

ATM Cybersecurity

Maturity Model

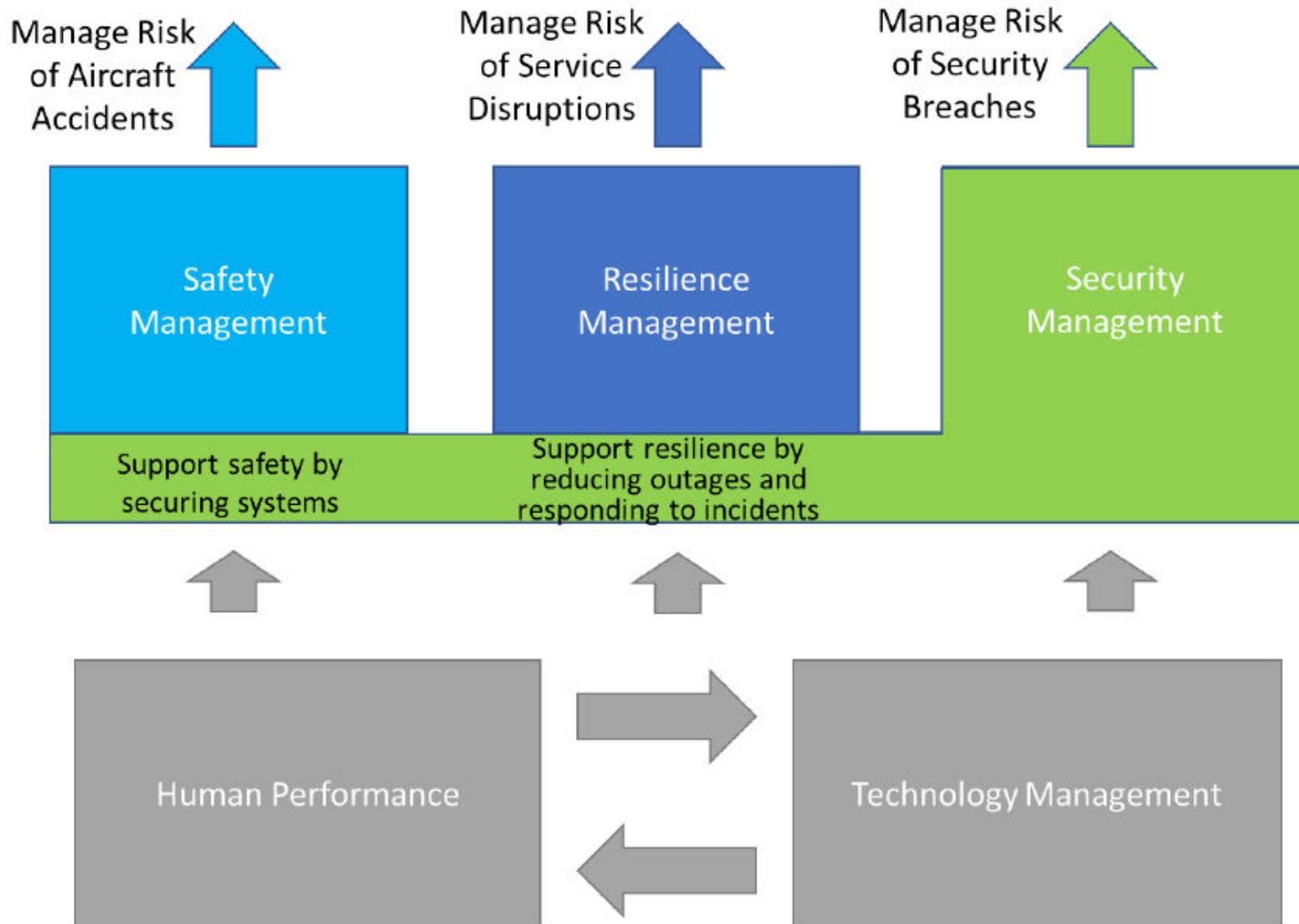
Antonio Licu
EUROCONTROL Network Manager
Head of SAF unit
16th May 2019

