



ACUBE INFOTECH



RFID Laundry Management Solution



Introduction



ACUBE INFOTECH is the leading provider of business solutions in the field of UHF (Ultra High Frequency) RFID technology in the UAE & the GCC Region. Our core services include the development, implementation, and maintenance of customized business solutions that leverage advanced RFID technology.

Our business objective is to become a pioneer in the field of AIDC (Automatic Identification and Data Collection).

We currently serve customers all across the GCC and MENA region.



ACUBE INFOTECH

440+
Projects

9+
Countries
Serving



20+
solutions

230+
Clients



Dataflow



Antenna



Fixed Reader

LAN

User-Mobile



Middleware

internet



Cloud Server



User



Smart Portal



Handheld reader



Wi-Fi



4G

79%

68%

95%



RFID TAG



Radio Frequency Identification (RFID) is wireless communication technology that is used to uniquely identify tagged people or objects. RFID is an emerging technology and one of the most rapidly growing segments of today's automatic identification and data capture (AIDC) industry. Whether we realize it or not, RFID is an integral part of our life. RFID is used for hundreds, if not thousands of applications such as preventing theft of automobiles and merchandise, inventory management, collecting toll without stopping, managing traffic, gaining entrance to buildings, automating parking, controlling access of vehicles to gated communities, corporate campuses, and airports, dispensing goods, providing ski lift access, tracking library books, and the growing opportunity to track a huge amount of assets in supply chain management.



ACUBE ASSET MANAGEMENT SYSTEM

ACUBE LMS(Laundry Management Solution) is the RFID-based Laundry Management System, to control laundry operations such as collections, sorting verification and packing, etc. The solution is completely customizable according to the client's workflow. The scalability of the application provides the privilege for the user to have improvement or modification in the future. Its modular architecture provides the user the power of choosing the feature that they require. LAUNDRY MANAGEMENT SOLUTION can be integrated if the client has an existing ERP.





Components

RFID Smart Portal



The fixed RFID Smart Portal is used for Bulk check-in or Check-out scanning, Distribution and assignment process.

RFID/Barcode Handheld reader



Android Handheld is used for manual check-in and checkout operations and remote operations like the collection of different locations. It also is used for auditing operations

RFID Tags



The RFID Tags are enabled with Electronic Product Code (EPC) that identifies specific items as they travel between locations to share information more effectively. It also increases the speed of operations as items are recognized quickly and easily. When a reader scans the tag, it transmits back the unique EPC code. This is done with little to no manual effort required, compared to the work needed to open boxes and scan barcodes. This will offer significant operational benefits.

EPC global UHF Class 1 Gen 2 (ISO 18000-6C)
Operating Frequency: Global 840-960 MHz
Memory: EPC 128 bits



Handheld Terminal



Check-in & Check-out

Inventory Audit

collection/Delivery

Dispatch Operations

Assignment operation

Handheld and Mobile application

- Customized based application
- tagged items captured using the application



RFID Smart Portal



RFID Smart Portal

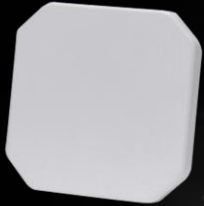
RFID Smart Gates are used for the automation of many operations like bulk scanning for check-in & check-out, and in some cases as an anti-theft system.

The gate is custom made to insure it captures all the RFID tagged items in real time and in fraction of seconds.

These are placed at the entry and exit points to track the movements of the soiled and clean laundry



RFID Fixed Reader



RFID fixed readers are used assignment of linen or uniform sorting, distribution, and in some cases as an anti-theft system. Antennas are mounted on the entry/exit gates along with a reader and alarm connected to the central system.

RFID READERS

ANTENNA



Portal Readers in Inbound & Outbound Area of Laundry.

1



Linen/Uniforms are scanned in bulk while passing through the entry/exit

2



Desk Mounted reader is used for assigning and sorting operations

3



LMS- Work Flow



Soiled cloths are scanned using handheld



At laundry entrance the laundry bags cross from RFID Smart Portal, they are scanned and verified to be checked in.



