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OSTA

 **AUSTRIAN INSTITUTE  
OF TECHNOLOGY**  
TOMORROW TODAY

Workshop on Internet of Things: Challenges and Opportunities



# SAFETY & SECURITY FOR IOT

Next generation ICT infrastructures need a common approach and new methodologies and tools to build resilient systems

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Austrian Embassy, Beijing, March 16<sup>th</sup>, 2017



# The ICT-Security Problem



420.000  
Virus signatures  
(malware)  
per day !!

Increased system complexity,  
dynamic behaviour → decreasing  
system understanding

Increased complexity of the attacks →  
APT Advanced Persistent Threats

The end of classical security protection.

06.05.2014 | 11:31 | (DiePresse.com) - Symantec/Norton

Increased networking and use of ICT  
increases the dependency → critical  
Infrastructure (CI)

Increase the resilience

New methods in order  
to minimize the  
negative effects

Privacy & Security by  
Design, encryption,  
CAIS Cyber Attack  
Information Systems,  
CIIS Cyber Incident  
Information Sharing

~~To allow to prohibit  
(Perimeter security)~~



**New media**

**Patient**

**Cars**

**Home**

**Energy**

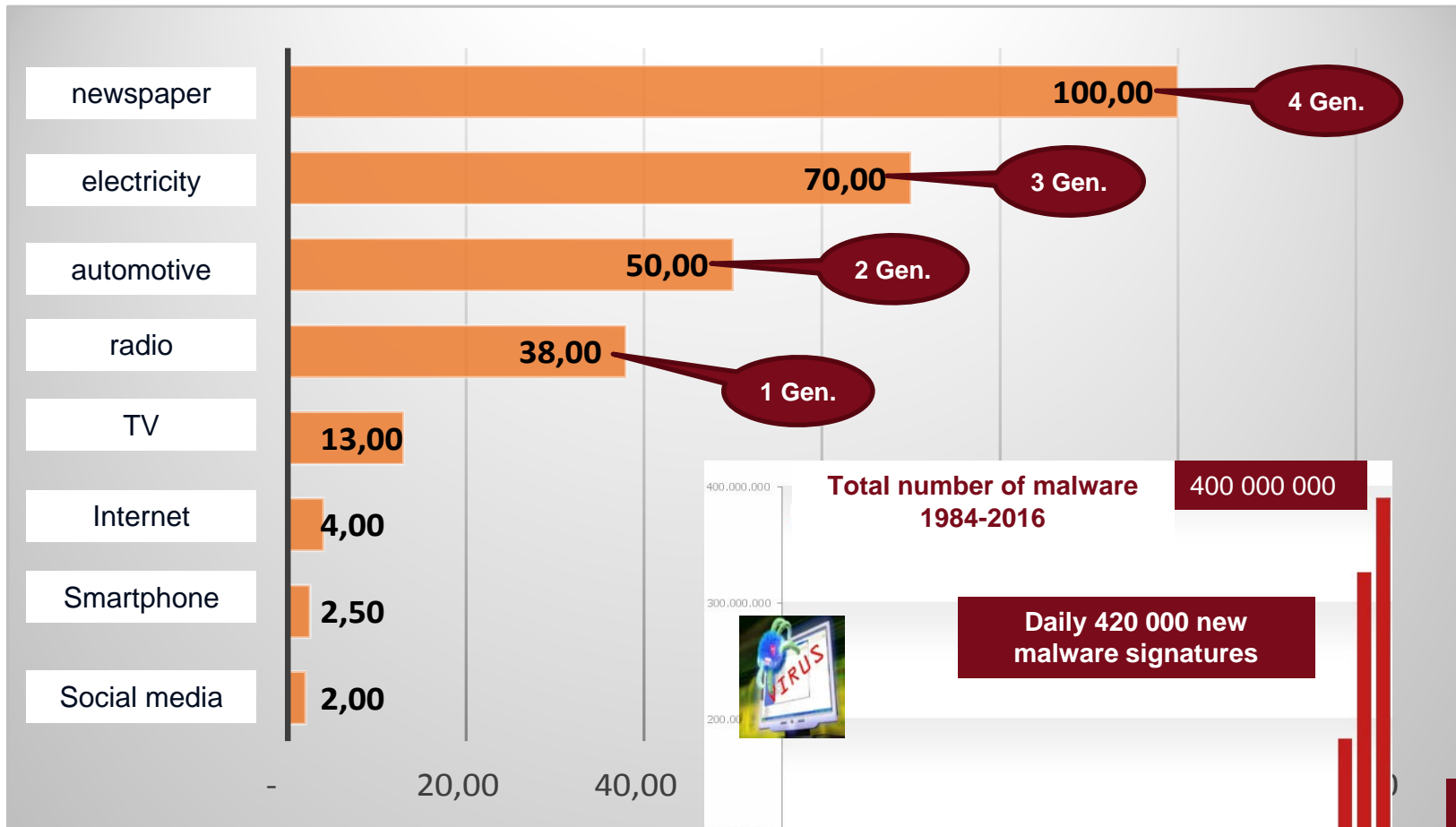
**Environment**

**smart systems - M2M, CPS, IoT**

# Intertwined Technology–Society Relationship

## Cyber Crime is a very young discipline

Time til market penetration of a technology reached 50 Millionen users ...



Sources: Joseph Webb: Disrupting the Future, 2010,  
<http://thenextweb.com/google/2011/07/22/google-reached-10m-users-in-16-days-want-to-know-how-long-it-took-facebook-and-twitter/>, <http://spectrum.ieee.org/energy/policy/electrifying-society>

# DIGITAL INFRASTRUCTURES OF THE 21ST CENTURY



**Communication**

**eHealth**

**Industry 4.0**

**Smart City**

**Connected Cars**

**Digital Transport**

**Smart grid**

**Finance**

**Supply chain**

**Supply Chains**

Modern digital infrastructures are **complex networks**

Modern digital infrastructures are **built on Virtual IT**

**IoT Communication**

... we need new methodologies and new tools to build resilient systems

**Finance**

# Safety & Security is a societal issue



**Systematic approach**



**Scenarios/  
Use Cases**

*Digital Transport*

*Smart City*

*Connected Cars*

*Industry 4.0*

*Smart grid*

*media*

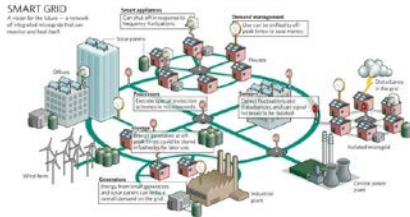
**Modelling**

**Service operator / Outsourcing**

**Processes**

**Architectures**

**Equipment**



	<i>Digital Transport</i>	<i>Smart City</i>	<i>Connected Cars</i>	<i>Industry 4.0</i>	<i>Smart grid</i>	<i>media</i>
<b>Service operator / Outsourcing</b>						
<b>Network operator</b>						
<b>Manufacturer</b>						

**Cooperation of all stake holders on the market to achieve a critical mass of competence (info sharing and training)**

**Risk management**



**New development processes**  
(safety & security, validation, etc.)

**Security as USP not as cost factor**

谢谢

THANK YOU FOR YOUR ATTENTION!

