



# ALDI

## Business Partner Automation Readiness Handbook



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?



# Welcome

Our ALDI Guidelines are a key element in ensuring success through the Supply Chain and into ALDI Automated Distribution Centres. This will help to drive the consistent and high quality shelf-availability in stores.

Working with you, our valued Business Partners, to ensure compliance within these standards, will drive more efficient end-to-end operations; helping to provide a competitive advantage to our business as we embrace new technologies and ways of working.

We're excited for you to join us on our journey towards creating a market-leading, technology-focused supply chain, and look forward to many more years working together in partnership.



The ALDI Team



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?



# Handbook Overview

This handbook has been created to provide supplementary guidance in conjunction with ALDI Golden Rules documentation for outer case and palletised packaging standards, and should be used alongside this document.

Specifically, guidance here aims to provide detail of Automated Distribution Centres and the specific processes which are the catalyst for these changes, along with examples of the requirements outlined in the Golden Rules to ensure clear understanding, provide context to these changes and highlight the impact of non-compliance.

Our goal is to ensure the safe, efficient and smooth transition of products into new ALDI Automated Distribution Centre's and to outline compliance standards both during initial transition, and in moving forward longer-term. Emphasis has been given of the most critical compliance requirements within this document, which are key to ensuring we can safely, effectively and successfully process your products without impacting operations, safety or product availability in stores.



The ALDI Business Partner Automation Readiness Handbook is intended to support, and not override or supersede, any existing material. If you have any questions about how any aspect of this document relates to your own commercial supply agreements, please discuss with your relevant Buying Assistant.



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?



# Contents

## Chapter 01 – Overview of ALDI Automated DC

- 1.1 Automated Distribution Centre – Introduction
- 1.2 ALDI’s Packaging Pledge
- 1.3 Better Everyday; Greener, Fairer and Healthier

## Chapter 02 – Automation and Packaging Requirements

- 2.1 ALDI Automated Distribution Centre - Overview
- 2.2 ALDI Automated Distribution Centre – Automated Processes
- 2.3 Compliance Requirements – Overview
  - 2.3.1 Compliance Requirements – Case Unit Packaging
  - 2.3.2 Compliance Requirements – Pallet Boards
  - 2.3.3 Compliance Requirements – Pallet Configuration
  - 2.3.4 Compliance Requirements – Pallet Securing
  - 2.3.5 Compliance Requirements – Labelling Standards
  - 2.3.6 Compliance Requirements – Slipsheets
- 2.4 Compliance Requirements – Data and Product Information

## Chapter 03 – Delivery and Site Information

- 3.1 Delivery into Automated Distribution Centre

## Chapter 04 – Are you Automation Ready?

- 4.1 Next Steps Checklist



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?

\*Not representative of actual site design



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?



# 1.1

## ALDI Automated Distribution Centre – Introduction

ALDI has partnered with an industry-leading automation vendor, to design and deliver a state-of-the-art automated distribution centre in Bardon. This is just the start of ALDI’s journey into new and exciting Automated Logistics Solutions and we’re thrilled to have you on board with us moving into this exciting next chapter.

The grocery retail landscape is rapidly changing, highly complex and requires innovative and diverse logistics solutions. Though challenging, this provides retailers with huge opportunity to reshape their supply chains and create a competitive advantage in what is an increasingly demanding sector. Appropriate automated processes help unlock this advantage and drive more consistent, efficient store replenishment, through lean order fulfilment and end-to-end supply chain development.

See below for further information about ALDI’s new Automated Distribution Centre:

- ✓ 1<sup>st</sup> Automated Distribution Centre for ALDI GB
- ✓ Owned plot spanning 73-acres in size
- ✓ Site footprint of 126,524m<sup>2</sup>
- ✓ External building height of 33m
- ✓ 120,000 pallet storage locations
- ✓ High Bay storage with 8 aisles
- ✓ 325 HGV parking spaces
- ✓ 5,670m<sup>2</sup> mezzanine floor space
- ✓ 6.7 million pallets to be processed annually
- ✓ 143 dock doors across the site



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?



# 1.2

## ALDI's Packaging Pledge

### How we're tackling packaging and plastic waste

Plastic packaging plays an important role in protecting products from damage, making sure that they can be transported easily, and helps reduce waste by preserving food for longer. However, we are aware of the negative impact that plastic has on the environment, and know this is an issue that matters to our customers, which is why ALDI has committed to reduce, reuse, and recycle 100% of our packaging.

As proud members of the UK Plastics Pact, our Buying and Plastic & Packaging teams have been working together to review our entire product range and have taken positive steps to reduce the amount of plastic and packaging we use.

