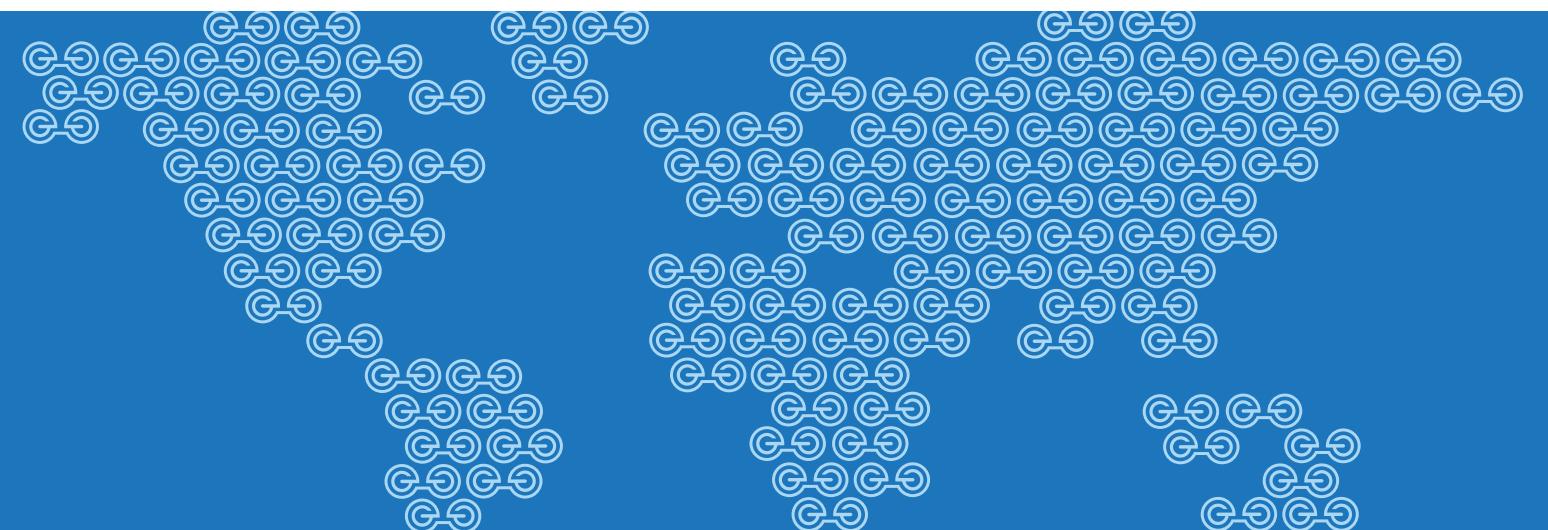




National Cyber Security Index 2018



15
YEARS

Empowering
e-governance
around the world

National Cyber Security Index 2018

National Cyber Security Index 2018

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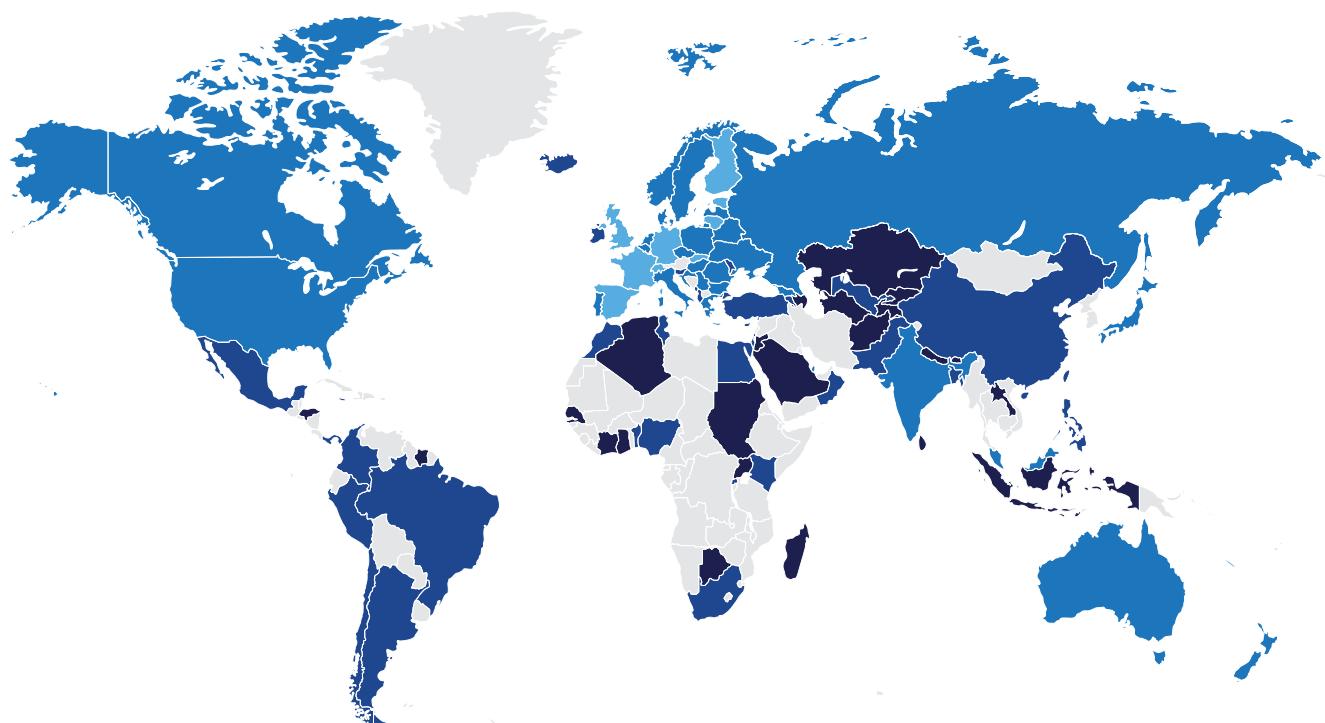


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e-Governance Academy	34

NCSI World Reach



NCSI fulfilment percentage

- 1-24
- 25-49
- 50-74
- 75-100
- data not available

Foreword

Raul Rikk

NCSI Project manager

Programme Director of National Cyber Security
e-Governance Academy

I am pleased to introduce the National Cyber Security Index version 2.0.

We all know that cyber security is a global challenge and one country alone cannot ensure its security in cyberspace. Therefore, it is extremely important to find ways to make our digital world secure together.

The NCSI provides an overview of the cyber security capacity of countries, pointing out good practices and showing which aspects could be improved. The NCSI is based on publicly available evidence, which is presented on the NCSI website: www.ncsi.ega.ee.

Currently, the index has 100 countries in the ranking list. The data collection continues and we have planned to include most of the countries to the NCSI by the end of 2018. If your country does not appear in the index and you could provide relevant information, please contact us at ncsi@ega.ee.

Our idea is to provide continuous developments on an ongoing basis. We do not publish annual iterations of the ranking list. When we receive information about new evidence, we will check it and update the website within a month. If you are able to provide evidence about a country, we encourage you to contact us at ncsi@ega.ee.

New aspects of version 2.0

The new version of the index takes into account the cyber security principles developed in the European Union in recent years. It includes the most important aspects of network and information security, electronic identification, trust services, personal data protection and many other aspects.

The NCSI web environment is also updated. Now it is compatible with different devices and provides a better overview of the countries' cyber security capacities. We have developed different comparison tools that help to analyse the current situation of countries and place it into regional or global context.

I would like to thank everyone, who contributed to the development of this index – all state officials, organisations, companies and individual experts around the world. My special thanks go to the NCSI core team members Agu Kivimägi and Marit Lani, who have made significant effort to develop version 2.0 and ensure the quality of the data. Also, I would like to thank Kala Ruudus Ltd. and especially Rene Saare, who developed the new website for the index.

Methodology

Purpose

The National Cyber Security Index is a global index, which measures the preparedness of countries to prevent cyber threats and manage cyber incidents. The NCSI is also a database with publicly available evidence materials and a tool for national cyber security capacity building.

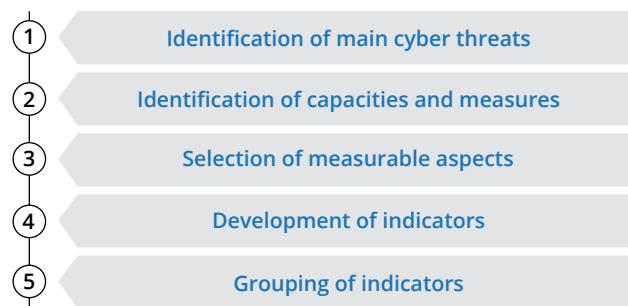
National Cyber Security Index



NCSI Development Process

The index has been developed in 5 steps:

- 1) Identification of fundamental cyber threats at the national level
- 2) Identification of national level cyber security measures and capacities
- 3) Selection of important and measurable aspects
- 4) Development of cyber security indicators
- 5) Grouping of cyber security indicators



Focus and scope

The NCSI focuses on measurable aspects of cyber security implemented by the central government:

- 1) **Legislation in force** – legal acts, regulations, official orders, etc.
- 2) **Established units** – existing organisations, departments, etc.
- 3) **Cooperation formats** – council, committee, official working group, etc.
- 4) **Outcomes / Products** – policies, exercises, technologies, websites, programmes, etc.

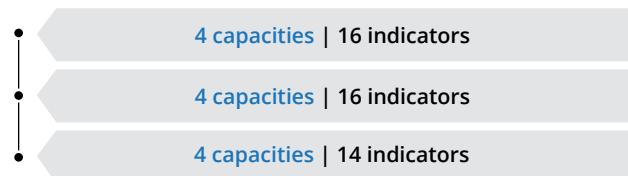
Measurable Aspects of Cyber Security

Implemented by the central government



Structure

The NCSI has 3 categories, 12 capacities and 46 indicators.



Values of indicators

Each indicator has a value, which shows the relative importance of the indicator in the index. The values are given by the expert group according to the following consideration:

- 1 point – a legal act that regulates a specific area
- 2-3 points – a unit that has a specific cyber security responsibility
- 2 points – an official cooperation format
- 1-3 points – an outcome / product (document, exercise, technology, etc.)

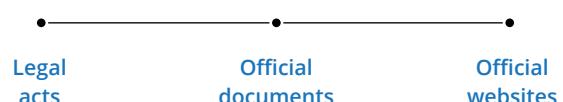
Legal act	(1)	Point
Established unit	(2) – (3)	Points
Official cooperation format	(2)	Points
Outcomes / Products	(1) – (3)	Points

Evidence

Country ratings are based on public evidence:

- 1) Legal acts
- 2) Official documents
- 3) Official websites

Evidence



NCSI Score

The NCSI Score shows the percentage the country received from the maximum value of the indicators. The maximum NCSI Score is always 100 (100%) regardless of whether indicators are added or removed.

The **NCSI Score** shows the percentage of the maximum points

$$\text{NCSI Score} = \frac{\text{Country Points} \times 100}{\text{Maximum Points}}$$

Digital Development Level (DDL)

In addition to the NCSI Score, the index table also shows the Digital Development Level (DDL). The DDL is calculated according to the ICT Development Index (IDI) and Networked Readiness Index (NRI). The DDL is the average percentage the country received from the maximum value of both indices.

The **DDL** shows the average % of the IDI and NRI max values

$$\text{DDL} = \frac{\text{IDI \%} + \text{NRI \%}}{2}$$

Difference

The Difference shows the relationship between the NCSI Score and DDL. A positive result shows that the country's cyber security development is in accordance with, or ahead of, its digital development. A negative result shows, that the country's digital society is more advanced than the national cyber security area.

The **Difference** shows the relationship between NCSI and DDL

$$\text{Difference} = \text{NCSI Score} - \text{DDL}$$

Ranking

Rank	Country	National Cyber Security Index	Digital Development Level	Difference		
1.	France	83.12	<div style="width: 83.12%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	79.06	<div style="width: 79.06%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	4.06
2.	Germany	83.12	<div style="width: 83.12%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	81.95	<div style="width: 81.95%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	1.17
3.	Estonia	81.82	<div style="width: 81.82%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	79.27	<div style="width: 79.27%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	2.55
4.	Slovakia	80.52	<div style="width: 80.52%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	66.73	<div style="width: 66.73%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	13.79
5.	Finland	79.22	<div style="width: 79.22%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	82.26	<div style="width: 82.26%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	-3.04
6.	Lithuania	77.92	<div style="width: 77.92%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	70.95	<div style="width: 70.95%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	6.97
7.	Spain	77.92	<div style="width: 77.92%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	73.24	<div style="width: 73.24%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	4.68
8.	United Kingdom	75.32	<div style="width: 75.32%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	83.96	<div style="width: 83.96%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	-8.64
9.	Switzerland	75.32	<div style="width: 75.32%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	85.13	<div style="width: 85.13%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	-9.81
10.	Czech Republic	74.03	<div style="width: 74.03%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	69.37	<div style="width: 69.37%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	4.66
11.	Malaysia	72.73	<div style="width: 72.73%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	66.90	<div style="width: 66.90%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	5.83
12.	Latvia	72.73	<div style="width: 72.73%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	70.59	<div style="width: 70.59%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	2.14
13.	Portugal	68.83	<div style="width: 68.83%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	70.65	<div style="width: 70.65%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	-1.82
14.	Belgium	68.83	<div style="width: 68.83%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	77.62	<div style="width: 77.62%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	-8.79
15.	Poland	67.53	<div style="width: 67.53%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	66.59	<div style="width: 66.59%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	0.94
16.	Serbia	66.23	<div style="width: 66.23%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	61.62	<div style="width: 61.62%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	4.61
17.	Japan	66.23	<div style="width: 66.23%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	82.15	<div style="width: 82.15%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	-15.92
18.	Netherlands	66.23	<div style="width: 66.23%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	83.88	<div style="width: 83.88%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	-17.65
19.	Georgia	64.94	<div style="width: 64.94%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	59.66	<div style="width: 59.66%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	5.28
20.	Italy	64.94	<div style="width: 64.94%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	66.63	<div style="width: 66.63%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	-1.69
21.	United States	64.94	<div style="width: 64.94%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	82.33	<div style="width: 82.33%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	-17.39
22.	Russian Federation	63.64	<div style="width: 63.64%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	67.49	<div style="width: 67.49%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	-3.85
23.	Norway	63.64	<div style="width: 63.64%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	83.78	<div style="width: 83.78%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	-20.14
24.	Hungary	62.34	<div style="width: 62.34%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	66.08	<div style="width: 66.08%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	-3.74
25.	Luxembourg	62.34	<div style="width: 62.34%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	83.06	<div style="width: 83.06%;"><div style="width: 100%; height: 10px; background-color: #3366CC;"></div><div style="width: 100%; height: 10px; background-color: #CCCCCC;"></div></div>	-20.72

Digital Development Level: Shows the average fulfilment % of ICT Development Index (IDI) and Networked Readiness Index (NRI)

Difference: Difference between the National Cyber Security Index (NCSI) and Digital Development Level (DDL).

