RFID, user identity and the public interest

lara srivastava

senior policy analyst
international telecommunication union

ANEC General Assembly
1 June 2007, Brussels

note: the views expressed in this presentation are those of the author and do not necessarily reflect the opinions of the ITU or its membership. Lara Srivastava can be contacted at lara.srivastava@itu.int

image: Irina/Riri

Image: Irina/Riri

the new digital world

uniqueness of RFID

RFID today

RFID tomorrow

implications for consumers

moving forward

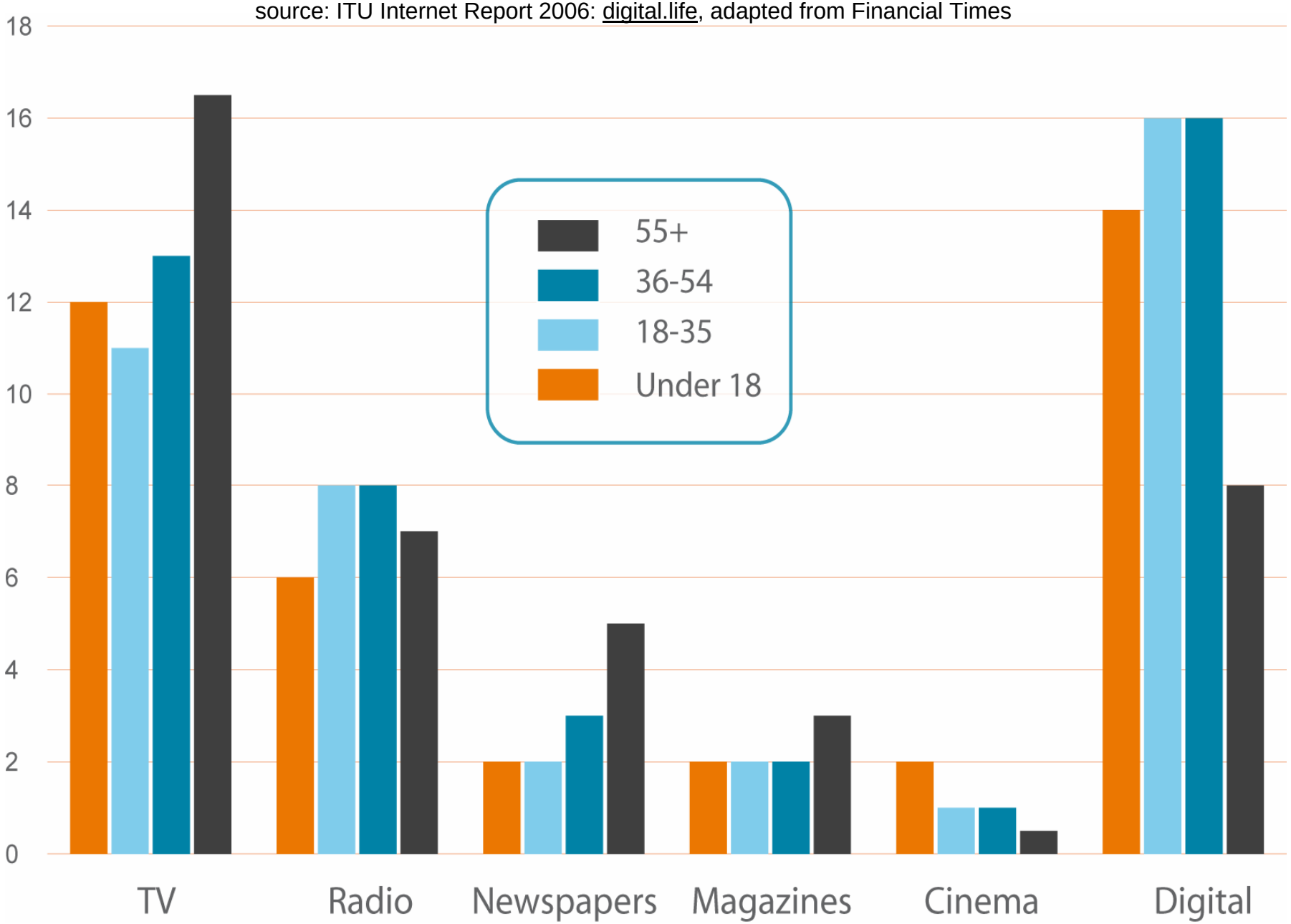
Image: Irina/Riri

the new digital world

- *fast*
- *ubiquitous*
- *pervasive*
- *ambient*
- *responsive*

global consumption of digital media

source: ITU Internet Report 2006: digital.life, adapted from Financial Times



