



# Acuity Inventory Management Solution

vingcard  
ASSA ABLOY

Experience a safer  
and more open world



# Table of Contents

Enhancing Hotel Operations through Effective Inventory Management	3
Elements of the Acuity Inventory Management Solution	6
Processes of the Acuity Inventory Management Solution	13
Management of Acuity Inventory Management Solution	16

# Enhancing Hotel Operations through Effective Inventory Management

In the hospitality industry, efficient inventory management is crucial for hotels seeking operational excellence and exceptional guest experiences. Advanced linen tracking systems offer game-changing solutions, enabling hotels to achieve cost savings, streamlined inventory management, enhanced guest satisfaction, increased productivity, and a more sustainable operation.

Within the following pages, we will examine the tangible cost savings that hotels can achieve by curbing the loss and misplacement of linens. Moreover, we will delve into the strategic insights and actionable data that emerge from comprehensive linen tracking systems, empowering hoteliers to make informed decisions about inventory replenishment, usage patterns, and resource allocation.

Beyond financial gains, this brochure will also shed light on the profound impact of linen tracking on guest experiences. From ensuring prompt and accurate service delivery to maintaining consistently high standards of cleanliness and comfort, effective inventory management plays a pivotal role in creating unforgettable stays for guests.



# Unlocking Hotel-Level Benefits with Acuity Inventory Management Solution



## Enhanced Inventory Visibility

Discover how advanced linen tracking systems provide real-time visibility into both clean and soiled linen stocks, enabling hoteliers to effectively monitor inventory levels throughout the operation.



## Loss Quantities Monitoring

Uncover the benefits of linen tracking in identifying and monitoring loss quantities, allowing hotels to pinpoint areas of inefficiency, reduce losses, and enhance overall inventory control.



## Streamlined Linen Flow Forecasting

Explore the utilization of linen tracking technology to anticipate linen flows within the laundry process, facilitating optimized planning and ensuring a smooth and efficient workflow.



## Automated Counts and Invoice Control

Discover how linen tracking systems automate the counting process at each step, improving accuracy and efficiency. Additionally, explore how these systems enable effective invoice control, ensuring transparency and minimizing discrepancies.



## Optimized Linen Purchasing

Learn how implementing a robust linen tracking system can assist hotels in optimizing linen purchases by providing valuable insights into usage patterns and consumption rates, leading to smarter procurement decisions and cost savings.



## PAR Levels, KPIs, and Dashboards

Delve into the utilization of linen tracking technology to establish and manage PAR (Periodic Automatic Replenishment) levels, track key performance indicators (KPIs), and access comprehensive dashboards that provide valuable insights into linen management metrics and performance indicators.



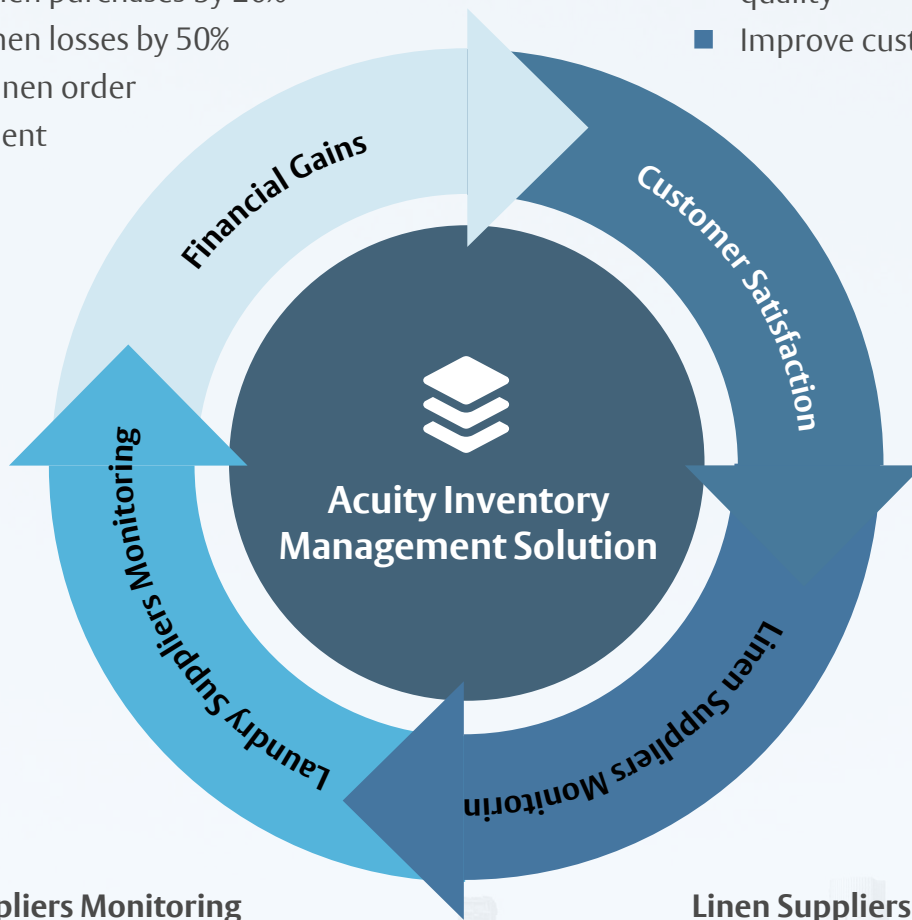
# Driving Success in Hotel Operations with Acuity Inventory Management Solution

## Financial Gains

- Reduce linen management labor costs by 33%
- Reduce linen purchases by 20%
- Reduce linen losses by 50%
- Improve linen order management

## Customer Satisfaction

- Eliminate clean linen shortages
- Improve housekeeping service quality
- Improve customer satisfaction