After washing items brought to the sorting desk. sorted And send back to customer



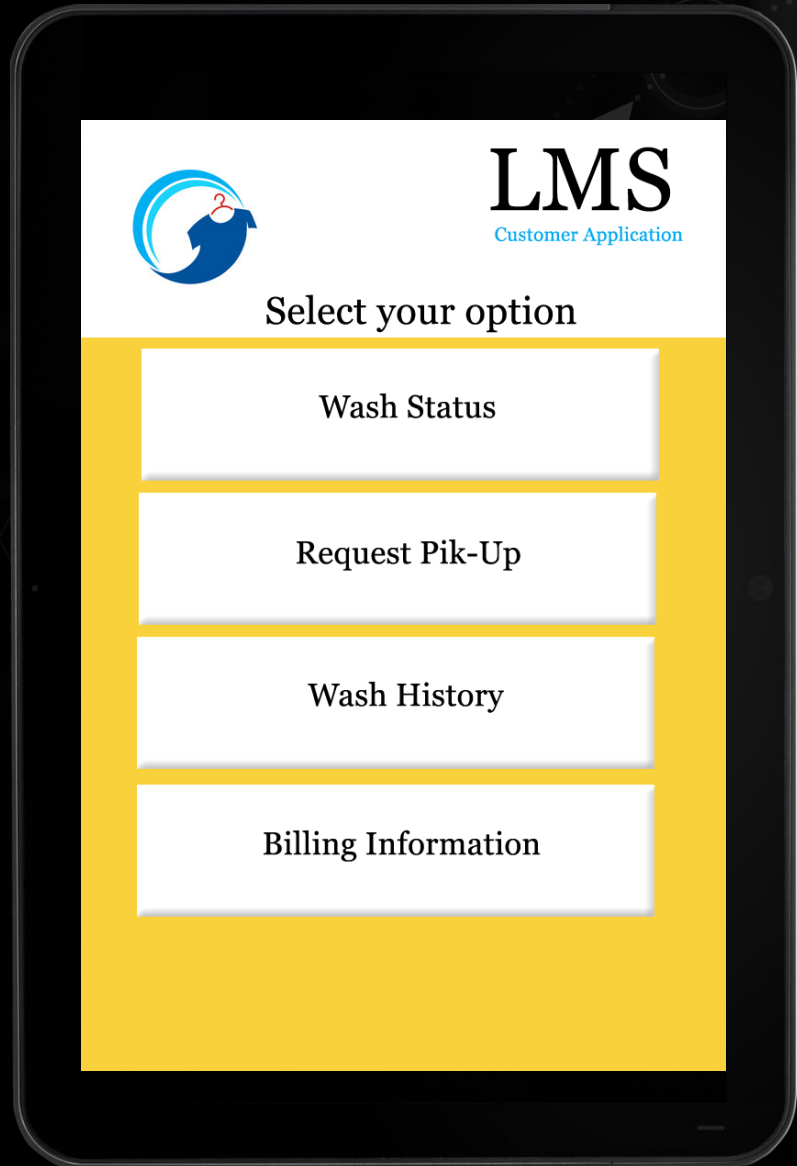
For dispatching items are verified using handheld device.



At laundry Exit the laundry bags cross from RFID Smart tunnel, they are scanned and verified to be checked out.



LMS- Work Flow



Now enhance your customer's experience with our
Mobile application

- Customer request for pick-up
- Wash status
- Washing History
- Customer service modules
- Billing information



LMS- Work Flow



Soiled Laundry Pickup from customers room.

- When the Laundryman goes to collect the laundry from the customers room, he/she will scan the bag with the handheld and make an entry for pick up with the total number of soiled clothes.
- The handheld will push the notification to the laundry and the customer's app notifying that the laundry has been picked up.





LMS- Work Flow



- **Installing a smart check-in portal at the receiving area.**
- A smart check-in portal will capture all the tagged RFID laundry bags with soiled clothes.
- Each laundry bag will be tagged with a RFID chip which will have all the information of the room it belongs too.
- Incase the soiled clothes are tagged with the RFID chip the smart portal will capture the information of the owner and the total wash cycles. (this works for uniforms)
- This report will be shared with the customer on their app notifying them their laundry is in for delivery



Sorting area (Soiled clothes)

Once laundry bags are checked in from the receiving area, they will be opened and all the soiled clothes will be tagged with a temporary RFID tag. The RFID tag will have the information of the bag and the room it belongs to.

The RFID tags on the clothes will help sort out the clothes once they finish the wash cycle and are ready to be dispatched back to the owner.

We would be adding a smart screen and an encoder on the table to encode the temporary tags with the Laundry bag.



Sorting area (washed & ironed clothes)

The RFID tags on the clothes will be scanned by the antennas setup on the table and will give the information on the smart screen with will help to map it to the laundry bag they belong to and will be ready to be dispatched back to the owner.

We would be adding a smart screen and antennas on the table.

During checkout the smart screen will also share the information of the total units of clothes and the amount to be charged to the customer.



