



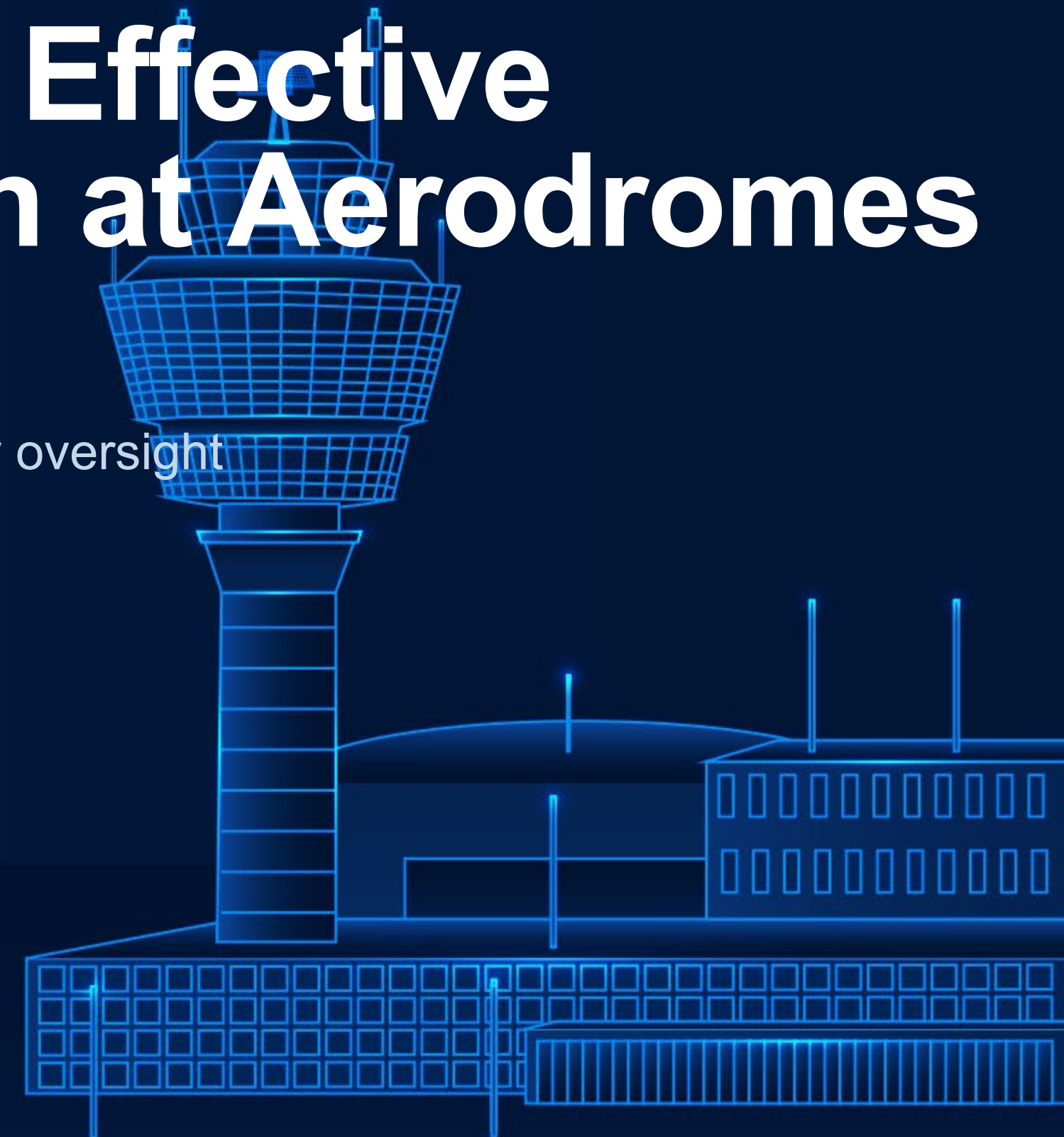
Challenges for Effective Implementation at Aerodromes

Regional diagnosis of the eight critical elements of the safety oversight system applied to the AGA area

REFERENCE FRAMEWORK

USOAP CMA

**INTERNATIONAL
CIVIL AVIATION
ORGANIZATION**



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Allow me to introduce myself:
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- Specialist Degree in Civil Engineering
- 35 years' experience in design, administration and project management
- Postgraduate qualification in Airport Design, Construction and Maintenance. University of Alcalá de Henares, Madrid, Spain
- COCESNA-ACSA Aerodrome Specialist
- International consultant in the AGA field
- One more colleague.

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What this presentation measures

Effective implementation (EI) is the percentage of USOAP protocol questions satisfactorily implemented. This analysis isolates the questions in the AGA area and distributes them among the eight critical elements of the State safety oversight system.

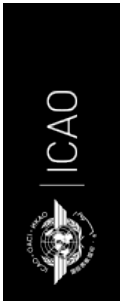
RULES FOR READING THIS DOCUMENT

- All data are presented in aggregate: NACC region, NAM subregion and CAR subregion.
- Individual States are neither named nor classified.
- The scope is exclusively AGA; other audit areas are not addressed.

