# Revolutionising Ports Security & Access Management

ABLOY

"Digital access control solutions go beyond high-end security, enabling remote access control and simplified key management, with precise audit trails. This digital convenience, efficiency and awareness saves time and increases security and operational efficiency to improve port infrastructure."

Steve Wintle, Head of Critical Infrastructure at Abloy UK
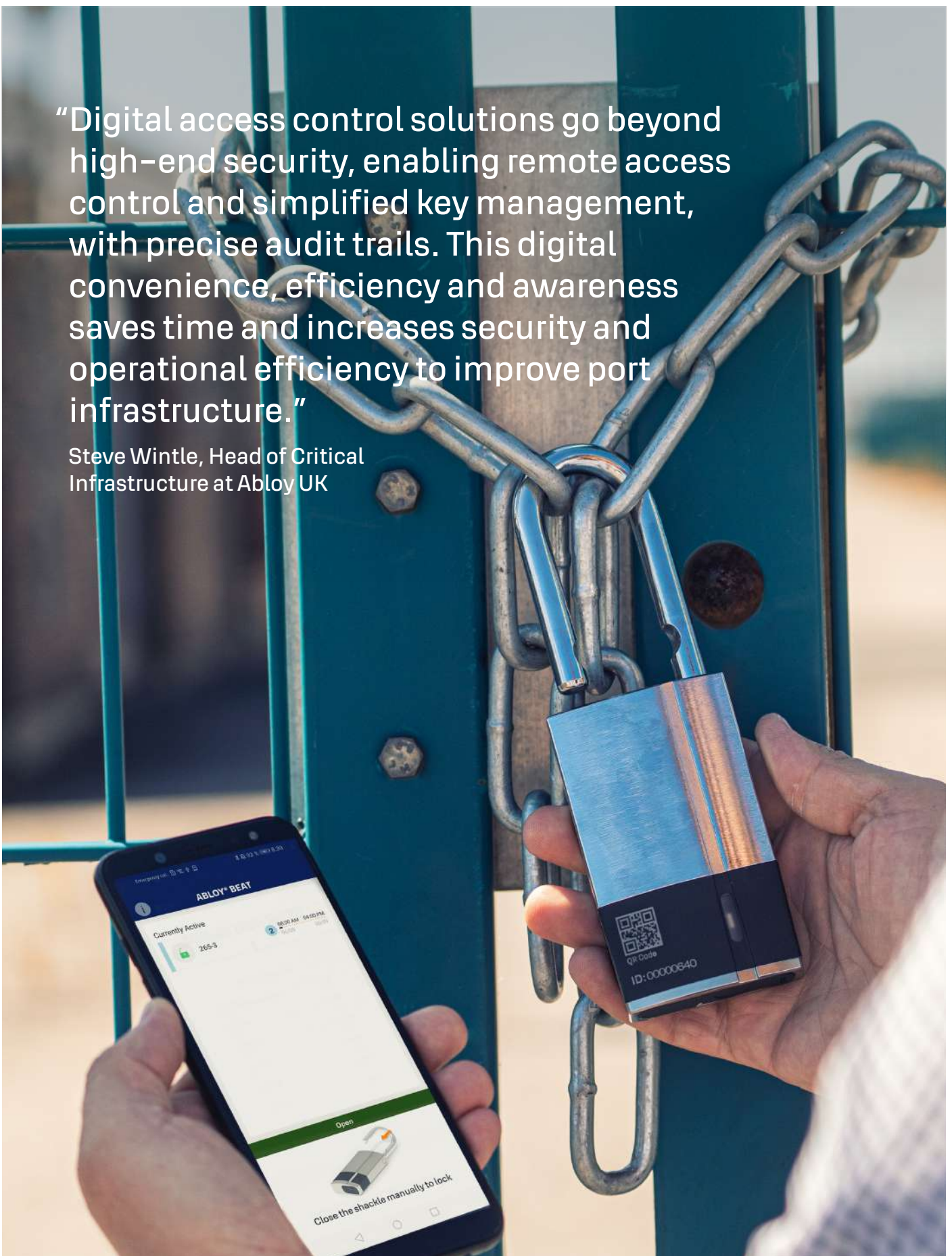
CONTENTS

Introduction

Ports are at the **heart of global trade and transport**, and it is **vital** that **people, cargo** and **business** flows safely without interruption.

