

Best Practice

Workplace Smart Lockers

yellowbox

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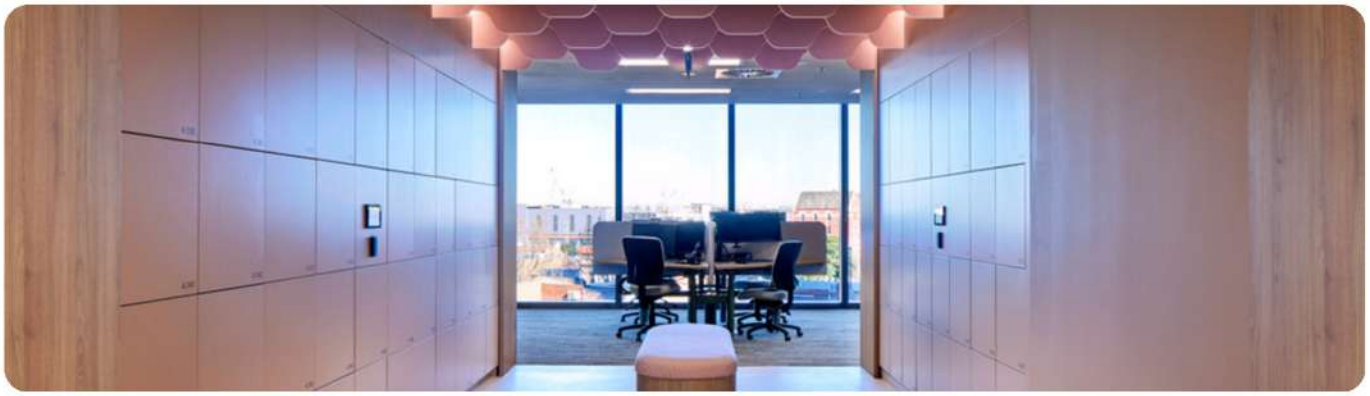
Introduction

Yellowbox is a global leader in workplace smart locker systems, providing seamless locker access and management technology for hundreds of thousands of users across four continents.



METHODOLOGY

4M
Annual Locker Bookings

Over
100
Workplaces

Across
4
Continents

Data analysed
2024
June

YELLOWBOX IS TRUSTED BY

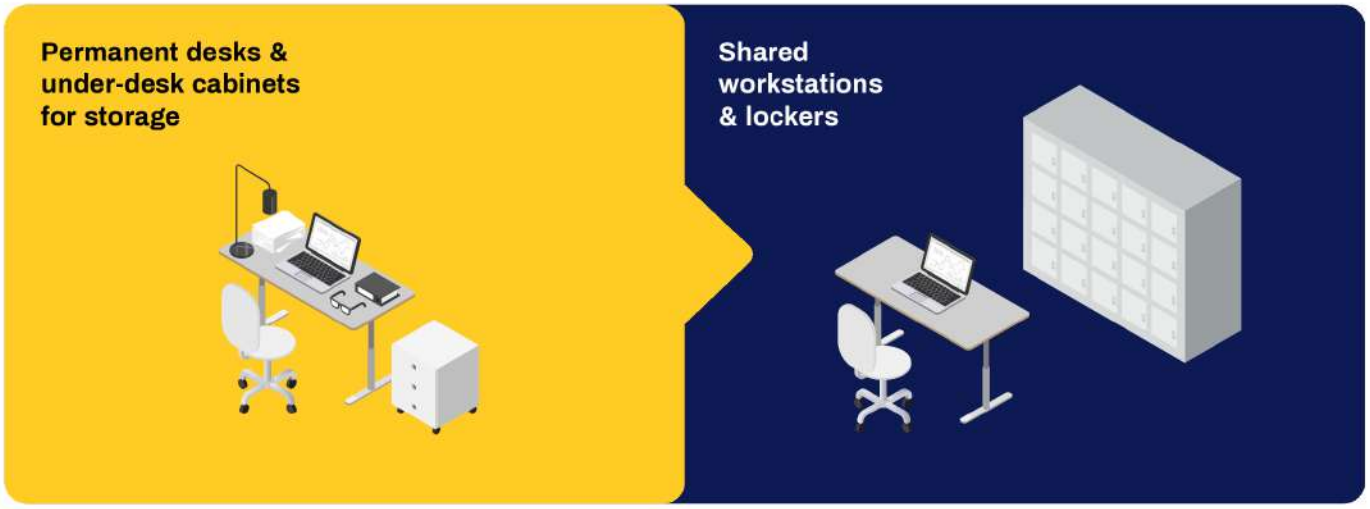
NSW Government · Nike · T · Commerzbank · Canon
Gartner · The Royal Melbourne Hospital · Zurich · APA · Hinge
bcw · Arcadis · UNSW Sydney · Bristol Myers Squibb · InterContinental Hotels & Resorts
Lendlease · LSEG · Liberty Mutual Insurance · BHP · + more

The Modern Workplace



Evolving Workplace Environment: The Rise of Workplace Lockers

Once merely functional and often overlooked, office lockers have emerged as a cornerstone of modern workplace design.



Historically, personal storage was confined to desks and under-desk cabinets, seen as the employee's homebase for work accessories and personal items.

Since then, offices have transformed significantly over the past decades with the rise of hybrid working. The rise of remote and flexible work arrangements, with a sizeable portion of employees working from home on any given day, has led employers to rethink how to best use their space.

According to Knight Frank, half of the largest international employers are planning to cut their office space in the next three years, opting for a hot desking model.

Hot desking is a system where workspaces are not assigned to specific employees and can be used on a needs basis.

Shaun Baker, Head of Design for Morgan Lovell, highlights "What has this got to do with lockers? Well as soon as you shave away at personal space and remove the safe haven of an assigned desk, it is even more critical to provide a space for staff to keep their things."

For designers, lockers have historically been an afterthought, relegated to the hallway, away from the main floor.

But now designers are leveraging lockers as architectural elements, functional break points within open plan offices, as walls within four walls to break spaces up.

> Lockers today play a significant role in not only effectively storing items but also shaping the unique ambiance of a workspace.
>
> **Viola Vallon,**
> **Senior Industrial Designer**
> **Steelcase**

Improving the Workplace Experience

The interest in smart lockers within workplace environments primarily stems from the desire to enhance the employee experience.

