Swedish Civil Contingencies Agency

Swedish Civil Contingencies Agency

The mission of MSB is to enhance and support societal capacities to ***prepare for***, and to ***prevent*** emergencies and crises. When one does occur, we support the stakeholders involved by taking the right measures to control the situation.

Swedish Civil Contingencies Agency

Information Assurance Section

Overall governmental responsibility for society's information assurance issues in Sweden

Incidence Response

- Since 2011: CERT-SE
- Exercises

Systematic Information Security

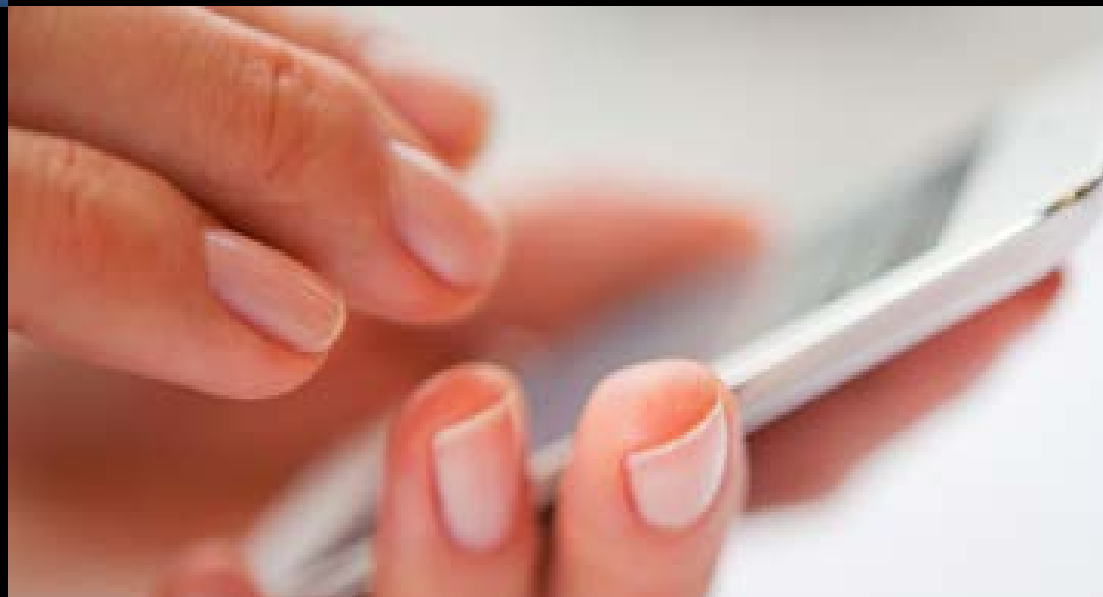
- Critical Information Infrastructures
- Secure Communications
- Health Care
- Standardization
- Ecucation and Research

Swedish Civil Contingencies Agency

Sample Activities

Security in Cloud-Computing

Secure Mobile Computing



Swedish Civil Contingencies Agency

Information Security and Integrity in the Healtcare Sector

Swedish Civil Contingencies Agency

Informations Security in School

Today's children deal with a large amount of digital informations. ICT and internet is heavily intergrated into their lives. However, they do need knowledge and tools in order to handle the challenges and risks that comes with the information society.

Swedish Civil Contingencies Agency

Informations Security in School

I use the same password and username for several different accounts.

64 %

I would talk to my teacher if I found something threatening on the Internet-

22%

I don't know what a security backup is.

