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für Frieden
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Cyberpeace
Promoting human rights and peaceful use of the Internet

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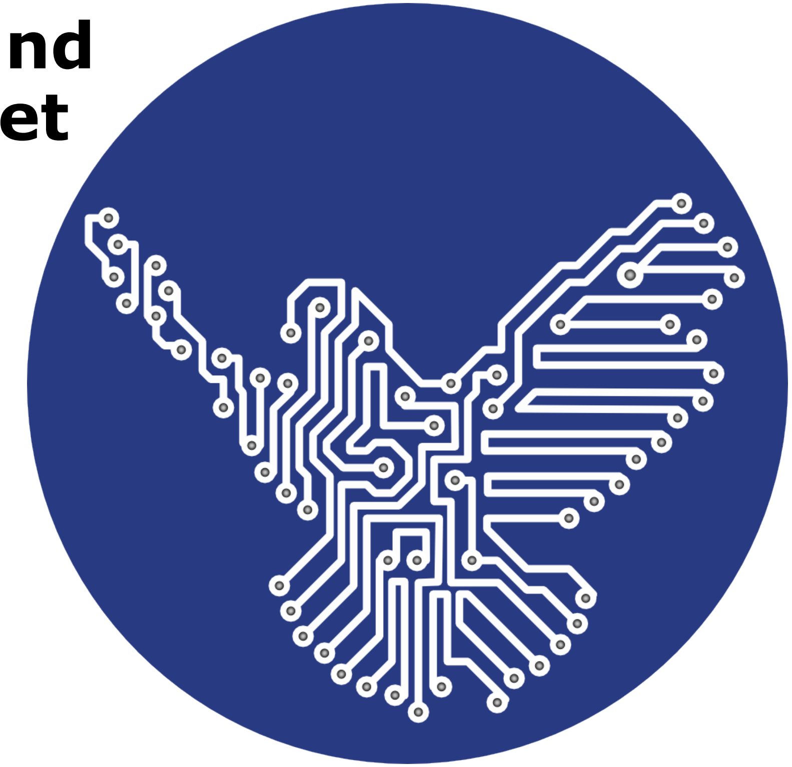

Cyberpeace Campaign funded by

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FIfF –
our Cyberpeace-Campaign

Our cyberpeace campaign

- We have launched our ***Cyberpeace*** campaign to address the threats emerging from cyber warfare policies

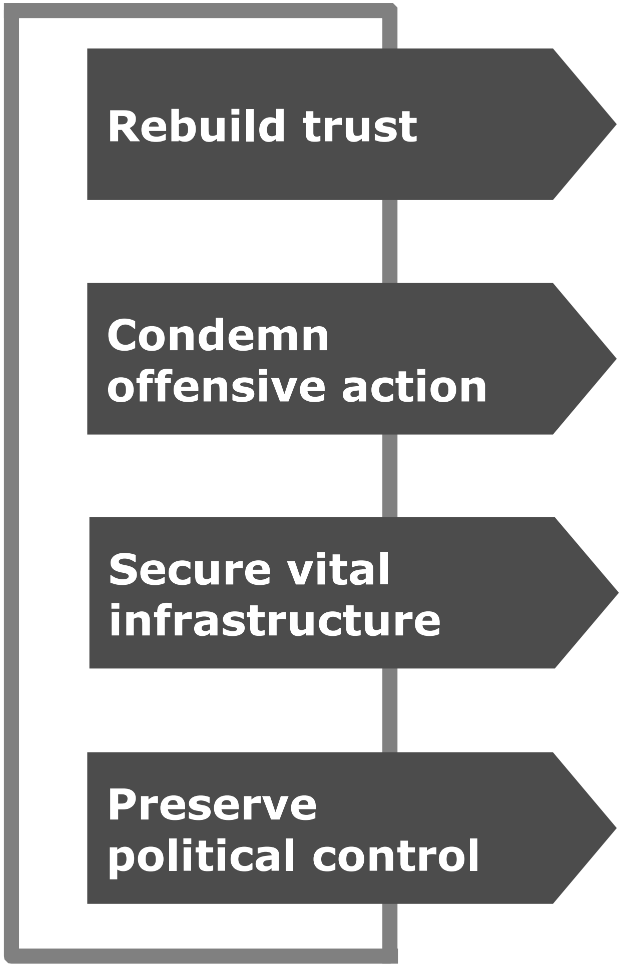
Long-term goals

- ***Proscription*** of any kind of cyber warfare
- Guaranteed integrity of Internet that is primarily used ***peaceful and protected against military misuse***
- ***Prohibition of surveillance*** of the civil society that is violating the human rights
- ***Disposing*** a security doctrine that puts everyone under ***general suspicion***