As organisations design their building technology architecture, smart lockers are often considered alongside other access and reservation systems e.g desks and meeting rooms.

This approach is prevalent among companies pursuing smart-building certifications or those with hybrid working policies. Such integrations are seen as essential for creating a seamless working environment, which boosts employee satisfaction and operational efficiency.

When delving into the actual decision-making process for purchasing smart lockers, companies often discover pre-existing inefficiencies with their current locker systems through discussions with facilities management.

This discovery phase highlights significant advantages of smart locker systems, particularly in terms of time savings in locker management and potential future space savings.

The immediate benefit of reducing the time facilities management spends on locker assignments and maintenance is a compelling factor.

Moreover, the ability to optimise space usage through better locker management adds an additional layer of justification for the investment, suggesting that smart lockers are not just a solution for current needs but also a strategic choice for future space management.



	Key Locks	Digital Locks	Smart Locks
User Experience	★☆☆	★★☆	★★★
Management Experience	★☆☆	★☆☆	★★★
Upfront Lock Costs	$	$$	$$$
Ongoing Costs	$	$	$$
Ongoing Management Costs	$$$$	$$$$	$

The Business Case

Providing a locker for every employee and managing key-based lockers becomes impractical, particularly for workplaces with more than 300 employees.

Significant savings in facility management time of

249hrs

annually per 100 lockers

Having eliminated several manual labour-intensive tasks, such as physically providing keys to users, logging each change, managing off-boarding users, helping users that have forgotten keys/codes, lock or key replacements for lost keys, battery changes (for digital locks), managing locker requests and utilisation audits.

Employee time savings of

381hrs

annually per 100 lockers

Employees lose significant time, when they've left their access method (e.g. key / card) at home or forgotten their code, requiring facilities assistance (4.3x on average per annum). Additionally, time savings come from seamless open and closing each day, onboarding/offboarding and locker requests.

Savings in lockers of

30-40%

Less lockers are required using smart lockers. The ability to have both permanent, hot and team lockers, ensures all employees can access a locker when they need. Camping insights ensure that lockers are able to be used fairly and efficiently for those who need and use them.

Savings in space of

30-40%

Less space for lockers required through smart lockers creates savings in floor space and office rent.

Parcel/Mailroom Locker savings of

1,000hrs

per annum

Saving reception or mailroom staff the need to manage parcels each day and notifying/following -up employees for their parcel deliveries.

87%

of users prefer using smart locks over regular locks

RFID card and mobile phone access is an expectation for users in today's technology driven world, especially for leading workplaces.

Smart Lockers



What are Smart Lockers?

Smart Lockers are lockers with electronic locks (wireless or hardwired) installed on each door, connected to IoT hardware (touchscreen kiosk) and software (user access methods).

1

Smart Locks

Wired: Power supplied locks, optional Device Charging. Wireless: No cabling or power and can be retrofitted.

2

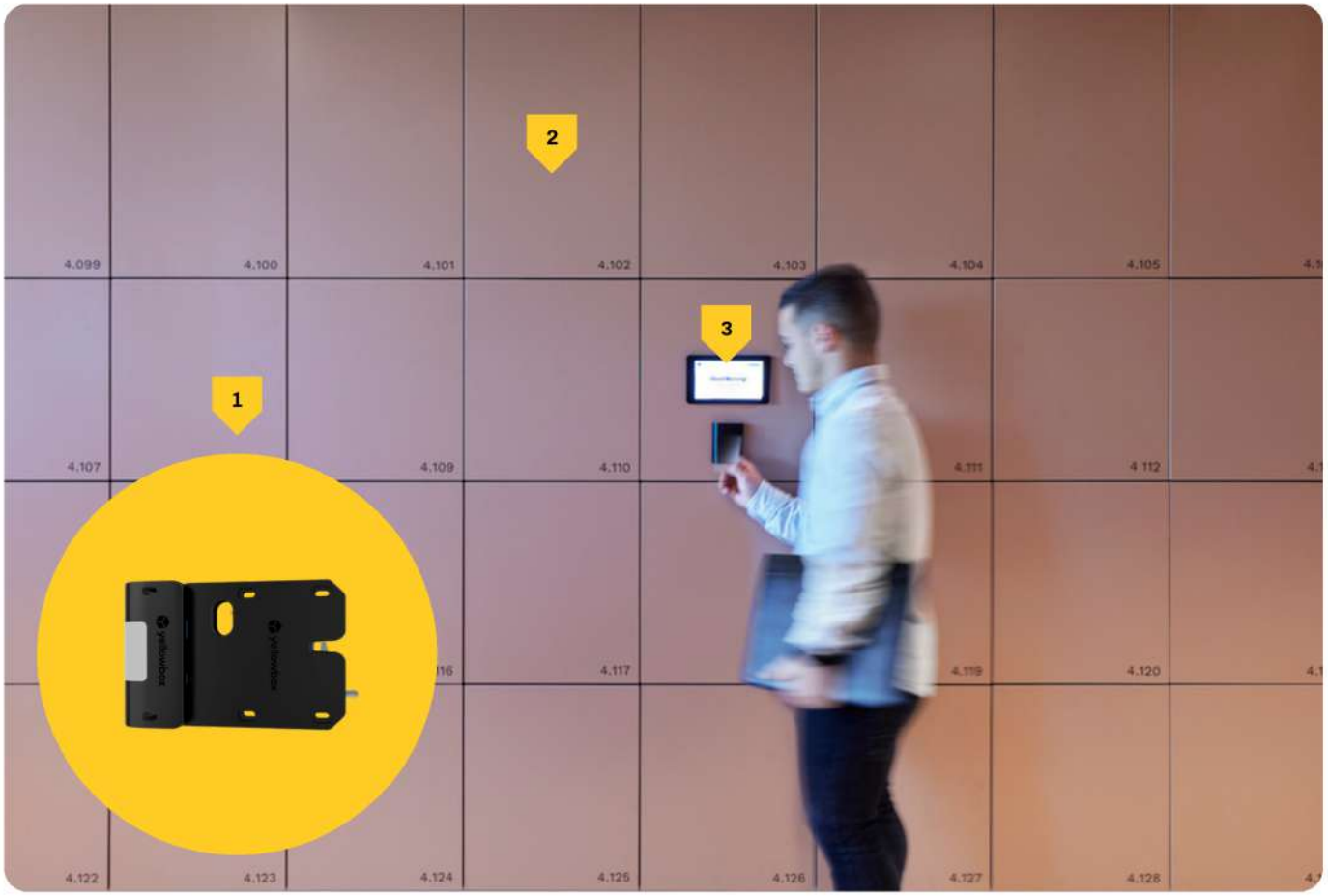
Locker Joinery

These can be designed and manufactured in any material and design that suits the workplace aesthetic.