## Laundry Suppliers Monitoring

- Monitor and challenge laundries through service delivery and linen KPIs
- Validate deliveries compliance with shipping orders
- Improve service quality by 10%

## Linen Suppliers Monitoring

- Monitor and challenge linen suppliers with KPIs on linen quality, durability, and service
- Control linen purchases to ensure conformity with hotel specifications and increase year-end rebate from supplier up to 10%

# Elements of the Acuity Inventory Management Solution



Handheld terminal



Smart Table Top



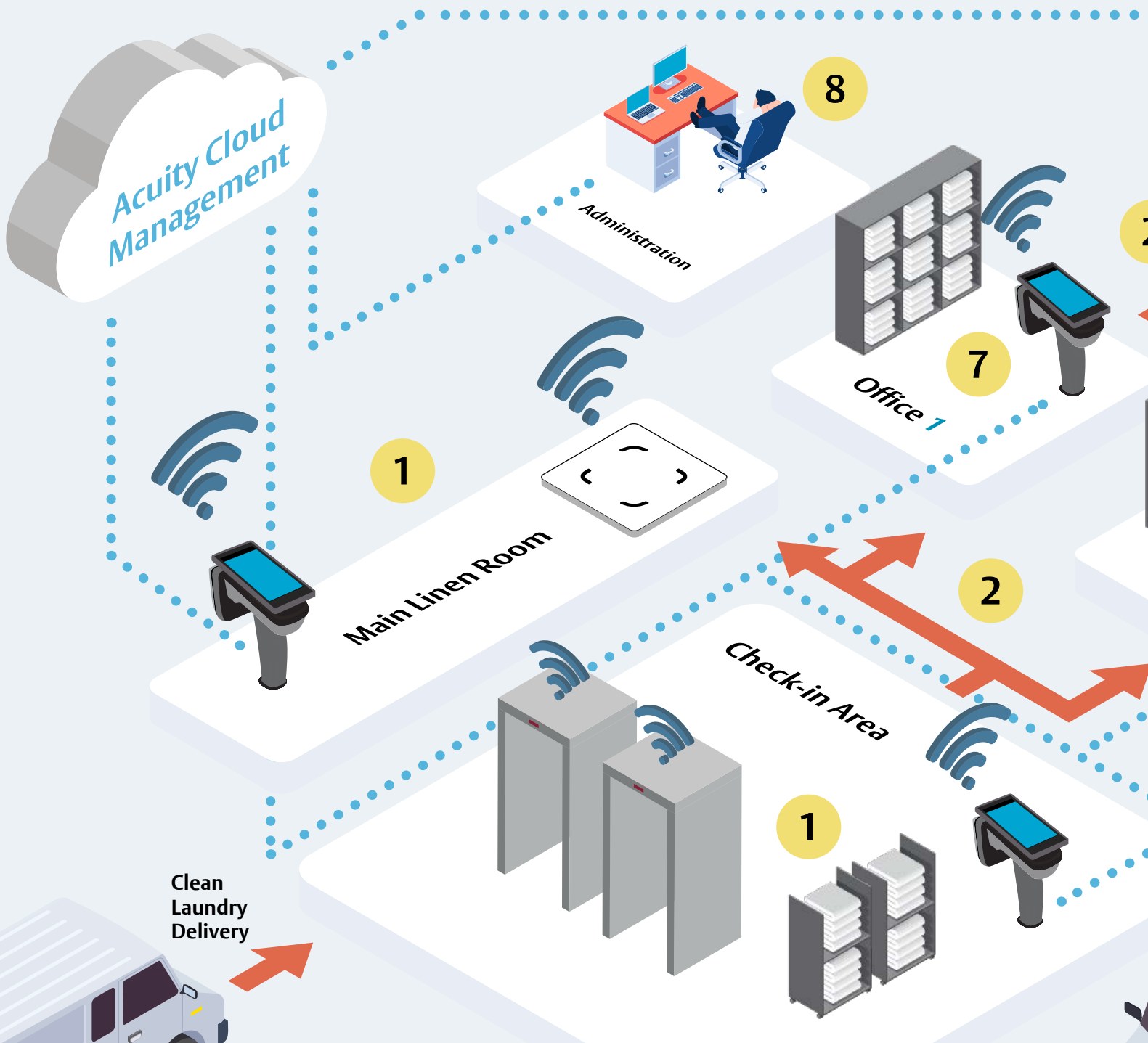
Cabin Station



RFID Process

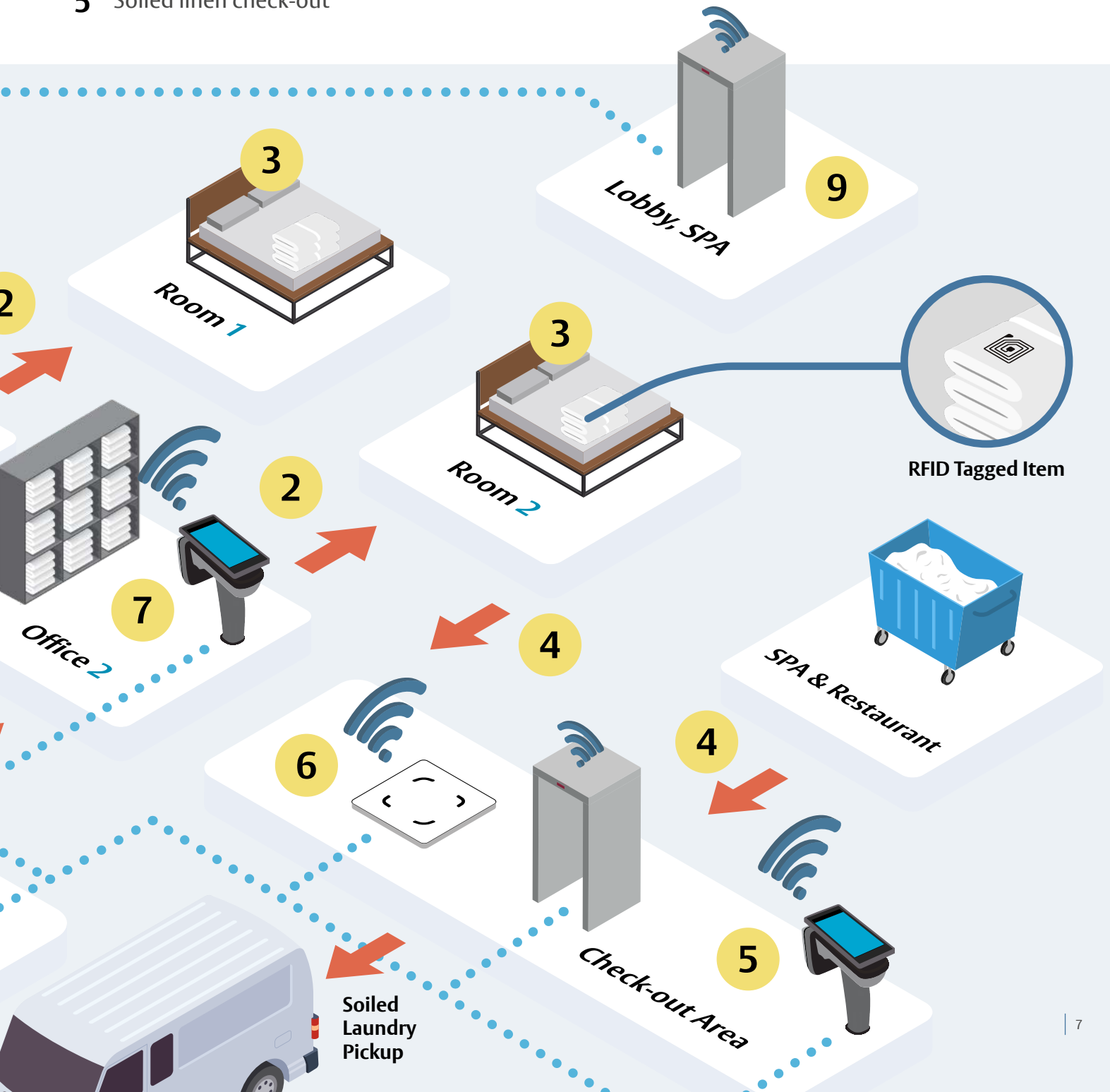


Flow of Linen Items

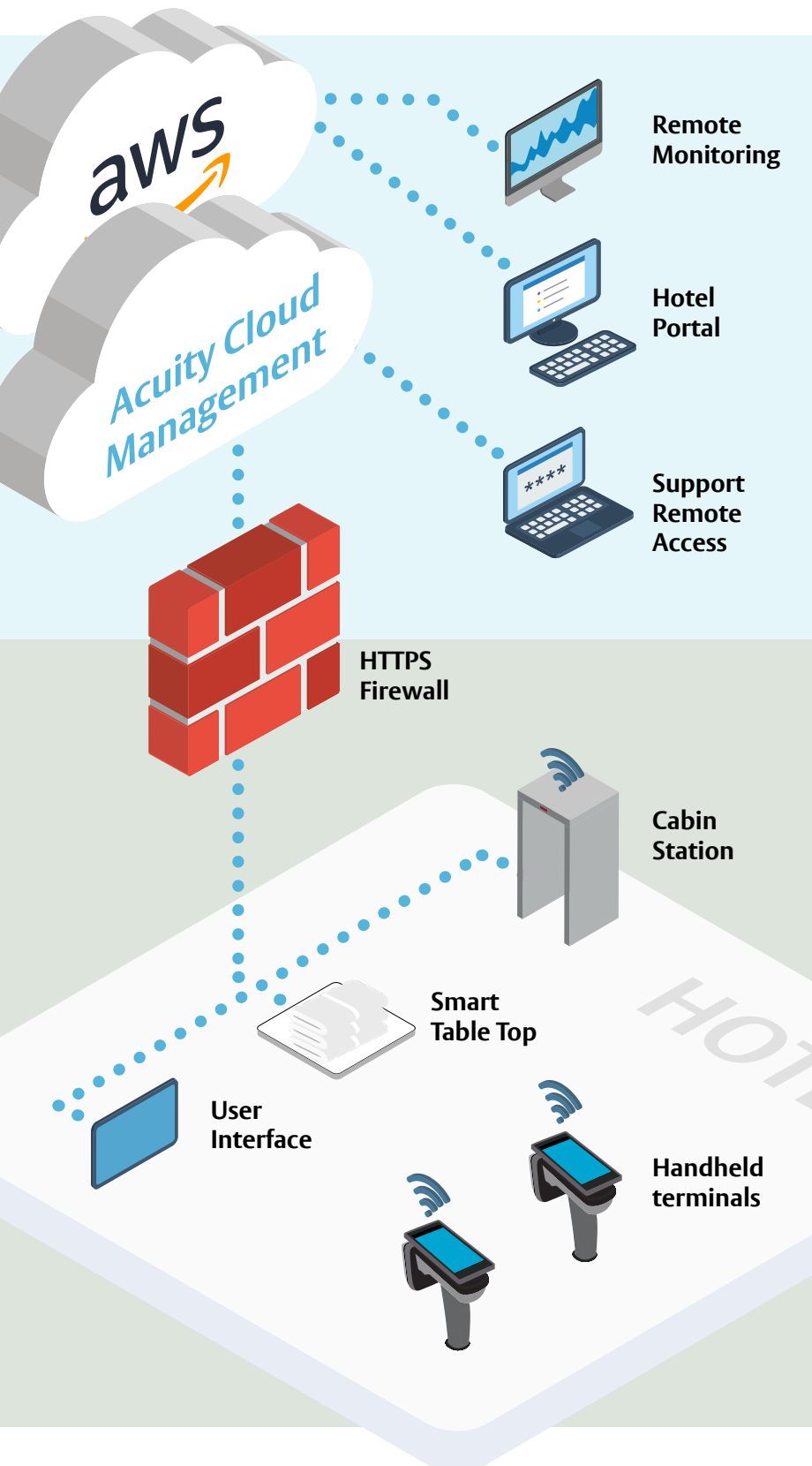


# Overview

- 1 Clean linen check-in
- 2 Dispatch among linen rooms and guest rooms
- 3 Linen usage in guest rooms
- 4 Soiled linen collection from guest rooms
- 5 Soiled linen check-out
- 6 Quality issues, rejects, rewash, repair, condemn
- 7 Inventories
- 8 Linen order
- 9 Losses flow identification



# Architecture of Acuity Inventory Management Solution



The core architecture of ACUIITY Inventory Management revolves around the **Acuity Cloud**, which is complemented by **Amazon Web Services**. This combination ensures secure remote monitoring, support for remote access, and a user-friendly portal interface for hotel users. Within the portal, users can access the ACUIITY Administration panel and easily generate reporting queries or stay updated on key performance indicators relevant to the solution.

To maintain data security, the **Firewall** plays a crucial role in safeguarding the flow of information between the hotel's RFID devices (operating within the solution) and the cloud. It employs the HTTPS protocol and grants access to various devices, ranging from table-top devices to user interfaces and RFID cabins. Handheld devices have the option to connect via the hotel's WiFi network or utilize mobile networks.

