

CIIP Country Surveys



Sweden

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Concept of CIIP and Description of System

In Sweden, CIIP is understood as the protection of essential electronic information services. The Swedish Commission on Media Convergence defines electronic information services as including IT systems, telecommunications, and radio and television services.¹ However, in a broader sense, the CI sectors in Sweden are the following:²

- Banking and finance,
- (Tele-) Communication,
- Food,
- Energy,
- (Electronic) Information services,
- Public health,
- Social welfare,
- Transportation,
- Water supply.

In an earlier joint study, power supply, telecommunication, governmental command and control, financial services, and air traffic were mentioned as the vital sectors for IT incidents.³

1 Interview with a representative of the Swedish Agency for Civil Emergency Planning (ÖCB), April 2002.

2 Interview with a representative of the Swedish Defense Research Agency (FOI), July 2002.

3 Interview with a representative of the Swedish Defense Research Agency (FOI), July 2002.

CIIP Initiatives and Policy

CIIP Initiatives

Cabinet Working Group on IO-D

On 12 December 1996, the government decided to appoint a working group within the cabinet. This Cabinet Working Group on IO-D was tasked with the identification of threats and risks due to information warfare, the dissemination of knowledge, proposals for sharing responsibility, and guidelines for a strategy. Today, besides representatives of the cabinet office and ministries, the Cabinet Working Group on IO-D also includes representatives of relevant private companies and organizations.⁴

Commission on Media Convergence

In July 1997, the Swedish government appointed a special investigator to study the implications of convergence between the telecommunications, media, and information technology (IT) sectors. The inquiry was prompted by technical developments that are making the boundaries between IT, telecommunications, and media increasingly fluid, whereas the existing legislation essentially presumes that those boundaries can be maintained.⁵

The ÖCB Infrastructure Report

In the letter of regulation for the year 1998, the former Swedish Agency for Civil Emergency Planning (ÖCB) was tasked to report – in consultation with the relevant authorities and the Swedish armed forces – on the extent to which vulnerabilities in the civilian CI could be assumed to limit the total defense ability under certain conditions. The report identified mutual interdependencies between power grids, telecommunications networks, and IT systems.⁶

4 Interview with a representative of the Swedish Agency for Civil Emergency Planning (ÖCB), July 2002.

5 Interview with a representative of the Swedish Agency for Civil Emergency Planning (ÖCB), July 2002.

6 Interview with a representative of the Swedish Agency for Civil Emergency Planning (ÖCB), July 2002.

Commission on Vulnerability and Security

In June 1999, the Swedish government authorized the defense minister to appoint a commission to ensure an integrated approach to civil defense and emergency preparedness planning as related to CI in the society. This has been the most important step concerning CIIP in Sweden during the last years. Eventually, the Commission on Vulnerability and Security began its work in March 2000.⁷ The commission was charged with exploring the options for an organizational or structural separation of functions, and with proposing ways and means of enhancing IT security and protection against attacks.⁸ The commission conducted an analysis of trends and problems in the field of crisis management.

In its report, the commission concluded that “as a result of changes in society, the vulnerability of the technical infrastructure is now perceived as a more significant threat both in peacetime and in a security crisis”⁹.

CIIP Policy

Expanding the Total Defense Concept

As a consequence of the broadened concept for security policy, the Swedish parliament in 1997 decided on a specific ambition for the preparedness against what was called severe strains on the society. The reorientation of the defense and emergency management system implies an expansion of the Swedish Total Defense Concept. The changes in the Total Defense Concept not only affect the military sector, but, to a large extent, the civil sector and the security and preparedness of Swedish society as well. The main emphasis is no longer on the supporting role of civil defense in relation to military defense. The CI, rather than military resources, could be the primary target for a potential aggressor. It is the Swedish policy to take measures to meet both military and other threats (e.g., terrorist attacks).¹⁰

7 The Swedish Commission on Vulnerability and Security. *Vulnerability and Security in a New Era – A Summary*. (SOU 2001:41, Stockholm, 2001). http://forsvar.regeringen.se/propositionermm/sou/pdf/sou2001_41eng.pdf, 7.

8 http://www.cesi.it/Vulnerabilitypdf/Interventi/roundtable_ottosson.pdf.

9 Swedish Commission on Vulnerability and Security, *Vulnerability and Security*, 8.

10 Interview with a representative of the Swedish Agency for Civil Emergency Planning (ÖCB), April 2002.

“Emergency Management Concept”

Part of the Swedish CIP/CIIP policy is that each government authority must make a vulnerability and risk analysis of its own sphere of responsibility. The purpose of such an analysis is to enhance the capacity to manage crisis, situations which come under the heading of “severe peacetime emergencies”. This concept refers to an event or number of events that develop or escalate to affect multiple sectors of society.¹¹

Organizational Change Process

The ongoing process of changing organization and control in crisis management and CIP/CIIP is based on three principles: responsibility, parity, and proximity. Under the principle of responsibility, whoever is responsible for an activity in normal conditions should assume corresponding responsibility in crisis or war situations. The principle of parity means that as far as possible, during a crisis or war, authorities should be organized and stationed as in peacetime. The principle of proximity means that crises should be dealt with at the lowest possible level.

