

Passive RFID technology has a rich history, originating in World War II as part of a system used to distinguish between allied and enemy aircraft. This early use laid the groundwork for what would become a mature and widely used technology. Over the years, RFID has been miniaturized and refined, transforming from a military tool into a versatile technology that powers various applications, including healthcare.

# Driving Innovation With RFID SuperPowers

(Radio Frequency Identification) www.pycube.com | sales@pycube.com



## **Technologies we Harness into our Solutions**



#### Passive RFID (Radio Frequency Identification)

Uses radio signals to collect information (presence, unique ID, location, temp, data) from a tag to a readers.



#### Wi-Fi or (Wired Ethernet) Network

Leverages existing Wi-Fi infrastructure to connect detectors, readers, and browsers to cloud SaaS. Weak Wi-Fi areas can be bolstered with boosters or 5G Mi-Fi points.



#### **Cloud SaaS**

Cloud based computing infrastructure and database allows for no computing infrastructure (servers, data storage, etc..) at customer premise Provides Browser-Based User Interface.



#### AI (Artificial Intelligence)

Generative toolset to quickly answer, learn, and expand upon native-language complex inquiries.

## How does Passive RFID work?

### **WWII Origins**

Passive RFID is a very mature technology, used since World War II. It was part of the British IFF system to 'Identify Friend vs Foe' planes on radar. Pycube harnesses this technology to innovate and build solutions to solve healthcare challenges.

## **Passive RFID Tags**

These small, battery-free devices are attached to medical equipment, patient wristbands, and other assets. They are powered by receiving radio waves. They contain an antenna and a chip.

## **RFID Antenna & Readers**

Strategically placed readers in the healthcare facility emit radio waves that power the passive RFID tags and receive their unique identification information.

## **Data Transmission**

When a passive RFID tag comes within range of a reader, it 'wakes up', reflects back a modulation of the reader's radio waves, actively transmitting its ID and other stored data to the reader.

## **Real-Time Location Tracking & Data Inquiry**

In most cases, each reader is 'Location Aware' (or can be associated with a location). Readers transmit a signal, detect tags, relay collected data to centralized software, which records location.





#### www.pycube.com | info@pycube.com