The desired outcome

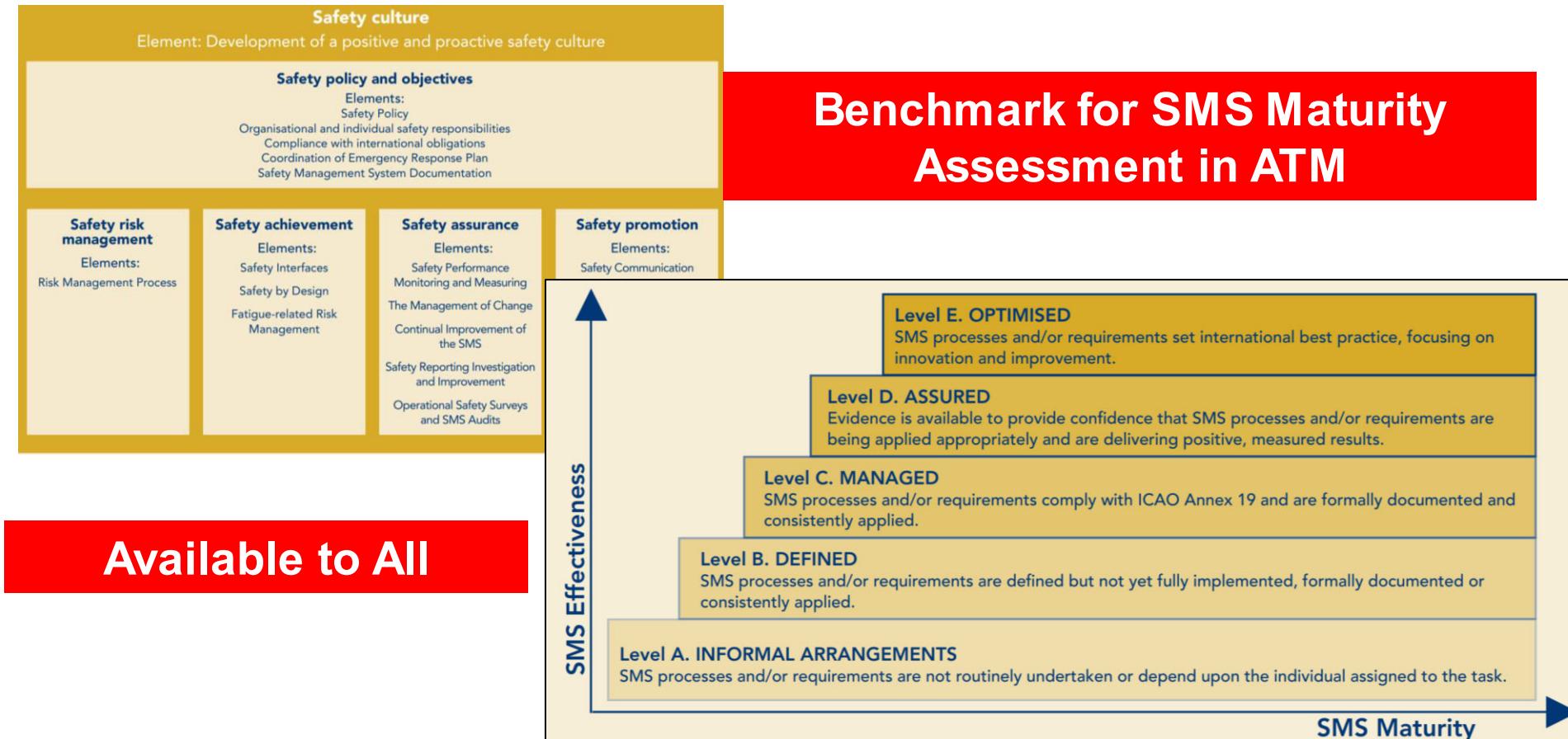
- Provide **top management** with a clear **understanding** of the current effectiveness of cybersecurity to help **guide investment**
- Promote **discussion** and the sharing of **good practices** in cybersecurity across **ATM** industry



