

Update & Results Questionnaire

2nd iMARS Workshop Brussels



image manipulation attack
resolving solutions

20 March 2024
Renée Ong

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Questionnaire Introduction



- Why the iMARS Questionnaire?
 - Achieve input from Member States about morphing and image manipulation cases.
 - Gain insight if and where morphs and manipulations are discovered by Member States.
- What do we want to achieve with this Questionnaire?
 - Information
 - Feedback
 - Awareness

Questions for States & Organizations:

01. How many cases of morphing has your organization discovered in the past 5 years? *

- 0 (no cases)
- 1-5
- 6-10
- 11-20
- 21-50
- 51-100
- 101+

02. In which domain/s have the morphing case/s been discovered? (Select all that apply) *

- Application process
- Air border
- Land border
- Sea border
- Domestic controls
- Forensic
- Not applicable
- Other (please explain)

03. How was the morphing case discovered? In case of several cases, which was the most common discovery method?

- Manual (by a human expert)
- Technical (for example, by a detection algorithm)
- Procedures
- Combination
- Not applicable
- Other (please explain)

Questionnaire



07. If possible, please provide

some further details about the case/s in the box below (please do not provide personal details).

08. Would you agree to one of the iMARS team members contacting you directly to discuss the case/s. If so, please check this box. Please contact

09. What measures have been taken in your State to avoid morphing and/or manipulation cases in the future? (Select all that apply) * Technology solutions (such as algorithms to detect cases)
 New policy or processes
 Working with another organization
 Training of staff
 Not applicable
 Other (please explain)

10. What factors might prevent your organization and/or State from using Morphing Attack Detection (MAD) algorithms? (Select all that apply) * Cost
 Integration
 Legal and regulation issues
 Ongoing maintenance
 Performance issues
 Staffing requirements
 Other (please explain) or Unsure (please explain your uncertainty about the factors)

Questionnaire



11. Would your organization be willing to test an iMARS MAD algorithm? *

Yes

No

Unsure (my organization wants more information about the test)

12. Do human experts in your organization have skills and/or knowledge to detect morphing or image manipulation? *

Yes

No

Unsure

13. Would your organization be willing to test strategies to assist human experts in their decision making? *

Yes

No

Unsure (my organization wants more information about the test)