77 %

81%

TALK TO THEIR PARENTS

Industrial Control Systems

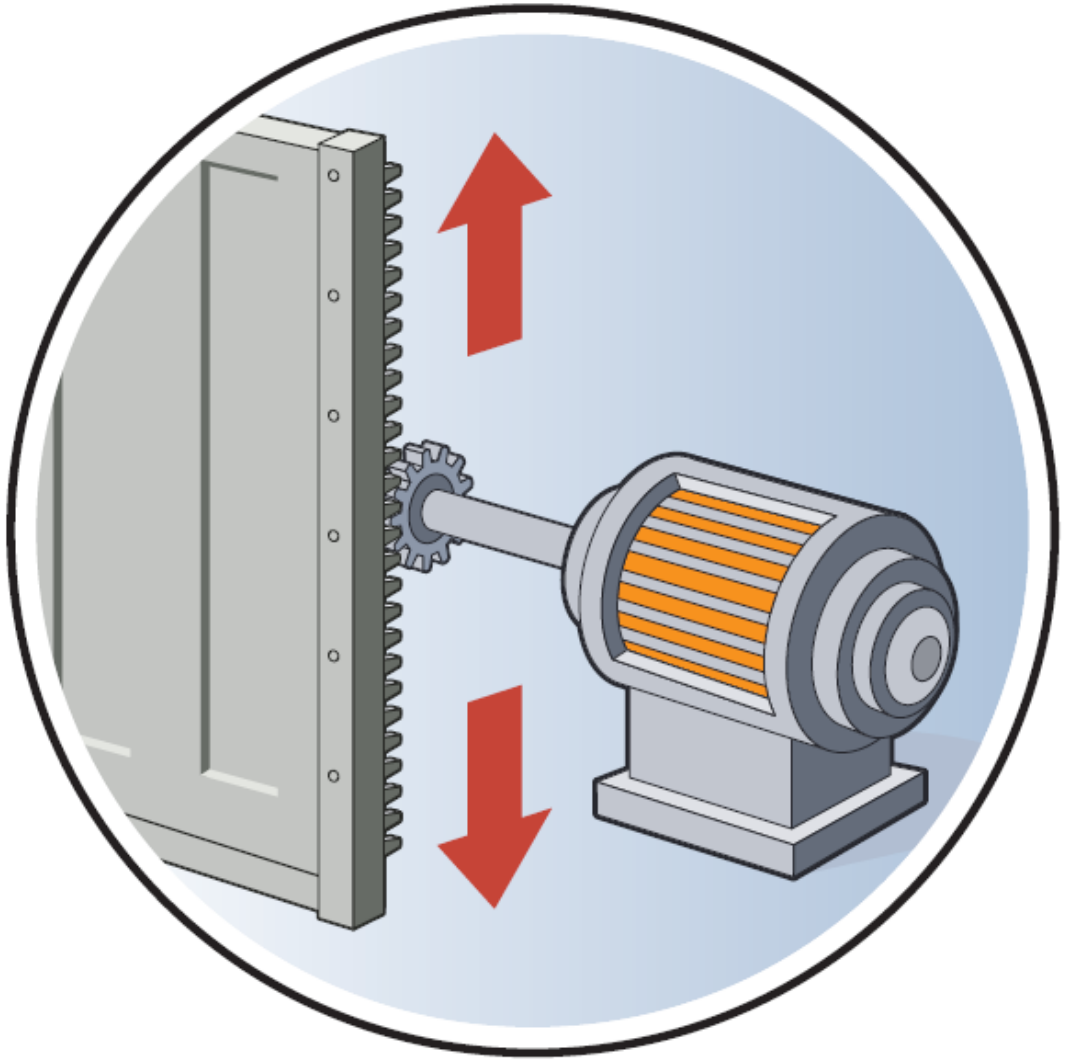
”IT-based systems manipulating the real world”