Communication between the local devices within the hotel is facilitated by a dedicated and separate LAN network. However, if necessary, it is also possible to establish this communication using a 4G router.



# LinTrak RFID Tags



LinTRAK RFID tags utilize ultra-high frequency (UHF) radiofrequency identification technology specifically designed for identifying linen and textile products. These tags have been carefully crafted to meet the tracking needs of the laundry industry, considering their shape, durability, and ease of attachment. They are built to withstand repeated washings and exposure to water, cleaning chemicals, sterilizing heat, and water extraction pressure.

The tags feature a patented design that securely positions the inner chip in relation to the antenna. This design ensures consistent performance throughout the tag's lifespan.

LinTRAK tags are compliant with industry standards such as EPC global UHF Class 1 Gen 2 and ISO 18000-63 RAIN RFID. They are encoded with a unique EPC code, following GS1 standards in the SGTIN96 format. These codes can be re-programmed to work with various operating platforms, all while adhering to privacy laws. Additionally, custom encoding services are available to meet specific requirements.

## Key Technology Highlights

- RAIN RFID EPC Class 1 Gen 2 and ISO 18000-63
- High water, chemical, heat and pressure resistance
- Guaranteed to withstand 200 commercial washing cycles or 3 years
- OEKO-TEX® Standard 100 Level 1 certified
- MR conditional for use in medical environments
- MR conditional tags are undetectable by needle detector machines and validated by the world's most experienced MR-safety testing company (MRSTS) at 1.5 and 3.0 Tesla, which is the highest rating that can be applied for an RFID device. This means that a patient with this device (integrated to linen or gown) can be scanned safely in an MR system.

## Insertion options



### Stitched

Sew-on tag directly into hem or wash instructions. No extra pocket/pouch needed.



### Embedded

Insert tag into pouch or cover sheet to sew-on to linen

# UHF Handheld Terminal

Linen Rooms | Inventories | Clean Check-in | Soiled Check-out | Dispatch among Linen Rooms