the rise of social networking

source: ITU Internet Report 2006: digital.life, adapted from Financial Times

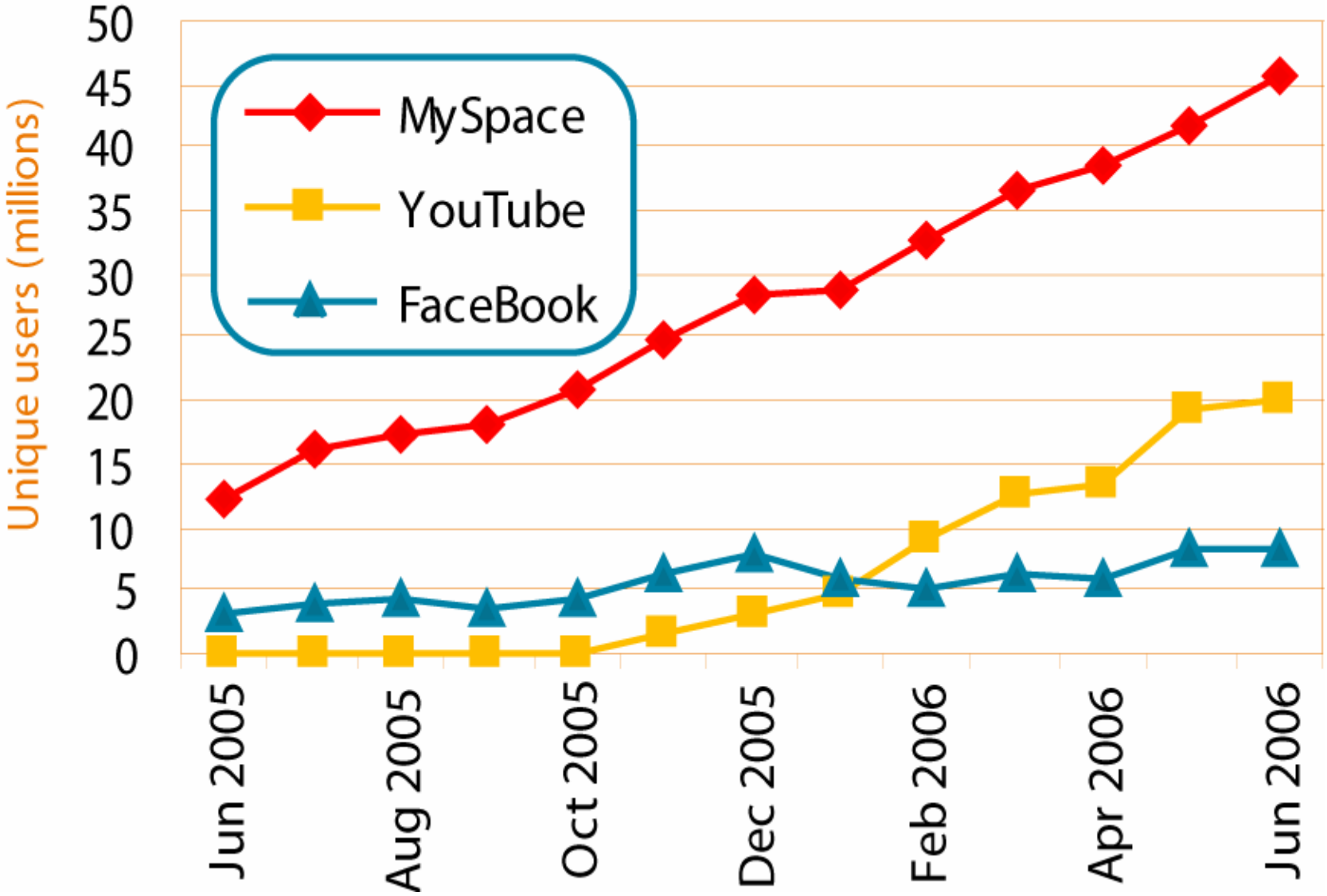


Image Courtesy: Gaelen Lee

the mobile+

apple.com

IPTV

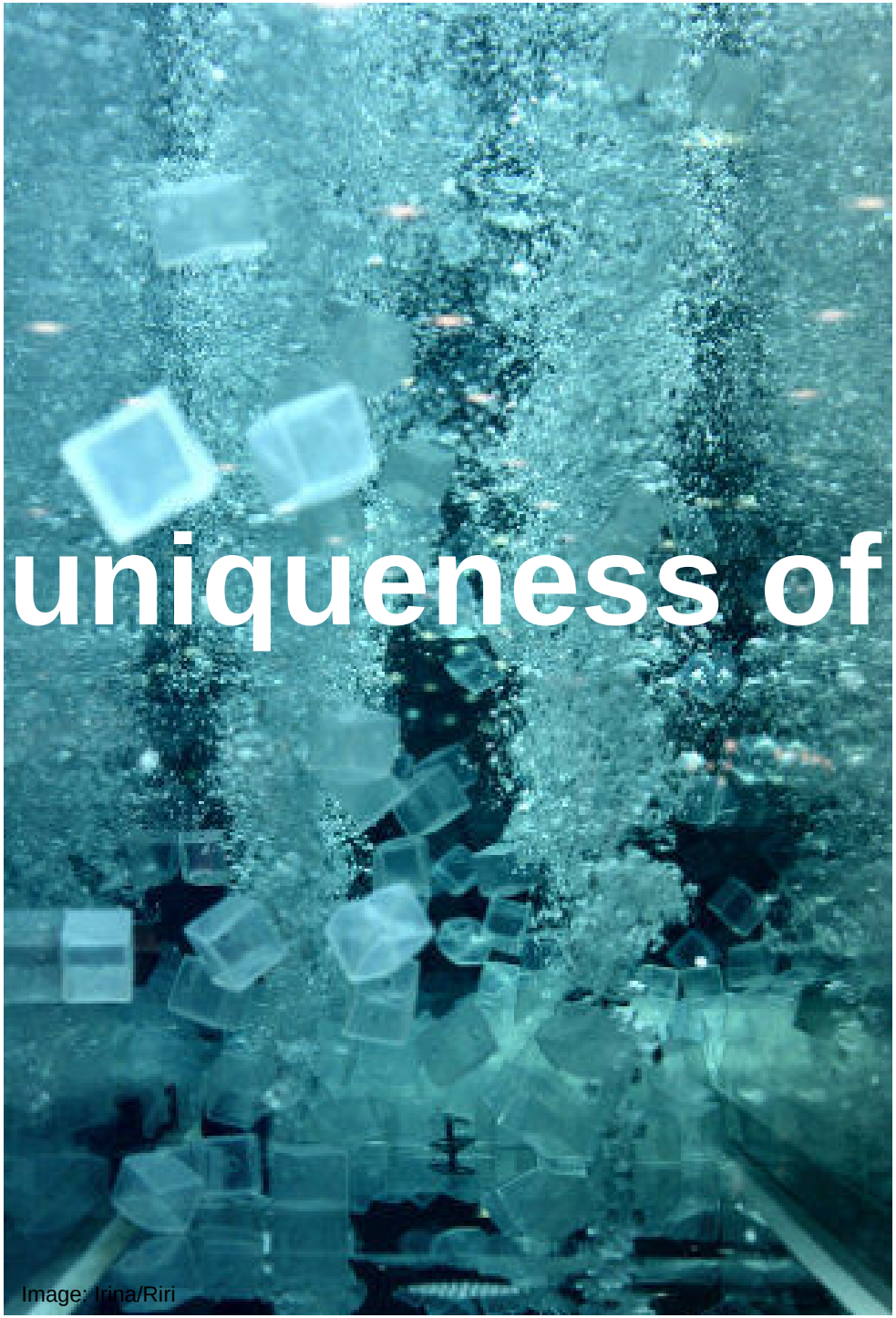
Courtesy: fatcontroller

VoIP

skype.com

Mobile RFID

Sony

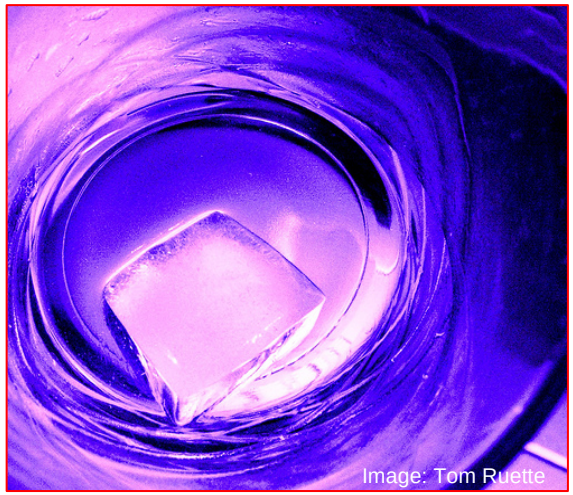


uniqueness of RFID

Image: Irina/Riri

towards an internet of things

- taking anytime and anywhere anyone connectivity a step further
  - anywhere, anytime, anyone AND **“anything”…**
- this is the vision underlying the concept of a “network of things/objects”
  - each thing would have its own “identity” in cyberspace
- the internet now connects computers to one another, but imagine if it could also connect computers to things, and things to things?