#### What changes have we made to our packaging?

At Aldi, we're continually working to reduce the amount of plastic and packaging we use, and to ensure that materials we do use are easy for our customers to recycle. Working with you, our Business Partners, we've already made many changes to improve our packaging and reduce our plastic usage. Some of these changes include:

#### Plastic lids

208 tonne reduction

#### Fresh meat

5800 tonnes saved

#### Fresh steak

88% plastic reduction

#### Easter

2 mil pieces of plastic removed

#### Tea

80 tonnes of plastic removed



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?



# 1.3

## Better Everyday; Greener, Fairer and Healthier

At Aldi we are doing our best to be Fairer, Greener and Healthier - to be Better Everyday. Aldi makes the everyday amazing. But amazing doesn't happen overnight so that's why we're making changes to be better and better every single day.

### GREENER

We're GREENER everyday. From sustainably sourced fish, to food waste reduction, to green electricity, our green thinking is working towards a better environment.



### HEALTHIER

We're HEALTHIER everyday by selling fresh fruit and veg at low prices. We're constantly reviewing and improving the nutritional value of our products to support healthy shops. By 2025, we are committed to having 70% of our food sales from healthier products.



### FAIRER

We're FAIRER everyday. Whether it's backing British farmers, tackling modern slavery or food poverty, or raising money for amazing charities, we're here to help.



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?





**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?

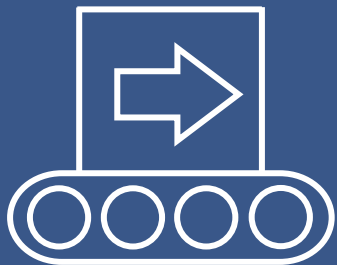
# 2.1

## ALDI Automated Distribution Centre – Overview

Within an automated operation, Retailers and Business Partners alike must consider how their master outer cartons will flow through automated systems without issue, damage or delay. Packaging and palletisation that has not been optimised for automated systems can lead to a range of issues and in this section, the key areas of automated processes that your packaging will be processed through will be explained in more detail. It's worth noting, packaging optimised for automation will be suitable for manual operations as well.

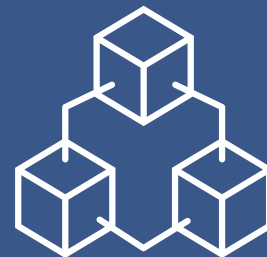
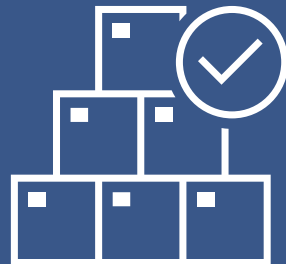
Having the right type of packaging is key to maximizing the benefits of Automated Distribution Centres, and the following chapter will provide you with an insight into how you can help drive these changes, and the benefits for the future in doing so.

Outlined below are four key automated processes which will be explored:



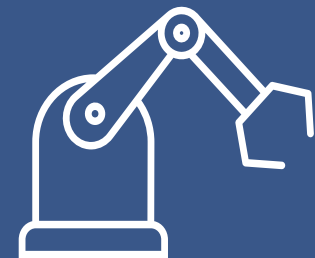
Case Conveyor Systems

High Bay and case Storage



Automated Depalletising

Automated Case Picking



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?

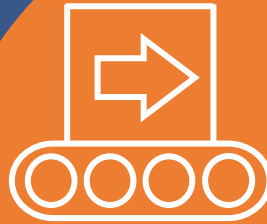
# 2.2

## ALDI Automated Distribution Centre – Automated Processes

Based on these four automation elements, the following aspects of packaging and pallet compliance must be considered as products are processed through site:

### Case Conveyor Systems

- Cases will be transported ‘one case per tray’ through the system
- Tray sizes mean case dimensions must be within those outlined
- Fast-moving conveyor systems create force upon cases and can result in case toppling if centre of gravity is not compliant



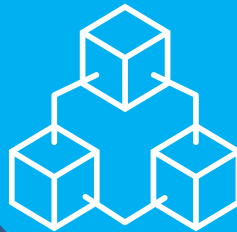
### High Bay and Case Storage

- Pallets are transported to high bays via a monorail system and stored in racking locations ran by large shuttle cars
- Pallet heights, weights, wrap and stability must be compliant to avoid any potential fall-from-height incidents, jams or damage



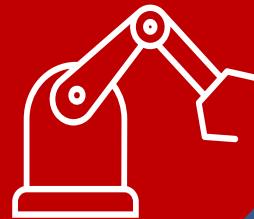
### Automated Depalletising

- Slipsheets must not obstruct the layer picker in any way and must be single sheet, thick cardboard without any corners
- Bases should be rigid to ensure lids are secured on/within cases
- Layer patterns should be optimised and with minimal gaps



### Automated Case Picking

- Cases must be strong enough to be handled by automated pick systems without incurring damage or removal of internal units
- Cases must comply with dimension and shape (cuboid) requirements to be processed through case picking systems



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?