3

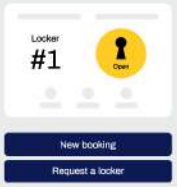
Kiosk

Touchscreen and RFID Reader, Self-Guided locker onboarding and opening.



USER ACCESS METHODS

User App



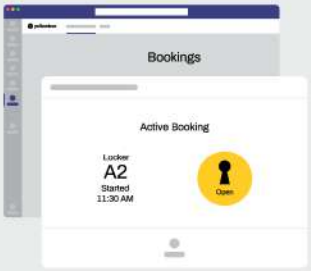
Mobile

Smart Wallet



Mobile

Microsoft Teams



Mobile & Desktop

RFID Card



Kiosk Reader

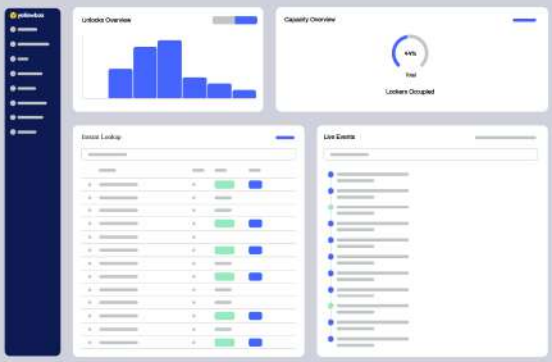
PIN Code



Kiosk

MANAGEMENT SOFTWARE

Management Dashboard



Desktop

Management App



Mobile

What Locker Access Methods are Commonly Used?

For workplaces with multi-access methods, we found that on average across workplaces, 80% of unlocks are made by RFID swipe card.

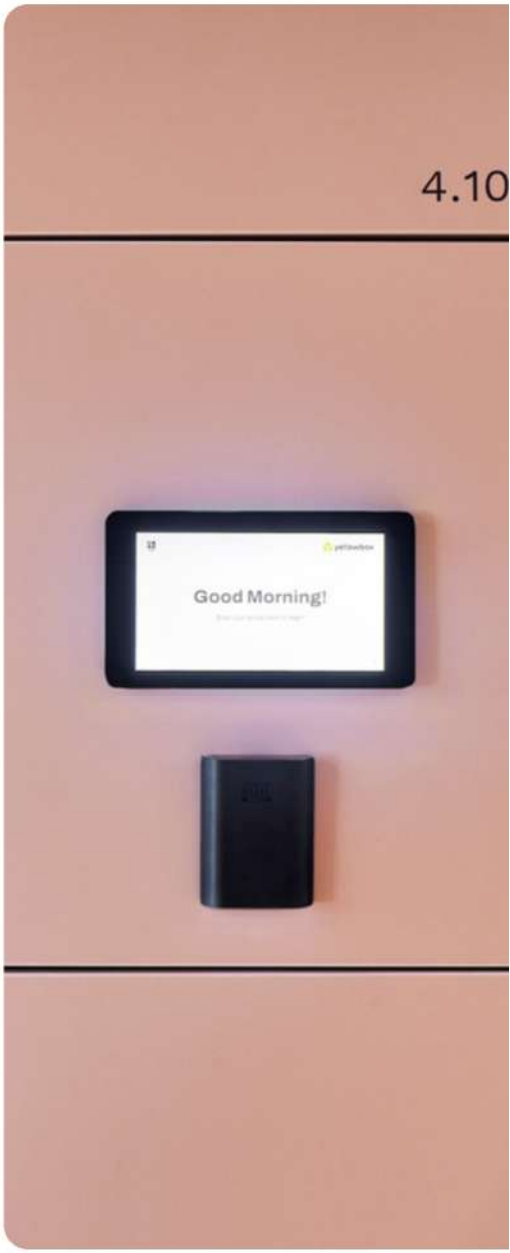
From hundreds of thousands of locker uses across workplaces around the world, we've identified the best practice access method setup for your next workplace.

Best practice involves employees self-booking by tapping their existing RFID swipe card (or mobile credentials) on the kiosk reader. The touchscreen allows them to choose an appropriate locker, e.g. row selection, DDA requirements, permanent / hot locker.

Then if users want a secondary access method, they can either set a PIN code through the touchscreen kiosk, or use their mobile phone (App, Web Browser, Microsoft Teams, Workplace App, HID Mobile Access, Apple Wallet, Google Wallet).

Locker access becomes intuitive for employees who already use their RFID swipe card to tap on a reader to access their own workplace on a habitual basis.

Mobile Phone access provides multi-access to safeguard against the 4.3 times per year employees forget their RFID swipe card at home. The Microsoft Teams plug-in allows this access method to be seamlessly added without needing to download another app.