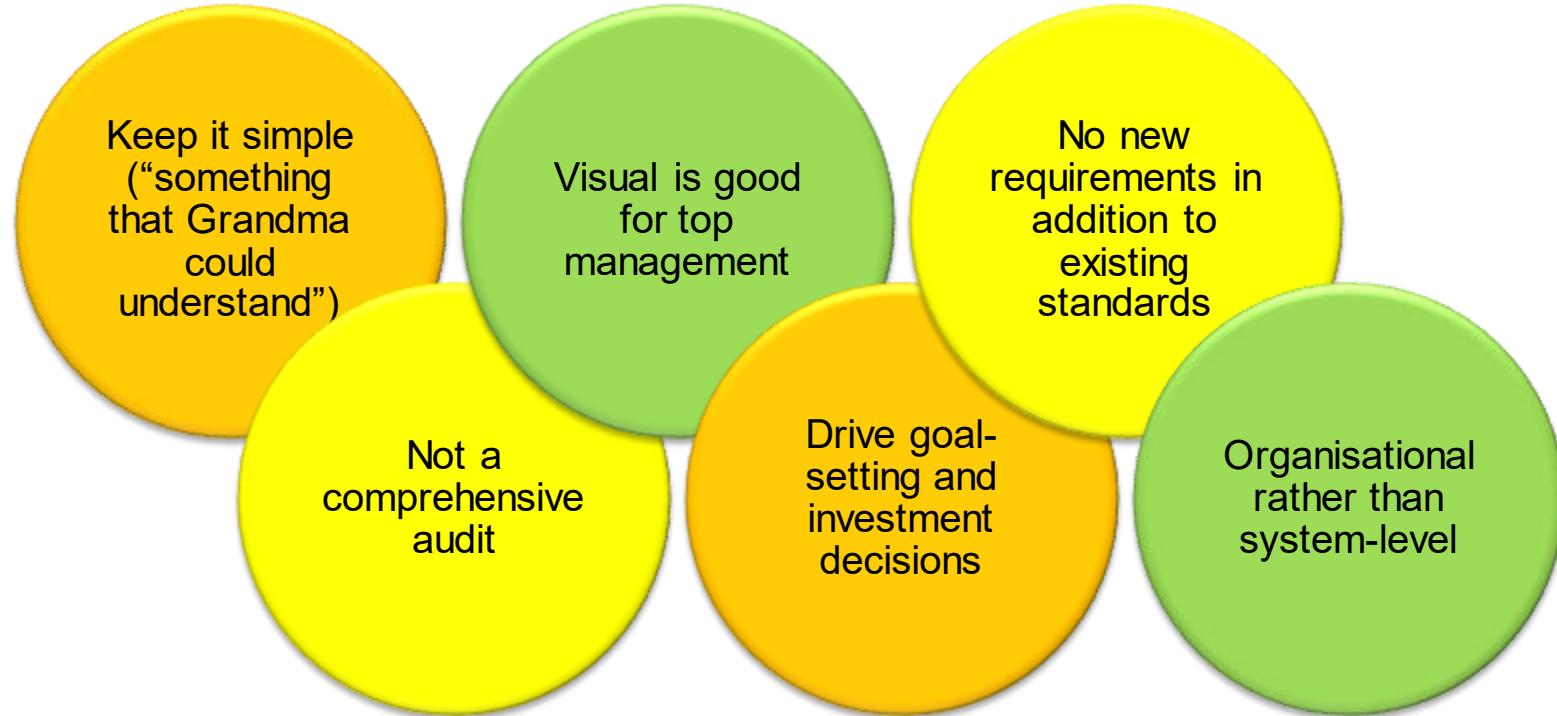
Alignment of risk mgt. and relation Cyber - Safety



Inspiration from ECTRL/CANSO Standard of Excellence in SMS (SoE)



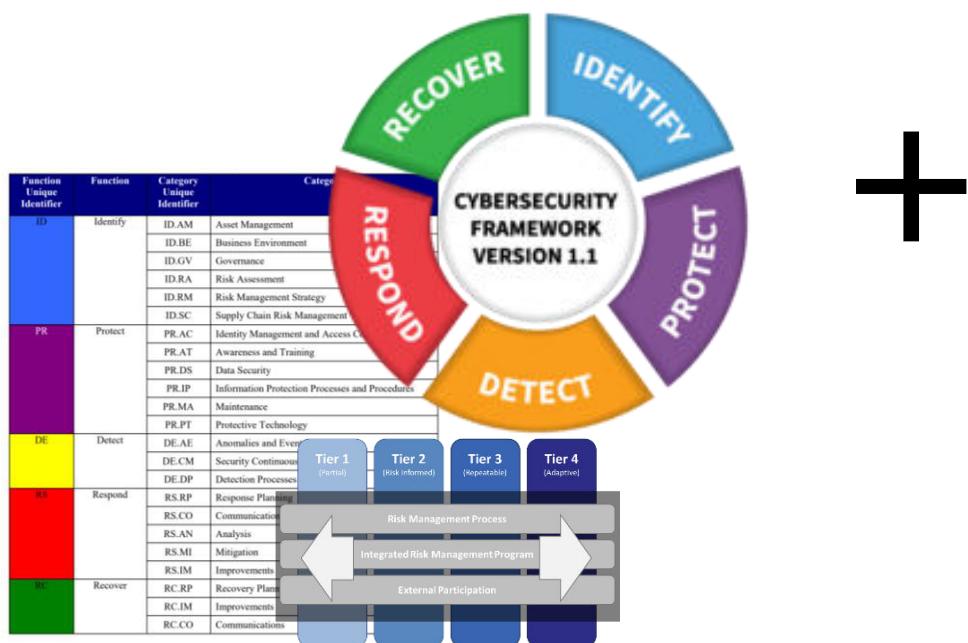
Key principles of cyber-maturity model



Thank you to NATS, DFS, ENAIRE, NAVIAIR, DSNA, ENAV, LVNL and Network Manager

Maturity model is based on Two standards

National Institute of Standards and Technology (NIST) Cybersecurity Framework (CSF)



