

RFID in the postal sector

GRIFS Open Meeting

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Universal Postal Union

What is the UPU?

- A United Nations Specialized Agency
 - An intergovernmental organization
 - Established in 1874
 - 191 member countries
 - Based in Berne, Switzerland
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What does the UPU do?

- Develop common operational procedures
 - Harmonize international postal services
 - Facilitate account settlement between members
 - Provide technical assistance to developing countries
 - Facilitates the global postal supply chain
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The three pillars of the UPU

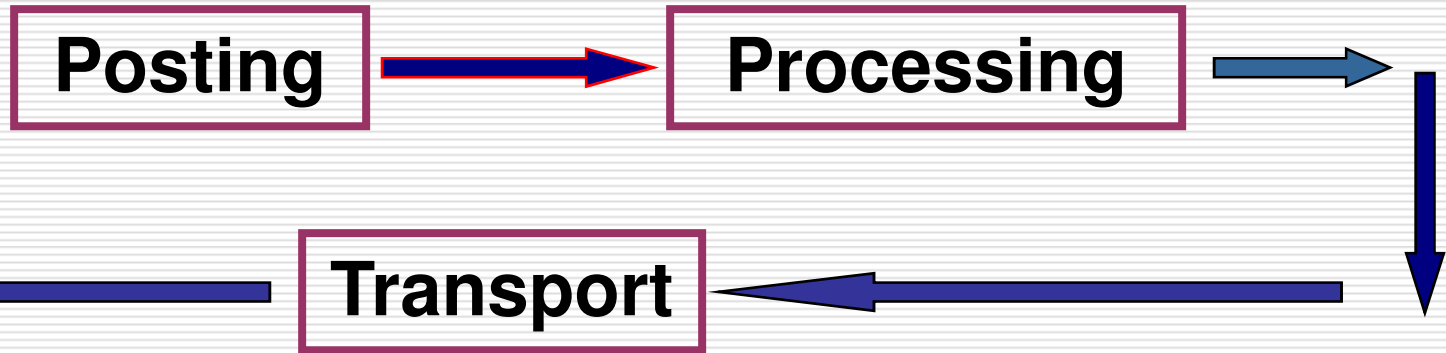
- The **physical** network (traditional postal services)
 - The **electronic** network (e-business; EDI exchanges between posts, between posts and airlines, and between posts and customs)
 - The **financial services** network
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Changed economic and regulatory environment

- Competition
 - Liberalization
 - Deregulation
 - Posts no longer a monopoly
 - Incidence of WTO obligations
 - Posts adopting a commercial mindset
 - How can we create value for the customer?
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A simplified view of the postal supply chain

Origin post



Destination post



Quality of service measurement with RFID – based on sampling

Posting

Processing

Transport

Customs

Processing

Delivery



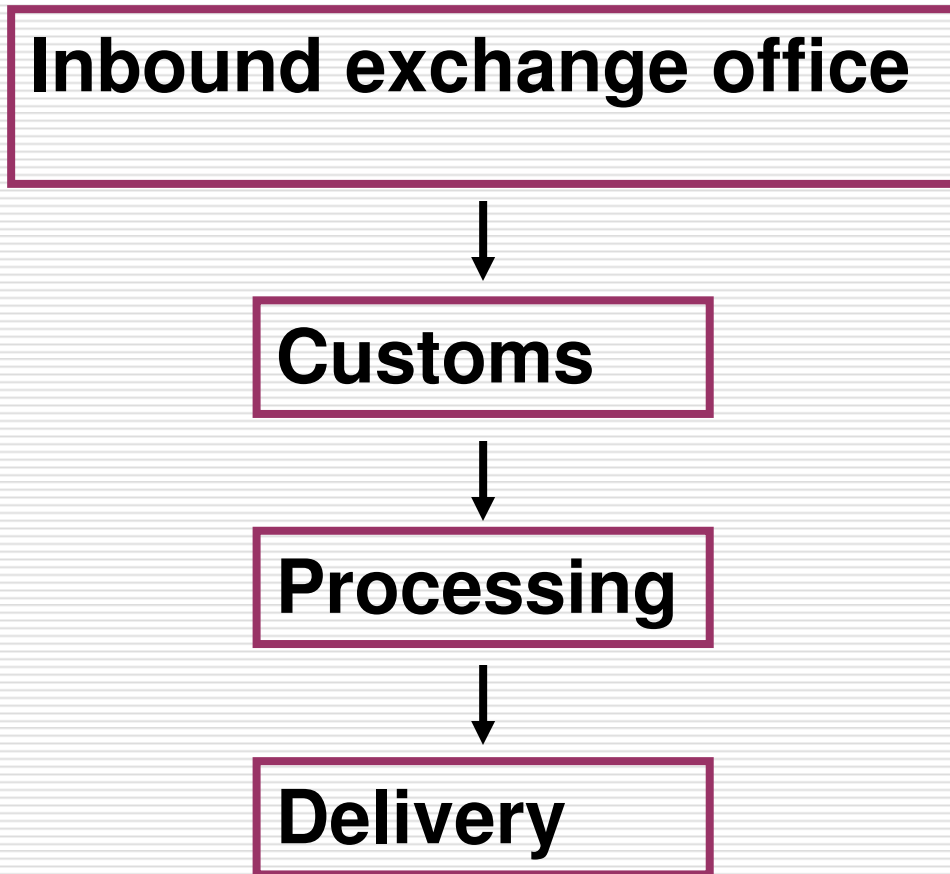
Dates and times recorded as item moves across the supply chain.

