

# RFID Privacy & Security

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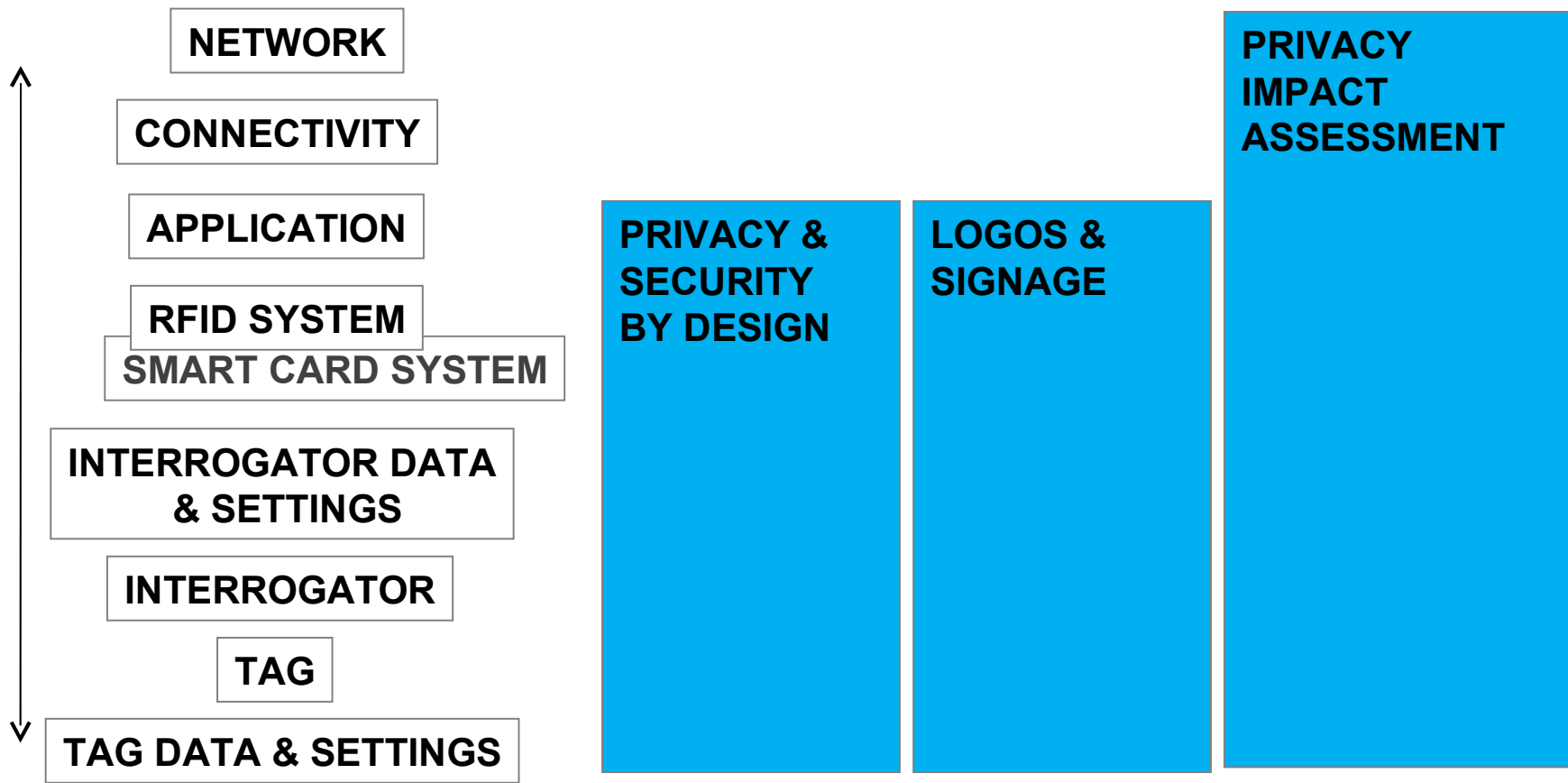
# Why RFID Privacy & Security?