Short-term campaign goals

- ***Arms control*** of offensive cyber weapons and surveillance technology
- ***Dismissal*** of development and use of ***offensive cyber weapons***
- ***Obligation*** to make IT-vulnerabilities ***public***
- Communication infrastructures that are, by law, ***secure against surveillance***

A framework for Cyberpeace focuses on 4 issues



- Trust is a basis for our society
- Reduces social complexity of our environment
- Trust in the Internet has been destroyed by surveillance and cyberwarfare
- It has to be rebuilt; transparency and free and open source might be ways to achieve new trust

- 01 | No offensive or pre-emptive strikes in cyberspace
- 02 | Exclusively defensive cybersecurity strategy
- 03 | Disarmament
- 04 | No conventional response to cyber attacks
- 05 | Geneva Convention in Cyberspace

- 06 | Disclose vulnerabilities
- 07 | Protect critical infrastructure
- 08 | Establish cyber security centers
- 09 | Promote IT experts for cyber security
- 10 | Promote open source

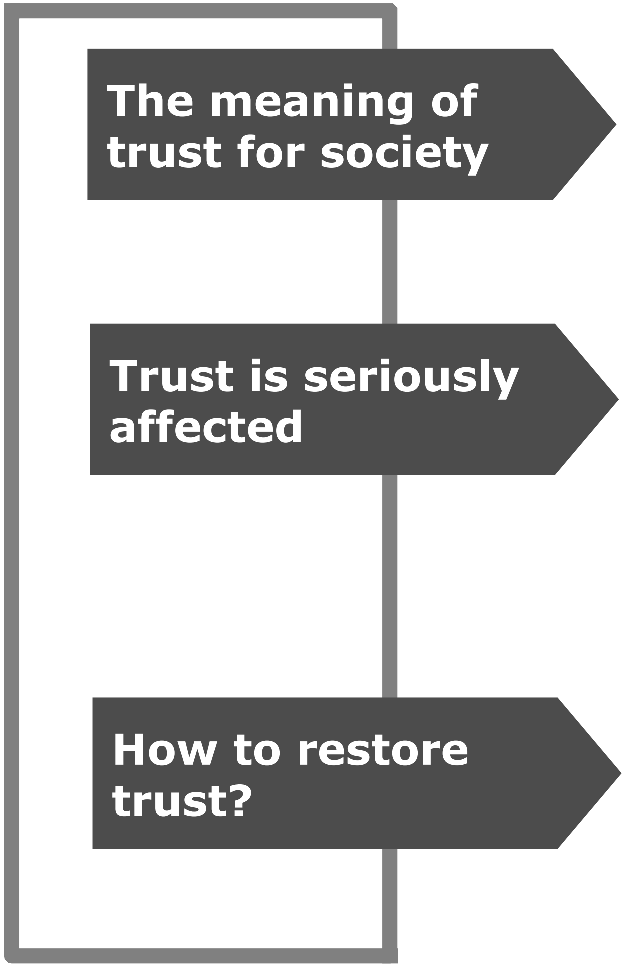
- 11 | Cyberpeace initiative on government level
- 12 | Democratic control of the Internet and of cyber (security) strategies
- 13 | Online protest is not a crime
- 14 | Well-defined and demilitarized political language

Trust in our society

„Just today, a stranger came to my door claiming he was here to unclog a bathroom drain. I let him into my house ***without verifying his identity****, and not only did he repair the drain, he also took off his shoes so he wouldn't track mud on my floors. When he was done, I gave him a piece of paper that asked my bank to give him some money.* ***He accepted it without a second glance.*** *At no point did he attempt to take my possessions, and at no point did I attempt the same of him. In fact, neither of us worried that the other would. My wife was also home, but* ***it never occurred*** *to me that he was a sexual rival and I should therefore kill him."*

(Bruce Schneier 2012)

Trust in our society



The meaning of trust for society

- Trust is a ***basis*** for our ***society***
- ***Reduces social complexity*** of our environment
- Trust has been ***destroyed*** by surveillance and cyberwarfare
- We need better ***democratic processes*** and ***transparency*** to achieve new trust

Trust is seriously affected

- Edward Snowden raised our ***conciousness of world-wide surveillance*** by secret services
- In Germany, ***interception*** of mail and communicationhas been taking place ***since World War II*** – in the western as well as in the eastern part of the country
- ***It is not yet clear***, which new disclosures will be made in the weeks, months and years to come

How to restore trust?