Why is Quality of Service (QoS) measurement important?

- **Measures the efficiency of the world postal network**
- **Basis for payments between postal services of industrialized countries**
- **About 50 posts currently use RFID for QoS measurement**

RFID also used for asset tracking

GMS – the Global Monitoring System



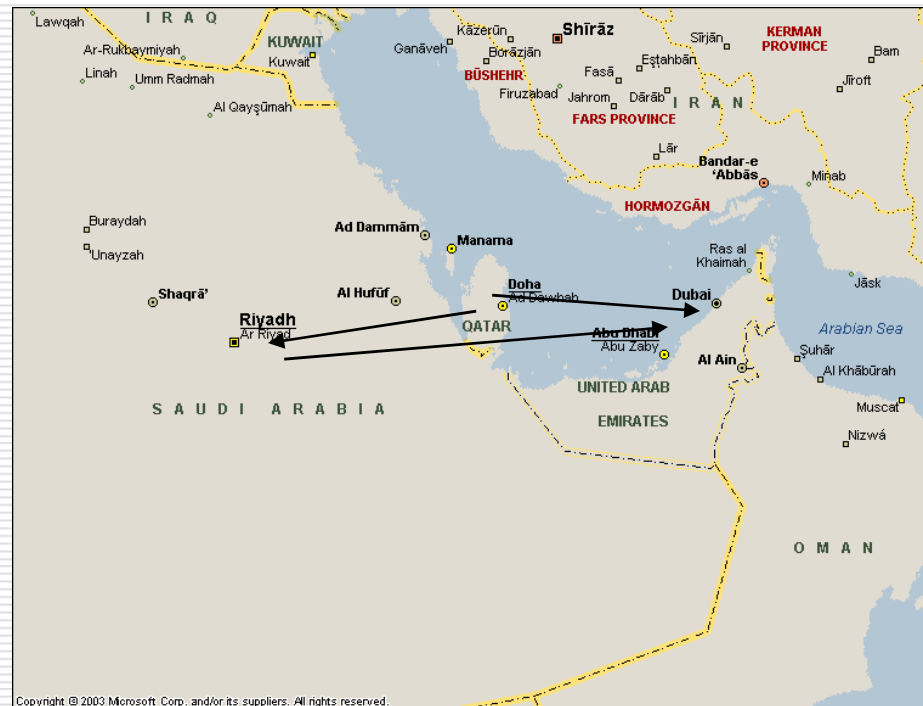
- Only inbound stretch measured
 - Quality of Service determines level of payment to inbound post
 - RFID tags used
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GMS Project Timeline

