



An Introduction to Radio Frequency Identification (RFID) Technology

What is RFID?

Radio Frequency Identification (RFID) is a technology for tracking items, using a small radio transmitter and a reader. The 'tag' is a tiny microchip carrying information, usually attached to an antenna. The reader sends out a low-power radio signal which activates and reads the tag; information is exchanged and then processed by a computer system. Identifying items through RFID technology is more accurate and involves less work than using barcode scanning and manual processes, as you do not need line of sight – the reader can access the information on the tag without touching it as long as it is within range – and you can scan several items simultaneously. And unlike barcodes, the information held on an RFID tag can be changed or updated.

What is it used for?

There are many uses for RFID technology – and as the chip can be as small as a grain of rice (larger when packaged with an antenna), it can be used almost anywhere. Tags can be attached to individual items, pallets or even containers.

RFID is increasingly being used by retailers and their suppliers for:

- Automatic identification and tracking of goods throughout the supply chain
- Warehouse and inventory management
- Enhancing security

Automatically tracking goods throughout the supply chain makes stock control more efficient, frees up resources and increases productivity. Greater transparencies in the grocery supply chain also reassure consumers. RFID can also be used as part of a retailer's security procedures by ensuring that tagged goods do not leave the store.

How can it benefit my business?

Tracking goods automatically, rather than manually, can lead to a more accurate and efficient supply chain, provide more efficient stock control and reduce losses through shrinkage. Efficient stock control improves availability, which leads to an improved customer experience.

What can it do for the small or medium-sized retailer?

You would need to make your own business case, but generally RFID would provide benefits similar to those enjoyed by the larger retailers using the technology.

How much does it cost?

As RFID systems and technology advance and as more companies use RFID, entry-level costs are reducing so that it is now affordable for small and medium-sized companies. Many retailers have found that the amount of money RFID saves them quickly outweighs the cost of introducing it, but obviously you would need to make your own business case.

How secure is it against fraud and duplication?

The amount of data held on an RFID tag can vary. It can be as little as just a serial number, with the identity of the product and other details held on a central database behind standard IT security.

Is RFID a threat to consumer privacy?

Tags used in customer-facing retail environments do not carry any personal information.

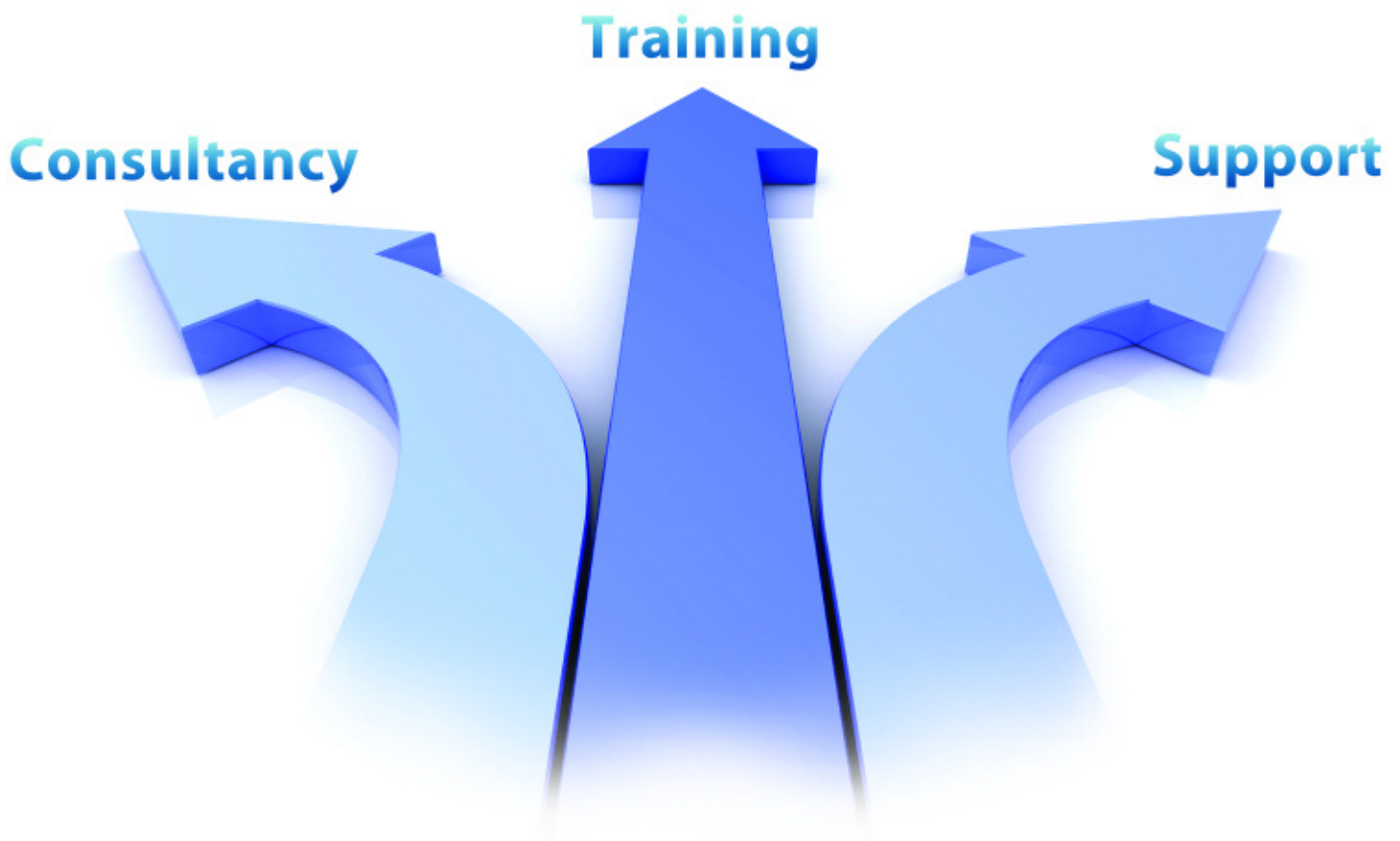
Furthermore, tags can be removed or disabled at point of sale. In any event, companies that implement RFID solutions are bound by the terms of the Data Protection Act 2002 and other relevant legislation and regulation.

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