THE EIGHT CRITICAL ELEMENTS

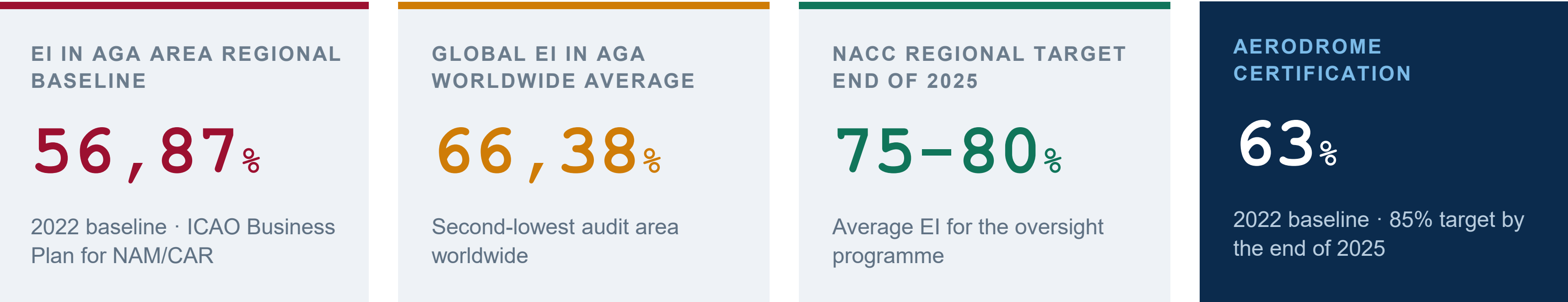
CE-1	Basic aviation legislation
CE-2	Specific operating regulations
CE-3	State system and oversight functions
CE-4	Qualification and training of technical personnel
CE-5	Technical guidance, tools and information
CE-6	Certification and authorisation obligations
CE-7	Surveillance obligations
CE-8	Resolution of safety issues

The five shaded elements focus the priority analysis of this presentation.



AGA is the region’s weakest oversight domain

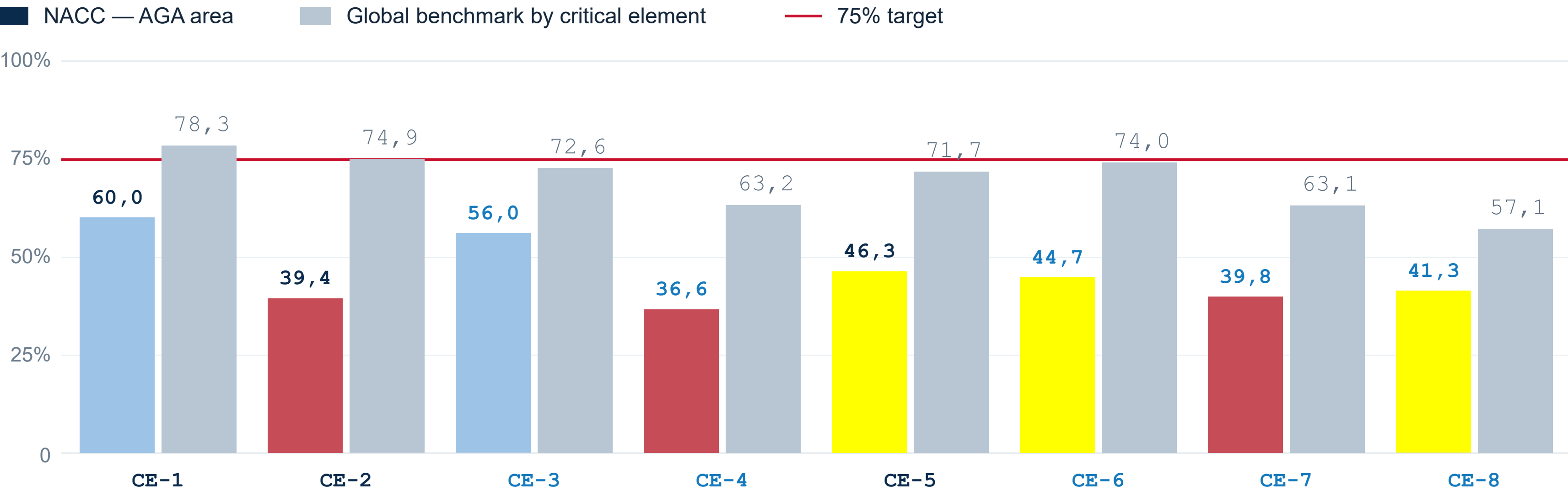
USOAP results identify aerodromes and ground aids as the region’s lowest-performing technical domain, and as a priority area for targeted support.



READING FOR DECISION-MAKING

The regional gap against the end-of-cycle target exceeds 23 percentage points. Closing it does not depend on a single element: the analysis by critical element shows where effort produces the greatest impact.

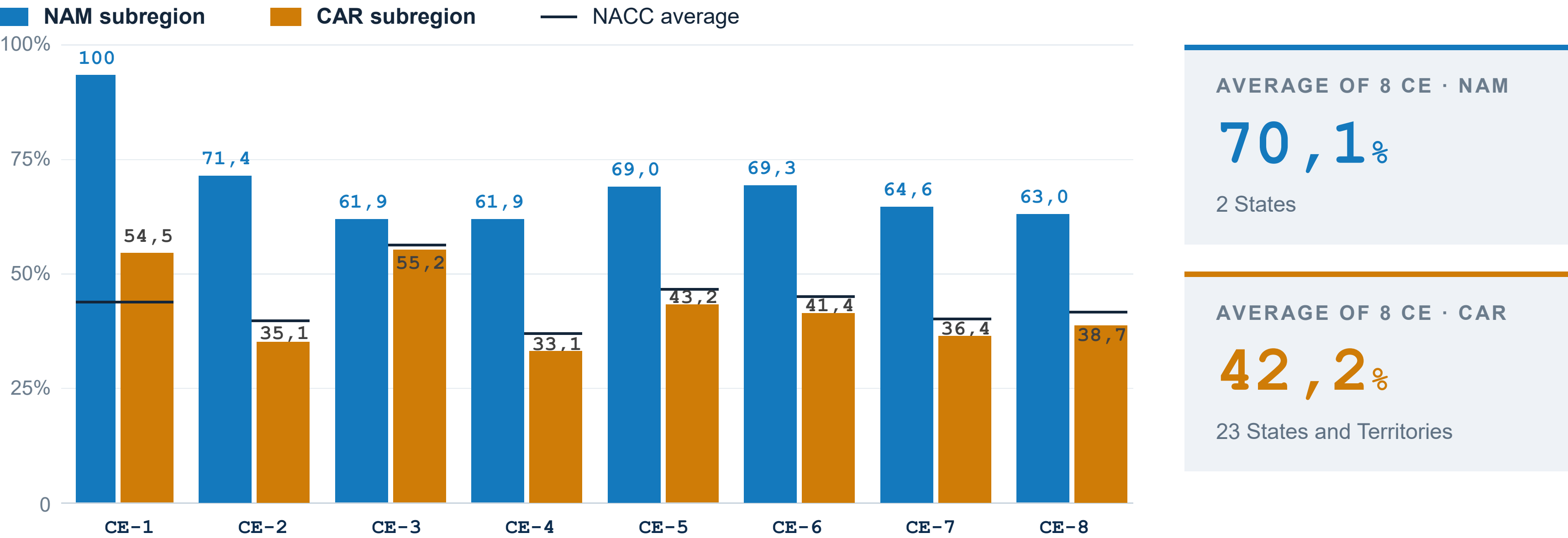
EI in AGA by critical element: NACC versus the global benchmark