Blue: cyber security is more advanced. **Red:** cyber security is behind.

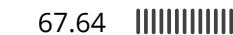
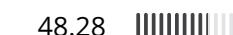
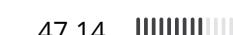
Rank	Country	National Cyber Security Index	Digital Development Level	Difference
26.	Sweden	61.04 	83.48 	-22.44
27.	Ukraine	58.44 	58.10 	0.34
28.	Greece	58.44 	65.44 	-7.00
29.	Croatia	57.14 	66.91 	-9.77
30.	Qatar	57.14 	73.19 	-16.05
31.	Canada	57.14 	78.85 	-21.71
32.	Singapore	57.14 	83.11 	-25.97
33.	Belarus	55.84 	75.50 	-19.66
34.	Australia	55.84 	80.49 	-24.65
35.	Romania	54.55 	61.69 	-7.14
36.	Denmark	54.55 	83.55 	-29.00
37.	Bulgaria	51.95 	63.59 	-11.64
38.	New Zealand	51.95 	80.94 	-28.99
39.	India	50.65 	42.29 	8.36
40.	Moldova (Republic of)	48.05 	60.82 	-12.77
41.	Mauritius	46.75 	60.83 	-14.08
42.	Israel	46.75 	77.97 	-31.22
43.	Iceland	46.75 	84.19 	-37.44
44.	Turkey	45.45 	61.83 	-16.38
45.	Nigeria	44.16 	35.86 	8.30
46.	Slovenia	44.16 	70.47 	-26.31
47.	Albania	42.86 	53.56 	-10.70
48.	Malta	42.86 	73.59 	-30.73
49.	Benin	41.56 	30.41 	11.15
50	Kenya	38.96 	41.69 	-2.73

Rank	Country	National Cyber Security Index	Digital Development Level	Difference
51.	Peru	38.96	51.39	-12.43
52.	Colombia	38.96	56.09	-17.13
53.	China	38.96	58.00	-19.04
54.	Brunei	38.96	67.50	-28.54
55.	Chile	37.66	65.71	-28.05
56.	Uzbekistan	36.36	49.00	-12.64
57.	Mexico	36.36	54.37	-18.01
58.	Argentina	36.36	61.09	-24.73
59.	Egypt	35.06	49.58	-14.52
60.	Montenegro	33.77	62.91	-29.14
61.	Oman	32.47	62.86	-30.39
62.	Ireland	32.47	77.96	-45.49
63.	Philippines	31.17	51.92	-20.75
64.	Tunisia	31.17	51.96	-20.79
65.	Cyprus	31.17	71.71	-40.54
66.	Pakistan	29.87	36.39	-6.52
67.	Brazil	29.87	59.17	-29.30
68.	Jamaica	28.57	52.06	-23.49
69.	South Africa	28.57	54.80	-26.23
70.	Rwanda	27.27	38.76	-11.49
71.	Morocco	27.27	51.71	-24.44
72.	Panama	27.27	55.26	-27.99
73.	Bangladesh	25.97	36.22	-10.25
74.	Armenia	25.97	59.51	-33.54
75.	Uganda	24.68	33.09	-8.41

Digital Development Level: Shows the average fulfilment % of ICT Development Index (IDI) and Networked Readiness Index (NRI)

Difference: Difference between the National Cyber Security Index (NCSI) and Digital Development Level (DDL).

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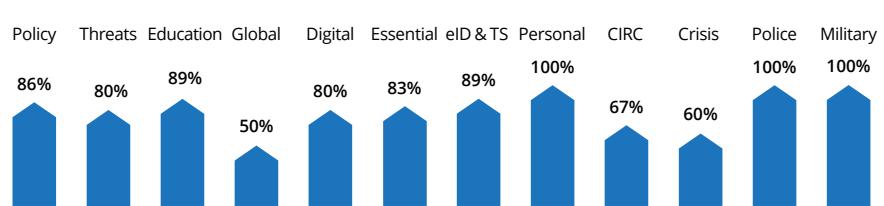
Rank	Country	National Cyber Security Index	Digital Development Level	Difference
76.	Côte d'Ivoire	23.38 	39.99 	-16.61
77.	Sri Lanka	23.38 	49.55 	-26.17
78.	Azerbaijan	23.38 	61.71 	-38.33
79.	Saudi Arabia	23.38 	67.64 	-44.26
80.	Ghana	20.78 	45.25 	-24.47
81.	Trinidad and Tobago	20.78 	59.49 	-38.71
82.	Kyrgyzstan	19.48 	48.28 	-28.80
83.	Indonesia	19.48 	50.22 	-30.74
84.	Kazakhstan	19.48 	66.81 	-47.33
85.	Senegal	16.88 	37.59 	-20.71
86.	Lao PDR	16.88 	38.84 	-21.96
87.	Afghanistan	15.58 	19.50 	-3.92
88.	Tajikistan	15.58 	47.14 	-31.56
89.	Algeria	14.29 	46.21 	-31.92
90.	Botswana	14.29 	47.95 	-33.66
91.	Jordan	14.29 	60.00 	-45.71
92.	Nepal	12.99 	37.26 	-24.27
93.	Bhutan	12.99 	45.59 	-32.60
94.	Sudan	6.49 	25.50 	-19.01
95.	Suriname	6.49 	51.50 	-45.01
96.	Samoa	5.19 	33.00 	-27.81
97.	Honduras	3.90 	42.83 	-38.93
98.	Turkmenistan	3.90 		
99.	Madagascar	2.60 	26.97 	-24.37
100.	Kiribati	1.30 	21.70 	-20.40

Countries Outlook

1. France

83.12

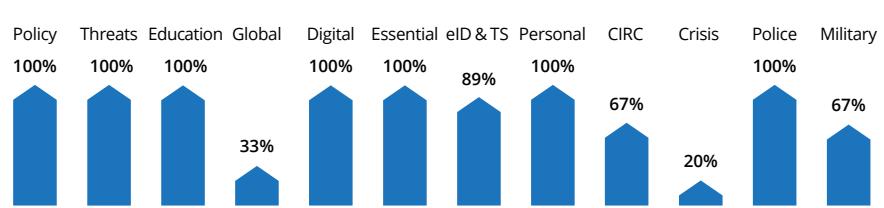
 Population	66.7 million
 Area (km²)	640.7 thousand
 GDP per capita (\$)	43.8 thousand



2. Germany

83.12

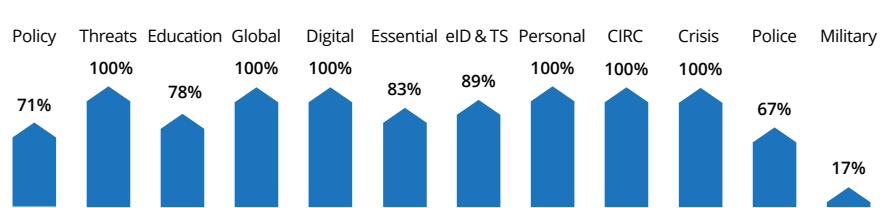
 Population	81.8 million
 Area (km²)	357.1 thousand
 GDP per capita (\$)	52.8 thousand



3. Estonia

81.82

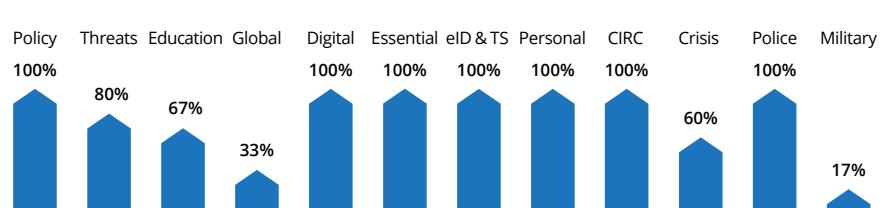
 Population	1.3 million
 Area (km²)	45.2 thousand
 GDP per capita (\$)	33.4 thousand



4. Slovakia

80.52

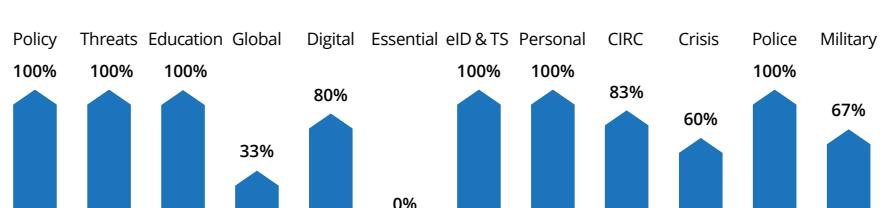
 Population	5.4 million
 Area (km²)	49.0 thousand
 GDP per capita (\$)	34.7 thousand



5. Finland

79.22

 Population	5.5 million
 Area (km²)	338.4 thousand
 GDP per capita (\$)	45.8 thousand

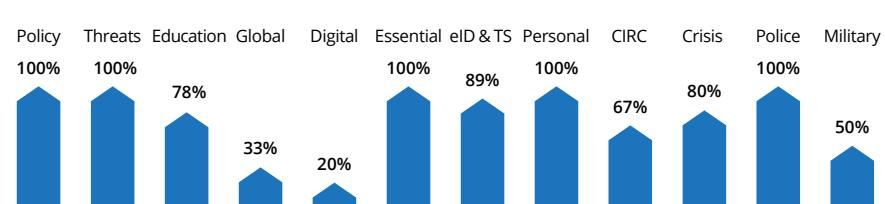


Cyber security policy development	Cyber threats analysis and informing	Education and professional development	Contribution to global cyber security	Protection of digital services	Protection of essential services
Policy	Threats	Education	Global	Digital	Essential
86%	80%	89%	50%	80%	83%

6. Lithuania

77.92

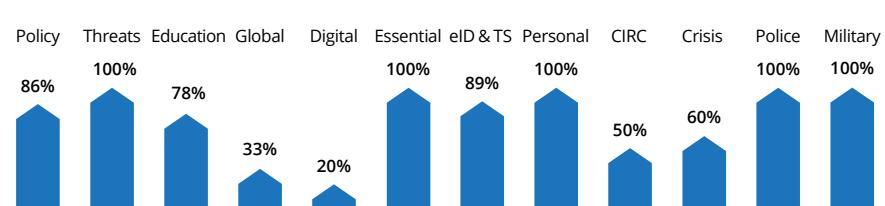
	Population 2.8 million
	Area (km ²) 65.3 thousand
	GDP per capita (\$) 34.1 thousand



7. Spain

77.92

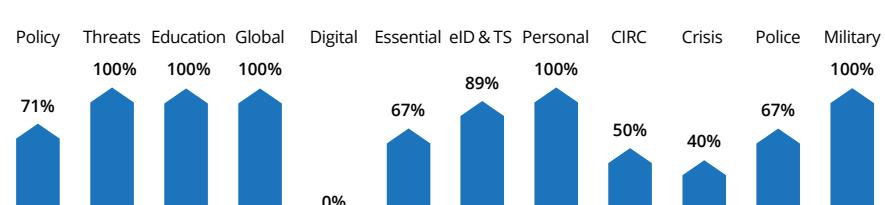
	Population 46.4 million
	Area (km ²) 506.0 thousand
	GDP per capita (\$) 40.3 thousand



8. United Kingdom

75.32

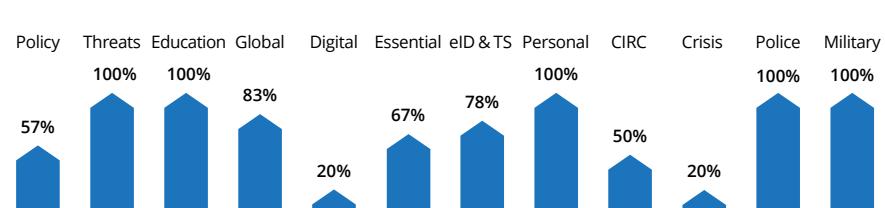
	Population 65.1 million
	Area (km ²) 242.9 thousand
	GDP per capita (\$) 44.1 thousand



9. Switzerland

75.32

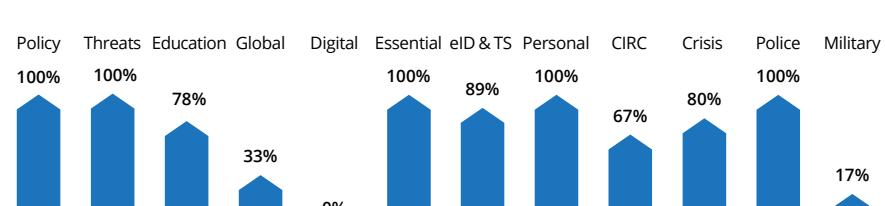
	Population 8.3 million
	Area (km ²) 41.3 thousand
	GDP per capita (\$) 61.4 thousand



10. Czech Republic

74.03

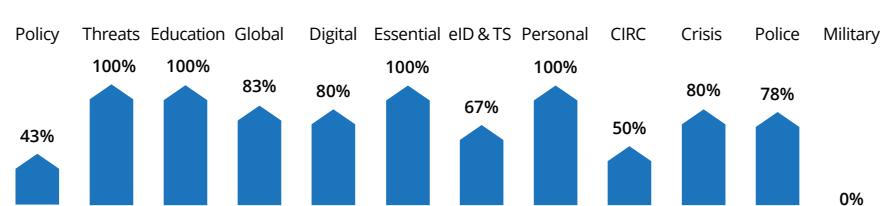
	Population 10.6 million
	Area (km ²) 78.9 thousand
	GDP per capita (\$) 36.8 thousand



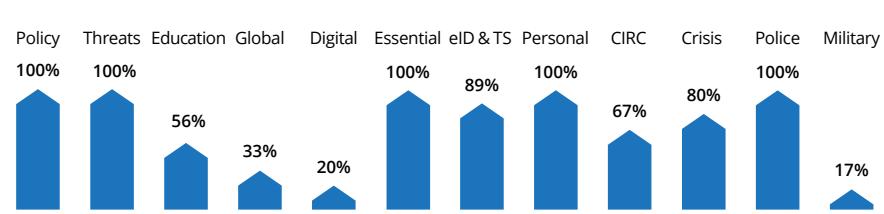
E-identification and trust services	Protection of personal data	Cyber incidents response 24/7	Cyber crisis management	Fight against cybercrime	Military cyber operations
eID & TS	Personal	CIRC	Crisis	Police	Military

