


CASE STUDY

Counterfeiting is still growing as markets globalize

	2013	2022
Increase		
Value of counterfeit and pirated goods <i>Lost revenue</i>	€882.6 billion	€2,194.7 billion 248%
Increase		
Wider economic and social costs <i>Displaced economic activity, investment, public fund losses & enforcement costs</i>	€676.2 billion	€1,408.2 billion 208%
Increase		
Employment losses 207%	2.6 million	5.4 million

75% of companies experience at least one major supply chain disruption a year
(2013 PwC and MIT Forum for Supply Chain Risk Management Survey)

 **10%** of medicines worldwide are fake. 60% contain no active ingredients, 16% incorrect ingredients
(World Health Organization WHO)

48% of companies experienced a loss from conducting business overseas in the past 3 years
(2014 Chubb Multinational Risk Survey)

Perceptions are changing: Consumers awareness of counterfeits is also growing and being shared

Chinese consumers are already very aware
Western consumers are growing in awareness

\$3.2bn	Average estimated loss in market cap of a Fortune 500 company from reported supply chain breach <i>(World Economic Forum)</i>
72%	Of consumers prioritise product purchases from brands they trust <i>(Nielsen Research)</i>
60%	Of companies reported a loss of 3% or higher loss of value from counterfeit breaches ¹
54%	Of companies have sales revenues negatively affected by supply chain breaches ¹
64%	Of companies suffer declines in customer service levels from supply chain disruption ¹
3-5%	Of revenue is estimated to be lost due to product warranty claims due to counterfeit product substitution ¹



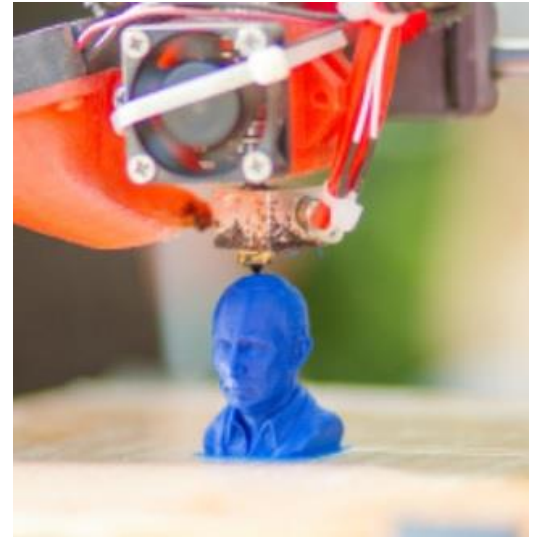
Physical Authentication

A backbone of counterfeit protection / detection will always include physical authentication

- ❖ It detects the fakes
- ❖ It can also deter production and sales of new fakes

Can be conducted anytime during storage and service life at any post-manufacture point

- Outgoing inspection
- Stores or warehouse
- Shipping dock
- Receiving dock
- Incoming inspection
- Pre-component installation
- In-system during service life
- Post-service inspection or failure analysis



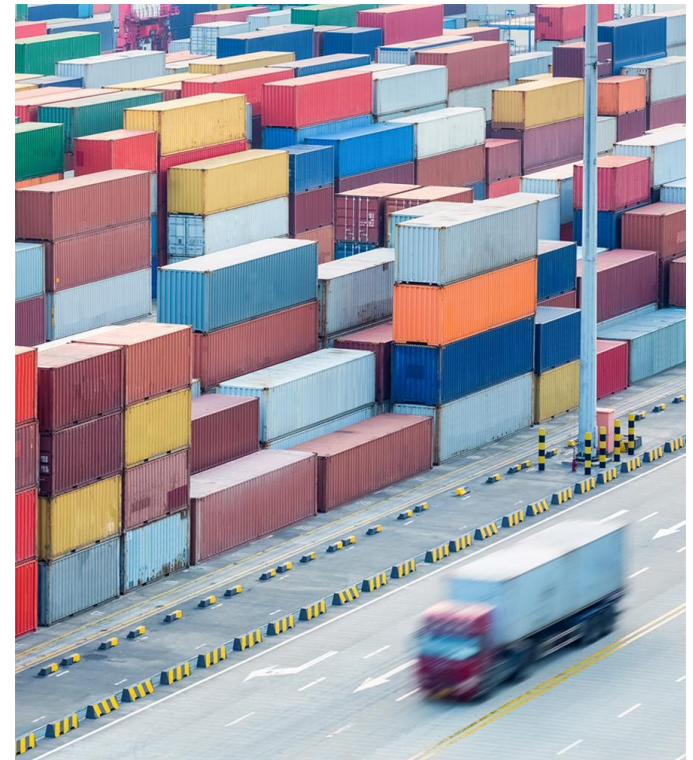
Levels of protection need to be reviewed as criminals also advance in the technology arms race

Physical Authentication:

Stronger anti-counterfeiting approaches combine a number of security features and technologies in ***multi-layered solutions***. This is especially valid and required in industry segments with complex, fragmented and multi-channelled supply chains.