Ports play a fundamental role in the UK economy, contributing £10.8 billion[1] – more than air, rail, warehousing, and storage.

£10.8 billion

The UK boasts the second largest port industry in Europe, handling almost 500 million tonnes of freight each year, over 60 million international and domestic passenger journeys, and employing over 100,000 people[2].

500m tonnes of freight each year

60million
international and domestic passenger journeys

employing over 100,000 people

They cover large areas, feature multiple entry points, and are often very busy at all times of the day and week, operating 24/7. Plus, they have areas that are under private ownership, government authority, highly restricted, or require public access, such as cruise ship passenger terminals.

All of these contributing factors make ports an incredibly difficult environment in which to secure access. With a range of potential threats to consider too, such as theft, people trafficking, drug smuggling and terrorism, maintaining a secure environment and controlling access can seem like an insurmountable challenge.

In this whitepaper, we discuss the potential threats to port security, and how access can be controlled more effectively to minimise risks and maintain a secure environment for staff, passengers, and any other authorised users of ports.

We also explore the convenience that new digital access solutions can offer, while improving operational efficiency and security with reduced costs, logistics and risk of lost keys.

"Robust port security complements border security, making our ports and coastline less attractive to those who wish to exploit the UK."

National Strategy for Maritime Security

Controlling access and key management

Ports are high risk environments employing both their own staff and a significant number of contractors. Therefore, it is important to ensure that only trained and competent persons operate machinery or have access to higher risk areas.

A vast number of mechanical keys are required for accessing estates and property, warehouses, perimeter gates, passenger terminals, engineering control rooms, high voltage areas, cranes and other locations across the port environment.

The use of mechanical locks has traditionally proven to be a good investment for ports, forming part of a layered security approach. However, as security and access control technology has evolved, these solutions have become outdated, with numerous severe limitations.

Manual key control can be complicated and time-consuming, and adding new keys or scaling up legacy systems with mechanical technology can further add to the complexity of managing security and access control.

For example, mechanical keys must be picked up and dropped off at different locations, creating a huge amount of extra time, travel and inefficient logistics.

Key holders may fail to return keys which can create a security risk, especially if the holder is a visiting contractor, and keys can also be very easy to duplicate.

Access and schedules for staff or third-party contractors and maintenance crews are often manually logged and recorded. This means there's no transparency of movement, scheduling or online visual overview or awareness of the security situation.

However, advanced solutions are now available to connect all essential locks, key and access management requirements into a digital ecosystem managed remotely via a web-based manager.

This enables remote key and access management control with the convenience of one key access for everywhere, plus it brings all essential security technology into one digital control centre with a visual interface.

Safety and security threats

Ports are ideal environments for criminals – their size, numerous entry and exit points, and the volume of people flowing through them makes it easy for illegal activity to occur undetected.

Consistent surveillance is required, and a vast perimeter and 24/7 operations means the sheer scale of the security required is immense, plus, it needs to not impede or slow down operations in any way.

Cargo theft is one of the most common crime at ports, with unattended containers providing an ideal target for both opportunistic and organised criminals.

The Transported Asset Protection Association (TAPA) is a not-for-profit industry that helps Manufacturers, Shippers and Logistics Service Providers minimise losses resulting from cargo thefts and to increase the security and resilience of their supply chains.

The organisation conducts an annual cargo theft report , which found a significant increase in criminals targeting cargo at rest, with the UK identified as one of the top countries for cargo theft.

It also uncovered that throughout 2021, global supply chains continued to face significant security, continuity, and resiliency threats due to the COVID-19 pandemic, increased congestion and longer idle times.

It's highly likely that each port in the UK already makes use of padlocks to protect against cargo theft. But these are often mainly mechanical, which can be old and rusted due to infrequent use. Padlocks with good weather resistance and IP68 characteristics are a more cost effective and resilient solution.

