

January 23, 2009

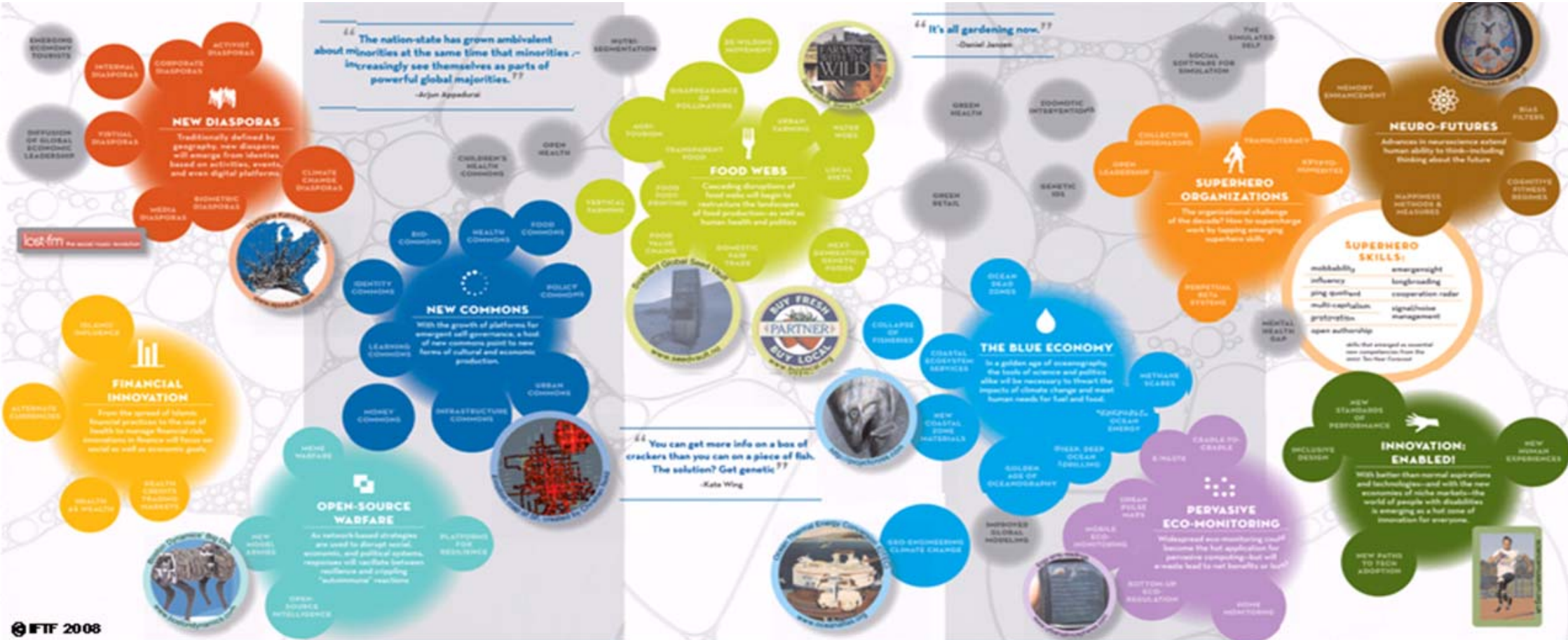


Sustainability as an evaluation criterium in ICT research

ICT FOR A GLOBAL SUSTAINABLE FUTURE
International Conference
Brussels

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Major changes in the next decade



