ENISA for Secure Smart Cities

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European Union Agency for Network and Information Security

Summary

1 Introduction

2 Cyber security for Smart Cities

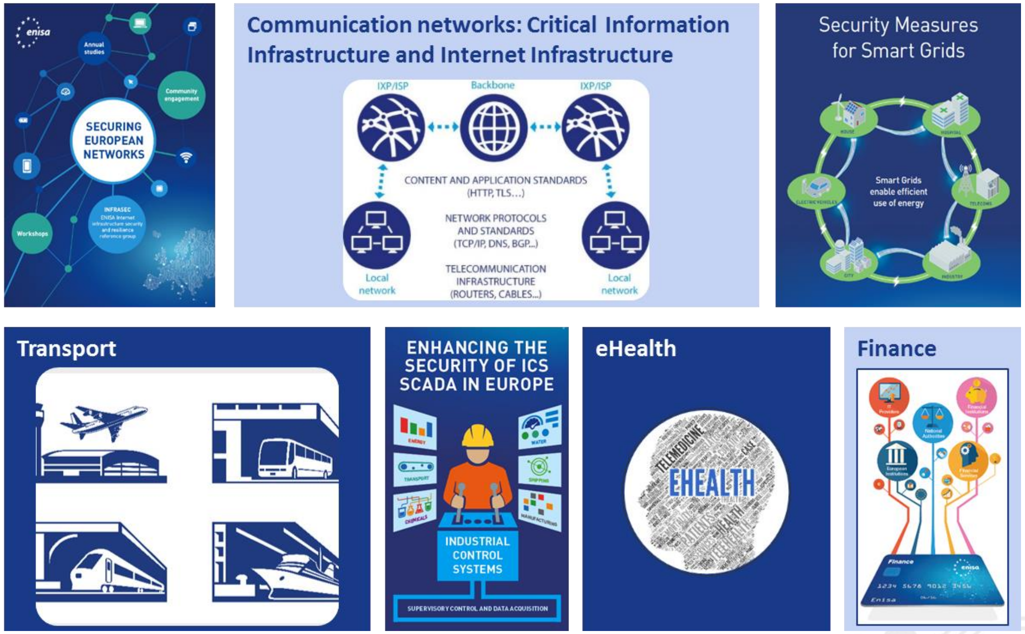
3 Conclusion

Introduction

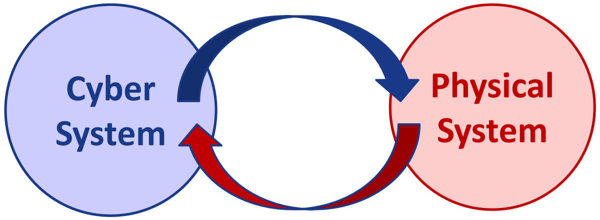
ENISA Missions

Securing Infrastructures and Services

- Critical Infrastructures
- Critical <u>Information</u> Infrastructure

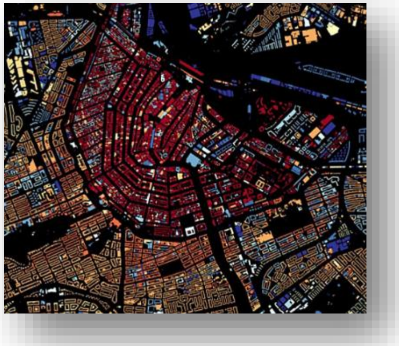

enisa
Annual studies
Community engagement
SECURING EUROPEAN NETWORKS
INFRASEC
ENISA Internet infrastructure security and resilience reference group
Workshops
Communication networks: Critical Information Infrastructure and Internet Infrastructure
IXP/ISP
Backbone
IXP/ISP
CONTENT AND APPLICATION STANDARDS (HTTP, TLS…)
NETWORK PROTOCOLS AND STANDARDS (TCP/IP, DNS, BGP…)
TELECOMMUNICATION INFRASTRUCTURE (ROUTERS, CABLES…)
Local network
Local network
Security Measures for Smart Grids
Smart Grids enable efficient use of energy
HOUSE
HOSPITAL
ELECTRIC VEHICLES
TELECOMS
CITY
INDUSTRY
Transport
ENHANCING THE SECURITY OF ICS SCADA IN EUROPE
ENERGY
WATER
TRANSPORT
SHIPPING
CHEMICALS
MANUFACTURING
INDUSTRIAL CONTROL SYSTEMS
SUPERVISORY CONTROL AND DATA ACQUISITION
eHealth
EHEALTH
TELEMEDICINE
HEALTH
Finance
enisa