11.  Malaysia**72.73**

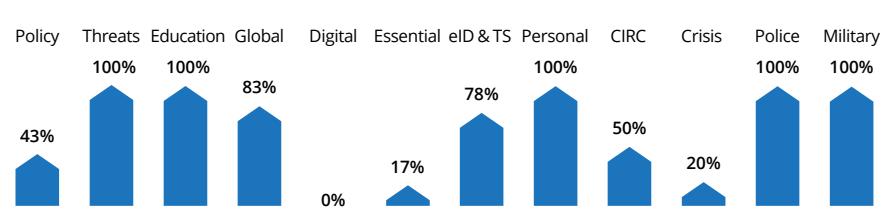
	Population 31.9 million
	Area (km ²) 330.8 thousand
	GDP per capita (\$) 30.4 thousand

12.  Latvia**72.73**

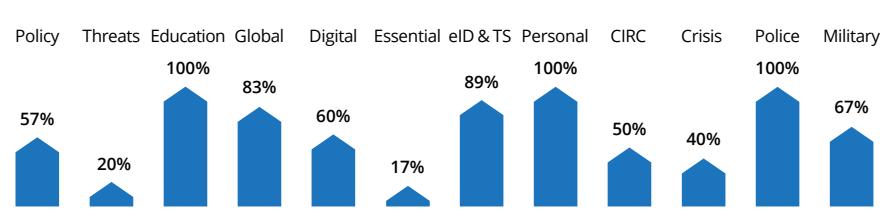
	Population 2.0 million
	Area (km ²) 64.6 thousand
	GDP per capita (\$) 29.0 thousand

13.  Portugal**68.83**

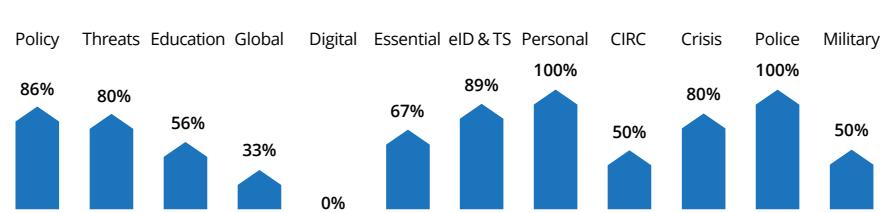
	Population 10.4 million
	Area (km ²) 92.1 thousand
	GDP per capita (\$) 32.0 thousand

14.  Belgium**68.83**

	Population 11.3 million
	Area (km ²) 30.5 thousand
	GDP per capita (\$) 44.9 thousand

15.  Poland**67.53**

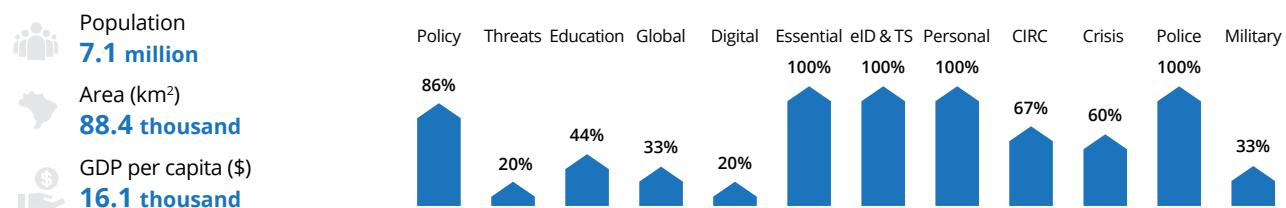
	Population 38.4 million
	Area (km ²) 312.7 thousand
	GDP per capita (\$) 31.4 thousand



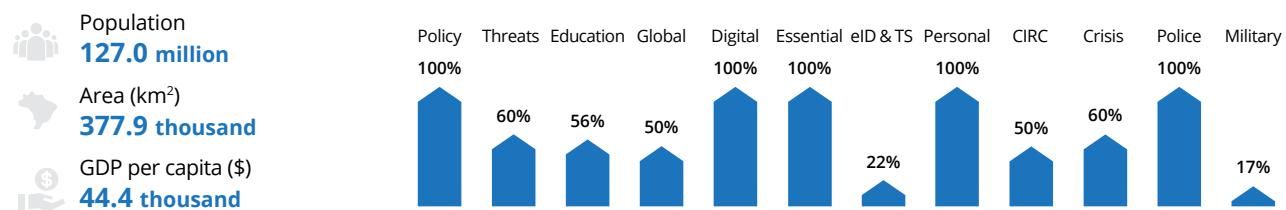
Cyber security policy development	Cyber threats analysis and informing	Education and professional development	Contribution to global cyber security	Protection of digital services	Protection of essential services
Policy	Threats	Education	Global	Digital	Essential
86%	80%	56%	33%	0%	67%

16.  Serbia

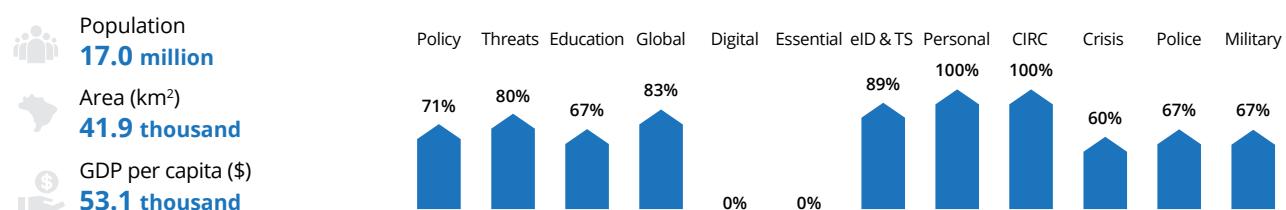
66.23

17.  Japan

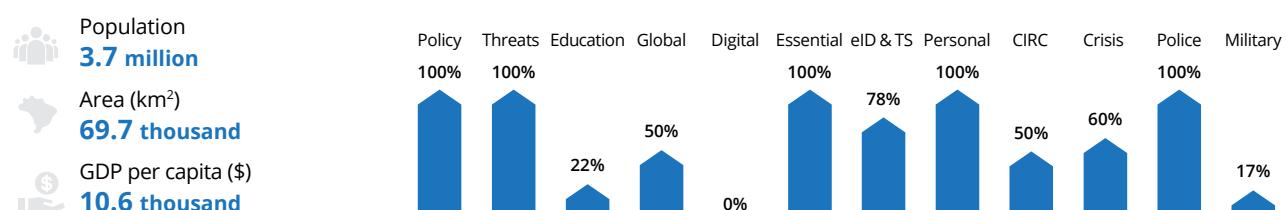
66.23

18.  Netherlands

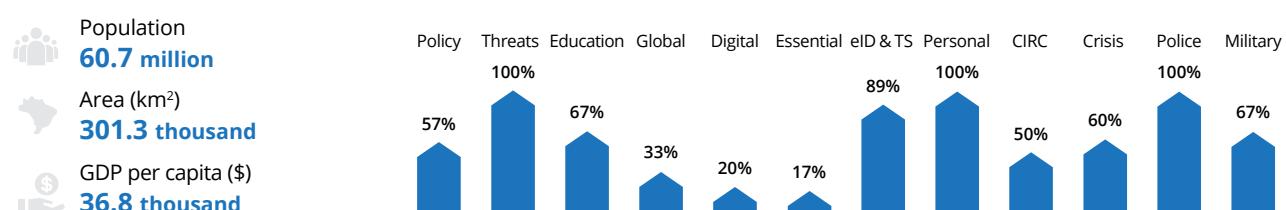
66.23

19.  Georgia

64.94

20.  Italy

64.94

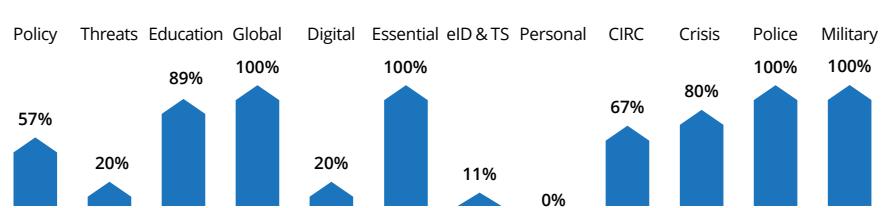


E-identification and trust services	Protection of personal data	Cyber incidents response 24/7	Cyber crisis management	Fight against cybercrime	Military cyber operations
eID & TS	Personal	CIRC	Crisis	Police	Military

21. United States

64.94

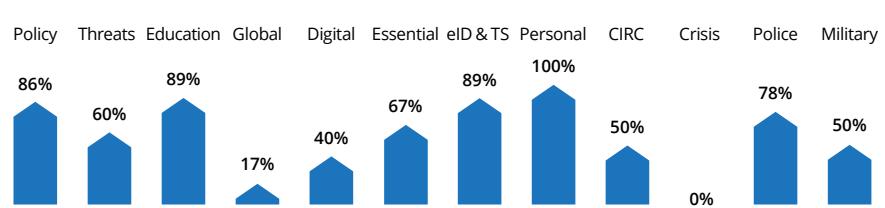
	Population 325.7 million
	Area (km²) 9.8 million
	GDP per capita (\$) 61.7 thousand



22. Russian Federation

63.64

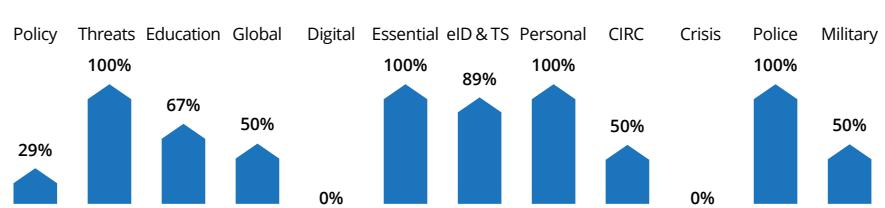
	Population 144.5 million
	Area (km²) 17.1 million
	GDP per capita (\$) 28.9 thousand



23. Norway

63.64

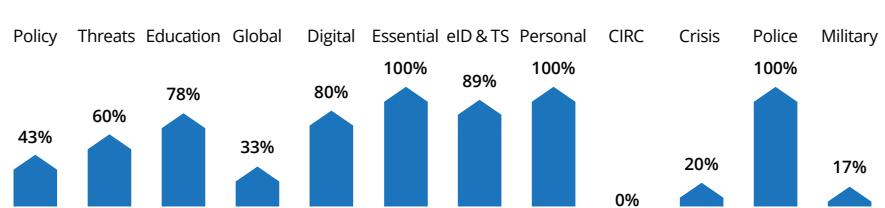
	Population 5.2 million
	Area (km²) 323.8 thousand
	GDP per capita (\$) 72.7 thousand



24. Hungary

62.34

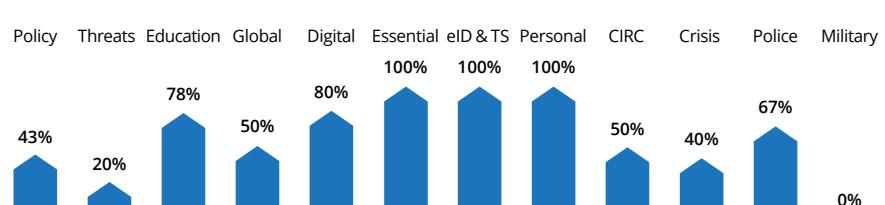
	Population 9.8 million
	Area (km²) 93.0 thousand
	GDP per capita (\$) 31.4 thousand



25. Luxembourg

62.34

	Population 0.6 million
	Area (km²) 2.6 thousand
	GDP per capita (\$) 109.2 thousand

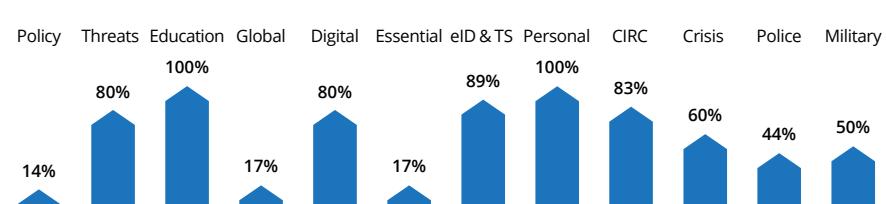


Cyber security policy development	Cyber threats analysis and informing	Education and professional development	Contribution to global cyber security	Protection of digital services	Protection of essential services
Policy	Threats	Education	Global	Digital	Essential

26. Sweden

61.04

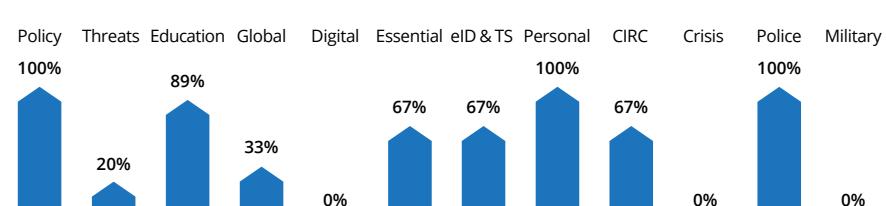
	Population 9.9 million
	Area (km ²) 450.3 thousand
	GDP per capita (\$) 53.1 thousand



27. Ukraine

58.44

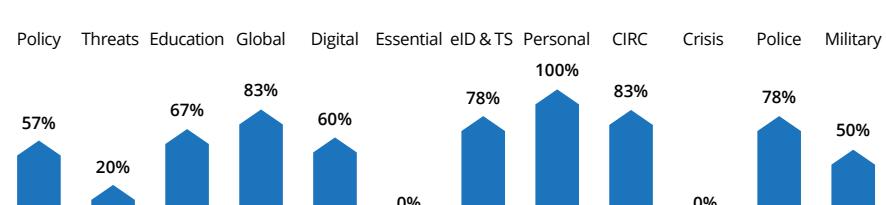
	Population 42.7 million
	Area (km ²) 603.7 thousand
	GDP per capita (\$) 8.7 thousand