Other threats to ports include piracy, with most attacks occurring while a ship is docked. In contrast to piracy, where assailants wish to take control of the ship, armed robbery involves criminals taking what they can using violence or threats of violence, then making a quick getaway.

Terrorism is one of the biggest and most poignant port threats of current times, with the potential for vessels to be hijacked or hacked via its IT system. Drug smuggling and people trafficking is also rife at ports, exploiting the weaknesses in port security.

In order to mitigate all of these threats, security needs to be tightened, and greater awareness of current security situations can be a beneficial tool to create the most effective security provision.

The National Strategy for Maritime Security

The National Strategy for Maritime Security (NSMS) sets out government's approach to maritime security over the next 5 years. Maritime security can be seen as an extension of the homeland or 'UK border', and government takes a 'layered' approach to securing our borders with surveillance, control, and intervention matched to the most appropriate point.

The UK Border Strategy 2025 sets out the vision for the UK border over the next five years as embracing innovation, simplifying processes for traders and travellers, and improving the security and biosecurity of the UK. Key amongst these transformations is to establish resilient ports of the future at border crossing points. The protection of port facilities is conducted through preventative measures to deter and detect unlawful acts, primarily addressing physical security, access control and application of security procedures.

As the maritime security regulator, government is also responsible for the implementation of the International Shipping and Port Facility Security Code (ISPS) and ensures its delivery through a robust maritime security compliance function.

Increasing operational efficiencies and sustainability

Despite the positive impact ports have on **boosting jobs** and **prosperity** around the UK's coast, ports can also have adverse effects on the environment. This includes local **air** and **water pollution**, **greenhouse gas** emissions, **noise** and **air pollution**, **traffic** congestion and **contamination** of sediments.

What's more, ports can be a huge drain on energy, with the electricity demand to charge ships sometimes as high as the demand for the towns surrounding ports.

However, UK ports are committed to aiding the country's transition to a net zero future, investing significantly in zero and low emissions equipment and energy generation. They are also playing a role in the UK's offshore wind revolution, acting as bases for construction, operation, and decommissioning.

Access control and security solutions can positively contribute to greener operations. For example, low energy electric locks can reduce energy consumption and improve security when installed in favour of alternatives such as door magnets, which use significantly more power.

The risk of unnecessary journeys — and subsequently CO_2 emissions - can also be reduced by implementing a digital access management system that utilises web-based management.

Access rights are updated wirelessly, remotely and instantly, giving the contractor the permissions needed to access the areas required, providing a much more sustainable operation.

Digital solutions and the data generated by them have the power to drive efficiencies and safety, while adding to the green credentials of a port. In an instant you can have a visual overview of your security situation, that is updatable anytime and accessed from anywhere.

This offers significant cost savings in reducing key logistics and management, as well as tighter security and convenience of being able to track all movement across every lock and key, online, enhancing trust and transparency.

Raising industry standards

There are currently no specific locking standards that regulate security, access control or processes that ports must adhere to, unlike in other industries that are highly regulated. This lack of standards creates inconsistency and can lead to poor operational excellence.

For example, Water companies in England and Wales must comply with The Security and Emergency Measures Direction (SEMD), which highlights a legal framework to be followed in order to plan and prepare for water and sewerage incidents and improve resilience of sites.

All padlocks Abloy supply achieve the highest security grade of BS EN 12320:2001 accompanied with the highest grade of corrosion resistance as per 12320:200.

BS EN 12320:2001

Our IP58 rated padlocks also conform to BS EN 12320, and have certification LPS 1654 Issue 1 SR Level 1 - 4 and carry the "+" rating against surreptitious manipulation from the Loss Prevention Council Board (LPCB).

LPS 1654 Issue 1 SR Level 1 - 4

Although there are no comparable legal regulatory standards for port security and access control to those of the water industry, locks do fall under comments in the International Shipping Port Security (ISPS) Code. This is backed by the British Ports Association (BPA), the national membership body for ports.