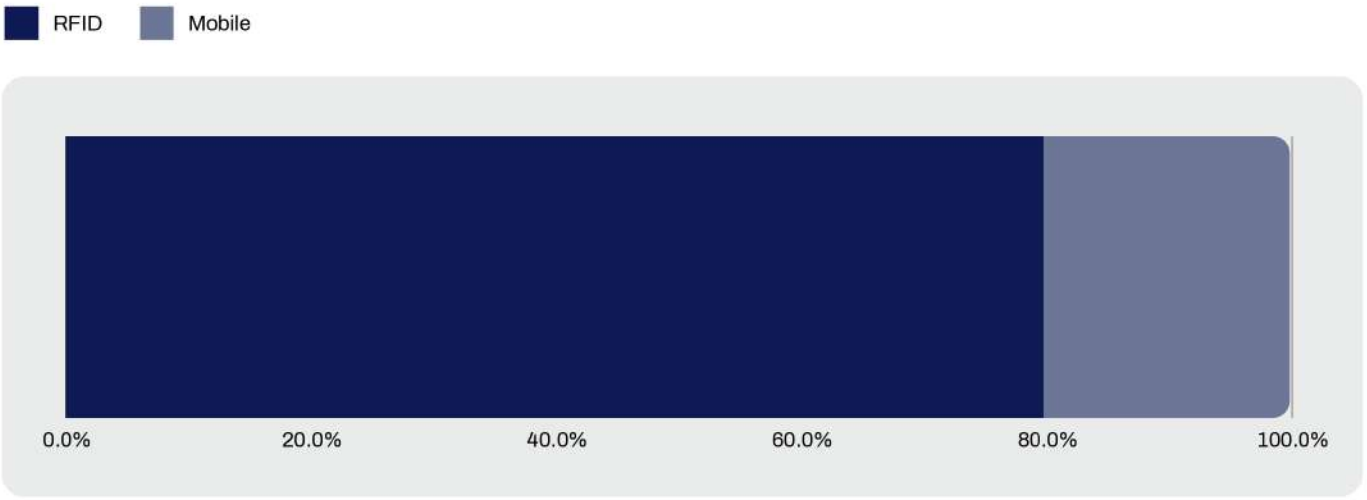


Methods by Use

1. RFID Card Swipe Card
2. Microsoft Teams
3. Smart Locker App
4. Apple/Google Wallet
5. PIN



ACCESS METHOD USE, AVERAGE ACROSS WORKPLACES

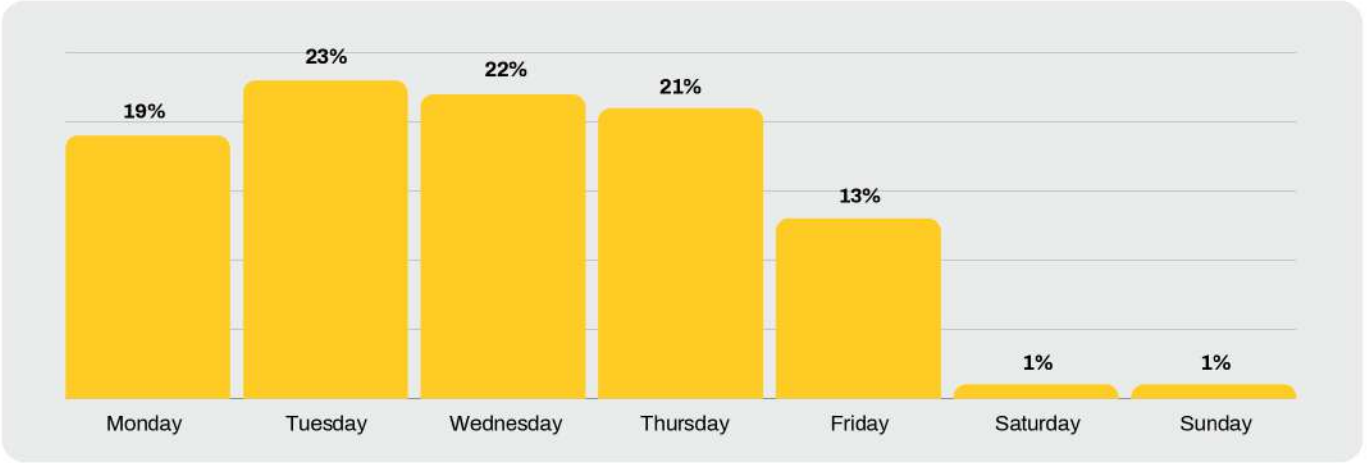


Traditionally we see workplaces leverage their existing building access methods in order to create a consistent user experience. This data reflects the state of the market in relation to adoption of mobile within the workplace. However we expect to see more of a balance in future, through the increase in uptake of mobile credentials as the primary building access method.

76%

of workplaces use multiple access methods

LOCKERS USES PER DAY



Our locker unlock data reveals key trends in workplace behaviour. We see the number of unlocks throughout the week is highest on Tuesdays (23% of all unlocks are made on Tuesday), followed by Wednesday (22%) and Thursday (21%). We see a small drop on Mondays (19%) and a larger drop on Fridays (13%). This showcases the trend in the choice in flexible office days to be geared towards the middle of the week.

66%

of all unlocks are made on Tues, Wed & Thurs (TWAT)

Multiple Locker Modes to Meet Requirements

Locker modes can be set to fit the storage needs of the workplace at any time.

LOCKER MODES

Permanent/Flex Lockers

Storage lockers without a set end time. Allowing staff to manage their own locker, keep it for as long as they need and end their booking whenever they like.

Recommended for: Out of office permanent storage for employees.

Hot Lockers

Configure storage lockers with set end times, allowing multiple rules per locker for weekly or time-based expiration.

Recommended for: Day storage for employees when in the office, e.g. Gym bag, umbrella, shoes.

Team Lockers

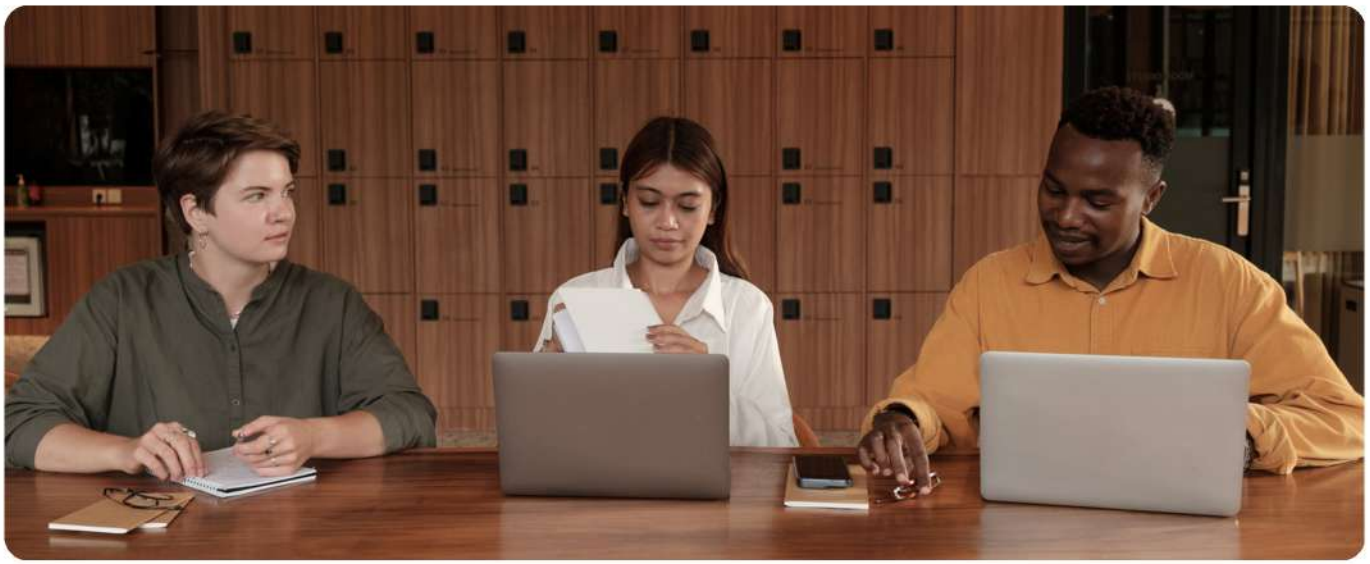
Assign groups of users to lockers to access team storage.
Users can be added and removed with audit trail of locker opens.

