



RFID & Internet of Things

Emerging Opportunities in Vertical Markets

Innovation Reports

From a clear definition of the so called Internet of things, this report proposes an in depth analysis of a market in constant development even in a crisis context. It also analyses the current RFID technologies and market situation relying on the main players' involvement. Based on case studies and direct interviews, this report details the different vertical markets, crucial for the development of the RFID during the coming years.

Key questions

- Why is RFID technology not more widespread beyond a few applications?
 - What is really behind the concept of the Internet of things?
 - How will the architecture of the Internet of things be organized and controlled?
 - How will the Internet of things develop in the near future for industrial and consumer applications?
 - What are the top current and future vertical markets for the Internet of things?
 - Who are the best positioned players in the value chain?
 - What is the impact of the global downturn on the RFID market?
- > Aeronautics, Automotive, Cultural goods, Textile, Food and Beverage, Pharmaceuticals





RFID & Internet of Things

Emerging Opportunities in Vertical Markets

1. Executive Summary

2. RFID Technology

2.1. Components of RFID systems

2.1.1. Hardware

- Type of tags, Frequencies
- Main challenges

2.1.2. Software and IT aspects

- Middleware, back-end systems
- Scalability issues

2.2. Main applications

- ID/barcode substitute
- NFC
- Association with other technologies

2.3. Standards

- EPCGlobal, uCODE, ISO
- Radio regulation

2.4. Evolution of performances

- Breakthrough in manufacturing, energy consumption, polymer, ..

3. Internet of Things

3.1. Definition

- Concept
- Core functions
- Usages

3.2. Standards

- Interest of standardization
- EPC Global Network, ISO, IPSOA
- Case study : EPC Global Network

3.3. Challenges for IOT

- 3.3.1. Technical challenges
 - Scalability, interoperability, IT integration
- 3.3.2. Business challenges
 - Closed loops vs open loops
 - Infrastructure roll-out
 - Tag cost
 - Value chain

3.4. Development trends

- 3.4.1. History of EDI
 - Principles of EDI, implementation
- 3.4.2. Lessons for RFID and IOT
 - Comparison of EDI and IOT
 - Timeline of development
 - Consumer applications
 - Case studies: Touch-a-tag, Mir:ror
 - Market ecosystem

4. Market Structure and Trends

4.1. Market Size & Forecast

- Market value by component and forecast

- Market volume of tags by main application

4.2. Value Chain

- Role of players
- Vertical vs RFID specificity

4.3. Main market players

- For each category, strategy of players, opportunities with IOT

4.3.1. RFID Hardware

- Short profiles : Avery-Dennison, Alien Technology, Impinj, Tagsys, Texas Instrument, UPM Raflatac

4.3.2. IT Players

- IT integrators : Atos, Cap Gemini, HP, IBM Global Services, Logica CMG, Siemens
- Software vendors : CheckPoint, Manhattan Associates, Microsoft, OAT Systems, Oracle, SAP, Xpertise

4.3.3. Telcos

- Short profiles : AT&T, BT, Orange, Telenor, Telekom Austria, T-Systems

- Case study : BT

4.4. Perspectives

- 4.4.1. Political context
 - Spectrum, Privacy, Governance
- 4.4.2. Drivers
 - Technical value added, business opportunities
- 4.4.3. Challenges
 - Structural challenges
 - Downturn impacts

5. Vertical Markets of RFID & IOT

- Ranking of vertical markets
- For each vertical market
 - Market structure
 - Supply chain challenges
 - RFID & IOT applications
 - Main deployments
 - Quantitative perspectives

5.1. Aeronautics

5.2. Automotive

5.3. Cultural goods

5.4. Textile

5.5. Food and Beverage

5.6. Pharmaceuticals

Interviews

Study of vertical markets based on interviews with following players: Airbus, Atos, Benedicta, BGN, Checkpoint, DHL, Fiat, GALIA, Geodis, GCS, GS1, Honda, Impinj, Inria, Ipico, La Poste, Orange Business Services, Schneider, Tagsys,...

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