



BUILDING International Cooperation
for Trustworthy ICT

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My presentation agenda

- indicate what has been done already between EU and Brazil in trust and security
- present objectives of EU BiC project (Building International Cooperation in Trustworthy ICT, started 1 January 2011);
 - Outline scope of the project and how Brazil - EU can cooperate proactively;
 - indicate an initial roadmap of the main activities for the next 12 months, indicate how the audience can contribute / get involved.

Current collaboration between EU & Brazil (from BR-EU WS Sept. '09)

- Post Quantum cryptography (PQC) between leading Brazilian and European research centres (mainly student exchanges)
- Increasing governmental, research and industrial interest in seeing Brazil – EU collaboration!
- Based on expertise in these topics, Brazil has already been identified for close cooperation with EU researchers in Security, Privacy and Trust.



What kind of technical collaborations can be established? (from BR-EU WS Sept. '09)

- Lightweight and Post quantum cryptography esp. for low power devices;
- Trust and Security of wireless sensor and actuator networks; how to measure and quantify trust in these environments; protection against physical attacks
- Information Security Management for Large Scale e-Government. Identity management and provisioning; application – oriented protocols;
- Security and privacy – lot of work in the EU about this (eg. minimum disclosure, data minimisation) and it could be very complimentary with Brazil;
- Panellists agreed there are certainly additional research topics that could be further explored between Brazilian and EU researchers.

Mechanisms were set up for a joint EU & Brazil call

- **These past event outputs were used to form a basis of an EU-Brazil call of the European Commission FP7 Work programme launched late 2010.**
- **More information available at:**
<http://cordis.europa.eu/fp7/ict/>
- **IN BIC project, we aim to make this type activity continue and GROW!**

Project BACKGROUND

Building International Co-operation for Trustworthy ICT: Security, Privacy and Trust in Global Networks & Services

- **Project Type:** Co-ordination and Support Action
- **Start Date:** January, 2011
- **Duration:** 36 Months
- **Target countries:** Brazil, India, and South Africa continued collaboration with the INCO-Trust countries U.S., Japan, Korea, Canada and Australia
- **Web site:** <http://www.bic-trust.eu/>
- **Also see** <http://www.inco-trust.eu/>
for more background

INCO-TRUST and BIC

Intl Co-operation in Trustworthy, Secure and Dependable Infrastructures

Building International Co-operation for Trustworthy ICT (Jan. 2011)