Defining Smart Cities



Smart Cities

- Feature multiple operators
- Rely on data exchange and data processing
- Usage of cyber-physical systems (sensors/actuators)



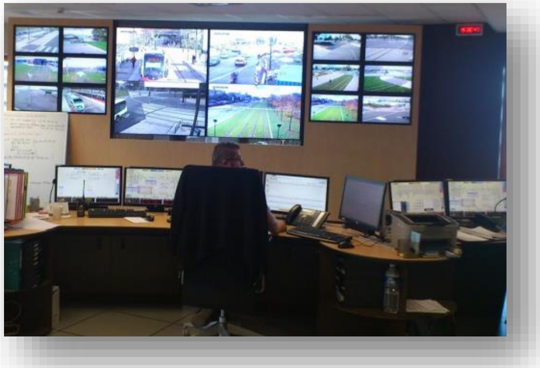
Objectives

- Dynamic adaption of services
- Reduction of operational expenditure
- Improvement of the global quality of life

Important to secure Smart Cities <u>and citizens</u> against cyber threats

Cyber security for Smart Cities

On the importance of cyber security



New and emerging risks

- Wide range of operators with different priorities
- ICT dependency is generalised
- Cohabitation between IP-connected systems and older (legacy) systems

Threats with consequences on the society

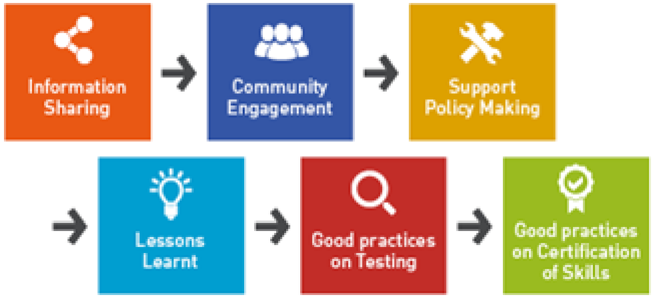
- Economical consequences, but not only
- Operators in Smart Cities are not security experts
- Lack of clarity on the concept of “cyber security”

Cyber security measures are not only technical but also operational and organisational

ENISA's work in Smart Cities

ENISA follows a sectorial approach

- Smart Grids and energy systems
- Intelligent Public Transport Systems
- Smart Cars

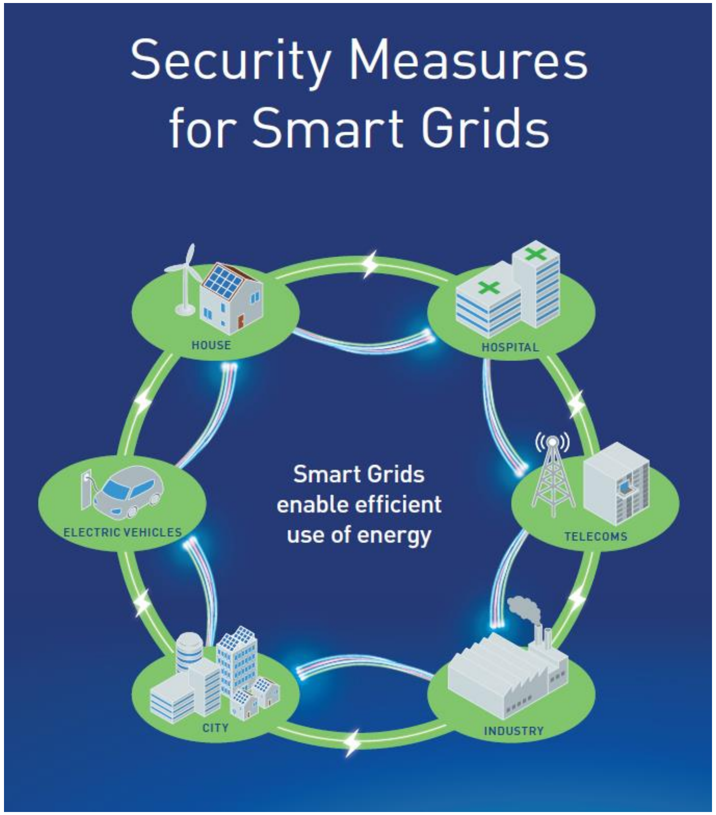


Information Sharing → Community Engagement → Support Policy Making → Lessons Learnt → Good practices on Testing → Good practices on Certification of Skills

