



ISO/IEC SC31 & GS1/EPCglobal

ETSI, 3 December 2007

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The global language of business

www.gs1.org



GS1 in a nutshell



**The global
language of
business**

GS1 is a not-for-profit organisation that develops global Identification, Automatic Data Capture and Communication standards for the supply chain.





GS1 Products

GS1 has a full portfolio of **products**.



Global standards for automatic identification
Rapid and accurate item, asset or location identification



Global standards for electronic business messaging
Rapid, efficient & accurate business data exchange



The environment for global data synchronisation
Standardised, reliable data for effective business transactions

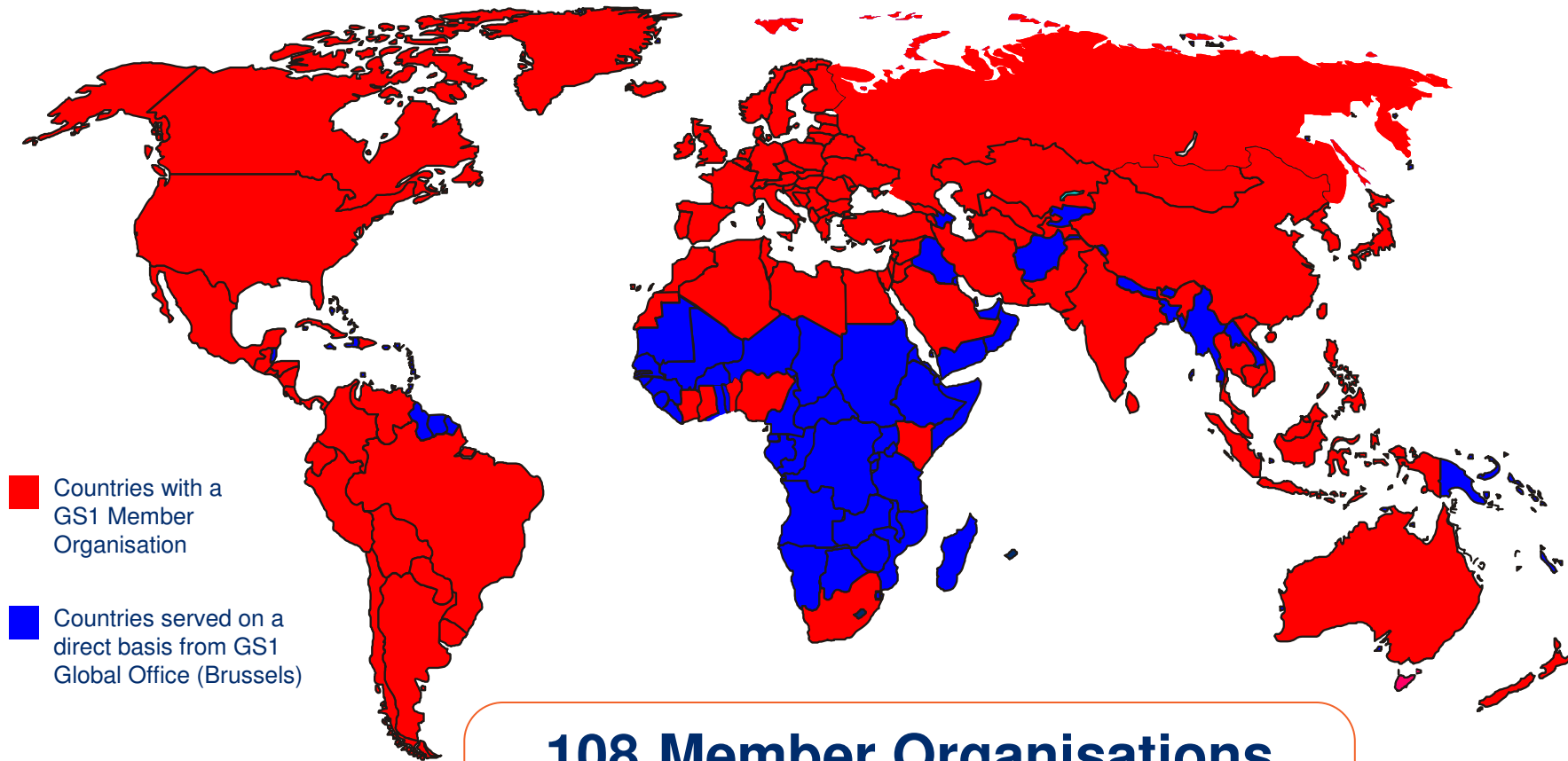


Global standards for RFID-based identification
More accurate, immediate and cost effective visibility of information