Canada



US



EU



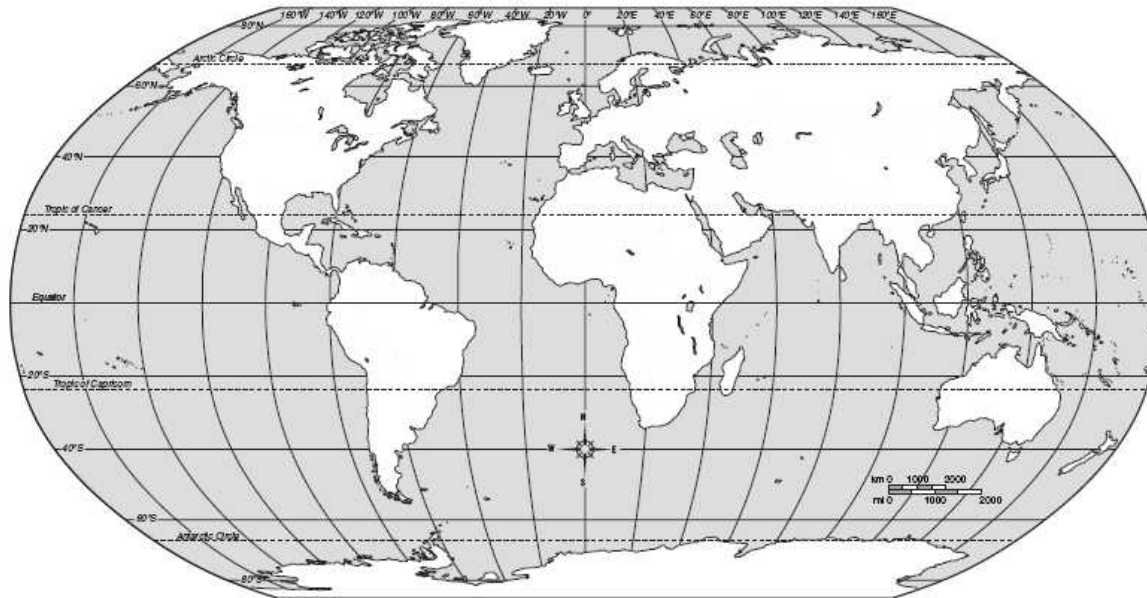
Korea



Japan



Australia



Project Objectives (1/2)

- **Involvement** of Program Management (funding bodies) and Researchers is essential to success;
- **Prioritise** vision and research directions in ICT Trust and Security, including alignment of work programs in Calls;
- **Facilitate** technical & program level catalysts for engagement, collaboration and networking activities internationally;
- **Harmonise** with International researchers → dedicated results oriented workshops and sessions on Trust and Security topics to help shape future EC Calls

Project Objectives (2/2)

- **Building** strategy for long term international collaboration in trust and security research;
- **Reaching** outside the EU channels to engage the wider community here;
- **Brainstorming** Trust and security R&D challenges best addressed at a global level;
- **Identifying** the topics that have the highest impact, highest priority, highest chance of success and which are common to most regions of the world;



Opinions, Opinions, Opinions ...

- **What works a little**
- **What works a little better...**
- **The EU drivers... THE CALL!**
- **Think “Mutual”**



Nice but ...

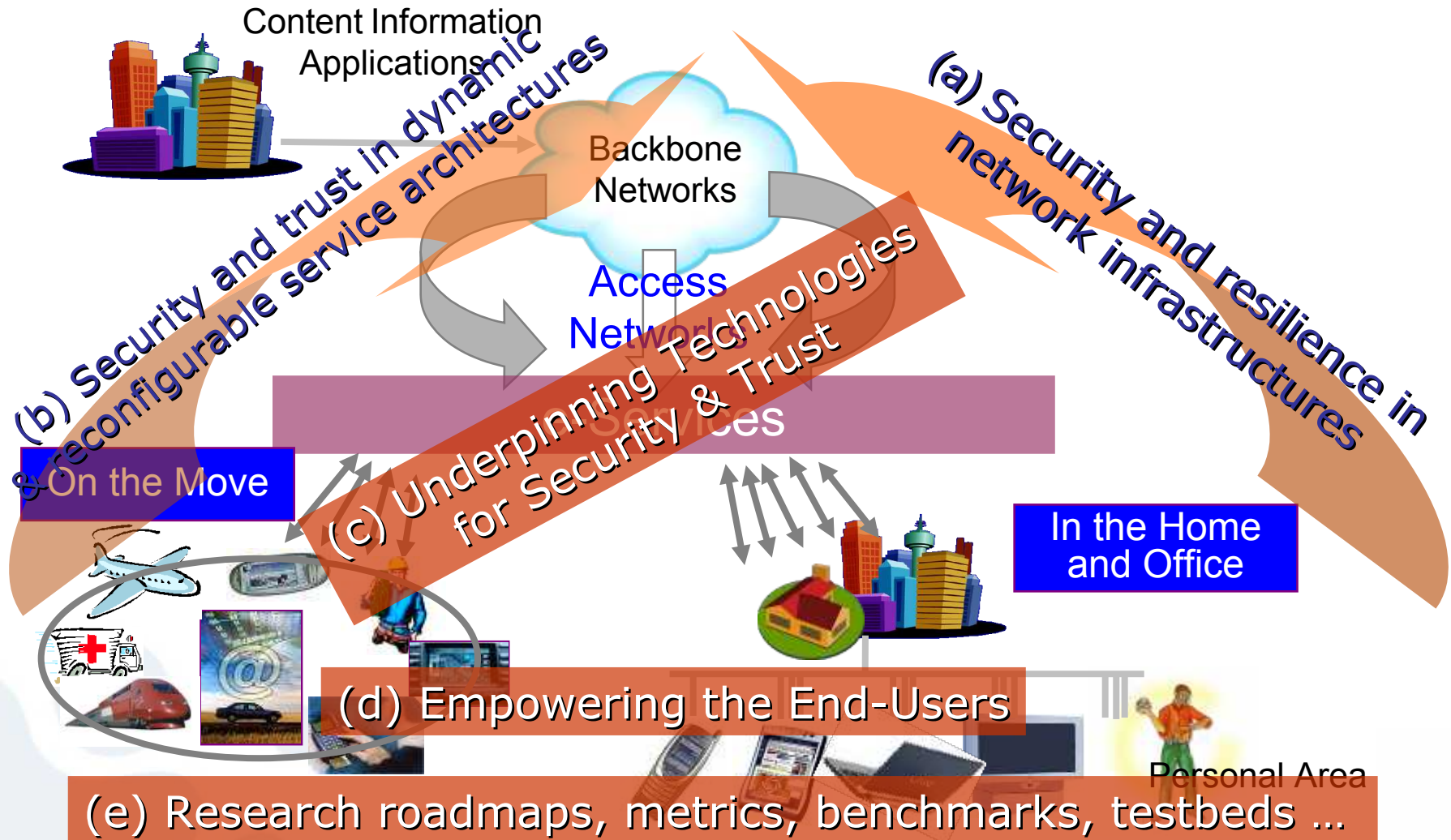
- We think our stuff is great so it really should excite you!
- We'll do our stuff, they'll do theirs.
- Let's play ball together!!