Reasons for multi-layered anti-counterfeiting solutions:

- Increased security level by higher number of hurdles for counterfeiting
- Appropriate security features for each level of the authentication chain
 - Covert and Overt solutions
 - High and Low security features
 - Digital and Electronic
 - Packaging
 - Authentication and Asset Management
 - Authentication and Marketing



Cases Study

RFID/NFC tags widely used for many application such as ticketing, Assets Tracking, Medicines, Vaccines, Electric Power Meter, Wearable devices, medical apparatus and instruments, Transportation, Logistics, Retail, Entertainment, Defense, Security and etc.



Security bags



WiFi/BLE Paring



Box/Document Seal IDs



Wine/Liquor Tracking



Gas Cylinder Tracking



ETC Toll Plaza

NFC Experience – Brand Protection Tamper Proof

- Alcohol Brand protection – Cap Seal Sticker
- Document Security Seal
- Package Security Seal



Cosmetics origin authentication

Source Traceability

Brand Protection



Packaging Seal/Protection



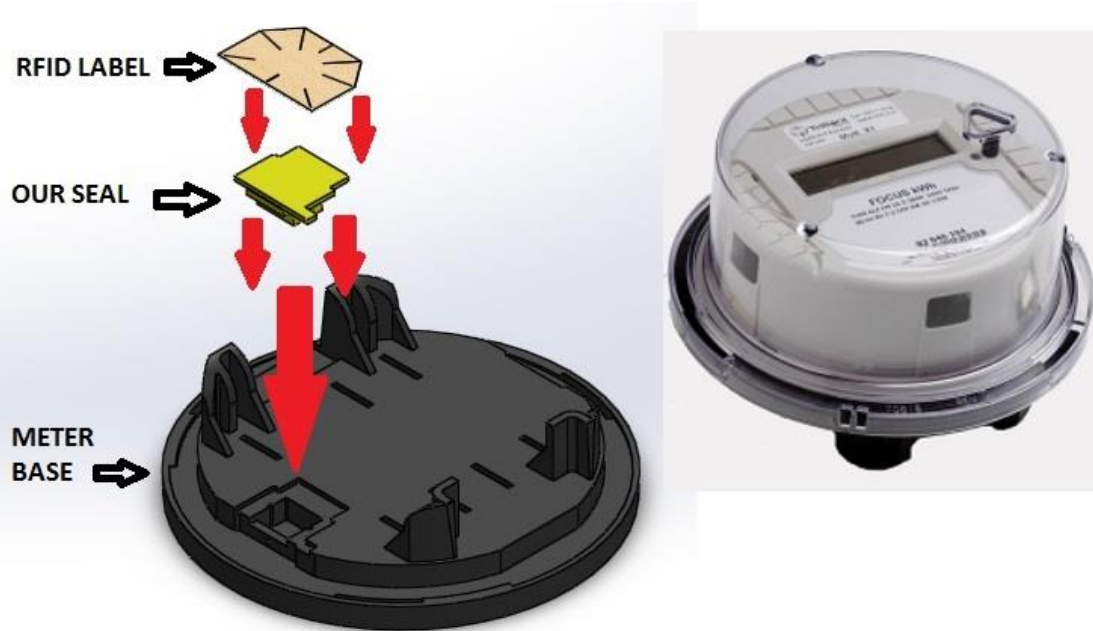
NFC Experience Data-Cloud Service

- Alibaba Cloud-Server – Hard Disk Maintenance, Remove To Trigger Alert



NFC experience

Tamper Detection RFID Seals



Electric Meter – TD tag

RFID Tamper Detection Tag, prevent people steal power supply



RFID Experience

- Anti-thief Packaging Bags



Cash Counting & Anti-fake Control

- Money Bag in People's Bank Of China, Break On Open, Anti-theif

- Went in/went out from treasury
Counting

- Bag with a one time use of
uhf seal lock



Logistics, retailing & advertise

Shipping Box



Advertisement

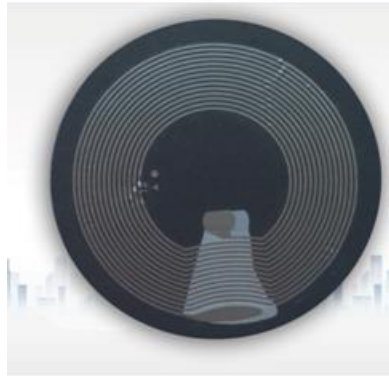


Gasoline

Break Nozzle on Check during transport from station to station – Anti-Theft



NFC Gas Cylinder – Security Identify



RFID Experience

TD tag Protect Gas Tank in railway



NFC advertisement promotion



- Trigger Event
- Trigger Website
- Trigger Messages
- User Connections
- BigData Analysis