GS1 Member Organisations



- Countries with a GS1 Member Organisation
- Countries served on a direct basis from GS1 Global Office (Brussels)

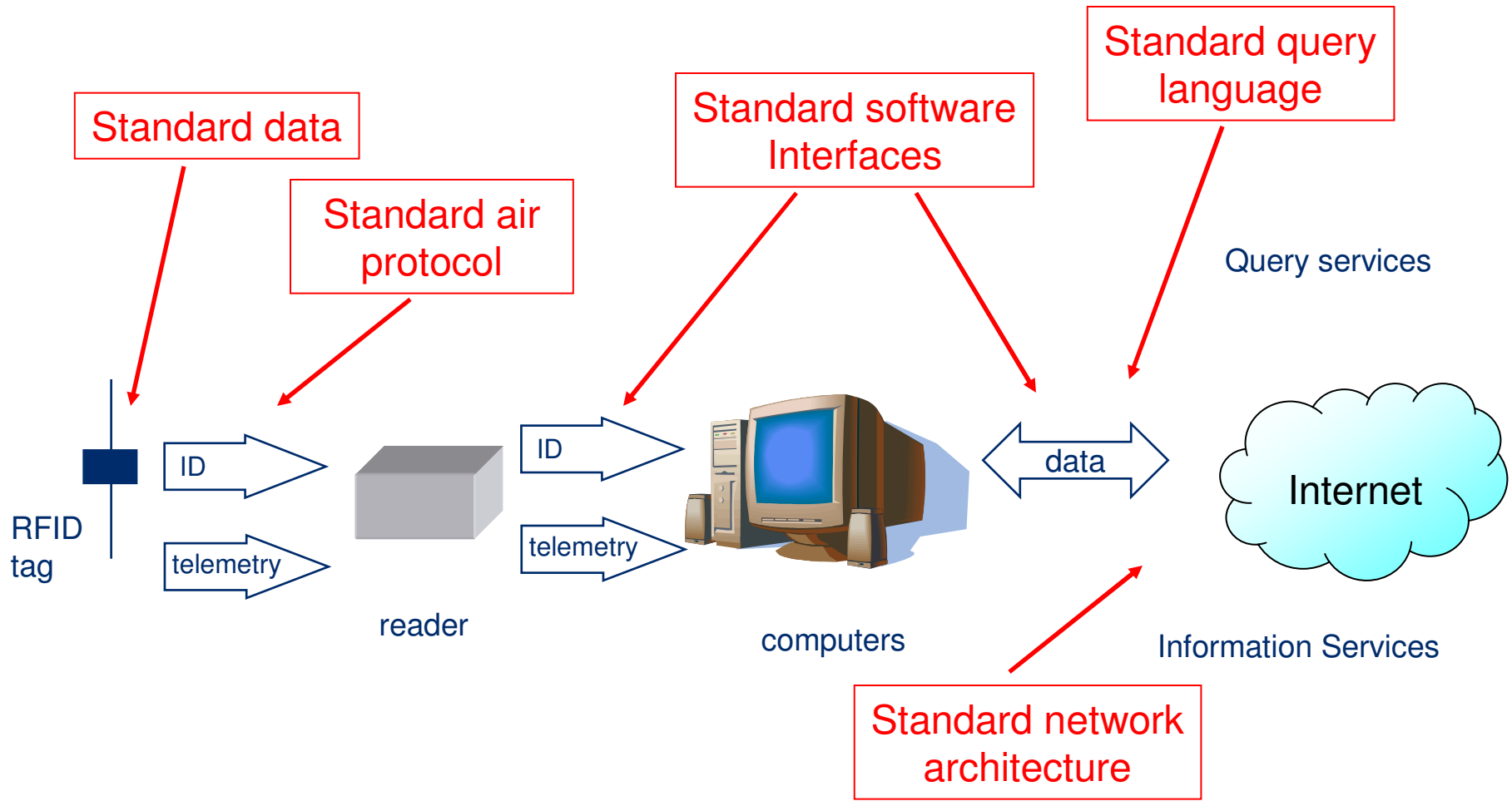
108 Member Organisations
140 Countries served
1,2 million member companies