- Trust ***cannot be enforced*** by political claims
- Nevertheless, ***political action is necessary*** to restore it
- At first, ***democracy*** and ***transparency*** must be promoted
- ***Legal action*** must be taken against unconstitutional surveillance
- ***Free and Open Source*** might be a way to achieve transparency in technical systems and tools

Condemn offensive Action

01 | No Offensive Strikes in Cyberspace

What we call for

- Nations must publicly declare to ***abstain from offensive***, particularly pre-emptive cyber strikes – offensive cyber strikes are generally ***not considered legitimate***
- ***Economic interests*** are ***not*** considered a legitimate reason for war
- ***Cybercrime***, in contrast to cyberwar, must be targeted by means of ***criminal***, not by military law
- We demand that governments use ***no cyber weapons*** for this purpose in any way

Motivation

- All nations have the right to defend themselves
- Nations do not have the right to attack or to commit an offensive or pre-emptive strike

Condemn offensive Action

03 | Disarmament

What we call for

- Cyber weapons are a ***threat to peace and security*** for all
- We demand that nations and their government ***disarm***, in cyber space as in the “real world‟
- This must be accomplished by ***international treaties***
- Although disarmament of (cyber) weapons is highly desirable, keeping such ***weapons for defensive means*** is considered legitimate, and so are hacker tools

Motivation

- Cyber weapons, like conventional weapons, are a threat to the security of everyone
- Cyber weapons rely on undisclosed vulnerabilities
- Cyber weapons are hard to control since they potentially affect all software systems with specific vulnerabilities, not only the targeted ones

06 | Vulnerabilities Must Be Disclosed

What we call for

- Everyone must ***disclose vulnerabilities responsibly*** and within a reasonable timeframe
- ***Public authorities*** in particular must protect the ***integrity*** of information systems
- This is derived from the ***fundamental right to IT-systems***, whose confidentiality and integrity are to be safeguarded

Motivation

- Today, intelligence agencies seem to exploit (and create) vulnerabilities, eventually withholding them for future use
- These vulnerabilities can be misused for criminal means
- If disclosed, they are likely to be fixed quickly; however, a sufficient timeframe must be provided before public disclosure
- Thus, public awareness and trust in defensive security strategies will be enhanced

09 | Promotion of (Junior) IT-Experts

What we call for

- The ***quality of IT products*** – particularly with regard to IT security – must be ***enhanced significantly*** to reduce their vulnerability
- State authorities and economic enterprises must ***invest in qualified experts*** for IT and IT-security in particular
- ***Academic education must be broadened*** to cover ***ethical and political*** aspects as well as the ***assessment of technological impact***

Motivation

- Today, there is a lack of IT experts and knowledge for effective protection against cyber attacks in Europe
- This lack is intensified because there are IT-experts working at compromising IT systems instead of improving their security
- Currently, instruction covering the impact of technology on society seems to vanish from the curriculum; this development must be reversed

10 | Promotion of Open Source

What we call for

- ***Free and Open Source software*** must be promoted and used by public authorities
- It must be ***preferred*** particularly for ***critical infrastructure***
- ***Public authorities*** must also promote and insist on ***independent reviews and inspections***
- However, ***care*** must be taken to ***avoid an illusion of security***

Motivation

- In contrast to proprietary software, Open Source software allows independent inspections and reviews, though it does not guarantee security
- This reduces the probability of back-doors significantly
- In principle, the entire community can conduct these reviews

Preserve political control

12 | Democratic Control of Cyber Strategies

What we call for

- ***Democratic control*** must be ensured and separation of powers must be respected
- ***Parliaments*** must ***control cyber security strategies*** and their implementation; cyber strikes have to be ***approved*** by parliament in each case
- Cyber security strategies must be an outcome of ***legislative democratic decision-making***

Motivation

- Today, cyber strategies are developed and implemented secretly
- Transparent cyber security strategies are confidence-building and contravene an arms race in cyberspace

Thank you very much!

Backup

Condemn offensive Action

02 | Exclusively Defensive Security Strategy

What we call for

- As offensive cyber strikes are not considered legitimate, nations have the obligation to maintain a clearly defensive security strategy concerning cyber strikes
- Nations must commit to neither develop nor use offensive cyber weapons

Motivation

- All nations may develop a security strategy including the use of defensive cyber weapons
- Similarly, all nations have the right to defend themselves
- However, they do not have the right to attack
- We demand that governments neither develop offensive strategies nor use cyber weapons for offensive purposes

Condemn offensive Action

04 | No Conventional Response to Cyber Attacks

What we call for

- Conventional weapons must not be used in response to a cyber strike

Motivation

- It is impossible to unequivocally attribute cyber strikes to an aggressor
- Responding to a cyber attack with conventional weapons would cause an escalation of forces which might become uncontrollable