Swedish Civil Contingencies Agency

Process to be controlled

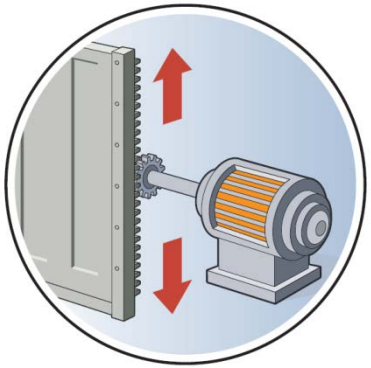
Swedish Civil Contingencies Agency

Acutator



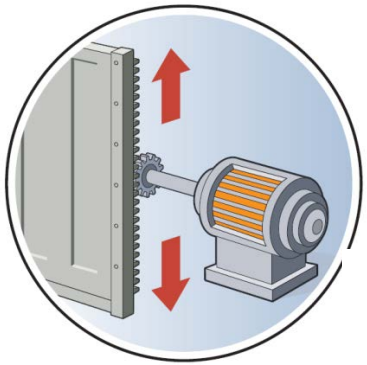
Swedish Civil Contingencies Agency

Sensor



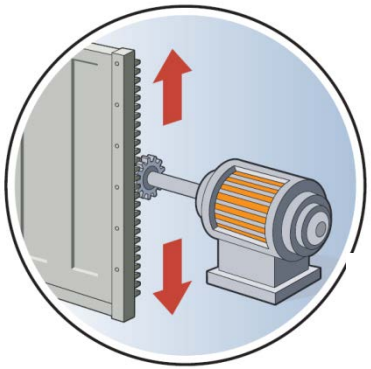
Swedish Civil Contingencies Agency

Controller (PLC, RTU)



