



2. Cyber security research in the Netherlands

Jan Piet Barthel MSc



A strong motivation to enforce CS research:

- Absence or lack of cyber security is listed by the World Economic Forum as one of the five global risks to watch.
- Cyber attacks are among the most pressing and potentially dangerous threats to our collective peace and security.
- The global dimension of cyber security challenges requires cooperation among states and the private sector at national and international level.
- Heading to the internet of things, many devices will be connected to networks by wire or wireless and will be online. These devices will be vulnerable to form leaks for the networks they are connected to, unless securely connected.



Where are we from? Where does the Dutch CS research funding come from?

The Hague

NWO

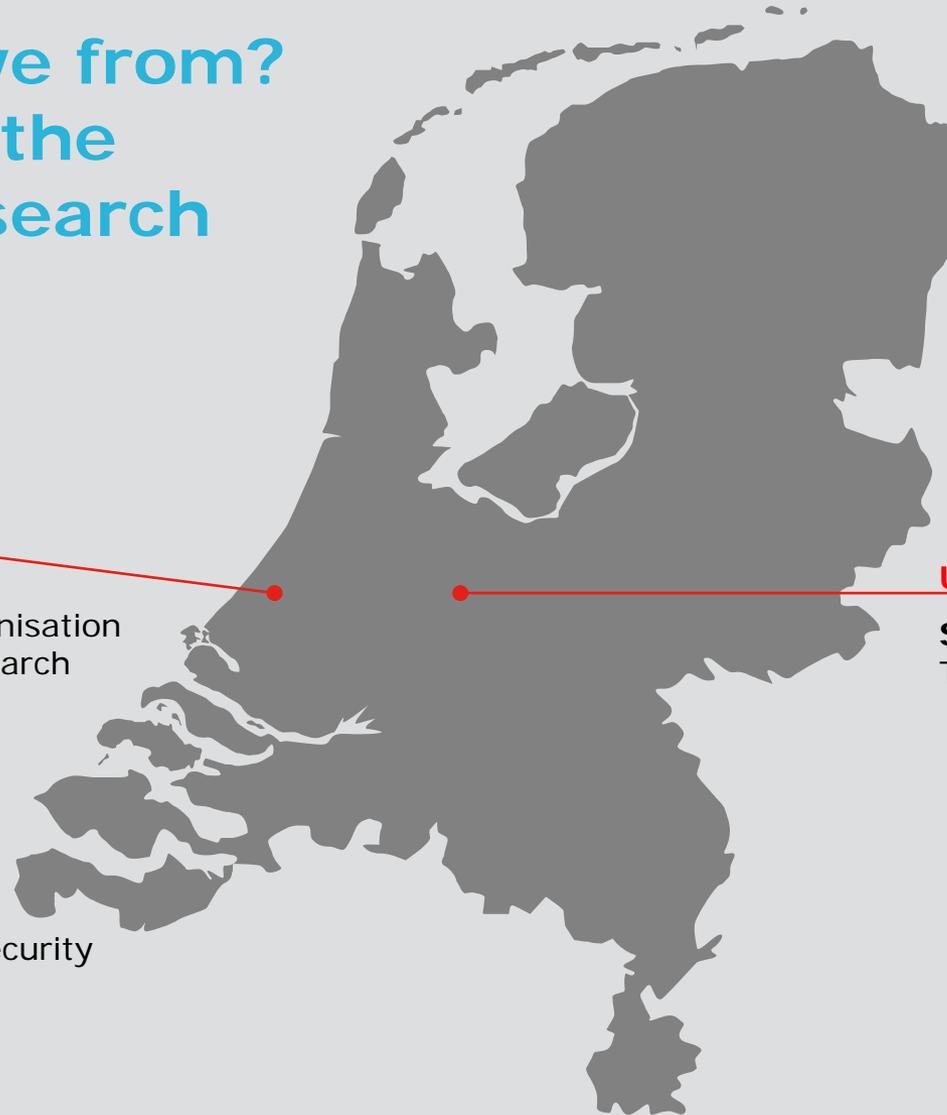
Netherlands Organisation
for Scientific Research

