

An aerial, top-down view of a dark asphalt road that curves in a large, continuous loop. The road is surrounded by dense, dark green foliage. Several cars are visible on the road, their headlights and taillights creating long, horizontal light trails that follow the curve of the road. The overall scene is dark, with the primary light sources being the vehicles and the ambient light reflecting off the road surface.

UROVO

World's Leading
IOT Industrial Digital Solutions Provider

Jakarta, 14 Apr 2026
Delamibrands
- Irfan Mulyana -

UroVO 优博讯

Introduction to RFID + Application Scenarios



Milestones - Twenty Years Of Innovation

UROVO





Facts & Stats

300531.SZ

public listed

NO.1

shipments in
China

NO.3

HHT shipments
Worldwide

1,000,000

Units Shipped
in 2022 Worldwide

> 1400

employees

928M

Market Capital (USD)

280M Y2023

revenue (USD)

ECOSYSTEM

Urovo 优博讯



HARDWARE SOLUTIONS

Smart IoT terminals provide Cloud-integrated information collection and computing capabilities



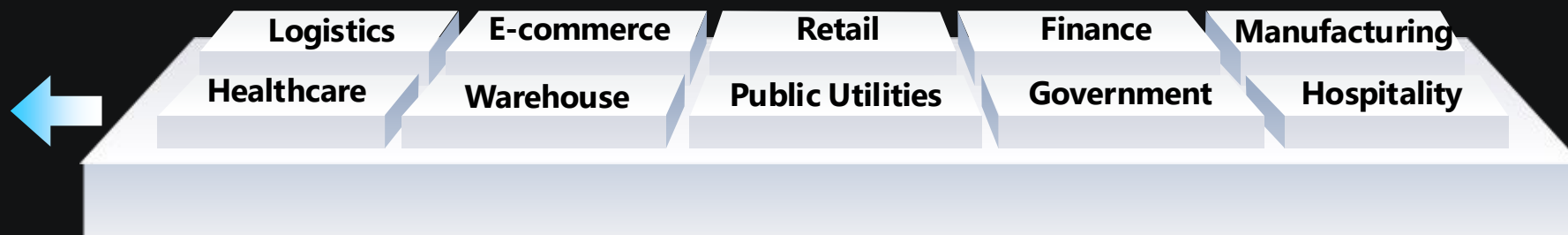
SOFTWARE SOLUTIONS

UEE cloud center builds full links, empowers partners



VERTICALS

Develop industry applications.
Build digital ecosystem with partners



Urovo Product Portfolio

UROVO

Full Touch Mobile Computers



DT66



DT50 5G



DT50



CT58S

Keypad Mobile Computers



RT40S



DT40



CT48

Enterprise Tablets



P8100P 4G/5G 10.1"



P8100 8"

Wearables



U2S



R7 Series

Scanner



K200/K220



K180

RFID Series



DT610
Short Range
Reader



DT50P Lite
Reader



DT50P
Long Range
Reader



DT50D
Short Range Reader



RFDT50
RFID Sleds



RFG91
UHF RFID Sled



FR1000



FR7000 Series



FR2000
Desktop RFID Reader

Fixed RFID Reader

Printers



K329
3"



K419
4"



K388Pro



D7100 Series

Direct Thermal/
Thermal transfer



D8100 Plus Series

Direct Thermal/
Thermal transfer



D9100 Series

Industrial Printer
Direct Thermal/
Thermal transfer



D81R Series

Desktop RFID Printer

Smart POS



i9000S



i9100



i2000



i5000



i5300



i5300L

01

Introduction to RFID



RFID (Radio Frequency Identification) technology, also known as wireless radio frequency identification, is a kind of automatic identification technology. It enables contactless bidirectional data communication via wireless radio frequency, using this method to read and write data on recording media (electronic tags or RFID cards), thus achieves the recognition target and the data exchange purpose.



RFID is categorized by application frequency into Low Frequency (LF), High Frequency (HF), Ultra High Frequency (UHF), and Microwave (MW).

Low Frequency (LF):125KHz~135KHz



RFID is categorized by application frequency into Low Frequency (LF), High Frequency (HF), Ultra High Frequency (UHF), and Microwave (MW).