The ISPS Code is a comprehensive set of measures designed to strengthen the security of ships and port facilities. It aims to ensure the security of ships and port facilities via risk management, to determine what security measures are appropriate.

To comply with the ISPS Code requirements, every company or ship must have a Ship Security Plan (SSP), to help prevent illegal acts against the ship, crew and passengers, and minimise damage to the marine environment and port facilities.
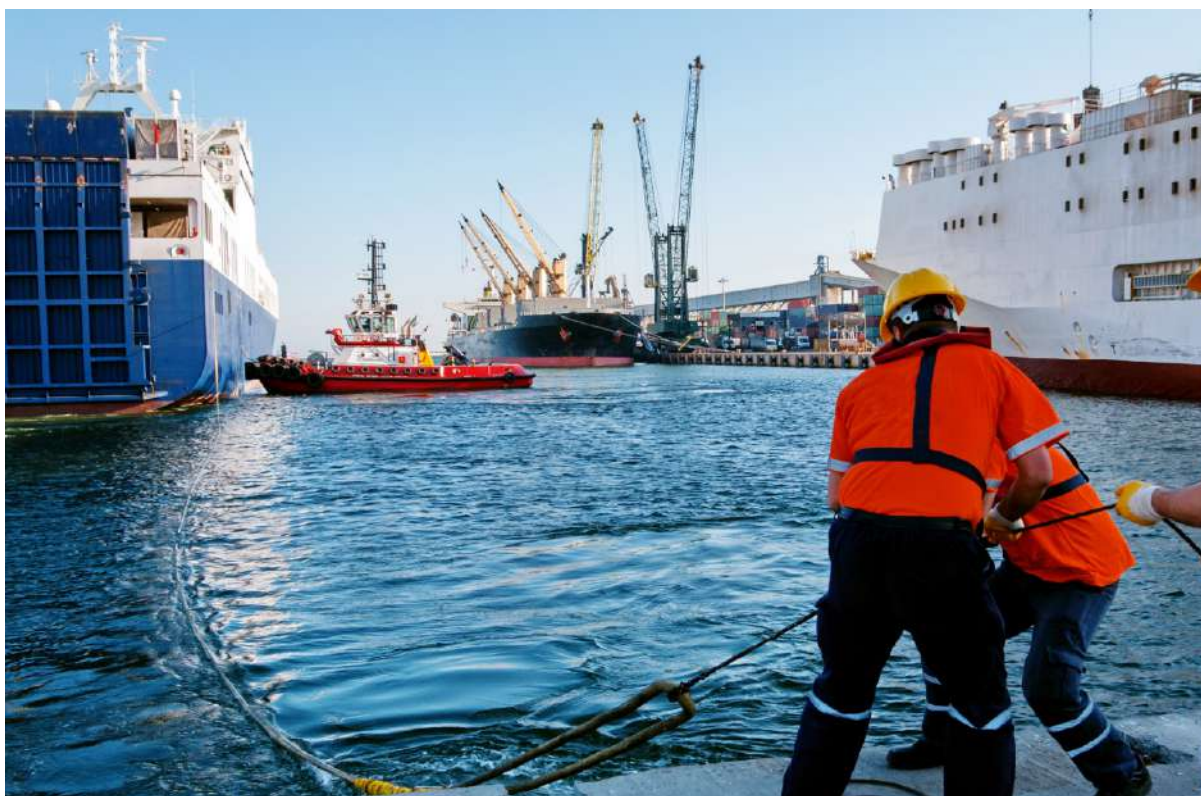
Explosive atmospheres within certain parts of port estates, such as more industrial type environments, must also meet The Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) and ATEX Regulations.

DSEAR require employers to control the risks to safety from fire, explosions and substances corrosive to metals, by identifying dangerous substances and what the risks are, and put control measures in place to either remove those risks or, where this is not possible, control them.

ATEX is the name commonly given to the two European Directives for controlling explosive atmospheres:

Directive 99/92/EC (also known as 'ATEX 137' or the 'ATEX Workplace Directive') on minimum requirements for improving the health and safety protection of workers potentially at risk from explosive atmospheres.

