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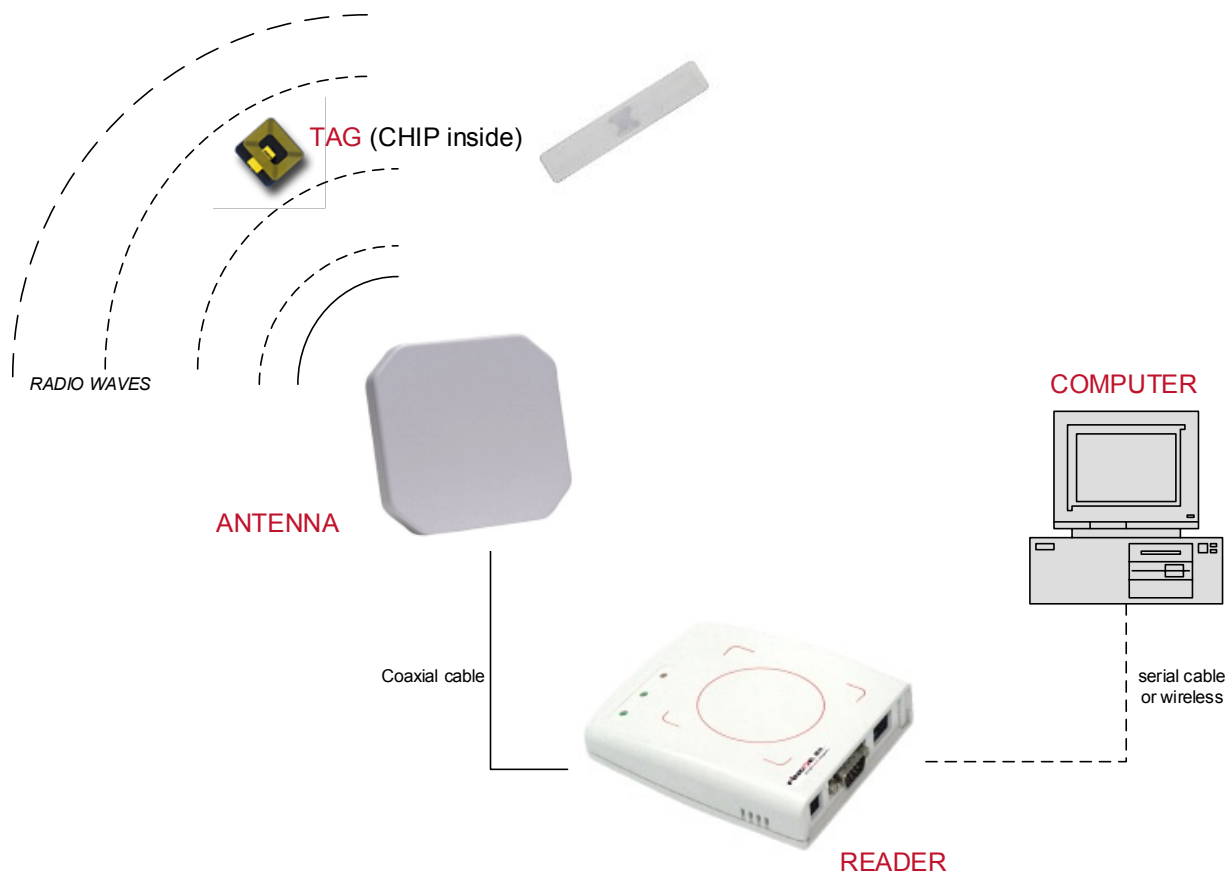Optimized Laundry Processes with RFID

RFID Surgical Scrubs System

RFID

What is RFID

RFID, Radio Frequency Identification.

TAG (CHIP inside)

RADIO WAVES

ANTENNA

COMPUTER

Coaxial cable

serial cable
or wireless

READER

Advantages of RFID vs. Barcodes

- No line of sight
- Multiple read simultaneously
- Speed of operation
- Read/write
- Read reliability
- Durability
- Difficult to replicate
- Data storage

PK

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6  93461 31000  1
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RFID Advantages

Advantages of UHF vs. HF in Laundry

▸ **Short range readability (advantage: tie)**
Both HF and UHF technologies allow for equal short range readability.

▸ **Long range readability (advantage: UHF)**
UHF technology far surpasses HF technology, allowing tags to be read up to 2-4 meters away.

▸ **Rate of data collection (advantage: UHF)**
UHF tags can be read much quicker than HF tags. Up to hundreds of UHF tags can be read simultaneously. This is a benefit HF technology cannot keep up with.

▸ **Handheld read range (advantage: UHF)**
UHF Handheld can read hundreds of tags simultaneously while HF Handheld can only handle one by one.

