

A close-up photograph of a hand holding a rectangular radio frequency identification (RFID) tag. The tag has a complex, multi-layered circuit pattern on its surface, consisting of numerous parallel lines that form a series of concentric, elongated loops. The circuit is printed in a dark, metallic color. The tag is held against a light-colored, textured background. The text "Radio Frequency Identification in India Post" is overlaid on the right side of the image in a bold, green font. The text is positioned over the right half of the tag and the hand holding it. The overall image has a warm, slightly blurred aesthetic, with a focus on the intricate details of the RFID tag's circuitry.

Radio Frequency Identification in India Post

About the System

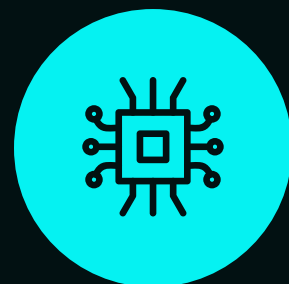
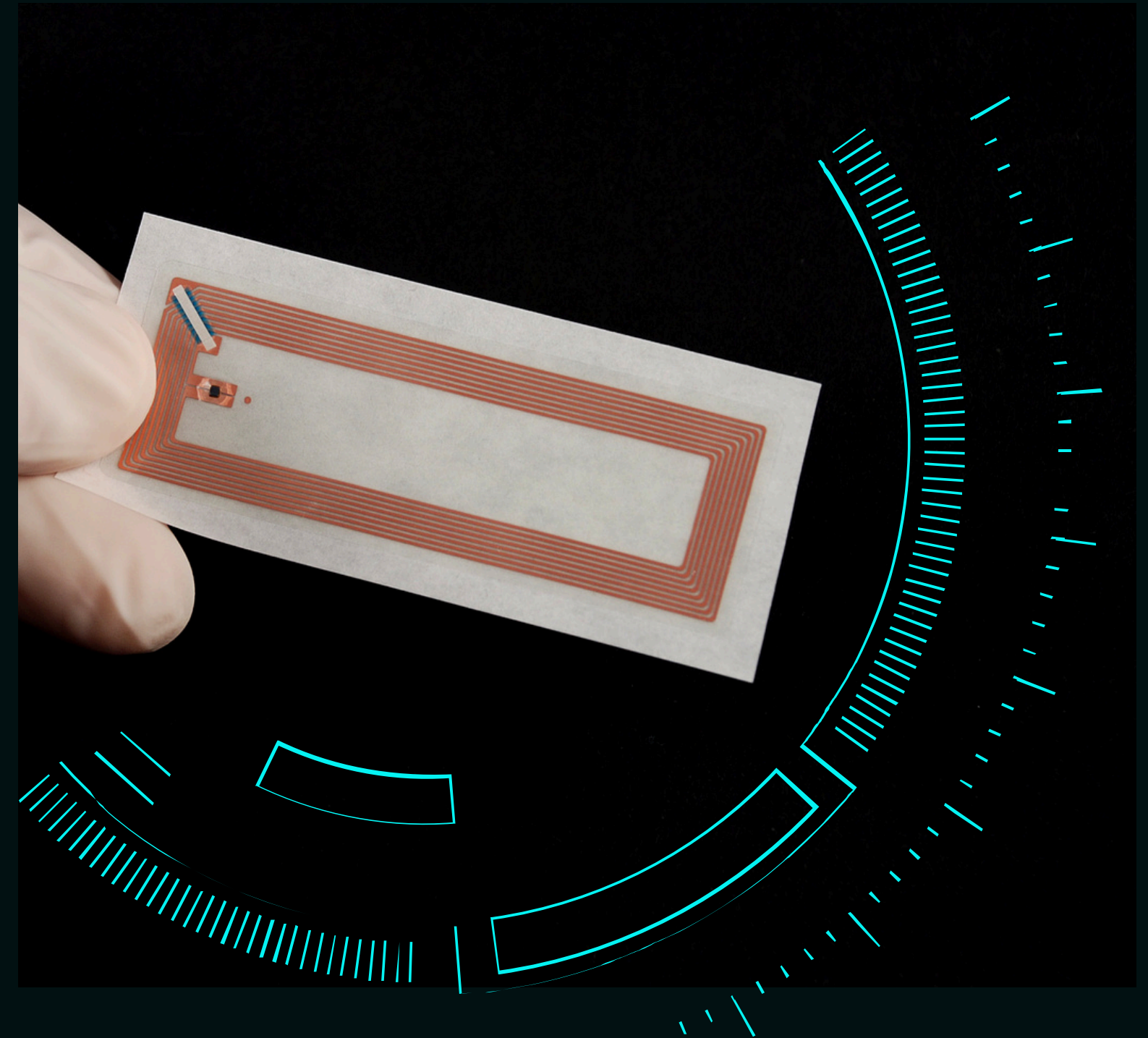
RFID systems are one of the cheapest solution for '**track and trace**' where out of sight detection is the prime requirement.

