

PHILIPS

RFID - its Applications and Benefits

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Topics

- Background
- RFID – fact and benefits
- Today's applications

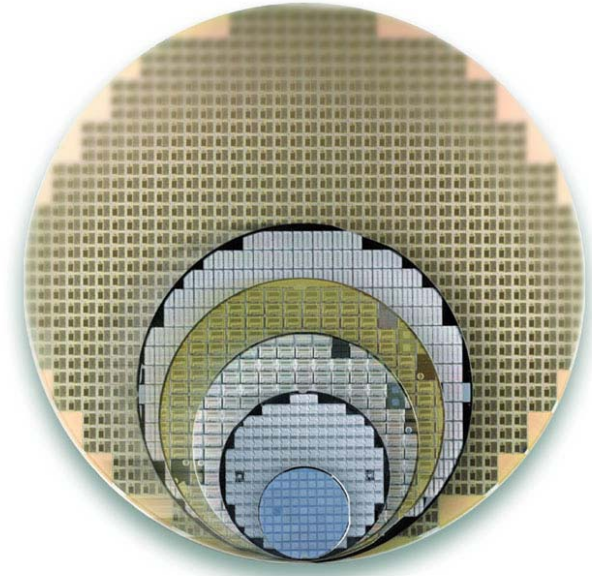
Royal Philips Electronics

- Lifestyle, Healthcare & Technology company
- Europe's largest electronics corporation, 10th worldwide
 - consumer electronics, semiconductors, domestic/personal appliances, lighting, medical systems
- 170,000 employees in 60 countries
- No. 1 in sustainability
- 95,000 patent rights



Philips Semiconductors

- Top-10 supplier with revenues of 4.6 billion euro in 2002
- Focus on silicon systems and multimarket semiconductors for communications, consumer, automotive and computing
- Leading player:
 - No.1 in contactless identification
 - No.2 in display systems for mobile phones
 - No.2 in smart card ICs
 - No.3 in GSM baseband devices



Vision

Our vision is a world where everyone can always connect to information, entertainment and services

Philips' Identification technologies provide the security and the convenience to enable this vision



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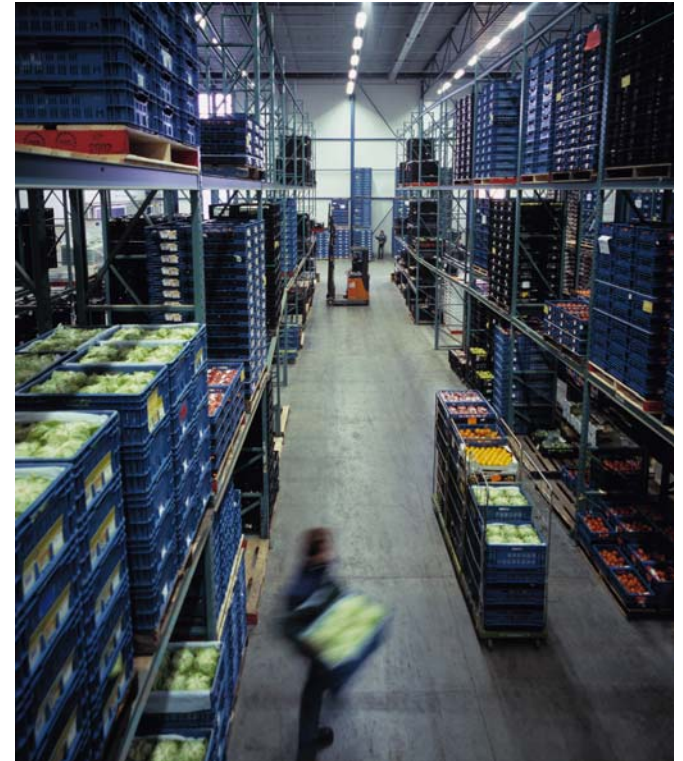
What is RF Identification?

- A contactless technology enabling a new and exciting world of experiences for connected consumers and streamlined business operations
- Enables automatic collection of product, place, time or transaction data quickly and reliably
- Characteristics:
 - reliable and proven technology
 - immune to dirt and harsh environments
 - allows reading of multiple tags
 - no line of sight required