Government Bill “An Information Society for All”

The Government Bill 1999/2000:86 (“An Information Society for All”) defines the Swedish overall IT policy objective. It states that Sweden should become the first country to create an information society for all. The Swedish government proposes that for the purpose of creating an information society for all, state investment be focused primarily on three areas. These areas are (1) regulatory systems, (2) education and training, and (3) infrastructure.¹² An essential element of CIIP-planning is that the agency responsible in peacetime should also be responsible in times of crisis and war, and that the system should be built up from below. This means that the system has its foundation in society’s basic capacity and that measures are then taken on the basis of the entire threat perspective, from severe peacetime emergencies to war.

11 Interview with a representative of the Swedish Agency for Civil Emergency Planning (ÖCB), April 2002.

12 Ministry of Industry, Employment and Communication. *An Information Society for All. Fact Sheet No. 2000.018*. (March 2000).

Four New Fields of Activity

Based on the Government Bills 2001/02:158 (“Society’s Security and Preparedness”)¹³ and 2001/02:10 (“Continued Renewal of the Total Defense”),¹⁴ the government will establish four new fields of activity in order to enhance information security and protection against attacks on information systems.

- An advanced intelligence and analysis unit in the field of IT security and protection against attacks on information systems,
- A Computer Emergency Response Team (engaged in monitoring, gathering statistics, and warning system owners where necessary),
- An Information Security Technical Support Team (manned by expert and support staff with a high level of technological expertise),
- A system for security-oriented evaluation and certification of IT products and systems.

Overall Responsibility Approach

The Parliamentary Standing Committee for Defense has for several years recognized the importance of CIIP. With the establishment of the Swedish Emergency Management Agency (SEMA, see below) and the reformed system for emergency management, an important organizational basis has been created to deal with the threats and risks of the information and network society. From 1 July 2002, overall responsibility for IT-security and for policy intelligence and analysis in the public sector rests with SEMA.

Law and Legislative Action

In Sweden, there are three important laws regarding CIIP in general:¹⁵

- The Telecommunications Act (SFS 1993:597),
- The Swedish Penal Code (SFS 1962:700),
- The Personal Data Act (1998:204).

In its report, the Commission on Vulnerability and Security concluded that there is a need for legislative amendments in order to support the pro-

13 Ministry of Defense. *Society's Security and Preparedness. Fact Sheet*. (March 2002). http://forsvar.regeringen.se/pressinfo/pdf/FB_p200102_158_eng.pdf.

14 See, e.g., <http://forsvar.regeringen.se/inenglish/issues/civil.htm>.

15 Interview with a representative of the Swedish Agency for Civil Emergency Planning (ÖCB), July 2002.

posals with respect to IT security and the protection against IO. A need for legislative amendments is particularly seen in the following areas:¹⁶

- Statutory and administrative provisions relating to the activities of local authorities and country administrative boards during major crises,
- The possibility of reallocating resources in the health services during major crises,
- The need for stricter safety regulations and for more effective supervision of the power supply sector.

The government has decided to review the legislation relevant to CIIP and Emergency Management.

Organizational Analysis

Public Agencies

*The Swedish Emergency Management Agency (SEMA)*¹⁷

The Swedish Emergency Management Agency (SEMA) was established on 1 July 2002. It is the government authority with overall responsibility for information security. SEMA took over some of the tasks of the Swedish Agency for Civil Emergency Planning (ÖCB)¹⁸ and the National Board of Psychological Defense (SPF).¹⁹ SEMA analyzes the development of society, international conditions, and the interdependency of important operations in society. It also coordinates research and development in the emergency management area. Furthermore, SEMA supports municipalities, county councils, county administrative boards, and other authorities in their emergency management work. The agency also promotes interaction between the public and private sectors. Planning and resource allocation for peacetime emergency preparedness and civil defense are organized in six “coordination areas”:

- Technical infrastructure,
- Transport,

16 Swedish Commission on Vulnerability and Security, *Vulnerability and Security*, 20–21.

17 Interview with a representative of the Swedish Agency for Civil Emergency Planning (ÖCB), July 2002.

18 <http://www.ocb.se>.

19 <http://www.psyndef.se/english>.

- Spreading of dangerous infectious substances, toxic chemicals, and radioactive matter,
- Economic security,
- Overall coordination, interaction and information by area,
- Protection, rescue, and care.

In each area, a number of public authorities are represented. They have to coordinate their activities to reduce vulnerabilities and to enhance emergency management capabilities in the areas. SEMA is responsible for the overall integration of planning systems.

The ICT Commission

The ICT Commission was set up by the government as an advisory board in the field of information technology. The commission's task is to analyze the impact of information technology on Swedish society and promote the dissemination of information about new opportunities in the information society. The commission is actively monitoring, initiating, and supporting the development and use of information technology in society.

The National Center of IO/CIP (CIOS)

The National Center of IO/CIP (CIOS) is an office within the National Defense College.²⁰ CIOS carries out the National Defense College's (NDC's) research and education in the area of Information Operations/Information Warfare, and partly in the area of Command and Control Warfare. It is the NDC's point of contact for external customers regarding IO/CIP.