Tobacco, alcohol, wine ,drugs, powder milk and food safety



One Time Use Tracking
Cold Chain Management



Logistics,warehouse & Couriers

Item positioning & location finding



Network Tracking Management

- Identify each fiber cables for exclusive customer
- Easy Track & Maintenance
- Prevent mistake operation for their service

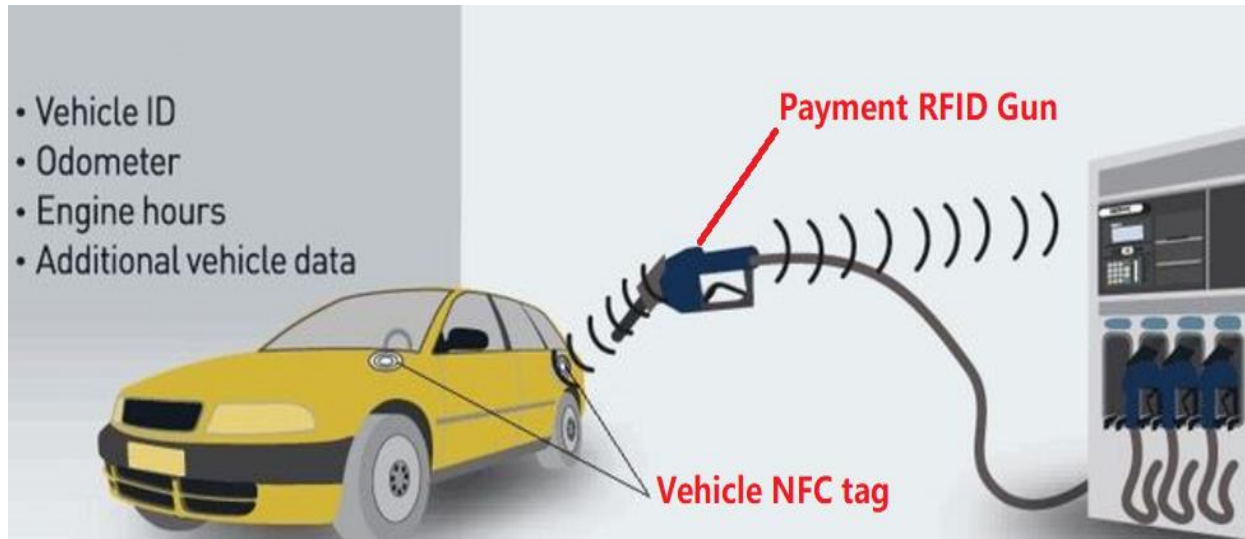


Vehicle Highway ETC Application

- Prevent money lose
- Increase money/incoming for government
- Traffic Control
- Police tracking



Gas Fueling System



Assets & Auto Industrial management

Printable UHF Metal Tag
Less thickness



Bank Check & Ticket

Bank Check Voucher

Entertainment Pass Ticket

Prevent money lose



Anti-counterfeiting License

Prevent fake license certification
from NFC tamper technology

Widely used for vehicle quality license
for [Hyundai](#), [GEELY](#)



Increase Sales of Spare Parts / Consumable

Binding Filter of Air condition



NFC Toner/Cartridge Tag

Toner-Printer Binding Function

Make more sales of **Toner**/Ribbon/Ink Cartridge



Game Entertainment

Role Character/Player Login system



Un-manned Super Market

Human/liquid resistance tag is required

Design is most important -Auto check-in & billing system



Cigarette Tax Tracking

Increase tax income from its sale



LED Lighting Board

Super Big size of Lighting FPC Board ,prevent human heavy assembly works from small PCB board, portable & flexible