No critical element reaches the 75% target. The regional average for the eight elements in AGA is 45.5%, with gaps compared with the global benchmark ranging from 15.8 to 35.5 points.

Sources: ICAO, NACC Regional Office — AGA Effective Implementation of SARPs Analysis, NCMC/8, October 2025 (AGA average by CE, 25 States). Global benchmark: ICAO, Safety Report 2025, EI by critical element, 2024 (all audit areas).

The regional average conceals two subregional realities



The distance between subregions is 27.9 points. The challenge is not homogeneous: in CAR, the weakness is concentrated in CE-3, CE-4, CE-2 and CE-7; in NAM, the greatest gap is in the implementation elements (CE-5, CE-6, CE-7 and CE-8).

Own calculation (simple unweighted average by State) based on State- and CE-level data from: ICAO, NACC Regional Office — AGA Effective Implementation of SARPs Analysis, NCMC/8, October 2025. The NACC average reproduces the published overall total.



The regulatory framework and regional mechanisms are partially in place

ELEMENTS NECESSARY AS THE BASIS FOR THE ESTABLISHMENT OF the AAC

CE-1 60,0%

Basic aviation legislation — the highest of the eight elements in the AGA area.

CE-2 39,4%

Specific operating regulations

CE-3 56,0%

State system and oversight functions — second-best regional result.

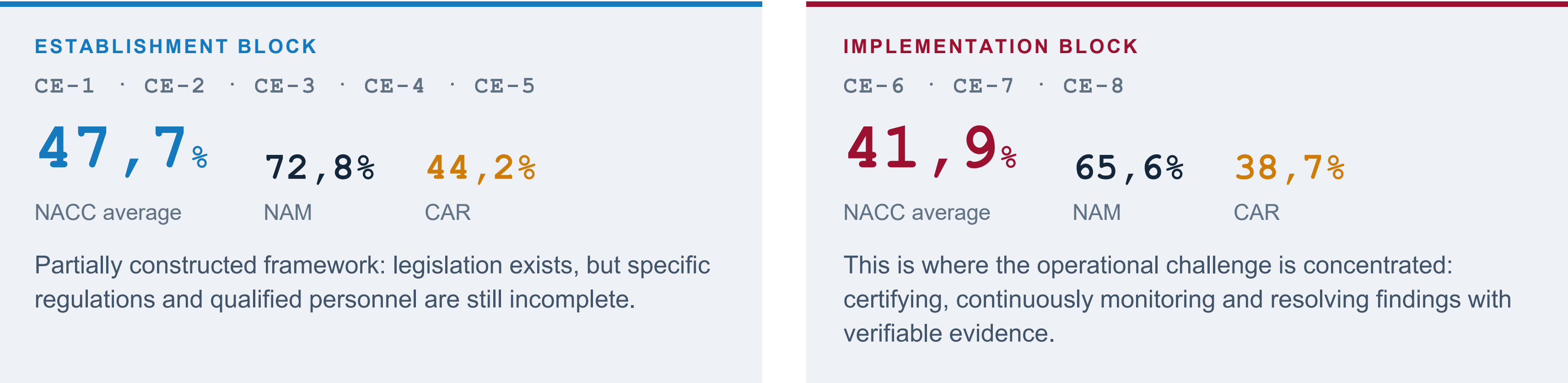
Areas for Improvement in EC-3 to increase the percentage and reach the target.

- ☐ An appropriate organisational structure responsible for regulation, certification and oversight.
- ☐ Sufficient personnel to cover all the specialities
- ☐ Requirements and job descriptions that fit the necessary technical profile.
- ☐ Sufficient AGA personnel to cover all disciplines.

In view of any shortcomings that may arise in some States, collaborative agreements between States and regional organisations could form part of a joint strategy, but this requires the standardisation of rules and procedures.

The problem shifted from paper to implementation.

The critical elements are grouped into two functional blocks. The establishment elements (CE-1 to CE-5) build the framework: laws, regulations, organisation, personnel and guidance. The implementation elements (CE-6 to CE-8) carry out the functions of certification, auditing/inspection (oversight) and closing findings.



Both blocks are below the target, but implementation is 5.8 points below establishment. Reinforcing the regulations alone will not move the indicator: the shortfall lies in the capacity to carry out oversight.

Own calculation (simple average of the EIs for each block) based on: ICAO, NACC Regional Office — AGA Effective Implementation of SARPs Analysis, NCMC/8, October 2025. The establishment/implementation grouping corresponds to the classification of protocol questions in the analysis itself.

State system and oversight functions

REGIONAL EI IN AGA

56,0%

Gap of 16.6 points compared with the global benchmark of 72.6%.



WHERE PERFORMANCE IS LOST

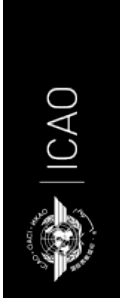
AGA AUDIT AREA	EI IN CE-3
Legislation and regulations - AGA	80,0%
Organisation, staffing - AGA	52,0%

The legal allocation of functions has been resolved (80.0%), but the structure that should carry them out has not. The 28-point gap between the two rows defines the challenge: a mandate without institutional capacity in place.