RFID Tags are of the following two types based on power source -

1. **Active Tags**

2. **Passive Tags**

Passive tags are powered by the source reader and are compact, robust and cost effective. They are thus best suited for the logistics industry



**Most
Advanced
Equipment**

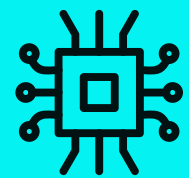


**Latest
Technology**

How it functions?

RFID allows almost any object to be wirelessly identified using radio waves, it can detect multiple items simultaneously without being in direct line of sight.

RFID tags are extremely agile and robust. They hold custom information which can be easily burned on to the RFID Tag's.



RFID tags are of multiple types based on usage like use-once tags, write once - read many tags, write many - read many tags





RFID and its use in India Post



Each point of article handling in the logistics industry is of prime importance as delays in any leg results in disruption of the entire supply chain and translates to delay in delivery thus attracting complaints as well as lowering the reliability of the service provided. RFID technology provides an error free and cost effective solution to this problem.

Benefits:

1. Easy track and trace of the articles (bags/individual articles) bearing RFID tags
2. Human intervention free technology
3. Centralized monitoring through a dedicated portal
4. Customizable and system friendly solutions



Statistics



We implemented the project in India Post Mail Offices from May 2022 onwards. Beginning with a pilot between 3 locations of New Delhi - Guwahati - Itanagar (one of the most challenging routes due to difficult terrain and sparsely available transport options).