Our user-friendly handheld data terminal offers outstanding performance and the ability to identify multiple tags simultaneously. It is designed to be lightweight, elegant, and compact, featuring a large 5.00" LCD screen. The device uses high-quality components typically found in industrial and military-grade equipment, ensuring durability and stability even in harsh environments. It also provides excellent protection against drops.

One notable feature of the terminal is its pistol-style hot-swappable battery system, which allows for convenient backup battery replacement. This means that the device's operating time is unlimited, as you can easily swap out batteries as needed.

Our solution offers a cutting-edge Cloud-based Linen Inventory Management Platform called ACUITY. This innovative platform empowers the global industrial laundry industry, as well as its customers in the hospitality and healthcare sectors, by providing real-time visibility and availability of textile assets. With this information at their fingertips, businesses can make intelligent decisions to enhance their profitability.



## Key Benefits

- High performance mobile reader
- Android 13 system with 5 inches touch screen
- Rugged, drop resistant yet lightweight.

## Key Technology Highlights

- 865 to 928 MHz, EPCglobal C1 Gen 2, ISO 18000-63
- Pistol style hotswapping battery system
- Connected to HID's Textile Services ACUITY platform
- Operates without network (basement)
- Synchronization through Wifi or 3G/4G
- 1 day battery life



# Power Top

Rejects Condemn Repairs | History of an item | Encoding new items



The Power Top is a user-friendly UHF RFID smart table-top station that has been specifically designed to meet the requirements of the laundry industry. It offers a wide reading zone while maintaining a compact and easy-to-install design. With the Power Top, you get an all-in-one station that combines advanced RFID technologies with our ACUITY cloud-based linen inventory management platform.