the uniqueness of RFID

- it is more than an electronic or bar code

- it can provide a unique identifier

- its uniqueness can be ‘networked’

- it’s at the core of a new “*internet of things*”

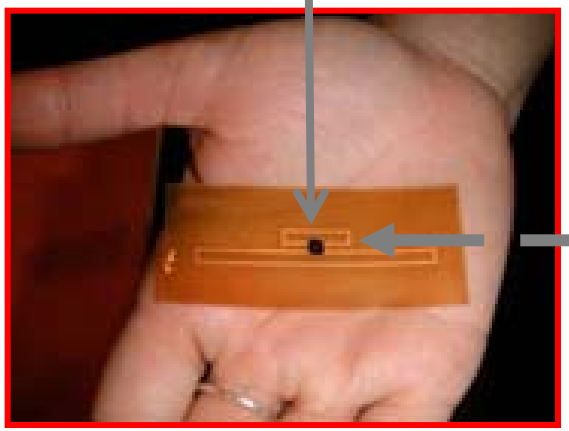
RFID and the new internet

- RFID systems allow us to identify individual “things” in the environment
  - they can wirelessly (without contact) monitor objects in real-time

- they can identify a single object amidst a large quantity of objects w/out line of sight
- as such, RFID systems can provide a sort of “map” of the real world in the virtual world, as though each real-world item had an internet homepage/ID

a big idea in a small package

Tag/Transponder
(within this dark dot)

