

Strengthen International Cooperation

Recommendation #4

James G. Williams
Director – International Networking
Indiana University – Bloomington, Indiana
USA

Two international collaboration issues with FI implications

Food security is impacted by climate variability. Food security impacts national security. Better weather and climate prediction requires greatly expanded international data collection , sensor placement and analysis capabilities. Extending the “Internet of things” to Africa and other non-served areas in parallel to the ability to analyze data and report results. The FI is not just a network. It must have capabilities to collect data , transform it into knowledge and distribute it locally.

Worldwide economic development and growth are key concepts today. To succeed, the FI must be global and must be intimately linked to global economic development. The use of technology to benefit society is required...this implies new, better and more uniform distribution of data, information and ultimately knowledge.

The PARADISO Recommendation – as a point of reference

STRENGTHEN INTERNATIONAL COOPERATION

The Internet has been designed in the seventies and must undergo important changes in order to be suited to the quickly increasing number of people, devices, and objects connected to it. The theme of « the Future Internet » has therefore logically become, in just a few years, a key European focus in the field of Digital innovation. Designing the Internet for the future is however not only a challenge for Europe but for the other regions of the world.

International cooperation on Future Internet is therefore not only required because the best skills and competencies have to be involved in EU-funded research wherever they are located, and because the widest market opportunities have to be considered. It is required because the Internet has a global dimension and is a global challenge. Cooperation is needed because major challenges of the Internet, such as security issues, can only be efficiently addressed at a global scale.

It is needed more generally to precisely identify what (norms, legal framework, etc.) can be agreed on between countries and regions, depending on cultures, local situations, etc. and what can't.

It is also necessary because Internet developments are so quick in emerging and even developing countries that industrialized countries can probably benefit from a better knowledge of technologies and services developed under other conditions and that may be of use in their own context (potential offered by “*reverse innovation*”).

For these reasons, we want to recommend the European Commission to strengthen international cooperation in the domain of the Internet, in order that the most relevant Future Internet can be developed through EU-funded research.

Justification for this Recommendation

Why is International Cooperation of FI development important?

The simple answer is that the FI must have international reach.

1. The Global dimension and global challenges of the FI as stated in the PARADISO document (Global nature of: [research; social interaction; economic activity; security;])
2. The Future Internet will be a tool for international cooperation in economic development and diplomacy. No country or organization can afford to be left out. We need input from all and the FI needs to impact all.
3. The Future Internet will play an increasing role in in global science, as we struggle with global problems like climate change (global sensor networks) and as we begin to create global databases in human research areas (global cancer/human genome databases).
4. FI impact on “local issues” ...point weather forecasts; better information to producers creates economic benefits.

US Technical Activities Related to FI

GENI - <http://www.geni.net/>

Clean Slate Project @ Stanford University - <http://cleanslate.stanford.edu/>
Software Defined Networking – <http://www.technologyreview.com/biotech/22120/>
and <http://www.opennetworkingfoundation.org/>
OpenFlow – <http://www.openflow.org/>

GIG-U - <http://www.gig-u.org/>

US Ignite - http://www.nsf.gov/cise/usignite/usignite_workshop.jsp and
<http://www.cccb.org/2011/05/24/recapping-the-us-ignite-gigabit-applications-workshop/>

Areas of Discussion and Controversy in FI Development

1. Security – “Safety trumps privacy”...really? What does “Redesign the FI to be more secure” mean?
2. How do we address the differing roles of governments in the lives of their citizens? What kinds of new “governments” will the FI enable or eliminate?
3. How would a widely instrumented FI impact science? Closer link between society and science?? The re-rise of the citizen scientist???
4. There will be no physical anonymity on the FI. What is the role of governments and technologies like CCTV in the FI and social development?
5. Developing world investment– where do we make our investments?
 - a. Safe water vs. networking; cholera vs. cloud computing
 - b. Can the FI promote economic development in the developing world?
6. The Norway effect vs. the Arab Spring

Translation into action

What steps should governments and funding organizations take to strengthen international cooperation in FI development?

What steps can/should individuals take??

For me, the key to translation into action is cooperation, engagement and outreach.

1. Cooperation and discussion in FI planning between governments.
2. Engagement by individuals and groups in international standards bodies developing FI standards and activities.
3. And, a focused regard for input from international areas which may seem non-traditional (rural, less-developed, underserved).

A Closing Quote

Five characteristics differentiate this Hybrid Age from those that came before it: the ubiquitous presence of technology, its growing intelligence, its increasingly social dimensions, its ability to integrate and combine in new forms, and its growing power to disrupt, faster and on a larger scale than ever before in human history.

Quoted from: Technology Will Take on a Life of Its Own
Ayesha and Parag Khanna – Foreign Policy 18-August-2011

A Closing Quote

Five characteristics differentiate this Hybrid Age from those that came before it: the ubiquitous presence of technology, its growing intelligence, its increasingly social dimensions, its ability to integrate and combine in new forms, and its growing power to disrupt, faster and on a larger scale than ever before in human history.

Quoted from: Technology Will Take on a Life of Its Own
Ayesha and Parag Khanna – Foreign Policy 18-August-2011

From: Alvin Toffler - The Third Wave – 1980

Thank you for your attention

Thank you more for your careful consideration and discussion of the FI issues raised. It is through that discussion that we will shape critical aspects of the FI.

I am happy to continue this discussion in person or via e-mail...

**Jim Williams
Indiana University - USA
williams@indiana.edu**