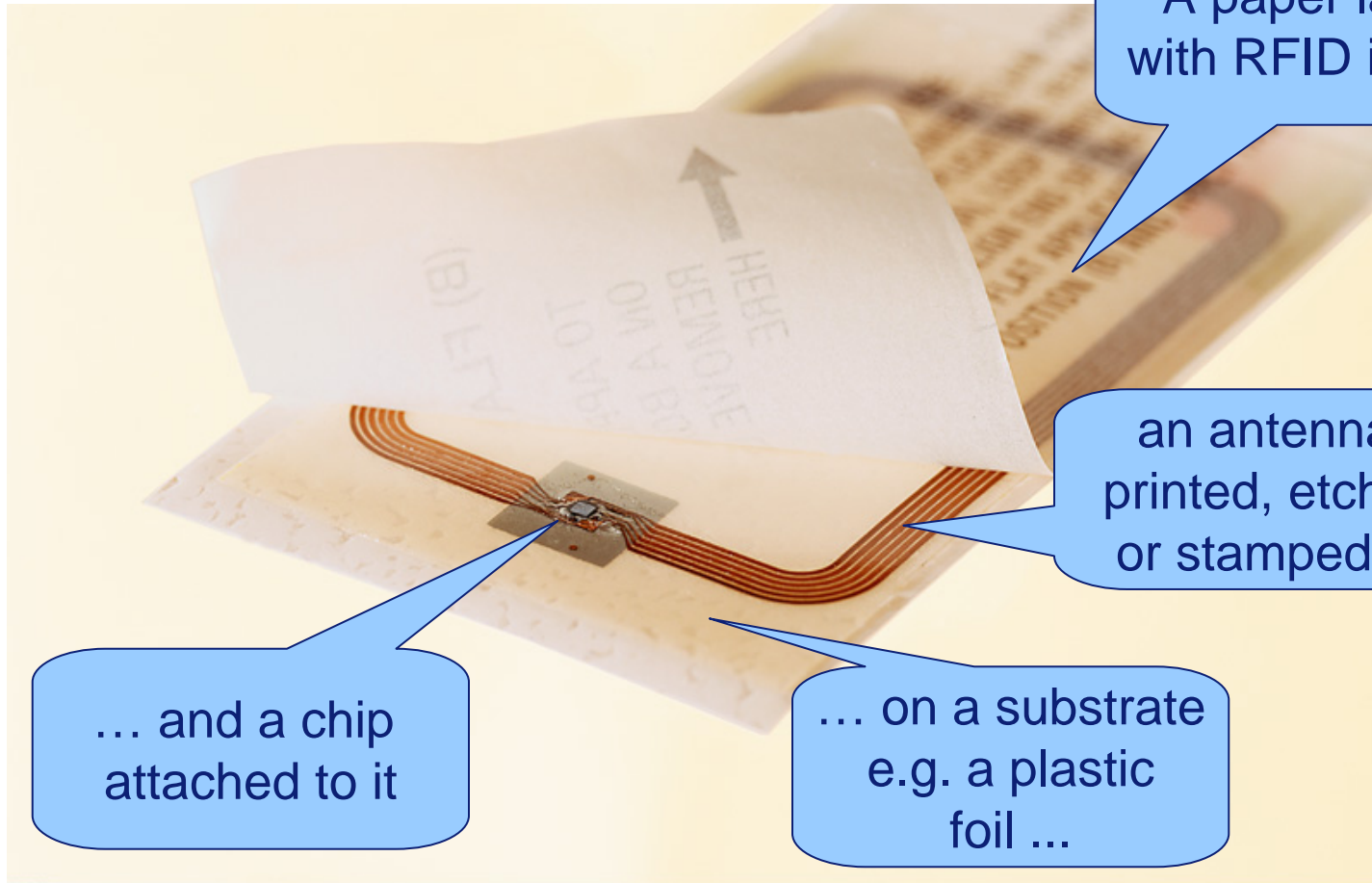


Key market drivers

- Smart labels – improving supply chain management (SCM), rental and manufacturing logistics
- Contactless smart cards – speeding up transport ticketing, toll collection, access control and payment services
- Smart tags – improving security with car immobilization, remote keyless entry, animal ID and asset management



What is a smart label ?



A paper label with RFID inside

an antenna, printed, etched or stamped ...

... on a substrate e.g. a plastic foil ...

... and a chip attached to it

Supply chain and logistics benefits

- Reduced costs
 - allows dramatically higher degree of automation
 - deals with multiple items at same time
 - no re-labelling and manual interventions
- Easy inventory management
 - requires no line of sight
 - improves response times
- Increased accuracy
 - reduces shrinkage through improved security and visibility
 - reduces inventory along supply chain



Better retail experience

- Improved on-shelf availability – shelves of key items alert need for replenishment
- Fresh goods – improved and controlled logistics processes
- Better product information – RFID triggers information media
- Transactional speed – shortened check-out



Retail business case

- Early adopters in retail & consumer packaged goods have achieved cost savings of 5% of sales
- Retailers – 65% reduction in in store labor expenses in receipt of goods, 25% drop in stocking & cycle counting and elimination of physical counting. Reduction in product loss equal to 1% of sales
- Revenue up by 1%, working capital cut by 2% by reduction of raw materials WIP & finished goods. Fixed assets reduced by 1% through better maintenance

