ICT for Trust and Security

The European Perspective

Hitachi Science & Technology Forum, Warsaw, 2006

Jacques BUS
Head of Unit INFSO-D4
European Commission

Information Society Technologies

OUTLINE

- **Main threat areas and the ICT research answers**
- **ICT research in Seventh Framework Programme**
- **The challenges ahead**

No part of the contents or materials available on this presentation may be reproduced, licensed, sold, published, transmitted, modified, adapted, publicly displayed, broadcast (including storage in any medium by electronic means whether or not transiently for any purpose save as permitted herein) without the prior written permission of the author

R&D - The context and the challenges

From the 'walled fortress'	*To the 'open metropolis'*
	
Closed doors, physical isolation	**Openness, unbounded,interconnected**
Security as protection	**Trust as an enabler**
Defending data and systems	**Sharing content and resources**

THE SCALE OF THE NEW ECONOMIC AND SOCIETAL CHALLENGES

- ***$55bn virus damage costs for business in 2003, up from roughly $20bn to $30bn in 2002 –by Reuters (2004)***
- ***The likely cost of rolling out UK ID card scheme will range from £10.6bn to £19.2bn – by LSE (June 2005)***

Resilient ICT-based Infrastructures

Highly vulnerable, complex and interconnected infrastructures and utilities.

September 28, 2003 *Italian electricity grid collapse: ~50 million people without electricity for one day*
October 31, 2004 *Part of France Telecom IT infrastructure collapse: ~15 million people without telephone for two days*

EU research:

- **Dependable, resilient** ICT infrastructures
- **Manage and control** large scale dependable systems
- **Understand and manage** interdependencies

No part of the contents or materials available on this presentation may be reproduced, licensed, sold, published, transmitted, modified, adapted, publicly displayed, broadcast (including storage in any medium by electronic means whether or not transiently for any purpose save as permitted herein) without the prior written permission of the author

TRUST: Identity, Privacy, Rights, Assets

Privacy risks, 'big brother', abuse of personal data and commercial assets, identity theft, undermine TRUST in the Information Society

EU research:

- **Identity** at home and travel
- Location based mobile services and **privacy**
- **Secure Handling Digital Assets** in the personal sphere
- Giving the **User control** over her/his **data** (DRM technology, RFID, Health card)

Biometrics to benefit EU citizens

Biometric identification for lifelong secure access to data and services; without compromising trust and privacy

EU research:

- **Usability** of biometrics in passports and visa
- Biometrics for **access to mobile or PC**
- **Smart cards vs Databases** for biometric data
- **Multimodal and interoperable**
- Passenger control for check-in and boarding (biometrics, RFID, legality)

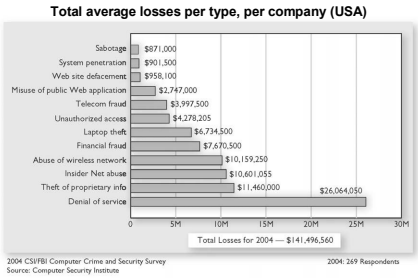
No part of the contents or materials available on this presentation may be reproduced, licensed, sold, published, transmitted, modified, adapted, publicly displayed, broadcast (including storage in any medium by electronic means whether or not transiently for any purpose save as permitted herein) without the prior written permission of the author

Trust in the Internet

Computer hacking, viruses, spy and malware, (phishing, spoofing ….)
'Always-on' and mobility increase risks and scale, hence costs
66% of Worldwide Internet e-mail is Spam

EU research:

- Security architectures, models and components
- Authentication, intelligent network
- Auditing, reporting, logging for forensics and law enforcement



The coverage

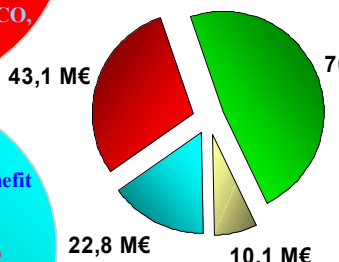
RESILIENT ICT INFRASTRUCTURES

SEINIT, DESEREC, SERENITY, Ubisec&Sense, Hidenets, SECURIST

IRRIIS, RESIST Crutial, MEDSI, CI2RCO, GRID

35 projects with about 35MEURO per year EU funding

EU funding in IT security (D4)