Ministries

EL&I, VenJ
BZK, Defense

NCSC

Dutch
National Cyber Security
Center

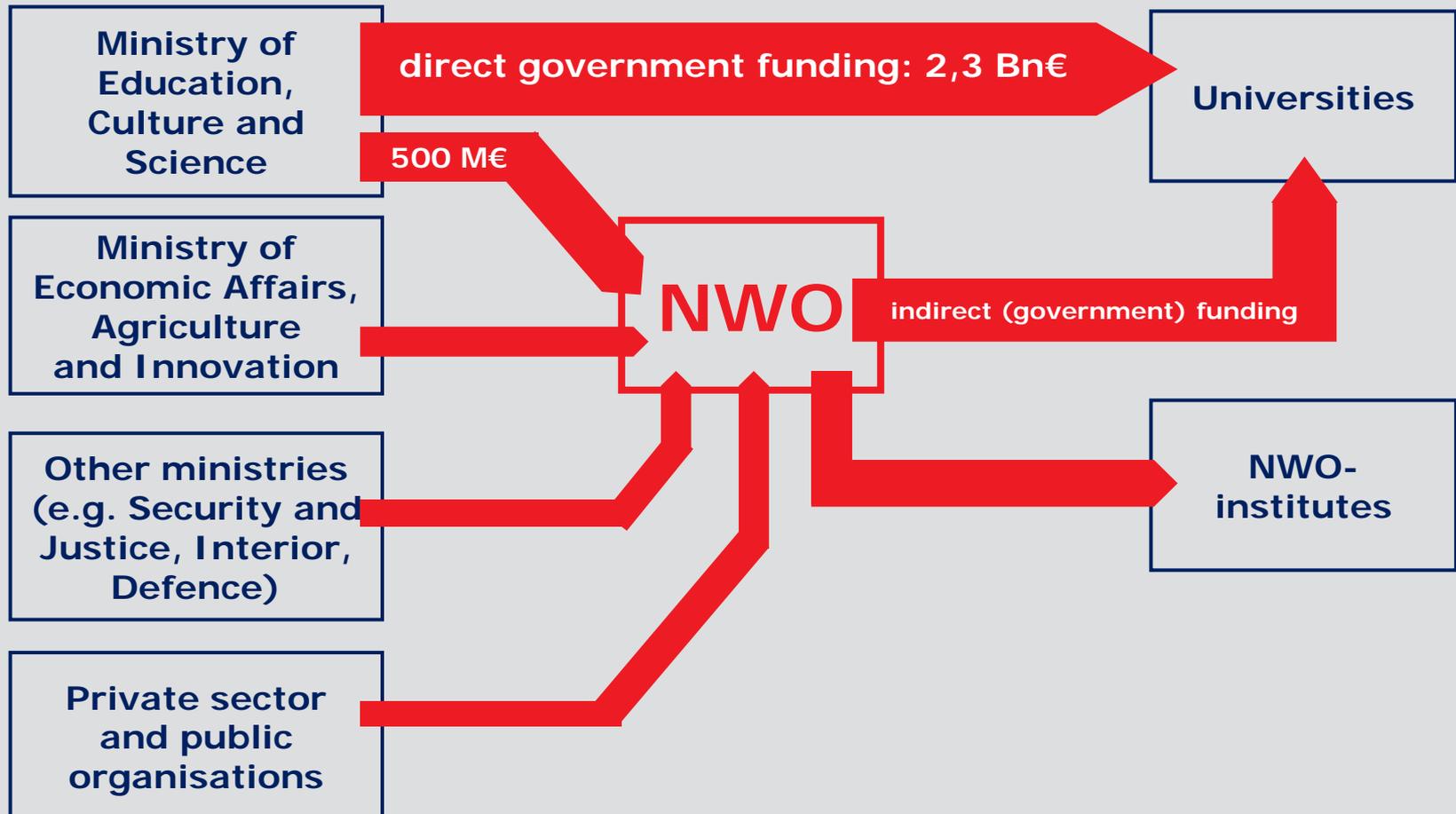


Utrecht

STW

Technology Foundation

NWO's role in research funding





About NWO

- National Research Council of the Netherlands
- Budget 2012 about 700 M€
- Mission
 - facilitate scientific talent by means of (inter)national competition,
 - raise society's awareness of the importance of world-class research,
 - enable the results of such research to benefit society.
- Funding both 'curiosity driven' and 'demand driven' research

Cyber security research sites

1. Dutch national research institute for mathematics and computer science CWI ●
2. University of Amsterdam, Informatics Institute ●
3. VU University Amsterdam ●
4. Leiden University ●
5. Delft University of Technology ●
6. Radboud University Nijmegen ●
7. Tilburg University ●
8. Eindhoven Technical University ●
9. CTIT, University of Twente ●





Cyber security research landscape (1)

CWI Amsterdam has a leading international research position in cryptology:

- General mathematical cryptology
- Cryptanalysis (hash functions, cyber-warfare, malware, applied cryptography)

The Informatics Institute of the **University of Amsterdam** focusses on intelligent systems and network engineering research and is award winning in search and analysis methods for both image, text and video.

- Security of data in distributed processing environments (e.g. health records exchange)
- Digital forensics and visual analytics (e.g. fighting child abuse).



Cyber security research landscape (2)

VU University Amsterdam works on computer and network security as well as secure and reliable operating systems.