PRIORITY ACTION

- 01 Formalise the AGA unit within the authority, with explicit functions, reporting lines and a budget to regulate, certify and monitor.
- 02 Size the inspector workforce in relation to the number of aerodromes to be certified and monitored, including their inspection cycle.
- 03 Leverage the 80% regulatory compliance as a foundation and shift the effort to the organisation that implements it.

Sources: ICAO, NACC Regional Office — AGA Effective Implementation of SARPs Analysis, NCMC/8, October 2025. Global benchmark: ICAO, Safety Report 2025 (EI by critical element, 2024, all areas). Subregions: own calculation.

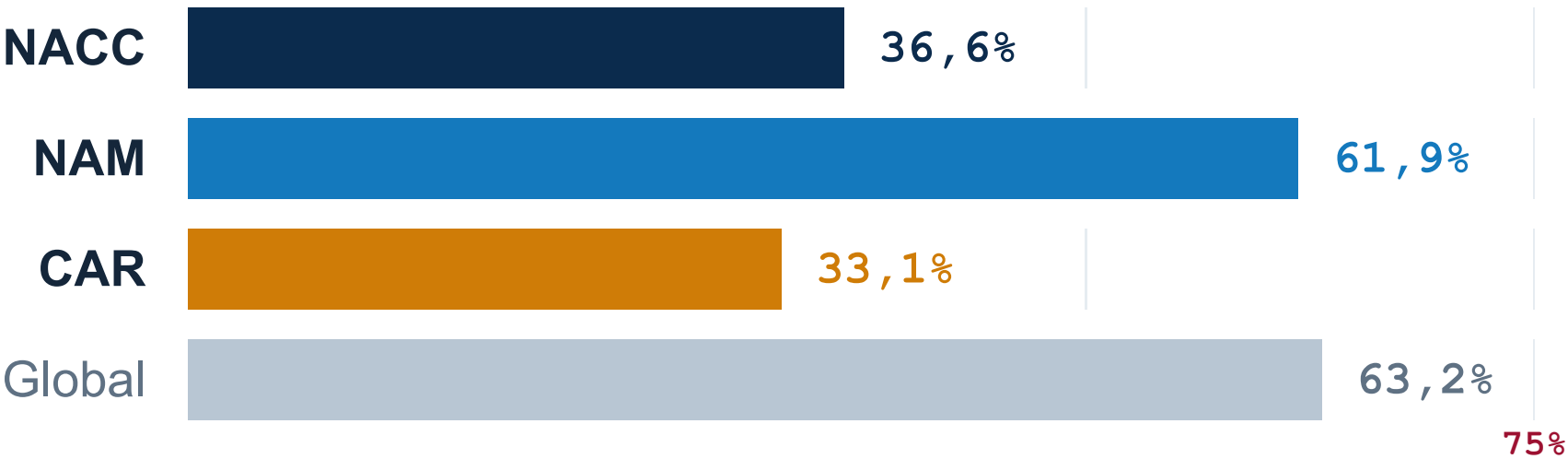


Qualification and training of technical personnel

REGIONAL EI IN AGA

36,6%

The lowest of the eight elements in the AGA area.



WHERE PERFORMANCE IS LOST

AGA AUDIT AREA	EI IN CE-4
Qualified Technical Personnel — AGA	36,6%
The only audit area that concentrates this element	

The weakness is not dispersed: it is entirely concentrated in a single audit area. It is the most narrowly defined challenge of the five prioritised and, therefore, the one requiring the most direct intervention. At 26.6 points below the global benchmark, it constrains the implementation of CE-6, CE-7 and CE-8.

PRIORITY ACTION

- 01 Define qualification profiles and requirements for aerodrome inspectors, with training programmes and formal competency records.
- 02 Implement a continuous training plan with a consistent budget, not dependent on isolated events.
- 03 Use regional mechanisms and the loan of experts to address specialisation deficits.

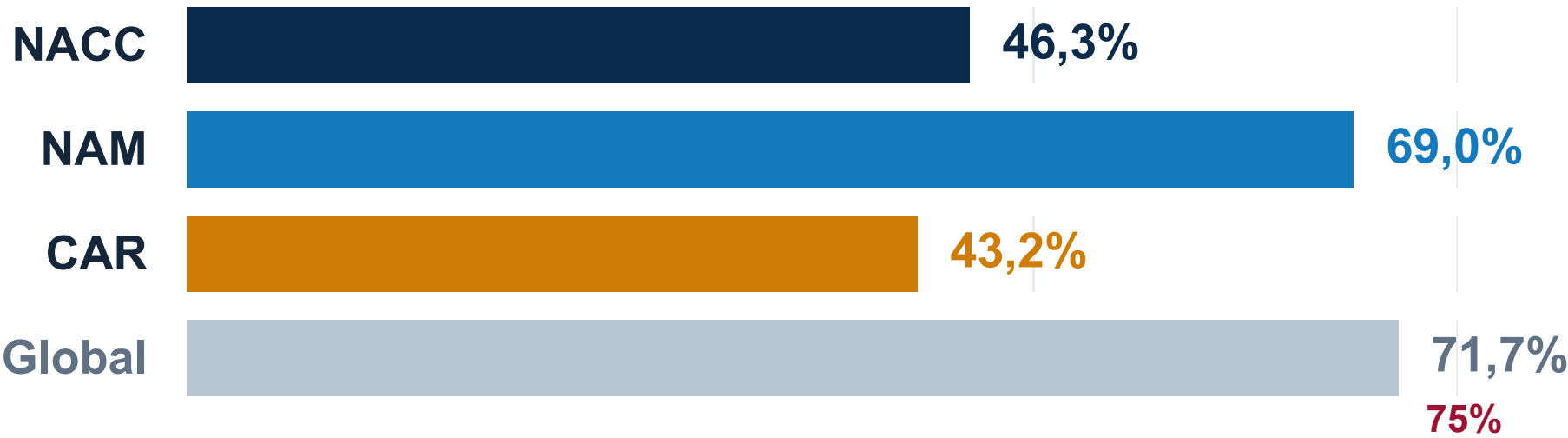
Sources: ICAO, NACC Regional Office — AGA Effective Implementation of SARPs Analysis, NCMC/8, October 2025. Global benchmark: ICAO, Safety Report 2025 (EI by critical element, 2024, all areas). Subregions: own calculation.