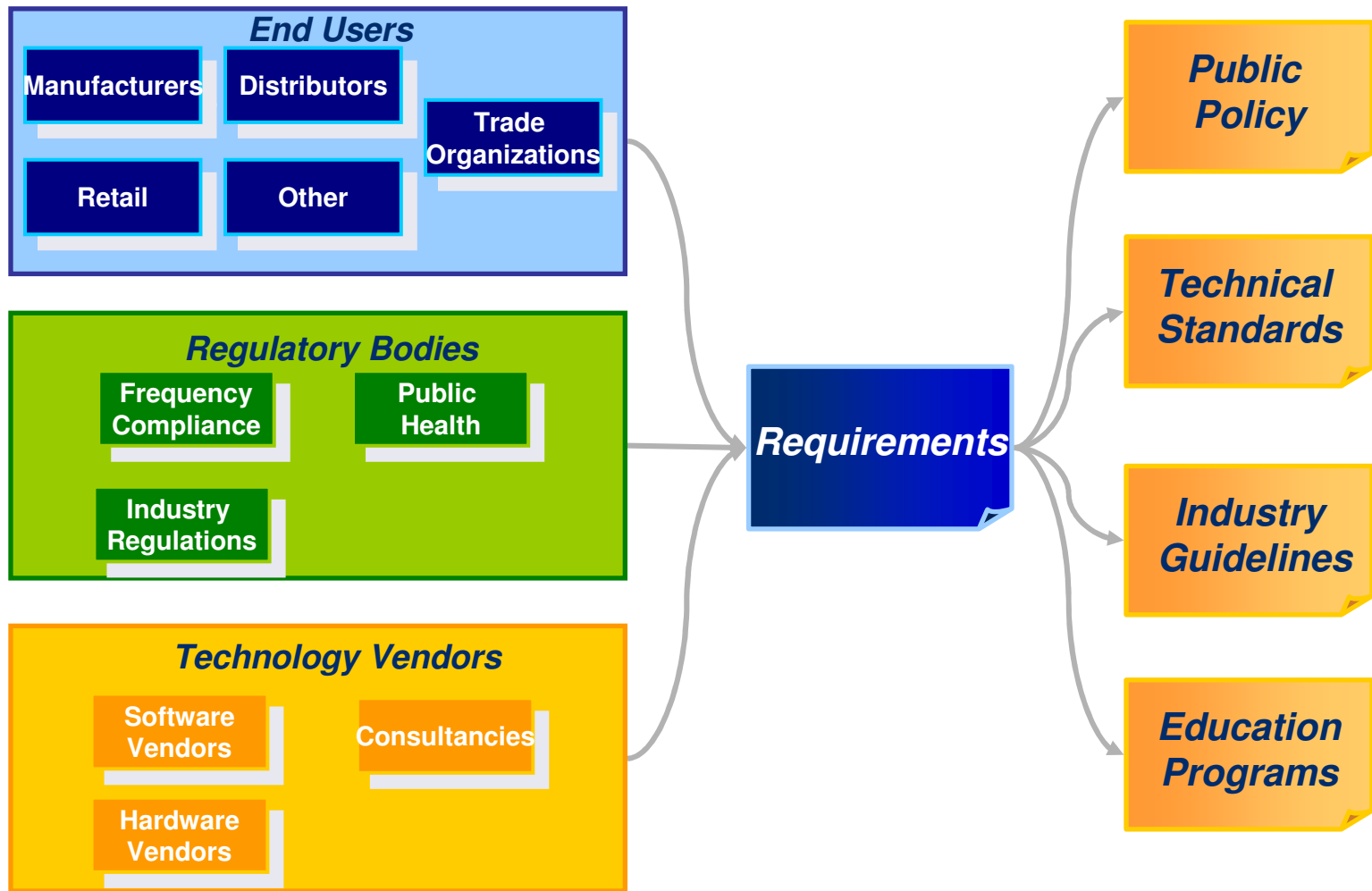


Where are standards required?