What makes the Power Top even more convenient is that it doesn't require external gateways to function. Even if there is a loss of network connectivity, the station can continue to operate seamlessly. Additionally, the Power Top can be remotely managed, allowing for easy configuration, monitoring, and upgrades.

## Key Benefits

- High performance compact UHF stations
- Large and small footprint depending on work space
- Optical detector to sense items placed on the surface



Touch User Interface

# U-Door Cabin UHF Station

Clean Check-in | Soiled Check-out | Rejects Condemns Repairs | Above 99.5% read rate

The u-Door is a user-friendly RFID RAIN (UHF) Cabin Station designed to streamline and enhance the inventory process for large quantities of RFID-enabled linen products. It is specifically created to meet the requirements of the laundry industry while ensuring compliance with relevant standards and environments.

The station's shielded structure is designed in a way that only items placed inside the cabin are identified within a matter of seconds. This ensures the highest read performance and speed at UHF in the market. The u-Door Cabin can be utilized to inventory soiled items upon their arrival at the hotel or during dispatch operations for clean stacked items. Once the operator places the roll inside the cabin, they simply push the button to automatically close the doors and initiate the reading process. This user-friendly design simplifies and automates the inventory process, saving time and improving overall efficiency.



## Key Benefits

- Specifically designed to inventory cages filled with RFID-enabled linen
- Shielded structure for optimal read capacity
- Automated door system with motion sensor
- Excellent read/write performance

## Other UHF Station Options



### ePortal

Clean Check-in  
Soiled Check-out



### Linen Chute

Soiled Check-out



### Custom Portal

Clean Check-in  
Soiled Check-out

# Processes of the Acuity Inventory Management Solution

The Acuity Inventory Management Solution offers a robust set of processes to optimize and streamline inventory management across industries. With this solution, each individual item is meticulously tracked, ensuring it appears in the stock at the exact location where it was last scanned.

## Influencing Location and Status

The system operates on a process-based approach, whereby scanning an item during various stages influences its location and status within the inventory management lifecycle. Whether it's the encoding process, clean receiving, soil shipping, mobile inventory, rejects, or condemnation, each scanning event has a direct impact on the item's location and status.

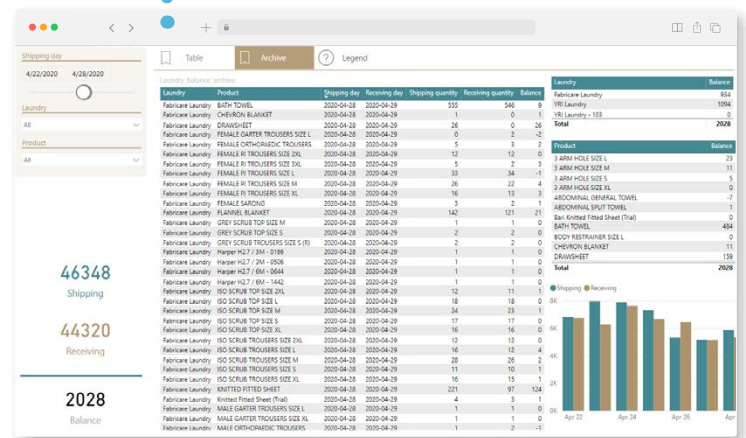


## Granular Location Tracking for Accurate Inventory Management

In terms of location, the system captures precise information such as Pantry, Main linen room, or other designated areas within the facility. This level of granularity ensures accurate tracking and efficient retrieval of items when needed.

## Comprehensive Status Tracking: Real-Time Visibility and Control

Additionally, the system keeps track of the item's status, which can range from new, clean, soiled, non-compliant, to in use. This comprehensive status tracking allows for real-time visibility into the condition and usability of each item in the inventory.





# Linen Room Inventory Process

## Objectives

The main objectives of this system are to quantify and locate the available linens effectively. One of the features is an ordering helper, which provides suggestions on the quantity to order in order to meet the predefined target stocks for each product and storage location.

In addition to managing linens in stock, the system also addresses the issue of lost linens. Specifically, it allows for the declaration of “LOST” linens at the hotel. These linens have not been seen for a period of more than 6 months, neither at the hotel nor at the laundry. Furthermore, these lost linens have not been scanned during mobile inventory.



## Principle

The system operates on the principle that inventory scans update the location of the scanned items. It is possible to increase the stock of a specific location but not reduce it. It's important to note that the inventory result may differ from the stock due to various factors. For instance, during a partial inventory, items that are still on beds are counted as part of the linen room stock.

# Check-In Process (Clean Receive)

The system aims to control laundry quantities, detect delivery mistakes, and show scanned items in stock at the Main Linen Room. It also timestamps item receptions at the hotel. If the laundry is equipped with ACUITY, the system balances received and shipped quantities and provides real-time access to clean linen in transit. The system's objectives encompass control, visibility, timestamping, balancing, and real-time access, all contributing to streamlined and efficient linen management. The system's objectives encompass control, visibility,

timestamping, balancing, and real-time access, all contributing to streamlined and efficient linen management.



If the trolleys (or covers) are tagged and the laundry equipped with ACUITY, the reception can be done by simply scanning the “trolley” tag (faster)

# Check-Out Process (Soil Shipping)

The system aims to efficiently manage linen operations, including recording the quantity of linen shipped to the laundry and changing the status of soiled linen. The process can be divided into soil collection and shipping, which can be done automatically through chute stations or gantries. If integrated with Acuity, the system balances scanned quantities in the Soil Shipping process at the hotel with soiled receptions at the laundry, and provides real-time access to soiled linen in transit.



## Processes Rewash Requests and Condemn

\*Condemn process available only if the hotel owns the linen

The system's objectives focus on effectively managing rewashes and discards in linen operations. It aims to record rewashes and discards, along with their reasons, to generate dedicated reports and statistics. Additionally, the system ensures that items requiring rewashing are visibly placed in the REJECTS AREA while removing condemned items from stocks.