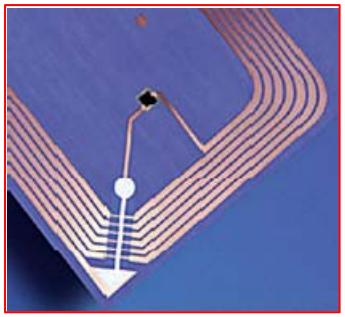


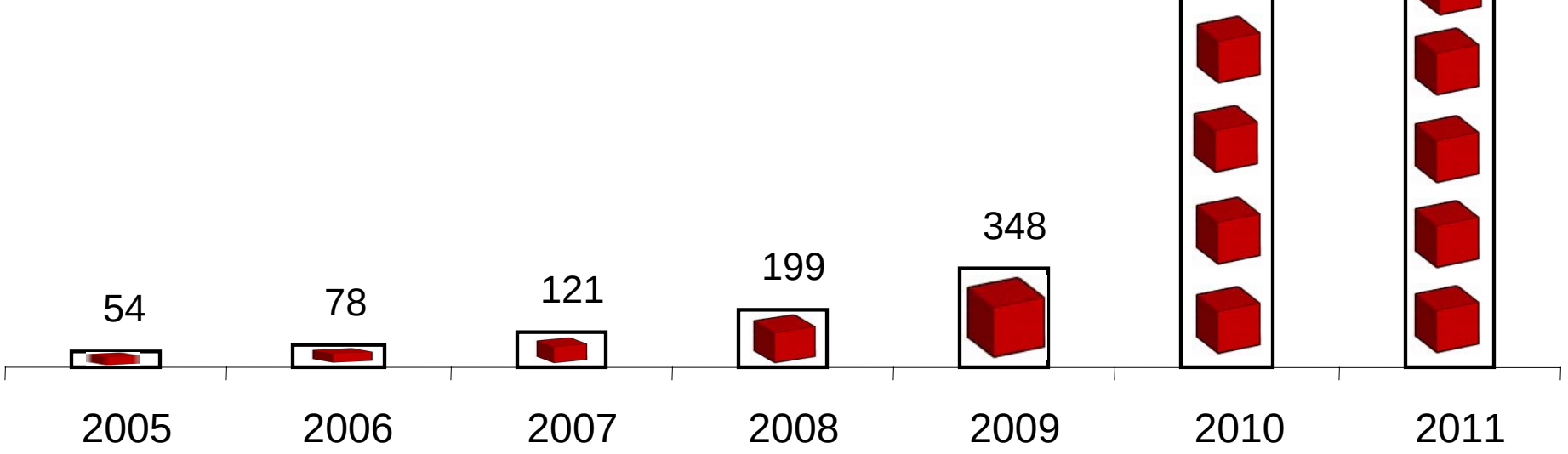
Reader/
Interrogator

Image: Irina/Riri

more and more RFID

RFID (EPC) shipments, worldwide, 2005-2011, USD millions





Source: GII (Japan)