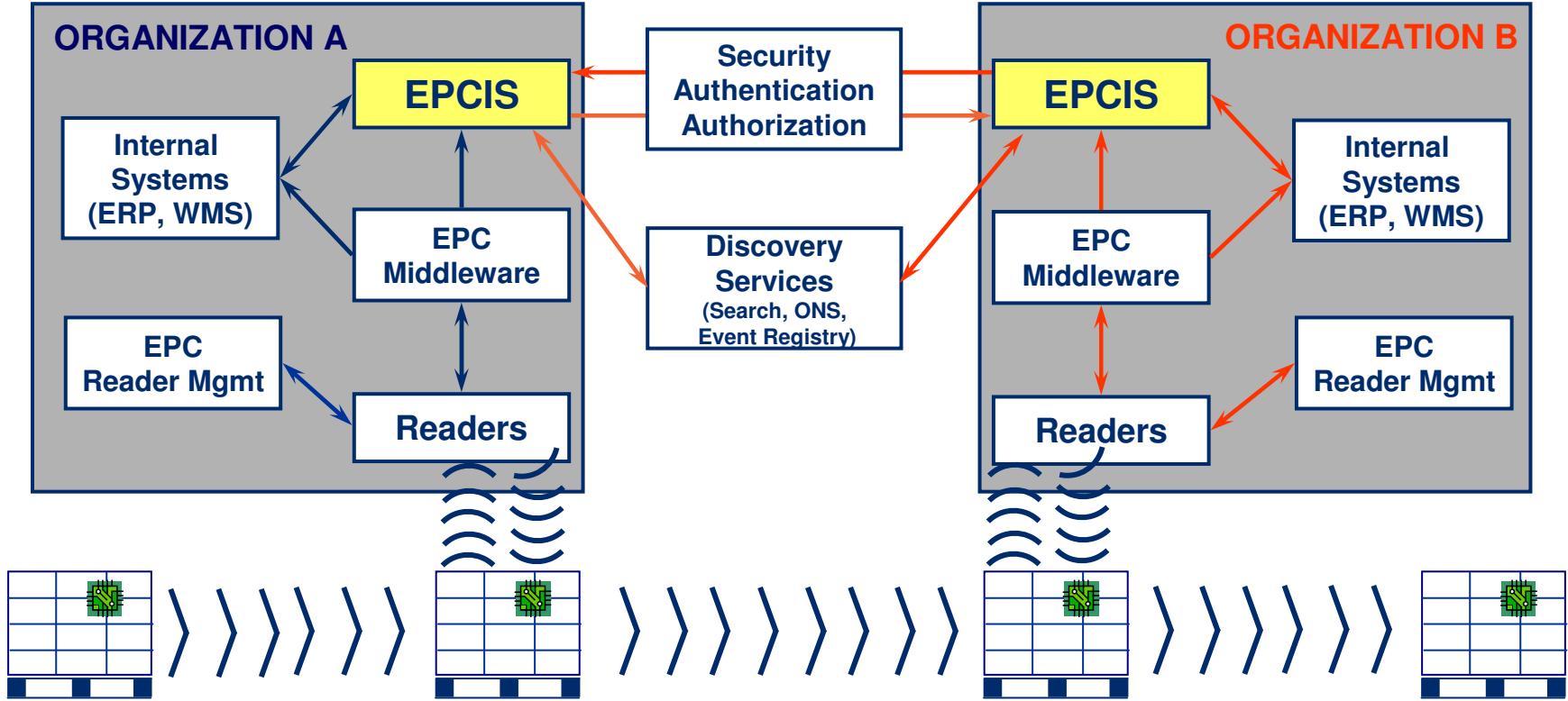
The EPCglobal Community





The EPCglobal Network

Supply Chain Visibility
Event Related Information

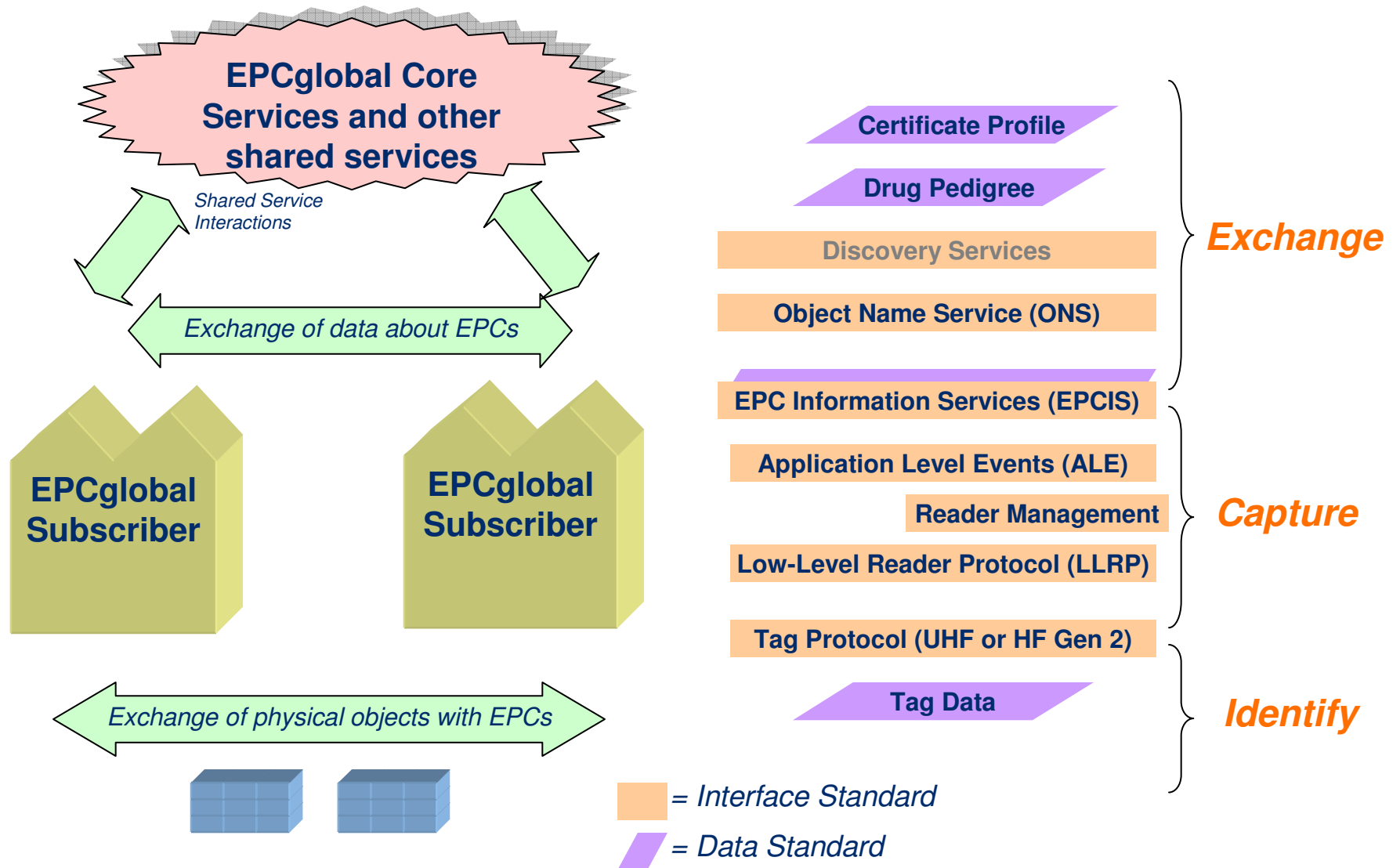


Tagged Units Moving Through the Supply Chain





EPCglobal Standards Overview





ISO/IEC/JTC 1/SC31



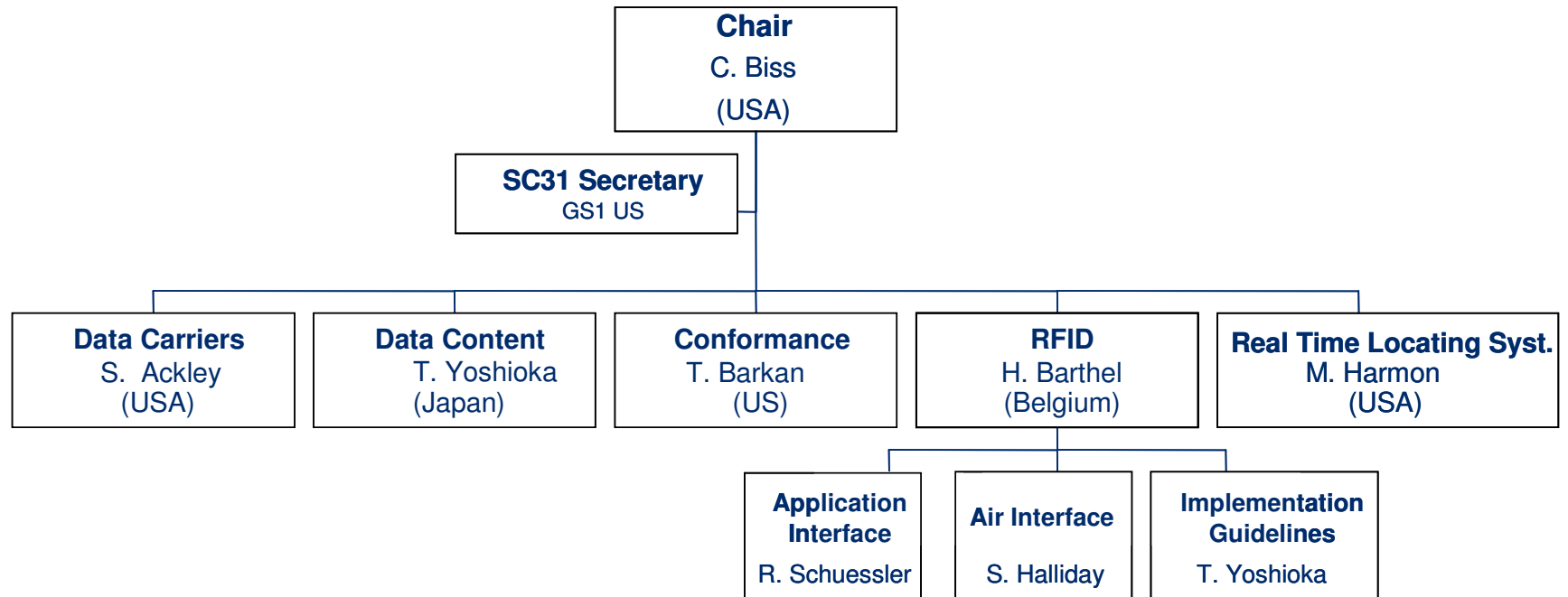
SC31

Standardization of data formats, data syntax, data structures, data encoding, and technologies for the process of automatic identification and data capture and of associated devices utilized in inter-industry applications and international business interchanges.





ISO/IEC/JTC 1/SC31 Structure



28 Participating countries + 7 Observer countries





SC31/WG4 projects - Standards

- 15961 Data protocol: application interface