28. Greece

58.44

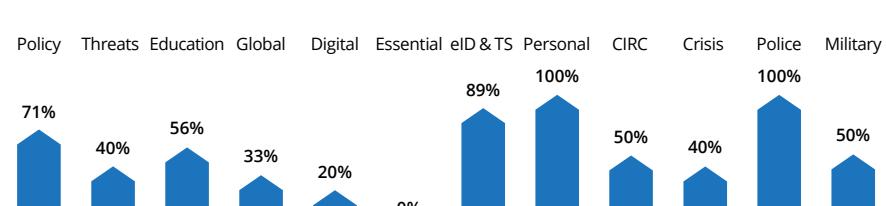
	Population 10.9 million
	Area (km ²) 132.0 thousand
	GDP per capita (\$) 29.1 thousand



29. Croatia

57.14

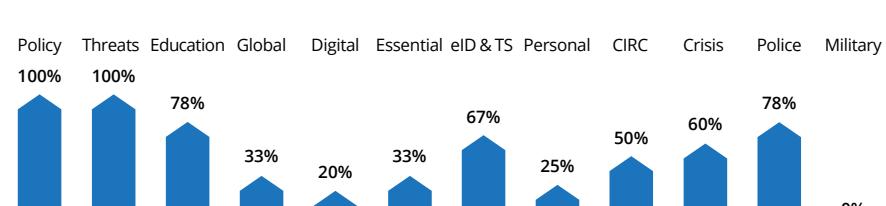
	Population 4.2 million
	Area (km ²) 56.6 thousand
	GDP per capita (\$) 25.3 thousand



30. Qatar

57.14

	Population 2.6 million
	Area (km ²) 11.6 thousand
	GDP per capita (\$) 124.5 thousand

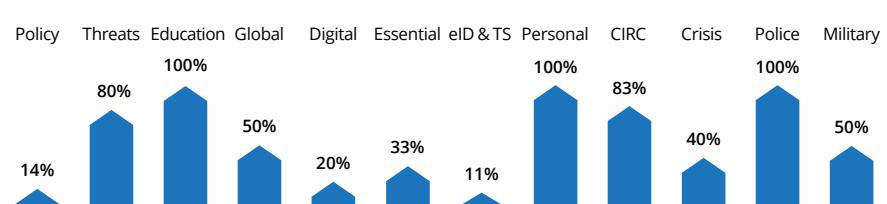


E-identification and trust services	Protection of personal data	Cyber incidents response 24/7	Cyber crisis management	Fight against cybercrime	Military cyber operations
eID & TS	Personal	CIRC	Crisis	Police	Military

31. 🇨🇦 Canada

57.14

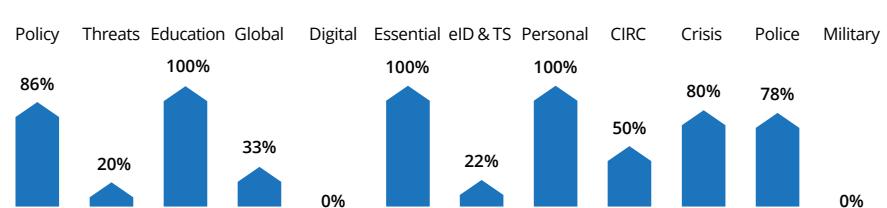
	Population 36.2 million
	Area (km²) 10.0 million
	GDP per capita (\$) 49.6 thousand



32. 🇸🇬 Singapore

57.14

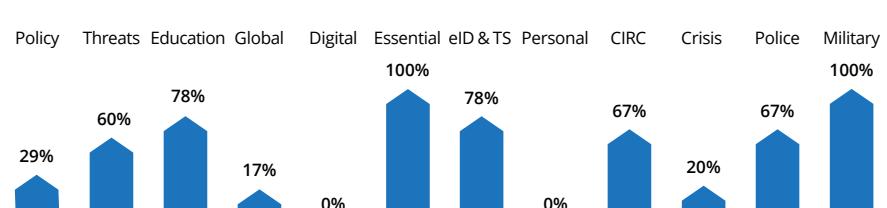
	Population 5.5 million
	Area (km²) 0.7 thousand
	GDP per capita (\$) 98.0 thousand



33. 🇧🇾 Belarus

55.84

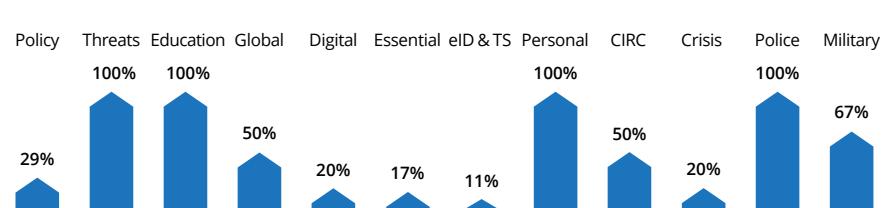
	Population 9.5 million
	Area (km²) 207.6 thousand
	GDP per capita (\$) 19.2 thousand



34. 🇦🇺 Australia

55.84

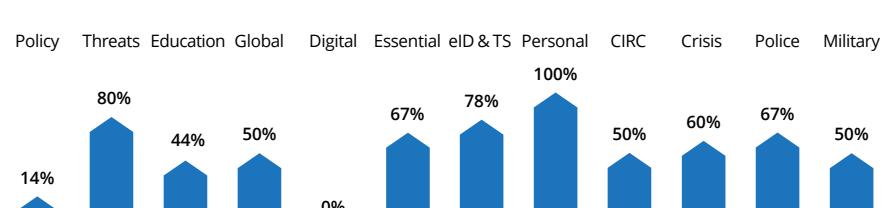
	Population 24.1 million
	Area (km²) 7.7 million
	GDP per capita (\$) 51.5 thousand



35. 🇷🇴 Romania

54.55

	Population 19.9 million
	Area (km²) 238.4 thousand
	GDP per capita (\$) 25.5 thousand

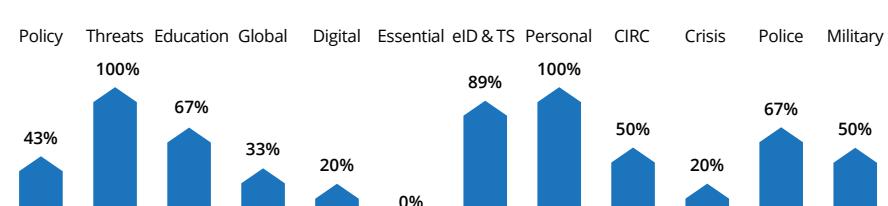


Cyber security policy development	Cyber threats analysis and informing	Education and professional development	Contribution to global cyber security	Protection of digital services	Protection of essential services
Policy	Threats	Education	Global	Digital	Essential

36. Denmark

54.55

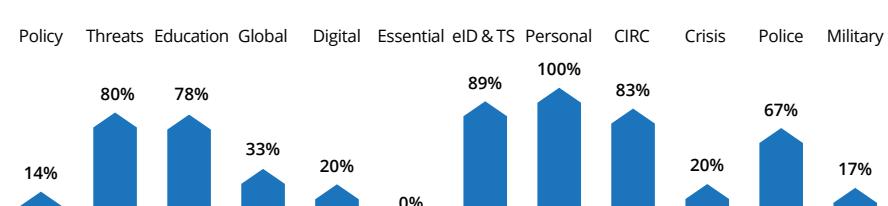
	Population 5.7 million
	Area (km ²) 43.1 thousand
	GDP per capita (\$) 49.6 thousand



37. Bulgaria

51.95

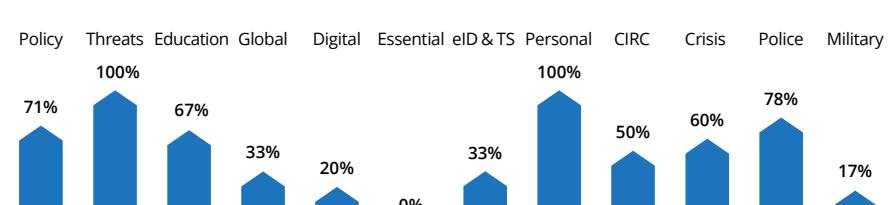
	Population 7.2 million
	Area (km ²) 110.9 thousand
	GDP per capita (\$) 21.6 thousand



38. New Zealand

51.95

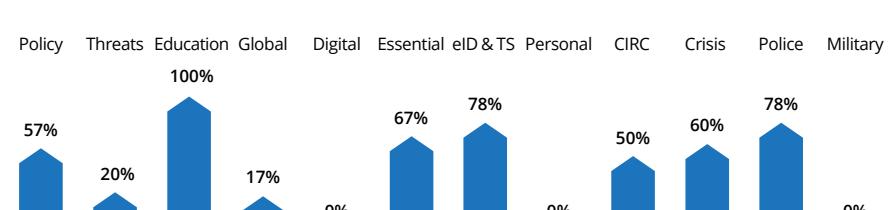
	Population 4.7 million
	Area (km ²) 270.5 thousand
	GDP per capita (\$) 40.0 thousand



39. India

50.65

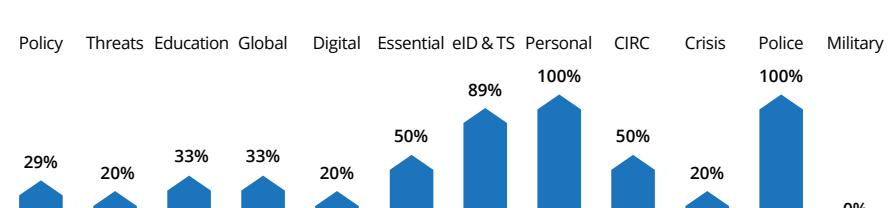
	Population 1,295.2 million
	Area (km ²) 3.3 million
	GDP per capita (\$) 7.8 thousand



40. Moldova (Republic of)

48.05

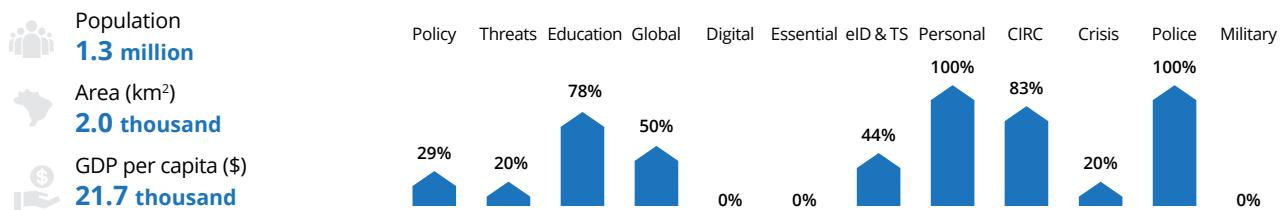
	Population 3.6 million
	Area (km ²) 33.8 thousand
	GDP per capita (\$) 5.7 thousand



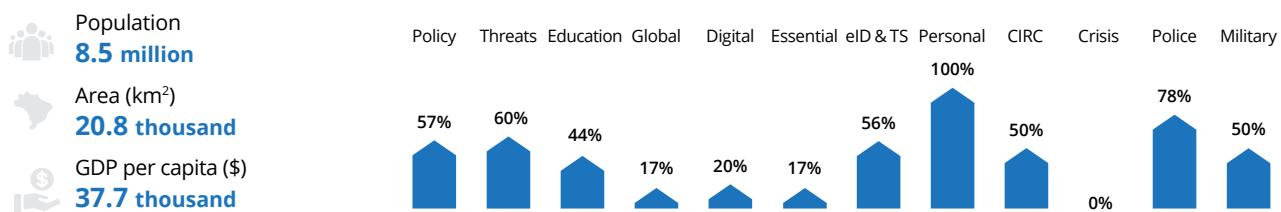
E-identification and trust services	Protection of personal data	Cyber incidents response 24/7	Cyber crisis management	Fight against cybercrime	Military cyber operations
eID & TS	Personal	CIRC	Crisis	Police	Military

41.  Mauritius

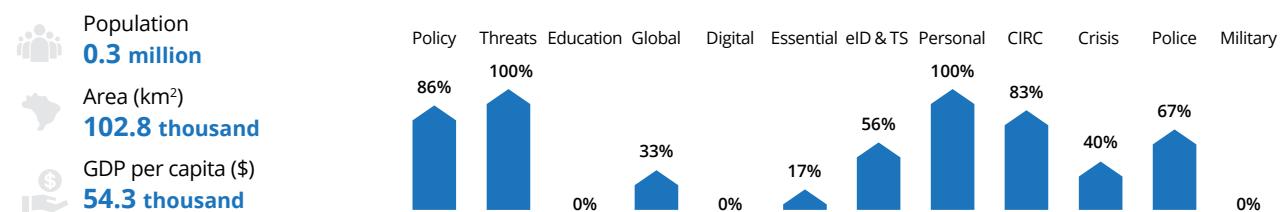
46.75

42.  Israel

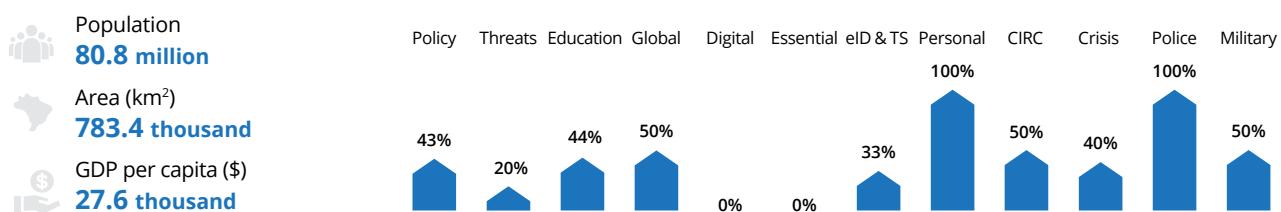
46.75

43.  Iceland

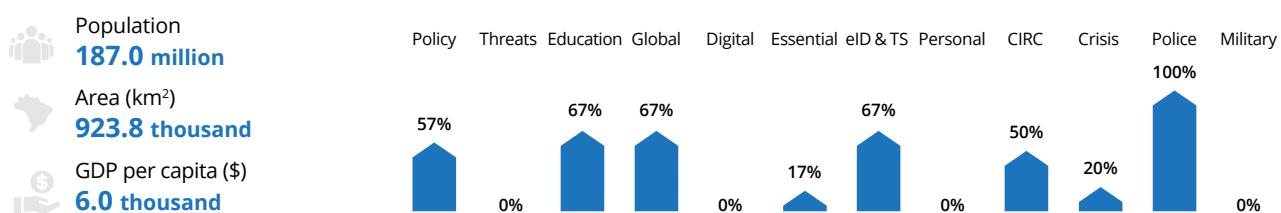
46.75

44.  Turkey

45.45

45.  Nigeria

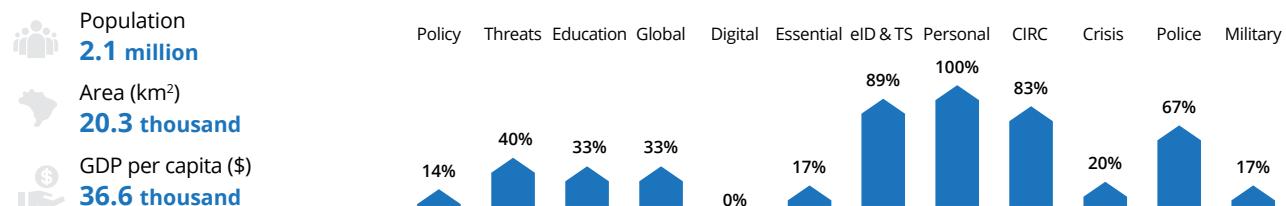
44.16



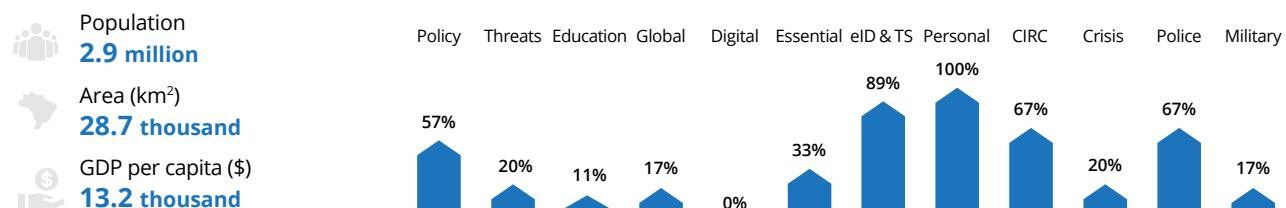
Cyber security policy development	Cyber threats analysis and informing	Education and professional development	Contribution to global cyber security	Protection of digital services	Protection of essential services
Policy	Threats	Education	Global	Digital	Essential