Drinkable Water Management

Inject UHF tag into water cylinder

Automatic warehouse, transport, refund point counting

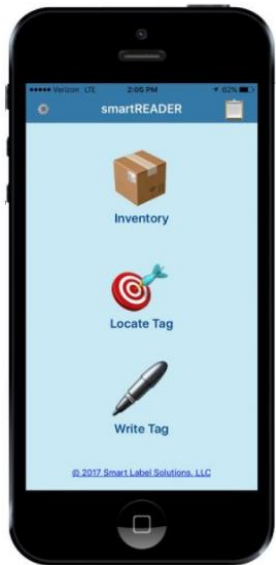
Cylinder **life circle & scrapping** management



Phone RFID Tracking

Tag releasing management under cell-phone

Simple RFID track for **retail system**



Housekeeping / Cleaning Track



PROOF
OVER
PROMISES



RFID Tracking in Forklift

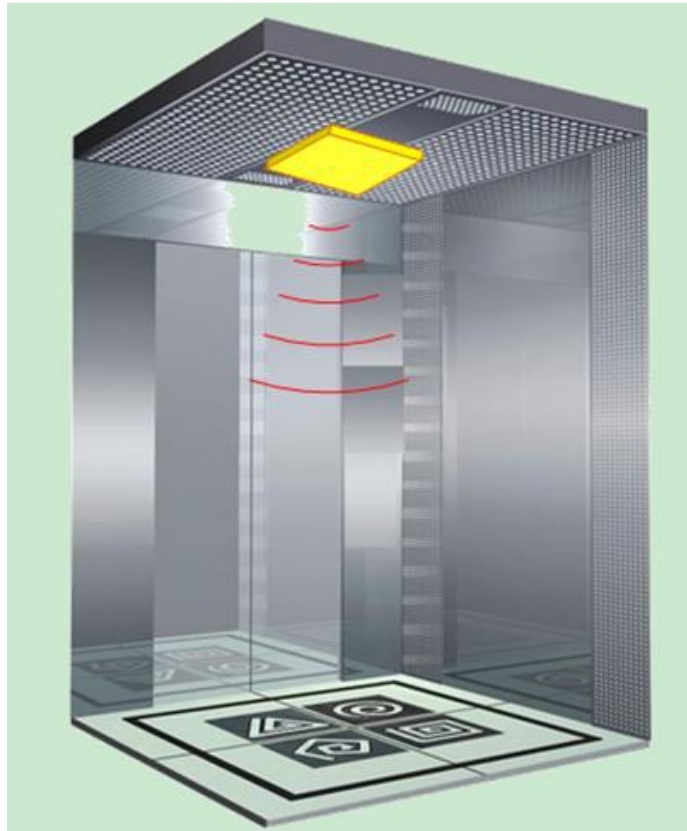


Security Document Cabinet

Non-Transfer RFID seal stickers



Smart Lift/ Elevator



Smart guide line & security management with VIP welcome notice from reception area to the room of VIP guests

Jewelery Counting

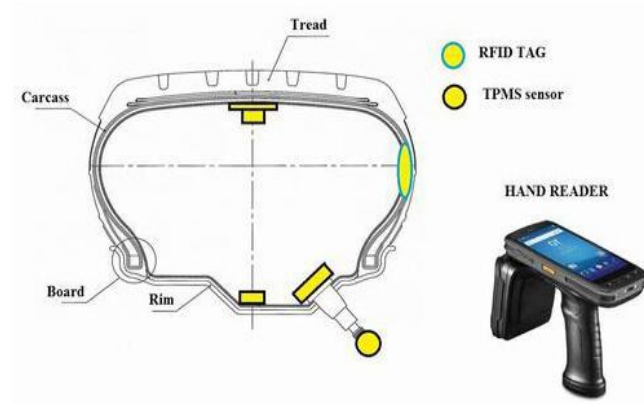
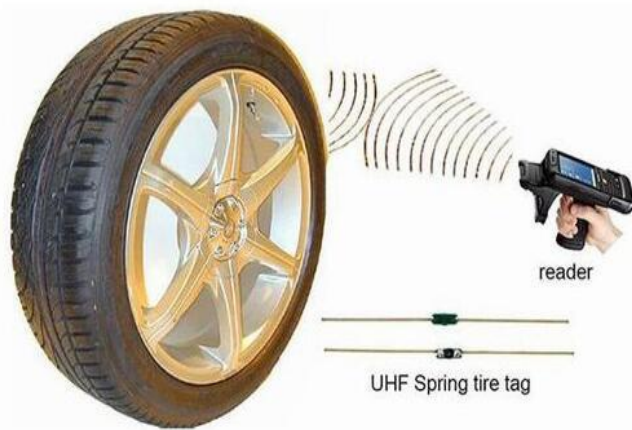