To facilitate proper handling, the system changes the status of the linens involved, enabling the generation of alerts for various scenarios, such as detection of condemn articles or successive rewashes. Furthermore, if the laundry is equipped with ACUITY, the

system informs the launderer about rejected and condemned items, ensuring efficient communication and appropriate action.

It is crucial that any condemned item is promptly removed from the linen circuit to prevent further use or distribution. This ensures adherence to quality standards and maintains a high level of hygiene throughout the process.



# Management of the Acuity Inventory Management Solution

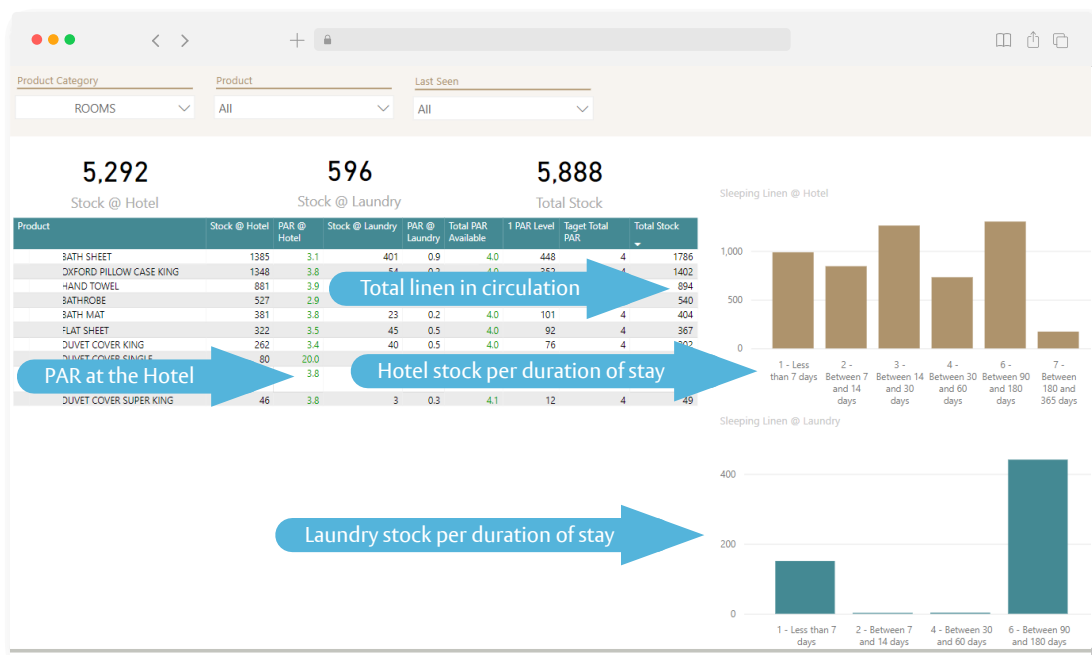
ACUITY reports are easily accessible from any device connected to the internet, such as PCs, tablets, or smartphones, ensuring convenient and secure access. These reports provide up-to-date information and can be exported in Excel format for further analysis or sharing.

The stock reports offer an instantaneous snapshot of the current stocks at the hotel. Each article is counted only once, eliminating duplication. For example, these reports provide an accurate overview of the available stock levels.

Process reports cover a specific period and may count an item multiple times. For instance, these reports can track quantities shipped to the laundry over a month, allowing for comprehensive monitoring of the linen processing workflow. Moreover, consolidated reports are available, free from double scan errors made by operators, ensuring the accuracy and reliability of the data presented.

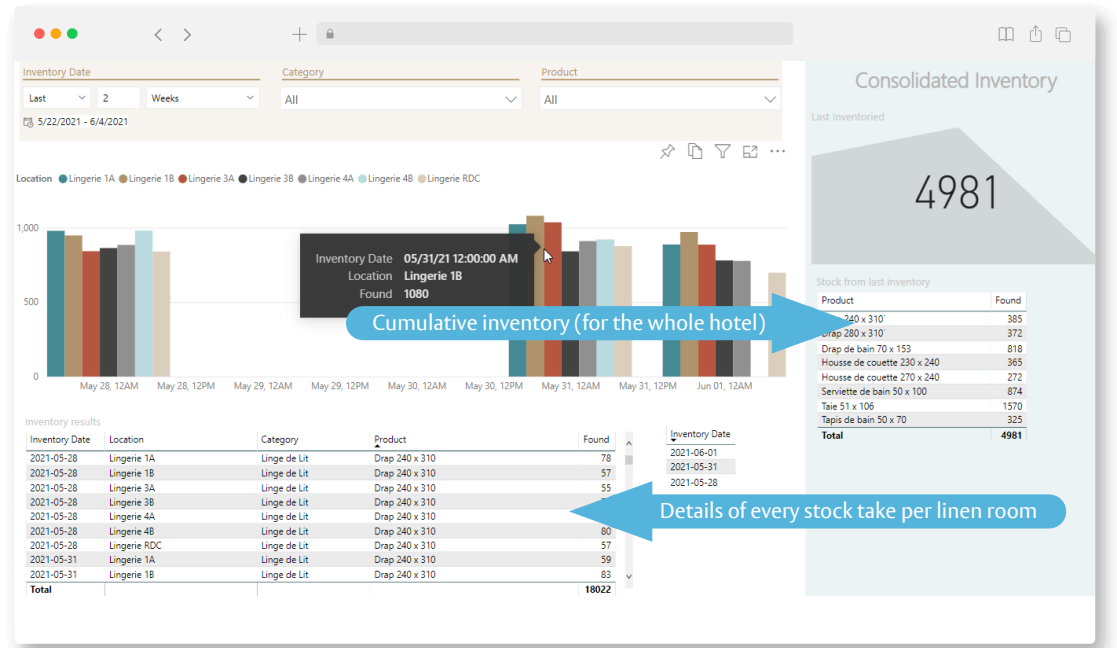
## Current Stock

ACUITY reporting provides insights into linen circulation, PAR (Periodic Automatic Replacement) levels at the hotel and laundry, and linen distribution based on duration of stay. This information helps optimize linen management and ensure high-quality linens for guests.