46.  Slovenia

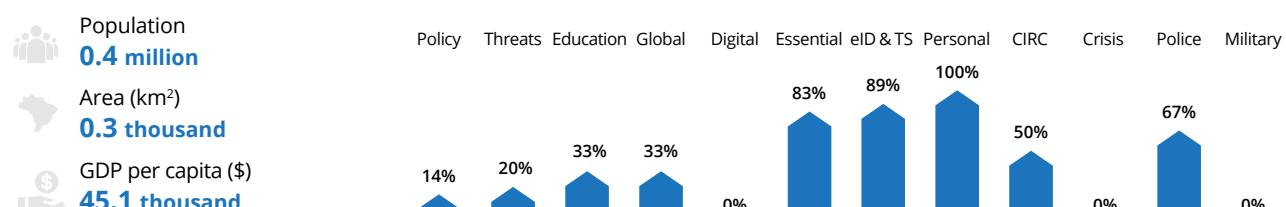
44.16

47.  Albania

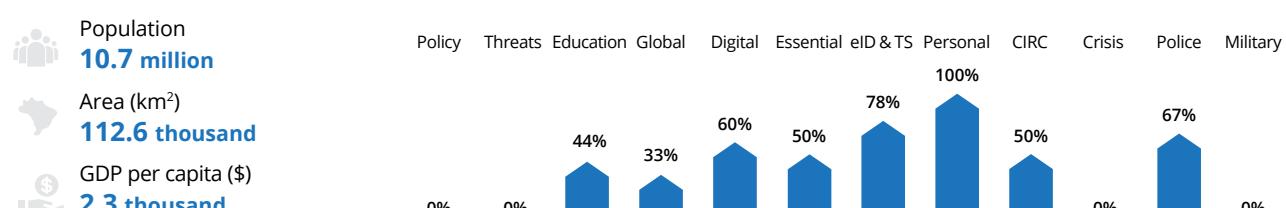
42.86

48.  Malta

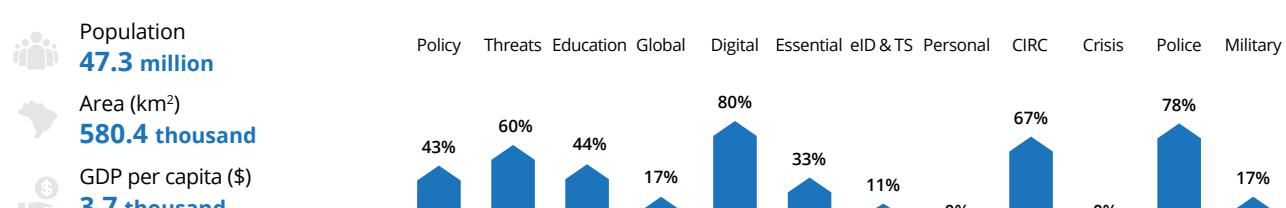
42.86

49.  Benin

41.56

50.  Kenya

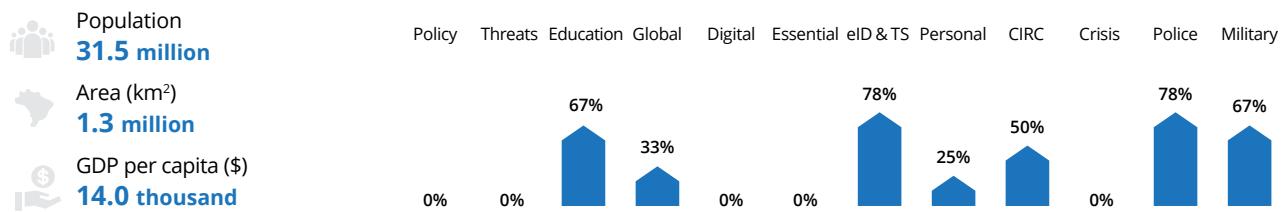
38.96



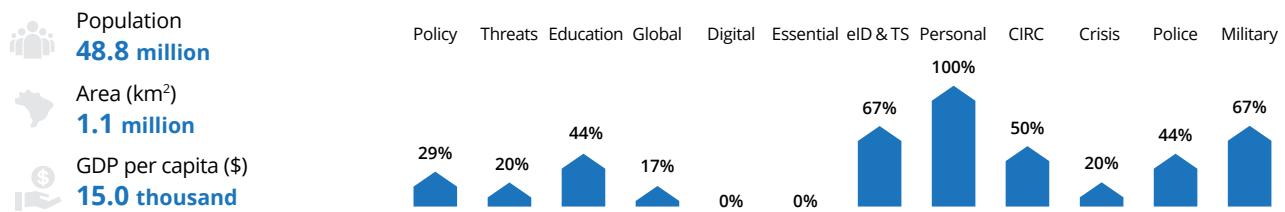
E-identification and trust services	Protection of personal data	Cyber incidents response 24/7	Cyber crisis management	Fight against cybercrime	Military cyber operations
eID & TS	Personal	CIRC	Crisis	Police	Military

51.  Peru

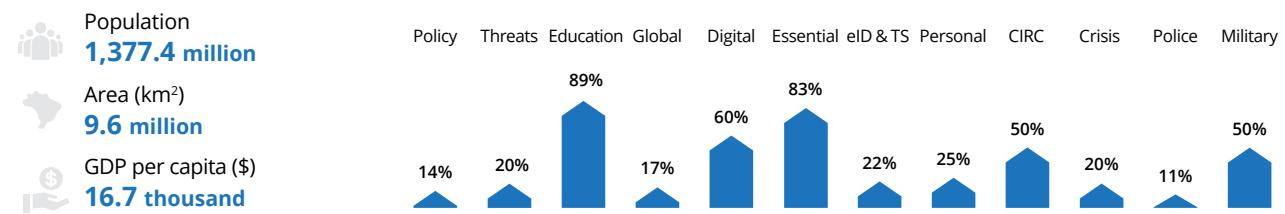
38.96

52.  Colombia

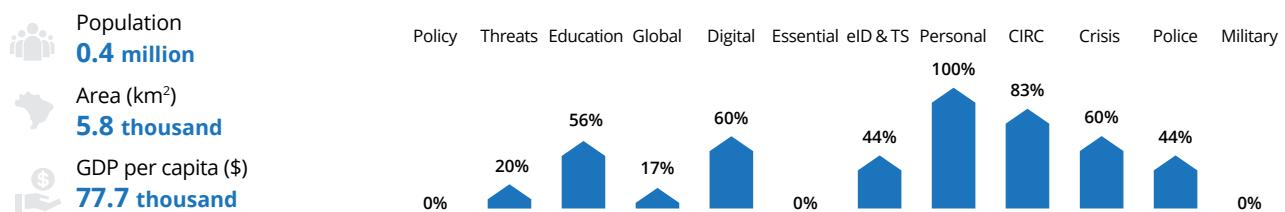
38.96

53.  China

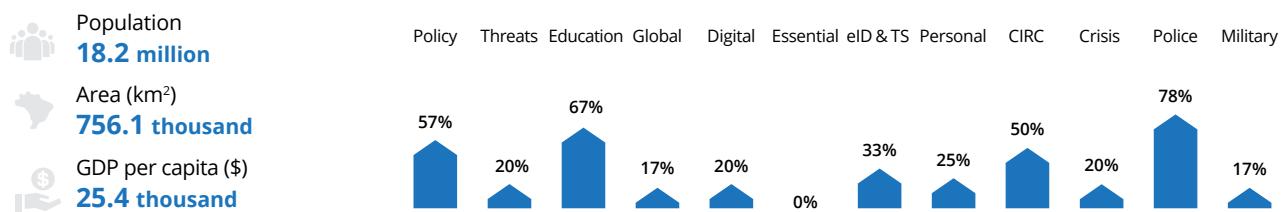
38.96

54.  Brunei

38.96

55.  Chile

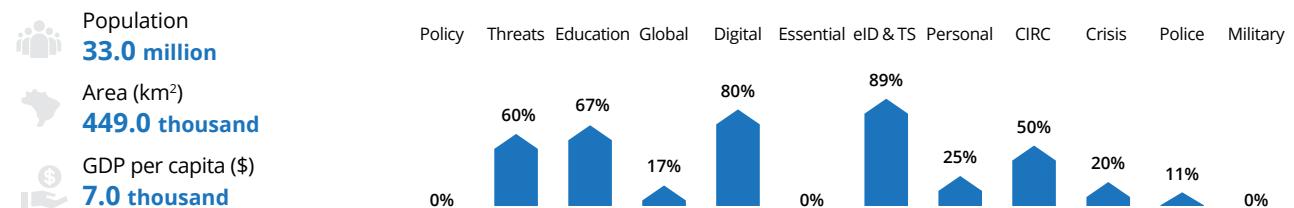
37.66



Cyber security policy development	Cyber threats analysis and informing	Education and professional development	Contribution to global cyber security	Protection of digital services	Protection of essential services
Policy	Threats	Education	Global	Digital	Essential