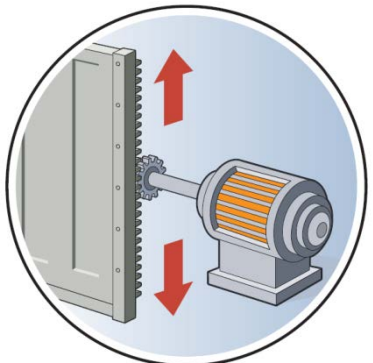
Swedish Civil Contingencies Agency

Human Machine Interface



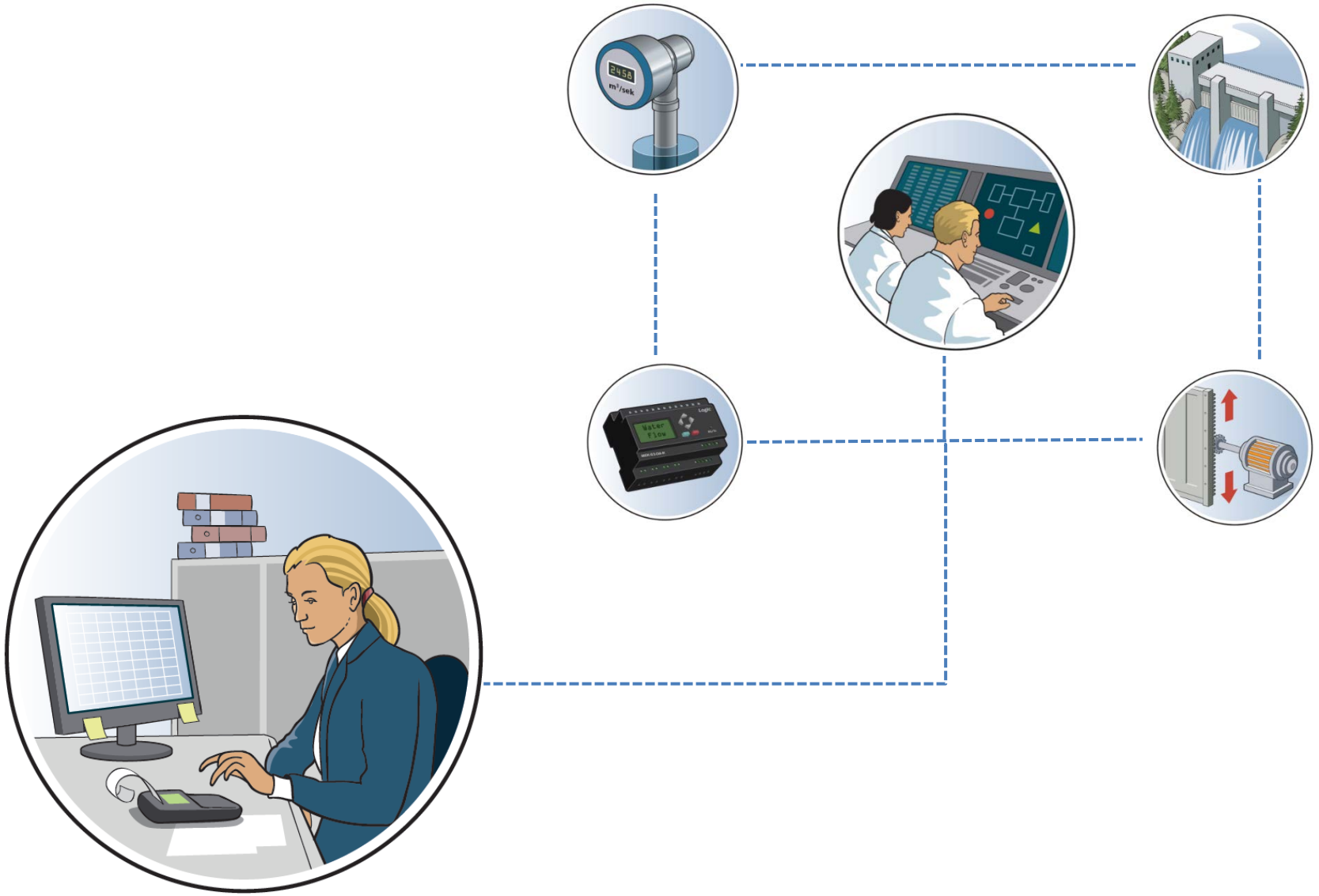
Swedish Civil Contingencies Agency

SCADA-System



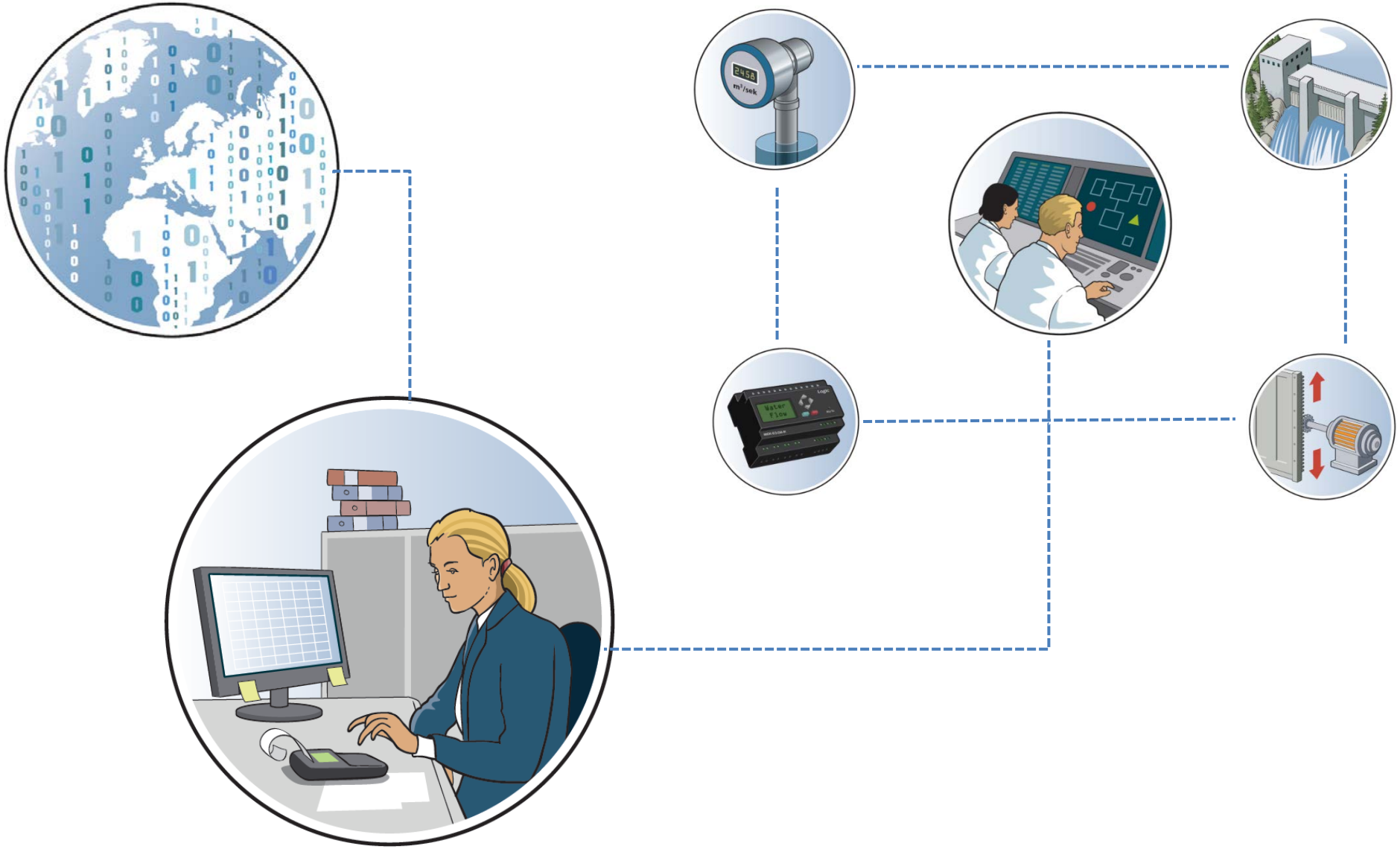
Swedish Civil Contingencies Agency

Connect to Administrative Network



Swedish Civil Contingencies Agency

Connect to the Internet