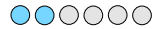▸ **No shielding of adjacent tags (advantage: UHF)**
Because of the way HF technology works, adjacent tags can be shielded by other tags' magnetic fields. This leaves some tags unread and severely undermines the reliability of HF technology. This shielding does not occur with UHF technology.

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System Process Coverage

Clean inbound

Washed scrubs inbound scanning, and check according to what shipped

Sorting and Stock check-in

Piece or multiple anonymous SKU scrubs scanned, system responses stock slot

Operator places scanned pieces at right slot location

Dispensing and Stock check-out

Employee card swiped, operator selects types of scrubs and system responses stock slot

Scrubs scanned and associated to the employee

Soiled Returning

Soiled scrubs dropped into chute by employee
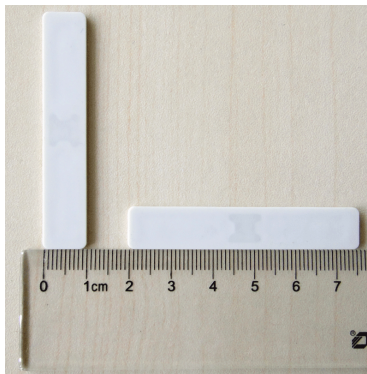
System scan-in and returns the receipt

Washing Process

Soiled outbound

Print bill of shipping for laundry by chuted records

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Components & Function

RFID Washable Tag

▶ 902-928MHz, 865.6-867.7 MHz Frequency

▶ Size & Weight, 55(W)x10(D)x1.6(H)mm, 1g

▶ Unique Identification Code

▶ UHF technology to read hundreds of tags simultaneously

▶ The tags can survive harsh industrial laundry process

▶ Performs at a 99.9% accuracy rate with a 2-3 meters read range

▶ High pressure withstanding up to 60 bars

▶ 200 washing cycles or 3 years from shipping date warranty, whichever comes first

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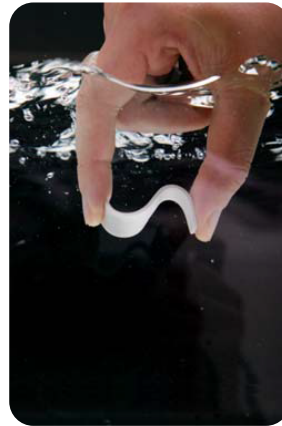
Components & Function

RFID Washable Tag

Waterproof

Corrosion-Resistant

High Temperature-Resistant

Tagging

A small pocket embroidered with the users' logo is stuffed with an RFID tag and sewn onto towels, linens and uniforms.

Components & Function

RFID Smart Workbench

▸ Tag Manager (*Commissioning, Discarding, Tag replacing etc.*)

▸ Clean inbound (*Could setup a tunnel for bulk check-in in future*)

▸ Clean sorting (*Stock check-in and System responses stock slot location*)

▸ Dispensing (*Stock check-out and associated employee's ID*)

▸ Soiled outbound (*Print bill of shipping for laundry*)