Methodology for a given sector

- Evaluate the threats and assets threats
- Collaborate with the community
- Provide guidance to enhance cyber security

Securing Smart Grids



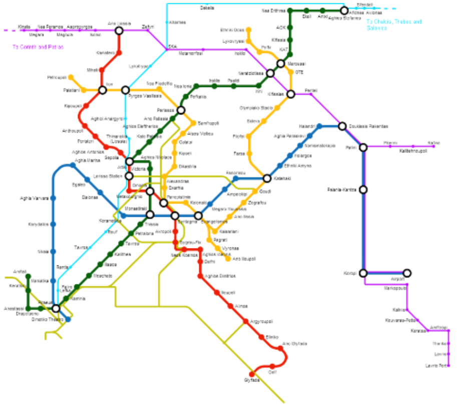
Challenges

- Emerging technology
- Different types of stakeholders with various sizes
- Lack of harmonization across the EU

ENISA's results

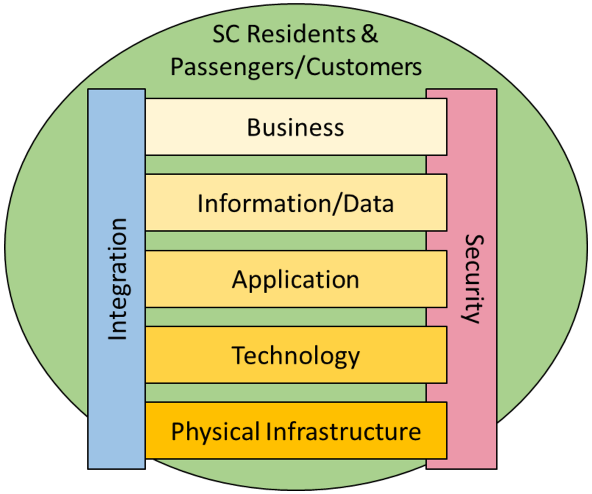
- Minimum security measures for Smart Grids
- Smart Grid Security Certification in Europe
- Certification schemes for cyber security skills
- Collaboration with the European Commission Smart Grids Task Force (SGTF)

Securing Intelligent Public Transport



Challenges

- No definition of cyber security for public transport
- Securing a “system of systems” is difficult



SC Residents & Passengers/Customers

Business

Information/Data

Application

Technology

Physical Infrastructure

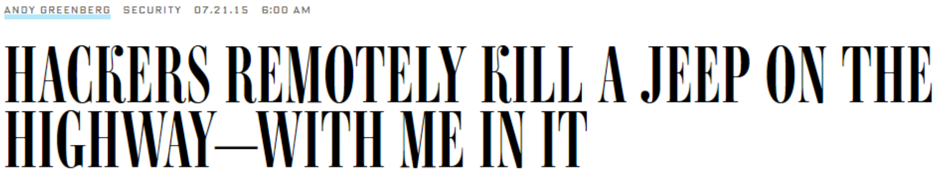
Integration

Security

ENISA’s work in progress

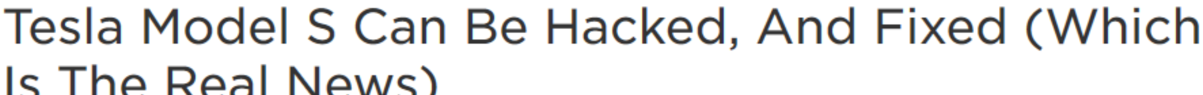
- Secure exchanges in the Smart Cities between transport operators and other operators
- Secure critical systems for transport operators
- Raise awareness for manufacturers/vendors
- Advise policy makers