Technical guidance, tools and information

REGIONAL EI IN AGA

46,3%

25.4 percentage-point gap against the global benchmark of 71.7%.



WHERE PERFORMANCE IS LOST

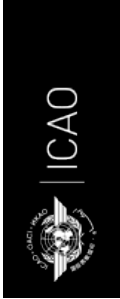
AGA AUDIT AREA	EI IN CE-5
Guides, tools and checklists — AGA	46,3%
Predominant subject matter of the element’s 16 protocol questions	

Technical guidance does not reach the inspector: 13 of the element’s 16 protocol questions still have room for improvement. CE-5 is the bridge between the regulations and their application: without guides, checklists and uniform criteria, certification (CE-6) and surveillance (CE-7) are carried out using inconsistent judgement.

PRIORITY ACTION

- 01
- Publish and keep up to date the technical guidance material in Annex 14 that translates the regulations into criteria applicable by the inspector.
- 02
- Standardise certification and continuous surveillance checklists, aligned with the protocol questions for the AGA area.
- 03
- Maintain a single, accessible repository of current technical information: amendments, SARPs and guidance material. (Helps to standardise)

Sources: ICAO, NACC Regional Office — AGA Effective Implementation of SARPs Analysis, NCMC/8, October 2025. Global benchmark: ICAO, Safety Report 2025 (EI by critical element, 2024, all areas). Subregions: own calculation.

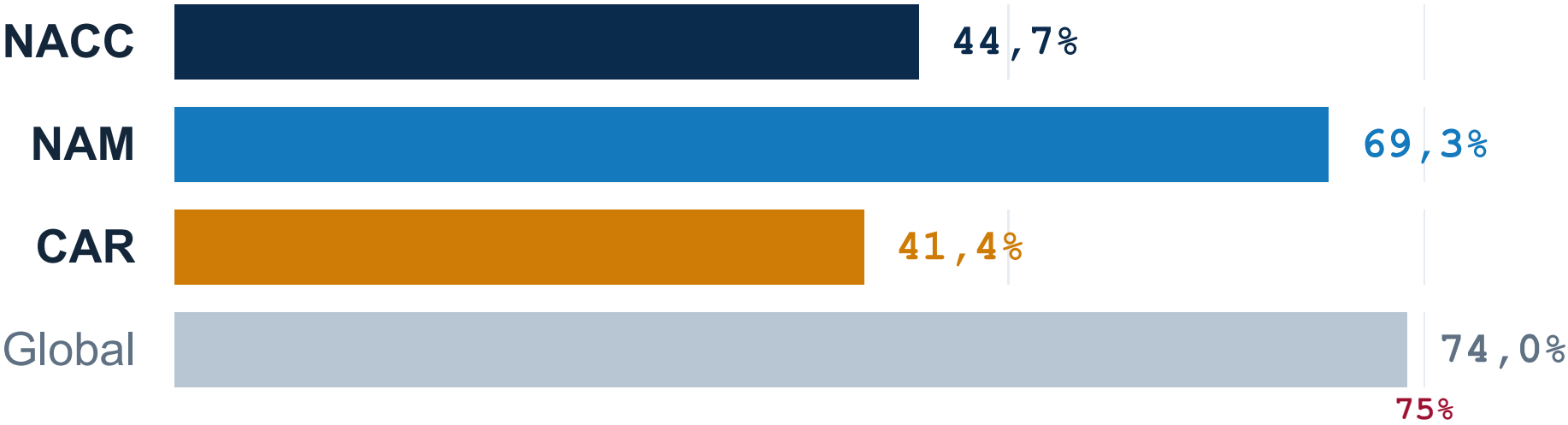


Certification and authorisation obligations

REGIONAL EI IN AGA

44,7%

The largest gap of the eight elements:
29.3 points below the global
benchmark.



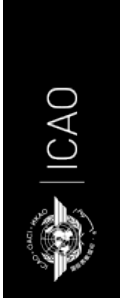
WHERE PERFORMANCE IS LOST

AGA AUDIT AREA	EI IN CE-6
Legislation and regulations — AGA	32,0%
Aerodrome visual aids	35,2%
Aerodrome surveillance	36,0%
Physical characteristics, facilities and equipment	44,0%
Aerodrome certification — general	45,0%

PRIORITY ACTION

- 01 Finalise the aerodrome certification regulations: this is the lowest-scoring row (32.0%) and blocks the entire process.
- 02 Complete the certification files with verifiable criteria for visual aids and physical characteristics.
- 03 Maintain the trajectory towards the goal of 85% of international aerodromes certified.

Sources: ICAO, NACC Regional Office — AGA Effective Implementation of SARPs Analysis, NCMC/8, October 2025 (five audit areas with the lowest EI in CE-6). Global benchmark: ICAO, Safety Report 2025. Certification target: AGA NACC Programme. Subregions: own calculation.

