

European Commission
Directorate General Information Society and Media
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From RFID to the Internet of Things

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[1] Disclaimer: Any opinions expressed in this presentation are the author's own and do not reflect necessarily the position of the European Commission



European Commission
Information Society and Media



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Importance of RFID

- ❑ **RFID technology offers opportunities for improving competitiveness and innovation**
 - ➔ **Link to the Lisbon Agenda and the i2010 initiative**
- ❑ **Use of RFID technology is expected to grow strongly over the coming years**
 - ➔ **Will pervade every sector of the economy and corner of society**
 - ➔ **Is the doorstep to the Ubiquitous Information Society**
- ❑ **Key issues:**
 - ➔ **Getting technology right (affordable, standards, features, spectrum)**
 - ➔ **Addressing privacy, security concerns**
 - ➔ **Getting clarity on legal issues (infringement of IPR, privacy legislation, health, environment)**



Key Transitions

from distance to proximity

from local to global

from network-centric to edge-centric

from content to context

from wired to wireless

from frequent access to ubiquitous access



Key Trends

TECHNOLOGY

- Low-cost tag and reader
- Proliferation of devices (e.g. mobile phones with RFID readers)
- Sensor network (location system, temperature tracking, etc.)
- Embedded technology
- Networked RFIDs

APPLICATIONS

- Railway pass
- E-ticket
- E-pedigree
- Recycling
- Passports
- ID cards
- Contact-less payments
- Food packaging
- Banknote
- Smart toys

EVOLUTION

In-house (production FA, QA)

SCM (palette & case)

Authentication (item level)

Product Lifecycle Management

New Mobile Device Business Models



RFID + Sensor = "Super RFID"

RFID	Sensor
A contactless Auto Identification	A tiny unit to monitor the environment
Capture data automatically by RF signals to identify objects	Capture, process and transmit data automatically by the embedded hardware
Comprise small data-carrying tags and fixed or mobile readers	Comprise the trans-receiver, microprocessor, power supply and some storage units

Sensors can be embedded in RFID realising ID detection and monitoring function, e.g. moisture or temperature sensors (in food RFID), light sensors (in chemical medicine RFID), vibration sensors (in display RFID), pressure sensors (in tyre RFID)



Cornerstones of an European RFID Policy

Preparation of the “Internet of Things”

Providing objective information on RFID to citizens

Balancing the different RFID “speeds” in the European Member States

Fostering technology take-up, innovation

Safeguarding security and data protection

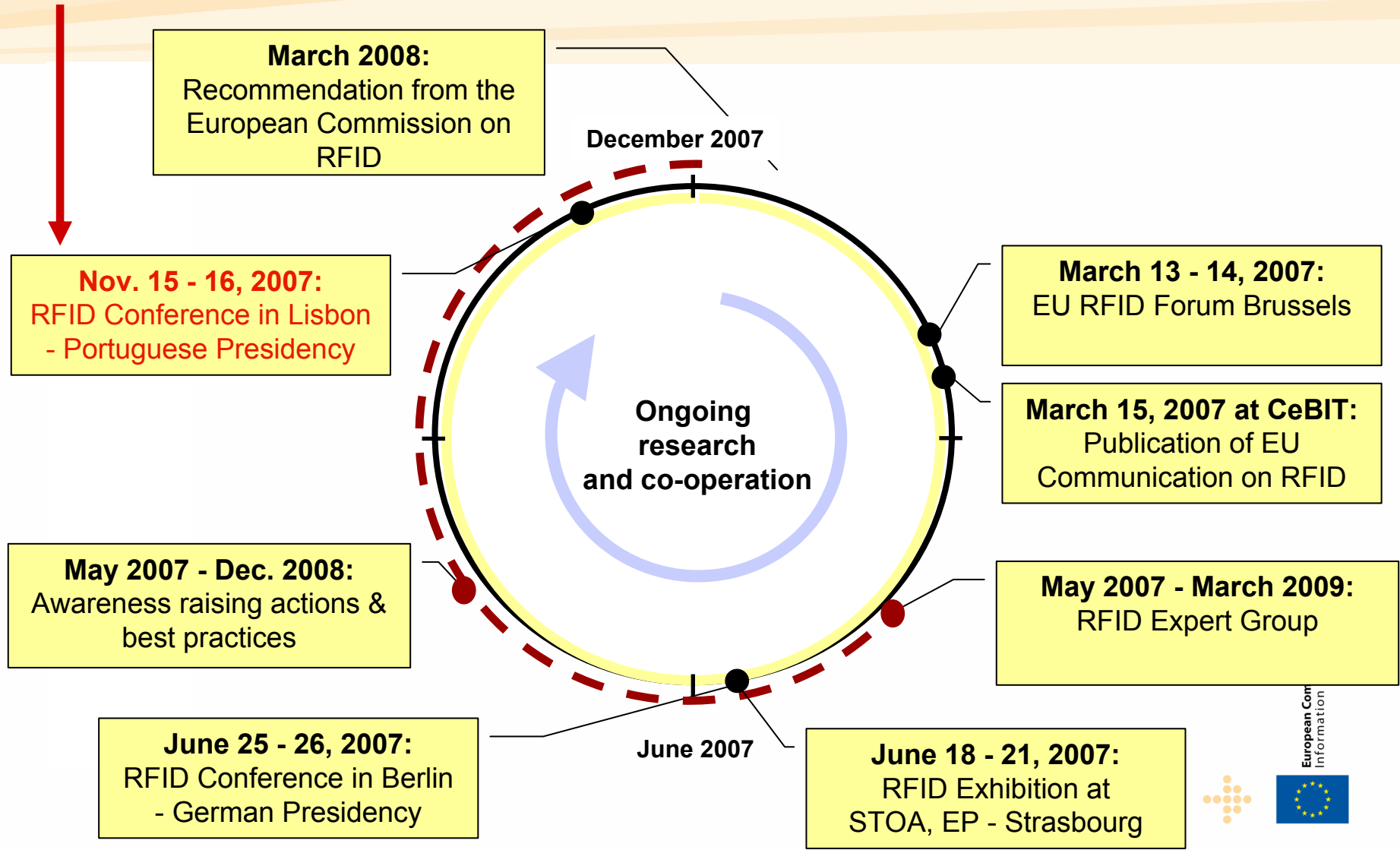
RFID in the context of health and environment