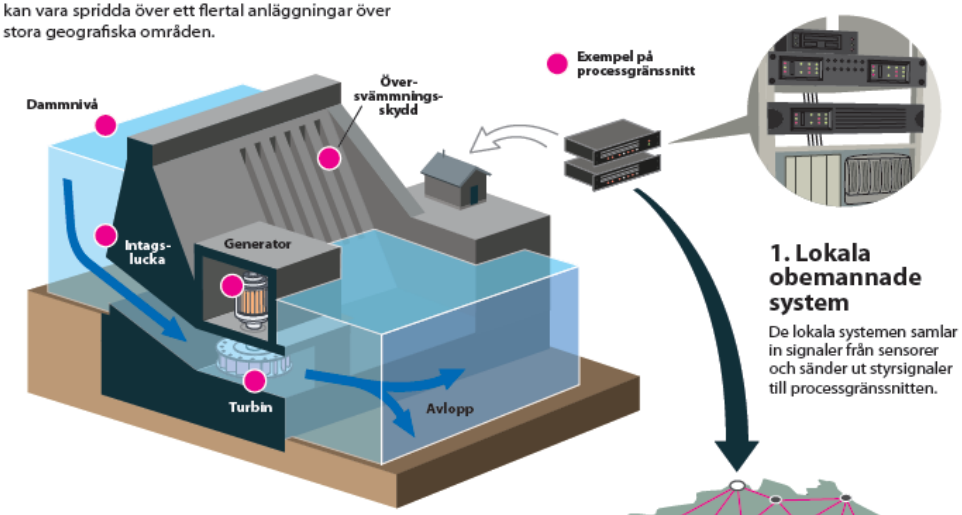


Swedish Civil Contingencies Agency

Geographically Distributed Systems

Industriellt informations- och styrsystem

Bilden visar den principiella uppbyggnaden av ett kontrollsystem. Den fysiska processen kan innehålla ett stort antal mätpunkter som kan vara spridda över ett flertal anläggningar över stora geografiska områden.