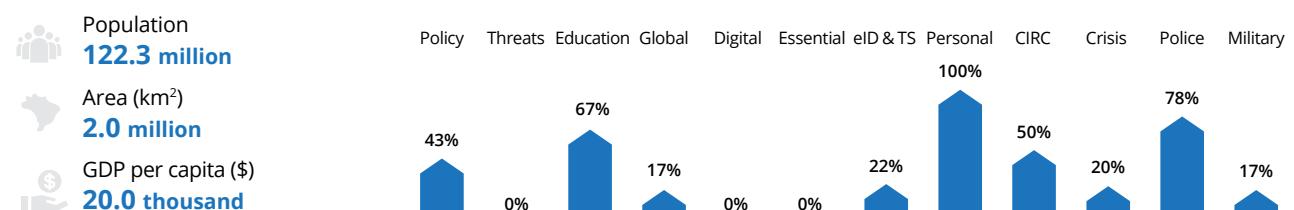
56. Uzbekistan

36.36



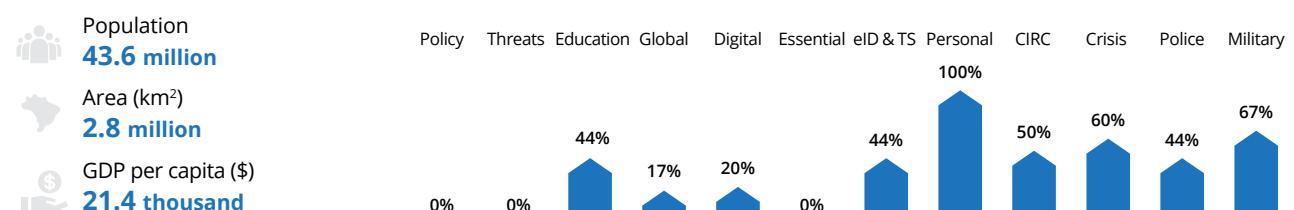
57. Mexico

36.36



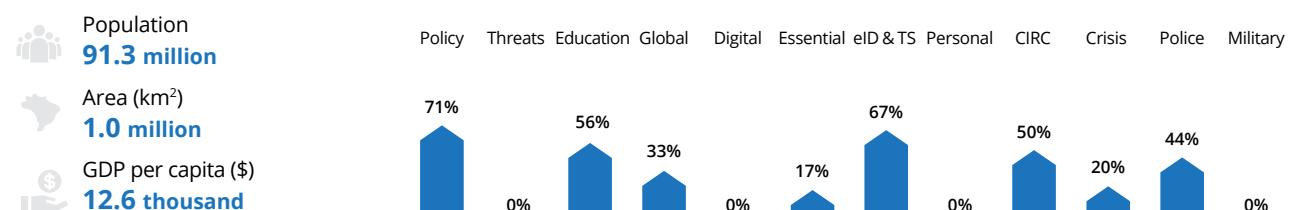
58. Argentina

36.36



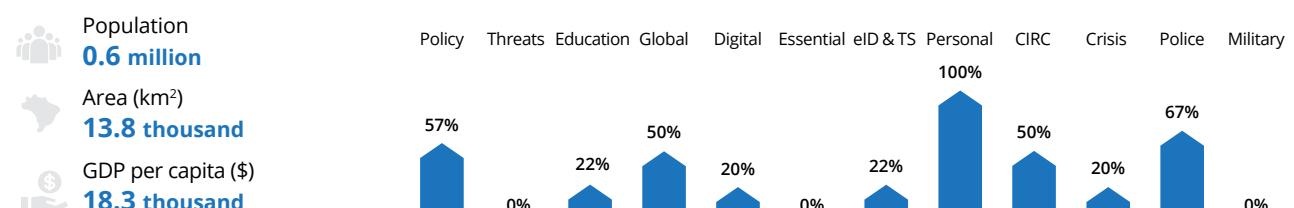
59. Egypt

35.06



60. Montenegro

33.77



E-identification and trust services

Protection of personal data

Cyber incidents response 24/7

Cyber crisis management

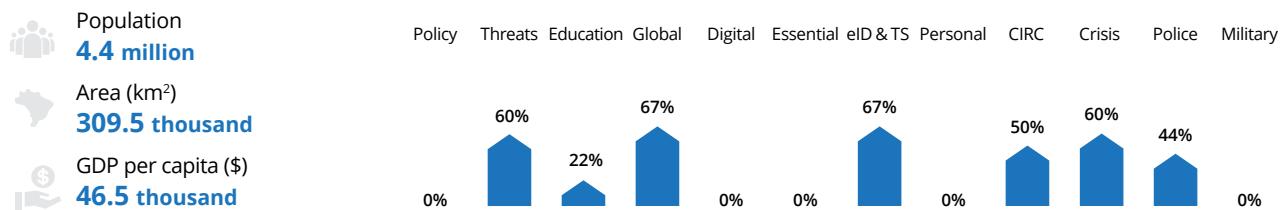
Fight against cybercrime

Military cyber operations

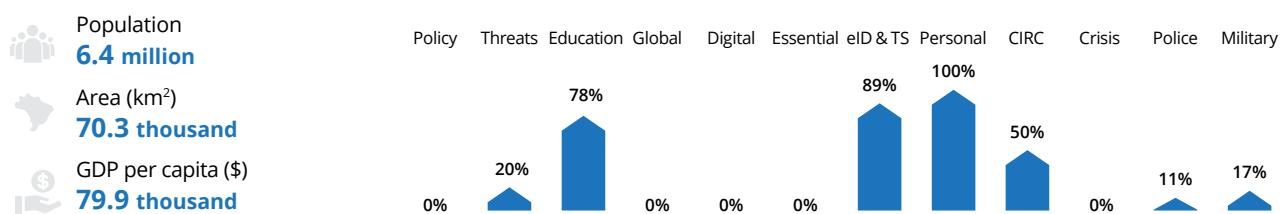
eID & TS**Personal****CIRC****Crisis****Police****Military**

61.  Oman

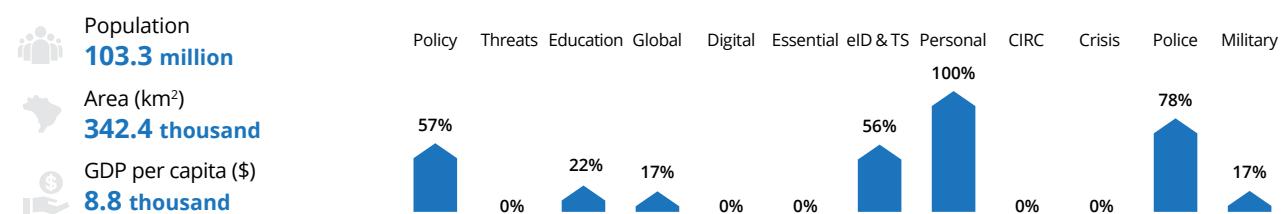
32.47

62.  Ireland

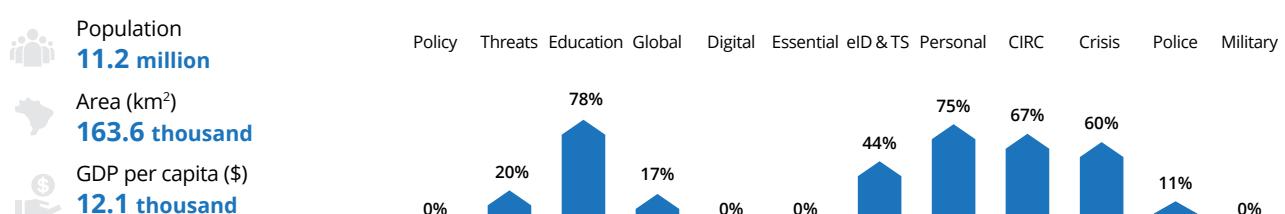
32.47

63.  Philippines

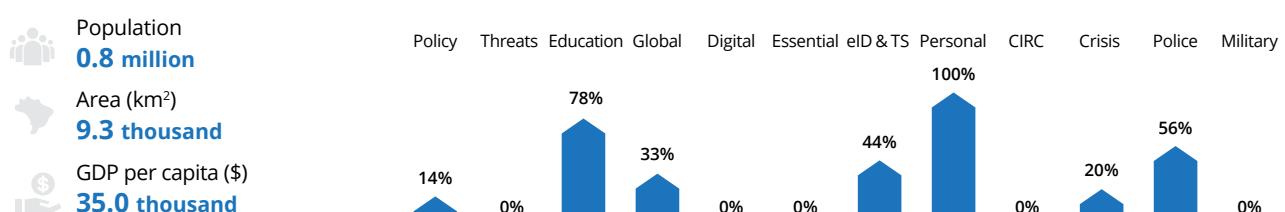
31.17

64.  Tunisia

31.17

65.  Cyprus

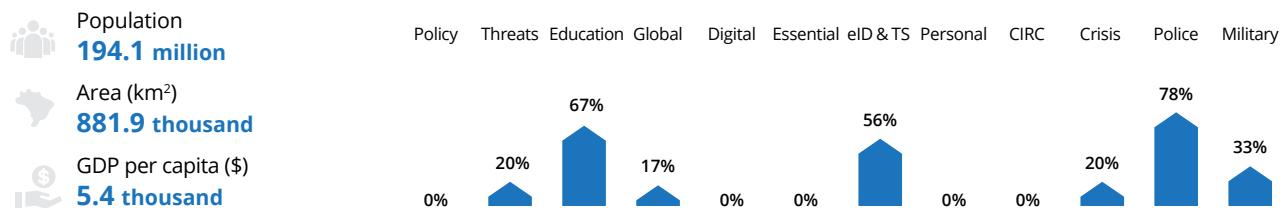
31.17



Cyber security policy development	Cyber threats analysis and informing	Education and professional development	Contribution to global cyber security	Protection of digital services	Protection of essential services
Policy	Threats	Education	Global	Digital	Essential
60%	22%	67%	0%	67%	0%

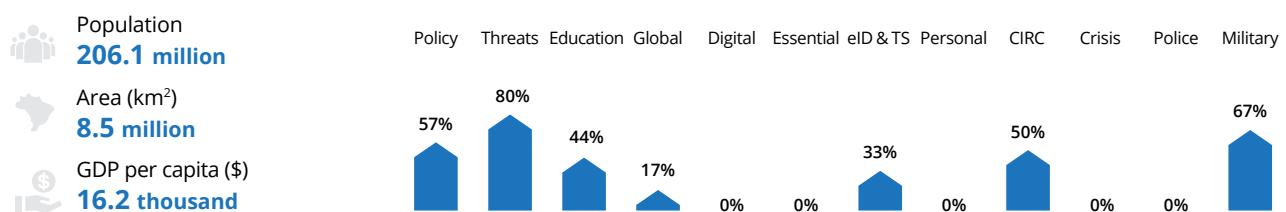
66. 🇵🇰 Pakistan

29.87



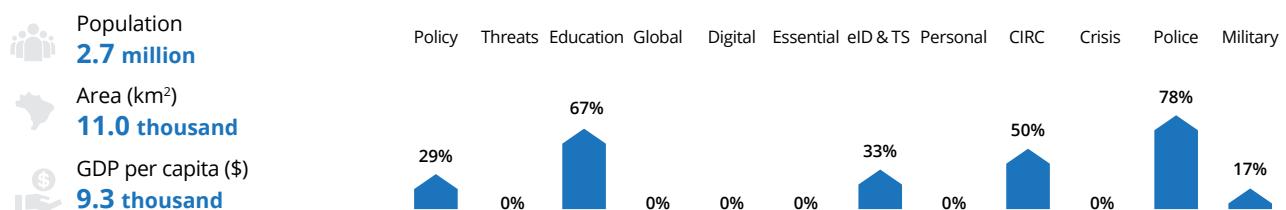
67. 🇧🇷 Brazil

29.87



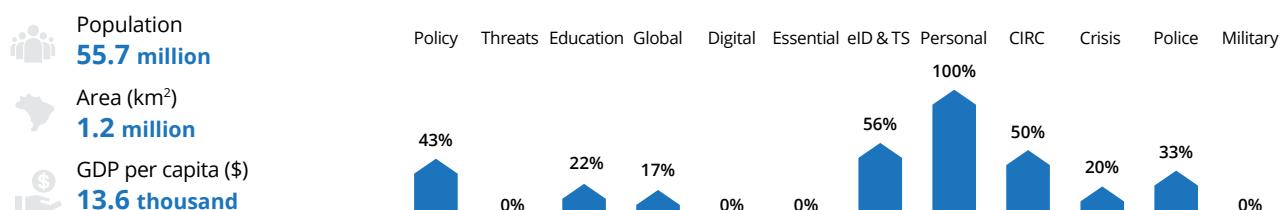
68. 🇯🇲 Jamaica

28.57



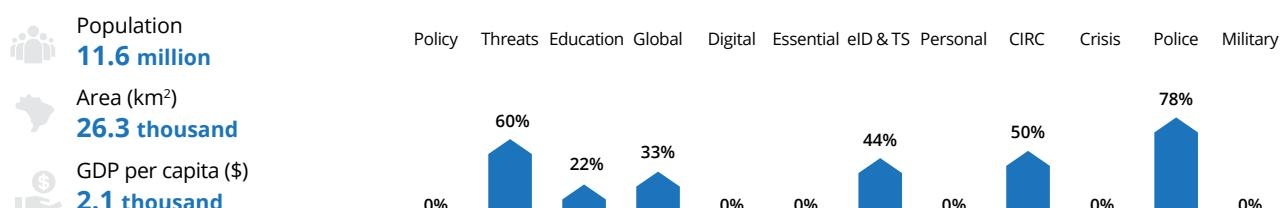
69. 🇿🇦 South Africa

28.57



70. 🇷🇼 Rwanda

27.27



E-identification and trust services

Protection of personal data

Cyber incidents response 24/7

Cyber crisis management

Fight against cybercrime

Military cyber operations

eID & TS

Personal

CIRC

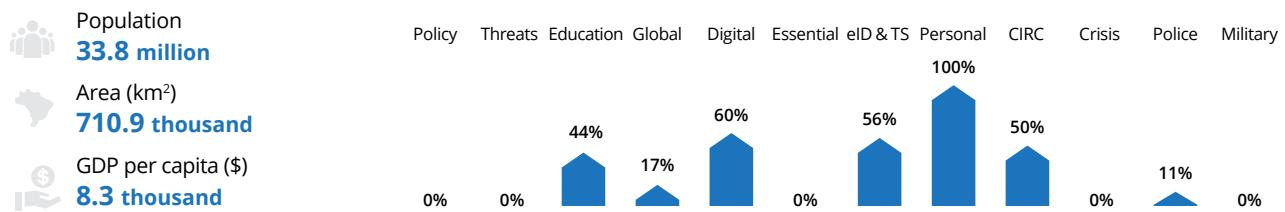
Crisis

Police

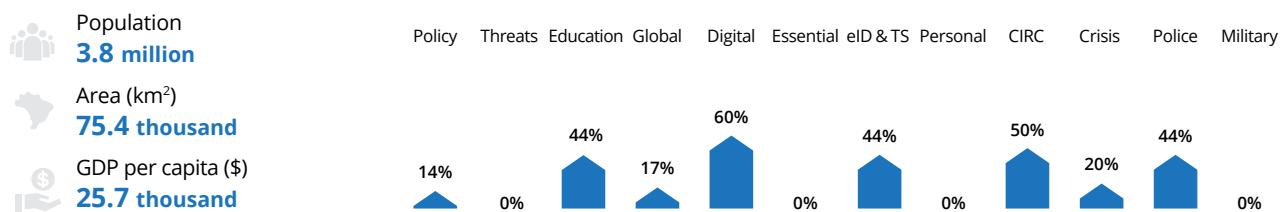
Military

71.  Morocco

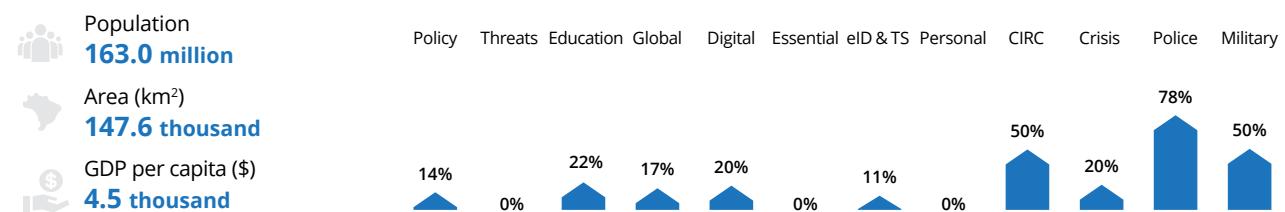
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72.  Panama

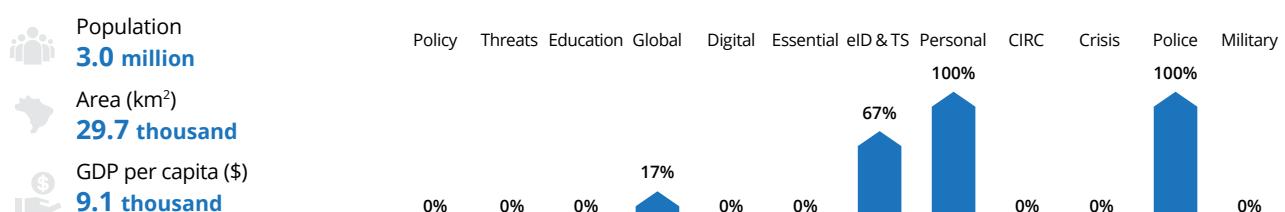
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73.  Bangladesh

