



e-Governance
Conference

Tallinn - Estonia - 2019



Embedding Cyber Security to Digital Transformation

21.5.2019 Kimmo Rousku

Tallinn, Estonia



Population Register Centre

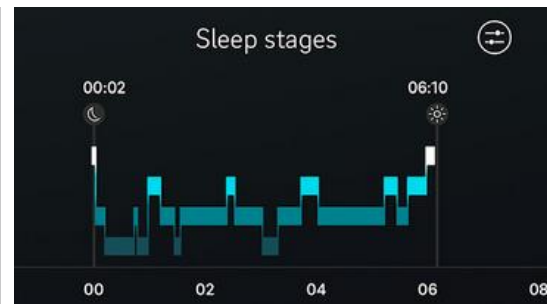
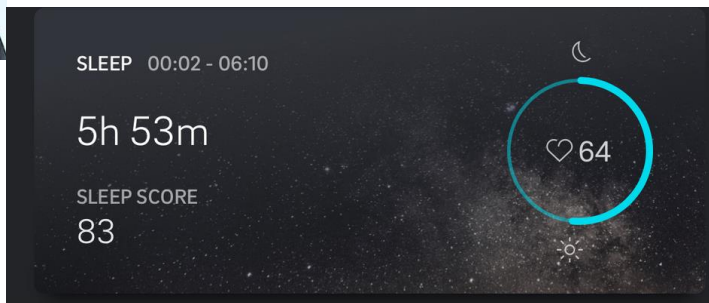


@kimmorousku

- General Secretary for Finnish Public Sector Digital Security Management Board (VAHTI)
- Population Register Centre, from 1.1.2020 Digital and Population Data Services Agency
- Author, keynote speaker, nerd, gadget freak, novice biohacker, CISM, CISSP

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Roles

- **Ministry of Finance**

- The Ministry of Finance is responsible for developing information security in public administration in general and for steering information security in central government.
- Public Sector Digital Security Management Board (VAHTI)
 - All 12 ministries, municipalities, major security authorities
 - As a whole >100 leaders, managers and experts #cooperation #together

- **Population Registration Center**

- VAHTI operational support and Public Sector digital security services
- Project / joint venture for Digital Security in Public Administration in 2019–2021
 - Participants <150 organisations, target >250 this year
- Digital security expert services using private (cyber) security companies

Same goals, different roadmaps

- **Ministry of Finance**
 - Public Sector Digital Security Management Board (VAHTI)
 - Population Registration Center – Public Sector digital services an VAHTI operational support
 - <https://vm.fi/en/information-security-and-cybersecurity>
- **Ministry of Transport and Communications**
 - Finnish Transport and Communications Agency Traficom | National Cyber Security Centre
 - Cybersecurity situational awareness, GovCERT, CERT-FI
 - Assessment of authorities' information systems and telecommunications arrangements
 - <https://www.kyberturvallisuuskeskus.fi/en>
- **Ministry of Defence | Security Committee**
 - Comprehensive Security in society – Finnish Cyber security Strategy
 - <https://turvallisuuskomitea.fi/en/security-committee/the-security-committee-operation/>
- **Ministry of the Interior**
 - National Bureau of Investigation, Cybercrime centre
- **Ministry for Foreign Affairs of Finland**
 - NSA - National Security Authority
 - Unit for Security Policy and Crisis Management, Ambassadors for Cyber & Hybrid Affairs

Finnish Defence Forces

Office of the Data Protection Ombudsman

Strenghts: Co-operation Community



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Yhteiskunnan
TURVALLISUUS

SECURITY STRATEGY FOR SOCIETY

Government Resolution



FORESIGHT, PREPAREDNESS, OPERATIONAL CAPABILITY AND RECOVERY

AUTHORITIES

BUSINESS
OPERATORS

ORGANISATIONS AND
OTHER BODIES

CITIZENS

PREPAREDNESS COOPERATION FORUM

Coordination at local, regional and national level:
joint assessment and situation picture



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www.turvallisuuskomitea.fi
TOGETHER FOR A SAFE FINLAND