14. Can we contact you to discuss: (Select all that apply)

Morphing and/or manipulation cases in your organization or State

Testing MAD algorithms

Testing strategies to assist human experts

None of the above

15. Would you like to subscribe to the iMARS newsletter? *

Yes

No

Results

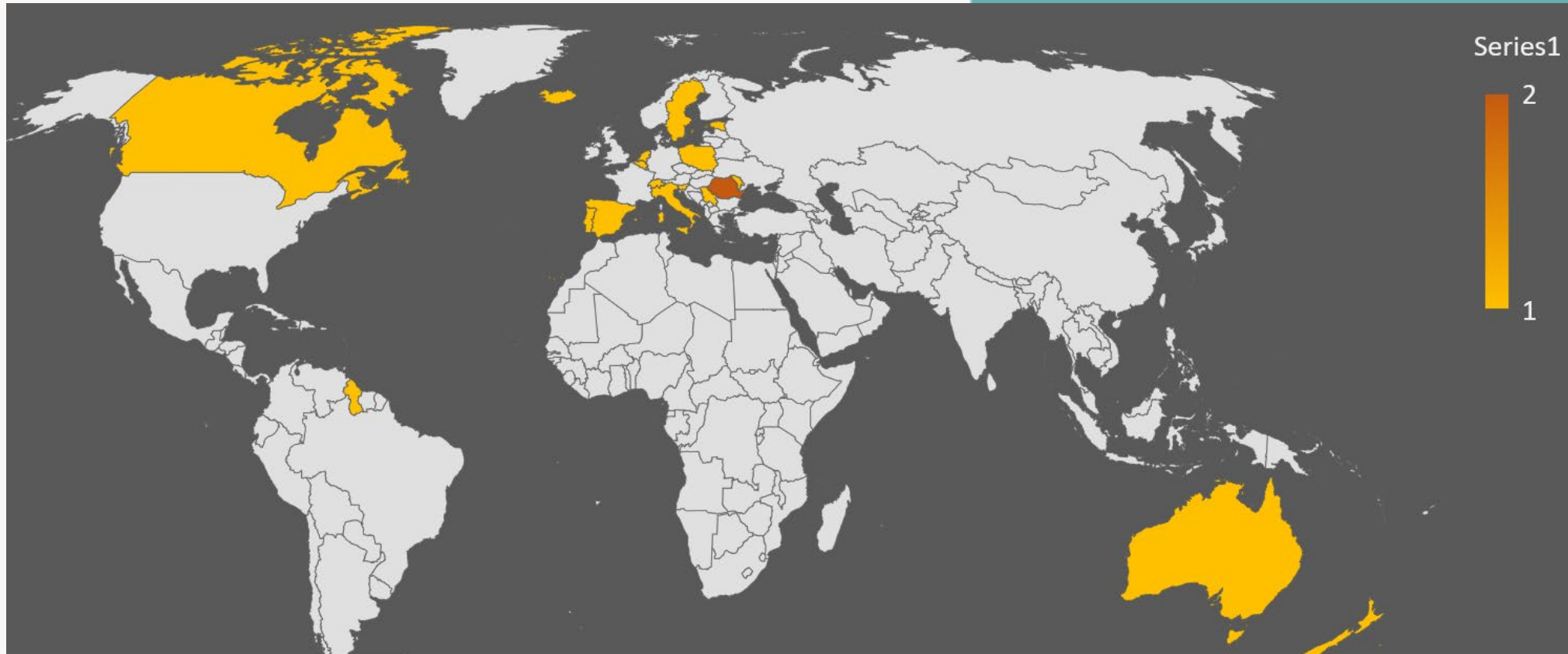


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Questionnaire respondents



20 responses from 19 countries



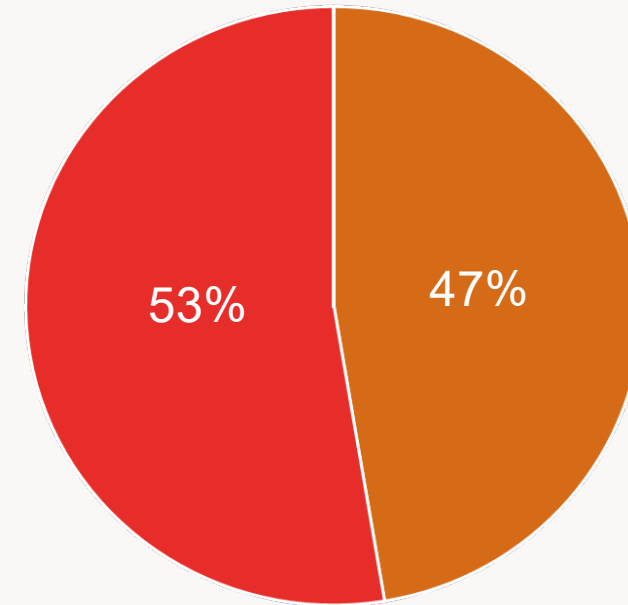
Efforts to recruit more countries and organizations still going!

Who are they?



And how many cases of morphing?