- 15962 Data Protocol: data encoding rules and logical memory function
- 24791 Software System Infrastructure
- 24753 Air Interface Commands for Battery Assist and Sensor Functionality
- 15963 Unique ID of RF tags and Registration to Manage the Uniqueness
- 18000 Air Interface protocols

Blue: ISO/IEC standard published

Green: ISO/IEC standard in development





SC31/WG4 projects – Technical Reports

24710 Elementary Tag License Plate Functionality for ISO Air Interface Definitions

18001 Application Requirements Profiles

24729 Implementation guidelines, 3 parts:

- RFID-enabled labels
- Recycling and RFID tags
- Implementation and operation of UHF RFID Interrogator systems in logistics applications

Blue: ISO/IEC technical report published

Green: ISO/IEC technical report in development



ISO/IEC 18000 - Air Interface Standards

ISO/IEC 18000 Parameters for air interface communications		
Spectrum	Frequency	Standard
Low frequency	<135 KHz	ISO/IEC 18000-2
High frequency	13.56 MHz	ISO/IEC 18000-3
UHF	433 MHz	ISO/IEC 18000-7
UHF	860 -960 MHz	ISO/IEC 18000-6
Microwave	2.45 GHz	ISO/IEC 18000-4

Part 1 – Reference architecture & definition of parameters





ISO RFID Standards Conformance & Performance

Conformance: “Fulfilment of a product, process or service of specified requirements”

- ISO/IEC 18047 - RFID device conformance test methods – *Technical Report* [This is a multi-part standard to align with ISO/IEC 18000]

Performance: “Manner, quality or measure of a function”

- ISO/IEC 18046 - RF Tag and interrogator performance test methods – *Technical Report*