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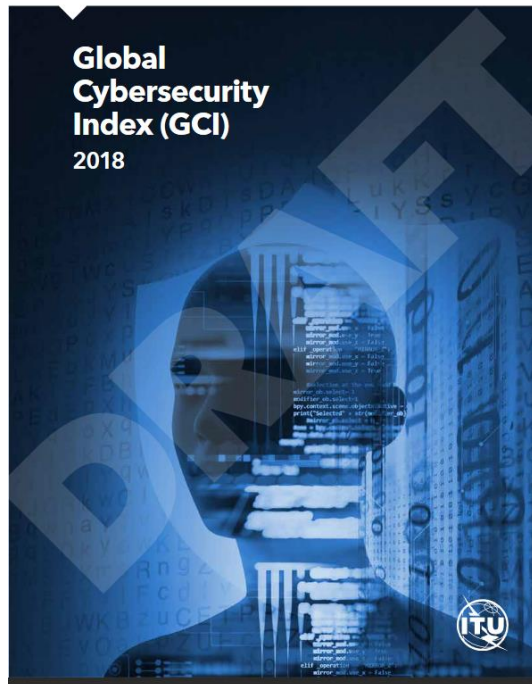
Finland and Cyber security – where are we now?



ITU - Global Cybersecurity Index

Studies & research

ITU Publications



Europe region

Member State	Score	Regional Rank	Global Rank
United Kingdom	0.931	1	1
France	0.918	2	3
Lithuania	0.908	3	4
Estonia	0.905	4	5
Spain	0.896	5	7
Norway	0.892	6	9
Luxembourg	0.886	7	11
Netherlands	0.885	8	12
Georgia	0.857	9	18
Finland	0.856	10	19
Turkey	0.853	11	20
Denmark	0.852	12	21

- **Draft 15.5.2019** – [download](#)



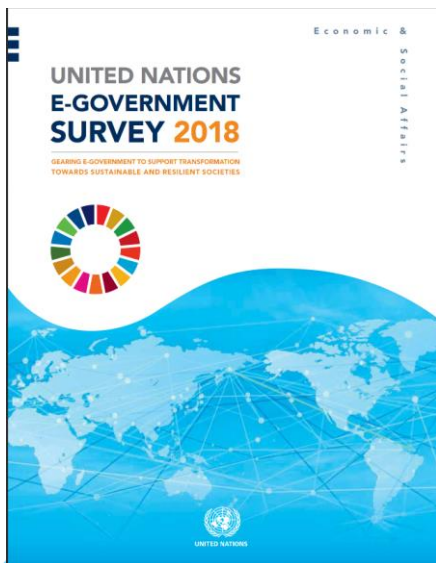
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UN E-Government index













Table 5.2.1: showing the top ten 2018 e-government index







Country	Score	Rank
Denmark	0.9150	1
Australia	0.9053	2
Republic of Korea	0.9010	3
United Kingdom	0.8999	4
Sweden	0.8882	5
Finland	0.8815	6
Singapore	0.8812	7
New Zealand	0.8806	8
France	0.8790	9
Japan	0.8783	10

Choose a region

1.  France
2.  Germany
3.  Estonia
4.  Slovakia
5.  Finland
6.  Lithuania
7.  Spain
8.  United Kingdom
9.  Switzerland
10.  Czech Republic

NCSI

Rank	Country	National Cyber Security Index		Digital Development Level		Difference
15.	 Switzerland	72.73		85.13		-12.40
69.	 Korea (Republic of)	38.96		84.25		-45.29
55.	 Iceland	46.75		84.19		-37.44
13.	 United Kingdom	75.32		83.96		-8.64
20.	 Netherlands	66.23		83.88		-17.65
32.	 Norway	62.34		83.78		-21.44
6.	 Denmark	81.82		83.55		-1.73
38.	 Sweden	57.14		83.48		-26.34
8.	 Singapore	80.52		83.11		-2.59
31.	 Luxembourg	62.34		83.06		-20.72
29.	 United States	63.64		82.33		-18.69
10.	 Finland	79.22		82.26		-3.04



It's not only high scores

- What's your country's capability on difference areas and aspects to Cyber security – from legal to some part of technical view
 - view to national state-level culture, attitude towards security



- high rankings don't stop Cyber attacks and other incidents
- but **probability** and **especially impact** are lower in those countries than in the ones who are not so well prepared?