## 2.3

### Compliance Requirements – Overview

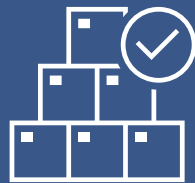
The following pages will provide supplementary guidance on the crucial compliance requirements as outlined within the ALDI Golden Rules, as well as further detailing why these areas are so important to supporting the effective and safe movement of products through our Automated Distribution Centre's.

This information is broken down into four key pillars of compliance, as below:

#### Case Unit Packaging



#### Pallet Units



#### Inbound Deliveries



#### Data & Product Info



Where deliveries or products are not compliant, ALDI may work with you to rectify by way of the following options:

- Rejection; products will be returned at supplier's cost for rework/replacement
- Reworking proposal; any associated costs will be charged and Business Partner instance of non-compliance logged



Products arriving which do not comply to new outlined standards may result in rejection. These may pose potential safety and/or operational risks to site or to persons, as well as resulting in rework, time and cost implications to the operation.



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?

## 2.3.1

# Compliance Requirements – Case Unit Packaging

## Case Integrity

The packaging of the outer cases must be of robust integrity to be successfully processed through an Automated Distribution Centre. Product handling involving automated depalletising and case picking processes can be seriously impacted if cases are not compliant. Please see below examples\*:



\*Examples non-exhaustive. For reference only.



Case units with integrity issues cannot be processed safely through automated systems as these pose risk of becoming compromised during transportation and/or material handling. Such cases will not be accepted onto site and are subject to rejection on this basis at either pallet or full load level.



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?

## 2.3.1 (cont.)

### Compliance Requirements – Case Unit Packaging

#### Lids

The main purpose of packaging lids is to protect product through the supply chain, provide stacking strength – and additionally now in the realm of an Automated Distribution Centre – to provide strong flat layers to support delayering vacuum and lateral compression.

Due to the way automated delayering processes work (air suction and lateral pressure), lids which are excessively loose or unsecured may become displaced during delayering, resulting in the potential for jams, removed units or damage to equipment.

Lids should be firmly secured atop or within cases to ensure stability through automated delayering. This can be aided by ensuring a strong, rigid base and outer case structure. Case should be able to be manually lifted through compression of case walls, without any risk of product falling through the case base.



\*Note: this lid type must be secured within the outer case

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00 Welcome and Introduction

01 Overview of ALDI Automated DC

02 Automation & Packaging Requirements

03 Delivery and Site Information

04 Are you Automation Ready?

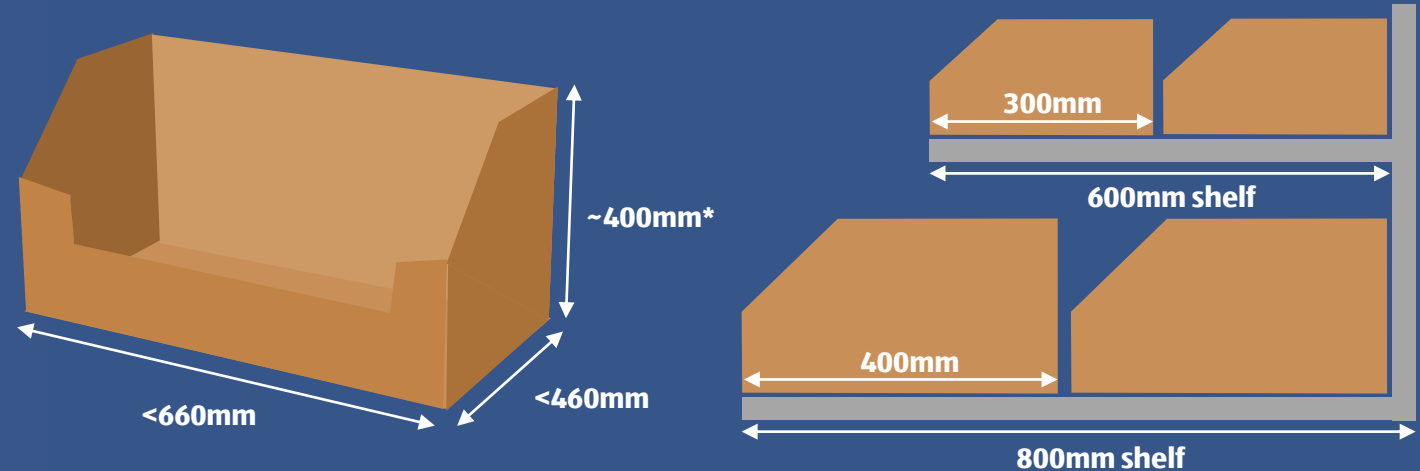
## 2.3.1 (cont.)