Vehicle Tyre Life-cycle tracking

Tire replacement reminding

Waste collection for environment control

Quality inspection & scrapping management



Pre-Structure/Precast – Location & Quality Check

◆ RFID embedded in Construction-Bridge



◆ RFID embedded in Railway for Public-service



Container Transportation Issue



Container Seal



Health Care & Hospital

- Storage Temp. Control
- Medicine Quality
- Blood bag RTLS Tracking



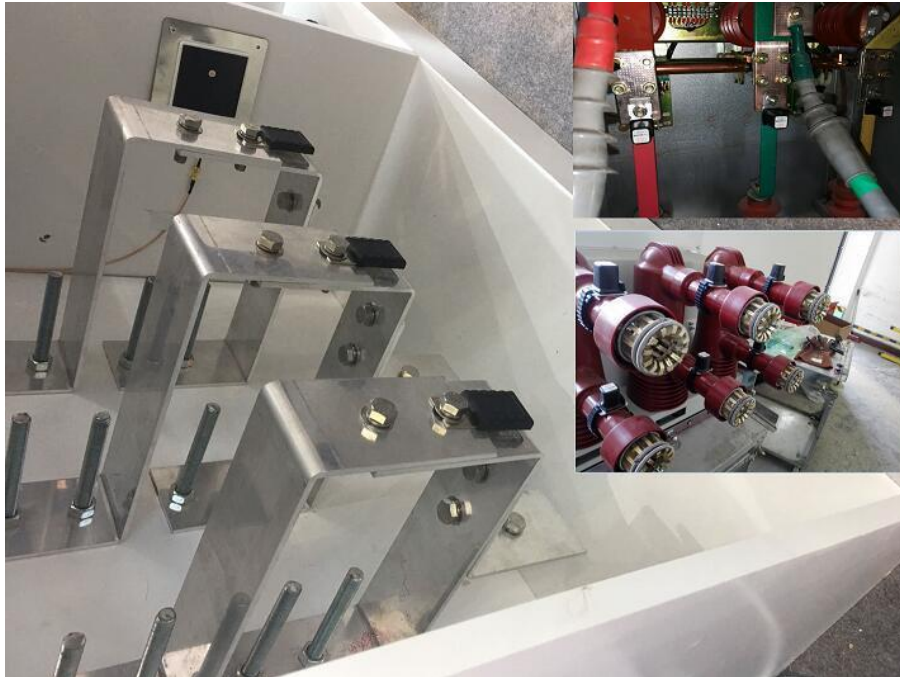
Interchanges During Shipment

Monitor food/medicine for each packaging & shipment during transport and storage basing on a RFID temperature sensor logger

Refrigerator/Freezer inside Container, **Especially is Phamarncy, Vaccine tracking & monitoring**



Power Supply Overload Control

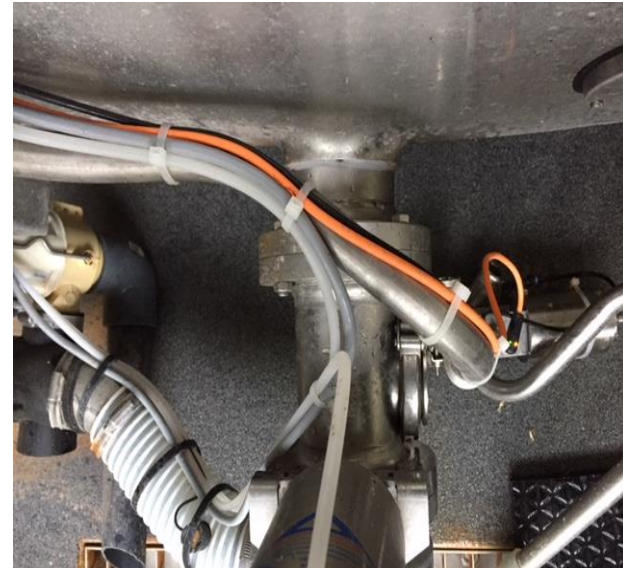


- Overheat Monitor from each PAD connection
- Fork Style Passive RFID Temperature Sensor

Milk Production Line – Overheat pumping



◆ In Tube Quality Control basing on RFID Temperature Sensor



Cases Study

Anti-counterfeiting NFC/RFID system for brand and value protection in dangerous pesticide, chemical & medicines



Cases Study

Attendance device & management system for school, kindergarten, access control and so on