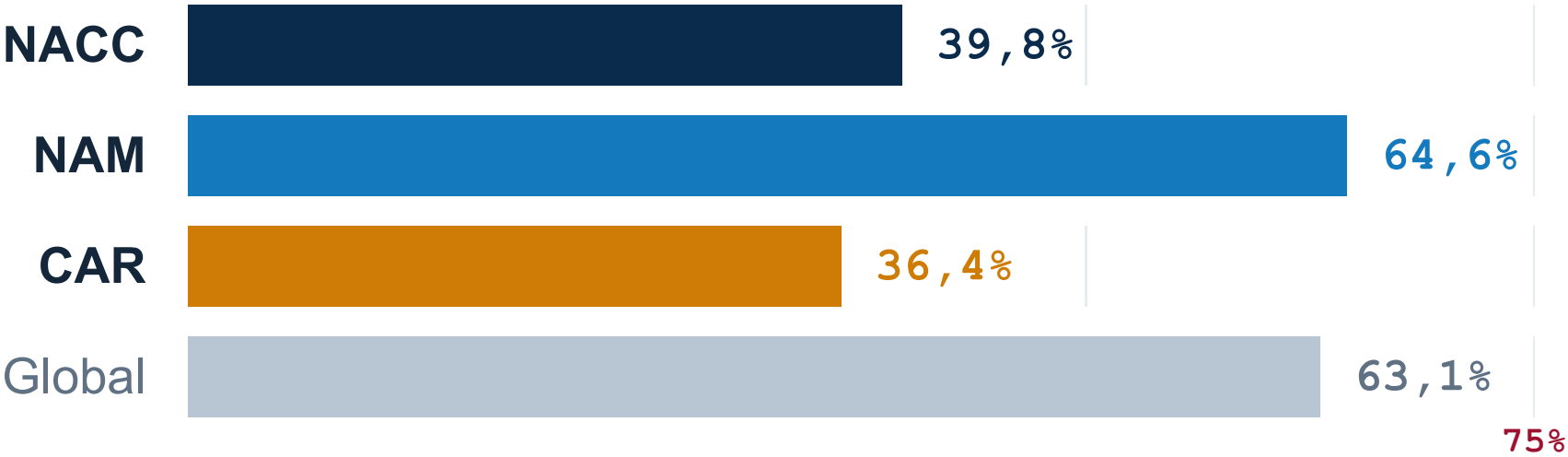


Oversight obligations

REGIONAL EI IN AGA

39,8%

Second-lowest element in the region, with a global gap of 23.3 points.



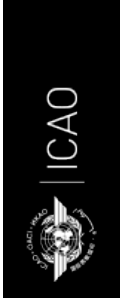
WHERE PERFORMANCE IS LOST

AGA AUDIT AREA	EI IN CE-7
SMS, aeronautical studies and risk assessment	30,0%
Aerodrome surveillance	30,4%
Aerodrome maintenance	36,0%
Aerodrome manual	40,0%

PRIORITY ACTION

- 01
- Implement an inspection programme with defined cycles and frequencies, rather than a reactive one: continuous surveillance is at 30.4%.
- 02
- Implement the use of comprehensive checklists for continuous surveillance.
- 03
- Verify the aerodrome manual, the operator’s maintenance and aeronautical studies on site.

Sources: ICAO, NACC Regional Office — AGA Effective Implementation of SARPs Analysis, NCMC/8, October 2025 (five audit areas with the lowest EI in CE-7). Global reference: ICAO, Safety Report 2025. Subregions: own calculation.

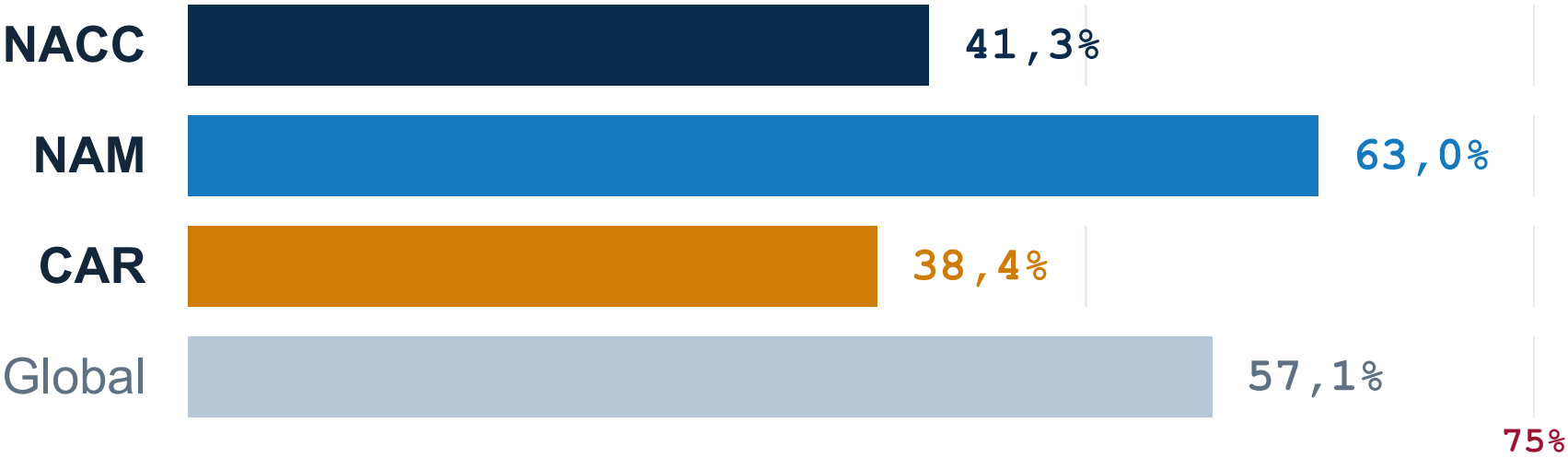


Resolution of safety non-conformities

REGIONAL EI IN AGA

41,3%

It is also the lowest element worldwide (57.1%): a structural weakness, not merely a regional one.



WHERE PERFORMANCE IS LOST

AGA AUDIT AREA	EI IN CE-8
Aerodrome surveillance	35,2%
SMS, aeronautical studies and risk assessment	48,0%
Safety procedures for aerodrome operations	50,0%

Closing findings is the final link: without documented evidence, the effort of the previous seven elements is not reflected in the indicator.

PRIORITY ACTION

- 01 Formalise the corrective action plan procedure: responsible person, deadline, verification and documented closure.
- 02 Compile the evidence file during operations, not in the run-up to the audit.
- 03 Systematically follow up on findings arising from aerodrome surveillance, the lowest row of the element.