multiple tagging and mapping

item-based tagging

meta-tagging

data collection

profiling

database mgmt

data storage

real-time analysis

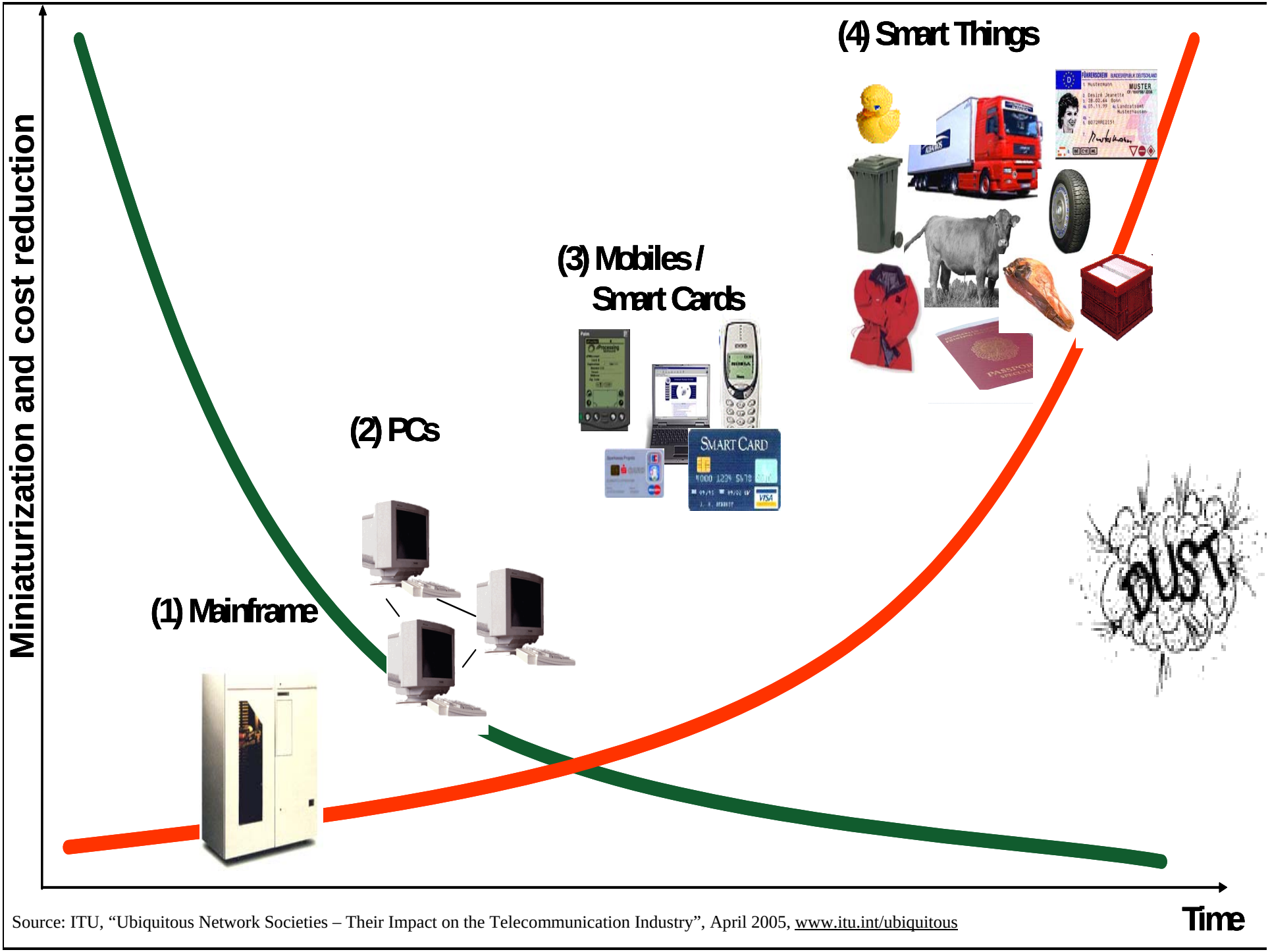
data dissemination

...

boom in applications

Image: Irina/Riri

tomorrow



Source: ITU, "Ubiquitous Network Societies – Their Impact on the Telecommunication Industry", April 2005, www.itu.int/ubiquitous

