The landscape:
# Cyber Security Research in the Netherlands

Refer to: www.iipvv.nl

The **Netherlands Organization of Scientific Research** in The Hague with a budget of € 625 mln., per year provides substantial funding to scientific research in the Netherlands, stimulates quality and innovation in all sciences.

The Hague,
city of peace,
justice and security

A new Dutch **National Cyber Security Research Agenda** (NCSRA-II), will be published October-November 2013, together with a new version of the National Cyber Security Strategy (NCSS2).
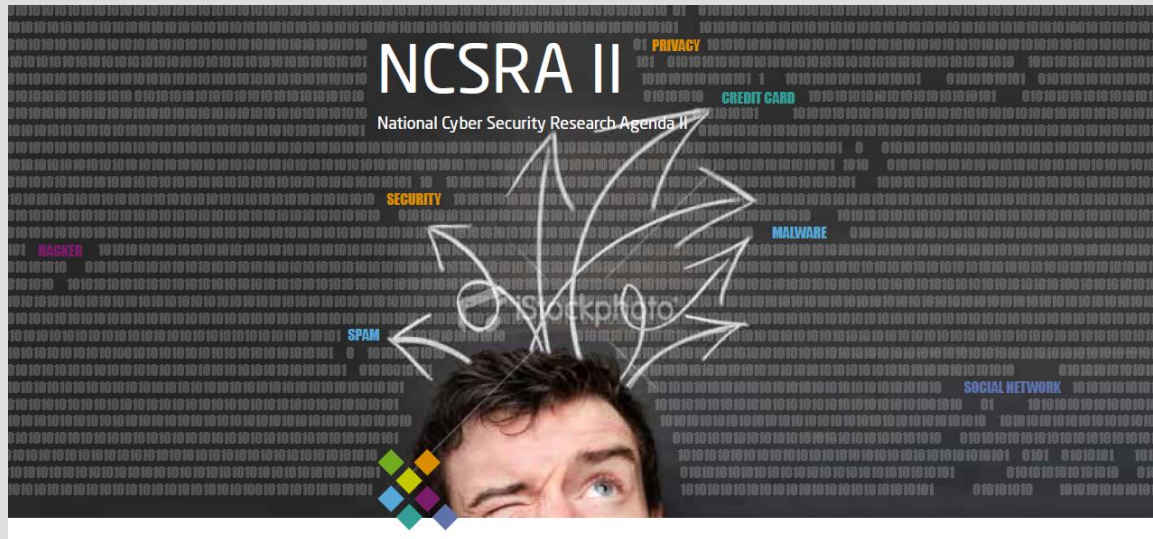
Agenda has been written under coordination and responsibility of a public-private partnership of Dutch scientists, entrepreneurs and policy makers, united in a platform on security and privacy.

Agenda Purpose

- Guiding document for cyber security research "calls for proposals " (long term, short term, near term),
- Requested by four Dutch ministries: Defense, Economical Affairs, Interior, Security and Justice and the Dutch research council NWO,
- Strategic document providing a frame of reference for cyber research challenges from various (α, β, γ) disciplines,
- Addendum providing concrete examples of research topics and questions,
- Not exclusively to attract grants from organizations like NWO, but predominantly meant to formulate and execute public-private collaboration research projects, regardless the funding arrangement, and leading to a more secure society,
- Synchronized with the Dutch and the European Cyber Security Strategy.

Focus Areas:

1. Security and trust of citizens

2. Security and trustworthiness of infrastructures

Multidimensional Challenge

- Cyber security affects many application domains, straddles many disciplines, stages, layers, technologies, etc., together constituting the **contexts**,

