

RFID Based **Asset Management Solution**

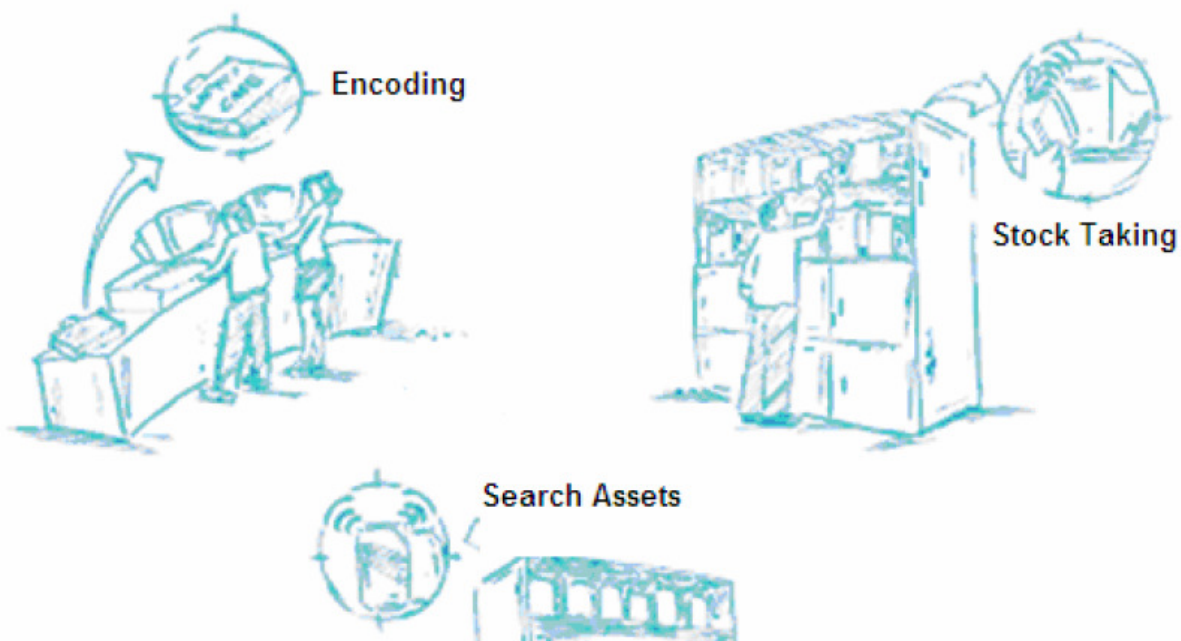
Introduction

One of the most important elements of any business is the ability to manage assets. Asset management can help to improve the efficiency and profitability of business in nearly every industry. Any item that is a part of the work process but does not leave as part of a finished product is a candidate for intelligent asset management with RFID. This can help enterprises automatically track and secure these assets— with very little human intervention.

Technology

Radio frequency identification (RFID) is a generic term that is used to describe a system that transmits the identity (in the form of a unique serial number) of an object or person wirelessly in a tag, using radio waves. Tags or Transponders are micro chips with an antenna which have a unique Identifier Number and memory which can be programmable according to the customer requirement. Tags are then affixed to the Items.

Proposed Solution



Asset Tagging

Every Asset has an asset code which is a unique serial number. RFID tags can be printed and encoded at a programming station equipped with a label printer and encoder. These tags can be then pasted or attached to the respective asset. Programming of the RFID tag can also be done using a hand-held terminal.

Asset wise Stock Taking

The stock taking is done using a RFID hand-held terminal. It is so simple that an individual can just read the RFID tag and the information is stored in the hand-held terminal. At the end of reading all assets, the data can be downloaded to PC or Server through the Wireless or RS232 communication port

Location wise Stock taking

In organizations where assets are assigned to certain locations, process can be adopted by attaching a RFID tag to each location. Location ID will be recorded in the RFID tag which is attached to the location. The stock taker can first read the location tag followed by asset tag. It will mean that all the asset ID read after the location tag belongs to this location and when next location tag is read, the following assets will belong to that location.

Asset Search






An asset can be searched by keying in the Asset ID in the hand-held terminal and reading the probable assets. When the keyed Asset ID matches with the read RFID tag on an asset, the terminal beeps indicating that asset has been found. A message can also be pop up in the terminal display indicating the result of search.

Tracking

In case where the location id and the asset id are related, movement between locations can be tracked. The purpose is to update the information in master files which is used for stock reconciliation at an interval.

Fixed readers can be strategically located throughout the facility to automatically track the movement of tagged equipment in and out of buildings, rooms, or other sectors. Equipment movement can be automatically correlated with employee identification — enabling secure and automated asset check out from stock rooms and tool cribs. In addition, RFID can automatically alert supervisors of any attempt to move a tagged item from an authorized area, providing protection against security breaches and asset loss.

Suggested Items

Item	Image	Description	Application
Alien 9640 Squiggle		EPC Gen 2(v1.2.0) compliant 840-960MHz Dimension: 3.992" [101.4mm] x 0.625" [15.875mm] Integrated Circuit Alien Higgs-3 Operating Frequency 840-960 MHz EPC Size 96 - 480 Bits User Memory 512 Bits TID 32 Bits Unique TID 64 Bits Access Password 32 Bits Kill Password 32 Bits	For pasting on non metallic assets
Omni-ID IQ600 Metallic Tag		Dimensions : 100 x 24 x 1 mm Protocol: EPCGlobal Class1 Gen2 ISO 18000-6C Frequency : 865-869 MHz (EU) Memory : 96 bit EPC Read range : up to 4 m Applicable surface :Metal surfaces	For fixing on metallic items
STA IR0507E Desktop reader		UHF middle-distance integrated reader Processor :ARM CORTEX M3 100M Memory :RAM 16Kbits + FRAM 32Kbits. Frequency: 860MHz-868MHz(CE) Protocol : ISO18000-6B, EPC G2 Interface : RS232, RS485, TCP/IP GPIO : 1 Relay output, 2 TTL outputs, 2 TTL inputs Reading Range: 5 - 8 m	Tag programming
Alien ALH-9000 Handheld Reader		Operating System : Windows CE NET 5.0 Display 3.5" color QVGA touch screen CPU Marvel PXA320, 820MHz Memory 256MB RAM / 256MB ROM Battery 3,000mAh lithium polymer Scanner 1-D bar code Networking Wireless WLAN 802.11b/g Communications USB host & client	Asset Finding Physical Verification
Impinj R420 reader with 4 antennas		EPC Gen 2; ISO 18000-6c Frequency 865.7 MHz – 867.5 MHz Communications LAN TCPI/IP (RJ-45), RS-232,USB 4 reverse polarity TNC monostatic ports; circular or linear polarization; near and far field compatible 4 inputs. 4 outputs (Optically isolated) Power Sources : +24 VDC @ 800mA external adaptor, PoE standard	For fixing on entry/exit gate for automated reading while moving through the gate
Enterprise version My.Asset Asset management software		Asset Management software tracking assets	