Information Security Technical Support Team

An Information Security Technical Support Team will be set up as an independent authority answerable to the National Defense Radio Establishment. The Defense Materiel Administration is instructed to establish a Swedish evaluation and certification system.

Swedish Security Service and National Criminal Investigation Department

The Swedish Security Service and the National Criminal Investigation Department are units of the National Police Board. Both units have import tasks in the field of information security and cyber-crime. The Swedish Security Service is responsible for the protection of sensitive objects, counter-espionage, anti-terrorist activities, and the protection of

20 <http://www.fhs.mil.se/about/en/about.html>.

the constitution. The National Criminal Investigation Department (NCID) provides support for investigations and intelligence support in cases of crimes involving nationwide or international ramifications.²¹

Further Organizations

The Swedish intelligence community, coordinated by the government offices, is of significant importance for Swedish CIIP. The National Communications Security Unit (TSA) provides important services within the field of signals security.

Cooperation between Private and Public Sectors

SEMA Approach

There is a long tradition of public-private cooperation within the framework of the Swedish Total Defense System. Based on this tradition, SEMA is tasked with building up a public-private partnership in the future. There will be two advisory councils connected to SEMA: the Private Sector Partnership Advisory Council and an Information and Operations Security Advisory Council based on the experiences from the Cabinet Working Group on IO-D. However, it has not yet been defined how the CIIP public-private partnership will be institutionalized.²²

Industry Security Delegation (NSD)

The Industry Security Delegation (NSD) is a delegation within the Confederation of Swedish Enterprises whose objective is to increase cooperation and promote a comprehensive view of vulnerability and security issues. The overall goal of this network structure is to enhance security and risk awareness within the general public and the enterprises. The NSD has drawn up a policy for the establishment of a private sector CERT.²³

Swedish Alliance for Electronic Commerce (GEA)

The Swedish Alliance for Electronic Commerce (GEA) was founded in 1999 as a non profit organization. The projects are funded by members

21 Interview with a representative of the Swedish Agency for Civil Emergency Planning (ÖCB), July 2002.

22 Interview with a representative of the Swedish Agency for Civil Emergency Planning (ÖCB), July 2002.

23 Dependability Development Support Initiative (DDSI). *European Dependability Policy Environments, Country Report Sweden*. (version April 2002).

and government agencies. The GEA focuses on electronic identification, signature, and secure payments issues.

Early Warning

National Center for the Reporting of IT Incidents

The Swedish National Post and Telecom Agency has been tasked with the establishment of a National Center for the Reporting of IT Incidents. This will be comparable to a CERT. The national center should be established by the end of 2002.²⁴

Important existing CERTs are Telia CERT, the main telecommunications operator in Sweden, and SUNET CERT, the university network CERT.

Research and Development

CIIP-related research and development (R&D) in Sweden is mainly conducted in the area of academic research, corporate research, and Total Defense research. The Commission on Vulnerability and Security concluded that there is a need for more R&D to improve the capacity for managing major crises. The efforts in R&D have to be made in an interdisciplinary manner. The Commission made several proposals as to how to best promote R&D:²⁵

- A broad cross-section of research groups should be encouraged,
- Public bodies should be encouraged to commission and purchase R&D,
- Purchasers and providers should be linked in subject- or problem-oriented networks that include public authorities and research groups.

SEMA has the leading role in Swedish CIIP research and development coordination and will develop a number of R&D programs in that area.

24 Interview with a representative of the Swedish Agency for Civil Emergency Planning (ÖCB), July 2002.

25 Swedish Commission on Vulnerability and Security, Vulnerability and Security, 19.

SEMA is also a contributing partner of the Swiss-Swedish CRN initiative.²⁶

The Swedish Defense Research Agency (FOI)²⁷ is an assignment-based authority under the Ministry of Defense. FOI focuses its R&D efforts on the entire field of applied science from advanced computer models, physics, aerodynamics, and electronics to chemistry, microbiology, and medicine, as well as security policy and defense analysis. One important initiative is the SAVI (Säkring Av Viktig Infrastruktur), which is a long term research program at the FOI.²⁸ The research areas are divided into five major aspects: systems, threats, vulnerabilities, consequences, and measures.

Further important actors involved in CIP/CIIP research and development are the Chalmers University of Technology (Gothenburg),²⁹ the Linköping Institute of Technology,³⁰ The Royal Institute of Technology (KTH),³¹ Stockholm University,³² Karlstad University,³³ and the Swedish Institute of Computer Science (SICS).

26 The CRN (Comprehensive Risk Analysis and Management Network”) is an internet and workshop initiative for international dialog on national-level security risks and vulnerabilities, see www.isn.ethz.ch/crn.

27 <http://www.foi.se>.

28 Interview with a representative of the Swedish Defense Research Agency (FOI), April 2002.

29 <http://www.chalmers.se>.

30 <http://www.lith.liu.se/en>.

31 <http://www.kth.se/eng>.

32 <http://www.su.se>.

33 <http://www.kau.se>.