High Frequency (HF) :13.56MHz

ISO 14443A



ISO 14443B



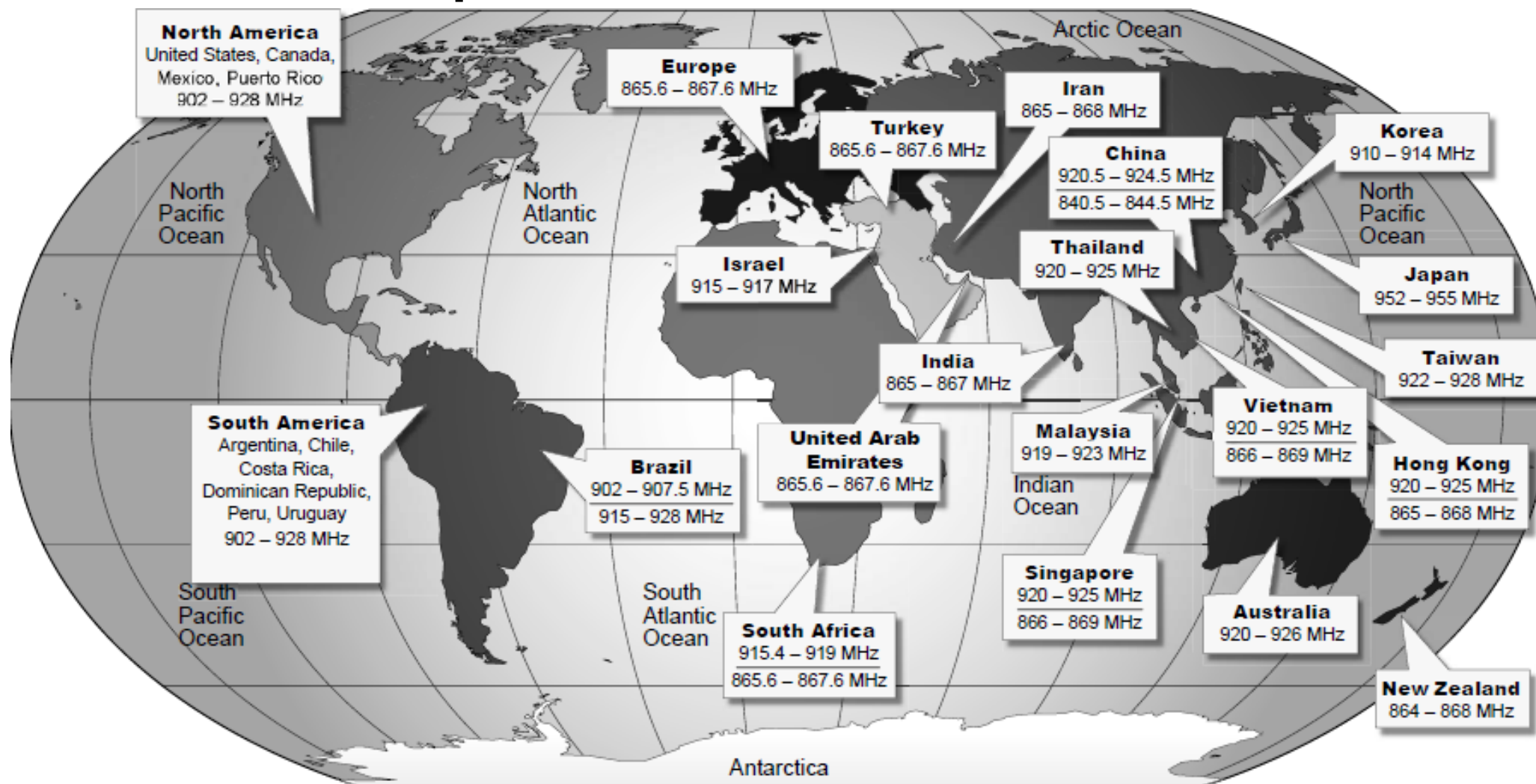


RFID is categorized by application frequency into Low Frequency (LF), High Frequency (HF), Ultra High Frequency (UHF), and Microwave (MW).

Ultra High Frequency (UHF):840MHz~960MHz



Reader operates full-band, with narrow antenna bandwidth,
divided into European standard American standard



RFID hardware is basically composed of three main parts: tags, readers, and antennas.

①**Tag:** Composed of coupling elements and chips, each tag has a unique electronic code. The physical carrier of the product's electronic code, attached to the items that can be tracked, can be circulated globally, and enabling identification and read/write capabilities. Label storage area is divided into EPC area, TID area, USER area, reserved storage area.