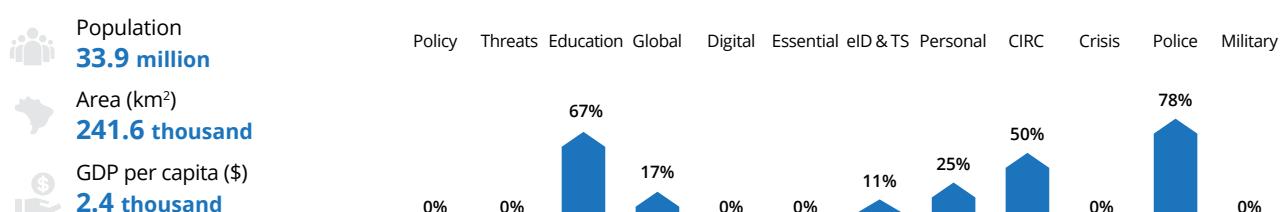
25.97

74.  Armenia

25.97

75.  Uganda

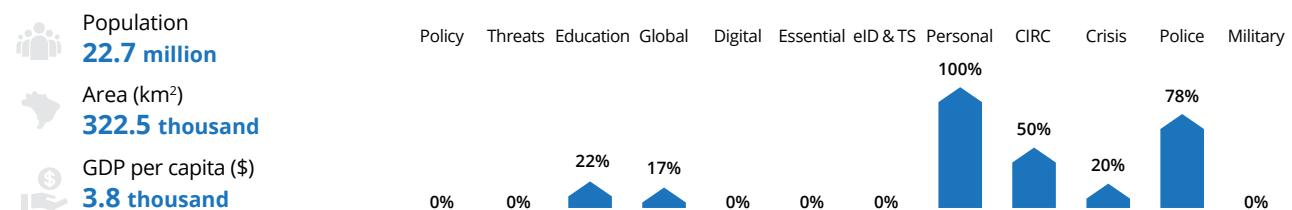
24.68



Cyber security policy development	Cyber threats analysis and informing	Education and professional development	Contribution to global cyber security	Protection of digital services	Protection of essential services
Policy	Threats	Education	Global	Digital	Essential

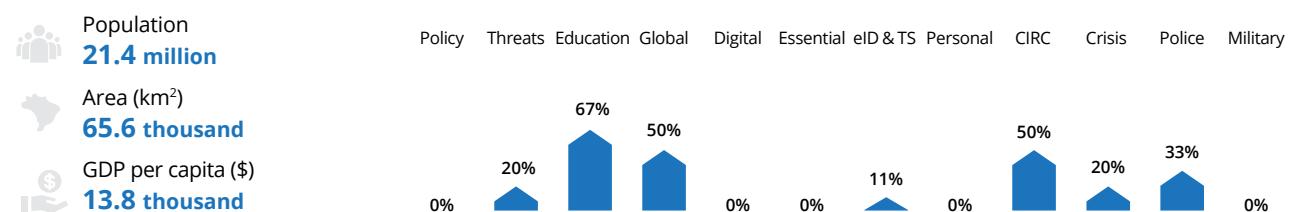
76. 🇨🇮 Côte d'Ivoire

23.38



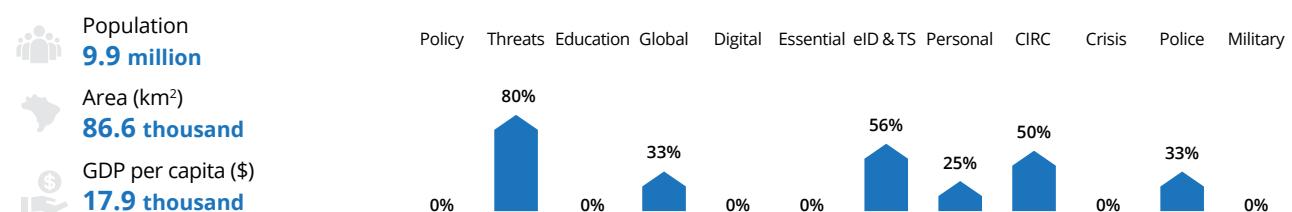
77. 🇸LK Sri Lanka

23.38



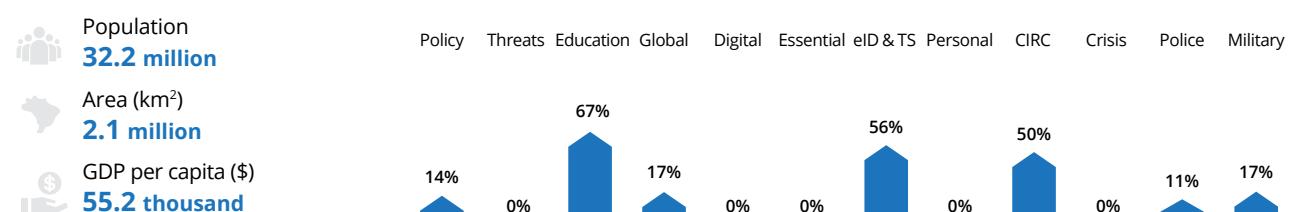
78. 🇦🇿 Azerbaijan

23.38



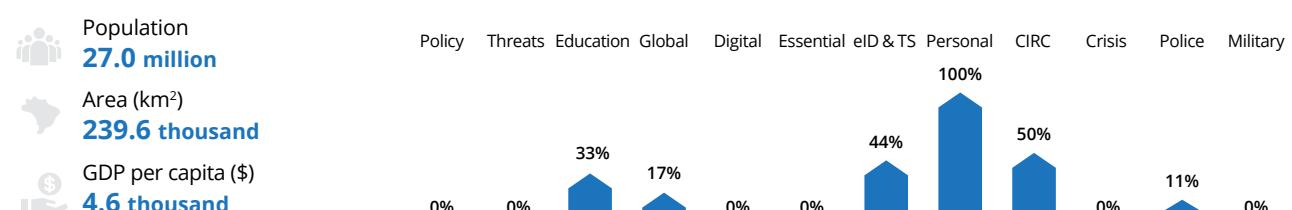
79. 🇸🇦 Saudi Arabia

23.38



80. 🇬🇭 Ghana

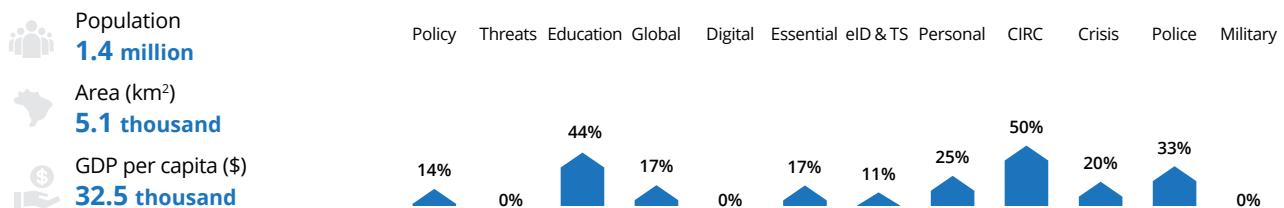
20.78



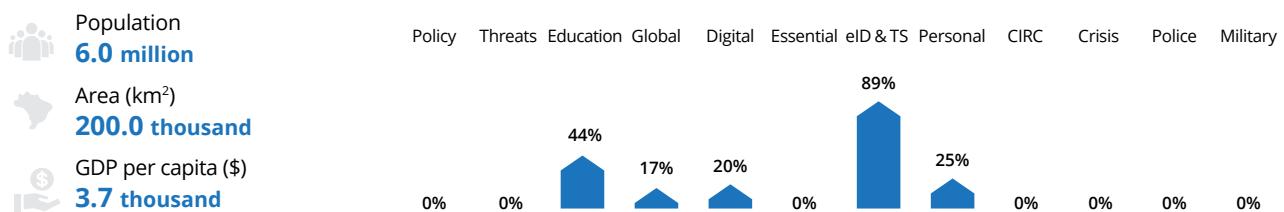
E-identification and trust services	Protection of personal data	Cyber incidents response 24/7	Cyber crisis management	Fight against cybercrime	Military cyber operations
eID & TS	Personal	CIRC	Crisis	Police	Military

81.  Trinidad and Tobago

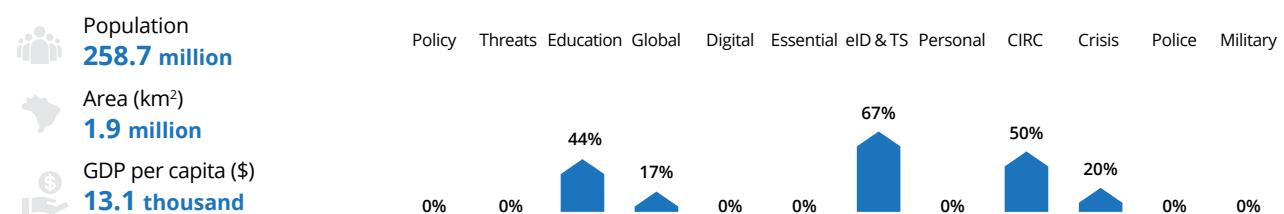
20.78

82.  Kyrgyzstan

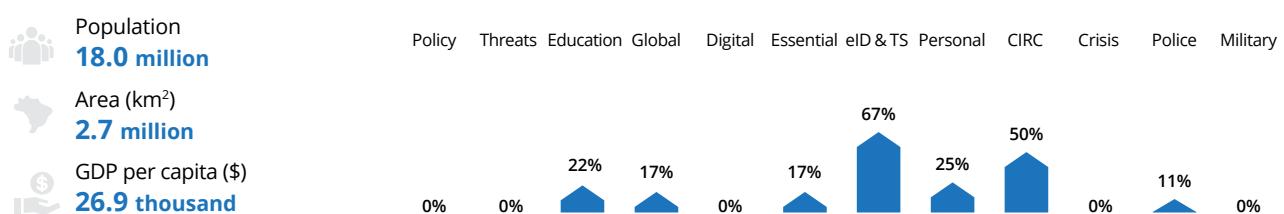
19.48

83.  Indonesia

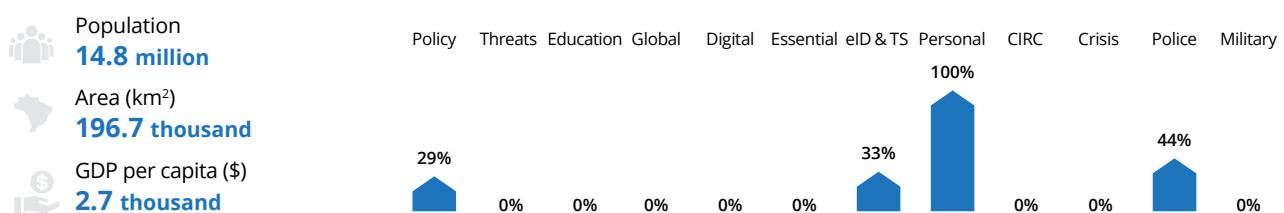
19.48

84.  Kazakhstan

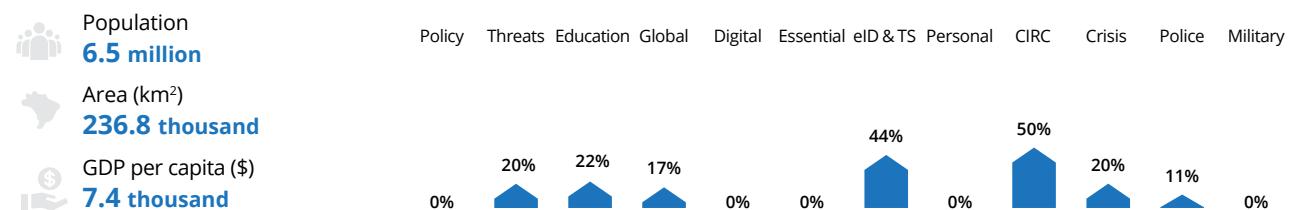
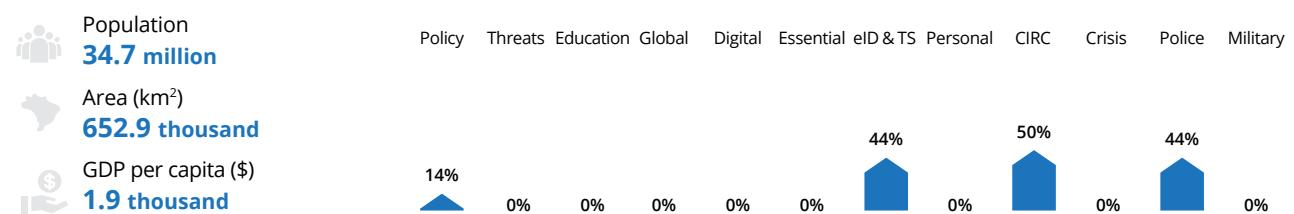
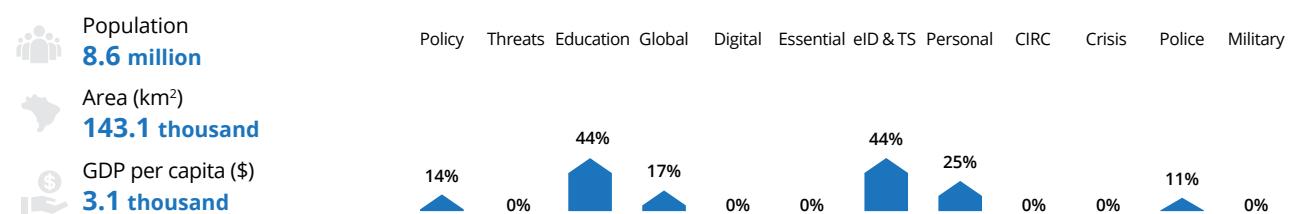
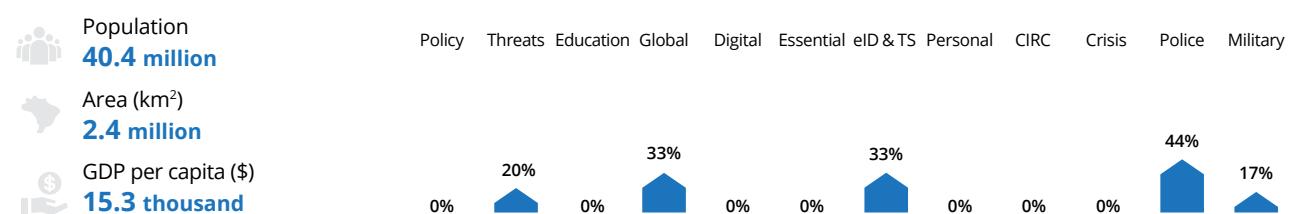
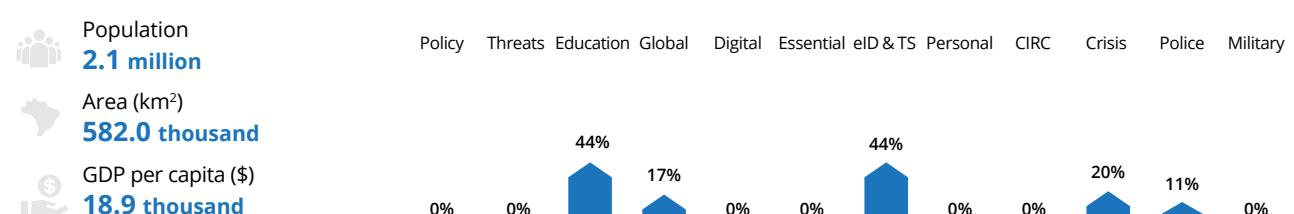
19.48