LMS- Work Flow



- **Installing a smart check-out portal at the Dispatch area.**
- A smart check-out portal will capture all the tagged RFID laundry bags with washed clothes.
- Each laundry bag will be tagged with a RFID chip which will have all the information of the room it belongs too.
- This report will be shared with the customer on their app notifying them their laundry is out for delivery

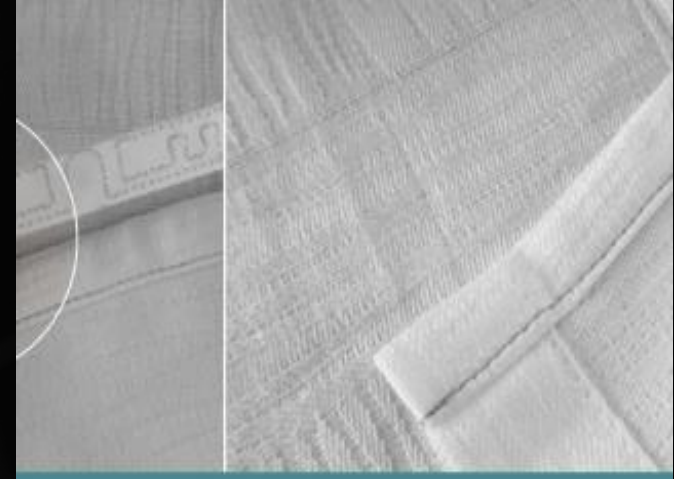


SYSTEM - ARCHITECTURE





The first step is to tag the linen/uniform with the RFID laundry tag. The tag is specially designed for laundry operations hence it can withstand high temperature and pressure conditions for more than 400 wash cycles. Various methods of tagging can be used as mentioned.



Using Tag Pouch: Tag is inserted into special pouch and stitched to uniform/linen. Pouch can be customized with logo or name

1

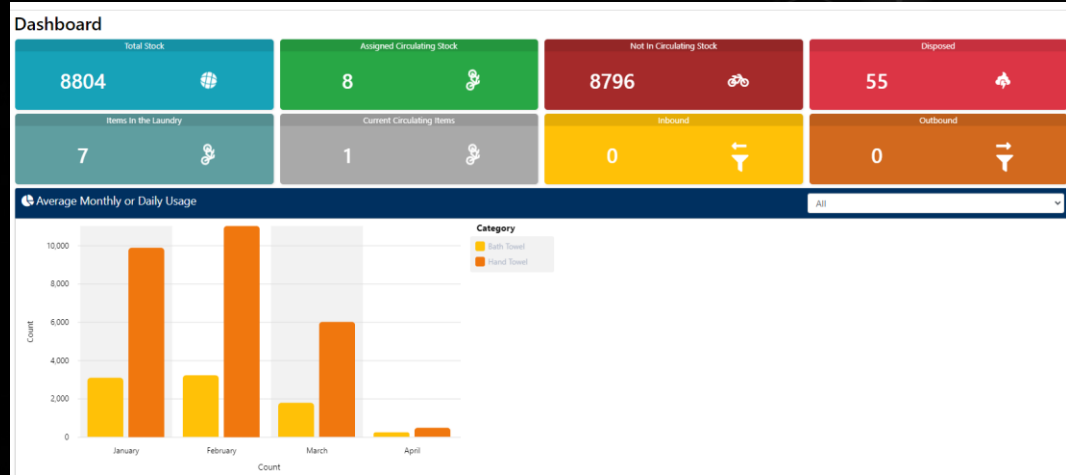
Hem Method: The hem is opened Tag is inserted into the hem and stitched. Alternatively, a heat seal can also be used.