Paper Tag



Wash Tag



Inlay Tag



Flexible Metal-resistant Tag

Introduction to RFID

②**Reader:** A device that reads (and sometimes writes) tag information, commonly available in fixed and handheld types. It is mainly responsible for bidirectional communication with electronic tags, while receiving control instructions from the host system. Read-write frequency determines the RFID system working band, its power determines the effective range of radio frequency identification. According to the structure and technology used, the reader can be a read-only or read/write device, it is the RFID system information control and processing center.



Long-range Handheld
RFID Reader



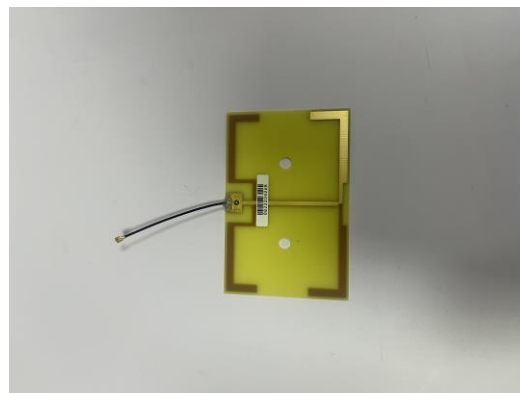
Short-range Handheld
RFID Reader



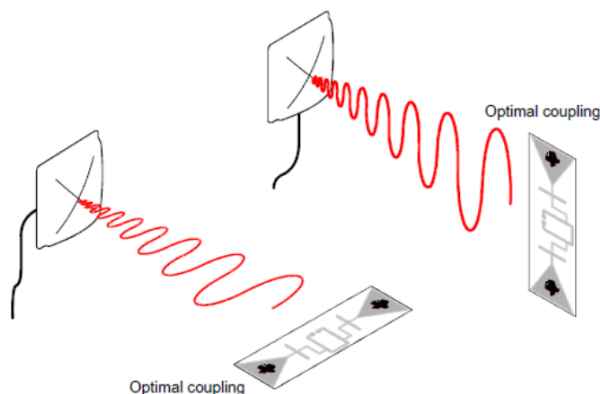
Fixed RFID Reader



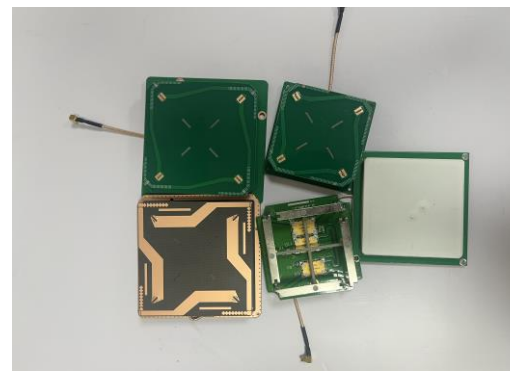
Fixed RFID Reader



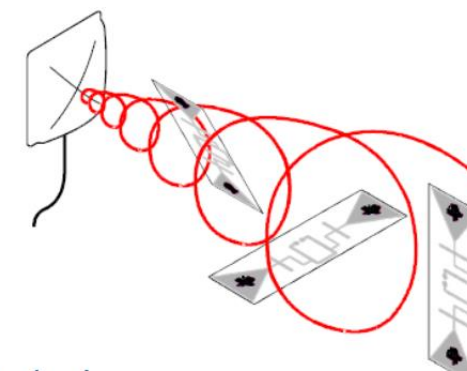
Line Polarized Antenna



Line Polarized Antenna



Circularly Polarized Antenna



Circularly Polarized Antenna

③**Antenna:** The antenna is a device that converts the received electromagnetic wave into the current signal, or convert the current signal into the electromagnetic wave to transmit out. In the RFID system, reader must emit energy through the antenna to form electromagnetic field. This field is used to identify electronic tags within its range, which is referred to as the readable area of the reader.