FTF 2008

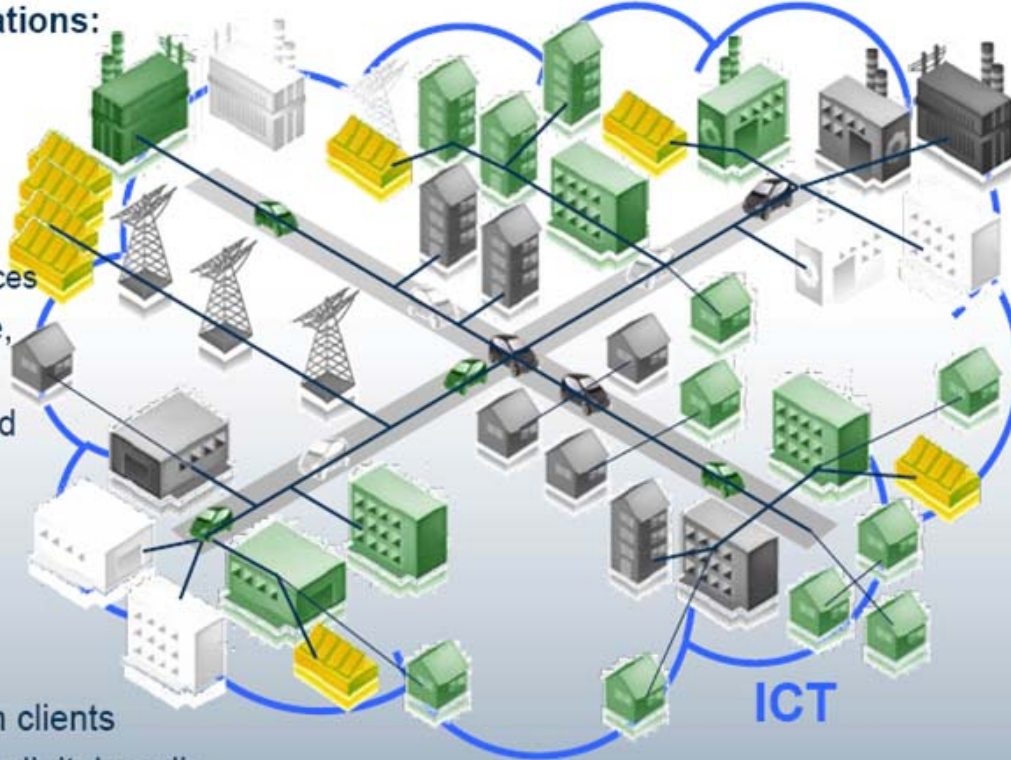
ICT can contribute

ICT services and applications:

- Flexi-working
- Virtual presence
- m/e-commerce
- Dematerialization
 - From products to services
- m/e-health, -governance, -learning, -banking, etc.
- Smart manufacturing and transport systems
- Smart buildings
- The future smart electric grid

ICT applied to ICT itself:

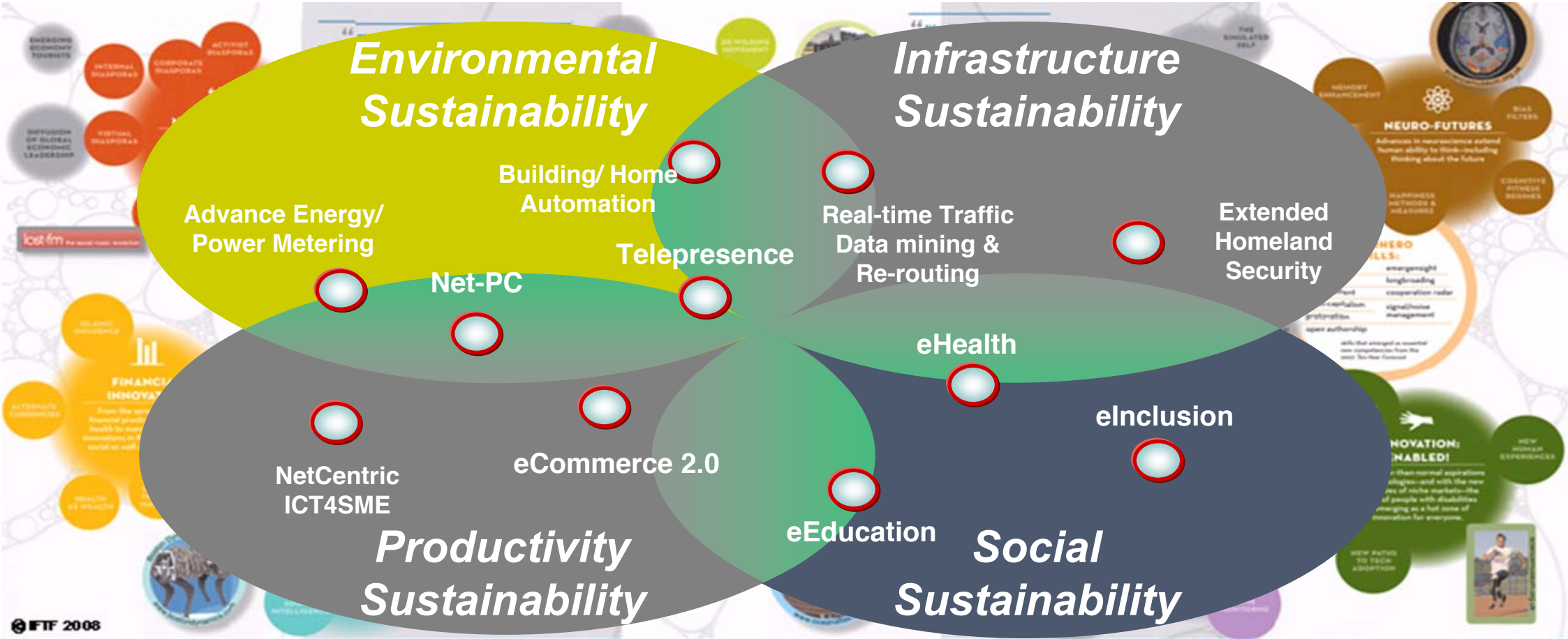
- Server virtualization, thin clients
- From paper and discs to digital media
- One laptop, one phone concepts
- HW convergence