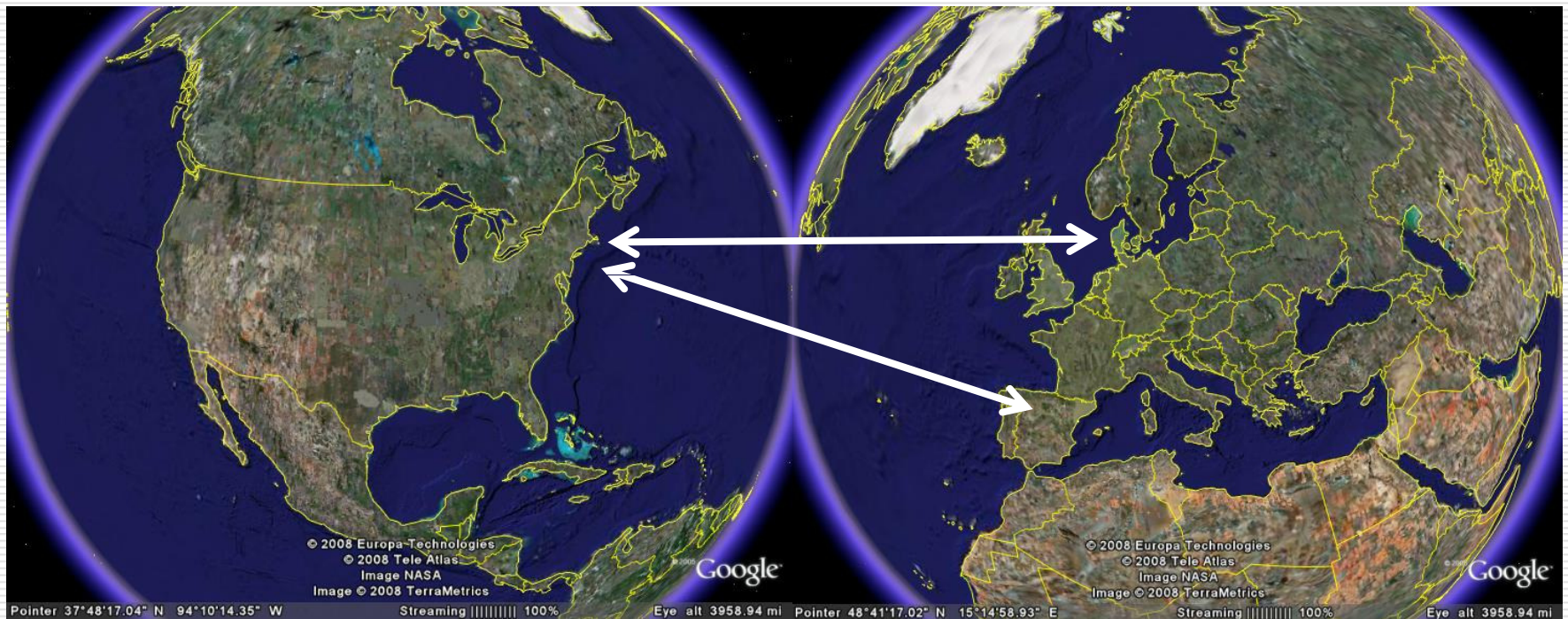
- July 2008 – Evaluate technologies (passive vs. semi-active)
 - Oct 2008 – fine-tune statistical design
 - Oct 2008 – proposal fully developed
 - Nov/Dec 2008 – Issue tender
 - 2009 – launch pilot
 - January 2010 – phased implementation
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Other UPU RFID initiatives

- Arab Triangle – Qatar, Saudi Arabia, UAE



Other UPU RFID initiatives



Postal Lighthouse Project - USA, ES, DK

Other UPU RFID initiatives

- Chinese Bridge – China, Spain, and others



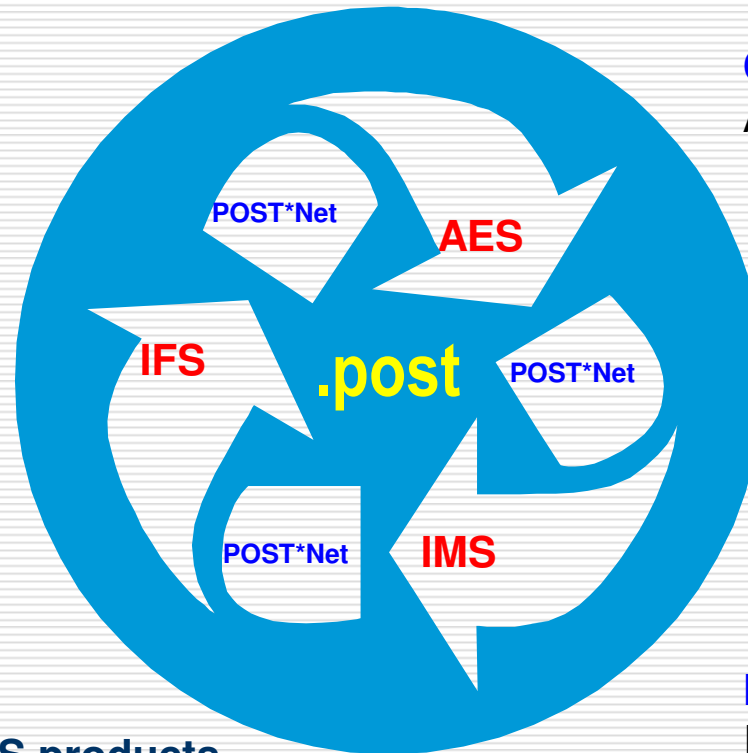
The UPU Standards Board

- Single coordination and approval authority within the UPU for all international postal standards
- 7 Permanent Working Groups
- Meets four times a year

