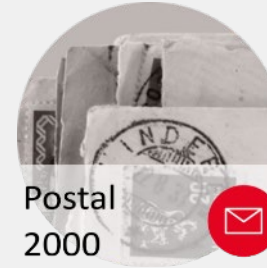# THREAT AND RISK MANAGEMENT

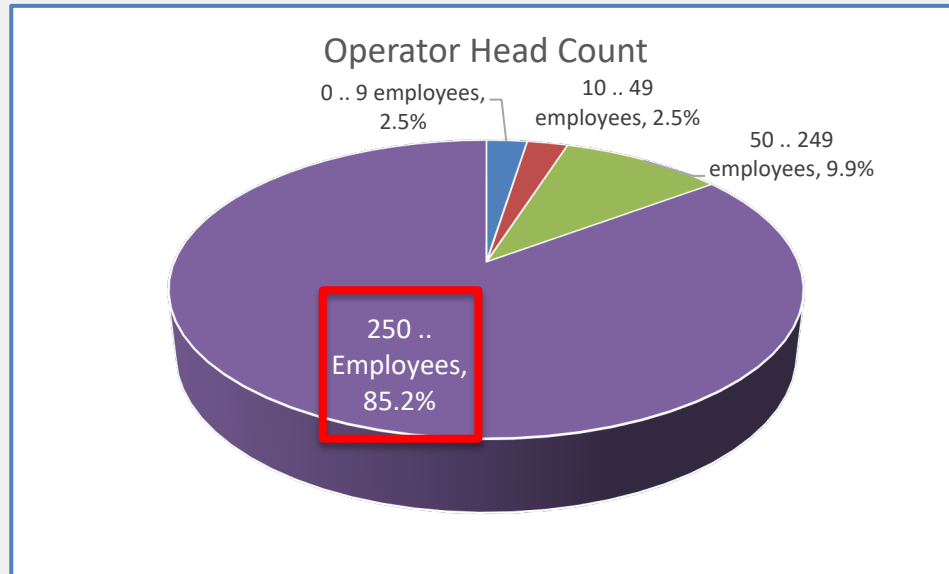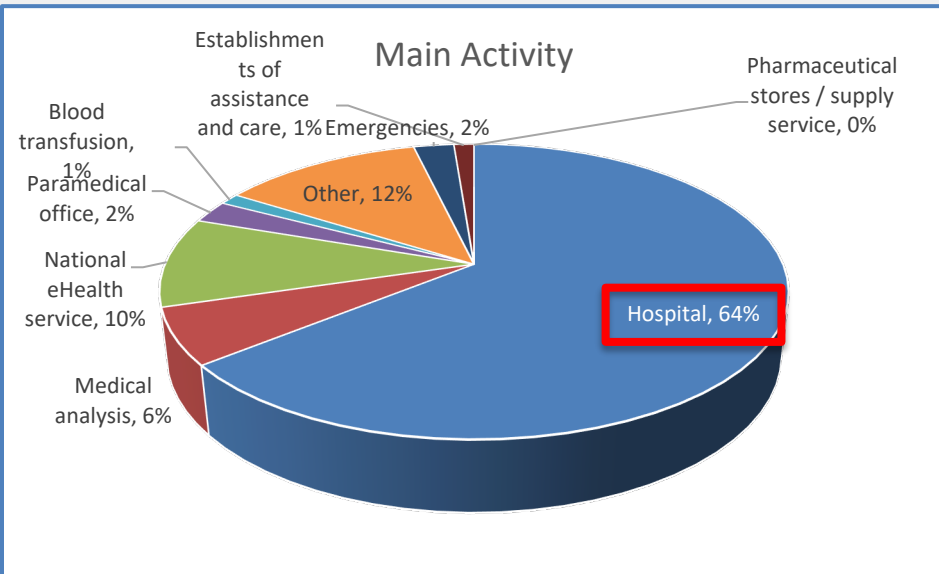**NIS Cooperation Group - WS on Health**

Task Group 3

Pascal BERTRAND

Health Sector Threat Landscape

- EU survey to health sector from 07/2022 to 10/2022

- 21 questions Survey sent to health operators

- Identify, mitigate and manage health sector cyber risks

- WS on Health - NIS Cooperation Group

- Task Group 3: Portugal, Denmark, **ENISA**, **Luxembourg**

Health Survey - Participants

Main Activity

Pie chart labels: Establishments of assistance and care, 1%; Emergencies, 2%; Pharmaceutical stores / supply service, 0%; Blood transfusion, 1%; Paramedical office, 2%; Other, 12%; National eHealth service, 10%; Medical analysis, 6%; Hospital, 64%