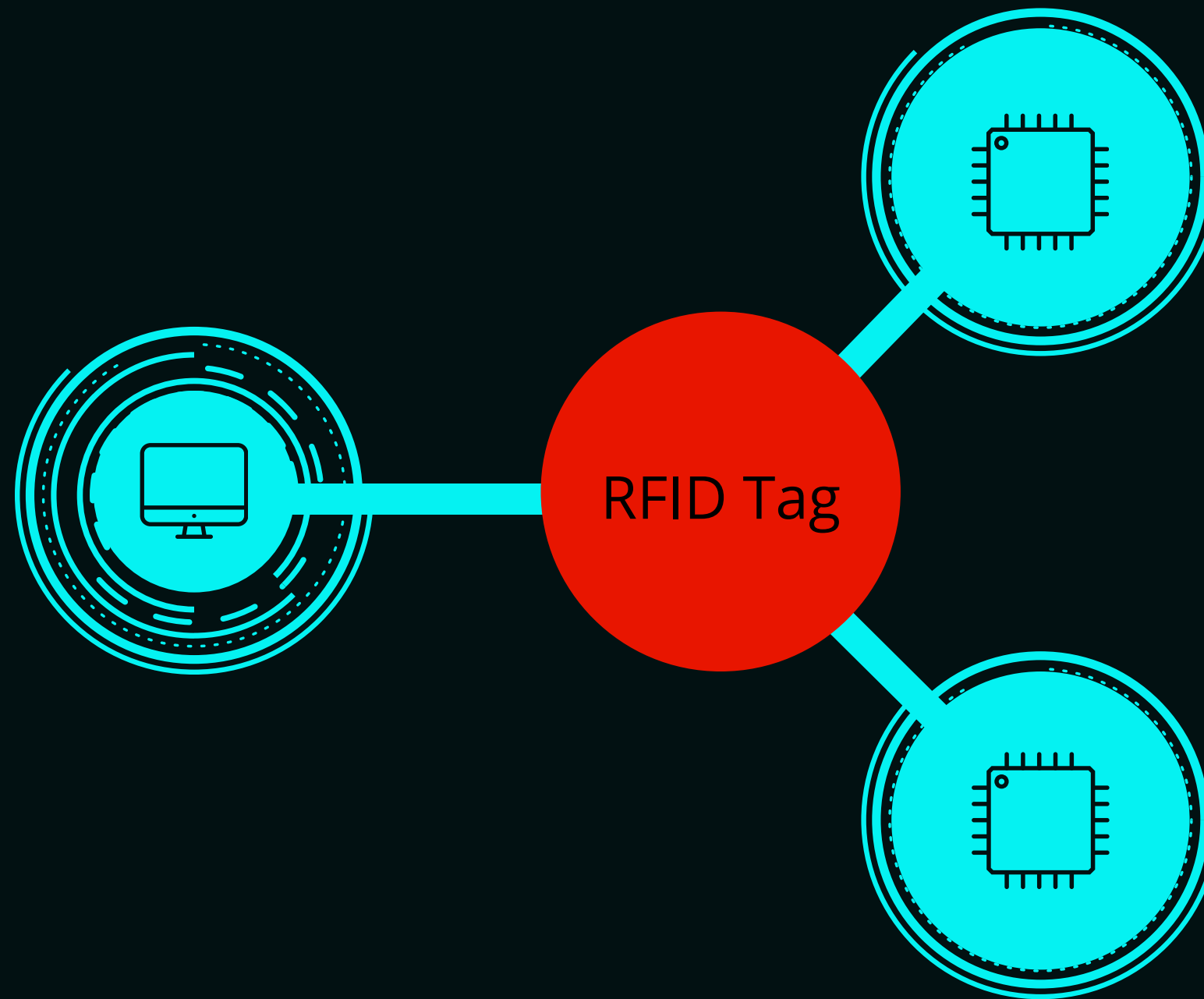
Current statistics are as follows :

1. Total Sites covered - 37
2. Total active readers - 40
3. Total active antennas - 120
4. Total Scans Done - 250k and counting

About The System

Central Server

The information captured at the central server can be customised into MIS reports as per needs of the organization



TAG Reader

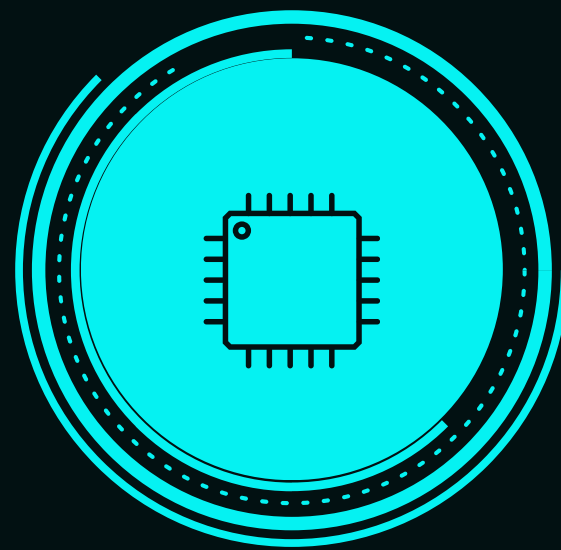
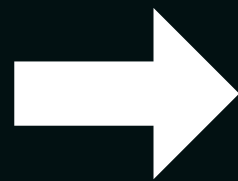
The passive TAG sends signal to the tag reader and gets captured. The TAG Reader in turn sends the information to the computer system and through that to the central server where it gets stored against the past events previously marked for that tag.