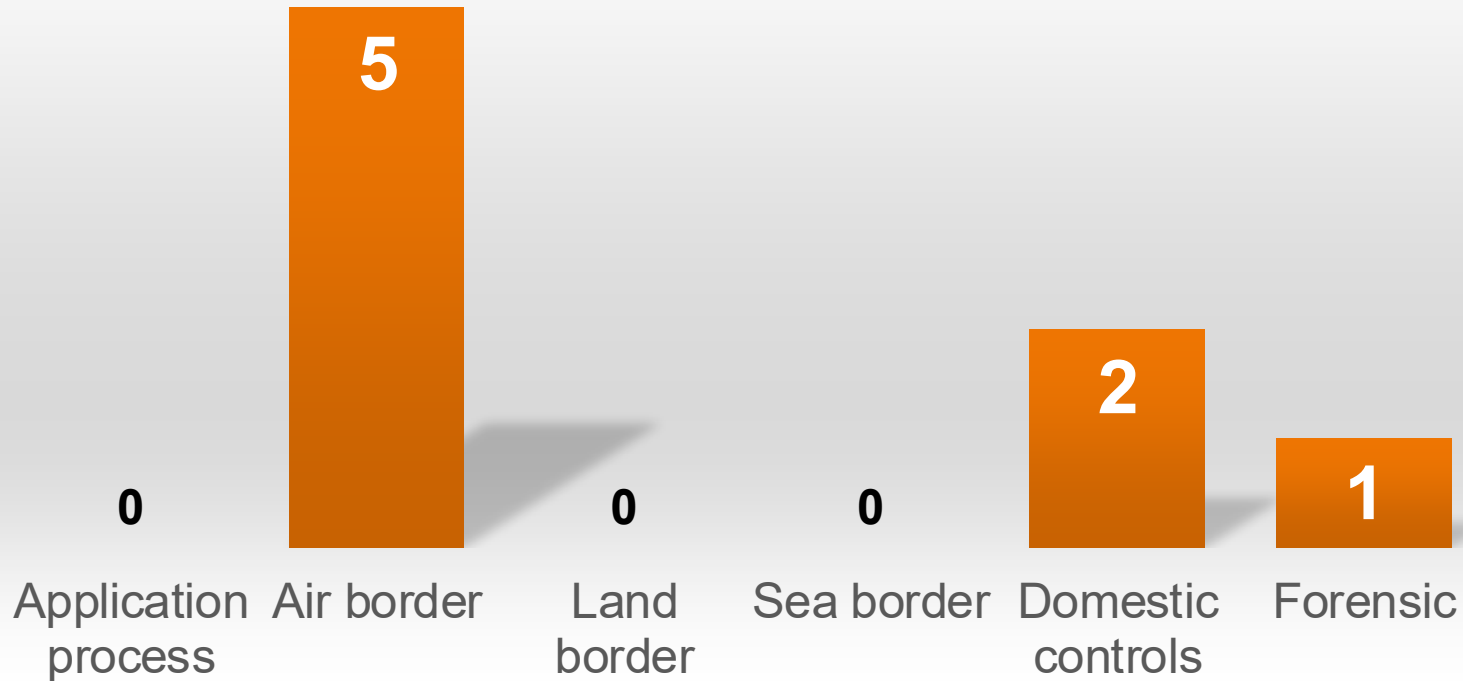
Reported number of cases in 5 past years



Where/how were the cases discovered?

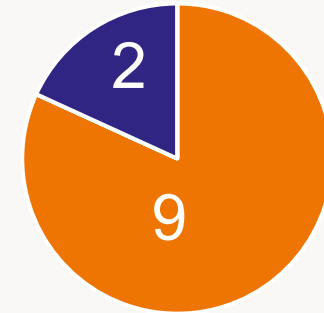


Domains of discovery



Number of times the domain was selected

Method of detection



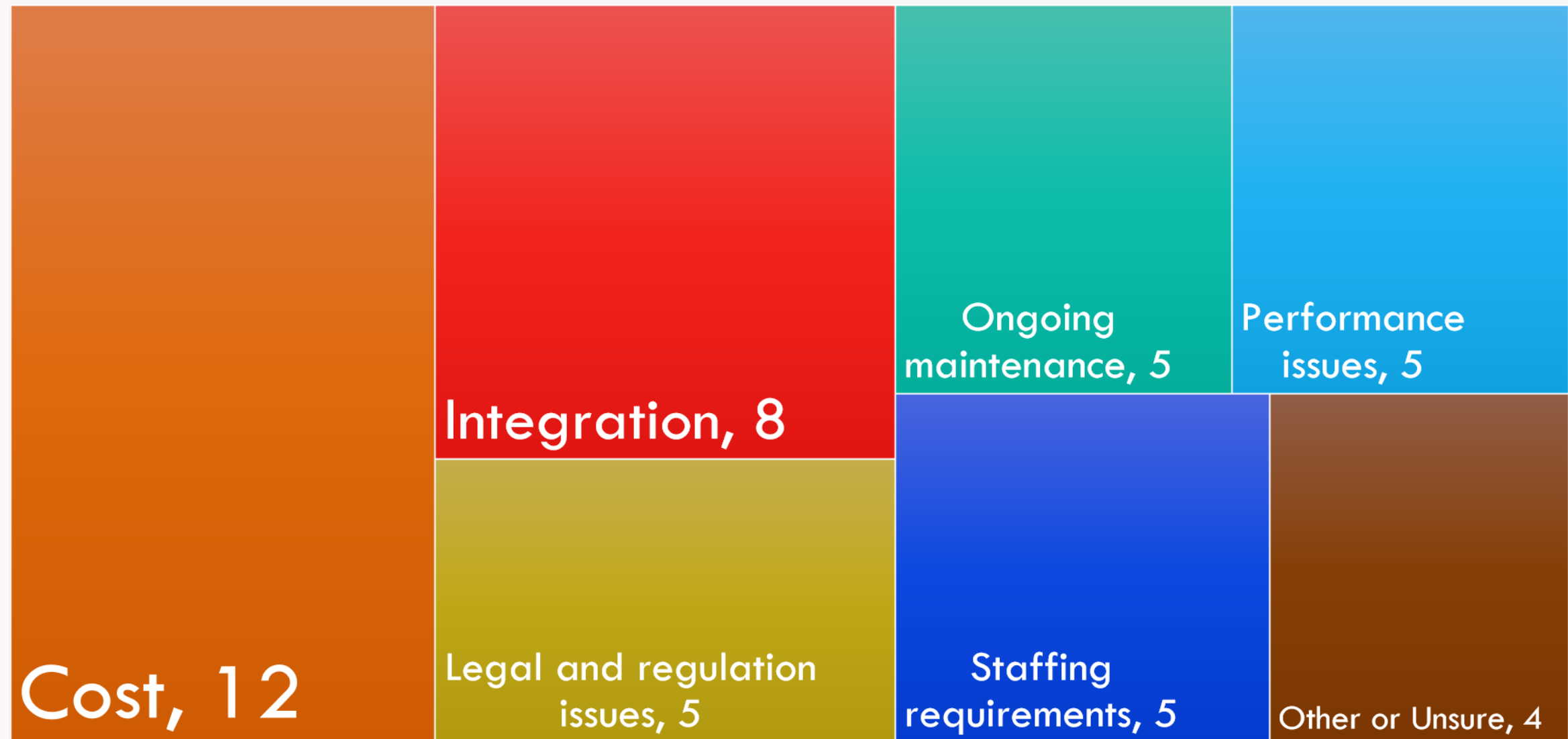
- Manual (by a human expert)
- Technical (for example, by a detection algorithm)
- Procedures
- Combination
- Other