Operator Head Count

Pie chart labels: 0 .. 9 employees, 2.5%; 10 .. 49 employees, 2.5%; 50 .. 249 employees, 9.9%; 250 .. Employees, 85.2%

Answers from 81 operators
93% active only in 1 EU country

Health Survey – Risk Management Culture

- Only 54% perform risk analysis

- Risk analysis frequency: once a year – 73% out of 54%

- Only 54% have procedures for incident response

- Only 27% consider risks from 3rd party (supply chain)
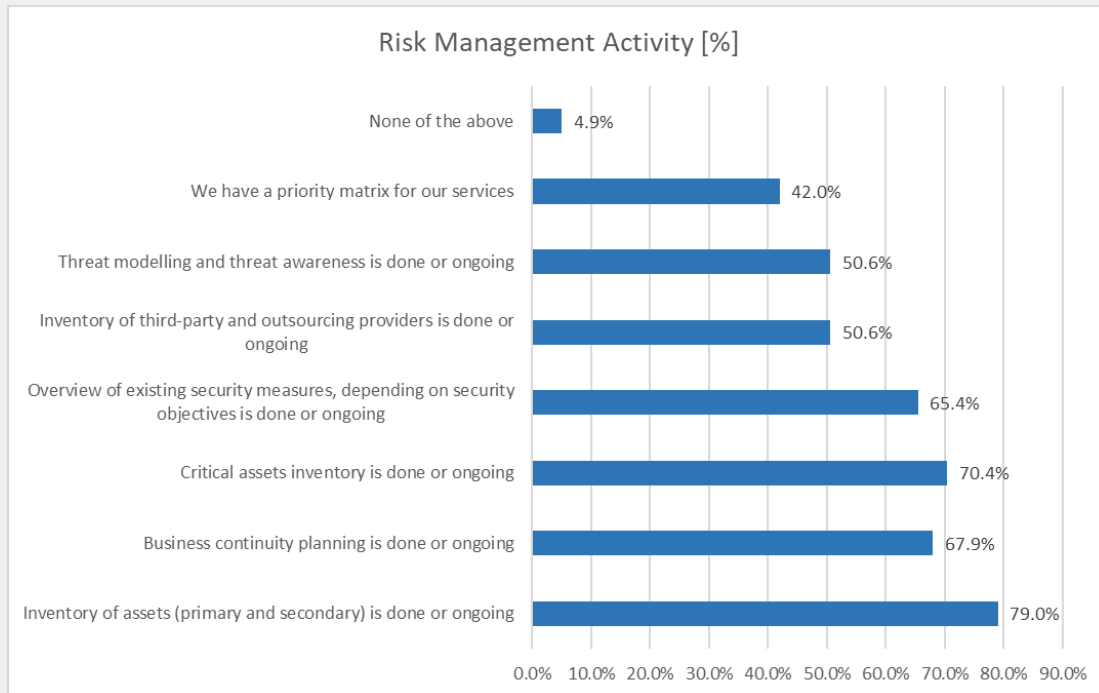

Risk Management Culture

Health Survey – Risk Management Culture

- 33% perform both risk analysis and incident response – best practice
- 21% perform only incident response
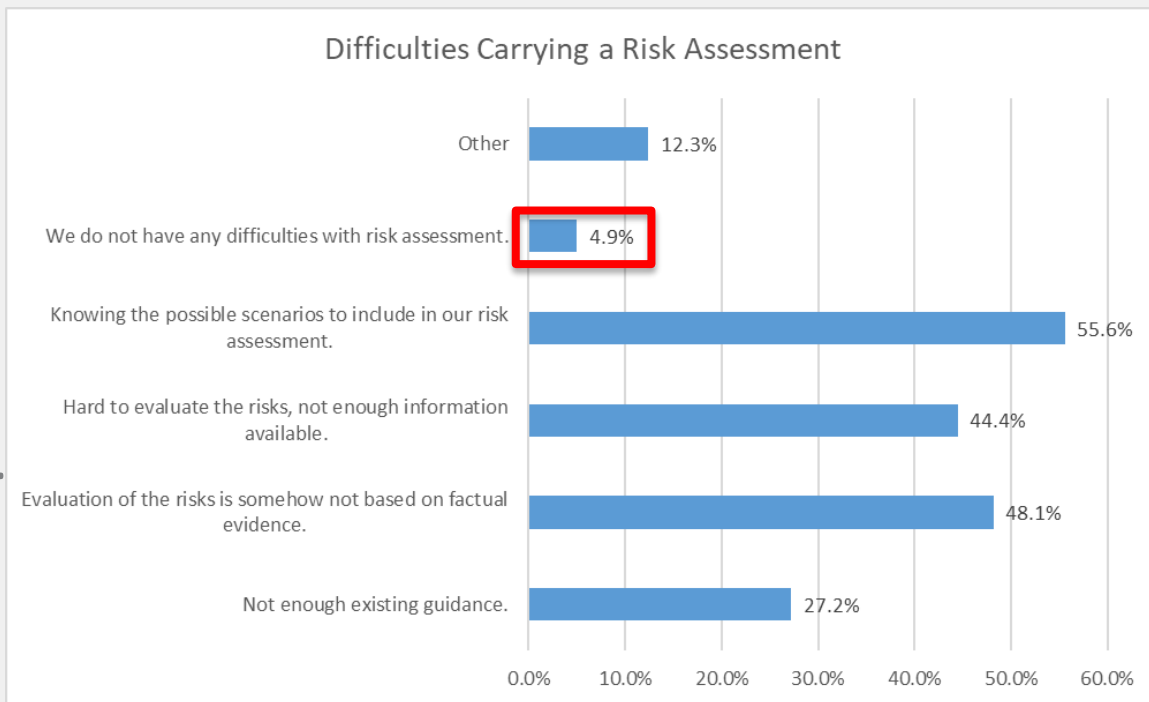- 21% perform only risk analysis