Step By Step Process



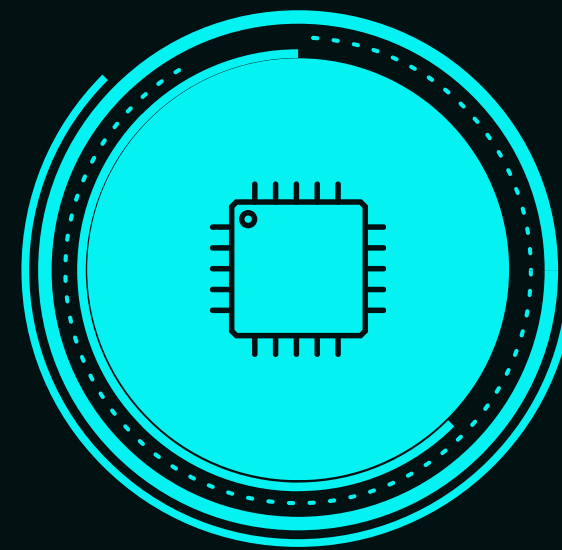
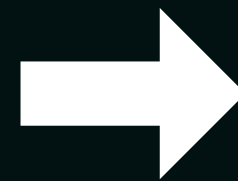
Step 01

RFID Tag is placed on the existing bag label



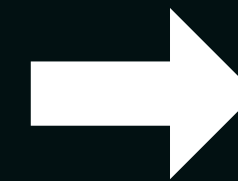
Step 02

RFID scan captured at OUT Point which can be Hub or Mail Office. And information sent to Central Server



Step 03

RFID scan captured at IN Point which can be Hub or Mail Office. And information sent to Central Server



Step 04

Transit time/Event scan analysis can be done centrally through dedicated portal.

