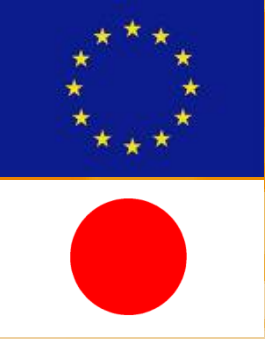


Memorandum of Cooperation between EU and Japan on RFID and Internet of Things

- **Memorandum (01.01.2009) between DG INFSO and METI on RFID, wireless sensor networks and the future evolution towards Ubiquitous Computing and Internet of Things.**
- **Objective:**
 - Promotion of a closer cooperation of DG INFSO and METI in the area of RFID and wireless sensor networks and miniaturised smart systems for
 - a mutual understanding of policies, legislation and R&D
 - fostering the take-up on an international scale
- **Focus on:**
 - Research collaboration in innovative applications and technologies
 - Collaboration in pilot projects and exchange of best practises
 - Collaboration in standards development

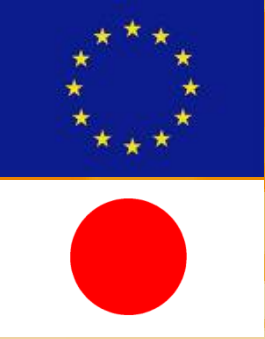




Memorandum of Cooperation between EU and Japan on RFID and Internet of Things

- **Areas of Cooperation:**
 - **Social acceptance**
 - in particular enhancement of end user benefits and promotion of social acceptance of IOT technologies
 - **Networked RFID and future Internet of Things**
 - with a focus on unique naming, tracing and searching and governance aspects of a future IOT
 - **Health and Environmental impact**
 - as it regards the understanding of the influence to medical devices, human exposure to radio waves and recycling & disposal
 - **Harmonisation**
 - As it regards the development of open global standards and/or harmonisation of regional standards and the interoperability between different systems

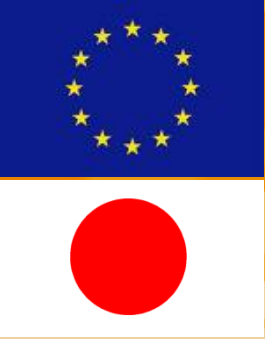




Memorandum of Cooperation between EU and Japan on RFID and Internet of Things

- **The cooperation is maintained**
 - by a regular dialogue between Directors and Heads of Units
 - participation in and organisation of dedicated events
 - informal meetings
 - additional support by:
 - EU funded Support actions (e.g. CASAGRAS)
 - cooperation with technology platforms (EPoSS – European Technology Platform on Smart Sensors)
 - International scope of EU RFID Standardization mandate to ETSI, CEN, CENELEC
 - European RFID Thematic Network “RACE networkRFID”

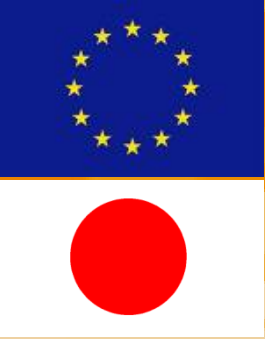




Definition(s) of IoT

- **IoT refers to billions of objects that connect transparently to the Internet to retrieve or send information to a distant database or information system without direct human intervention (no Web connection).**
- **From a technical viewpoint, IoT is an extension of the naming system of the Internet and means a convergence of electronic ID and physical elements.**
- **IoT covers several technical solutions (RFID, TCP/IP, mobile, data capture/storage/processing, transfer within physical environments and between physical contexts and virtual universes) → importance of interconnectability and integration.**
- **EU's CERP-IoT Cluster is working on a more stable and consensual definition.**





IoT core functions and applications

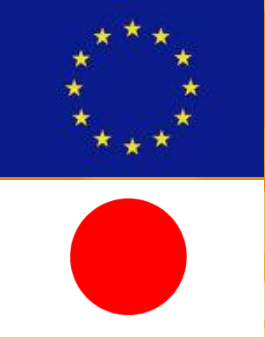
Core functions

- Identification of the object
- Connectivity to the Internet
 - Readers connected to network,...
- Information processing and storage
 - Through large databases

Applications

- B2B optimisation
 - Suppliers & partners exchange information along a supply chain to ensure visibility and traceability of goods
 - Vertical markets: aeronautics, automotive, culture, textile, pharmaceutical, food,...
- B2C lifestyle assistant
 - Consumers & end-users look for information related to a product so the product matches their requirements



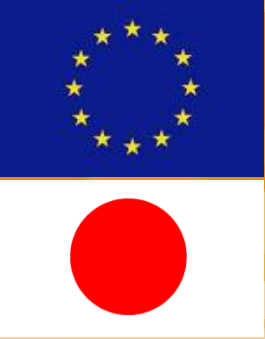


IoT consumer-oriented applications are arriving

A few players are already offering consumer-oriented products, e.g.:

- Alcatel-Lucent → *Touchatag*
<http://www.touchatag.com/>
- Violet → *Mir:ror* and *Ztamps*
http://www.violet.net/index_en.html
- AIRTAG <http://www.airtag.com/-Anglais-.html>
- ThingM (& its *WineM* prototype)
<http://thingm.com/home.html>
- openSpime Arduino <http://www.widetag.com/> and
<http://www.openspime.org/what>
- Qifti <http://qifti.com/>





IoT challenges

TECHNICAL

- Scalability
- Interoperability
- Privacy and security
- 'Subscribability'
- Extra spending on IT integration

BUSINESS

- Building a new infrastructure
- Reluctance of manufacturers with regard to tagging
- Funding the software application and databases
- Commitment of service providers (retailers, etc.)