- Find id division

Cases Study



Spirit wine liquor vending cabinet with promotion, present & purchasing guide

- Find id division

Cases Study

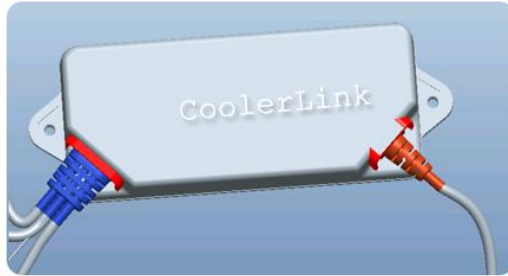


- Coca Cola Drink Vending machine
- 2G/4G location service
- Multiple sensors such as temperature, body sensor, door operation sensor
- CCC & ROHS certification



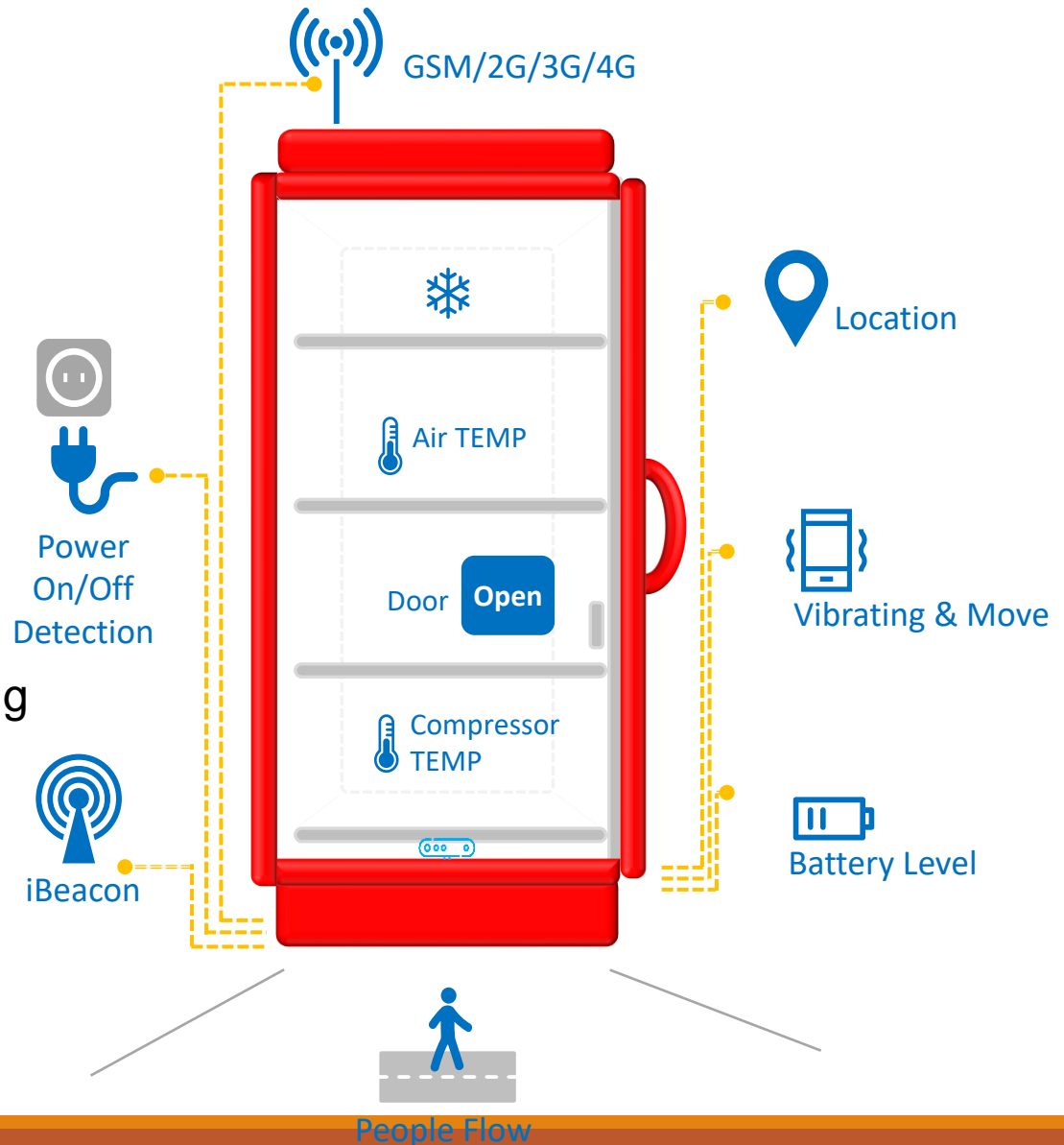
- **Coolerlink under plastic cover**

Cases Study



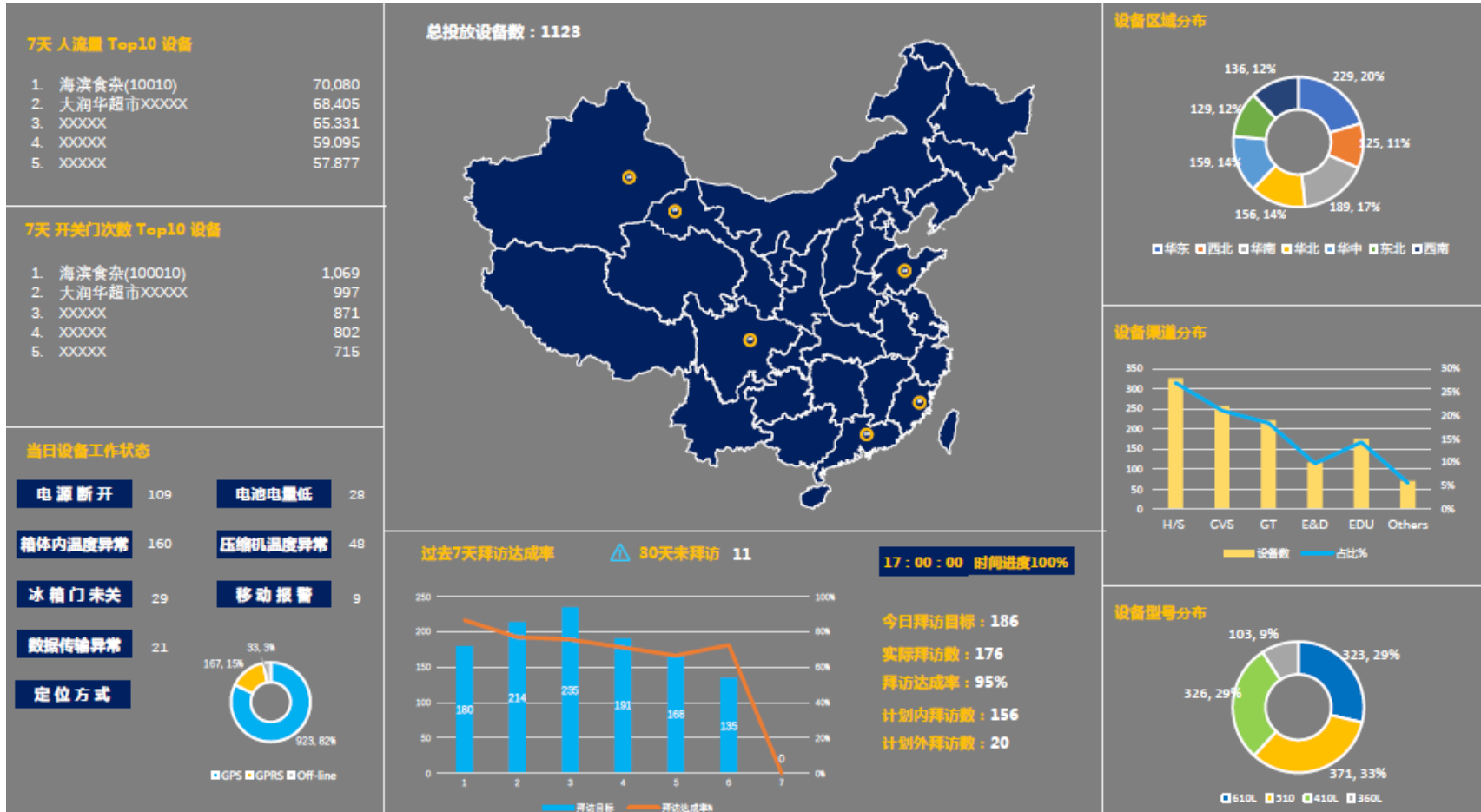
FEATURE FUNCTION

- Location movement Tracking
- Device Anti-Thief
- Sales Analysis
- Device maintenance & working status management
- Market promotion



Cases Study

RTLS Device Tracking System



Cases Study

RFID/NFC Portable Data Collection



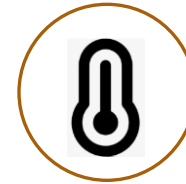
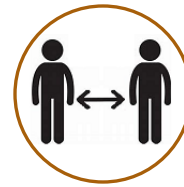
Cases Study

Reliable In house all kind of support family



Cases Study

Anti-Disease Bracelet & Tracking System



← → ↻ 不安全 | bracelet.xminnov.com/distance ☆ 🇨🇳 🌐 ⚙️ 🔑 🧑

应用 STC-Server RFID purpose Reader Performance Tester Twitter oversea Supplier Oranization Customer Google 翻译 Google 翻译 卡巴斯基安全部队2... » 其他