Recommended for: General storage and file cabinets.

Shared Lockers

Users can share their existing locker to another user.

Recommended for: Out of office permanent storage for employees.



Pincode Locker

Lockers set to be PIN lockers, able to be booked anonymously through touchscreen kiosk. These can be set to permanent or hot lockers.

Recommended for: Visitor use

Asset Exchange Locker

Locker booking for item that are exchanged from one user to another.

Recommended for: Asset / IT Exchange, e.g. Laptops

Office Parcel Locker

Deliverer drops off parcel/item to a locker and sets a receiver to receive email notification for collection. Receiver uses existing swipe card or app to open locker.

Recommended for: Parcel Collection / Office Mailroom

Custom Locker Type

Management can create custom locker types to meet unique needs, differentiating from existing locker modes and limiting permissions to certain users or groups.

Recommended for: Custom lockers for team file sharing e.g. 'Project XYZ Files' Locker

Best Practice



Number of Lockers

Through the Yellowbox smart locker system, we've been able to gather valuable data that informs key locker decisions.



HOW MANY LOCKERS DO YOU DO YOU NEED?

Determining the number of lockers you need can be a daunting task, especially within an increasingly flexible working environment. The need for lockers can increase or decrease dramatically, based on headcount growth, permanent desking / hot desking policies, clean desk policies.

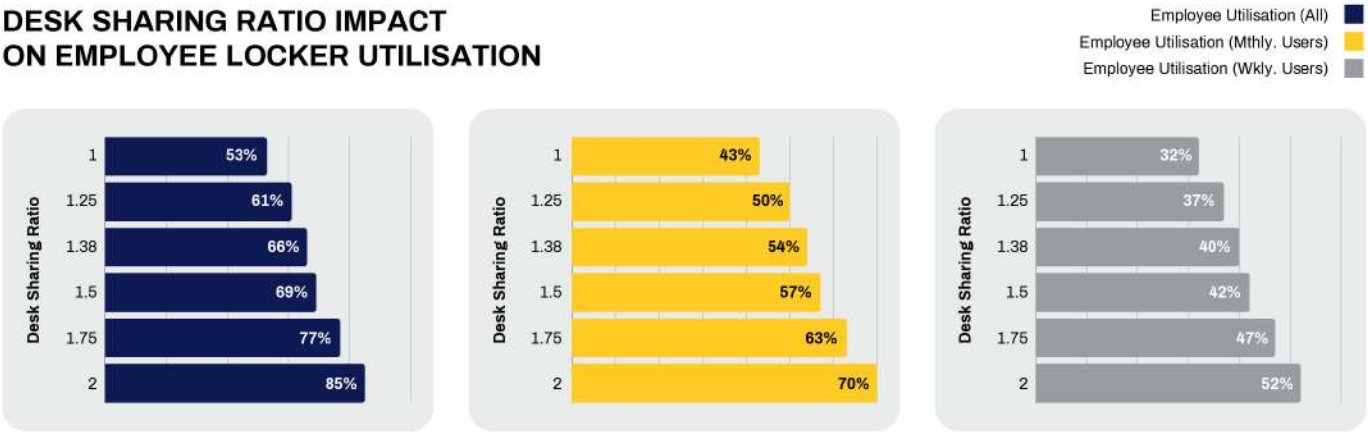
We've built an interactive tool to give you an estimate of how many lockers you need for your next office. It starts with the number of staff and planned headcount growth, ensuring that your next workplace is fit for existing and future staff. From our data review of self-serve permanent booking modes, we see that just under 70% of employees choose to use a locker when given the opportunity. This number significantly changes depending on what desking policy the workplace has implemented.

HOW DOES DESK SHARING IMPACT LOCKERS?

We observe workplaces with strong hot desking policies (2:1 desk sharing ratio), the percentage of staff that decide need a locker goes up to 85%. However, for workplaces with enough desks for each employee (permanent desking), we see the demand for lockers decreases to 53%.

Consider the case of a client who implemented our smart locker system. With a desk sharing ratio of 1.6 (1.6 employees per desk), conventional wisdom would suggest a 1:1 locker-to-employee ratio to compensate for the personal space lost. However, our data-driven approach demonstrated, they were able to reduce their locker count by 30% without impacting employee accessibility. Desk Sharing Ratio = Employees / Desks. Employee Utilisation = Lockers Required / Total Employees.