### Compliance Requirements – Case Unit Packaging

#### Case Dimensions

Automated warehouse systems have strict case dimension limits which must be complied with to ensure suitability for processing. These dimension limits have been outlined by Automation Vendors and must be adhered to along with existing shelf depth considerations when determining overall case dimensions of products.

- Maximum case dimensions and shelf depths aligned
- Depth to width ratio no greater than 3
- Height to width/depth ratio not greater than 1.7
- Single case maximum weight of 25kg
- Product centre of gravity considerations made
- Case dimensions cohesive with consistent layer pattern



\*Maximum height dimensions flexible dependent on product centre of gravity and shelf height.



Centre of gravity is key for safe transportation throughout automated systems. Non-compliance may result in toppling within or from any number of automated systems, which is likely to incur damage and/or spillages and subsequent lost time to recover.



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?

## 2.3.2 Compliance Requirements – Pallet Boards

### Pallet Type

The following pallet types comply with the automated warehouse:

#### Euro



800x1200mm

#### UK Standard\*

(\*only if previously agreed by your Buying Team)



1000x1200mm



### Pallet Quality

Pallets must be free from damage and have clear, unobstructed fork entries. Pallets must be classified within the below pallet grades:

- **Grade A:** Grade A pallets haven't had and don't require any repairs. At the lowest tier of the A grade, you may find pallets that don't have or need immediate repairs, but may need some soon.
- **Grade B:** Grade B pallets have had repairs in the form of replaced deck boards, plates, or plugs. They are still structurally solid and should be suitable for use.

### Impact of non-conformance:

- Damaged pallets can cause obstruction within automated handling systems and lead to potential 'falls from height', collapses or damage to equipment and/or persons on site.
- Recovery of equipment and/or product as a result of such event is costly both in time and financial measures and avoidable through compliance.



Pallets which arrive in unsatisfactory condition and do not comply to the outlined standards will result in rejection as they pose both safety and operational risks to the site. Non-compliance may also be subject to cost incurrence if applicable.



00 Welcome and Introduction

01 Overview of ALDI Automated DC

02 Automation & Packaging Requirements

03 Delivery and Site Information

04 Are you Automation Ready?



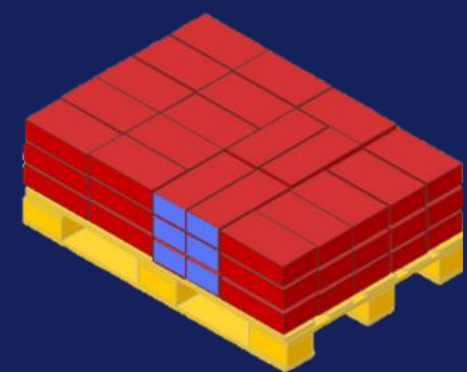
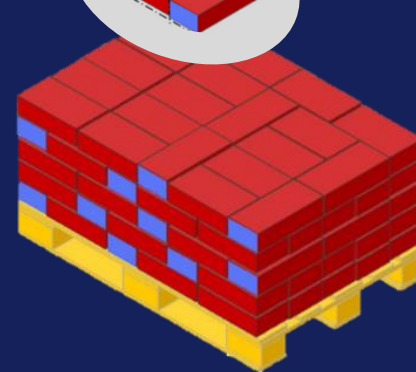
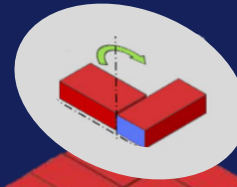
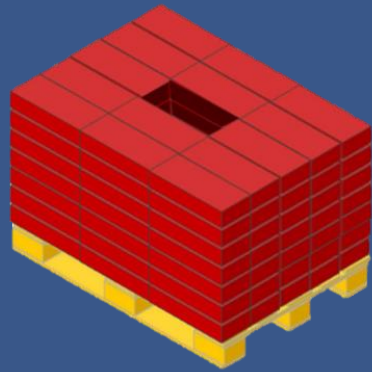
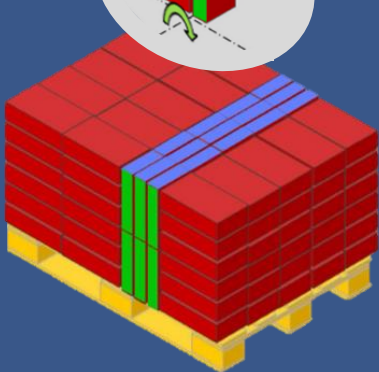
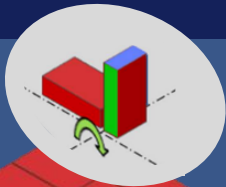
## 2.3.3