ISO27001: Information Security Management Systems



“Leadership, governance and management are crucial”

How we developed the model:

If you could only ask 12-15 questions to assess maturity, what would they be? What answers would satisfy/impress/underwhelm you?

IDENTIFY			
PROTECT (PR)			
DETECT (DE)			
RESPOND (RS)			
RECOVER (RC)			
OTHER			

How we developed the model:

For each question,
what does good, OK
and bad look like?

What are the
objective criteria /
evidences /
indicative practices?

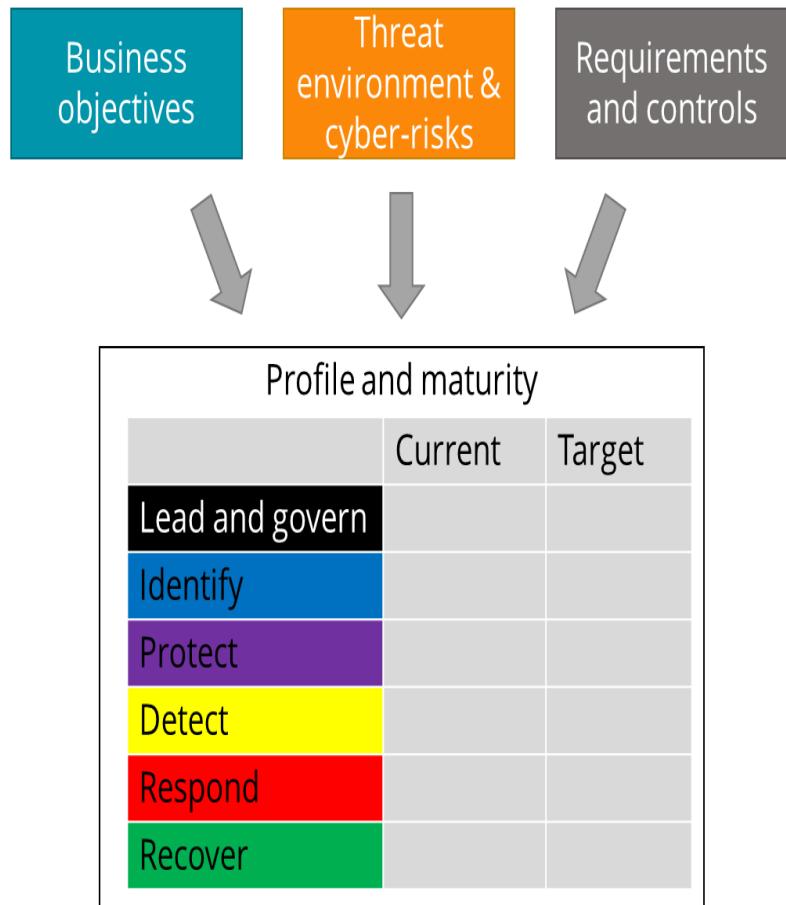
	Question	Bad	OK	Good
IDENTIFY	?	:(:)
	?	:(:)
PROTECT (PR)	?	:(:)
	?	:(:)
DETECT (DE)	?	:(:)
	?	:(:)
RESPOND (RS)	?	:(:)
	?	:(:)
RECOVER (RC)	?	:(:)
	?	:(:)

Example Management summary results

(just example – not a real case)