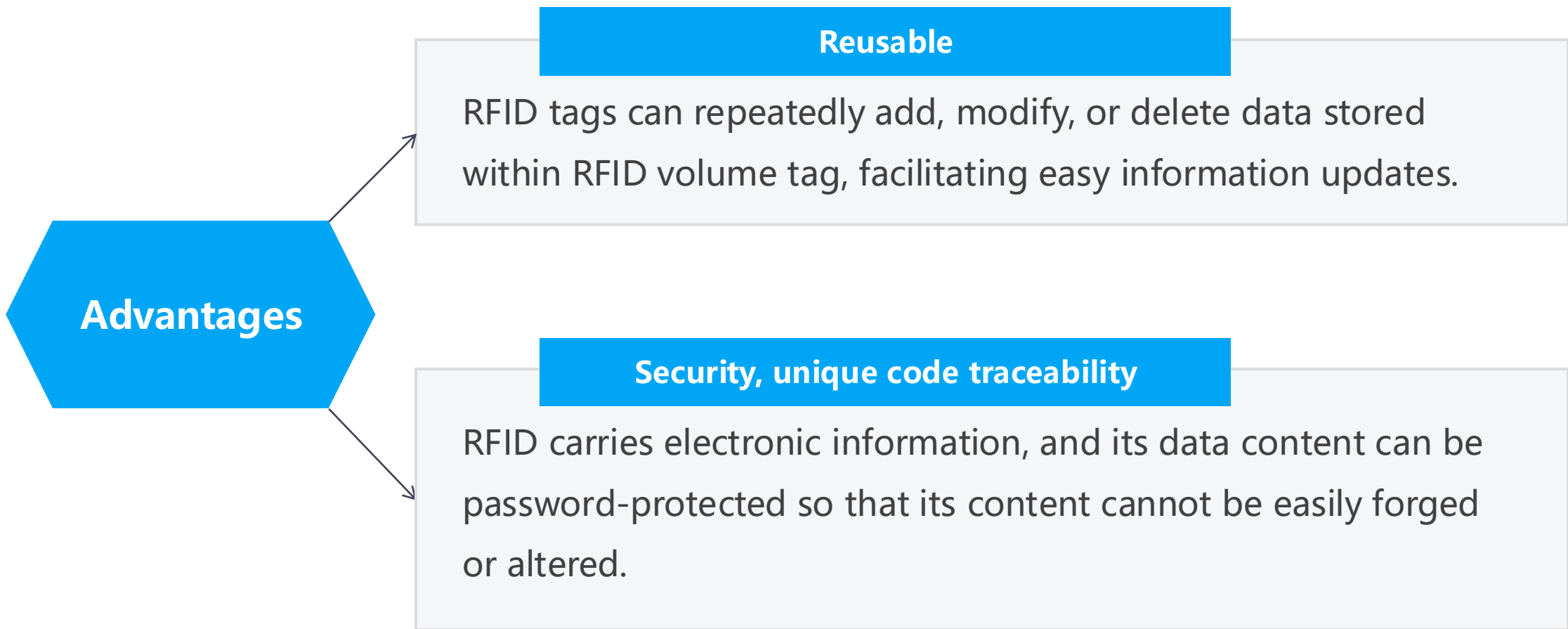
Advantages

Faster, more flexible

RFID tags identify more accurately, the distance of identification is more flexible, and faster inventory speeds. Penetration and barrier-free reading can be achieved.

Anti-pollution, more durable

RFID is highly resistant to substances such as water, oil and chemicals; RFID roll labels are protected from defacement as the data is held in the chip.



02

RFID products and scenarios



DT50D

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4G

Short-range
RFID

No NFC

Range : 1.5m

Scenarios:

Close-range inventory of a small number of tags, such as ticket inspection, clothing stores out of stock, ultra-high frequency ear tags in farms, and alcohol anti-counterfeiting traceability etc..





RFDT50

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Detachable
Handle

Mid-range
RFID

Use with DT50

Range : 8m

Scenario: support for removable RFID handles or the need for RFID inventory, but the use of infrequent scenarios, such as some of the clothing, jewelry stores inventory, every long time before the inventory, the rest of the time to use the DT50 scanning bar code.





DT50P

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4G

Long-range
RFID

No NFC

Range : 20m



Scenarios:

- ① Batch rapid inventory, such as clothing store inventory, express woven bags, pallets, etc.;
- ② Long-distance single-tag identification,, looking for goods to find labels, such as high shelf inventory, locating specific clothing items in clothing stores, express logistics to find bags, pallets.