85.  Senegal

16.88



Cyber security policy development	Cyber threats analysis and informing	Education and professional development	Contribution to global cyber security	Protection of digital services	Protection of essential services
Policy	Threats	Education	Global	Digital	Essential

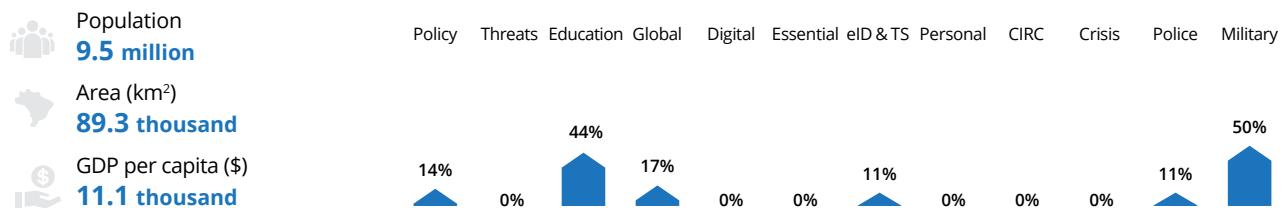
86.  Lao PDR**16.88**87.  Afghanistan**15.58**88.  Tajikistan**15.58**89.  Algeria**14.29**90.  Botswana**14.29**

E-identification and trust services	Protection of personal data	Cyber incidents response 24/7	Cyber crisis management	Fight against cybercrime	Military cyber operations
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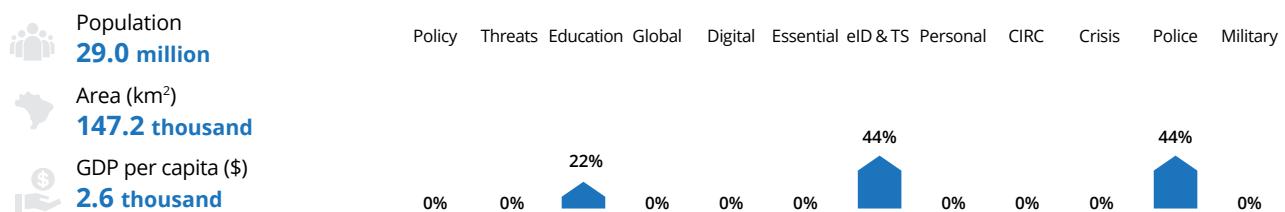
eID & TS**Personal****CIRC****Crisis****Police****Military**

91.  Jordan

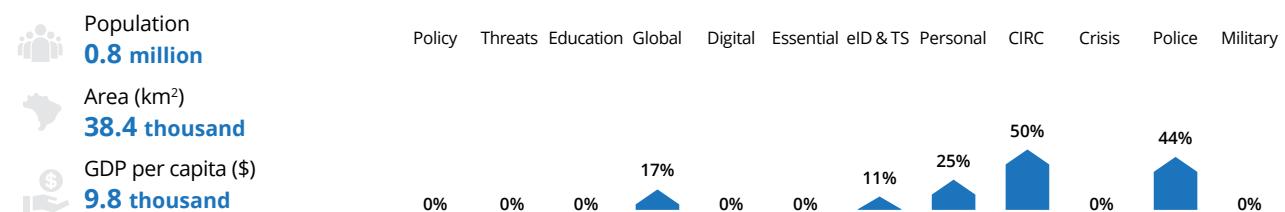
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92.  Nepal

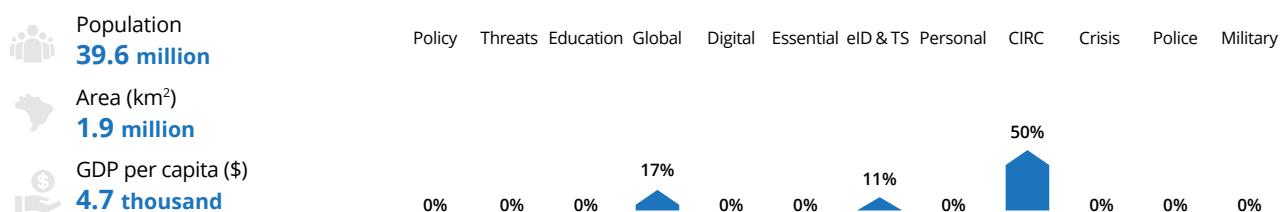
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93.  Bhutan

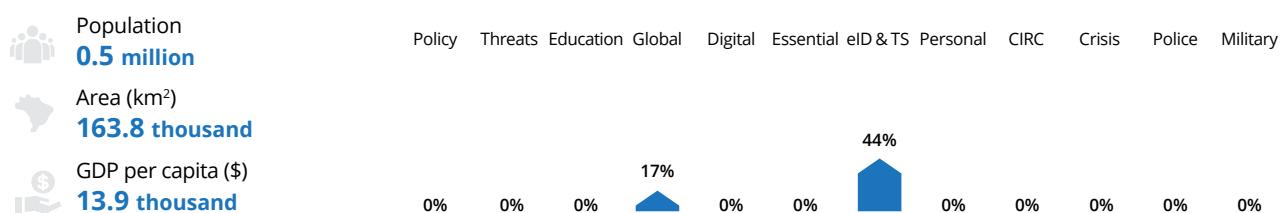
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94.  Sudan

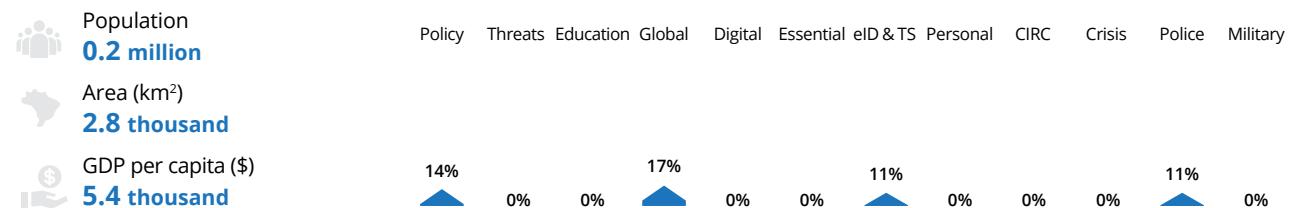
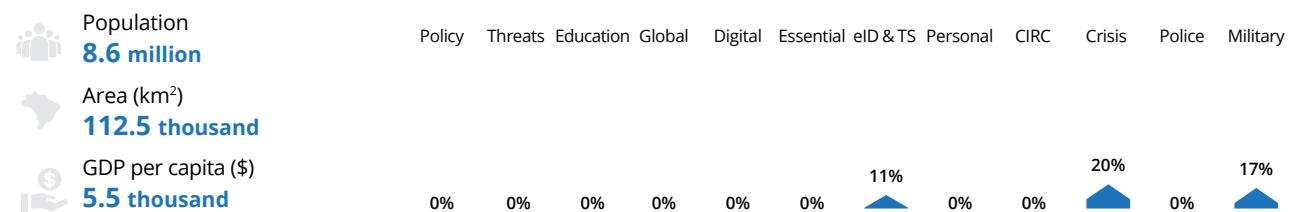
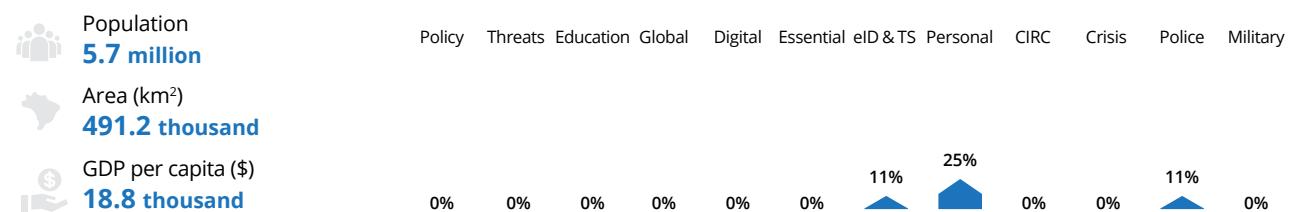
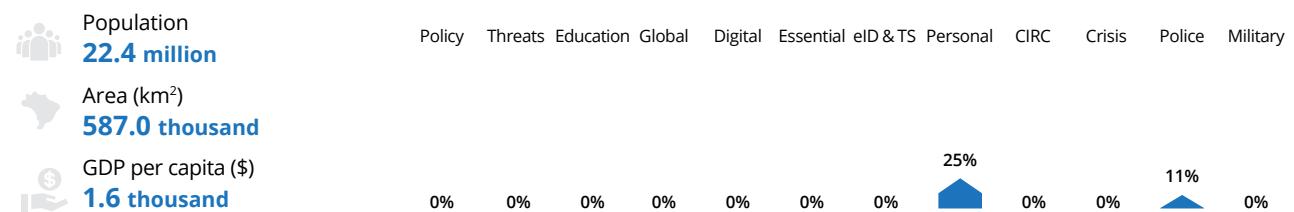
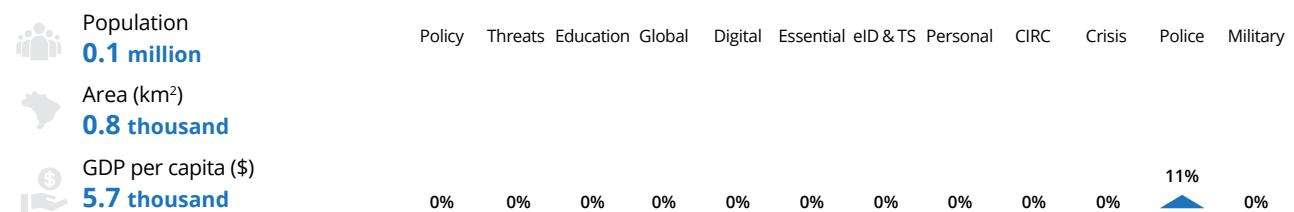
6.49

95.  Suriname

6.49



Cyber security policy development	Cyber threats analysis and informing	Education and professional development	Contribution to global cyber security	Protection of digital services	Protection of essential services
Policy	Threats	Education	Global	Digital	Essential

96.  Samoa**5.19**97.  Honduras**3.90**98.  Turkmenistan**3.90**99.  Madagascar**2.60**100.  Kiribati**1.30**

E-identification and trust services

Protection of personal data

Cyber incidents response 24/7

Cyber crisis management

Fight against cybercrime

Military cyber operations

eID & TS

Personal

CIRC

Crisis

Police

Military

NCSI Core Team



Raul Rikk
NCSI Project Manager / Expert

Raul Rikk is the founder of the National Cyber Security Index and contributes to the development of it. He works as the Director of National Cyber Security Programme at the e-Governance Academy and is engaged in strategic cyber security development in many countries and international programmes.

Previously, he was one of the founders of the NATO Cooperative Cyber Defence Centre of Excellence in Tallinn, leading its establishment in 2004-2008. Raul has worked in the field of national defence and security since 1994. He has been part of the Estonian Cyber Security Strategy Working Group since

2007. He has also been working on national cyber security capacity-building in Georgia, Moldova, Albania and other countries for many years.

Raul holds a Master's degree in Military Science from the Finnish National Defence University and a Master's degree in Management of Information Technology from Tallinn University. He is also a graduate of the US Army Command and General Staff College.

He is a member of the Cyber Defence Commission of the Estonian Academy of Science and a member of the Estonian Cyber Defence League.



Agu Kivimägi
NCSI Expert

Agu Kivimägi is one of the experts and developers of NCSI.

He has more than 10 years of expertise in cybersecurity and development of national IT systems. He coordinated and managed the development of the national health information system at the Estonian eHealth Foundation. He also managed, coordinated and supervised the activities of the cybersecurity department at the IT and Development Centre of the Estonian Ministry of the Interior. He has also worked as Deputy Director General at the Citizenship and Migration Board of Estonia.

He has excellent knowledge and hands on expertise in the development of e-health systems, Estonian ID card (personal identification smart card) project; visa information system (VIS), Schengen information system (SIS), EURODAC and other related information systems. Moreover, he is an experienced lecturer in cybersecurity and IT infrastructure.

He holds a Master's degree in physics from the University of Tartu and has worked as a scientist in the National Institute of Chemical Physics and Biophysics.



Marit Lani
NCSI Data Manager / Expert

Marit Lani manages the National Cyber Security Index database and coordinates communication with stakeholders.

In her previous jobs, she gained a comprehensive understanding of European cooperation programmes. Working at the Ministry of the Interior, she was involved in preparing various European territorial cooperation programmes at the national level and was in charge of the related communication activities.

Afterwards, she moved to Germany to work for the INTERREG IVC programme as an information point coordinator, providing advice to applicants on project development, assessing applications and monitoring approved projects. She also coordinated the e-government services project cluster and implemented the programme's communication strategy.

Marit holds a Master's degree in Public Management from the University of Tartu.

e-Governance Academy

The e-Governance Academy (eGA) is a think tank and consultancy organisation founded for the creation and transfer of knowledge and best practice concerning e-governance, e-democracy, national cybersecurity and the development of open information societies.

eGA empowers central and local government decision-makers to lead digital transformation programs to create smart, sustainable and effective e-government, e-democracy and cyber security solutions. eGA actualises its mission through consultancy, training, networking, research and assisting in the implementation of e-government technical solutions.

e-Governance Academy's project management, study training and consulting services are in compliance with the requirements of Quality Management Standard ISO 9001:2015.

Since starting its activities in 2002, eGA has worked with more than 130 organisations, trained more than 4,000 officials and has been involved in e-government policy planning and implementation, organisational setup, legal and technical frameworks and management in over 90 countries.

eGA has mainly worked in transitional societies, especially in Eastern and Central Europe, Asia and Africa. Additional cooperation projects have taken place with EU countries such as Finland, Netherlands, etc.

eGA is an Advisory Observer of the Secure Identity Alliance (SIA), the global identity and secure e-services advisory body, a member of the Estonian Roundtable for Development Cooperation, and a member of the Network of Estonian Non-profit Organizations.



Empowering e-governance around the world



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