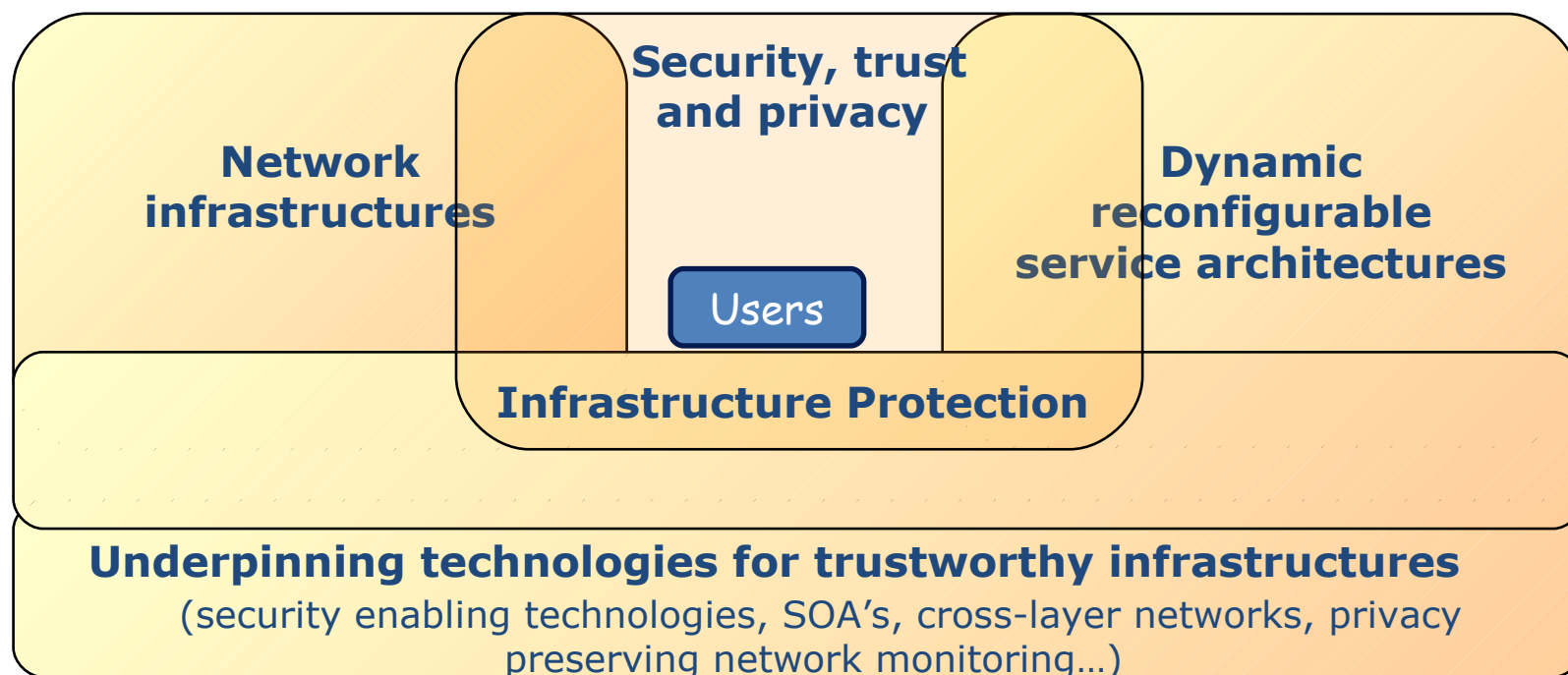
Better... let's understand each other a bit more