### Compliance Requirements – Pallet Configuration

#### Pallet Build + Layers

Pallet builds must be appropriately configured, ensuring compatibility and stability within automated systems:

- Pallet footprint must be fully utilised wherever possible with no footprint breach in any direction – i.e. overhang or excessive underhang
- Maximum layer and pallet weights must not be exceeded. Overweight pallets may not be transportable through automated systems
- Pallet builds should be on a 'one SKU per pallet' basis
- Case orientation must be consistent to ensure equal layer heights for automated depalletising processes – I.E. case rotation horizontally at 90° only
- Layers patterns should be optimised where possible with minimal gaps



Overweight pallets are not be transportable through automated systems and risk stoppages and delays if inducted. Inconsistent layer heights will prevent or impact automated delayering processes and are not permitted.



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?

## 2.3.3 (cont.)

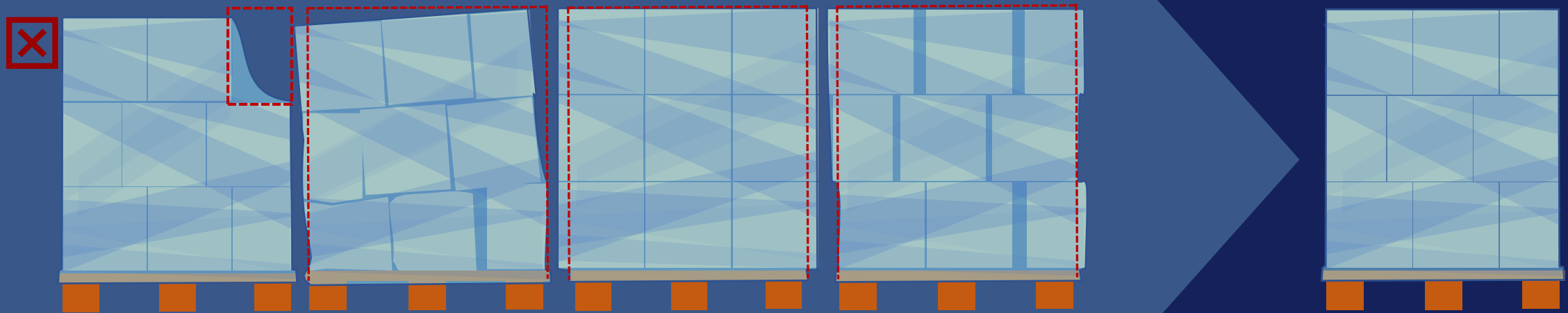
### Compliance Requirements – Pallet Configuration

#### Pallet Build Integrity

Pallets must conform to a standard of build integrity to ensure they are able, and safe, to be processed through automated systems. Pallets may become shifted during transit, incur damaged cases, have missing cases, or configurations may simply not be compliant. All of which may cause failure to successfully induct into the system.

Upon inducting into automated systems, pallets must pass through profile gauges with set tolerances for acceptance. Failure of these gauges will prevent pallets from entering the system, requiring subsequent rework or rejection of goods. Below are examples of integrity issues which could cause failure of these gauges:

(Note: - - - - indicates pallet profile)



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?