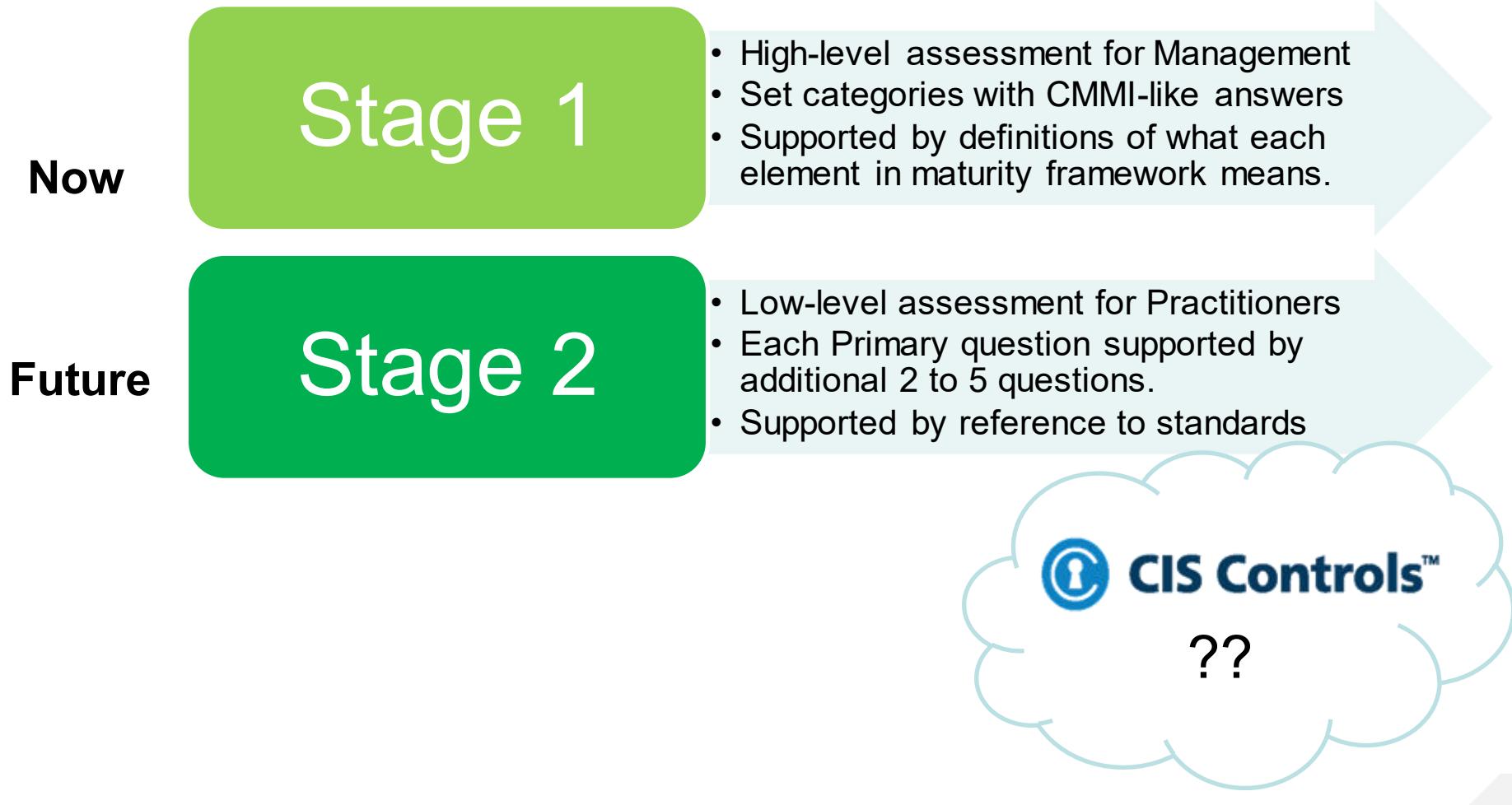
Function	Category	ANSP	Supplier	Supplier	Supplier	Supplier	Supplier
			1	2	3	4	5
LEAD AND GOVERN	Leadership and governance	3	3	3	2	1	1
	Cyber Security Management System (CyberSecMS)	2	3	2	2	2	1
IDENTIFY	Asset Management	4	4	3	2	2	1
	Risk Assessment	1	3	3	1	2	1
	Information sharing	2	3	2	1	1	0
	Supply Chain Risk Management	2	3	3	2	1	0
PROTECT	Identity Management and Access Control	3	4	2	2	3	2
	Human-centred security	1	3	3	2	2	0
	Protective Technology	3	4	2	3	1	1
DETECT	Anomalies and Events	3	2	2	2	2	0
RESPOND	Response Planning	2	3	3	3	0	0
	Mitigation	3	3	2	2	0	1
RECOVER	Recovery Planning	3	3	3	1	2	1

Cyber Improvement Roadmap



Subcategory	Gaps	Priority	Budget	Year 1 improvements	Year 2 improvements
1	Small	Low	€		✓
2	Large	High	€€€	✓	✓
3	Medium	Moderate	€€	✓	
...					
N	None	Low	-		

Two-stage maturity model – What next



Questions?

Antonio Licu
Head of SAF unit
13th May 2019



Supporting
European
Aviation



NETWORK
MANAGER