FR1000

Fixed-Reader
RFID

Android
System

8 Channel
standard SMA-K
interface

Optional
Antenna

Scenarios: Warehouse inbound and outbound operations, retail stores, logistics outlets, financial cash boxes; asset management; production line management







FR2000

Desktop RFID

Range : 50cm

Communication:
USB/RJ45/Bluetooth

Power supply:
USB/optional P0E

Scenarios:

Retail checkout, jewelry management, self-checkout of books/documents.

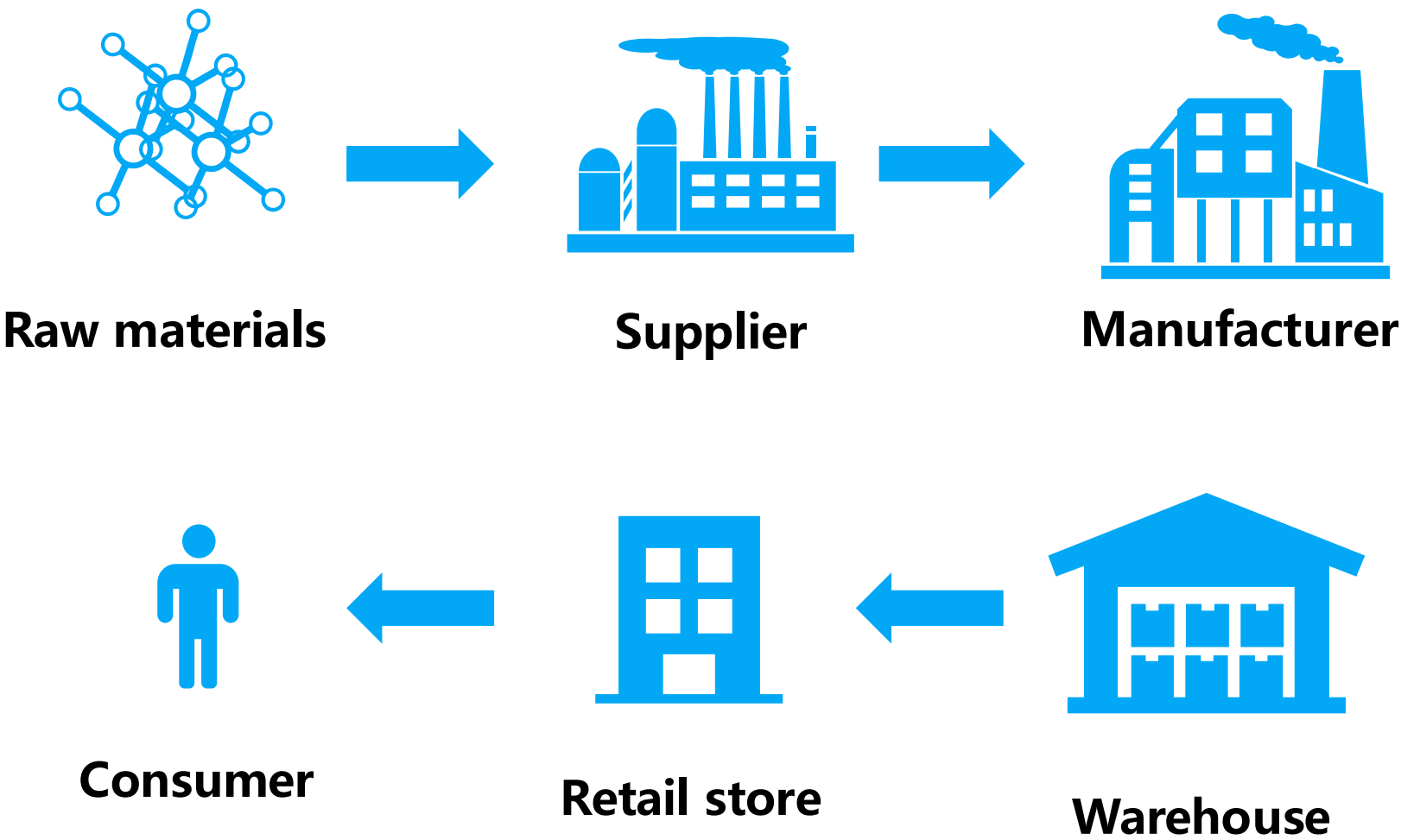


03

Logistics supply chain



Loss and damage of plastic boxes and pallets, incomplete recycling, resulting in losses, materials sent to the wrong batch, unable to trace which part of the error, etc..