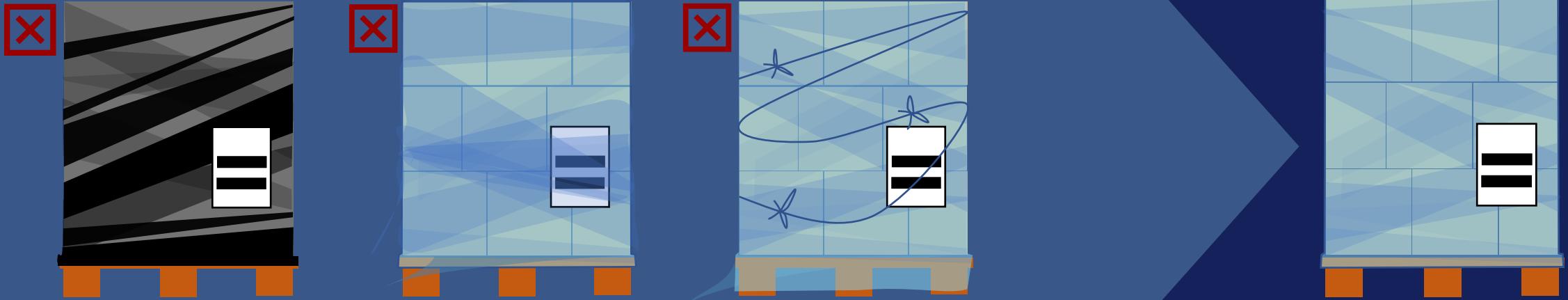
## 2.3.4

### Compliance Requirements – Pallet Securing

#### Pallet Wrapping

Pallet wrapping must securely bind the product to the pallet. To ensure pallets remain secure through automated systems, wrapping must be taut and anchored to approx. 50mm of the pallet board. Only clear wrapping is to be used, ensuring no wrap 'tails' and that the wrapping does not encroach over fork openings.

Incorrect pallet wrapping may lead to shifting during transit to or within site. Incorrect wrapping may incur profile gauge failure or pose safety risks if processed into site such as 'falls from height' and wrap 'tails' becoming stuck within conveyors - both having the potential to cause stoppages and/or damages to automated systems.



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?

## 2.3.5

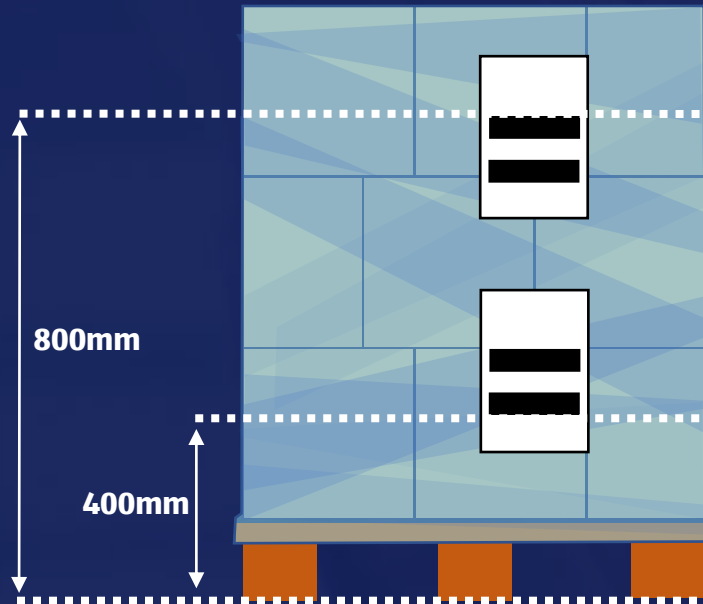
# Compliance Requirements – Labelling Standards

### Logistics Labels - GS1 Standard

This section outlines best practice industry guidelines for the use of logistics labels. These guidelines have been created by the GS1 EDI Standards Implementation Group (ESIG). Logistics labels are used to track pallets and logistics units through the Supply Chain. The serial shipping container code (SSCC) is a unique serial number that is used to identify each individual pallet and this is a GS1 standard.

**Please see below guidance for pallet labelling:**

- For units taller than 1,000mm, place the label so that barcodes are no higher than 800mm and no lower than 400mm above the floor – see diagram opposite for further context.
- Two labels should be attached to adjacent sides; one on short side, the other on long. Both labels should be positioned on the right hand side of each pallet face where possible, for more ergonomic scanning capability.
- The logistics label should be of A5 size (148mm x 210mm).