Distribution of the 142 questions analysed by critical element

Each protocol question has an associated critical element; the distribution shows where the audit requirements are concentrated: CE-6 and CE-7 account for 78 of the 142 questions analysed.

ELEMENT	PQ	PREDOMINANT SUBJECT
CE-1	2	Law and removal of obstacles
CE-2	22	Annex 14 Regulations
CE-3	7	Aerodrome authority and staffing
CE-4	8	Inspector training programme
CE-5	16	Guides and checklists
CE-6	45	Aerodrome certification and manual
CE-7	33	Continuous monitoring, OLS and RFF
CE-8	9	Closure of deficiencies
Total	142	AGA Area, 2024 edition · questions analysed

BASIS OF THE ANALYSIS

The analysis was conducted on the 142 protocol questions for the AGA area up to and including 8.415. The new questions related to the SMS are outside the scope because they have not yet been audited in the region.

MOST DEMANDING QUESTIONS

- 8.086

Full implementation of aerodrome certification requirements.
CE-6
- 8.111

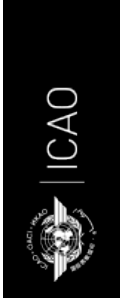
Aerodrome manual submitted for acceptance by the authority.
CE-6
- 8.401

Continuous surveillance procedures for certificate holders. CE-7
- 8.411

Procedures for resolving deficiencies identified during surveillance. CE-8

All six require evidence of implementation, not just a published regulation.

Source: ICAO — Protocol questions for the AGA audit area, 2024 edition (Rev. L, September 2024), document provided by the authority. Count by critical element across the 142 questions analysed: own work.



The protocol questions with the greatest emphasis on resolution

Six questions cited from the AGA questionnaire. None can be satisfied by a published regulation: all ask for evidence that the function is being carried out.

8.039 CE-3

“Does the aerodrome regulatory authority have sufficient staff to carry out its functions and fulfil its mandate?”

Requires staffing levels proportionate to the number of aerodromes, not an organisational chart.

8.086 CE-6

“Does the aerodrome regulatory authority fully implement the certification requirements?”

It measures the complete implementation of the process, not the existence of the regulation (CE-2).

8.401 CE-7

“Has the authority developed and implemented procedures for the ongoing surveillance of aerodrome certificate holders?”

Calls for an inspection cycle sustained over time and its recording.

8.055 CE-4

“Is the training programme implemented appropriately?”

It is not enough to have the programme: you must prove that it is implemented and recorded.

8.111 CE-6

“Does the State ensure that operators submit an aerodrome manual for acceptance by the authority, as a prerequisite for certification?”

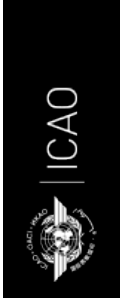
It requires formal acceptance and review of the manual, not merely its submission.

8.411 CE-8

“Has the authority developed and implemented procedures for resolving deficiencies identified during surveillance activities?”

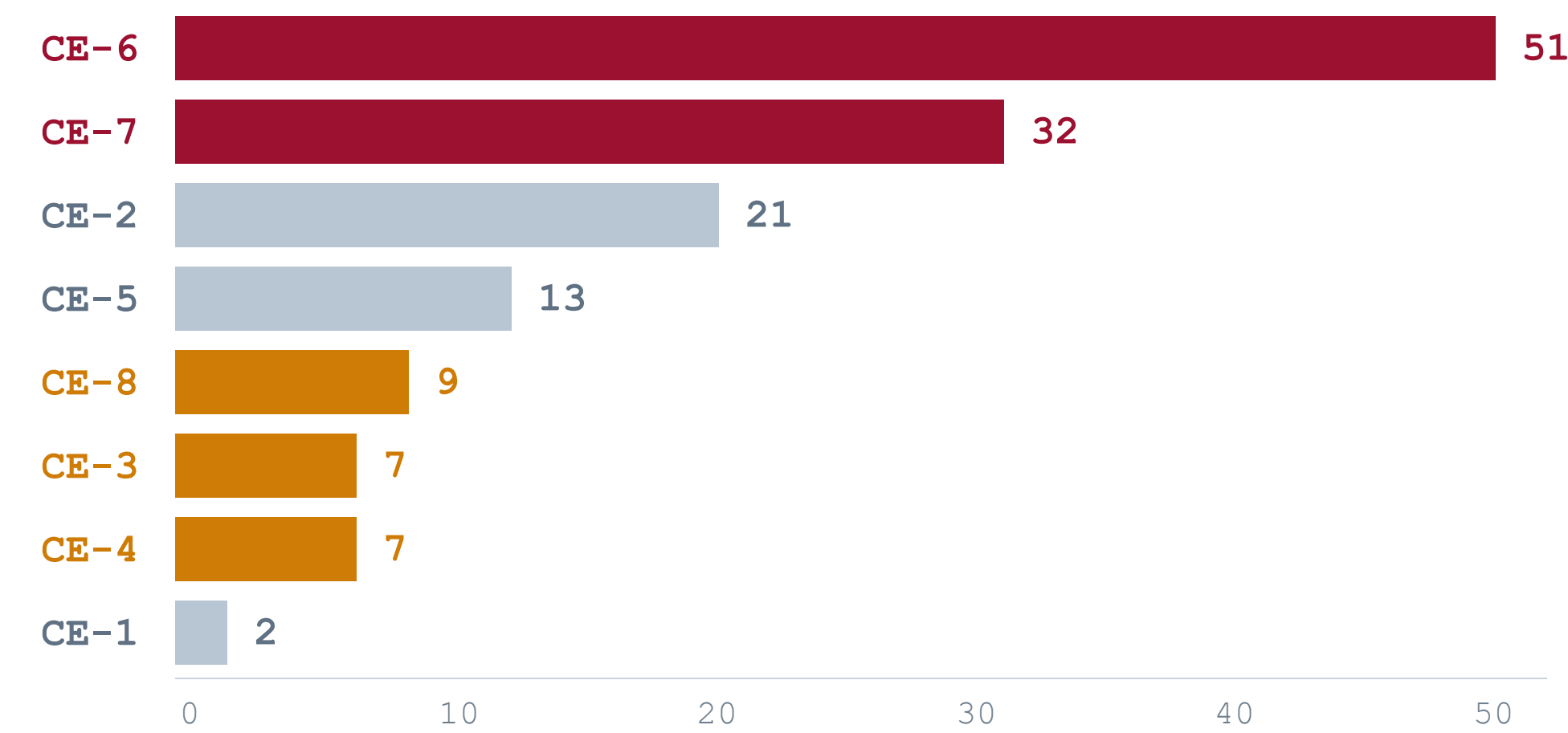
Requires a closure file: responsible person, deadline, verification and evidence.