ICT can substitute, reduce and make the remaining use of buildings, vehicles etc., much more efficient



The development of ICT and Ultra-BB will generate a full set of innovative applications able to support a new society sustainability



Regarding Environment Sustainability, ICT/Tlc will enhance green world vision and actions through

BUILDING & HOME AUTOMATION

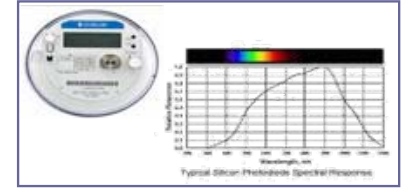
- Building & home automation **will make living environment more comfortable and safer** and enables the **consumption of no more than the necessary** amount of **energy**
- At the same time building & home automation, by enabling more strict control of energy consumption along the day, **optimize energy network infrastructure sustainability**



Get Comfort and Security while living efficiently

ADVANCED ENERGY & POWER METERING

- Advanced metering will enable citizens to **control their consumption** spreading **environment awareness** among citizen
- Advanced metering will provide **new way to manage utility field force** improving at the same time **productivity** and **sustainability**



Env' sustainability awareness and zero touch manufacturing

Regarding Environment Sustainability, ICT/Tlc will enhance green world vision and actions through

TELEPRESENCE

- Telepresence **cuts** most of **travel expenses** (flights, hotels, restaurants), **improves productivity** by **reducing spare times** (travelling, delays and other causes) and allowing **more frequent interactions**
- Furthermore, it improves **employees quality of life** and makes **companies "greener"** reducing **pollution** due to travel



**Make the bits travel
instead of people**

NET-PC

- Net-PC's objective is to **avoid waste accumulation of brown goods**, through counteracting fast **obsolescence**
- Net-PCs **increase company productivity** and allow **more employees** to have a **workstation** with the **same amount of resources**



**Reduce waste and
improve productivity**

Infrastructure Sustainability will be guaranteed in terms of security and usage optimization through

EXTENDED HOMELAND SECURITY

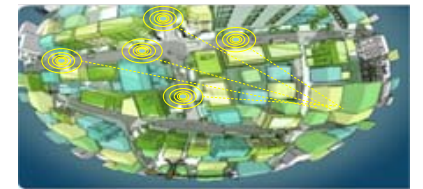
- Homeland security increases **territorial and citizen safety**, by using **more effective** methods of **protection**, **reducing intervention times** and so discouraging and **preventing crimes**
- It **improves environmental management** (limiting the effects of natural unpredictable phenomena) and **touristic flows management** during events/celebrations



Make Security Smarter

REAL TIME TRAFFIC DATA MINING & RE-ROUTING

- This solution has **benefits** both for **local authorities** and **citizens**: it enables **better traffic management** and **prevents critical events** (forecasting traffic evolutions on statistical base) whilst constantly indicates **the best route**
- Environmental benefits due to **reduction of pollution effects of traffic**