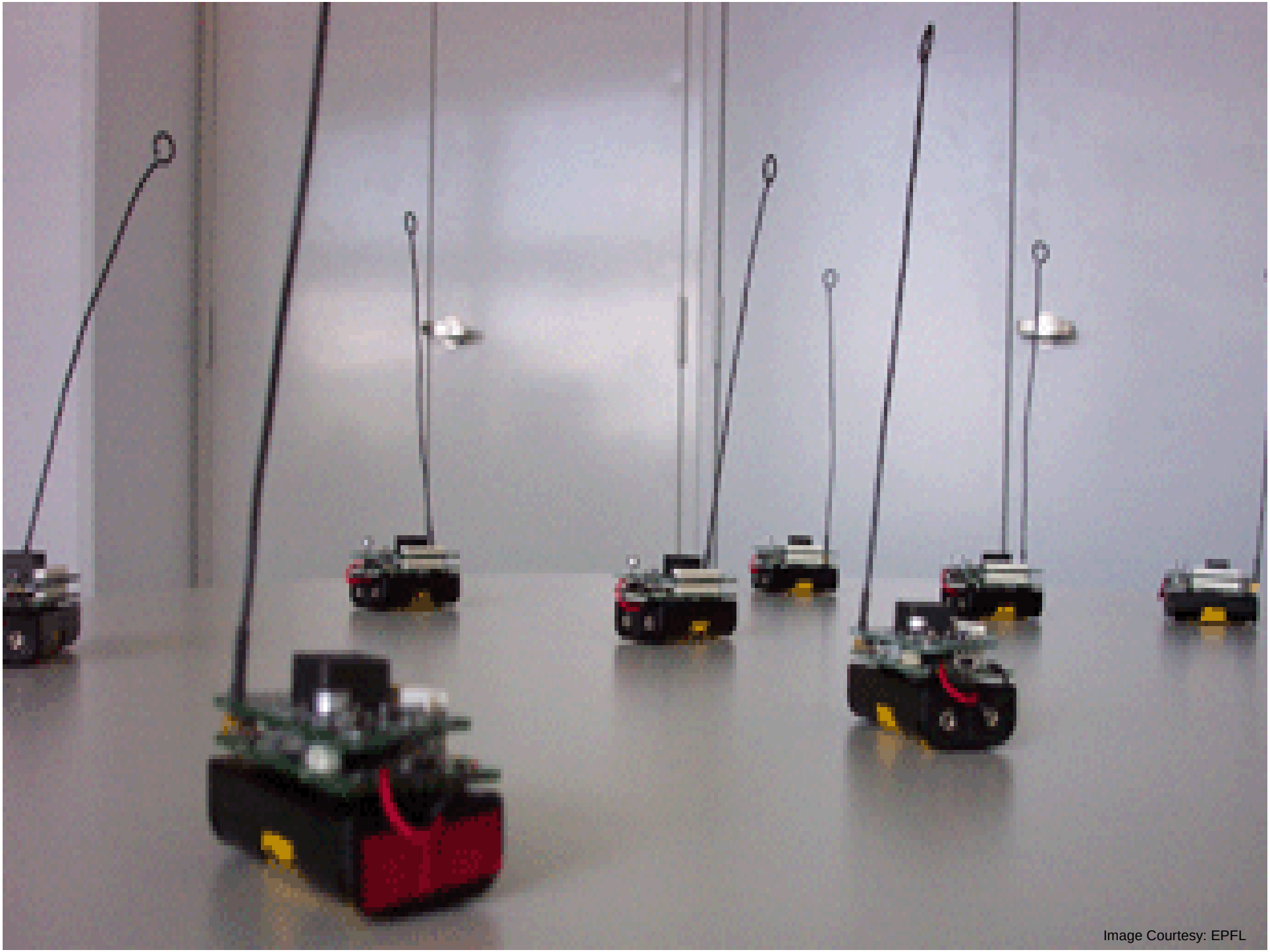


Image Courtesy: EPFL

implications for consumers

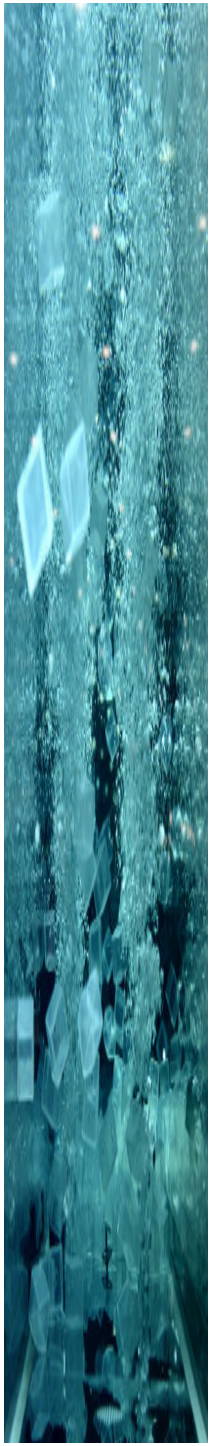
Image: Irina/Riri

who am i? what am i?

...and where have i been?

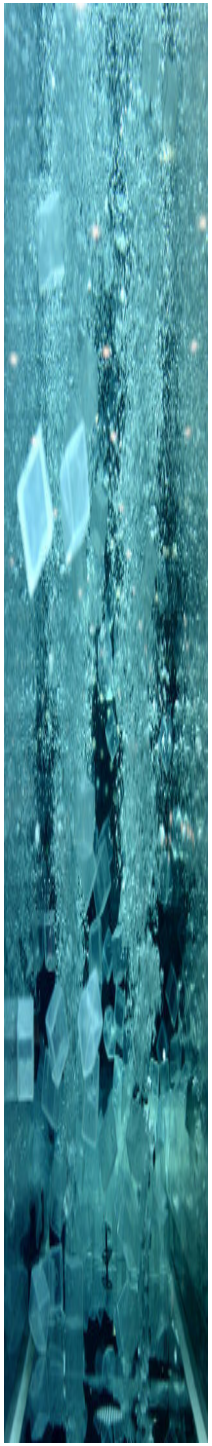
implications of RFID raises some concerns

- who controls information on the tags?
- who has access to it, and when?
- RFID deployments have been delayed as a result of such concerns
  - e.g. Benetton
- public sector has now begun addressing this issue
  - e.g. EU RFID Consultation, Japan's RFID Guidelines



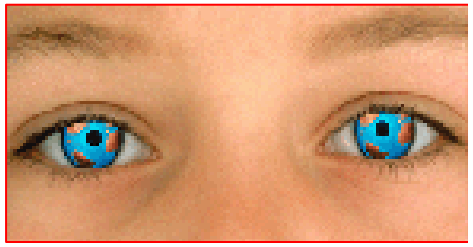
defining privacy today

- privacy is a dynamic concept, culturally & historically bounded
  - from the ID document, to surveillance cameras, to cookies…
- privacy revolves around distinction between public & private spheres of human existence
- with new technologies, boundary increasingly blurring
  - internet, mobiles, GPS, digital storage capacity
- today, debate hinges on individual's ability to control the increasing "*permeability*" between private life and public life



a complex issue

- two facets to the right to privacy:
  - right to protect access to information about oneself
  - right to be free from interference
- user of today's internet already fill in forms with false information, to preserve their "anonymity"
  - ubiquitous/ambient networking likely to exacerbate this climate of distrust