IDENTITY, PRIVACY, RIGHTS, ASSETS

Open-TC, FIDIS, PRIME, eCRYPT, SECOCQ, eJustice, INSPIRED

Connect, Discreet, Positif, scard, secure-justice

BIOMETRICS to benefit EU CITIZENS

3DFACE, BIOSEC, BIOSECURE

MIT, Humabio, Digital Passport, SecurePhone

TRUST in the Internet

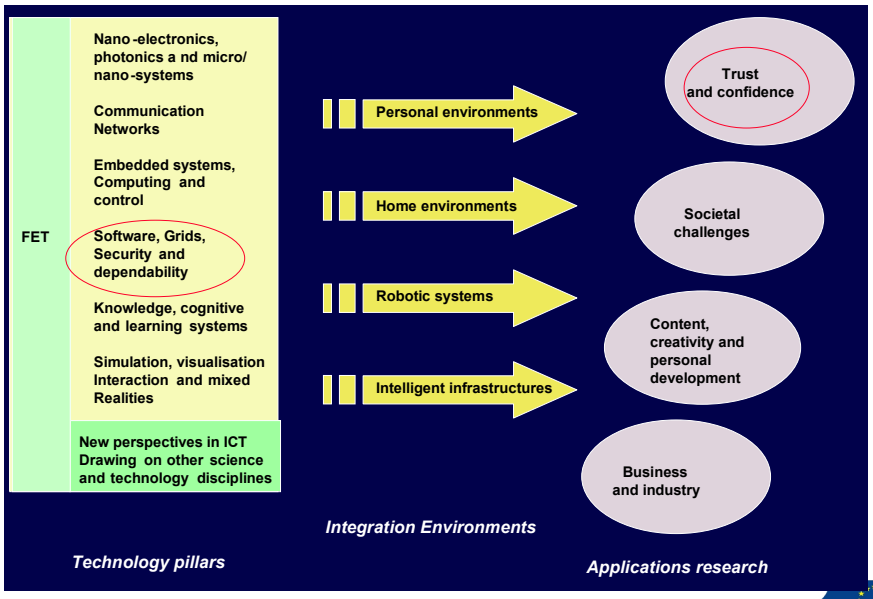
Antiphish, Fastmatch, MDS, Pepers, S3MS, ESFORS

Roadmapping:

SECURIST, CI2RCO, ESFORS,

No part of the contents or materials available on this presentation may be reproduced, licensed, sold, published, transmitted, modified, adapted, publicly displayed, broadcast (including storage in any medium by electronic means whether or not transiently for any purpose save as permitted herein) without the prior written permission of the author

ICT in FP7 (2007-2013)



The challenges (1)

- **Increasing complexity: Ubiquitous sensor networks and RFID as part of Internet**
- **Internet more and more used for or intertwined with Critical Infrastructures**
- **Increasing crime over Internet**

- **Can we make the Internet dependable and secure enough to counter these challenges? Do we need a new Internet? Or only build upon it?**

No part of the contents or materials available on this presentation may be reproduced, licensed, sold, published, transmitted, modified, adapted, publicly displayed, broadcast (including storage in any medium by electronic means whether or not transiently for any purpose save as permitted herein) without the prior written permission of the author

The challenges (2)

- Move towards transparent and seamlessly integrated networks (wired and wireless)
- Pervasive connection and intelligent services
- Ubiquitous data collection and management
- Worldwide service infrastructure with dynamic composition of services

- Can we develop ID management, authentication or TC, whilst ensuring data protection and privacy?
- Can we develop end-to-end security and reliability of composed services?
- WILL WE BE ABLE TO TRUST SUCH A WORLD?

Web Sites

IST Programme

www.cordis.lu/ist

IST helpdesk
Fax : +32 2 296 83 88
E-Mail : ist@cec.eu.int

ICT for Trust & Security

http://www.cordis.lu/ist/trust-security/index.html

No part of the contents or materials available on this presentation may be reproduced, licensed, sold, published, transmitted, modified, adapted, publicly displayed, broadcast (including storage in any medium by electronic means whether or not transiently for any purpose save as permitted herein) without the prior written permission of the author