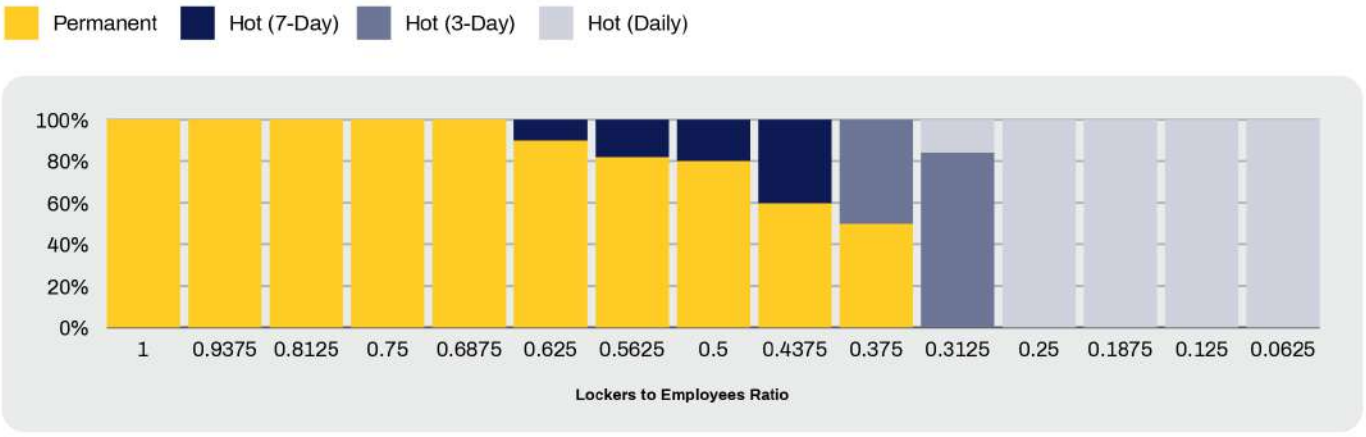
DESK SHARING RATIO IMPACT ON EMPLOYEE LOCKER UTILISATION



What Settings to Apply to Your Lockers?

Based on your desk policies and number of lockers.

OPTIMAL LOCKER SETTINGS USING LOCKERS TO EMPLOYEES RATIO



Best case scenario, you're able to choose how many lockers you have for your workplace and are able to service the storage needs of your workplace effectively. However, time and time again, we see this isn't the case, and workplace planners are left with a constrained floor plan and a set quantity of lockers to work with.

Planners are often left with a constrained floor plan and a set quantity of lockers to work with.



Here we optimise for maximising the amount of permanent/flex allocations possible for those who will consistently use a locker, whilst ensuring we have the minimum amount of lockers available for those who will need it on a hot basis. This significantly reduces the number of lockers required to service your workplace.

Lockers to Employees

to determine your best ratio of locker modes

Maintaining Strong Utilisation

All about leveraging data and learning. Smart lockers give you the ability to start with best practice, and evolve to meet your workplace needs.



ANALYSE LOCKER USAGE

Whether you've allocated lockers to users or you've let users self-allocate lockers, we recommend setting up a date to look back at the data after the first three months of utilisation. Here you can analyse how your lockers are being used, including:

1. **What percentage of employees have used their locker?**
2. **If any of them are showing signs of non-use?**
3. **How often are they using them?**
4. **Can they be transitioned to a hot locker or moved to a shared locker?**

OPTIMISING STRAINED LOCKERS

If your lockers are strained (>95% utilisation), you can consider the following:

Setting hot locker rules on a set of lockers, or even a higher percentage of lockers. This can be done by transitioning 'Campers' (users who have not used their locker in a long period of time), to hot locker users and freeing up their locker to be used.

Similarly, Campers can be moved to Shared lockers for teams, or their locker can also be used by others in their team.

Through the Yellowbox dashboard, you can create automated Camping emails to users that have not used their locker after e.g. 3 months. This will give users a warning and prompt to free up their locker by ending it.



FEATURE SPOTLIGHT: CAMPING INSIGHTS



Our camping insights can determine whether employees are actually using their locker over various time frames. Green coloured lockers represent consistent use, whilst red coloured lockers identify employees that haven't used their locker for months.

For our existing clients, we're able to optimise locker utilisation by automatically transitioning infrequent users to hot lockers, ensuring lockers are continually available on an as-needs basis. This strategy enables designating a portion of lockers as permanent, whilst maintaining a dynamic pool to meet transient needs.

Our insights show that on average, only about 54% of employees require consistent locker access.

For workplaces with even more constraints (less lockers than 54% of employees), we can increase the split of hot lockers to permanent lockers to an optimal level, and then further set rules around how longer hot lockers can be booked for.

Automated camping emails to employees that have a permanent locker, but don't actively use it, ensures your lockers are automatically managed and used efficiently. For our larger clients, hundreds of emails each week are automated, saving hundreds of hours in manual processes.

~54%

Require consistent locker access

> We saved a workplace team 300 emails per week, through our automated camping emails. Their lockers are now managed dynamically rather than once a year during a manual audit.
>
> **Adrian Brossard, Director Yellowbox**

Managing Hot Lockers

Workplaces don't always have the luxury to have enough lockers for every employee that needs one. Hot lockers allow workplaces to service all employees.