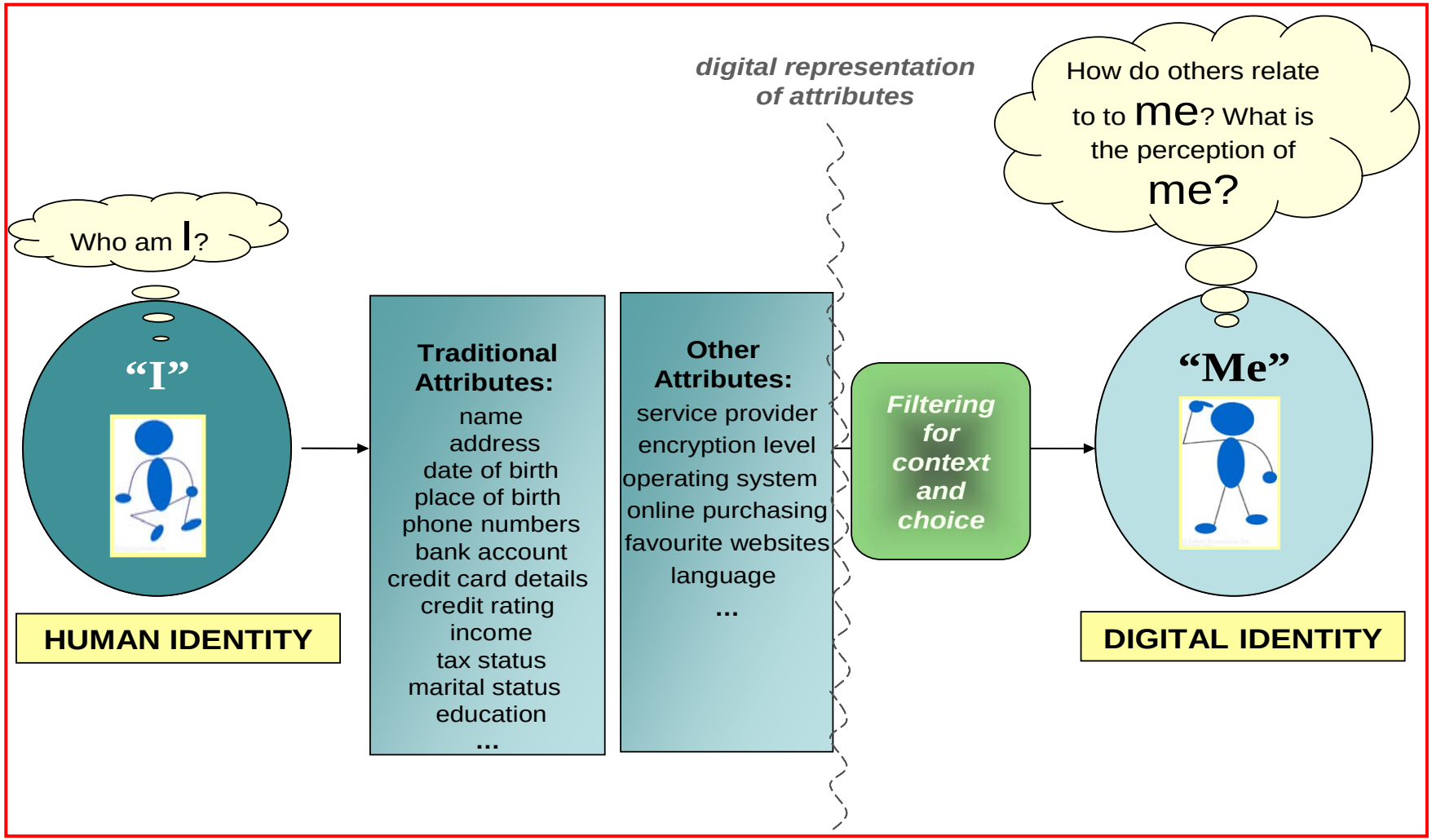


- thus, balance between privacy & convenience needs to be struck early in the design of technology, across several domains:
  - technical, regulatory, industrial **but also** socio-ethical
- should not risk a "privacy divide"

Copyright © 2006 David Farley, d-farley@ibiblio.org
http://ibiblio.org/Dave/drfun.html

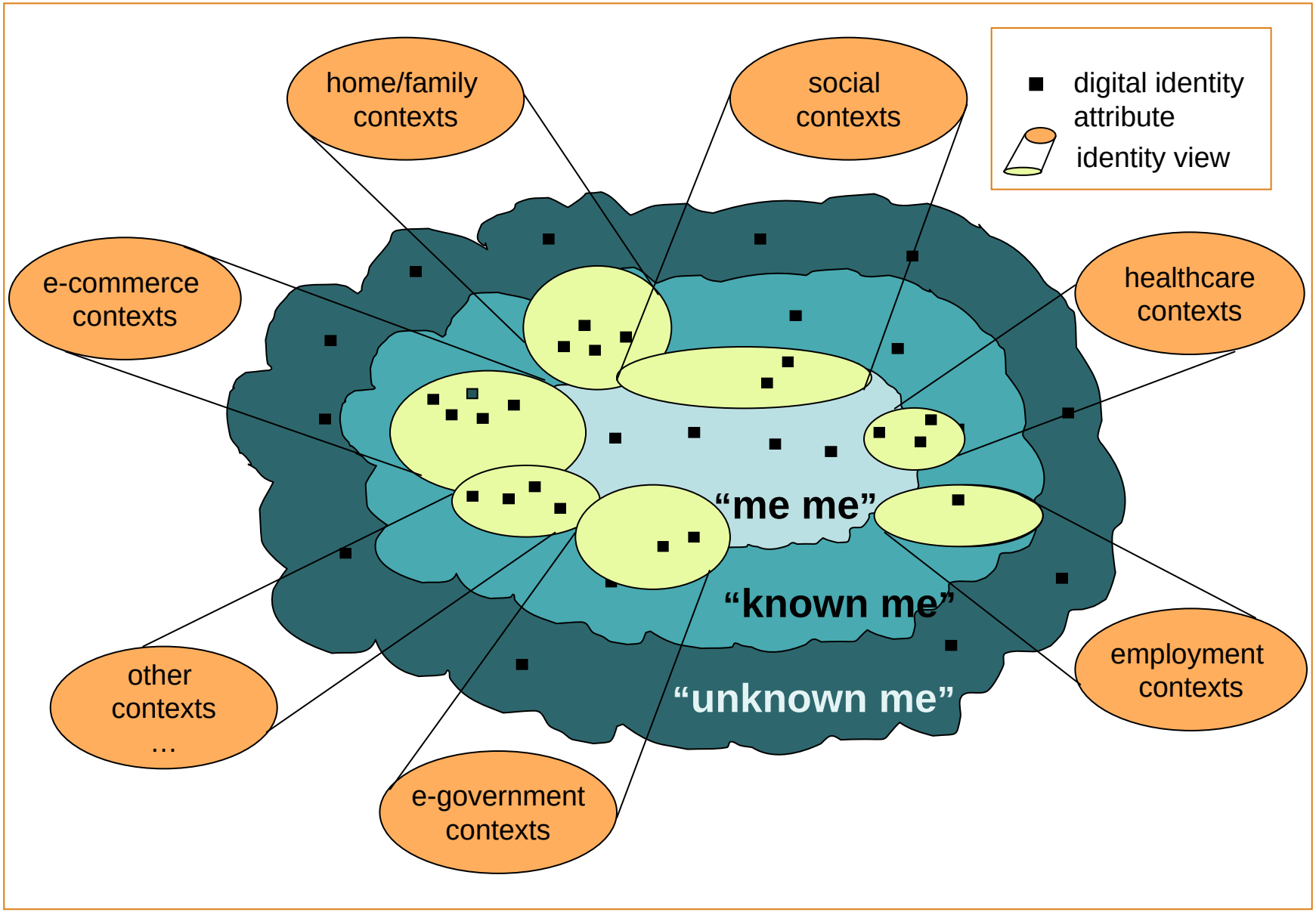
digital
identity
Sale!
Images: clearly ambiguous, dishhh,cynthia, lori37