- **Problems/technologies of common interest where synergy could meaningfully add “local” (technological, societal) depth?**
- **Problems from the interconnected trans-national world of “things” (& attacks, impact, enforcement) ... where synergy is a no-brainer?**
 - Areas where we could jointly influence and leverage issues?**

Let's first overview the EU Landscape



EU FP7 Thrusts: Internet of “Things”, Cloud, Trust, Ambient Connectivity and Functionality



The challenge is not at a favorite (national) level(s) within the landscape, but the consolidated, coherent and mutual coverage - the technological, usage and user elements - on a global scale.

How about reading The Call?

International cooperation in the programme aims to support European competitiveness and to jointly address, with other regions of the world, issues of common interest and mutual benefit, thereby supporting also other EU policies (sustainable development, environmental protection, disaster response, security etc).

International cooperation activities in this Work Programme have three main objectives:

1. To jointly respond to major global technological challenges by developing interoperable solutions and standards,
2. To jointly develop ICT solutions to major global societal challenges, and
3. To improve scientific and technological cooperation for mutual benefit.

Call Challenge Areas

This Work Programme builds on European strengths, seizes opportunities in emerging fields and intervenes where public and EU support is needed to share risks and build partnerships.

- **Challenge 1: pervasive and trusted network & service infrastructures**

Challenge 1 covers tools and platforms for novel Internet application development and deployment through the launch of a Public-Private Partnership on Future Internet. At the same time, key technological developments in networking, digital media and service infrastructures of the future are addressed.

- **Challenge 2: cognitive systems and robotics**

Challenge 2 aims to enhance the performance and manageability of artificial cognitive systems and to expand and improve the functionalities of robotic systems operating under circumstances that were not fully planned for explicitly at design time. It supports both research on endowing artificial systems with cognitive capabilities as well as research more specifically related to the design and engineering of robotic systems.

Call Challenge Areas

- **Challenge 3: alternative paths to components and systems**

Challenge 3 focuses on further miniaturisation and increased performance in electronic and photonic components, in micro/nanosystems integrating

- **Challenge 4: technologies for digital content and languages**

Challenge 4 aims to enable individuals and small organisations to create quality content and innovative services and at allowing people to access and use online content and services across language barriers; it also aims at ensuring reliability of retrieval and use of digital resources across applications and platforms and at scaling up data analysis to keep pace with extremely large data volumes.