Directive 2014/34/EU (also known as 'ATEX 114' or 'the ATEX Equipment Directive') on the approximation of the laws of Members States concerning equipment and protective systems intended for use in potentially explosive atmospheres.

However, with ports under constant threat, it's clear that greater education is required across the sector, to raise industry security standards and potentially implement a regulatory code of practice. This is recommended to provide greater resilience and resistance.

Investment in solutions

Port operators and their owners invest an average of £600 million every year into their facilities and estates and as gateways for 95% of UK global trade many are expanding facilities to cope with increasing demand.

Security and access control should be paramount – and top of the list when it comes to investment into improving facilities.

With this in mind, Abloy offers a digital portfolio of access solutions to not only future-proof security for ports, but also add extra operational efficiency. This includes a range of keyless, electromechanical and mechanical solutions, such as container locks, to secure the entire port infrastructure.

Abloy solutions go beyond high-end security and access control, enabling remote access control and simplified key management, with precise audit trails.

This digital convenience, efficiency and awareness saves time and increases security. The result is operational efficiency to impact and improve all port infrastructure, saving time and adding profitability. For large port estate owners and managers who are unfamiliar or reluctant when it comes to new technologies, mechanical and electromechanical solutions can be combined.

This allows budgets to be managed effectively, and also develop comfort and familiarity with solutions before expanding the system. With the potential to scale up or down, and add on as required, security is future-proofed.

£600 million

gateways for

95%

of UK global trade

PROTEC2 CLIQ™

PROTEC2 CLIQ™ and ABLOY® BEAT lead digital transformation and operational efficiency within critical infrastructure. They drive remote lock and key control and management on-the-go, adding a new level of operational efficiency.

PROTEC2 CLIQ™ is also well suited for port environments where mobile phone use is restricted. The pre-programmable electronic keys provide the convenience of remote control and high security throughout the business, anytime, anywhere.

PROTEC2 CLIQ™ solutions also include IP68 and ATEX approved padlocks for guaranteed performance in any conditions. Combined with ABLOY® OS, this creates visual overview and situational awareness over your port security system.
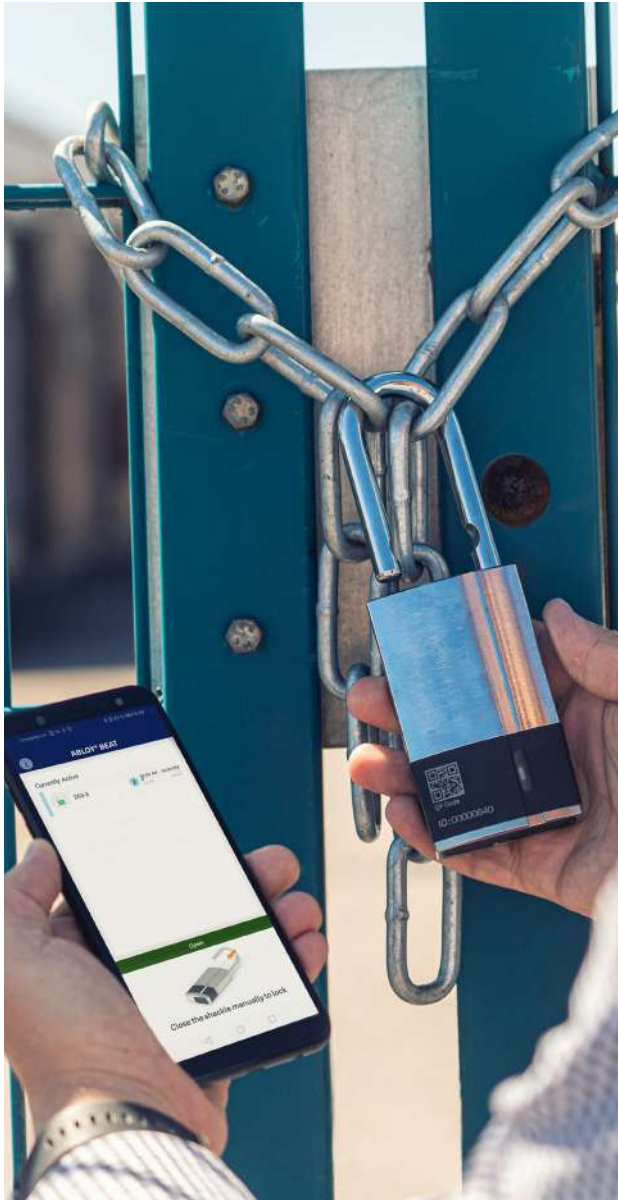
ABLOY® BEAT