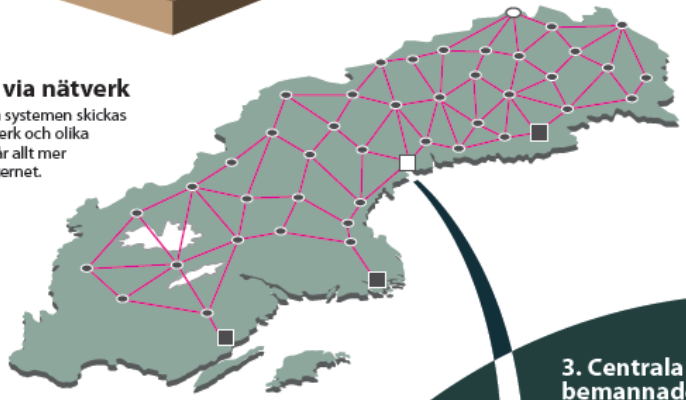


1. Lokala obemannade system

De lokala systemen samlar in signaler från sensorer och sänder ut styrsignaler till processgränssnitten.

2. Dataöverföring via nätverk

Mellan de lokala och centrala systemen skickas information via trådlösa nätverk och olika typer av fasta nät. Trenden går allt mer mot öppna lösningar som internet.



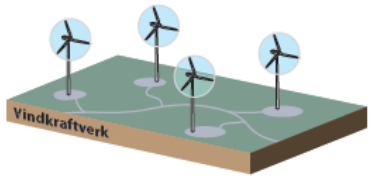
3. Centrala bemannade system

Här sker själva drift-tagningen av systemet

Människa-maskingränssnitt

Exempel på liknande system

Samma uppbyggnad av kontrollsystem finns förekommer på många håll.