More Challenges...

- **Challenge 5: ICT for health, ageing well, inclusion and governance**

Challenge 5 has a focus on ICT for disease prediction, early diagnosis, prevention, minimally invasive treatment, and overall disease management and support to healthy lifestyles. Another focus is on ICT solutions for prolonging independent living and for extending active working life, as well as ICT solutions enabling accessibility of emerging mainstream ICT solutions, and assistive technologies for people with disabilities. A final focus is on ICT tools for governance and policy modelling.

- **Challenge 6: ICT for a lower carbon economy**

More Challenges...

- **Challenge 7: ICT for manufacturing & factories of the future**
- **Challenge 8: ICT for learning and access to cultural resources**

Challenge 8 has the objective is to develop technologies and methodologies that make people learn more effectively and support the acquisition of new skills. It also aims to ensure the effective use and exploitation of the cultural resources by developing technologies to make them available, usable and re-usable regardless of their form, location, time sphere etc.

ICT Work Programme 2011 - 2012

Objective 1.4 Trustworthy ICT

Target outcomes

a) Heterogeneous networked service and computing environments

- a1) Architectures and protocols
- a2) Future Internet
- a3) Virtualisation and other techniques for protection, assurance, ..
- a4) Metrics and tools for quantitative security
- a5) Enabling technologies (languages, biometry, crypto, ..)

b) Trust, eID and Privacy management Infrastructures

- b1) Trust assurance
- b2) Privacy infrastructures
- b3) Management of ID claims (usability, privacy, control)

c) Data policy, governance and socio-economic ecosystems

- c1) Management and governance frameworks for trust and security policies
- c2) Technology supported socio-economics frameworks
- c3) Multi-polar security governance
- c4) Tools for trust measurement

d) Networking and Coordination Activities

- d1) Stimulating and organising interplay technology-law-society-economy
- d2) Promoting standards, certification, best practices
- d3) Coordination national RTD activities

Expected Impact

Industrial competitiveness – Trustworthy ICT

Support to users - Confidence, usability and acceptance

Demonstrable improvements – Large scale networks, network attacks and security incidents

Significant contribution (Trustworthy Infrastructures, interoperab. and standardization, usability and acceptance

Coordination of research

Better... let's understand each other a bit

- Problems/technologies of common interest where synergy meaningfully adds “local” (technological, societal) depth?
 - Hyper-Heterogeneous Networks: FI, Cloud?, Data mgmt (storage, transfer rights +++), privacy,..., multi-language
- Problems from the interconnected trans-national world of “things” (& attacks, impact, enforcement) ... where synergy is a no-brainer? **Our problems will be your problems...just a question of time, right?**
 - Web x.0, interlinked infrastructures, testbeds (eGrid!), ...
- Areas where we can jointly influence and leverage issues?
 - Blackberry Traffic Access?, Governance? Cyber-crime/warfare?

Better Understand the “other” side’s priorities!

“Mutual” Cooperation

Target the larger picture with composite **EU and Brazil** interests

- Consider the EU priorities – **The Call!**
- Utilize and build on **EU's** current technology base
- Shape local interests as “scenarios” with a long term technology or application view

...and then **HIGHLIGHT YOUR NICHE with additive competency and mutual benefits!!**

- competing on cost basis alone?
- competing against core EU competence or re-inventing?

How can you help us?

- **Scoping the landscape in Brazil research on ICT Trust and Security**
 - Who are the funding bodies?
 - Who are the technical/research communities?
- **Putting together an International Advisory Group (IAG)**
- **Annual Forum – topics of interest**
- **Please contact the project manager and/or country liaison directly**
 - James Clarke <Jclarke@tssg.org>
 - Neeraj Suri <suri@cs.tu-darmstadt.de>

It Takes Two to Samba! 😊



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