- Privacy & Security are key factors in widening market adoption
  - Consumer trust Minimize threats to individuals without compromising end users requirements
  - End user confidence Investment risk reduction through diminishing chance of future punitive legislation
  - Positively influence future legislation Clearly separating the 'good' from the 'bad' and just plain 'ugly'
- Increasing public general awareness through:
  - Retail
  - Healthcare
  - Government documents
  - Financial instruments
  - Etc...



# RFID – The Privacy Challenges

## DATA PROTECTION LEGISLATION



# RFID – The Mandate

- Assigned to ESOs
- Supporting the Recommendation
- Phase 1
  - Development of Recommended Steps for Phase 2
  - PIA Framework with RFID system enhancements
  - Signage & logos for application areas & system components
- Phase 2 – Creation of Missing Standards



# RFID - Building Public Confidence

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- Real and Effective Choice
  - Can I choose to use the RFID technology I own?
  - Can I control the access of others to the technology I own?
- Visibility
  - How can I know when RFID is invading my private space?
- Convenience
  - Are the privacy & security features a positive experience for consumers?
- Protection
  - Can I determine when I am threatened and take action when I am?
  - Can I trust that I am protected?
  - Where am I protected? [Interoperability of privacy & security features]
- Security through RFID
  - Is my RFID an effective deterrent or offer me protection from crime risks?
- Safe
  - Readers must not threaten health, particularly at risk are employees

# Likely threat Models & Definitions

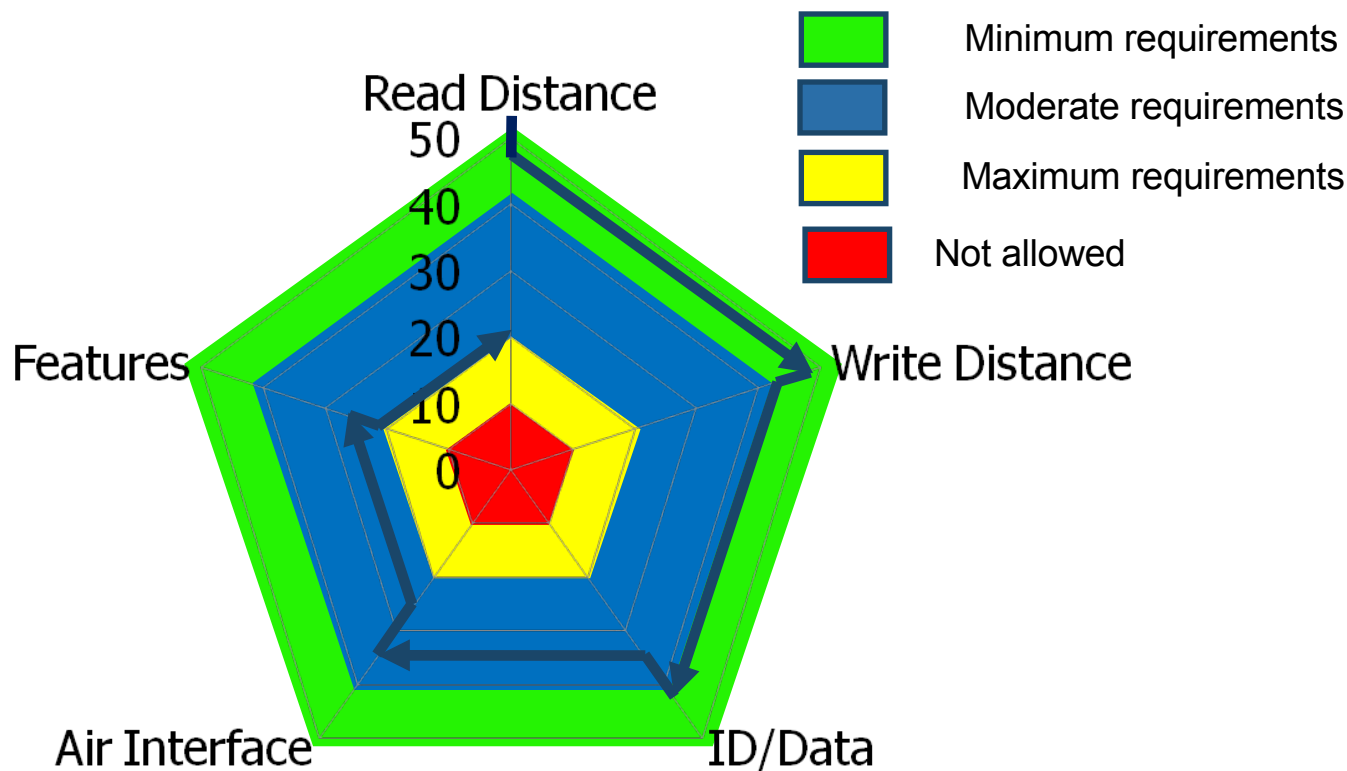
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- Message manipulation
  - Modify data or reported events to misrepresent or mislead or...
- Message masquerade
  - Pretending to be you or a legitimate process event or...
- Traffic analysis
  - Patterns in data you or an organization generates which identifies you, an item, etc..
- And so on ...
- Security is the feeling you get when there is no current known or perceived risk to your well being
  - Perceptions important as well as future risks and current threats
- Attributes we want to verify and preserve:
  - Authenticity
  - Authority
  - **Confidentiality**
  - **Integrity**