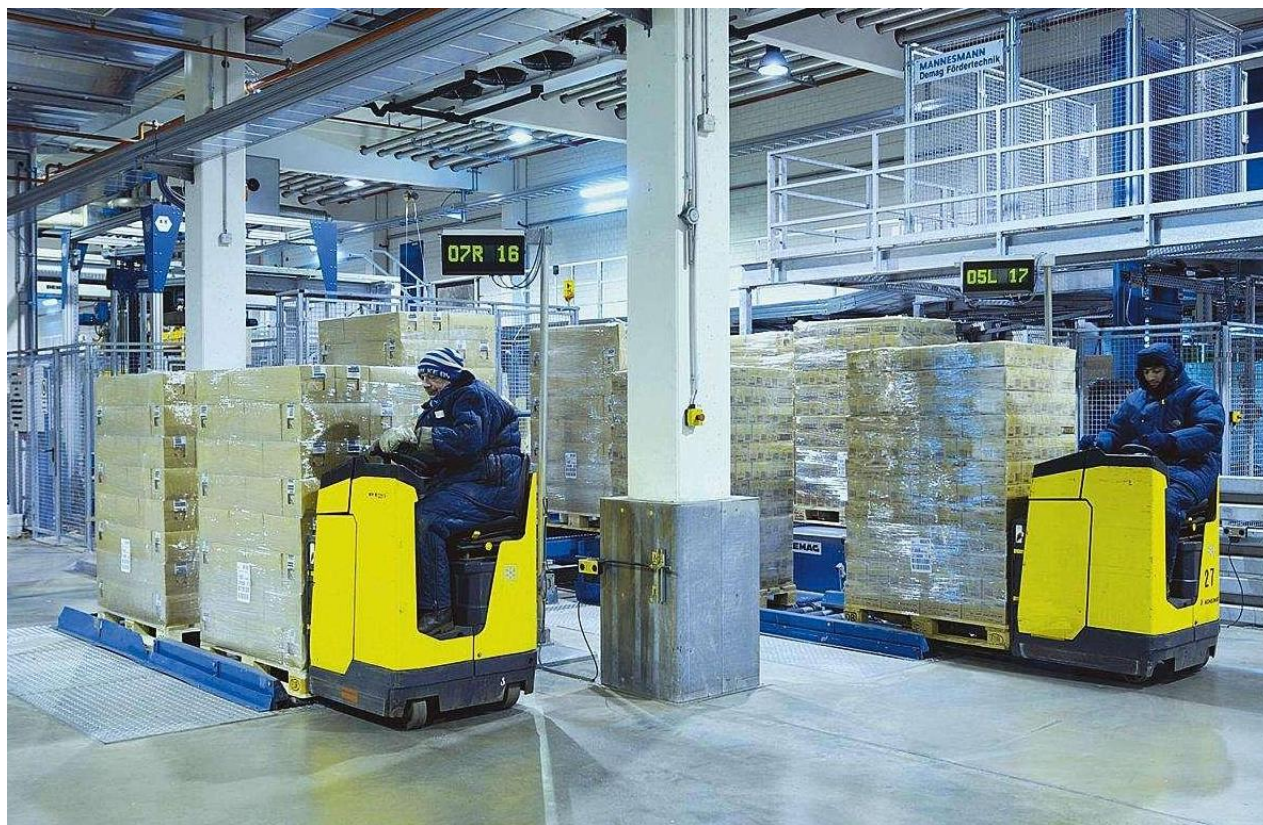
Logistics supply chain

Each RFID electronic tag has a globally unique number that cannot be duplicated or forged, realize the **anti-counterfeiting, traceability and anti-tampering** of products. Bind tags with plastic boxes and pallets, you can monitor whether the tray is recycled every day, **to grasp the movement of goods, effective recycling.**



04

Cold Chain Inventory Management



Traditional management: Manual management, cumbersome recording, low efficiency, error-prone and relatively high cost.

Computer system management: Record first, then input into the computer, high human factor influence, accuracy is not high, easy to falsify data, waste of human resources, management and maintenance costs are high.

Cold chain inventory management

Warehouse Management:



Standardized management, in and out of the warehouse using RFID, reducing reduces inventory workload and controls the accuracy of goods movements.

Vehicle Management:



Utilizes electronic tags to record and manage each transport vehicle.

Warehouse Environment Management:



Implements monitoring of warehouse temperature, humidity, and other environmental factors, with data reflected in a querying platform.