Sustaining an international dialogue on all aspects of RFID development and deployment

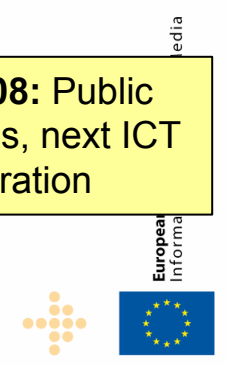
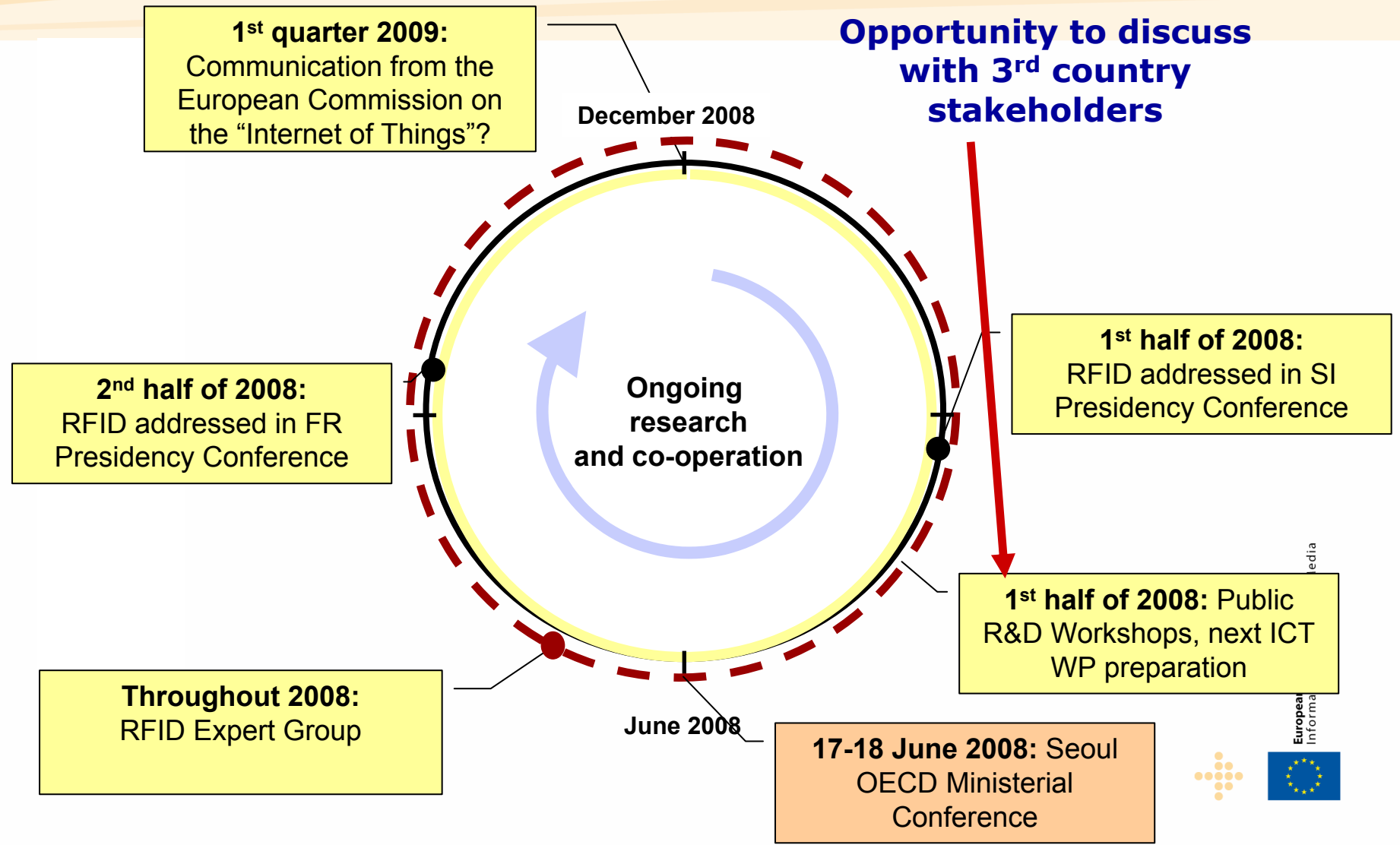