- Malware analysis and reverse engineering
- Attack detection and prevention (binary level)
- Network monitoring
- Security for smartphones

Leiden University has a leading international research position in algebra & number theory as well as in its applications to cryptology.

Delft University of Technology is known for its research in broad societal context:

- Economics of information security
- Privacy in social networks



Cyber security research landscape (3)

Radboud University Nijmegen is very strong in security evaluation: smart card security, security analysis, privacy & anonymity, software security.

Tilburg University Institute for Law, Technology, and Society has a strong experience in multidisciplinary research, connects Anglo-American with Continental European developments in cyber security and cybercrime regulation.

Eindhoven Technical University researches a variety of topics like privacy and identity management, and policy management in systems of systems, crypto and has strong links with spin-offs.

University of Twente connects security research with other disciplines: Secure management of high impact risks, secure data sharing and analysis.



National Cyber Security Research Agenda

- Initiated by leaders in research and industry,
- In consultation with the field,
- In line with the NCSS



National Cyber Security Research Agenda

— Trust and Security for our Digital Life —

Editors:

dr.ir. Herbert Bcs (Vrije Universiteit Amsterdam)
prof.dr. Sandro Etalle (Technische Universiteit Eindhoven)
dr.ir. Erik Poll (Radboud Universiteit Nijmegen)

October 6, 2011

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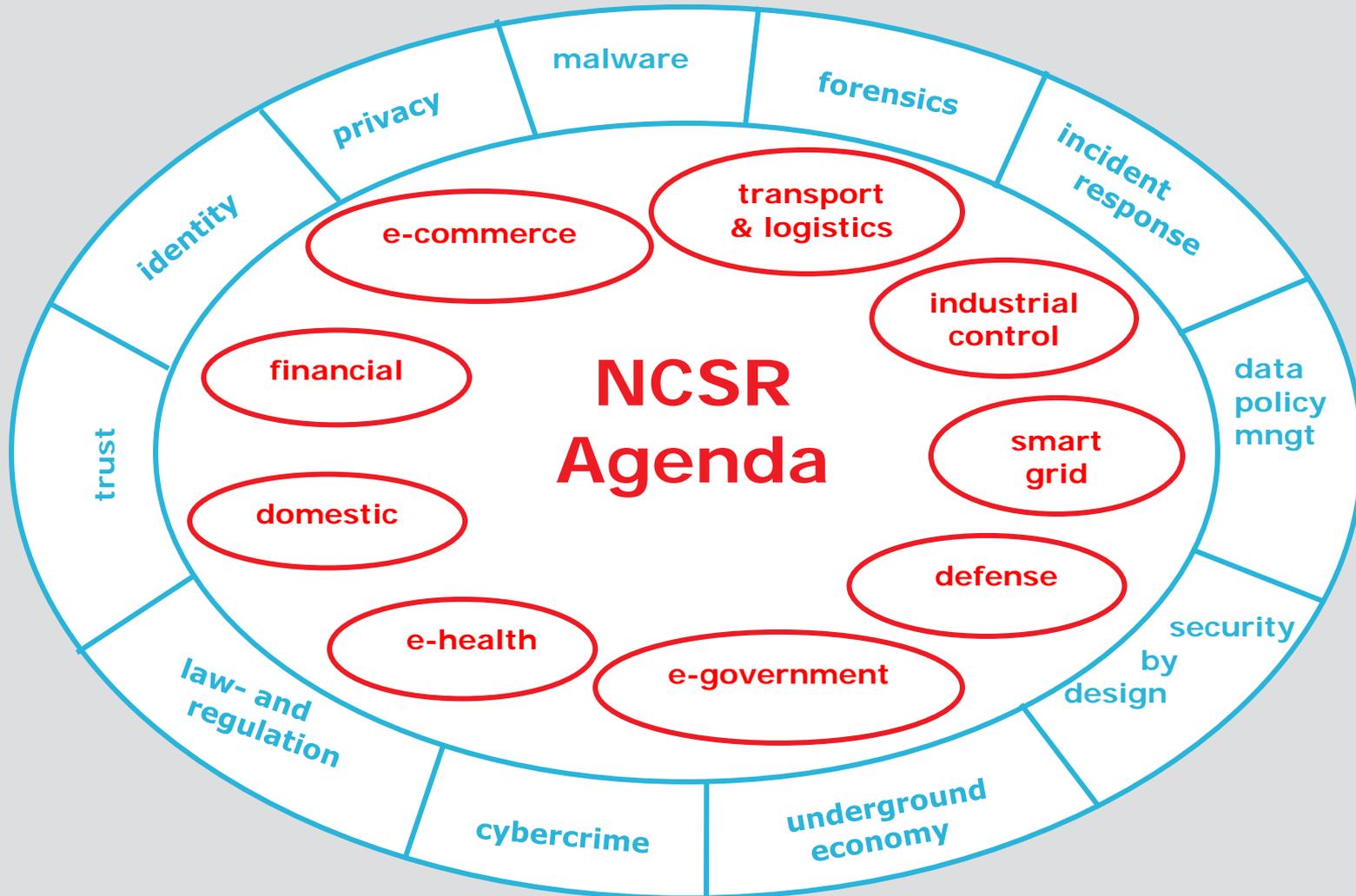
Focus Research Agenda