Source: AMR Research – www.eyefortransport.com



Philips & RFID

- We are market leader (nearly 1 billion products shipped)
- We intend to drive new RFID technologies and the integral ID market, together with key industry partners across the value chain







Consumer benefits

- Saves lives – e.g. tire safety
- Helps commuters on public transport
- Reduces road congestion
- Makes the right products available at the right place and right time
- Improves shopping experience
- Authenticates brands and prevents fraud
- Can prevent, deter and help solve theft of high-value goods
- All chips meet international standards such as ISO-15693, ISO 18000 and AIDC's EPC



Philips offering to System Integrators and Retailers to ensure Privacy

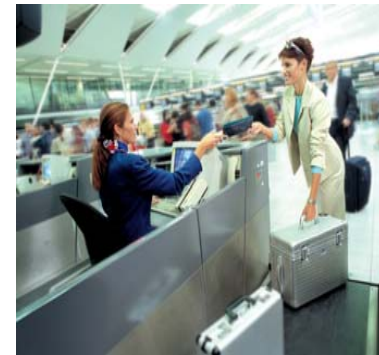
- Smart Cards:
 - Philips uses highly encrypted algorithms to ensure tamper proof systems on chip
 - Philips holds highest level security certifications
 - Philips complies with standards (ISO 14443, ISO 7816)
- Smart labels / tags:
 - Philips' EPC products offer a kill feature
 - Philips utilizes encryption algorithms in smart tag ICs, e.g. car immobilizers, animal ID and asset management
 - Philips provides write protection of memory to ensure data integrity

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Key applications

- Supply chain and logistics
- Production control
- Asset management
- Brand protection
- Automotive – immobilization, gas & toll payments (near field)
- Livestock tracking
- Public transport and room access
- Library management
- Retail



London Transport

- One of the largest roll-outs of contactless smart cards worldwide
- Fare collection across London's entire underground train and bus networks
- A major step towards an integrated transport network for London
- 3 million cards during the first year of operation using Philips MIFARE® technology



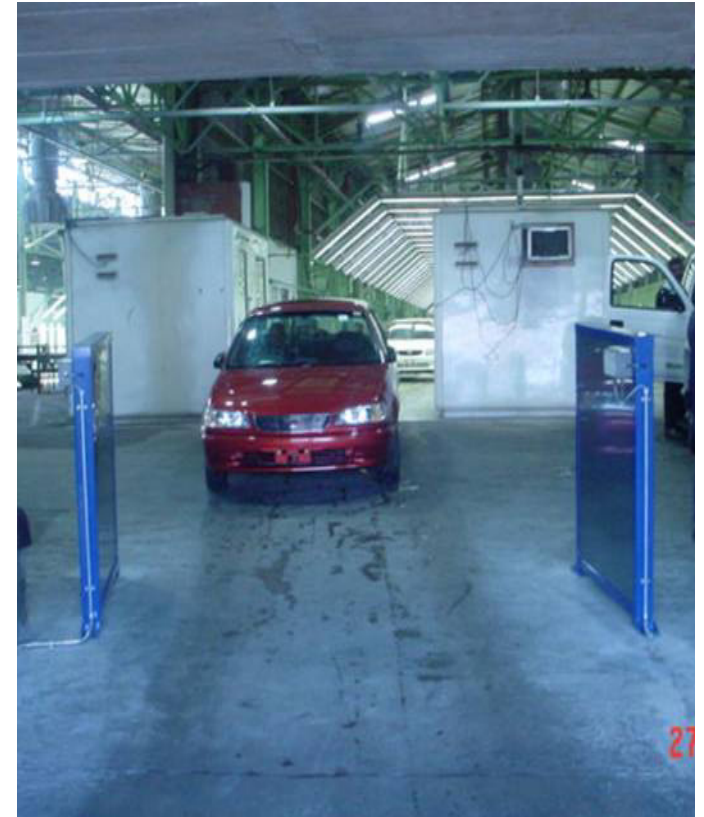


Toyota, South Africa

- ICODE read/write tags enable production control of cars through to final assembly
- Both re-usable and disposable tags are used in the same installation

Results:

- Stock reduced by 1 day
- Fitment and distribution planning greatly improved
- Required business information made available to distribution yards



From supply to retail – METRO Group Future Store Initiative

- The first broad, real life implementation of RFID technology in an European supermarket environment
- Goal is to improve customer service and increase supply chain efficiency in retailing



- METRO Group: “We want to revolutionize the shopping experience for customers!”
- Tagged products enable customers to simply swipe a CD or DVD to select a preview of the album or film they are considering purchasing

Conclusions

- RFID is one of many established information technologies that are making life safer & easier
- Consumers benefit from better services, based on their behavior, desires and needs
- We are responsible and committed to addressing privacy concerns:
 - kill switch; expertise in security/encryption
 - supporting industry standards, regulatory bodies and legislation