# RFID System Security & Privacy

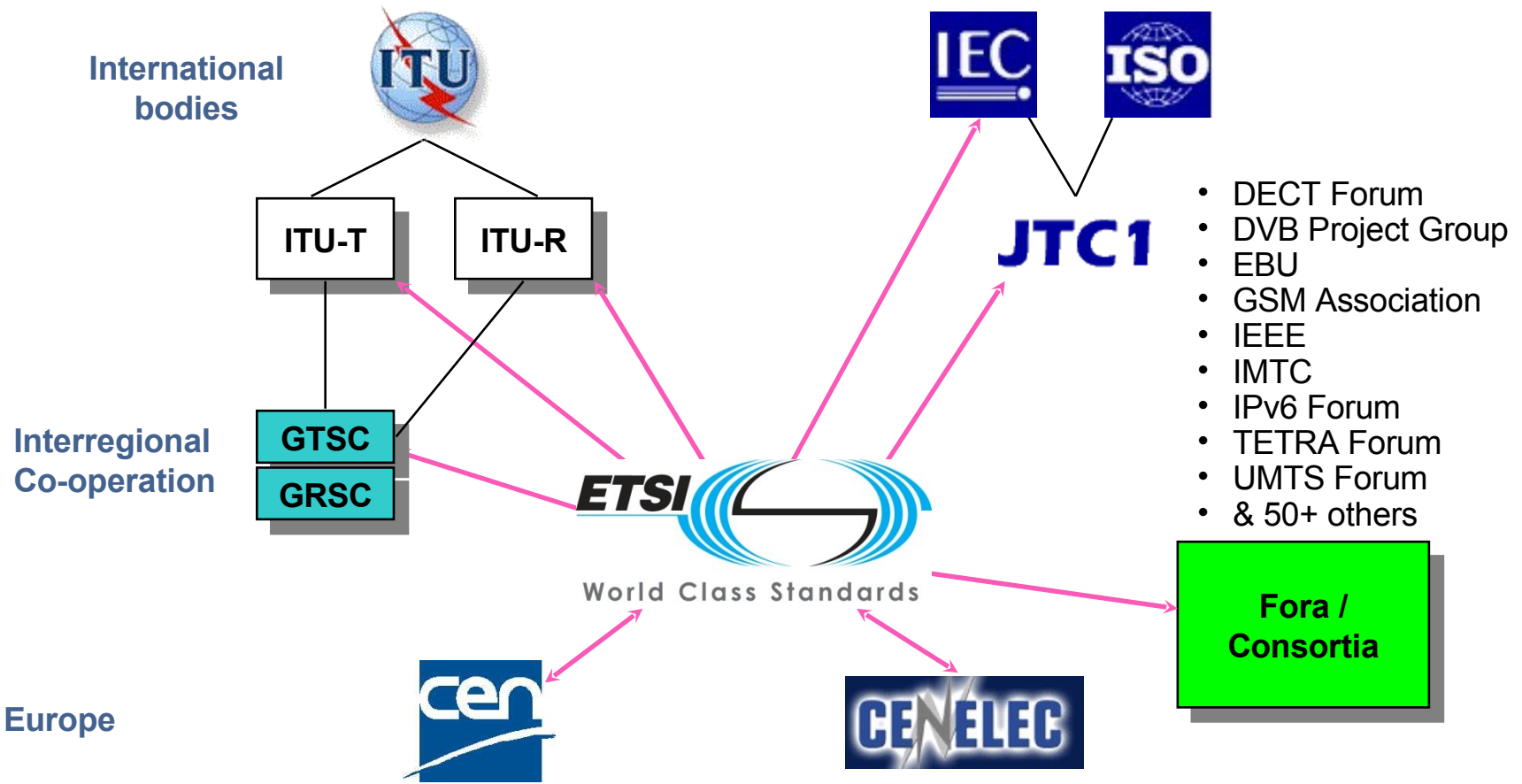
## PRIVACY IMPACT ASSESSMENT (PIA)