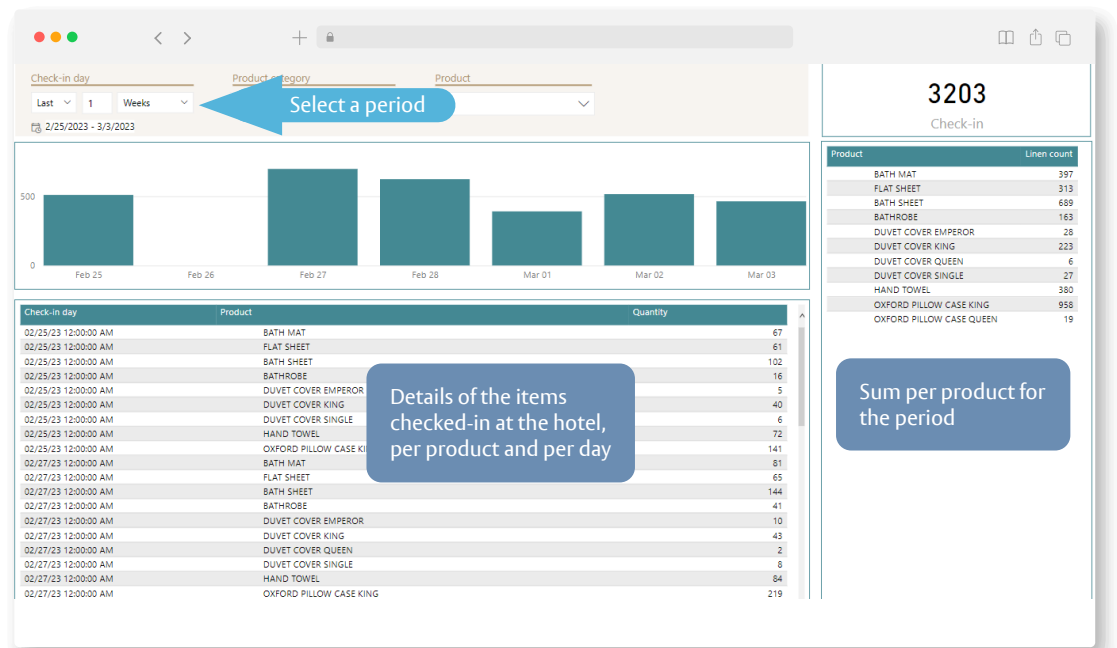
# Inventories

The solution provides detailed information on every stock take conducted in each linen room, ensuring accurate tracking and control. Additionally, ACUITY enables the generation of cumulative inventory reports, providing a holistic view of the linen stock levels across the entire hotel.



# Hotel Check-in / Check-out

The system provides detailed information on the items checked-in at the hotel, categorized by product and day. This feature allows for comprehensive tracking of linen movements, ensuring accurate records of linen usage. Moreover, ACUITY offers visibility into other processes such as check-out, rejects, condemn, encoding, and more. By capturing and analyzing these details, hotels can gain valuable insights into linen utilization patterns and optimize their operational processes accordingly.





# Rejects & Condemn

This comprehensive dashboard allows hotels to track and analyze the reasons behind rejections and condemnations, enabling them to identify patterns and take appropriate actions and ensure the delivery of high-quality linens to their guests.

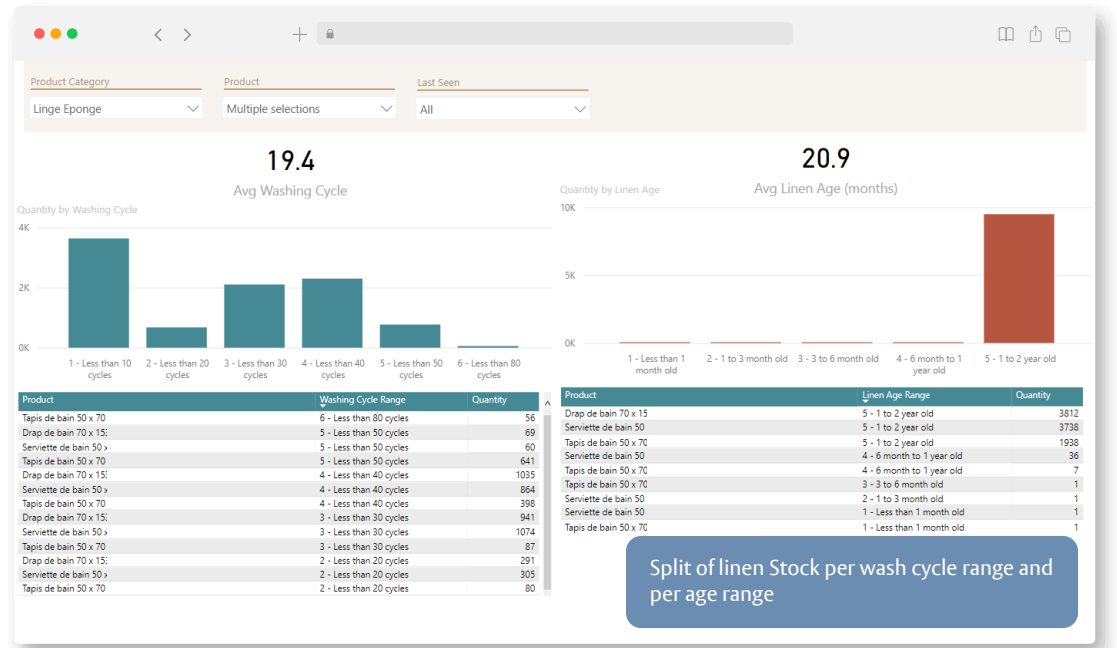
Rejecting date	Product	Reason	Quantity
2021-05-26	Drap de bain		6
2021-05-26	Drap Plat Super King 334 x 334 Blanc		4
2021-05-26	Drap Queen/Twin 300 x 340 Rose		1
2021-05-26	Housse de Couette Super King 290 x 249 Blanche		5
2021-05-26	Housse de Couette Twin Rose		1
2021-05-26	Peignoir Dream Soft L		2
2021-05-26	Peignoir Dream Soft M		1
2021-05-26	Serviette Eponge		11
2021-05-26	Sous Taie		3
2021-05-26	Taie d'Oreiller Back VOLANT		10
2021-05-26	Taie d'Oreiller Front SAC		9
2021-05-26	Tapis de Bain Grand		3
2021-05-26	Tapis de Douche Design		34

