

Radio Frequency Identification (RFID) And Global Supply Chain Management

You may have heard in the business news how Wal-Mart, Gillette, Procter & Gamble and others have embraced RFID technology in the United States. And how Tesco and Marks & Spencer in Great Britain redesign their supply chain with the tiny chips, while the Japanese government planned to embed Hitachi's mu-chips in new 10,000 Yen notes. The proposed tutorial will introduce business faculty and practitioners to RFID technology and its logistics and global supply chain management applications. It will answer the following questions with help of video and PowerPoint presentations, as well as demonstration of the technology.

What is RFID?

Radio frequency identification, or RFID, is a generic term for technologies that use radio waves to automatically identify individual items. There are several methods of identifying objects using RFID, but the most common is to store a sequence of numbers that identifies a product on a microchip that is attached to an antenna (the chip and the antenna together are called an RFID transponder or an RFID tag). The antenna enables the chip to transmit the identification information to a reader.

How do RFID work?

The system consists of a tag, which is made up of a microchip with a coiled antenna, and an interrogator or reader with an antenna. The reader sends out electromagnetic waves that form a magnetic field when they "couple" with the antenna on the RFID tag. A passive RFID tag draws power from this magnetic field and uses it to power the microchip's circuits. The chip then modulates the waves that the tag sends back to the reader. The reader converts the radio waves returned from the RFID tag into a form that can then be passed on to computers that can make use of it.

What is the history of RFID?

How much do RFID cost?

Who are the RFID vendors?

Will RFID replace bar codes?

Who is using RFID?

What are the applications for RFID?

What industries are using RFID?

What are the standards for RFID?

Why are not more companies using RFID?

What is the difference between low-, high-, and ultra-high frequencies?

What is the difference between passive and active tags?

What is the difference between read-only and read/write tags?

What Is Auto ID?

How much information can the tag store?

What are the technical limitations?

What is reader collision?

What is tag collision?

What is the read range for a typical RFID tag?

What are the case studies?