You need to measure not only on country level, but also

- organisational level
- the famous weakest link – according to many studies – **it's US** – we humans | (un)intentional human error | hurry



One more challenge

- Attacks & incidents will be more common – because number of digital services (national level – globally) is increasing every year > the more we digitalize, the bigger the cyberattack surface > more cyber attacks
- More new technology > more ICT-related incidents + cyber attacks
 - IoT – AI – robotics – automation





Digital security and trust – road to even more digitalized 2020+ society





Manual – analog – digital transformation

#trust

Nanotechnology?
Quantum computing?



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Digital security as enabler #trust



1. Risk management

2. Business continuity

3. Information security (C-I-A-model)

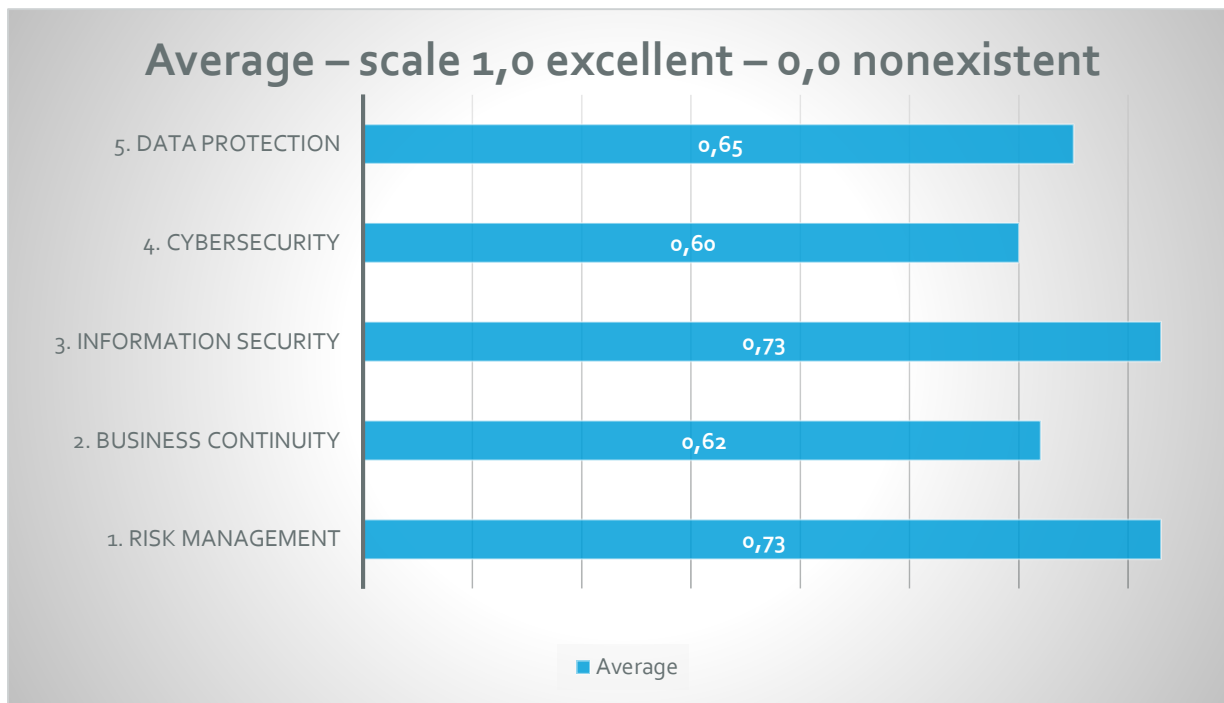
4. Cyber security

5. Data protection & privacy (GDPR)



From global to local

- Finnish public sector national Digital security survey 2019 (150 organisation)