The Dashboard



Dashboard

Sites

Sites Health

Search By Tag

Search By Site

Tags

Users

Roles

Help

Total Sites

33

Online Sites

20

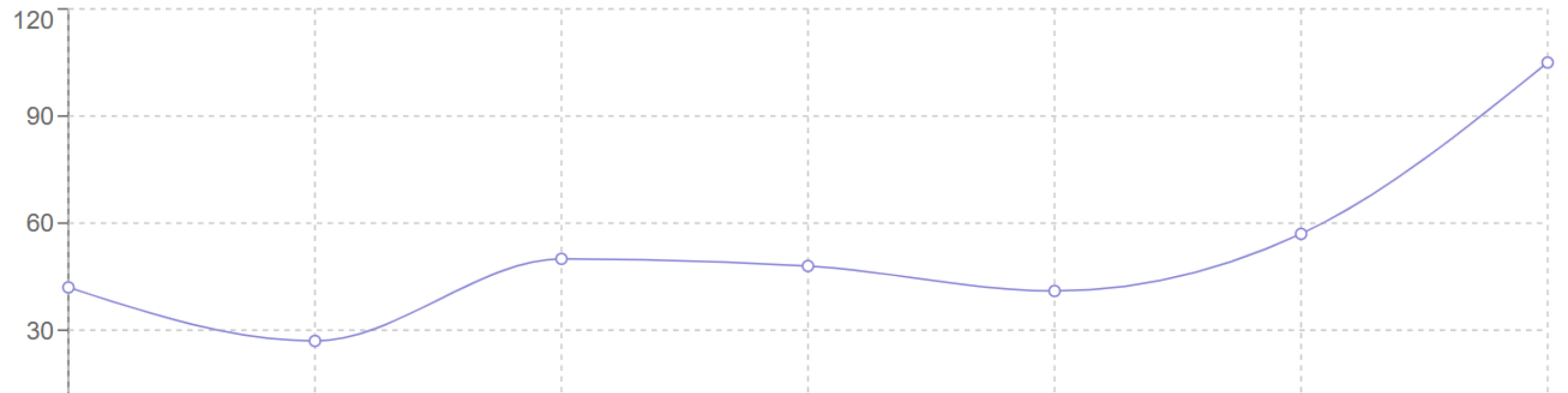
Total Scans

3619

Scans Today

42

Scans Statistics

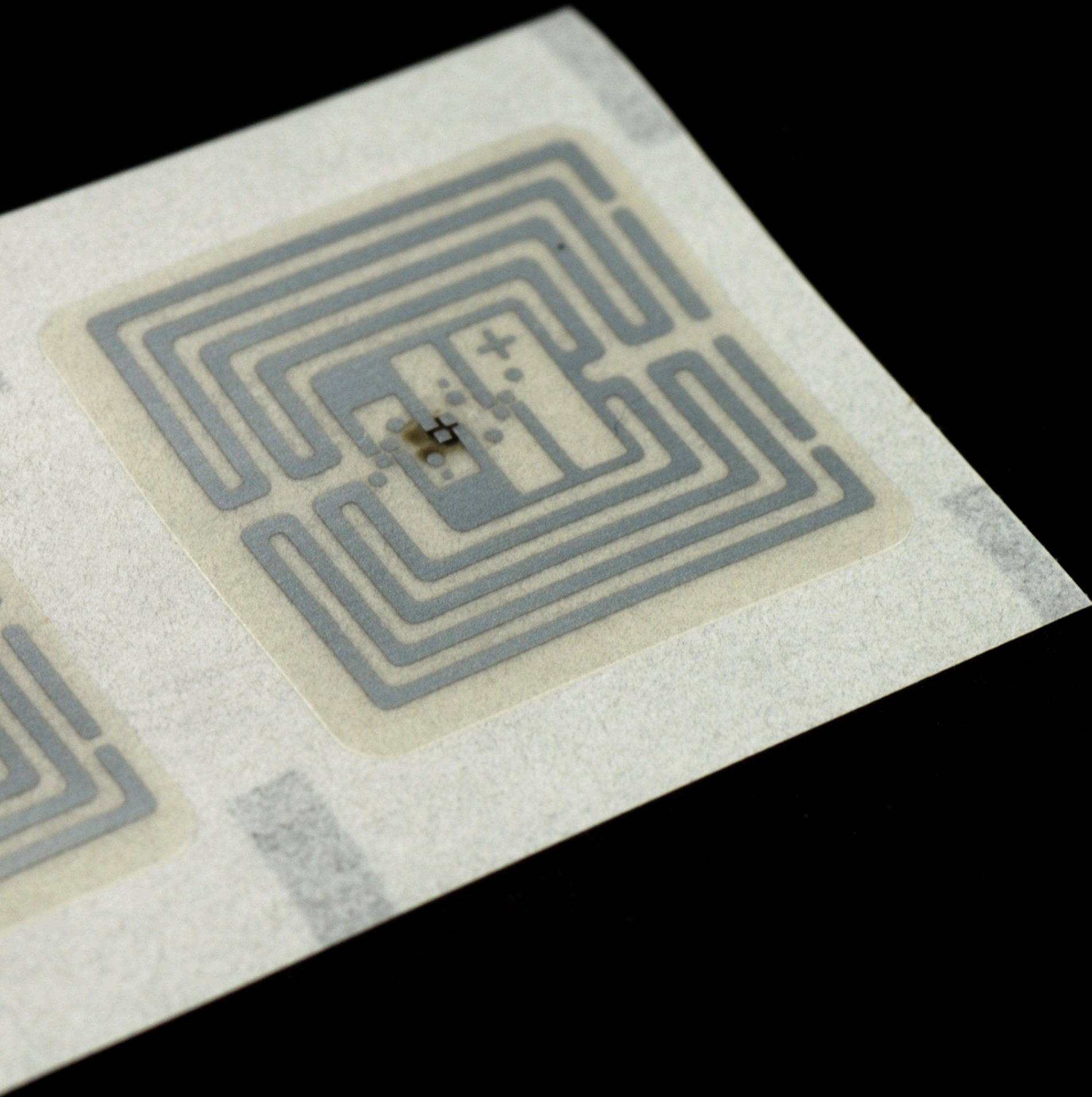




The Future

The project was implemented with the target of integration with the CSI system of India Post where operational work is performed. This would ensure seamless data exchange and integration with the existing barcode based scan, track and trace system. The same is to be rolled out as part of IT 2.0 Project of India Post.

We strive to implement the international standards such as UPU Sg & S10 etc in order to make the system truly global and compatible thus giving India Post the advantage of data sharing and global track and trace via RFID.



Thanks

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