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TECHNOLOGY BEHIND RFID AND ITS APPLICATIONS

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ABSTRACT

Radio-frequency identification (RFID) system uses electromagnetic fields to read and transfer data for automatic identification and tracking of the tags attached to the objects. A tag contains electronically stored information. Two types of tags exist, passive and active. A passive tag is either powered by electromagnetic induction from the magnetic field produced by a reader or by an interrogating radio wave and acts as a passive transponder. An active tag on the other hand has a local power source such as a battery and may operate at hundreds of meters from the reader. Unlike a barcode, the RFID tags do not necessarily need to be within line of sight of the reader, and may be embedded in the tracked object itself. Radio frequency identification (RFID) is one method for Automatic Identification and Data Capture (AIDC).

An RFID tag attached to an automobile during production can be used to track progress through the assembly line. Similarly, Pharmaceuticals can be tracked through warehouses. Livestock and pets may have tags injected, allowing positive identification of the animal.

RFID tags can also be attached to cash, clothing, possessions or even implanted within people and can provide personally-linked information on demand without consent leading to serious privacy concerns.

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