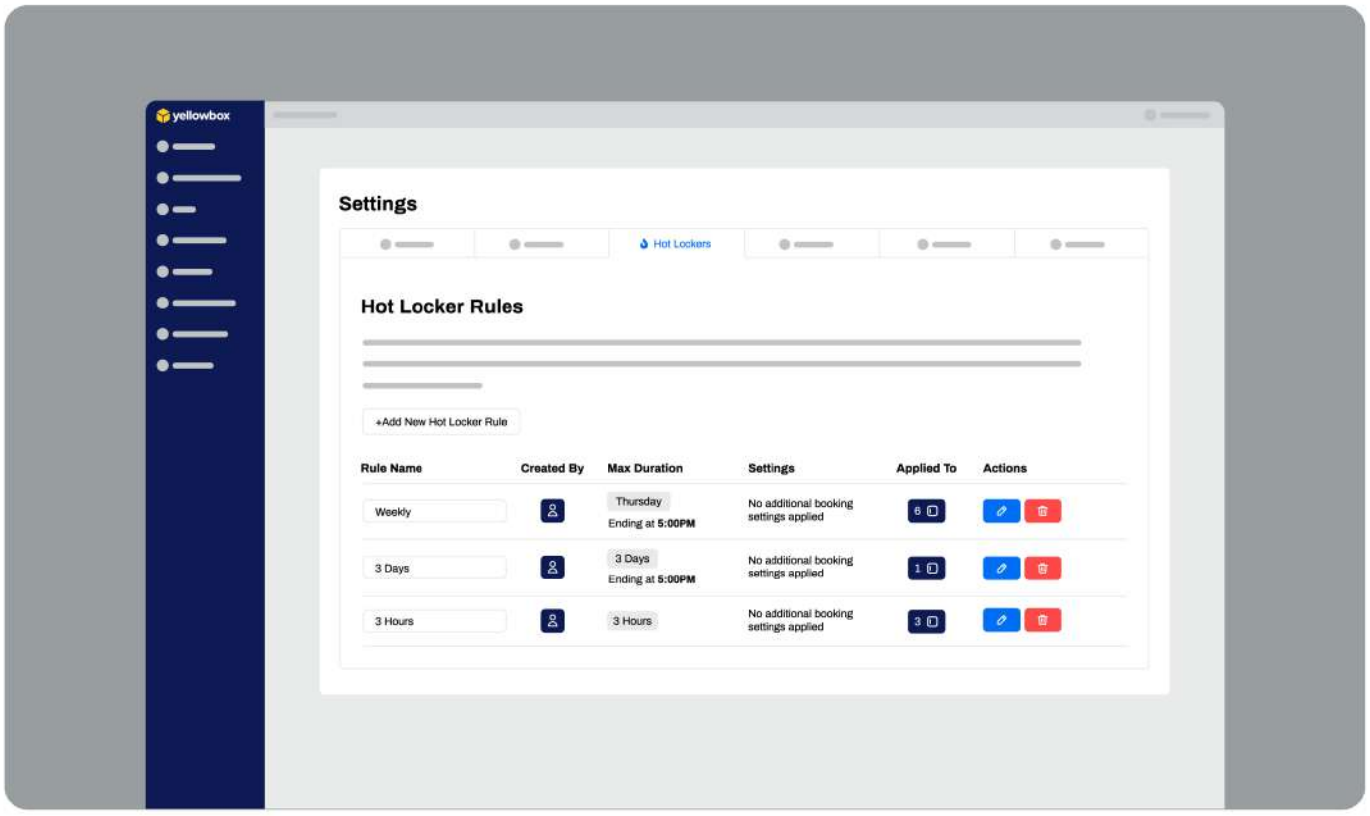


USER COMMUNICATION IS CRITICAL

Hot lockers are a powerful mode that can provide storage for more employees when they need it. However, in order for a hot locker system to work well, users need to be well informed about how they work. Here are the recommended communication requirements to assist your hot locker system:

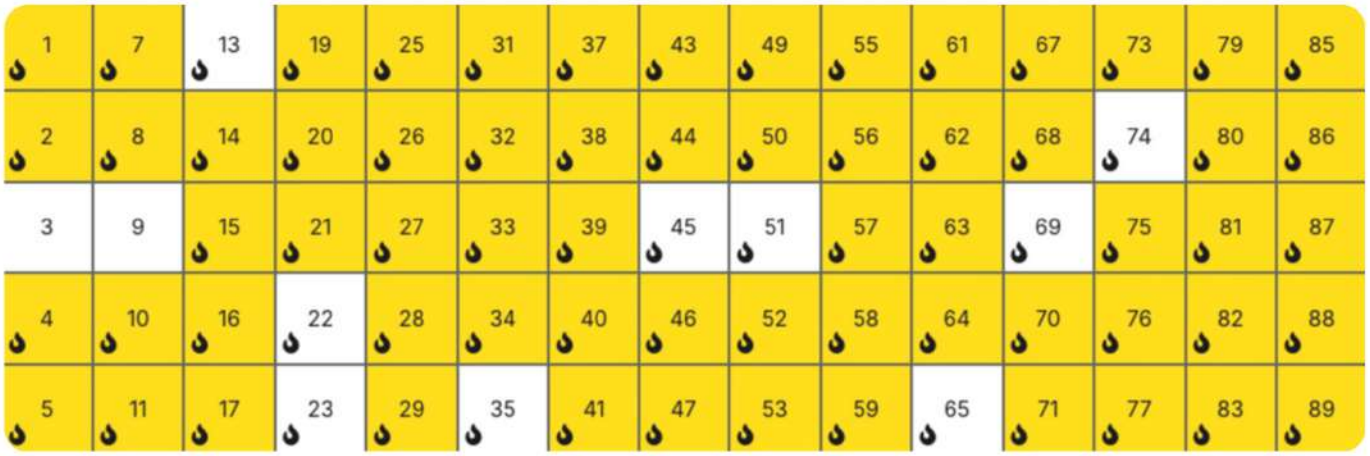
Scenario	Recommendation	User Impact
You have a mix of hot and permanent or flex lockers.	Isolate the hot lockers to entire banks. Make it clear which sections of lockers have been set to the hot locker mode.	Signage can then make it clear that these lockers are under a different mode, limiting confusion.
Choosing how many hot locker rules to implement.	Keep it simple, the less hot locker options and rules,the better. E.g. Having one rule, "1 Week Hot Lockers", rather than multiple rules.	Consistent experience for users, limiting confusion.
For users that are using a hot locker.	Ensure they are receiving automatic notifications of the remaining time on their hot locker.	Users are reminded of their booking ending time and are not surprised when their booking ends.
For workplaces with hot lockers that are always being used to capacity.	Enable 'Booking in Advance' through mobile phone.	Users can be confident they have a locker when they are in the office for the week and can book specifically during the times they need it.

FEATURE SPOTLIGHT:
HOT LOCKER RULES CONFIGURATION



The Hot locker configuration page allows workplace managers to create and set one or more hot locker rules. Hot locker rules can have a maximum booking duration and/or a set time the booking will end. Custom options can be added within the confides of the rule for users. These rules can be set on any locker, with the ability to have different rules for different lockers within the same locker bank.

Hot Locker configurations allow workplace managers to create custom rules



Implementation Checklist

Key to a successful launch of your workplace (and lockers) is getting the details done early.



ONBOARDING, USER TRAINING & CHANGE MANAGEMENT

The key to a successful change management and communication process for smart lockers, is to keep it simple. An email with a single PDF page of instructions, and a page of physical signage for launch.

Examples of onboarding emails can be found within the Yellowbox Dashboard. These emails can also be automated from the Yellowbox Dashboard.

OUR RECOMMENDED CONFIGURATIONS

Configuration	Recommendation
Multi-Access	Users should always have more than one way to open a locker, E.g. the day the RFID swipe card or PIN is forgotten.
Multiple Bookings	Allow just 1 storage locker per person.
Automations	Camping Emails to set an automated email after 30 days, if they have not opened or used their locker.
Self-serve	Rather than pre-allocating lockers, allow staff to self-serve and book their own lockers with their own height and size preferences.

Locks & Security

Understanding the difference between available smart locks and their unique use cases is critical in launching the right solution for your space.