05 | Geneva Convention in Cyberspace

What we call for

- All applicable requirements of the Geneva Convention must be respected in cyberspace as in the "real world‟
- Especially, vital infrastructure for the civil population must not be targeted; this might include communication infrastructure if human lives depend on it; this includes so-called collateral damage
- A violation of this principle is considered a war crime
- We demand that nations and their governments commit to common principles agreed upon in international treaties on conflicts

Motivation

- Critical infrastructures are attractive goals to target in wars since their failure fundamentally weakens an enemy
- However, failure of infrastructure seriously affects civil society as well if vital, life-supporting facilities like water supply, energy, health care etc. are attacked

Secure vital infrastructure

07 | Protect Critical Infrastructure

What we call for

- Operators of critical infrastructure must be obliged to protect this infrastructure from cyber attacks
- They must be obliged to implement and operate secure systems
- They must not rely on state authorities or the military for protection
- Wherever possible, critical infrastructure – like nuclear power plants – must be separated from the public Internet

Motivation

- Currently, critical infrastructures are often easy to reach from the Internet
- Since vulnerabilities are unavoidable, they can be attacked
- Security of critical infrastructure must be verified by competent and transparent audits and tests

Secure vital infrastructure

08 | Establish Cyber Security Centers

What we call for

- Cyber security centers must be established to deal with cyber threats effectively
- They must be consequently peace-oriented and work in a transparent fashion
- Police, intelligence and military authorities must be operated independently and their information exchange regulated according to democratic principles

Motivation

- Facilities are required which ensure dealing with threats from cyberspace effectively and implement appropriate instruments to provide and enhance cyber security
- Cyber security centers must be organized in a way which preserves fundamental civil and human rights

11 | Cyberpeace Initiative

What we call for

- We demand that governments launch an international cyberpeace initiative
- Peace studies and the development of peace-keeping strategies in cyberspace must be promoted on all levels

Motivation

- We consider critical communication infrastructure – cyberspace – a vital basis for the future of mankind
- To endanger this critical infrastructure means to jeopardize our future

13 | Online Protest Is not a Crime

What we call for

- The right to civil resistance and online protest must be respected, assumed that no violence or damage is caused
- Online protest must not be criminalized or serve as a reason to start a war

Motivation

- Information and communication via the Internet nowadays is common practice, akin to a human right
- Protests against some companies can only take place in cyberspace, examples are consumer protests against online services
- To exercise fundamental rights – e.g., free speech or assembly – is not a crime
- It must not serve as grounds for military response or war

14 | Well-Defined and Demilitarized Language

What we call for

- We demand the demilitarization of political speech
- We also demand a clear distinction and definition of wording:
  Cyberwar, Cyber terrorism, Cybercrime, Ethical hacking, Political forms of protest
  (A proposal of definitions is included in this set of slides)

Motivation

- Politics and media frequently use vague language in a misleading fashion, with the potential of escalating conflicts
- As an example, using the term "cyberwar" suggests that only military solutions are possible

Definitions

Term	Description
Cyberpeace	By Cyberpeace, we mean peace in Cyberspace in a very general sense: Peaceful use of Cyberspace for the benefit of human kind and the environment. This includes the absence of all acts of Cyberwar, but also the use of the entire communication infrastructure for international understanding.
Cyberspace	Any information and communication infrastructure, hardware or software, public or private, open or restricted. This obviously exceeds the Internet. It might include tools not connected to a network, e.g. if an USB-stick is used for distributing malicious software.
Cyberwar	Any kind of war between nations, as defined in international law, which utilizes services provided in Cyberspace.
Cybercrime	Criminal action, or rather illegal action punishable by law, which utilizes services provided in Cyberspace.
Cyber terrorism	Violent criminal action by non-governmental actors, which seeks to change political systems by causing fear and insecurity. Cyber terrorism is a particular, exceptionally severe type of Cybercrime.
Cyber strike	Martial attack exploiting infrastructure provided by Cyberspace.
Hacktivism	Political activism using services provided by Cyberspace. It does not intend to cause damage and does not use violence.
Online protest	Protest action in Cyberspace, which does not use violence or cause damage. Online protest can include forms of civil resistance.
Cyber weapon	Any software or hardware that can be used to carry out a Cyber strike by exploiting a secret vulnerability. Cyber weapons usually exploit vulnerabilities which are kept secret, and their destructive character arises from the impossibility to mitigate the effects of the exploit. By making the vulnerability public the Cyber weapon is defused.