Grafik: MARTIN EK

Swedish Civil Contingencies Agency

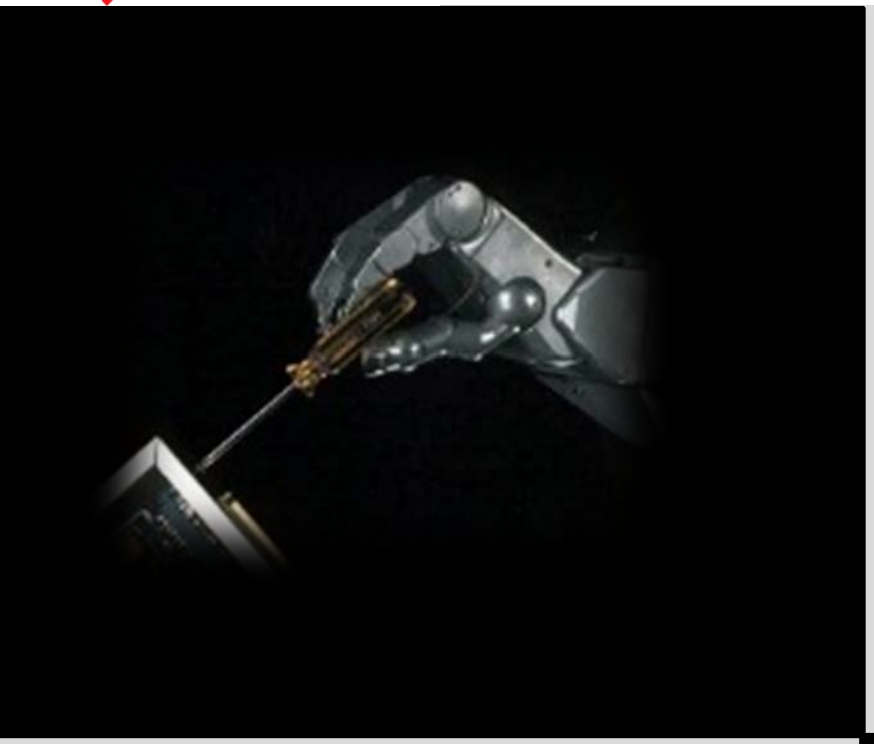
Cultural Clashes

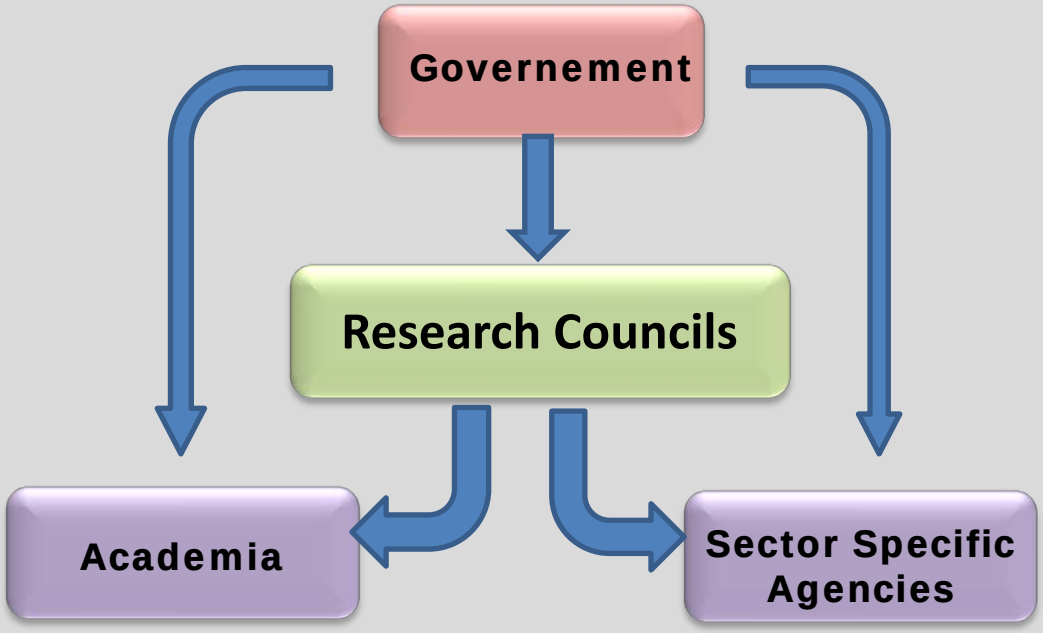
Process engineers know nothing about IT

The IT-people know nothing about running a process

Swedish Civil Contingencies Agency

Research in Sweden





Almost 4% of BNP goes into research

75% of research carried out in the prvate sector

Swedish Civil Contingencies Agency

Research in Sweden Related to Information Security

Approximately 150 researchers in academia and research institutes are working on information- or it-security related topics.

Almost 50% of them hold a Ph.D.

Research is distributed over approximately ten Institutes and Universities.

Swedish Civil Contingencies Agency

Typical Research Areas

Security in Industrial Control Systems, SCADA

Security in Smartgrids

Cryptography

Network Security

Security Metrics

Security Culture

Swedish Civil Contingencies Agency

Security Culture and Information Technology - SECURIT

Traditionally, Swedish research in information-securtity has been biased towards technical aspects

SECURIT

SECURIT will study:

Security-relevant characteristics of humans and organizations

The effect of applied social measures

Swedish Civil Contingencies Agency

Research Strategy

Information Security is an interdiciplinary field

Each sector cannot afford big projects on their own

By coordinating the sectors we can reach a critical mass

Swedish Civil Contingencies Agency

International Research Collaborations

Myndigheten för samhällsskydd och beredskap

Projects supported by MSB

TTA 3 – Usable Security

Implicit and Continuous Mobile User Identification/ Authentication Using Smartphone Sensors

University of Houston

TTA 6 – Modeling of Internet Attacks

Advanced Situation Awareness of High Impact Malware Attacks Against the Internet Routing Infrastructure

Columbia University

TTA 8 – Incident Response Communities

Improving CSIRT Skills, Dynamics and Effectiveness

Dartmouth College

TTA 9 – Cyber Economics

Reducing the Challenges to Making Cybersecurity Invesments in the Private Sector

University of Maryland