ABLOY® BEAT is a new digital locking solution that includes a Super Weather Proof Bluetooth padlock that is operated with a digital, mobile key and secured with the best-in-class Seos® credential technology. It's managed with ABLOY CIPE (Critical Infrastructure Protection Ecosystem) or can be integrated into third-party systems, so facilities managers are always in sync with the security situation.

ELECTRIC LOCKS

For all the administration and office areas in port operations ABLOY Electric Locks provide intelligent performance under all circumstances, with premium security, precise access control and sustainability. ABLOY® EXIT products also offer a high security door environment with guaranteed exit in every situation.

SUPER WEATHER PROOF PADLOCKS

Super Weather Proof padlocks are the perfect solution for every port environment – Harsh salty conditions, the threat of organised crime, smuggling, unauthorised access, or having to monitor and control multiple entry and exit points, are just some of the global security challenges ports face.

Abloy's Super Weather Proof locks are IP68 rated and ATEX certified for use in exposed or explosive environments, in addition to being "approved for UK government use".

Abloy padlocks have been designed and manufactured to not only meet the requirements of the EN12320 padlock standard, but exceed them. The requirements of our own tests are significantly higher, and verified through third party testing to higher standards for infrastructure such as LPS 1175 and LPS 1654.

They continued to operate smoothly throughout exhaustive durability tests such as the acetic acid salt–spray test, making them the best possible alternative for use in unprotected locations such as ports where the environmental conditions are severe.

CIPE MANAGER

CIPE Manager allows for keys, locks and access rights in ports to be managed on the go, with a user friendly visual mapping cloud–based management system.

CIPE Manager connects with Abloy's digital portfolio including the keyless solution ABLOY BEAT, electromechanical solution PROTEC2 CLIQ, and ABLOY mechanical Master Key systems.

All managed with CIPE Manager to provide digital convenience, control and security that simplifies managing an operation, while adding operational efficiency and complete situational awareness.
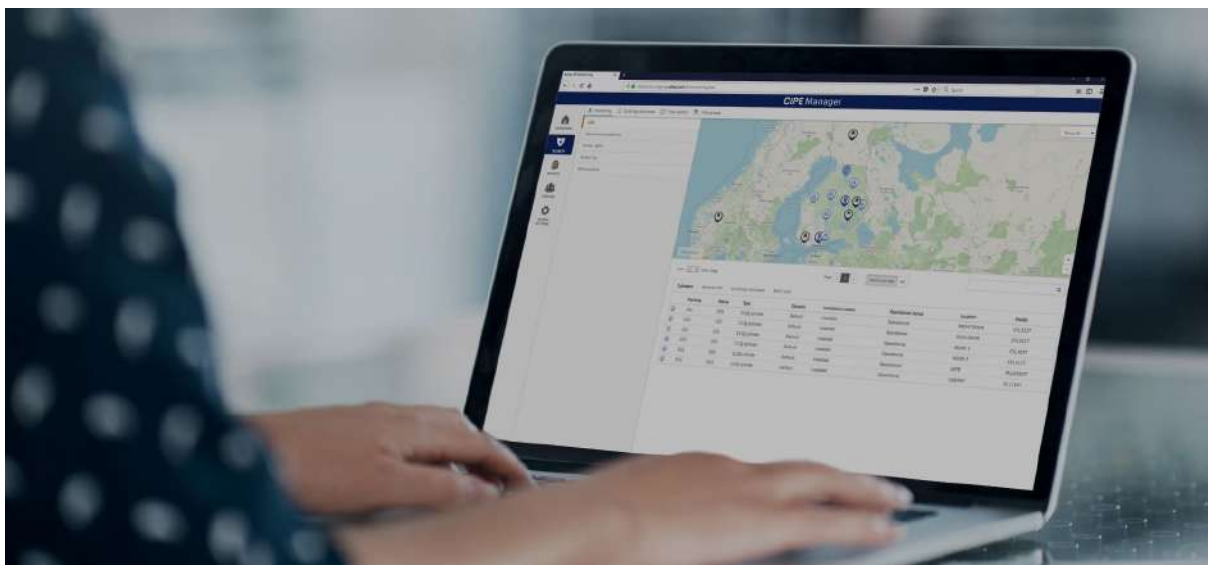
Case in practice: Southampton Port

