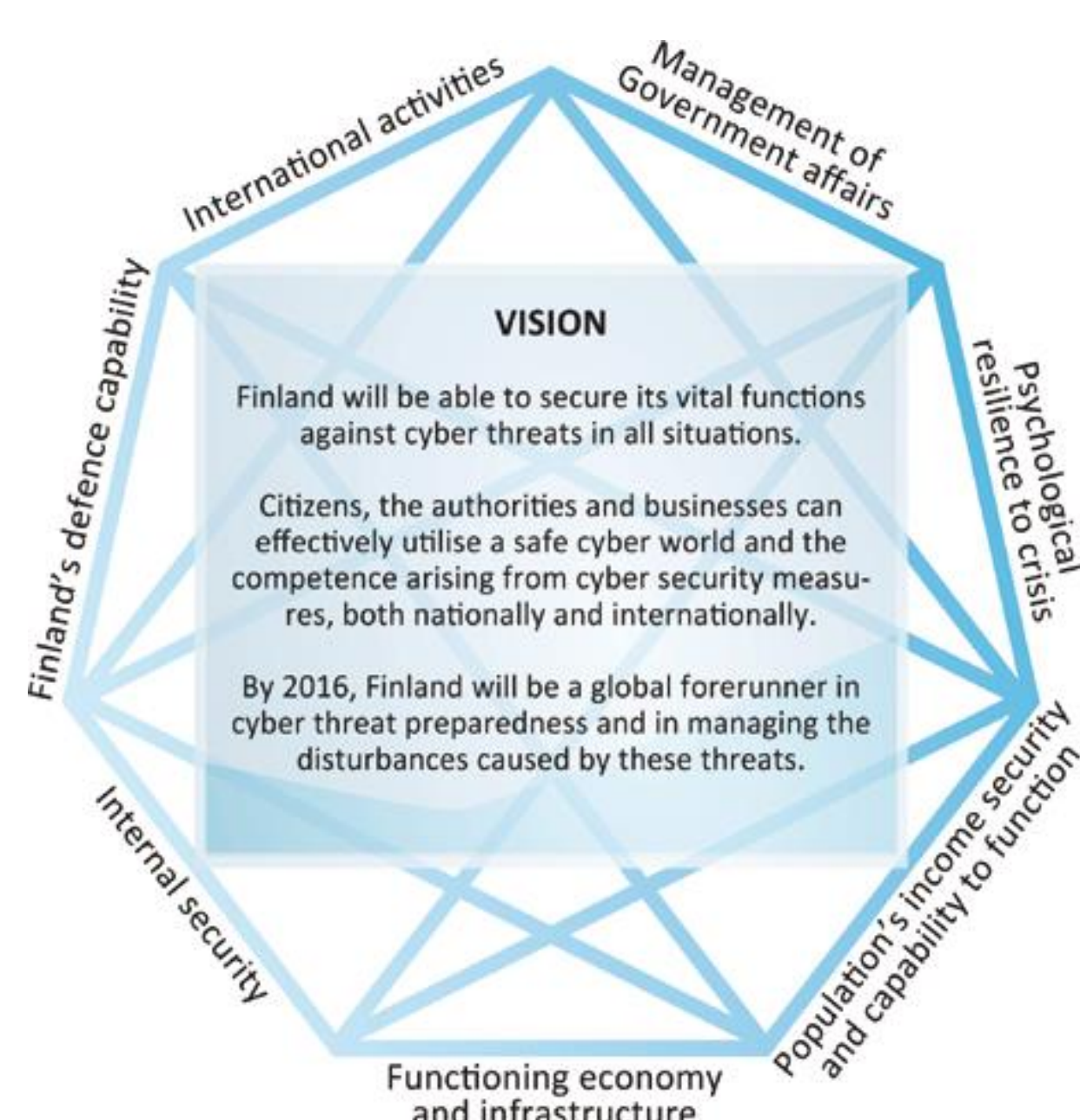# Finland's Cyber Security Capabilities

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Cyberspace profile of Finland