CHOOSING THE RIGHT SMART LOCK

Lockers with access to power

Lockers that have access to power provide a zero battery maintenance experience and keypadless design aesthetic through the Wired lock. Power also provides the opportunity for optional device charging.

Free-standing lockers without access to power

For cabinets at desk ends or free-standing lockers without power, Wireless locks are the best option. No power requirements, no inner locker cabling and same access methods available as the Wired lock. Make sure to choose a system that lets you manage both wireless and wired locks within the same platform.



Wired Lock



Wireless Lock

Retrofitting existing lockers

The Wireless lock is designed to retrofit and replace existing key, mechanical and digital locks. No power requirements or inner locker cabling. While it is possible to retrofit existing lockers with the Wired lock, it raises project costs due to the time needed for cabling and routing through existing lockers.

Device Charging and LED Light

By implementing device charging within your lockers, it reduces the need for more charging stations on desks and and allows flexible charging for employees without a dedicated workstation. These can be added onto all or a select number of locks.

Pay attention to charging power limits!

Modern laptops require 20W of power to charge. Mobile phones require at least 18W of power to fast charge. The Yellowbox Device Charging and LED Light Add On, has both a USB-C and USB-A ports each with 20W of power to charge laptops and fast charge mobile devices.

SECURITY BEST PRACTICE CHECKLIST

Key Questions for Your Provider	On-Network Best Practice
Do you have ISO-27001 Certification?	Separate Vlan for locker system
Do you implement Annual Penetration testing?	Only provide outbound accessibility
Where are the locations of your Cloud Servers?	Block all ports not on the vendor's outbound whitelist

In cases where on-network is not viable, off-network solutions (e.g. 4G Router) should be available.

Case Studies



Case Study: London Stock Exchange

LSEG had adopted flexible hybrid working practices and had four primary objectives when looking for smart locker technology.

London | Netherlands | Switzerland | Romania | Poland

- Removal of manual inefficient labour-intensive processes
- Multiple authentication methods and online management
- Scalable, integrated and support driven system
- Lock system able to retrofit onto existing locker infrastructure



The London Stock Exchange Group put out a global tender for a leading smart locker system provider to support LSEG's current and future workplaces.

Yellowbox put forward a flexible, future-proofed and time-saving locker system along with data driven insights into best practice for locker implementation and management.

Employees have the flexibility to use multiple access methods (mobile app, RFID card, PIN), and types of lockers (e.g. permanent, hot and team lockers). The system is future-proofed with Cloud-based monthly updates, Active Directory Integration, RFID card integrations and global management. Yellowbox saves LSEG a significant amount of time and manual processes through automated onboarding and offboarding, self-serve booking and providing intelligent camping management to manage utilisation.

Each workplace also uses an optimal ratio of staff to lockers, driven by data and the recommendations by Yellowbox, taking into account the office desking policy. This has created saving of 40% in the number of lockers required and floor space.

Locker Types

Hot | Team | Permanent

Access Method

Mobile App | PIN | RFID Card

Integrations

Active Directory | RFID Card

Onboarding

Self-serve booking

Locks Chosen

Wired | Wireless

5089hrs

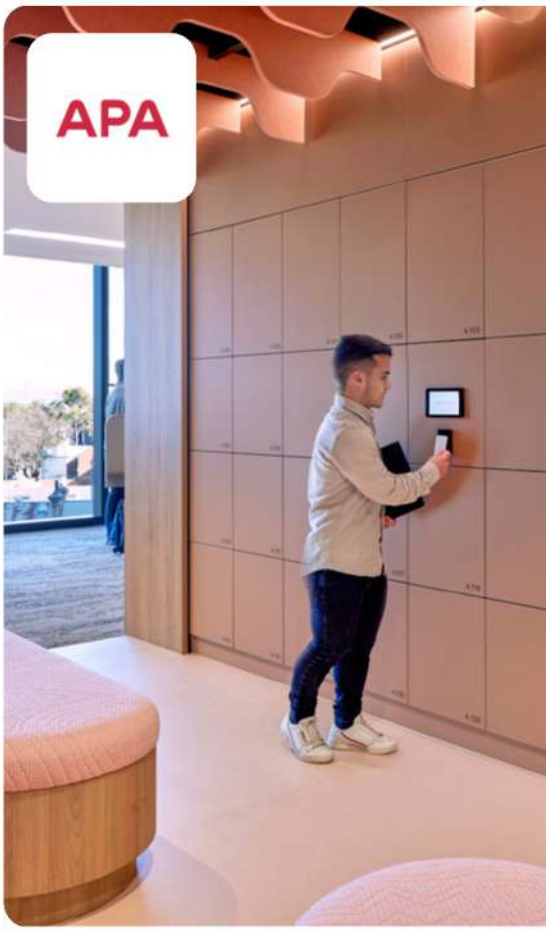
Significant reduction in administration time annually

Case Study: APA Group

APA Group's movement towards a smart workplace experience for staff, required a flexible locker system with integrations to support APA's future agile working environment.

Sydney | Melbourne | Brisbane | Perth | Darwin | Young

- Multi-Access via access card, mobile app and mobile access control
- Flexible reservation types, including self-allocated, temporary, and shared
- Cloud-based system to monitor status and utilisation
- Integrations with current and future environment



APA Group ran a tender process for a smart locker solution, to meet all of their hardware, software and system requirements.

Yellowbox demonstrated a system that was:

1. **Seamless**
   Multiple access methods through RFID swipe card and mobile phone, no setup through SSO integration, self-serve and no friction.
2. **Integrated**
   Azure AD and Gallagher security with unified identity.
3. **Flexible**
   Multiple booking types and future cloud based updates.

APA Group proceeded implement the Yellowbox smart locker system within their Perth, Brisbane, Darwin, Young, Sydney and then Melbourne workplaces over the span of 36 months.

Through automated locker management, APA have been able to maintain an average 86% utilisation of lockers over 1,729 lockers, demonstrating the optimal mix of settings and number of lockers to meet the storage needs, whilst saving on locker space.

Over the five workplaces, APA Group were able to save over 4,307 hours of manual locker management tasks and 6,593 hours in employee time each year.

Locker Types

Permanent

Access Method

Mobile App | PIN

RFID Card

Integrations

Active Directory

RFID Card

Onboarding

Self-serve booking

Lock Choice

Wired | Wireless

4307hrs

Saved of manual locker management tasks yearly

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