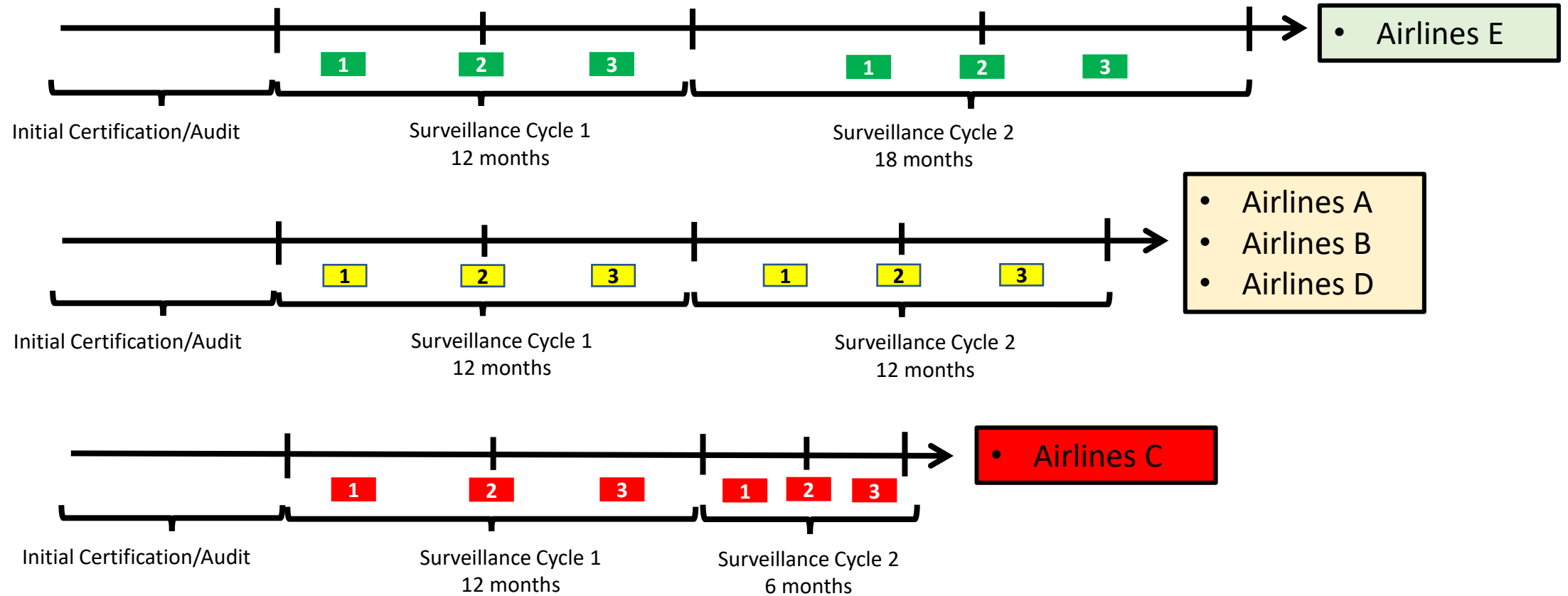
No	Operator	Nilai Kriteria Exposure								Complexity	Complexity Rating
		Jumlah penerbangan tahunan	Jumlah Karyawan	Jumlah pesawat	Jumlah model pesawat	Jumlah tujuan	Operasi internasional	Usia armada rata-rata	Jumlah pangkalan domestik		
1	A Airlines	3	3	3	2	3	2	2	3	21	E
2	B Airlines	3	3	3	3	3	1	1	3	20	E
3	C Airlines	2	2	2	3	1	1	2	2	15	D
4	D Airlines	2	2	1	1	1	1	1	2	11	B
5	E Airlines	2	1	1	1	1	1	1	1	9	A

frekuensi RBS		Performance Rating				
		Sangat tinggi	Tinggi	Sedang	Rendah	Sangat rendah
Complexity Rating		5	4	3	2	1
Sangat tinggi	E	5E	4E	3E	2E	1E
Tinggi	D	5D	4D	3D	2D	1D
Sedang	C	5C	4C	3C	2C	1C
Rendah	B	5B	4B	3B	2B	1B
Sangat rendah	A	5A	4A	3A	2A	1A



SUREVEILLANCE PLANING

Risk Based





DIRECTORATE GENERAL OF CIVIL AVIATION

■ thanks