Safety and security management:

The implementation of monitoring the warehouse site work situation, to ensure that the entry and exit, inventory process can be reasonable and efficiently completed.



Early warning query management:

Wrong operation alarm, warehouse environment alarm, expired goods alarm, inventory over/under alarm and other early warning management.



Cold chain inventory management

- Achieve cross-regional centralized management, distributed operation and real-time monitoring functions;
- Efficiently carry out various business operations, improve warehouse management, enhance efficiency and value;
- **Improve the recognition rate of items in the process of entering and exiting the warehouse**, simultaneously recognizing multiple items to ensure consistency between physical items and documents, thereby improving efficiency;
- **Reduce the cycle of inventory**, enhance real-time data accuracy, dynamically monitor inventory status in real-time, and achieve visualized management of inventory items;
- Accurately grasp the warehouse situation, optimize the reasonable inventory;
- **Real-time monitoring of the warehouse environment conditions and changes**;
- Real-time observation of warehouse staff activities to track work progress.

05

Production Line Inventory Management



Traditional management methods lack transparency and real-time data in inventory management and business process oversight, and there is the possibility of human error, the authenticity of the data is difficult to be guaranteed, in and out of the warehouse management with the high cost and low efficiency.

1. Shelf Binding:

Binding RFID electronic chips with warehouse shelves.

2. Binding of Offline Boxing Information for Materials:

Material boxing will bind information such as material name, material model, packing quantity, production date, and offline time.

4. Inventory:

Using RFID handheld devices for inventory of parts in stock, verify the consistency of real-time inventory data and inventory statistics, to achieve alignment between the account and material information.

3. Materials in and out of storage:

When the materials are in and out of storage, the inventory is automatically updated and error-proof processing is carried out in real time.

Production line inventory management

Make full use of RFID's advanced, reliable and long-distance, multi-label simultaneous identification features , binding electronic chip to the identity of the material shelves, the deployment of the collection devices in the key nodes of the logistics, to realize the material in the entire logistics flow process of the whole process of tracking, **in improving the efficiency of the workshop operations, reduce the error rate, minimizes labor costs** is of outstanding significance.



► RFID Utilization Scenarios – Long Distance PDA UROVO



Cold Chain
Management



Production
Management

06

Retail

1. Inaccurate and slow statistics on **misplacement, misloading, overloading**, and other packing errors caused by human factors;
2. Products **out of the warehouse requires a lot of manual work**, and slow statistics, often resulting in a long supply cycle, which directly affects the enterprise's productivity;
3. **Inventory data statistics are not timely and inaccurate** also affects productivity, such as: excessively long replenishment cycles, etc.;
4. **Inventory** needs to be a lot of manual work for **a long time** to be completed;
5. Not clear where each product is located, and **can not know** exactly how many products **in a certain location**.



1. Production And Packaging:



After production is completed, attach labels to clothing, record manufacturer information, production batch, clothing information, etc., and conduct packaging inspections to prevent under-loading and over-loading situations.

2. Logistics:



Efficient batch processing for inbound and outbound activities, inventory counting, distribution, shipping, replenishment, etc.

3. Sales:



Track store sales, facilitate quick checkout, provide real-time online updates of store inventory, and implement measures against theft and counterfeit goods.

4. After-sales:



Avoid return and exchange of goods adulteration, and manage smart fitting room operations.



Goods do not open inventory, store inventory, timely find replenishment, anti-theft, etc., RFID technology can be from clothing production, product processing, quality inspection, warehousing, logistics and transportation, distribution, product sales of all aspects of informatization, to provide users with the whole real-time dynamic tracking query for managers at all levels to provide genuine, effective and timely management and decision-making support information for the rapid development of business to provide support for the overall reduce enterprise costs, improve profits and competitiveness.