▸ Dashboard

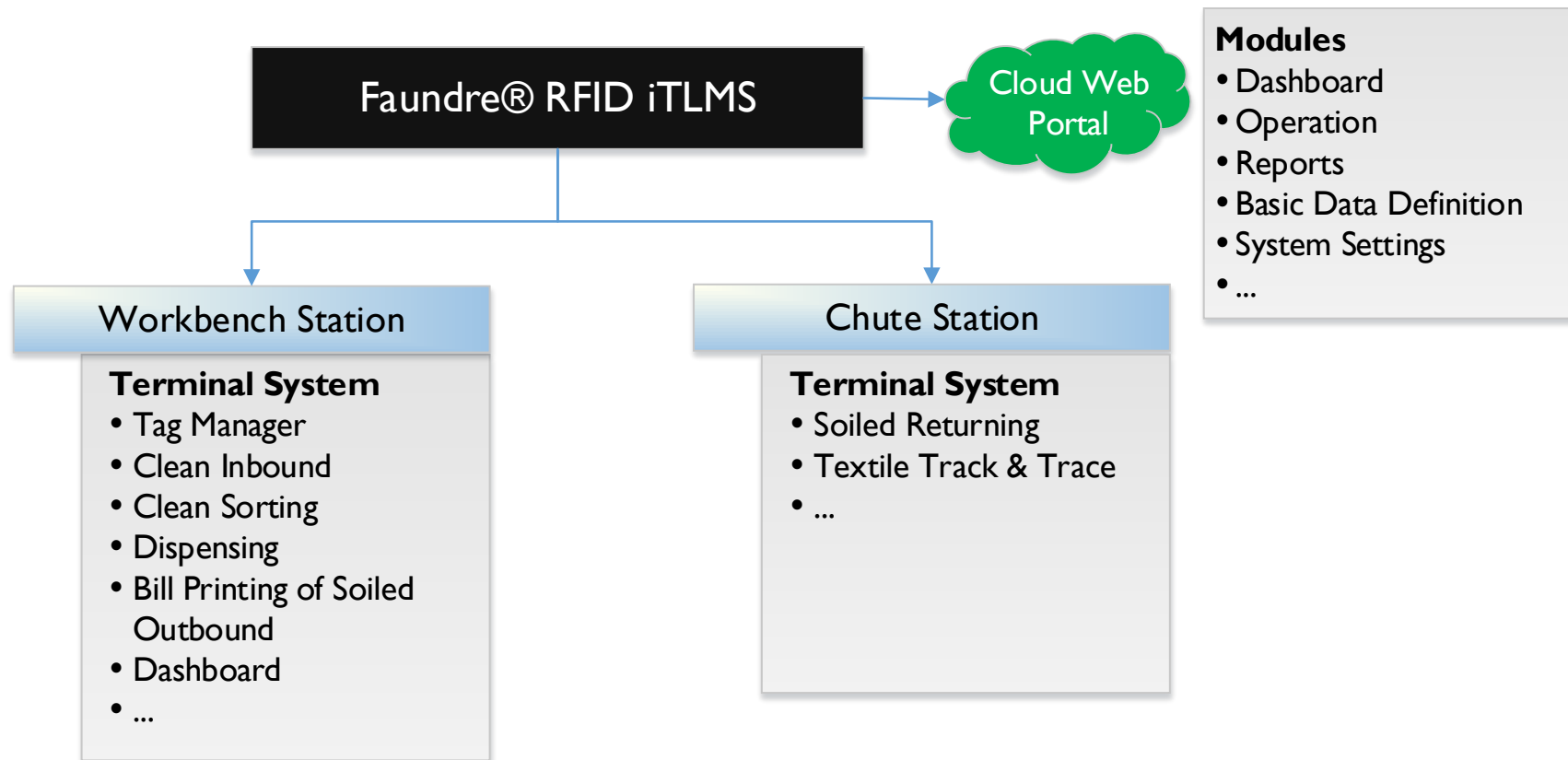## *Components & Function*

RFID Chute Station

- Soiled chute in
- Receipt printing

RFID自助式投衣系统

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Components & Function

○○○○○○

Software

Faundre® RFID iTLMS → **Cloud Web Portal**

Modules
- Dashboard
- Operation
- Reports
- Basic Data Definition
- System Settings
- ...

Workbench Station

Terminal System
- Tag Manager
- Clean Inbound
- Clean Sorting
- Dispensing
- Bill Printing of Soiled Outbound
- Dashboard
- ...

Chute Station

Terminal System
- Soiled Returning
- Textile Track & Trace
- ...

Network topology

Hospital End

Finove Cloud Web Portal
(Data Synchronization & Backup)

LAN

INTERNET

Node Server

WEB

Order list

Products & Services	Description	Quantity
Cloud Software		
Finove Faundre® iTLMS	*License Limits - Faundre® Cloud Web Portal & Data Storage, One server node data synchronized to Cloud, and no items managed limits*	1
RFID Tags		
UHF-RFID Washable Tags	*200 washing cycles or 3 years from shipping date warranty, whichever comes first*	10,000
Equipment & Supplies		
Tag Woven Pouch	*for UHF-RFID washable tags sewing*	10,000
UHF-RFID Smart Workbench	*Integrated with touch screen PC, printer, high grade RFID reader & antenna, one terminal OS and Faundre® software licence*	1
UHF-RFID Chute Station	*Integrated with touch screen PC, printer, high grade RFID reader & antenna, one terminal OS and Faundre® software licence*	2
Services		
Onsite Installation and Training	*Man-day*	6
One Year Support Package	*Annual renewal fee for customer support and software updates, Faundre® Cloud Web Portal and data storatge*	1
Others		
Travel Expense	*Tickets fly, hotels and meals of the technicians*	1

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Customer Responsibilities

- *Provide and maintain One (1) networked server that meet the minimum system requirements below:*

  - *Windows Server 2003 or Windows Server 2008*

  - *2GHz Processor; 4GB RAM; 100 GB Hard Drive (free space); RAID1 Recommended*

  - *High-Speed Internet Connection with Internet Explorer*

  - *VPN port(PPTP, L2TP) allowed at firewall*

- *Provide and maintain Microsoft SQL Server 2008 with specifications equal to or greater than Microsoft's minimum requirements for the SQL Server program being used.*

- *Install network cabling, ports and electrical outlets, if needed, per specifications provided by Ugaiya.*

- *Attached (sew) UHF-RFID tags to scrubs, per specifications provided by Ugaiya.*

- *Provide staff to be trained and to process scrubs for the days while Ugaiya's engineer is onsite.*