What about other types of image manipulation?



Number of cases	Domains of discovery	Method of discovery
101+	Application process	Manual
101+	Application process	Manual
51-100	Application process, Other	Manual
51-100	Air border, Land border, Sea border, Domestic controls , Forensic	Manual
21-50	Domestic controls	Manual
21-50	Land border	Manual
21-50	Air border	Manual
6-10 cases	Forensic	Manual
1-5 cases	Air border	Procedures
1-5 cases	Domestic controls	Manual
1-5 cases	Application process	Manual
1-5 cases	Application process	Manual
1-5 cases	Other (Cybercrime)	Manual
0 cases	5 respondents indicated "0 cases"	

Using MAD... what are the concerns?



Would they test iMARS Algorithms?



5 responded **yes**

10 responded **maybe**

4 responded **no**

Would they test iMARS Algorithms?



10 responded **maybe**

I'm unsure of what the algorithm does

Need more information

We need more information to understand if our border architecture (device and soft) is eligible for this test

Such test could be performed only afterwards on some samples

Please contact us!!

Are costs related to the test, are our systems capable to include the MAD?

-

Possibly, but this can not be answered at present.

Would they test strategies to assist human experts?

10 responded **yes**

7 responded **maybe**

2 responded **no**

Would they test strategies to assist human experts?

7 responded **maybe**

no idea how such
thing could work

I dont know

Please contact
us!!