Source: ICAO — AGA area protocol questions, 2024 edition (Rev. L, Sep. 2024), range analysed up to 8.415. Text quoted verbatim; in 8.039, 8.111 and 8.401 it was abbreviated without altering the content.



Two elements account for 58% of the questions requiring improvement

AGA PROTOCOL QUESTIONS WITH ROOM FOR IMPROVEMENT, BY CRITICAL ELEMENT



EFFORT / IMPACT RATIO

83

Protocol questions pending in CE-6 and CE-7, out of a total of 142 identified in the AGA area.

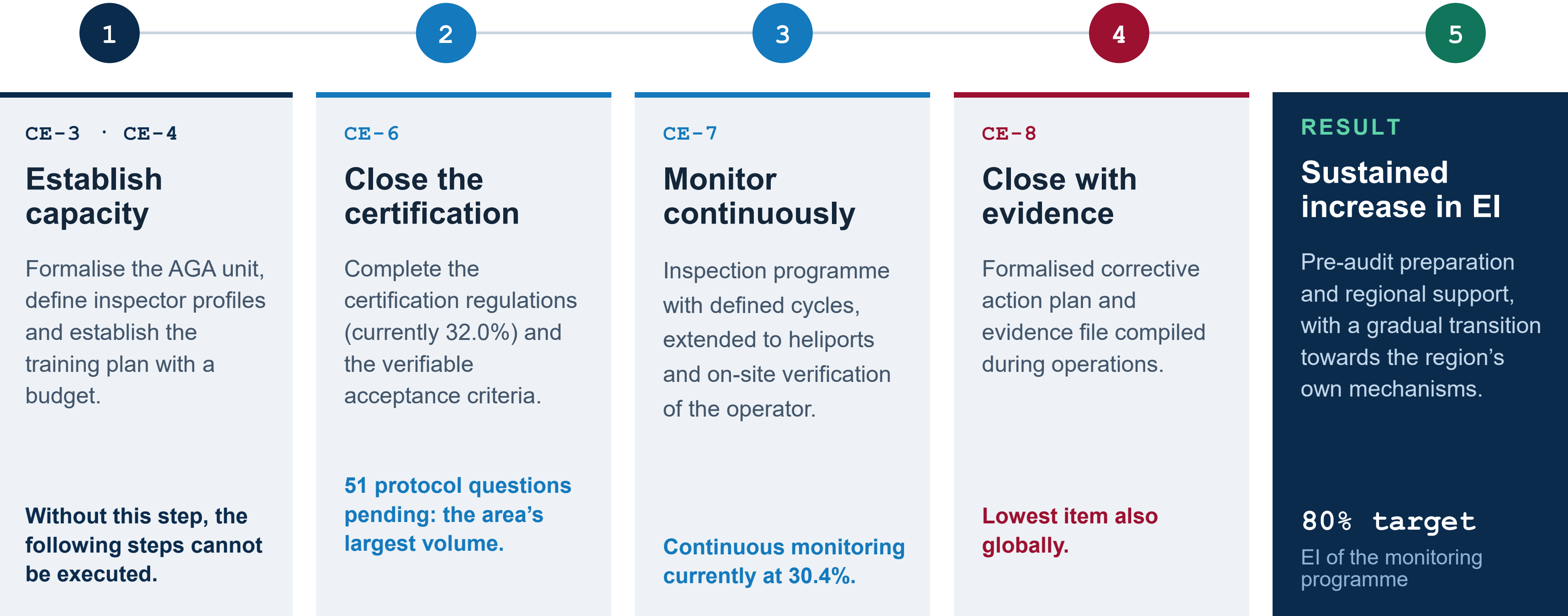
14

Questions in CE-3 and CE-4: few in number, but they constrain the ability to respond to the 83 previous questions.

SEQUENCING CRITERION

The workload is concentrated in the implementation elements, but they cannot be tackled first: without organisation (CE-3) or qualified personnel (CE-4), there is nobody to address the 83 questions in CE-6 and CE-7. The correct sequence reverses the order of the workload.

Sequence prioritised by critical element



GUIDING PRINCIPLE

Reorganise regional effort to balance effort and impact: consolidate what has been established, build the capacity that delivers, and only then scale up monitoring and the closure of findings.

The framework exists. What is lacking is implementation capacity.

THREE CONCLUSIONS

- 01 AGA is the region’s weakest surveillance domain, and no critical element reaches the 75% target.
- 02 The backlog is concentrated in implementation (CE-6, CE-7 and CE-8), enabled by CE-3 and CE-4.
- 03 The asymmetry between subregions calls for differentiated support, not a uniform regional response.

WHAT IS REQUIRED FROM STATES

Executive-level support

Enable the activities planned by the Regional Office and the AGA Group, including the loan of experts.

Open communication with operators

The authority and airports are pursuing the same objective; transparency accelerates certification.

Focus on results

Prioritise evidence of effective implementation over means or methods.

Sustained commitment

Ongoing communication with the project managers of the Organisation and Group AGA.

From 45.5% to the 80% target: the gap is closed through sequencing, not volume.



Thank you