- Security and Trust for Citizens
- Security and Trustworthiness of Infrastructure



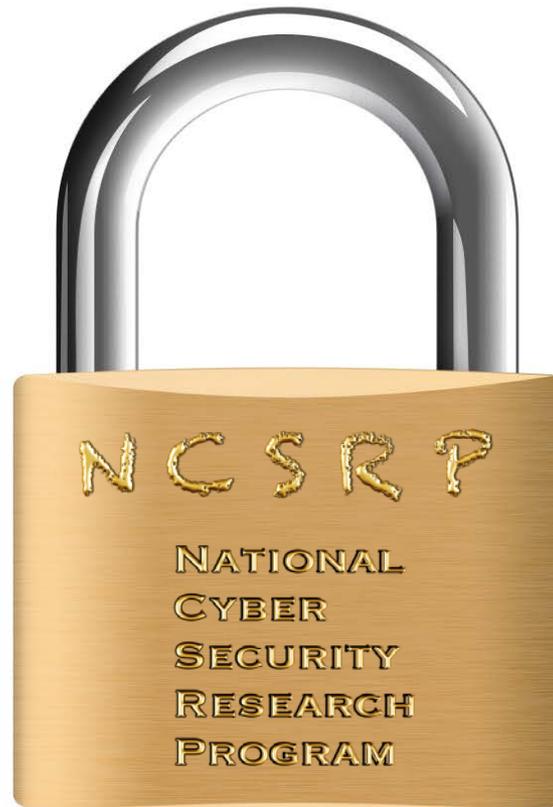


research topics & application domains



Call for proposals based on the NCSRA

- Submission deadline **short term research:** September 17, 2012
- 46 proposals submitted
- 0,7 M€ available
- 1,7 M€ requested
- using the SBIR instrument



- Submission deadline **long term research:** October 2, 2012
- 23 proposals submitted
- 3,5 M€ available
- 8,0 M€ requested
- 40 unique consortium partners, of which 11 SME's

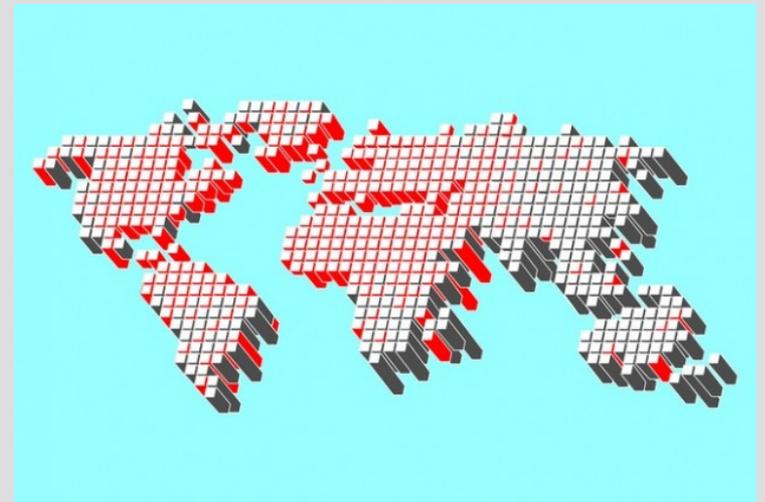


Trans-Atlantic research topics (february 2012)

1. (Cross border) identity management
2. Cloud computing, privacy and confidentiality of data
3. Malware prevention (in a mobile networking environment among others)
4. Critical infrastructures and SCADA
5. Increasing role for security of Internet intermediaries
6. Cyber forensics (i.e. cloud, SCADA, server memory images, etc.)

Through joint international research steps can be made towards a global . .

- . . code of online conduct for states, companies and individuals,
- . . approach for battling cross border online crime



Contacts



Eelco Stofbergen
Manager Expertise & Advisory
Tel +31 (0)70 888 7555
E-mail: eelco.stofbergen@ncsc.nl



Jan Piet Barthel
Senior Policy Advisor Cyber Security Research
Tel. +31 (0)70 – 349 4495
E-mail j.barthel@nwo.nl

www.nwo.nl/cybersecurity, www.iipvv.nl, www.ncsc.nl