Need more
information

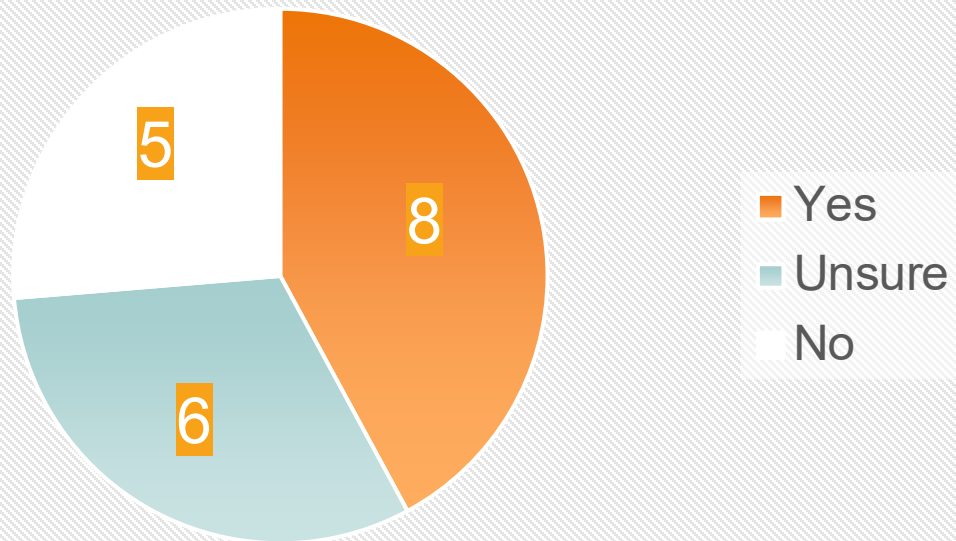
-

Unsure

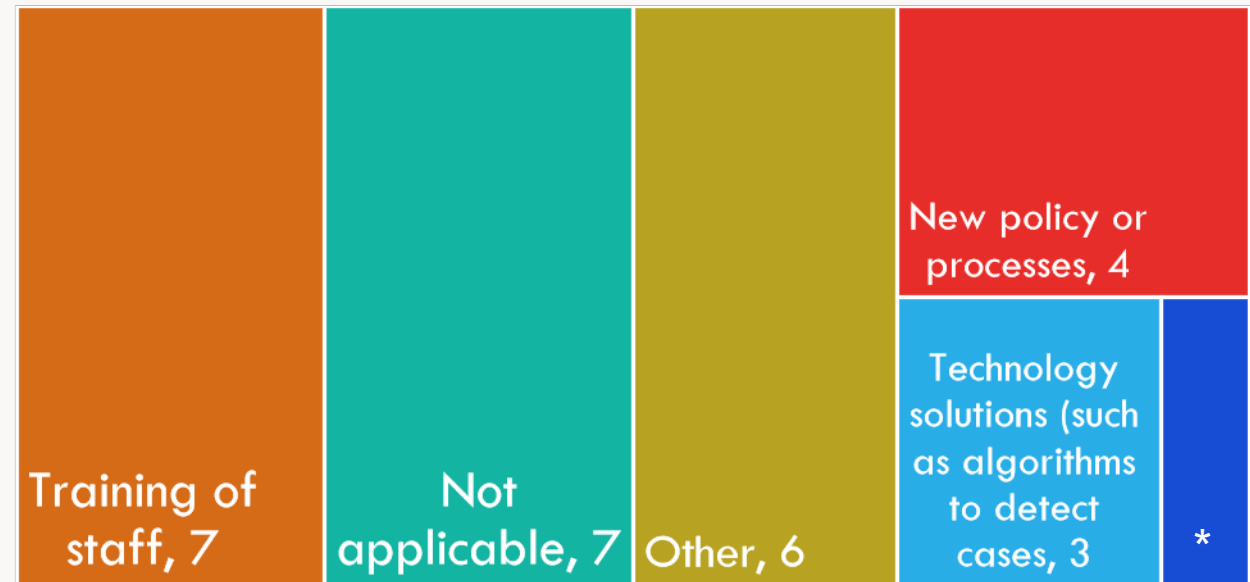
What about current skills and prevention measures?



Do human experts in your organization have skills and/or knowledge to detect morphing or image manipulation?



What measures have been taken in your State to avoid morphing and/or manipulation cases in the future?



* Working with another organisation

What about current skills and prevention measures?

“Other” prevention measures include:

- “Adding second biometric feature to ABC gates”
- Live enrollment for passports
- Live enrollment as main process
- We have live enrollment when applying for passports, national identity cards and residence permits.
- Awareness

Do they want to hear from us?



- Of those who reported either morphing attacks or other types of image manipulation attacks, **50%** said we can **contact them for more details about their cases**
- **17/19** are interested in subscribing to **iMARS' newsletter**

- When asked if we could contact them on specific topics, only 1 declined further contacts.

How many want to be contacted

Morphing and/or manipulation cases in your organization or State

10

Testing MAD algorithms

12

Testing strategies to assist human experts

14

- March-April 2024 reach out to respondents with questions or those are willing to test algorithms/strategies assisting human experts
- 1st of July 2024 – Deadline response Questionnaire
- September 2024 – Results Questionnaire available
- Final meeting 2024 – Presentation statistical data displayed in an anonymized report

Link Questionnaire



The link with more information about the iMARS project and the questionnaire.

[Questionnaire iMARS | Reisdocumenten | Rijksdienst voor Identiteitsgegevens \(rvig.nl\)](#)

On behalf of the iMARS project, many thanks in advance!

Thank you



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