from i to me



ITU Internet Reports 2006: digital.life
www.itu.int/digitalife/

context is king



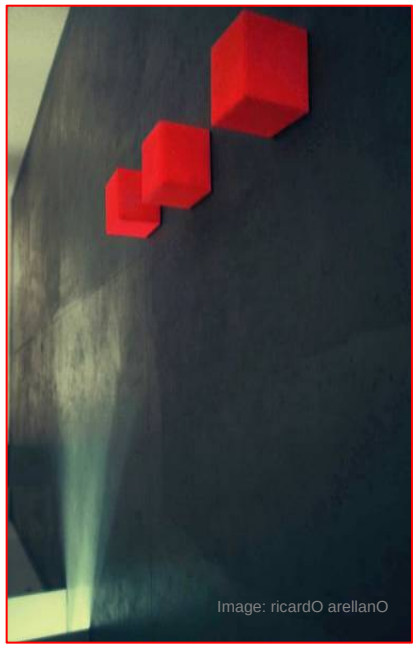
Source: ITU Internet Report 2006: digital.life, adapted from J. de Clercq and J. Rouault (Hewlett-Packard)

Image: Irina/Riri

forward

Related ITU activities

- JCA (Joint Coordination Activity) on the Networked Aspects of Identification Systems (including RFID)
  - http://www.itu.int/ITU-T/jca/nid/index.html



- Focus Group on Identity Management
  - http://www.itu.int/ITU-T/studygroups/com17/fgidm/index.html

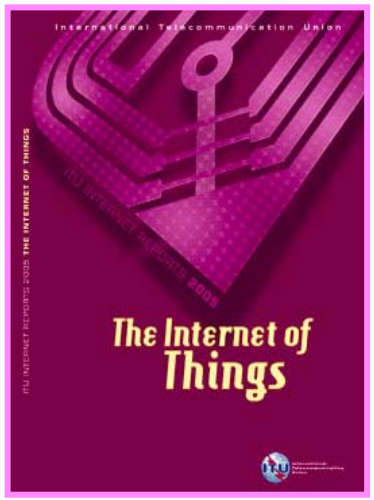
- Global Cybersecurity Agenda GCA released 17 May 2007 includes work areas on digital identity
  - http://www.itu.int/cybersecurity/gca/

Related ITU publications

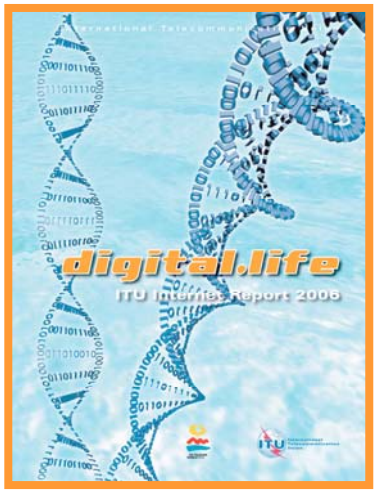
ITU Internet Reports 2005

THE INTERNET OF THINGS

www.itu.int/internetofthings/



International Telecommunication Union



ITU Internet Reports 2006

digital.life

www.itu.int//digitalife

EU RFID Policy

- Communication SEC(2007)312, *RFID in Europe: steps towards a policy framework,* calls upon
  - "standardization bodies to ensure that international and European standards meet European requirement (in particular re: **privacy, security, IPR and licensing**) to identify standardization gaps and develop future RFID standards".
- RFID Stakeholder Group to be set up to define user guidelines for RFID applications (taking into account long-term issues and economic & societal aspects)
- 2008 communication to be published analyzing technical developments, "**with particular attention to privacy, trust and governance**", and assess need for further legislative steps

- more at http://ec.europa.eu/information_society/policy/rfid/

U for USER

- **U**ser-centric innovation
- **U**biquitous & global identity management systems
- **U**nderstanding of the social & ethical impacts of new technologies

global dialogue
global solutions
Image: NASA

Wisdom demands a new orientation of science and technology towards the organic, the gentle, the non-violent, the elegant and the beautiful…

- E.F. Schumacher

T H A N K S !

lara.srivastava@itu.int

www.itu.int/internetofthings

ITU International Telecommunication Union

note: the views expressed in this presentation are those of the author and do not necessarily reflect the opinions of the ITU or its membership. Lara Srivastava can be contacted at lara.srivastava@itu.int

image: ricardO arellanO