### – RFID System Assessment Process (*PRELIMINARY PROPOSAL*)

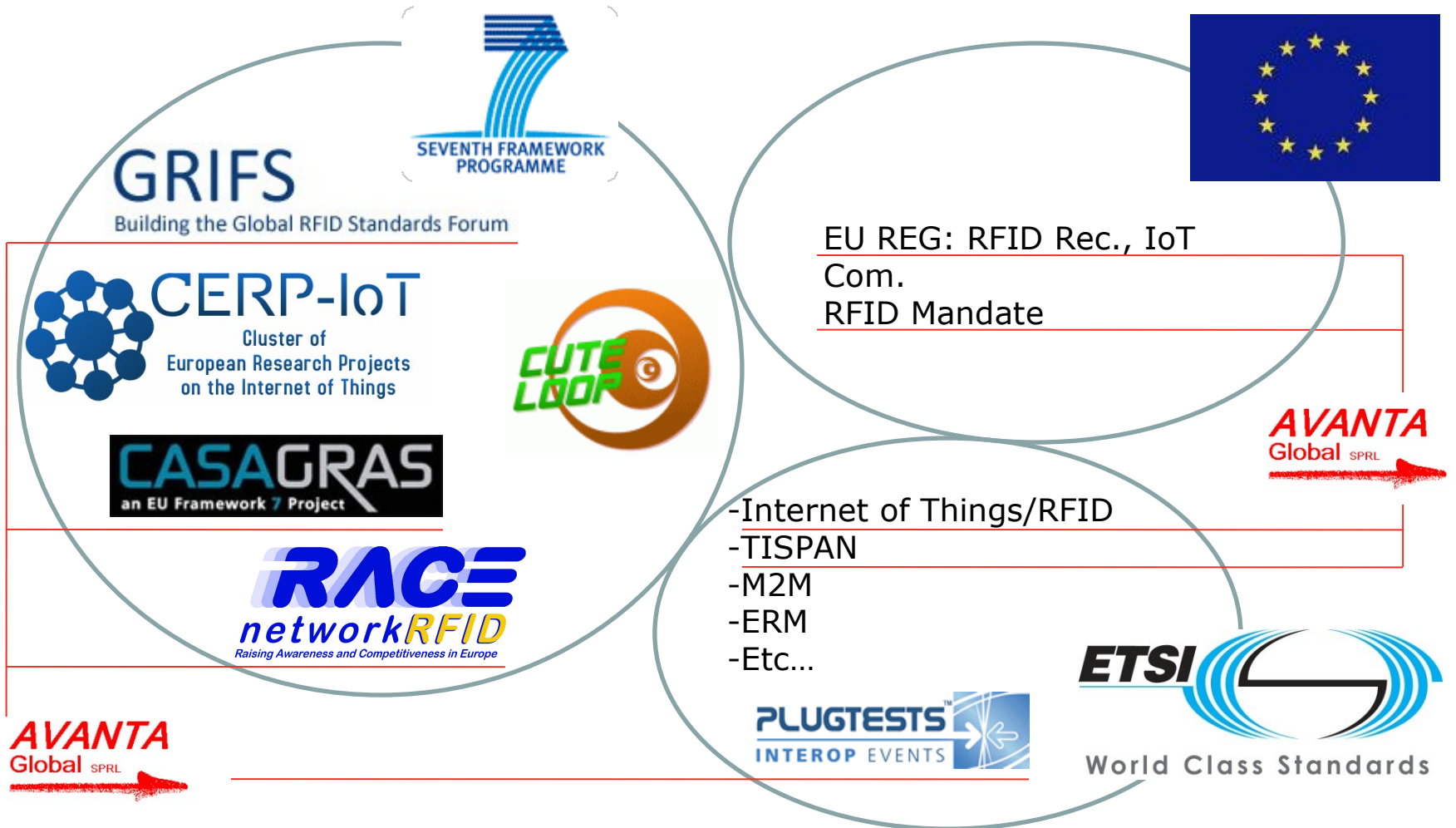




# ETSI's relations with ITU, IEC & ISO



# ETSI with RFID/IoT



# AVANTA Global SPRL

# AVANTA Global - Expertise

## Management

### RFID

EPCglobal  
Strategies

**Process/Industrial Engineering**  
**Process Re-Engineering**  
**Management System**  
**Process Controls**

**Project Management**  
[PRINCE II Qualified]  
**Business Case**

Procurement

Number Systems  
Number System Management

Supply Chain Management

## Technical

### RFID

Technology Selection  
Standards  
Systems Architecture

### Bar code

Wedges & controllers  
Printers  
Labels  
Hand Held Scanners  
Unattended Scanners  
Verification

Weigh scales  
Volumetric Measuring

# AVANTA Global SPRL

- Principle consultant Trevor Peirce since May 2006
- Current and Recent Activities:
  - Global leading Medical Device manufacturer:
    - AutoID Supply Chain Strategy Consulting
    - AutoID Programme Coordination
    - RFID Project Management
  - Standards Organization/European Community
    - CASAGRAS
    - GRIFS
    - RACE Network RFID
    - ETSI/CESI China RFID Plugtest
    - RFID Privacy & Security initiatives
      - Mandate & Recommendation response in collaboration with European Standards Organizations
      - ETSI: Next Generation Networks (NGN) RFID/Smart Card Privacy and Security Work Item
  - RFID System Provider
    - Healthcare Business Development (US & Europe)
    - EPCglobal Standards Collaboration
  - Digital Pen Solution Provider
    - Transport & Logistics Market Evaluation

# RFID - Standards Director EPCglobal

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2005 – 2006

- Responsible for an international team of 7 Standards Managers co-ordinating 1,500 subscribers engaged in gathering industry requirements across supply chain sectors
  - Consumer retail
  - Healthcare
  - Transport & logisticsand delivering the technical standards which define the EPC (Electronic Product Code) Network™ based upon Radio Frequency Identification (RFID) to the timing defined within the Strategic Work Plan