2

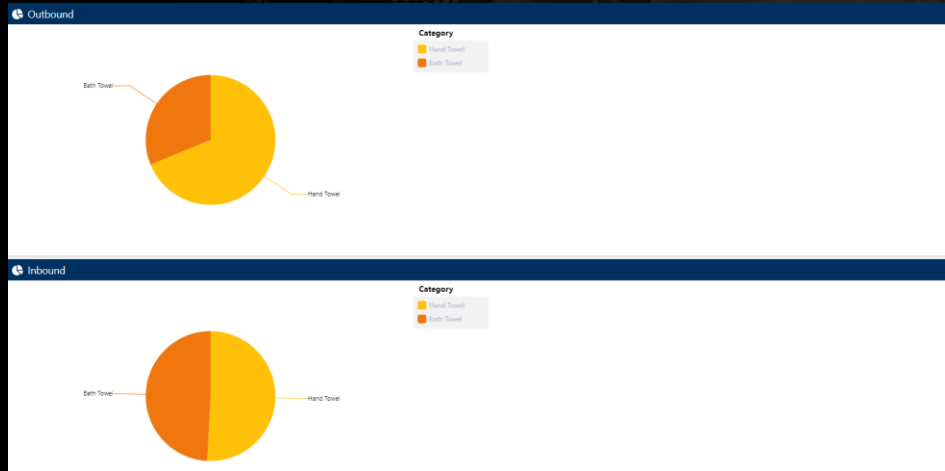


Dashboard

DASHBOARD



DASHBOARD



Inventory details

Administration	Total: 8796	Report
Location Setup		
Item		
Building		
Floor		
Room		
Item Location		
Items Setup		
Type		
Category		
Sub Category		
Brand		
Size		
Color		
Service Type		
Item State		
Items		
Transactions		
Inventory		
Outbound		
Inbound		
Disposed Items		
Reports		

Item...	Serial Number	Item Type Name	Item Name	Owner	Facility Name	Location Name	Category Name	Sub Category Name
1	4341523133231327C0L	Linon	Hand Towel	COMPANY	Wellfit	Gym In Fitness Room	Towel	Hand Towel
2	308ED8F9335008CCDC...	Linon	Hand Towel	COMPANY	Wellfit	Gym In Fitness Room	Towel	Hand Towel
3	308ED8F9335008CCDC...	Linon	Hand Towel	COMPANY	Wellfit	Gym In Fitness Room	Towel	Hand Towel
4	308ED8F9335008CCDC...	Linon	Hand Towel	COMPANY	Wellfit	Gym In Fitness Room	Towel	Hand Towel
5	308ED8F9335008CCDC...	Linon	Hand Towel	COMPANY	Wellfit	Gym In Fitness Room	Towel	Hand Towel
6	308ED8F9335008CCDC...	Linon	Hand Towel	COMPANY	Wellfit	Gym In Fitness Room	Towel	Hand Towel
7	308ED8F9335008CCDC...	Linon	Hand Towel	COMPANY	Wellfit	Gym In Fitness Room	Towel	Hand Towel
8	308ED8F9335008CCDC...	Linon	Hand Towel	COMPANY	Wellfit	Gym In Fitness Room	Towel	Hand Towel
9	308ED8F9335008CCDC...	Linon	Hand Towel	COMPANY	Wellfit	Gym In Fitness Room	Towel	Hand Towel
10	308ED8F9335008CCDC...	Linon	Hand Towel	COMPANY	Laundry	Gym In Fitness Room	Towel	Hand Towel
11	308ED8F9335008CCDC...	Linon	Hand Towel	COMPANY	Wellfit	Gym In Fitness Room	Towel	Hand Towel
12	308ED8F9335008CCDC...	Linon	Hand Towel	COMPANY	Wellfit	Gym In Fitness Room	Towel	Hand Towel
13	308ED8F9335008CCDC...	Linon	Hand Towel	COMPANY	Wellfit	Gym In Fitness Room	Towel	Hand Towel
14	308ED8F9335008CCDC...	Linon	Hand Towel	COMPANY	Wellfit	Gym In Fitness Room	Towel	Hand Towel


Outbound Transaction

Management System	Home	Admin	Logout
Outbound Transactions			
Filters			
From Facility:	Wellfit	To Facility:	Select...
From Date:	01-Mar-2022	To Date:	05-0000-0000
Search by remarks			
Document No	Remarks	From Facility	To Facility
2022001082038	Wellfit	Laundry	01-03-2022 12:20:35 PM
20220002071417	Wellfit	Laundry	02-03-2022 11:16:17 AM
20220003083454	Wellfit	Laundry	03-03-2022 12:34:53 PM
20220004084819	Wellfit	Laundry	04-03-2022 12:48:16 PM
20220005091605	Wellfit	Laundry	05-03-2022 01:16:04 PM
20220006085429	Wellfit	Laundry	06-03-2022 12:54:29 PM
20220007073811	Wellfit	Laundry	07-03-2022 11:38:11 AM
20220008081952	Wellfit	Laundry	08-03-2022 12:19:52 PM
20220009083628	Wellfit	Laundry	09-03-2022 12:36:28 PM
20220110082423	Wellfit	Laundry	10-03-2022 12:24:23 PM
20220111082985	Wellfit	Laundry	11-03-2022 12:29:85 PM
20220112090548	Wellfit	Laundry	12-03-2022 01:05:48 PM
20220113083634	Wellfit	Laundry	13-03-2022 12:36:34 PM
20220114084952	Wellfit	Laundry	14-03-2022 12:49:52 PM
3220001023	Wellfit	Laundry	15-03-2022 05:40:48 PM