It's not cyber security we should be worried about

- ICT-incidents – minor problems 2,93
- ICT-incidents – major problems 3,87
- Information / cyber security incidents 4,09
- DoS attacks – minor 4,48
- DoS attacks – major 4,78
- Nothing has happened 5,00
- N=150 public sector organisations





Human centric digital security



Human centric digital security – securing your workday @workplace

Do we need

1. Risk management
2. Business continuity
3. Information security
4. Cyber security
5. Data protection



Human centric digital security – securing your workday @remote and home

Do we need

1. Risk management
2. Business continuity
3. Information security
4. Cyber security
5. Data protection



Human centric digital security – securing your workday @business trip

Do we need

1. Risk management
2. Business continuity
3. Information security
4. Cyber security
5. Data protection



Human centric digital security – securing your life @leisure / free time

Do we need

1. Risk management
2. Business continuity
3. Information security
4. Cyber security
5. Data protection



Human centric digital security



Childhood/parents



Youth



Working life



Aging



Risk management | Business continuity | Information security | Cyber security | Data protection



Workplace



Remote work



Business trip



Leisure / free time



Finland's Cyber security Strategy 2013 – 2019 & implementation programs 2014 - 2017



Finland's Cyber security Strategy



FIGURE 1 Finland's cyber threat scenario

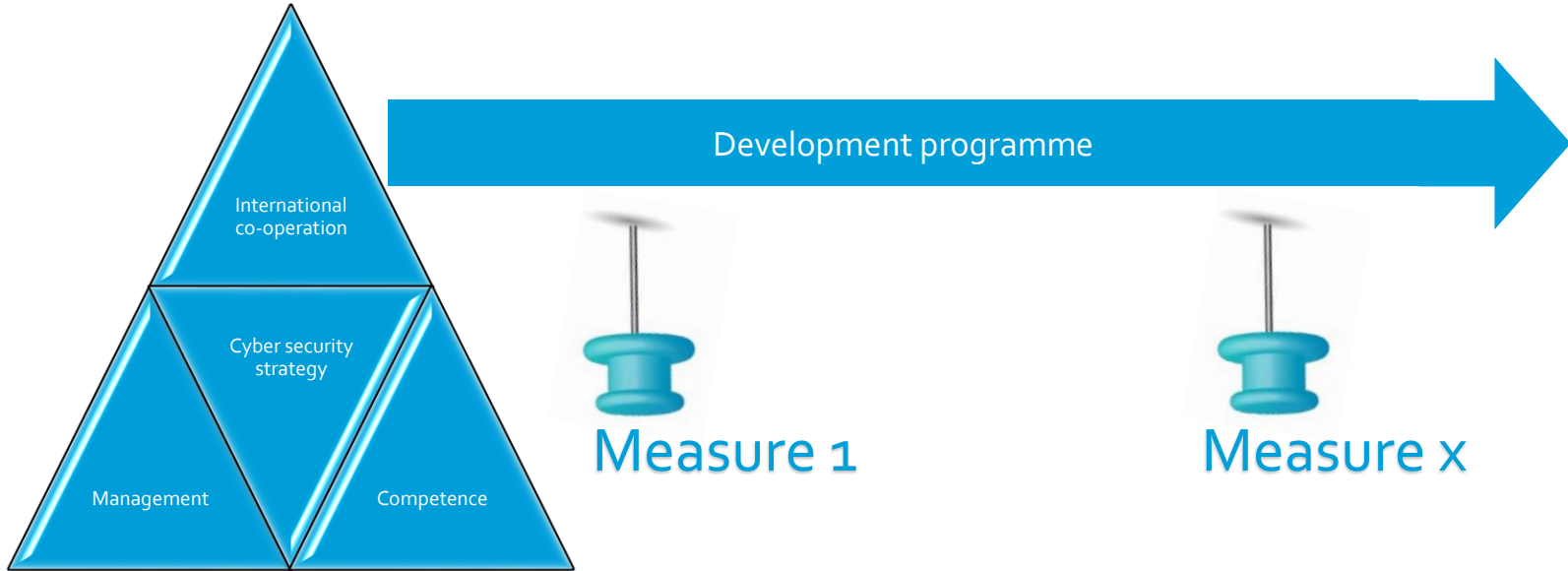
Government Resolution 24.1.2013

Implementation programme



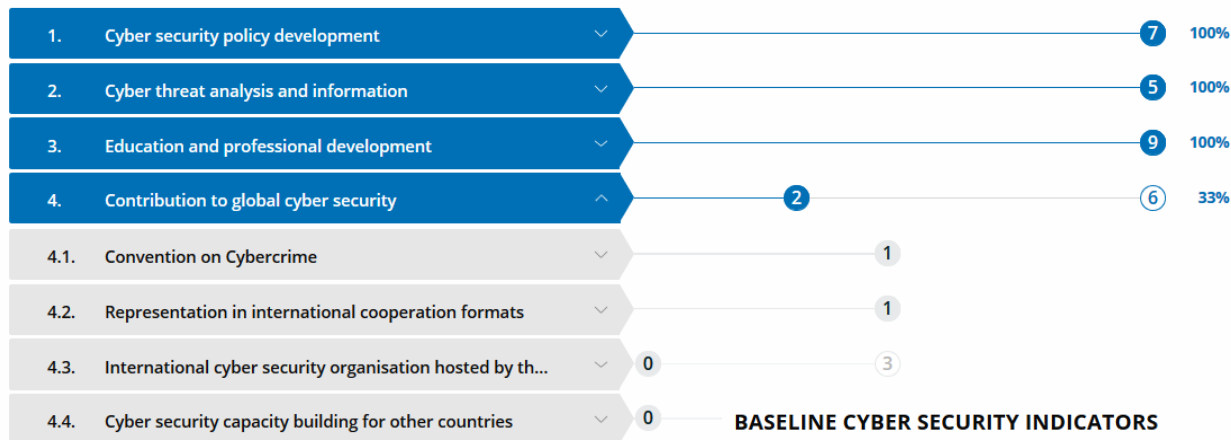
- According to the Vision:
 - Finland can secure its vital functions against cyber threats in all situations.
 - Citizens, the authorities and businesses can effectively utilise a safe cyber domain and the competence arising from cyber security measures, both nationally and internationally.
 - Finland will be the global forerunner in cyber threat preparedness and in managing the disruptions caused by them.

How about our new strategy?

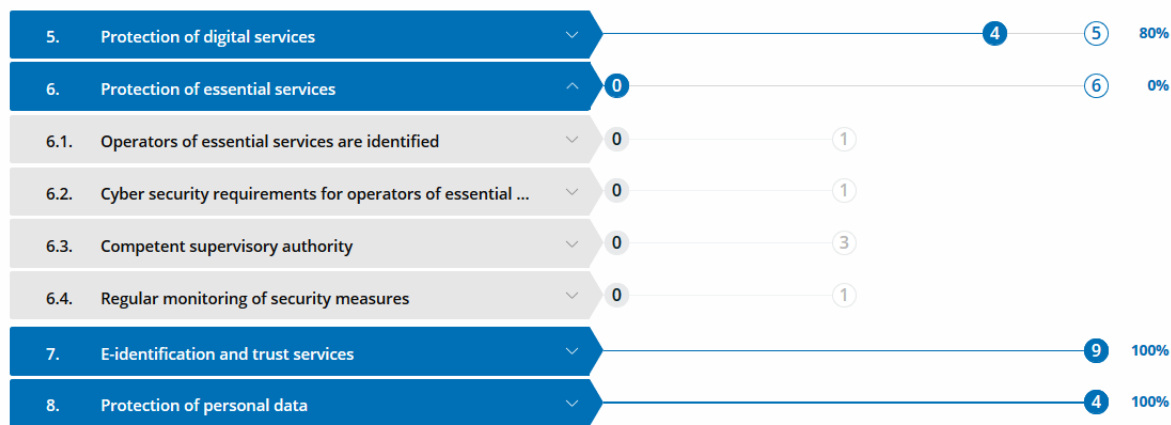


NCSI as valuable evaluation tool

GENERAL CYBER SECURITY INDICATORS



BASELINE CYBER SECURITY INDICATORS





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