Products	Quantity
Tapis de Douche Design	34
Serviette Eponge	11
Taie d'Oreiller Back VOLANT	10
Taie d'Oreiller Front SAC	9
Drap de bain	6
Housse de Couette Super King 290 x 249 Blanche	5
Drap Plat Super King 334 x 334 Blanc - Blanche	4
Sous Taie	3
Tapis de Bain Grand	3
Peignoir Dream Soft L	2
Drap Queen/Twin 300 x 340 Rose -	1
Housse de Couette Twin Rose	1
Peignoir Dream Soft M	1
<b>Total</b>	<b>90</b>



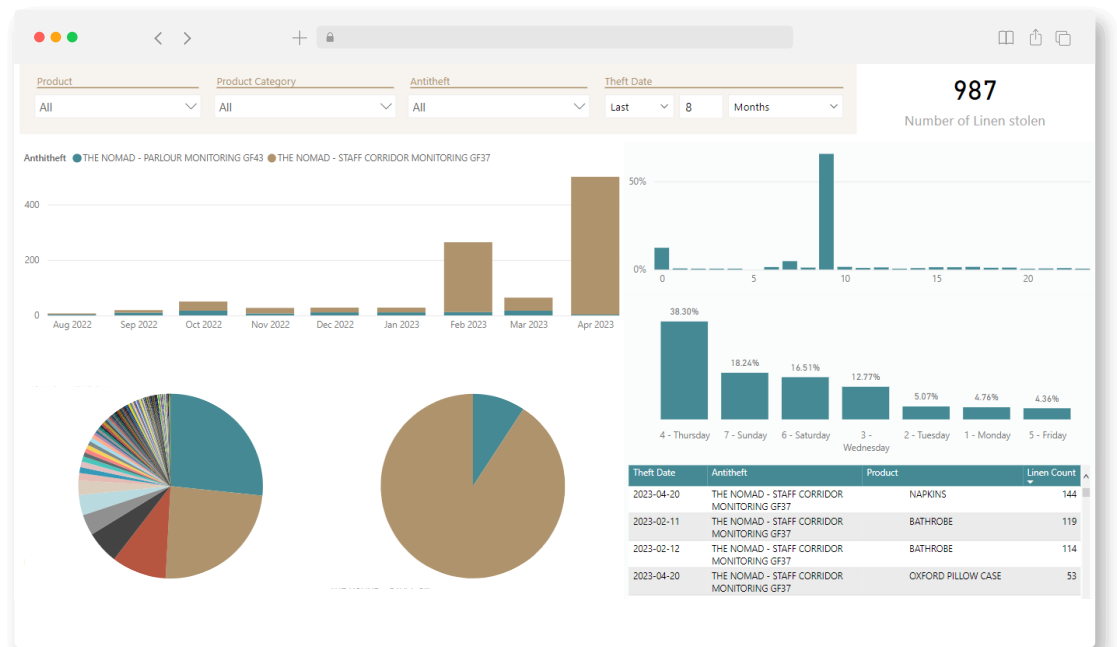
# Linen Aging & Wash Cycles

This allows hotels to analyze and monitor the distribution of linens across different wash cycles and age categories. By understanding the split of linen stock within these ranges, hotels can make informed decisions regarding inventory replenishment, maintenance schedules, and replacement strategies.



# Antitheft Stations (Optional)

This feature enables hotels to track and analyze incidents of theft, facilitating investigations and security measures. Additionally, this dashboard provides statistics on stolen items based on weekdays and timeslots, providing valuable insights into patterns and trends.



The ASSA ABLOY Group is the global leader in access solutions. Every day we help people feel safe, secure and experience a more open world.

vingcard  
ASSA ABLOY

Vingcard APAC  
apac@vingcard.com  
Phone: +852 23162200

Vingcard IMEAT  
imeat@vingcard.com  
Phone: +971 4 3342556

Vingcard Europe  
europe@vingcard.com  
Phone: +47 69 24 50 00

Vingcard North America  
nam@vingcard.com  
Phone: +1 800 225 8464

Vingcard Latin America  
lac@vingcard.com  
Phone: +52 55 36 40 12 00

vingcard.com

Doc. Version: 03/2024 | Copyright ASSA ABLOY ©

Note: Specifications may change without notice. Image colors in this brochure may differ from actual colors.