Working to revise existing UPU RFID standards

UPU Telematics Cooperative

Financial Services
IFS User Group



Communications
AES User Group

Distribution
IMS User Group

IMS = International Mail, IPS products
IFS = International Financial Services
AES = Advanced Electronic Services

AESUG – Advanced Electronic Services User Group

AES
User Group
84 countries

.post

eShopping
Brazil

SePS
It-Ca-Fr

GHM
Finland

RFID
China

.post
S. Lindholm, Se

eShop = eShopping
S43 = SePS, EPCM, PReM
GHM = Global Hybrid Mail
RFID = Radio Frequency Identification
.post = Top Level Domain (TLD) reserved for the postal community

Collaboration between ISO and the UPU

- Collaboration agreement signed in January 2008
- UPU has liaison status with several ISO TCs
- UPU Standards Board responsible for developing standards for the postal sector
- Studying adoption ISO TC working methods for Standards Board

Long-standing Memorandum of Understanding with CEN

UPU work in RFID standards

- **Following draft standards approved by the UPU Standards Board between April 1997 and November 1999:**
 - S20-3: Identification and marking using Radio Frequency Identification Technology: Reference architecture and terminology
 - S21-2: Data presentation in ASN.1
 - S22-3: Identification and marking using Radio Frequency Identification Technology: System requirements and test procedures
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UPU work in RFID standards (2)

- S23a-2: Radio Frequency Identification (RFID) and Radio Data Capture (RDC) Systems – Air interfaces: Communications and interfaces Part A: Definitions of parameters to be standardized
 - S23b-1: Radio Frequency Identification (RFID) and Radio Data Capture (RDC) Systems – Air Interfaces: Communications and Interfaces Part B: Parameter Values for 5.8 GHz RFID Systems
 - S23c-1: Radio Frequency Identification (RFID) and Radio Data Capture (RDC) Systems – Air interfaces: Communications and interfaces Part C: Parameter Values for 2.45 GHz Narrow Band RFID Systems
 - S23g-1: Radio Frequency Identification (RFID) and Radio Data Capture (RDC) Systems – Air interfaces: Communications and interfaces Part G: Parameter Values for 13.56 MHz Band RFID Systems.
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UPU work in RFID standards (3)

- In 1998, the developed specifications were made available to ISO JTC1/SC31/WG4 as input to ISO work on RFID standards
 - It is understood that they formed the basis for some of the work on the ISO 18000 series of standards.
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UPU work in RFID standards (4)

- Proposing to endorse ISO 18000-6 Type C (the ISO specification of the EPCGlobal™ Class 1 Gen 2 tag) as an additional UPU standard (S23e)
 - Proposing the creation of a Radio Frequency standards Group
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The challenges

- The posts operate internationally
 - In a global environment, a lack of interoperability between different RFID systems will deter investment
 - Global standards are essential to assure implementation
 - IT systems must be integrated with RFID
 - Business processes must be integrated with RFID
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What does the future hold? (1)

- Today, RFID used mainly for sampled Quality of Service measurements
 - As costs drop, and as tags become smaller, RFID could be used for item-level tracking
 - Greatest interest currently in UHF band. Most innovation today in this area. Will this be the band of choice for supply-chain applications?
 - UHF frequencies and ERPs must be harmonized
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What does the future hold? (2)

- Posts represent a market with vast potential. But global diffusion will take place only with lower costs and with standards
 - Need for integration with other partners such as customs authorities and airlines
 - Privacy, IP and security issues will need solution
 - As the data capacity of tags increases, and as tags become a “traveling database,” postal items will become “smarter”
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What does the future hold? (3)

- The development of Near Field Communications (NFC)-enabled mobile phones will allow these phones to read and write to RFID tags. This takes RFID down to the consumer, vastly expanding the RFID user base. Such a development would present many opportunities to the posts
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Comments on GRIFS Work Package

- Create Web-based RFID standards database
 - Provide details of standards in database
 - Maintain database as an editor-controlled community resource
 - MoU between organizations developing RFID standards
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Thank you for your attention.

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