Free Format

Text Information including SSCC

Barcode symbols plus readable version

<b>THE COMPANY LIMITED</b> ANY ADDITIONAL INFORMATION		
<b>SSCC</b> 050123450001234563		
<b>Content</b> 15012345678907	<b>Count</b> 110	
<b>Use by</b> 25.12.04	<b>Variant</b> 05	<b>Batch No.</b> 1234AB
 <small>(02)15012345678907 (17)041225 (37)0110</small>		
 <small>(00)050123450001234563 (20)05 (10)1234AB</small>		



## 2.3.5 (cont.)

### Compliance Requirements – Pallet Units: Labelling Standards

For Inbound pallets to be successfully received and processed, GS1 labels must be scannable, correctly positioned and accurately reflect the contents of the pallet. There should be no more than two GS1 labels per pallet and, where possible, any other barcoded labels should be omitted. Additional barcodes present the potential for mis-scanning, and subsequent investigation and/or reworking to remove. Below are some examples of non-compliant GS1 label standards for your reference:



Full details on GS1 standards can be found at: [GS1.org/standards](https://GS1.org/standards)



The Inbound process relies on GS1 label data to ensure the correct products are received, stored and picked. Incorrect data and/or missing, misprinted or defective labels may result in rejection of a load or inaccurate inventory.



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

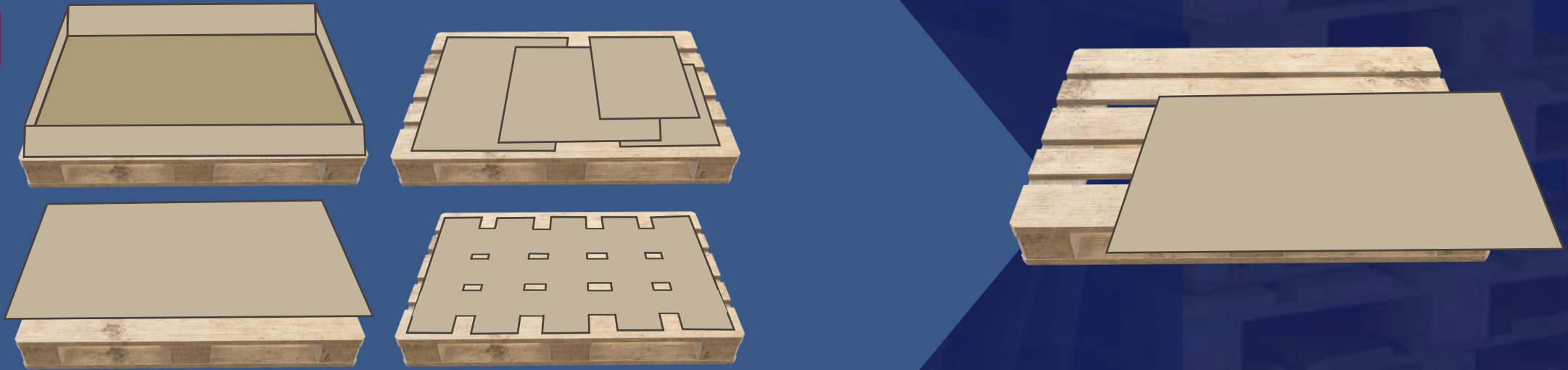
**03** Delivery and Site Information

**04** Are you Automation Ready?

## 2.3.6

### Compliance Requirements – Slipsheets

Automated processes, specifically the automatic delayering of products, can be impeded or unworkable if slipsheets are outside of scope. The below examples\* show non-compliant slipsheets; this includes the presence of corners or folds, multiple sheets on one pallet, overhanging sheets and those with gaps. The necessity of slipsheets should be reviewed by all Business Partners. If slipsheets must be used, they must comply to the specific standards as outlined within the ALDI Golden Rules.



\*Examples non-exhaustive. For reference only.



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?

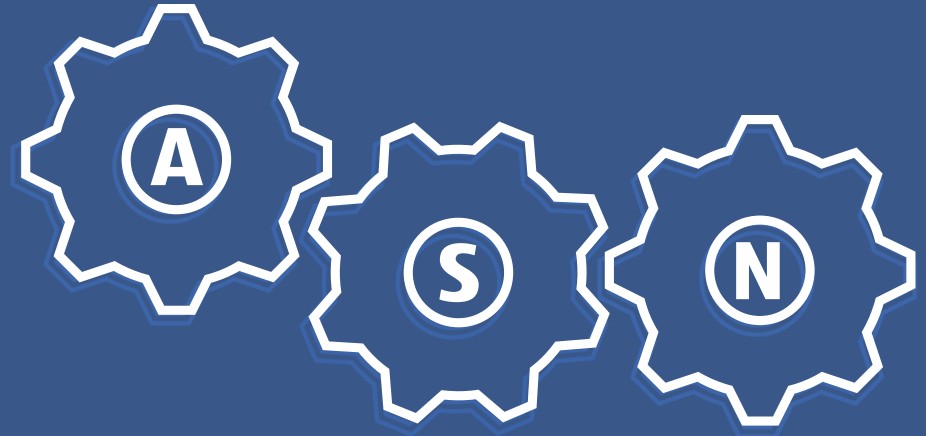
## 2.4

# Compliance Requirements – Data and Product Information

### ASN Receiving (Advanced Shipping Notice)

ASN is a notification of pending delivery. Sent via EDI, an ASN advises receiving parties that goods are in transit. Information provided within the ASN will include detail of the contents and quantities within a consignment, as well as additional information such as delivery date/time, product attributes, packing info, batch and serial n<sup>o</sup>'s.