Risk Analysis Execution Or Incident Response [%]

Health Survey – Risk Management Activity

- 79% Asset inventory
- 70% Critical asset inventory
- 68% Business continuity plan

Risk Management Activity [%]

Category	Value
None of the above	4.9%
We have a priority matrix for our services	42.0%
Threat modelling and threat awareness is done or ongoing	50.6%
Inventory of third-party and outsourcing providers is done or ongoing	50.6%
Overview of existing security measures, depending on security objectives is done or ongoing	65.4%
Critical assets inventory is done or ongoing	70.4%
Business continuity planning is done or ongoing	67.9%
Inventory of assets (primary and secondary) is done or ongoing	79.0%

Health Survey – Risk Analysis Difficulties

- 95% face difficulties
- Need for:
  - Information
  - Guidance
  - Training
  - Informed governance.
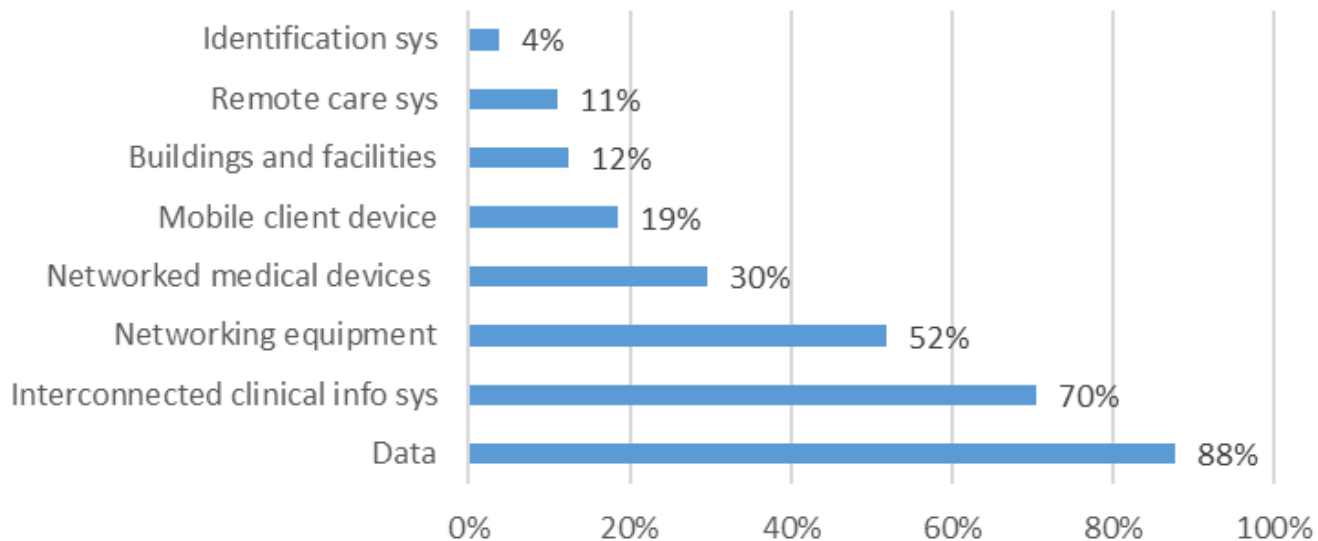
Difficulties Carrying a Risk Assessment