TrackingSystem HomePage / Closing Data / Closing Data

HomePage Closing Data

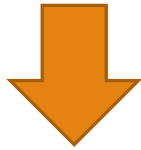
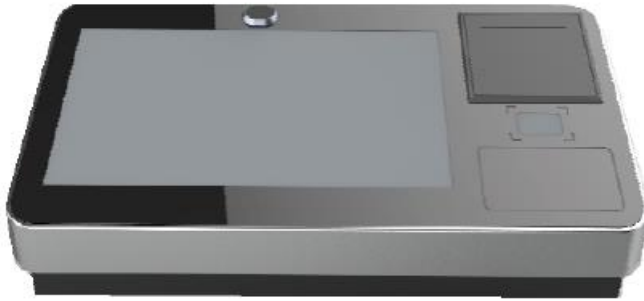
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HomePage Profile System Manage Closing Data Emergency Attendace

Cases Study

Hotel Check-in/check-out Device & System



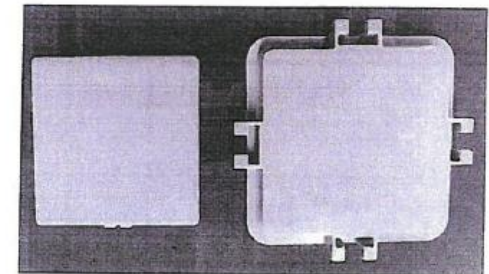
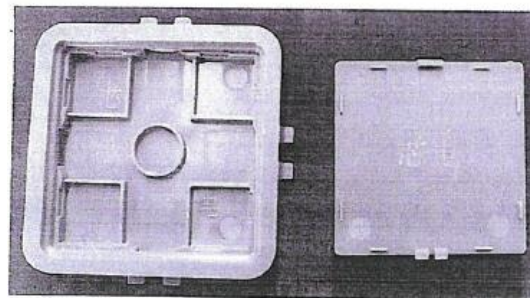
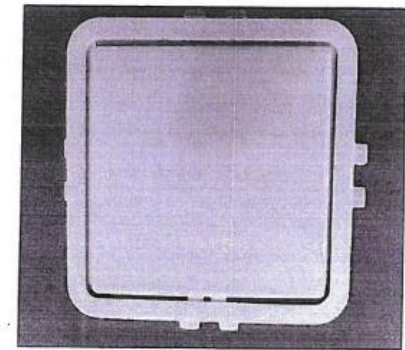
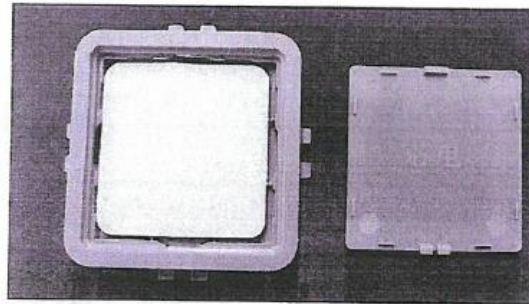
Embedded Style



Desktop Style

Prefabs data collection and tracking

Collected and tracked the data of the prefabricated parts after leaving the factory, and built the completed traceability system.



Consumable Water Purifier Management

When the effective filter element identification is genuine, the water purifier works normally and records the working time of the filter element.

When the filter element identification is false, the water purifier alarm, prompting the user to replace the genuine filter element, to ensure the user drinking water safety and the safety of the water purifier.

When the filter element is used for a certain time (or reaches its service life), the device will automatically remind the user to replace the valid filter element, otherwise it will stop working. After the user installs the new filter element, the device can work after reading the valid label and verifying.



BLE AOA Assets RTLS Management

Real-time location, historical track, electronic fence, asset inventory, quantity statistics, etc., the background can be one-click positioning or inventory.

Accuracy: 30cm



BLE AOA base station



2.4G active electronic tag BT-06L

Electric Vehicle "battery changing" management

1) Control each outgoing batteries with RFID label by unique ID to avoid inferior batteries.

2) The user can finished old battery self-replacement service

3) Contactless payment and settlement function

4) Transfer the risk of charging outside



Tracing the source of high value product for anti-counterfeiting purpose



City Motor Bicycles RFID Management

- can automatically collect structured information
- Trigger the camera to automatically collect illegal pictures and videos.
- Double - base equipment based on video radio frequency can realize much accurate capture and identification of more than one kind of road violations.