EU RFID Roadmap 2007

Opportunity to discuss with 3rd country stakeholders



EU RFID Roadmap 2008



Cluster of European RFID Projects - CERP

■ Established in January 2007

<http://www.rfid-in-action.eu/cerp>

Objectives:

- ▶ Facilitate networking
- ▶ Coordinate research activities
- ▶ Assure coherence of work
- ▶ Leverage expertise, talents and maximize impact
- ▶ Work on international co-operation



Examples of Current EU Research Projects

→ ...addressing Supply Chain excellence in several aspects

- Product life-cycle Mgmt. and Information Tracking - PROMISE**
- RFID solutions for the global environment - BRIDGE**
- Prevention of counterfeiting of products - STOP**
- Mobile smart shopping - STOLPAN**
- Improved collaboration processes – SMART, TRASER**
- Improvement of RFID in Europe – CE-RFID**
- ... more projects to come at the end of this year*



International Cooperation: The EU-U.S. Case

EU-U.S. Summit of 30 April 2007 in Washington, D.C., USA

Adoption of a Framework for Advancing Transatlantic Economic
Integration

EU-US joint statement

(http://ec.europa.eu/external_relations/us/sum04_07/joint_message.pdf)

Formation of a Transatlantic Economic Council

“Lighthouse Priority Projects”

i.e. priorities on which progress updates will be closely followed

in Annex 2 “Lighthouse Priority Projects”

in Annex 7 “Innovation and Technology”



Lighthouse Priority Projects

Annex 2 Identifies “Lighthouse Priority Projects” that will significantly enhance transatlantic economic integration

Intellectual Property Rights

Secure Trade

Financial Markets

Innovation and Technology

Identification & development of best practices for technologies

Investment

EU and U.S. resolve to achieve progress on these projects within six to eight months, and at latest by the time of the 2008 EU-U.S. Summit

Annex 7 acknowledges the importance of research and Innovation to promoting competitiveness and improving quality of life

(...) F. Exchange best practices on all dimensions related to RFID



How to Build Up the RFID Lighthouse Priority Project?

Short-term (2007-2008)

Elevating public awareness as to the high benefits of RFID

Initiate a dialogue and exchange information towards the development of best practices, incl. the identification by the end of 2007 of one or more pilot projects

Longer term (from 2009)

Pilot projects to be pursued cooperatively

- Pharmaceuticals?
- Medical products?
- Inclusion?
- Standards?
- 'Green lane' for goods?
- Energy efficiency?
- Safety of first responders?
- Product lifecycle?
- "Internet of Things"?
- Postal services? ...



Conclusion



- A new sense of community
- Europe is committed to RFID
- International cooperation is needed
- Journey has just started

Next conference – Portuguese Presidency:

“RFID: The next step to the Internet of Things”, 15/16th Nov. 2007

Lisbon, Portugal - <http://www.rfid-outlook.pt/>



More Information

<http://cordis.europa.eu/fp7/ict/>

http://ec.europa.eu/information_society/policy/rfid/index_en.htm

<http://www.rfid-outlook.pt/>

<http://www.rfidconsultation.eu/>

<http://www.rfid-in-action.eu/cerp>



THANK YOU!