Category	Percentage
Other	12.3%
We do not have any difficulties with risk assessment.	4.9%
Knowing the possible scenarios to include in our risk assessment.	55.6%
Hard to evaluate the risks, not enough information available.	44.4%
Evaluation of the risks is somehow not based on factual evidence.	48.1%
Not enough existing guidance.	27.2%

Health Survey – Risk Analysis Difficulties

- 89% of entities performing risk analysis with over 250 employees

Size of Entities Performing a Risk Analysis
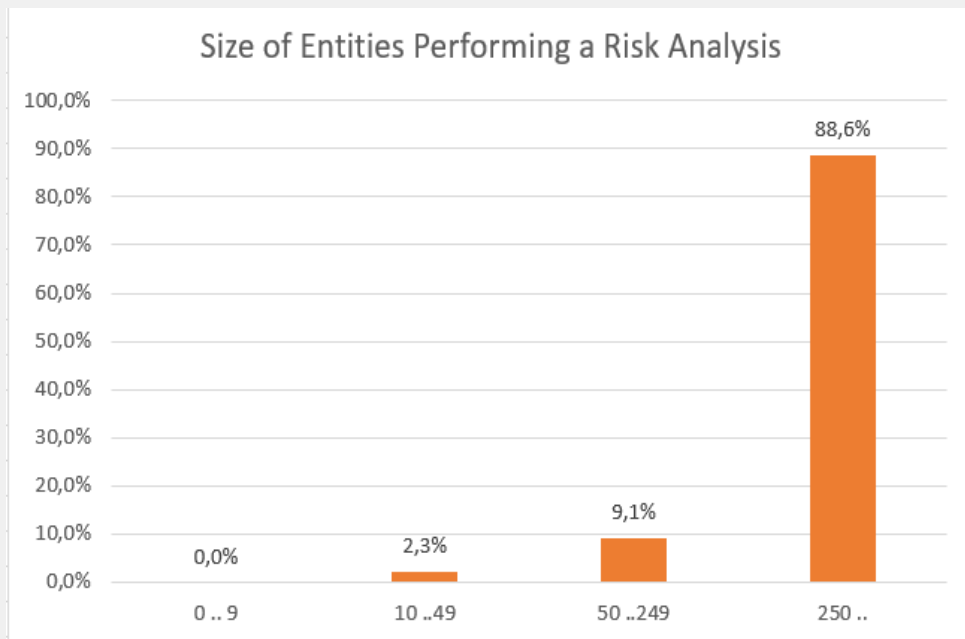
Health Survey – Most Important Assets

Most Important Health-Specific Assets

Asset	Percentage
Identification sys	4%
Remote care sys	11%
Buildings and facilities	12%
Mobile client device	19%
Networked medical devices	30%
Networking equipment	52%
Interconnected clinical info sys	70%
Data	88%

Health Survey – Health Sector Threats

Top 8	Threats
1	Ransomware
2	E-mail related threats
3	Malware
4	Threats against data
5	Threats against availability and integrity
6	Cryptojacking
7	Disinformation – misinformation
8	Non-malicious threats