  - Hardware Action Group
  - Software Action Group
- Co-ordinator of relations with industry associations e.g. IATA, WCO, etc..
- Supporting GS1's 107 country Member Organizations with specific focus upon Australia, India, Hong Kong, Japan and, Singapore.

# RFID - Programme Director, DHL

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2003 - 2005

- Defining the future vision, direction and strategies that form DHL's RFID Program influencing RFID Projects across
  - Express (air/ground)
  - Freight
  - Solutions
  - Air & Ocean
- Co-ordinator of 1.4 MUSD DHL RFID Pilot Projects in Americas and Asia Pacific
- Technical advisor to Metro Solution Team as part of their "Future Store Initiative" (FSI)
- Responsible for technology extending beyond RFID to
  - GPS
  - mobile communications
  - IS
- Internal and external communications hub for DHL/Deutsche Post e.g. Time Magazine

# Engineering Manager, DHL

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## 2001 – 2003 Global Coordination Centre

- Manager of a global development team of 4 consisting of Engineers and Project Managers whom together have contributed to 45 million Euro savings in operational and procurement costs
- Responsible R&D projects
- RFID Project Manager securing 1.3 million Euro external funds
- Responsible for Global Air waybill numbers, procedures and systems, and critical operations supplies specifications totalling 56 million Euro
- Functional leader of 9 European country Engineers and business wide cross functional teams

## 1997 – 2001 Europe, Africa and Middle East Regional Office

- Project initiator and Manager of research, development and deployment of automated systems enabling a revenue improvement of 2%, justifying investment cost of 3 million Euro
- Process Improvement Project Manager for projects at DHL Oslo and Gothenburg
- Responsible for evaluation and testing of unattended bar-code scanner systems and RFID