- The agenda lists **research themes** representing cyber security challenges across the most important contexts,
and chooses a thematic classification by mapping 12 **application domains** on 9 research themes.
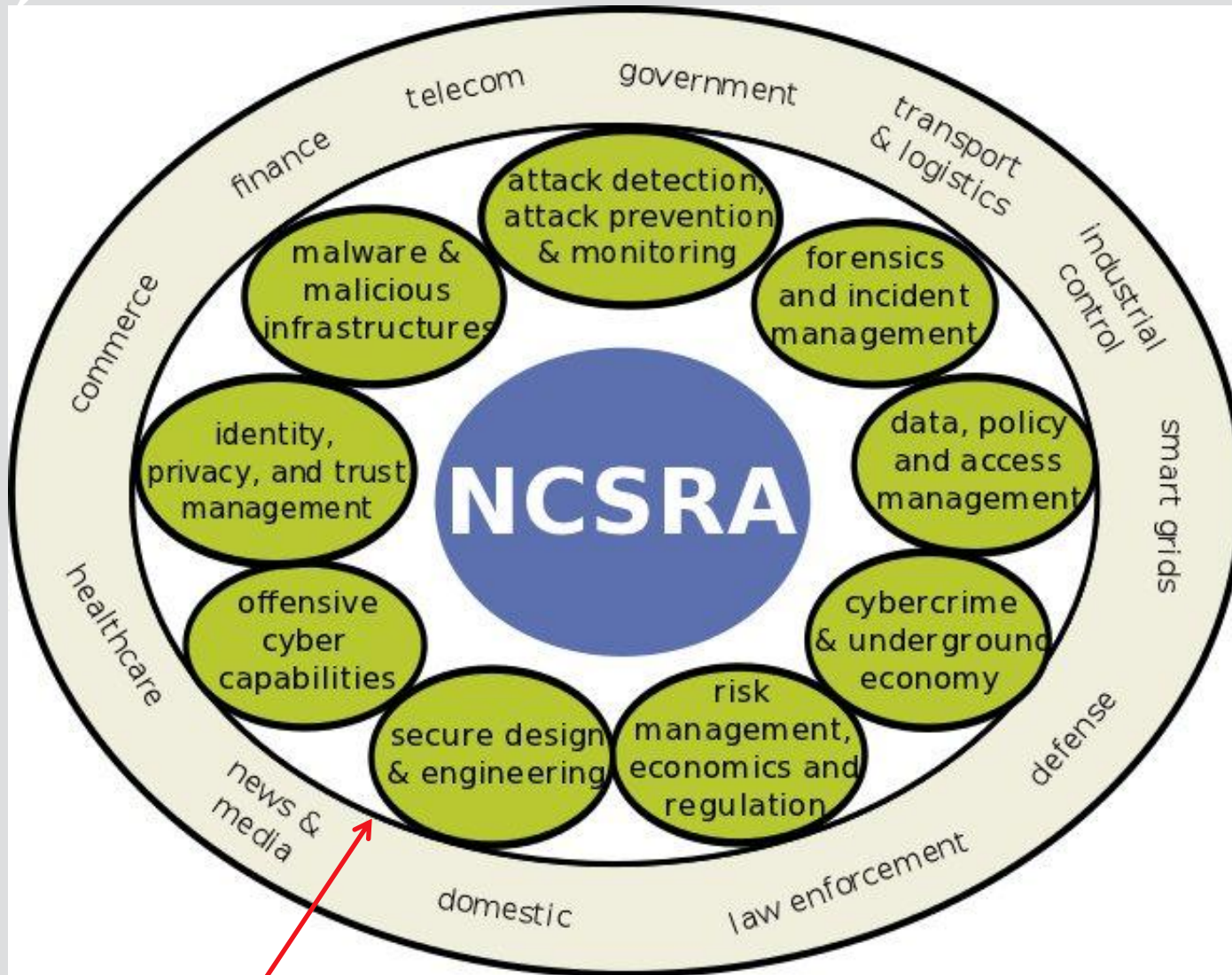
Research Themes (inner ring)

Agenda Execution

Nationally through 9 recently granted research projects:

1. Wieringa: *Personal Information Security Assistant* (PISA)
2. Van der Aalst: *Privacy Compliance and Enforcement* (PriCE)
3. Van Eeten: *Reputation Metrics Design to Improve Intermediary Incentives for Security*
4. Etalle: *Visualization and deep protocol analysis to detect cyber espionage and targeted malware*
5. Jacobs: *OpenSesame: opening backdoors on embedded devices*
6. Bos: *Re-Cover, the Power of Obfuscation*
7. Batina: *Profiling for Optical Fault Induction using Location-dependent leakage*
8. Van Gelder: *Cyber Crime Offender Profiling: The Human Factor Examined*
9. Vaandrager: *Learning Extended State Machines for Malware Analysis (LEMMA)*

Future Steps

Internationally through:

Co-funding US-NL partnership research projects: three projects are under consideration with a possible start before the end of the year:

1. SCADA and industrial control systems
2. Malware on smartphones
3. Cybercrime economic measures

Open up already funded Dutch research projects to DHS participation

Joint research funding (call for proposals)

Other opportunities . . .