- Global Information Technology Report[1] - Finland is ranked 1st according to the Networked Readiness Index (NRI)
- Grauman report[2] – Finland is the top rated country with score of 4.5 out of 5 stars for its state of cyber-readiness
- Finland possess world class cyber structures and cybersecurity expertise[3]

Finland's National Cyber Security Strategy

- Finland's vision on cybersecurity:
  (1) Finland is capable of securing its vital functions against cyber threats in any situations;
  (2) Global cyber commons are of great importance both for the citizens, the government and the business sector;
  (3) By 2016, Finland will be a global forerunner in cyber threat preparedness and in managing the disturbances caused by these threats"
- Cyber Threat Scenario: cyber activism (cyber vandalism, cyber hactivism), cyber espionage, cyber terrorism, cyber operations pressure, Low Intensity Conflict (LIC) and cyber warfare
- Finnish Defense Forces cyber defense provisions:
  - Maintaining and developing various defense and counterattack techniques
  - Establishing recovery capability from cyberattacks
  - Use of cyberwarfare as an instrument of political and economic influence, and in a serious crisis along with traditional means of military force
  - Protecting their own systems and networks; and creating and maintaining cyber intelligence and cyber warfare capabilities
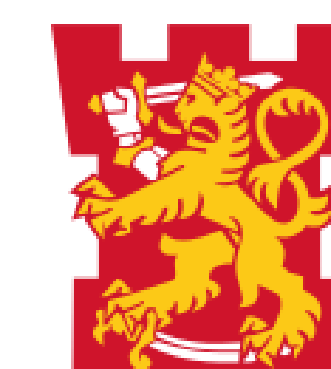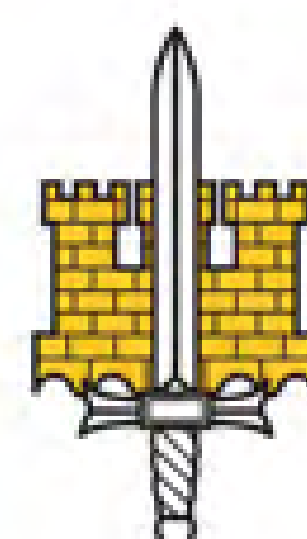
Finland's Cyber Defense Perspective

- Finland's Military Cyber Doctrine perspectives:
  - The concept of future cyber war
  - The use of civilian and cyber military capabilities to prevent cyber war, to wage war or in peacetime in support of foreign policy
  - The domestic role of the armed forces
  - The use of the military capabilities to develop and maintain the national defense technological industrial base
  - The use of the military capabilities to support training, education and exercising cyber related skills and personnel
- Finland as a *rugged* nation – already protecting the critical infrastructure from cyber threats
- Best way to survive in current and future cyberwar is to develop own C4-systems
- Dynamic and adaptive approach to build a Computer Network Defense (CND) capabilities

Key Entities in Finland's Cyberwarfare and Cybersecurity Operation

- National Authorities :
  - Ministries of Transport and Communications, Interior, Finance and Defense
  - Information Security Group of the Ubiquitous Information Society Advisory Board
  - National Communication Security and Regulatory Authorities
  - Government Information Security Management Board
  - The Advisory Board for Defense Information
  - Security and Defense Committee
  - National Security Auditing Criteria
- Computer Emergency Responsible Teams : CERT-Fi, Ericsson PSIRT, Funet CERT, Nokia NIRT, FS Labs
- Academic Organizations: National Defense University, Defense Forces Technical Research Center, Finnish Funding Agency for Technology and Innovation, Helsinki Institute for Information Technology

[1]Bilbao-Osorio, B., Dutta, S., & Lanvin, B. (2013). *The Global Information Technology Report 2013*. Geneva, Switzerland: World Economic Forum. Retrieved from http://www3.weforum.org/docs/WEF_GITR_Report_2013.pdf
[2]Grauman, B. (2012). Cyber-security: The vexed question of global rules. Brussels, Belgium. Retrieved from http://www.mcafee.com/us/resources/reports/rp-sda-cyber-security.pdf
[3]Rantapelkonen, E. J., & Salminen, M. (2013). The fog of cyber defense. Helsinki, Finland: National Defense University, Department of Leadership and Military Pedagogy.

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