Feel to be the Smartest Driver Ever

Next decade ICT/Tlc evolution will support Social Sustainability enhancing Health&Wellness, Education and e-Inclusion

e-HEALTH

- eHealth provides **the best compromise** between **quality** and **costs** of the Health Service: **data**, concerning hospital offering, pharma spending and assistance levels, **Real Time controlled** and **more residential assistance** supported



e-EDUCATION

- e-Education systems **increase course effectiveness** (in terms of successfully transmitting contents) in case of large audiences, **decrease expense and time waste** for students while **making teaching more interactive**



e-INCLUSION

- e-Inclusion solutions **remove barriers**, enabling all **people with specific disabilities** to **perform their role** and fully **live their lives**



Reinvent Health System Sustainability

Lifelong Learning

Overcome physical barriers

Productivity Sustainability will be supported through dramatic increase of ICT use in SME and eCommerce 2.0

NET CENTRIC ICT4SME

- ICT4SME helps SME in creating **new opportunities** and counteract **competition pressure: cost cut** (supporting internal processes and business); **enhanced customer relationship** (knowledge, communication, product promotion, etc)
- As **SMEs** are a **country's backbone** of the economic system, ICT4SME will drive a **pervasive revamping** of the economic system



**Revamp Growth
from the backbone**

eCOMMERCE 2.0

- eCommerce 2.0 **increases sales** by **improving the online shopping experience** thanks to Web2.0 opportunities: unlike traditional eCommerce **it is dialog and interaction**, not monologue and marketing



**The right place for
zero km economy**

Innovation, ICT and sustainability

- **Genuine innovation** should contribute to **improving the sustainability of our lifestyles and the world economy**. The key impact is at the system level
- **ICT is an enabler for innovation**: a vital enabler for innovation in all EU priority areas at many levels

How to identify and sustain sustainable innovation enabled by ICT?