Health Survey – Barrier Against Cybersecurity
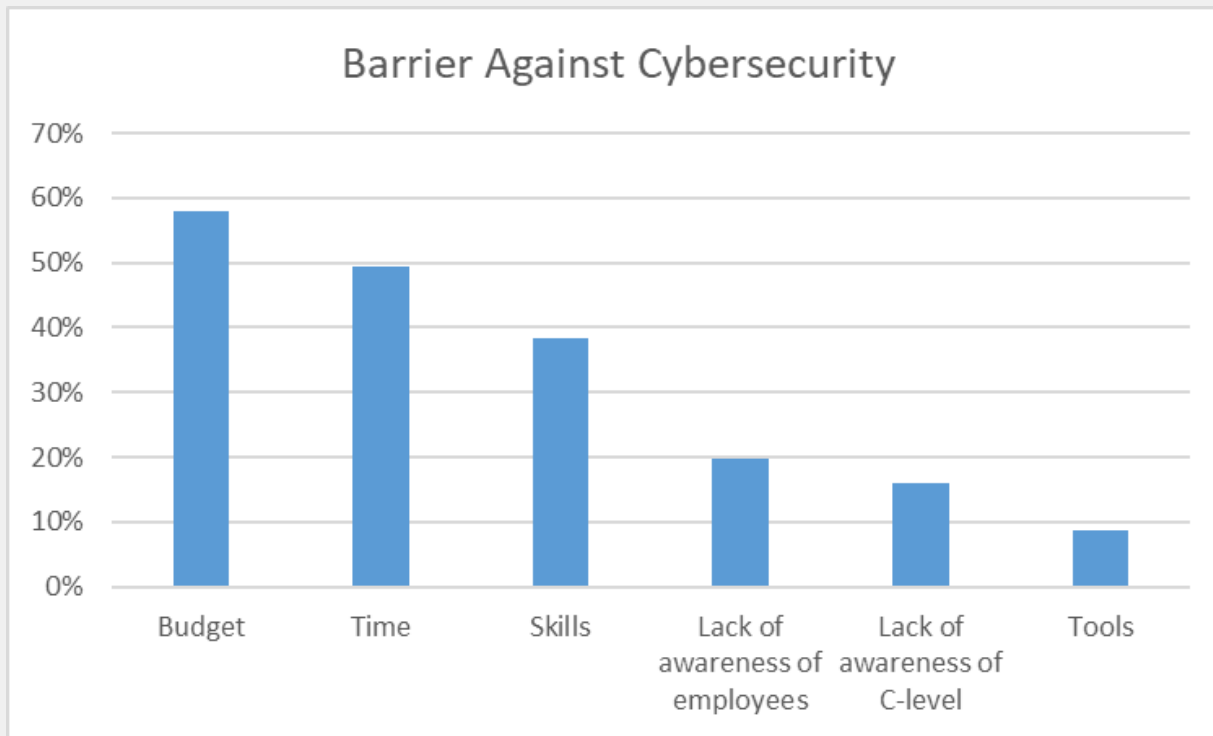
Health Survey – Guidance

Conclusion
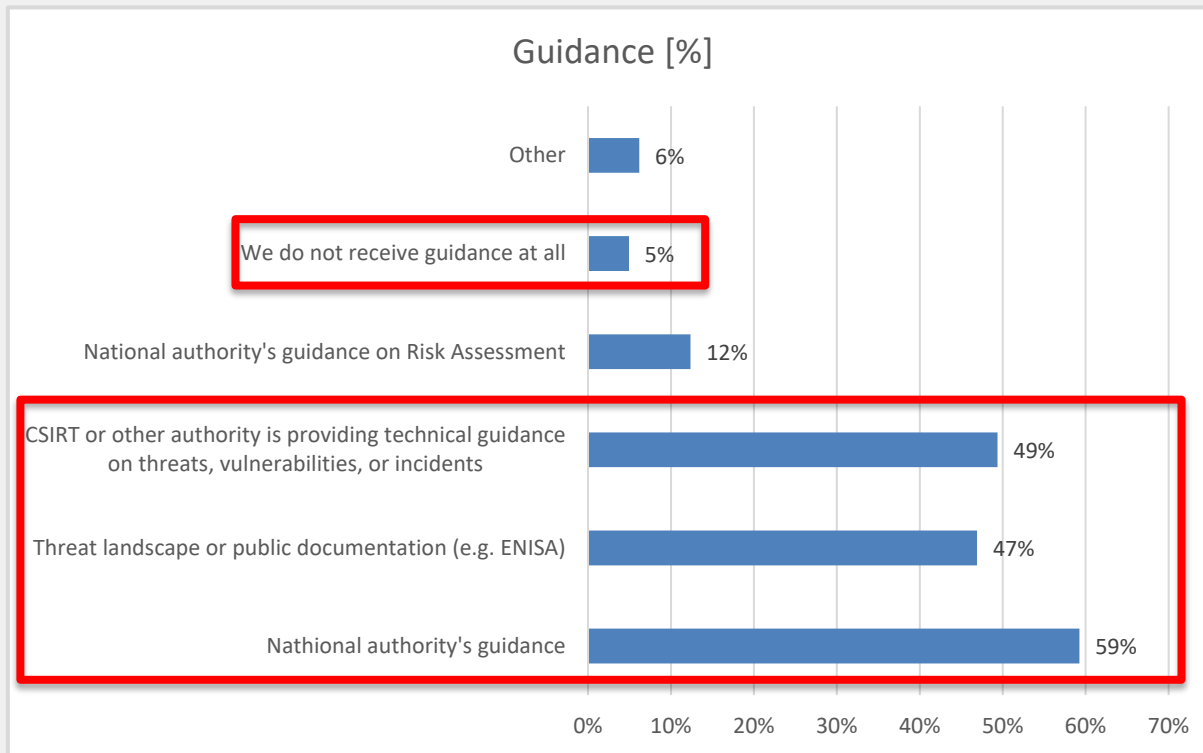
High level of cyber security

Still a lot to do…

- Awareness

- Risk analysis

- Guidance

- Training

- Support

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