Southampton is one of the UK's **busiest and most important ports** handling in excess of **14 million tonnes** of commodities a year.

Abloy UK supplied a combination of 156 CLIQ® keys and padlocks to the Port of Southampton, run by the Associated British Ports (ABP). This system increases the traceability and helps to manage access across their large estate.

Southampton is one of the UK's busiest and most important ports handling in excess of 14 million tonnes of commodities a year. The port is widely recognised as the centre of the country's cruise industry and the biggest turnaround port in Europe, welcoming over 2 million passengers a year, using five world-class cruise terminals.

14 million tonnes of commodities

It is also the number one car handling port in the UK, handling over 900,000 vehicles.
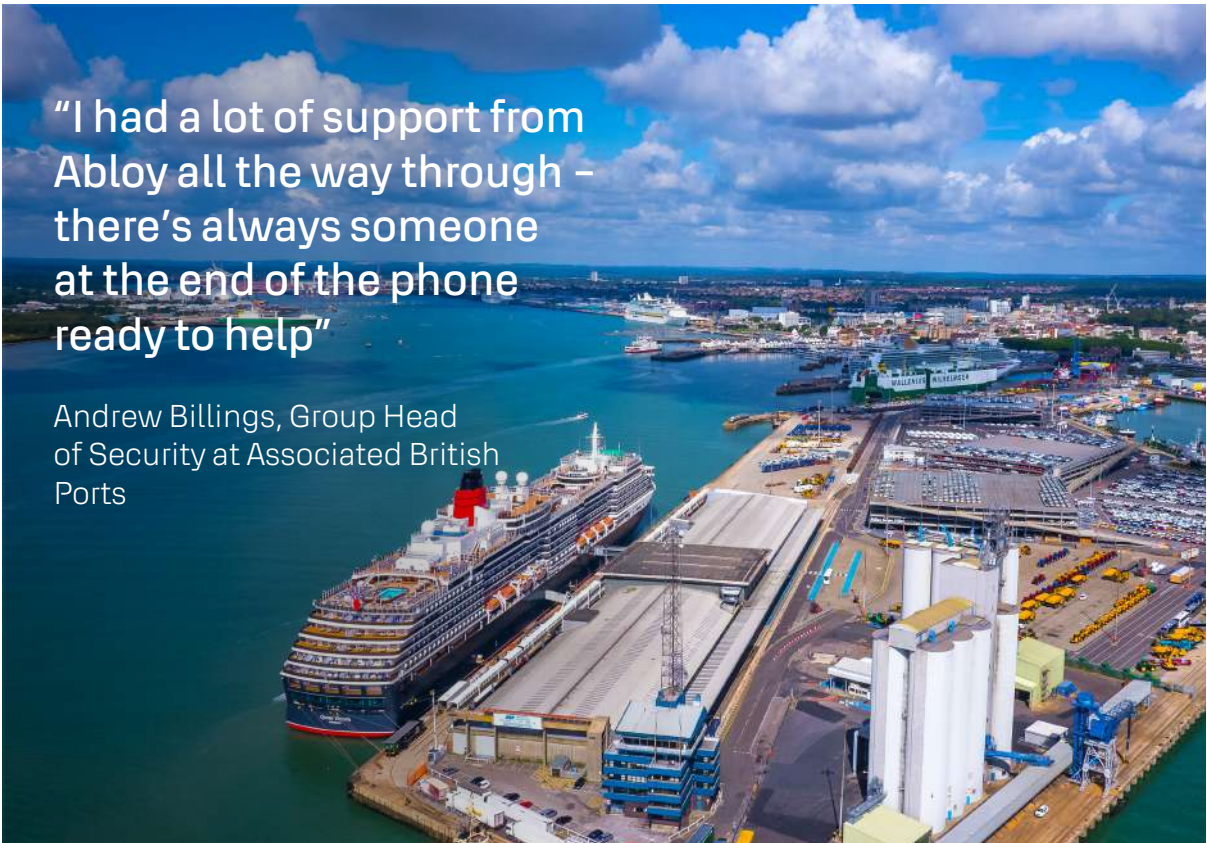
900,000 vehicles.