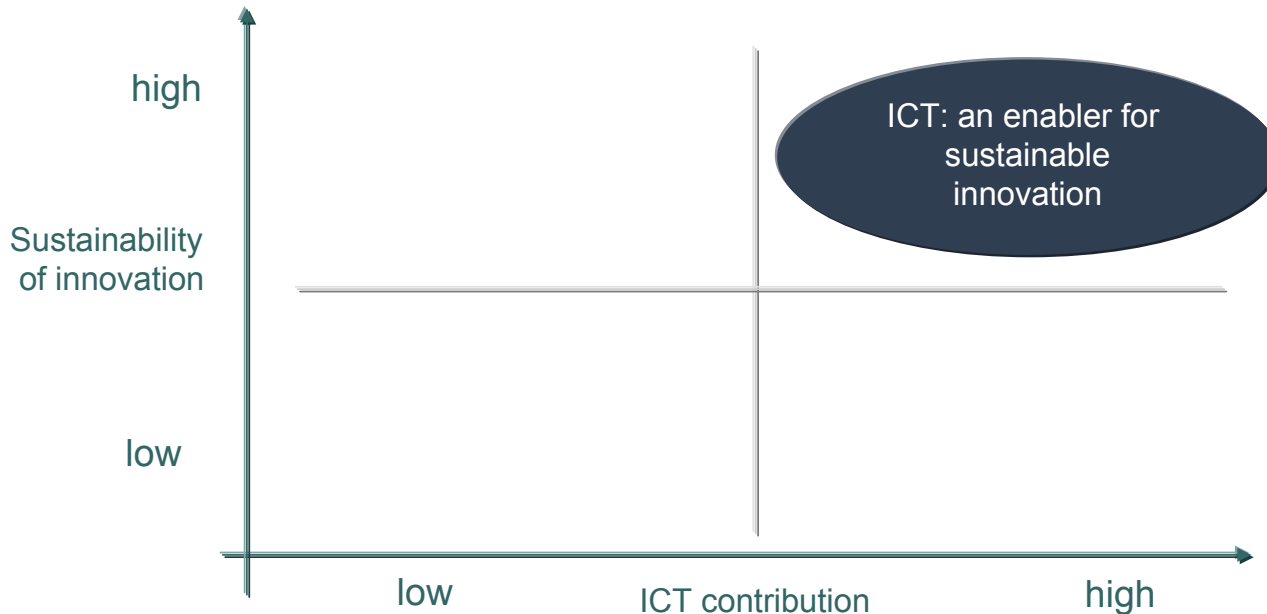


ICT as an enabler of sustainable innovation

A wider vision of sustainability

Shared Indicators

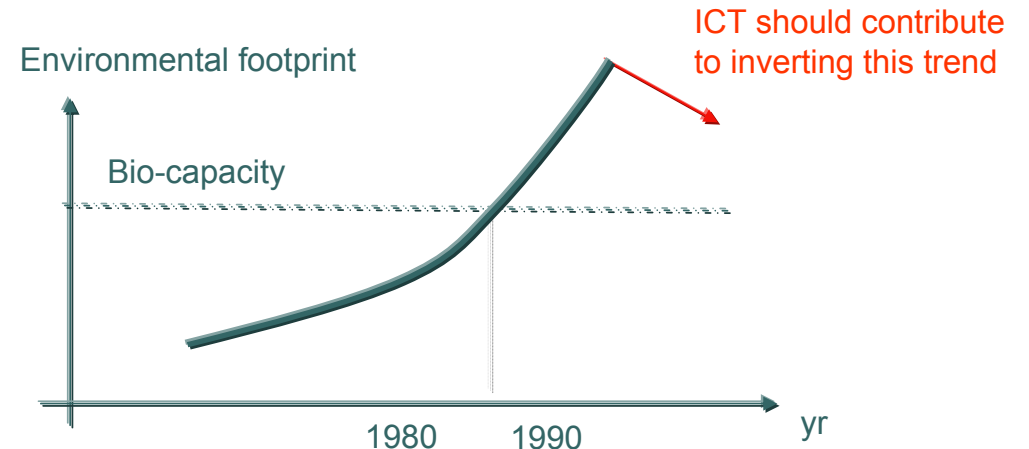
Measuring the impact of ICT



- Technological innovation does not automatically produce sustainability
- Concentrate ICT funding on areas that support sustainability
- Use new technologies to improve the sustainability of traditional industry (or to replace traditional products with new ones)

Sustainability indicators

- **Enlarge the system of indicators for sustainability.**
 - enhance the European Common Indicators System
 - combine social sustainability (welfare indicators) with environmental impact (resource indicators)
- **Welfare indicators (ECI)**
 - Perceived well-being
 - Birth rates, rates of morbidity and mortality
 - Equality of wealth and income (between individuals, between regions)
 - Proximity of parks and gardens
 - Distance from home to work
 - Presence of companies with environmental certification
 - Sustainable consumption
- **Resource indicators for**
 - Houses and other buildings
 - Transport
 - Food
 - Consumer goods
 - Raw materials and semi-manufactured goods
 - Energy production
 - Data centers



Policy options

Policy tools	Primary Focus	Examples
Frameworks	Affect opportunity levels by changing strategic lines of thinking and creating a fertile environment for new policy initiatives	i2010 incorporated in 7° FP
Market-based policies	Create incentives to reduce negative environmental and social impacts, whilst promoting a dynamic, competitive ICT sector in Europe	Tax exemptions for employees working at home, can help digital inclusion and home working
Regulation	Reduce environmental and social impacts. Less flexible than market-based policies	EU USO for broadband access; National regulation on replacement of toxics in ICT production
Voluntary industry initiatives	Depend on industry-wide buy-in	Beyond WEEE directive for recycling aimed at efficiency gains
Gov't supported initiatives	Improve knowledge of sustainability issues among business and incentive sustainable innovation	Gov'ts finance social partnership to tackle digital divide; provide financial support for online local communities

Adapted from EITO: the impact of ICT on Sustainable development. Berlin 2002

Sustainability in IST Programme

EU Call - a powerful policy instrument

- **IST has 3 evaluation criteria:** Scientific excellence, Quality and efficiency of implementation and management, Potential impact
- **Sustainability is considered only indirectly,** via “Potential Impact”
- Introduce sustainability as an **evaluation criterium** in research projects?