Securing Smart Cars (future work)



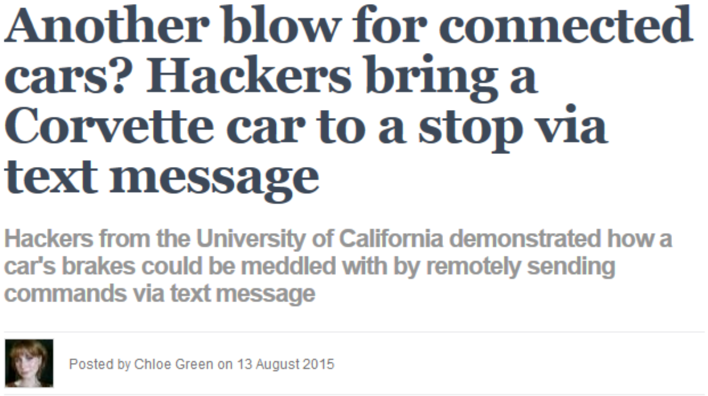
ANDY GREENBERG SECURITY 07.21.15 6:00 AM

HACKERS REMOTELY KILL A JEEP ON THE HIGHWAY—WITH ME IN IT



Tesla Model S Can Be Hacked, And Fixed (Which Is The Real News)

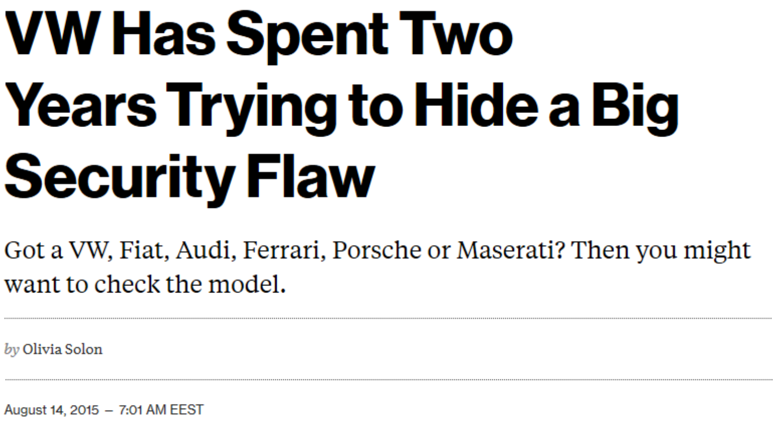
AUGUST 06, 2015 6:07 AM ET



Another blow for connected cars? Hackers bring a Corvette car to a stop via text message

Hackers from the University of California demonstrated how a car's brakes could be meddled with by remotely sending commands via text message

Posted by Chloe Green on 13 August 2015

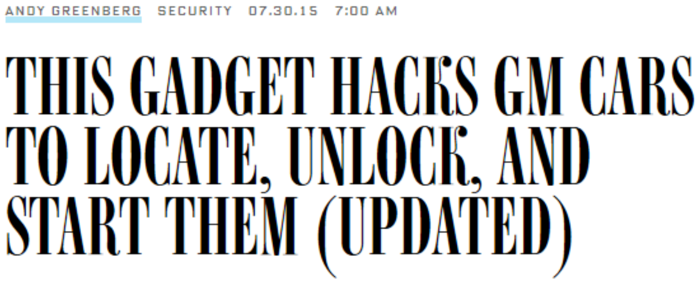


VW Has Spent Two Years Trying to Hide a Big Security Flaw

Got a VW, Fiat, Audi, Ferrari, Porsche or Maserati? Then you might want to check the model.

by Olivia Solon

August 14, 2015 – 7:01 AM EEST



ANDY GREENBERG SECURITY 07.30.15 7:00 AM

THIS GADGET HACKS GM CARS TO LOCATE, UNLOCK, AND START THEM (UPDATED)

Conclusion

Conclusion

Security of Smart Cities is important

- Rapid technological evolution
- Impact on the economy and on EU citizens
- Need for harmonisation across the EU

ENISA works to enhance cyber security

- A practical approach
- Beyond technical measures
- Integrating all stakeholders

Smart Cities Operators secure their infrastructures and services
Citizens are protected from cyber threats

Thank you

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