RFID FR2000 Implementation

Simplify Desktop Checkout with RFID

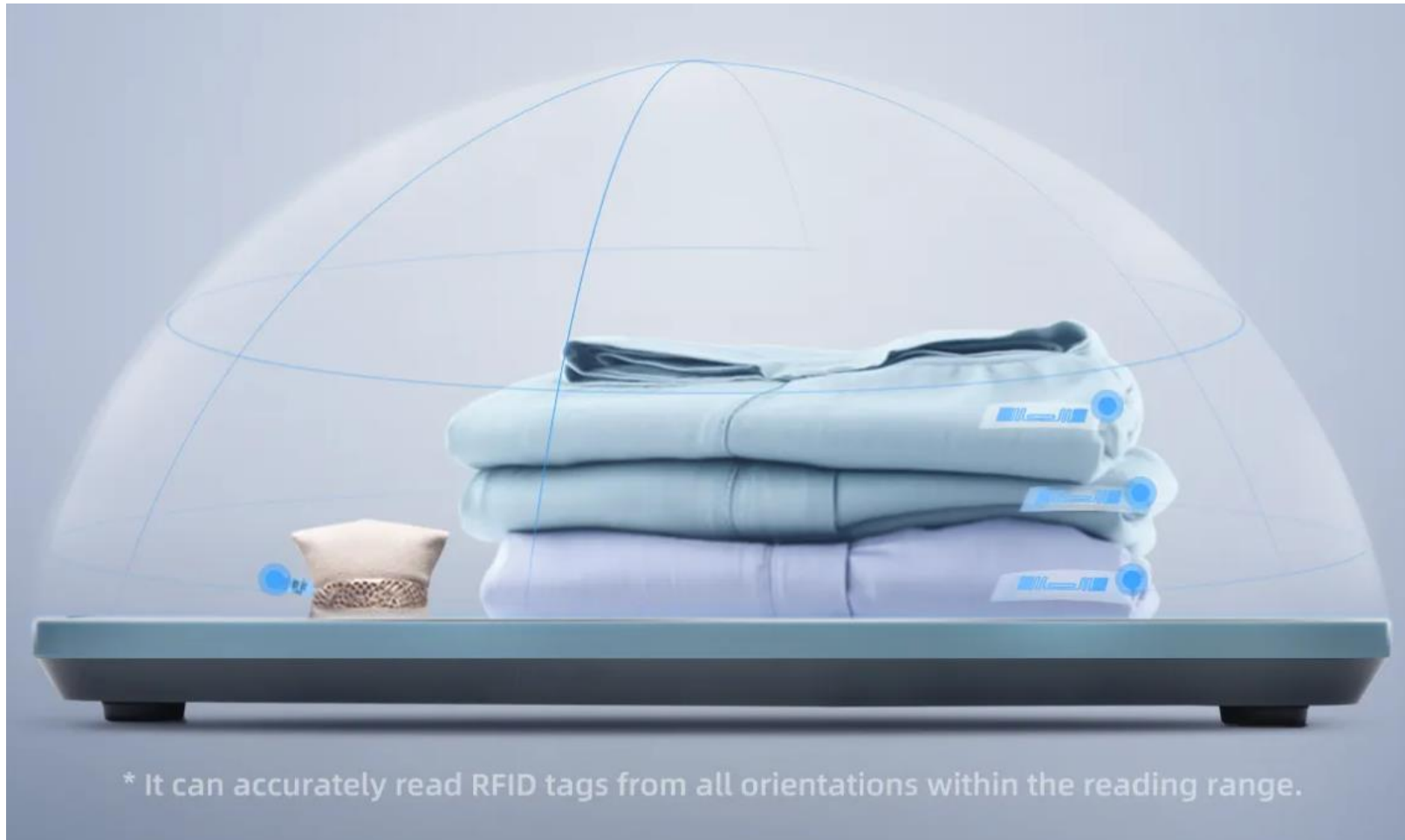
UROVO Desktop RFID Reader - FR2000





Exceptional RFID Performance

Equipped with the cutting-edge Impinj E710 chip and proprietary algorithms, it achieves an exceptional read accuracy of up to 99.9% from all orientations.





Anti Cross-Read

Robust metal casing prevents signal leakage, significantly improving reading accuracy while preventing cross-reads.



Data Transmission & Power Supply All At The Same Time



Supports USB power supply, with optional PoE supply. Data transmission and power supply can be easily achieved with a USB Type-C cable or RJ45 Ethernet, effectively reducing deployment and maintenance costs.





Real-Time Communication

Standard Type-C USB 2.0 Interface, with optional Bluetooth and RJ45 Ethernet Connectivity AND Can Seamlessly Connect & Communicate multiple OS



Compact and Easy Deployment

Support short RFID read range within 50cm. Widely applied in retail store checkout, digital plate checkout, books management, pharmaceutical management, jewelry management, and more.



Retail Store



Digital Plate Checkout



Counter Self-service



Book Borrowing

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Thank you