This is in addition to handling fresh produce, a variety of general cargo including dry bulk cargoes, minerals such as animal feed, agribulks, sand aggregates, marble chippings, ferrous scrap and woodchip. The scale of the site and nature of its operations means that many individuals have access to the quayside, creating challenges with both security and health and safety.

The port owner, ABP, sought out a system that could more effectively secure the berths. They required a traceable system which would provide audit trails, allowing them to authorise and identify each key holder. In addition, the system needed to be efficient, without the need to replace the entire suite if one key was stolen or lost.

ABP selected CLIQ from Abloy, comprising padlocks and electronic keys which can be programmed to give authorised people access to specific areas of the port at designated times. The project began with a trial of 20 CLIQ padlocks and now comprises 156 components and this is expanding.

The CLIQ system allows the security team to have complete control over access to the port berths. Should there be a breach to the security or health and safety protocols, such as leaving a gate open, audit trail generation will allow them to identify which keyholder is responsible.

"I had a lot of support from Abloy all the way through – there's always someone at the end of the phone ready to help"

Andrew Billings, Group Head of Security at Associated British Ports

The keys can also be reprogrammed, for instance if someone leaves the company or requires different access, so key management is much more secure and convenient. This also reduces the risk from lost or stolen keys which can simply be deleted from the system.

Furthermore, with the initial configuration in place the system is scalable, so ABP can easily expand the system by ordering new keys and locks and programming them on the management platform. In addition to the Port of Southampton, ABP has rolled out CLIQ at Hull, Immingham and other smaller ports too.

Andrew Billings, Group Head of Security at Associated British Ports, said: "The project was seamless. I had a lot of support from

Abloy all the way through – there's always someone at the end of the phone ready to help. The port now has a product that will last, has a high security specification and which gives us absolute peace of mind."

Steve Wintle, Head of Critical Infrastructure at Abloy UK, said: "A complex site does not always require a complex solution. CLIQ's simplicity, and the efficiency it brings to managing access is why it continues to be the locking and security system choice. I'm exceptionally pleased with the success of the project with ABP, and it's fantastic to know that our solution is helping to bolster their robust health and safety practices."

References

[1] https://www.britishports.org.uk/uk-ports-call-for- supercharging-infrastructure-as-new-report-reveals-levelling-up-power/
[2] https://www.britishports.org.uk/about-us/the-uk-ports-industry/
[3] https://www.ttclub.com/media/files/tt-club/bsi-tt- club-cargo-theft-report/tt-club-tapa-emea-and-bsi-annual-cargo-theft-report.pdf
[4] https://www.britishports.org.uk/uk-ports-call-for-supercharging-infrastructure-as-new-report-reveals-levelling-up-power/

SECURED BY ABLOY

Abloy is a security and locking innovation company with trust at the core of all our activities. By combining mechanical and digital expertise Abloy develops modern, industry leading security solutions to protect people, property and business. Abloy is part of the ASSA ABLOY Group

Contact
Abloy UK
School Street
Willenhall
West Midlands
WV13 3PW
T: +44 (0)1902 364 500
E: info@abloy.co.uk
W: www.abloy.co.uk

ABLOY