Item missing Report

Missing Reports						
Filters						
From Date:	31-Aug-2021					
To Date:	07-Oct-2022					
Select items:	Bath Towel					
Clear Refresh						
Total: 114 Report						
Total Outbound: 10841		Total Inbound: 10574		Total Missing: 267		
Tran Id	Scanned Date	Item Name	OutQty	InQty	MissingQty	
422000125	4/6/2022	Bath Towel	12	7	5	
422000127	4/14/2022	Bath Towel	1	0	1	
422000129	4/27/2022	Bath Towel	111	0	111	
2021112130132	11/21/2021	Bath Towel	48	48	0	
20211122074050	11/22/2021	Bath Towel	39	38	1	
20211123075904	11/23/2021	Bath Towel	62	60	2	
20211125134241	11/25/2021	Bath Towel	95	93	2	
20211127131850	11/27/2021	Bath Towel	87	87	0	
20211128081523	11/28/2021	Bath Towel	35	35	0	
20211129084425	11/29/2021	Bath Towel	93	91	2	
20211130074058	11/30/2021	Bath Towel	84	84	0	
20211201074447	12/1/2021	Bath Towel	52	52	0	

Handheld Dashboard



Acube LMS

RFID Powered Real Time Analytics

Admin

Sign In

Settings

ACUBE LMS

DASHBOARD

INVENTORY

ITEMS

OUTBOUND

INBOUND

DISPOSE

CIRCULATING STOCKS

ITEM INFO

8804

0

0

55

8

Inventory

Outbound

Inbound

Disposed

Circulating Stocks

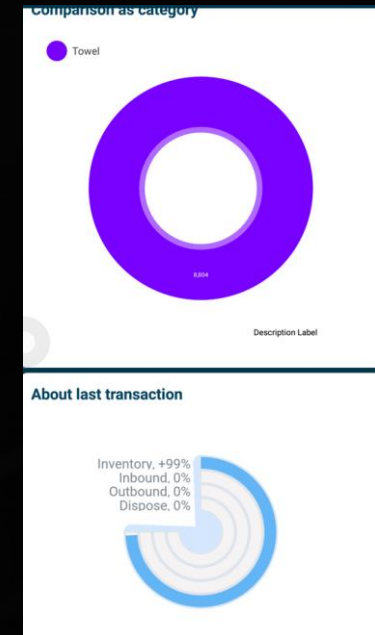
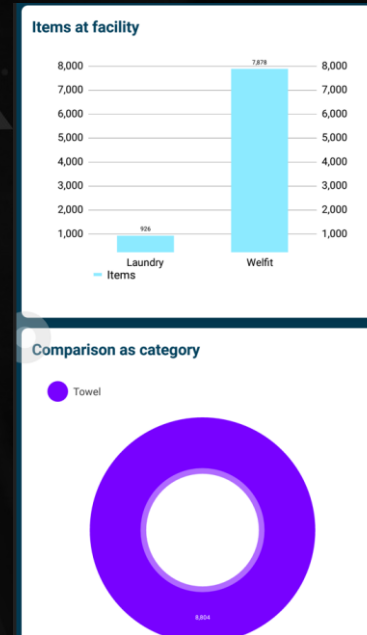
Items at facility

8,000

7,878

8,000

7,000



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INVENTORY ASSIGN

Item type*

select

Item owner

☒ Company ☐ User

Facility*

select

Items*

select

Item state

select

Location

select

Batch number

Supplier

select

Proceed

Acube LMS

INVENTORY ASSIGN

Item type*

select

Item owner

☒ Company ☐ User

Facility*

select

Items*

select

Item state

select

Location

select

Batch number

Supplier

select

Proceed

Acube LMS

OUTBOUND

Service type

select

From facility

select

To facility

select

Remarks

Remarks..

Scan

Acube LMS

INBOUND

Location*

select

From facility*

select

To facility*

select

Remarks

Remarks..

Scan



SYSTEM BENEFITS

- Provides quick and easy visual Laundry management
- Maintain more accurate physical Garments / Linen etc with less manual labor (labor savings can be reduced by 90%).
- Timetable and record maintenance histories
- Streamline Laundry Services
- Provides accurate records of cleaning quantities
- Increase productivity with automated business processes
- Reduce fabric loss and theft
- Enables accurate check-in and check-out system management
- Simplify audits



CLIENTS





Thank You



ACUBE INFOTECH