RFID Data Protocol Revisions to ISO/IEC 15961 & 15962

- 15961-1: 15961 (pub October 2004) needs to be simplified with respect to the data constructs topics
- 15961-2: Rules for new Registration Authority for AFIs and other data constructs
- 15961-3: Specification of data constructs
- 15961-4: Commands for sensors
- 15962: New encoding and data mapping processes





New Work: Sensors Technical & Application Issues

There are a variety of sensor & battery developments making links with RFID feasible & economically viable

In supply chains additional sensory information (e.g. temperature, moisture content) can be captured via the RFID tag

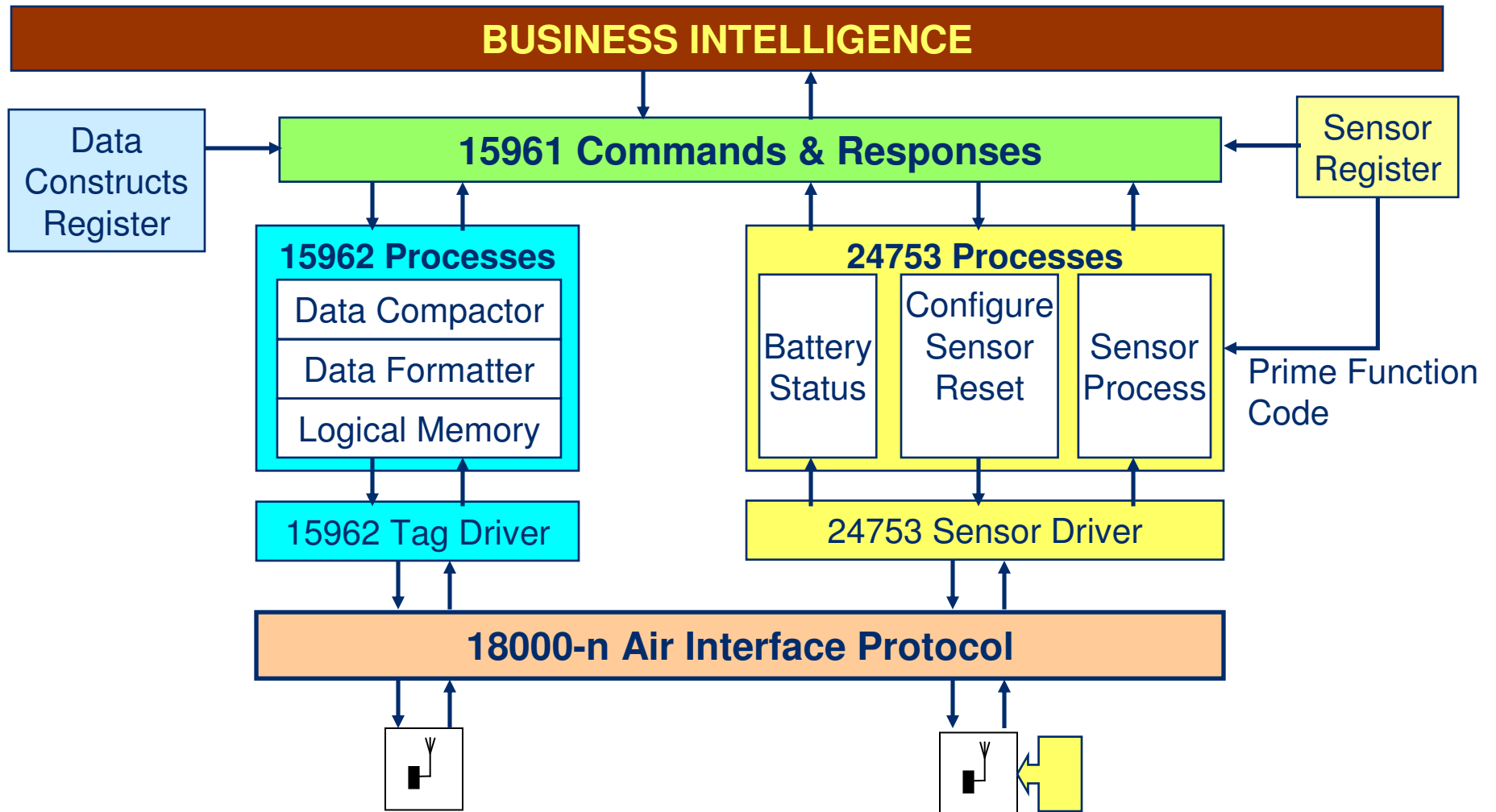
Technical challenges:

- low cost sensors are the likely focus
- wireless, but unknown, so different from wireless networks
- self declaring sensors - the sensor & tag might not be known



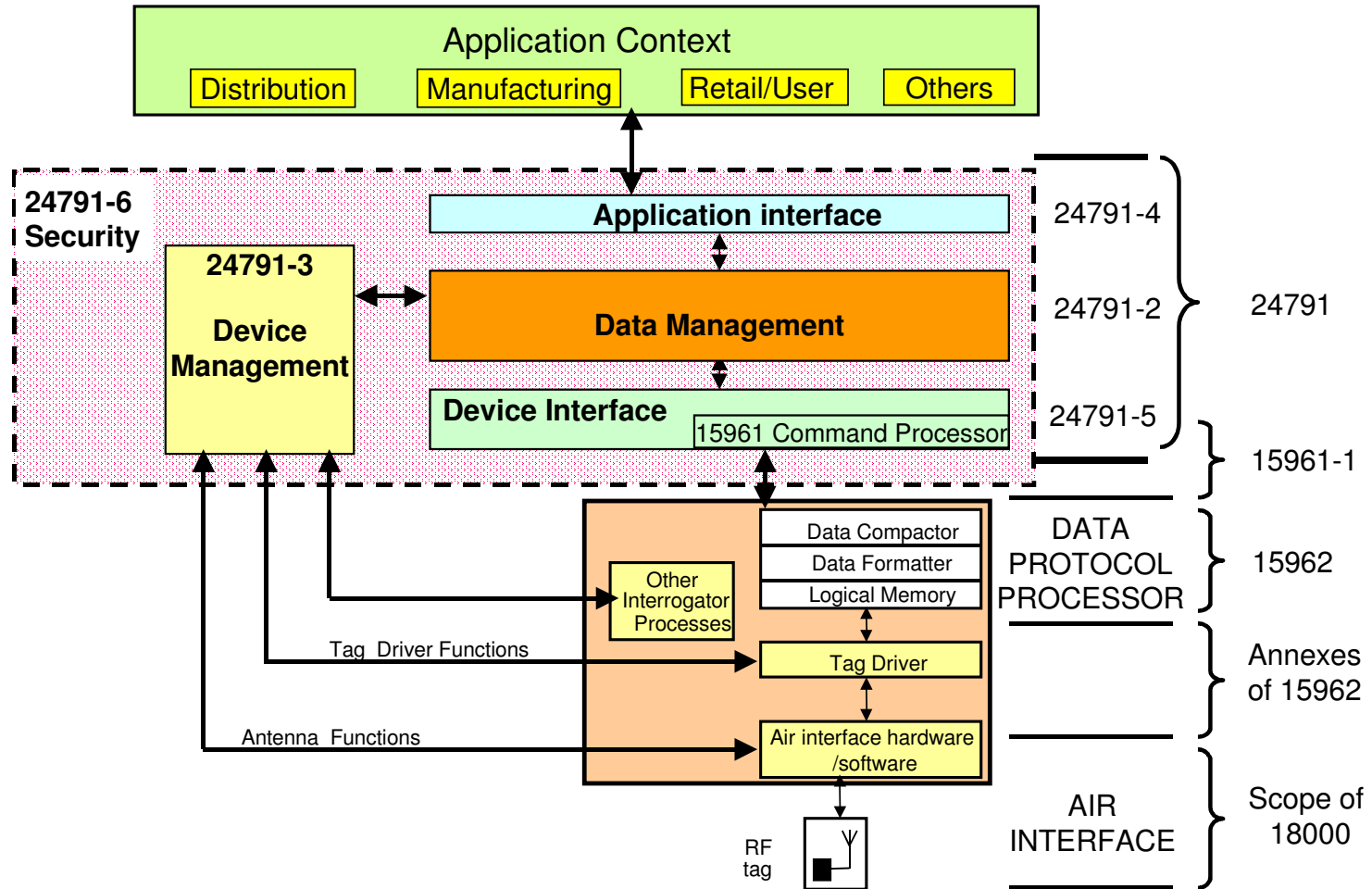


Combining Data Protocol & Sensors





New Work: ISO/IEC 24791 (Parts 1 to 5) Software System Infrastructure





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