FP7-ICT-2007-C

Call topic: FET Open

Proposal No. :

Proposal acronym : DIMMA

ICT Theme

Individual Evaluation Report for a short STREP

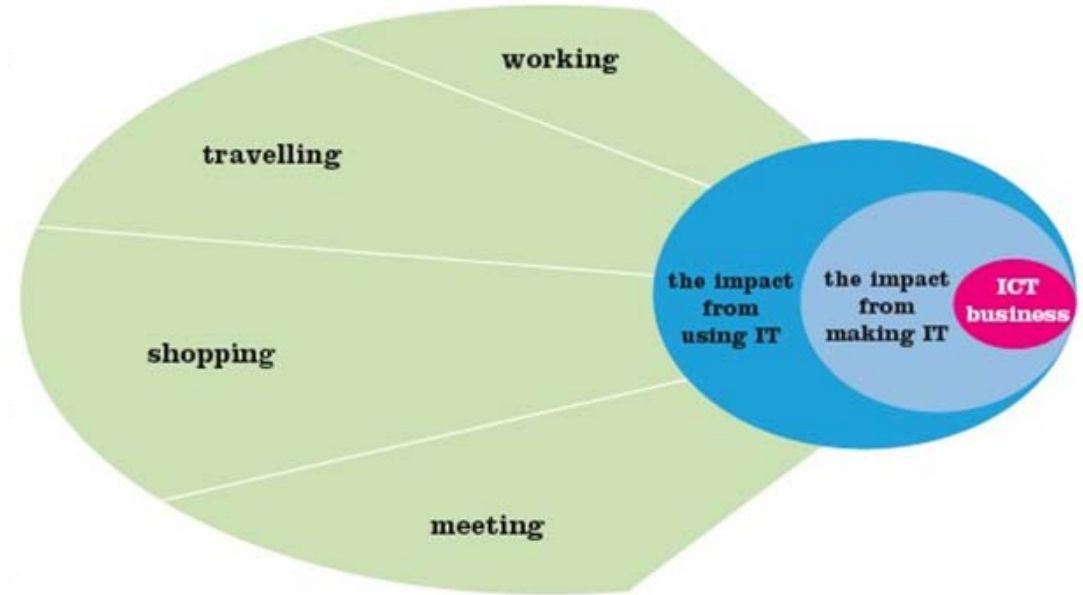
<p>1. Scientific and/or technological excellence (relevant to the topics addressed by the call) <i>Note: when a proposal only partially addresses the topics, this condition will be reflected in the scoring of this criterion</i></p> <ul style="list-style-type: none"> • Clarity of objectives and quality of the concept. • Innovative character in relation to the state-of-the-art. • Contribution to advancement of knowledge/technological progress. • Plausibility and effectiveness of the <u>outline</u> of the S/T methodology, and of a validation / assessment approach 	<p>Score: (Threshold 3.5/5; Weight 1)</p>
<p>2. Quality and efficiency of the implementation and the management</p> <ul style="list-style-type: none"> • Reasonable estimation of resources planned to be committed (budget, person-months, equipment). 	<p>Score: (Threshold 2/5; Weight 1)</p>
<p>3. Potential impact through the development, dissemination and use of project results <i>Note: Refer to the applicable list of impacts specified in the work programme</i></p> <ul style="list-style-type: none"> • Contribution at the European level towards the expected impacts listed under FET-Open. • Positioning with respect to the realisation of a long-term vision in the ICT domain. 	<p>Score: (Threshold 3.5/5; Weight 1)</p>
<p>Remarks</p>	
<p>4. Sustainability???</p>	
<p>Does this proposal contain ethical issues that may need further attention?</p>	
<p><input type="checkbox"/> NO <input type="checkbox"/> YES</p>	

I declare that, to the best of my knowledge, I have no direct or indirect conflict of interest in the evaluation of this proposal

Name	XXX
Signature	
Date	XXX

Sustainability in ICT research projects

- How can we measure the sustainability of a research project?
 - Direct impact of project (usually small)
 - Systemic impact (potentially large)
- What is the sustainability of a service concept as Facebook, Second Life or Skype?
- Evaluation by panels experts not always effective?
 - Expertise in a particular field does not guarantee expertise in sustainability
- External panel for projects with a potentially major impact (positive or negative)
 - Analogy with ethics?



Sustainability and the scientific quality of research



- IST calls have been criticized for having too many extra-scientific evaluation criteria
- A lot of vital science has no direct impact on sustainability
- Sustainability as a “bonus”
 - Not needed where irrelevant
 - Extra evaluation points where present

Key issues

- Consensus on principle
 - Political consensus
 - Consensus in scientific community
- Turn consensus into policy
 - European Institutions
- Translate policy into procedures
 - New priorities
 - New evaluation criteria
- Implement procedures in a way that effectively supports policy: vital!

Thanks

For discussion mail to

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