- ✓ Streamlines goods booking-in and the validation of shipments
- ✓ By simply scanning a GS1 barcode, shipments can be booked-in within seconds
- ✓ Advises warehouse management of estimated delivery times
- ✓ Increased visibility of item level detail within shipments
- ✓ End-to-end shipment tracking allows visibility and flexibility for all parties
- ✓ Foundation of a modern, flexible and efficient supply chain



ALDI Automated Distribution Centre's, along with the implementation of ASN receiving, will be able to achieve further efficiencies through WMS – Warehouse Management Systems – auto-assigning storage locations from the ASN and using automated conveyor and monorail systems to sort, divert and optimise put-away.



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?



00

Welcome and Introduction

01

Overview of ALDI Automated DC

02

Automation & Packaging Requirements

03

Delivery and Site Information

04

Are you Automation Ready?



# 3.1 Delivery Into Automated Distribution Centre

## Transport Scheduling

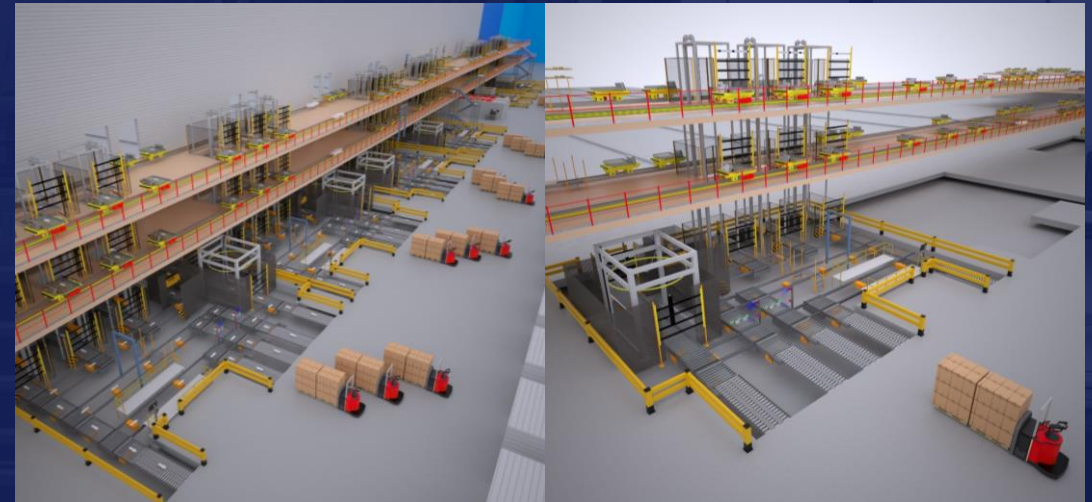
ALDI Automated Distribution Centre's will operate using an optimised window booking system for Inbound deliveries.

Margins for arrival at site will be narrower than those used at existing sites due to factors such as: increased volume throughput, faster receiving through EDI, and optimised receiving direct into automated systems.



## Inbound Deliveries

Unloading of future inbound deliveries is being reviewed and further information will be provided once available.



Further information on Delivery, Inbound and Site Information will be available at a later stage as this information becomes available for distribution.



Please be aware that any defined booking system, functionality and availability are still under consideration and won't be available until 2023-24. This information will be communicated as this detail is defined and becomes ready for distribution.



00 Welcome and Introduction

01 Overview of ALDI Automated DC

02 Automation & Packaging Requirements

03 Delivery and Site Information

04 Are you Automation Ready?



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?

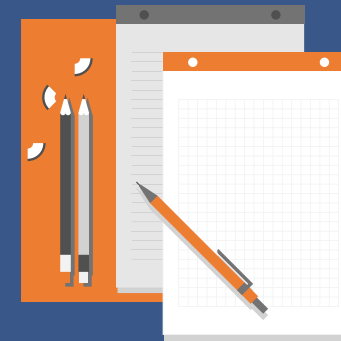
# 4.1

## Next Steps Checklist

Now that you've read through this information and have an overview of this exciting next chapter, please utilise the below checklist to prepare for next steps in the process of ensuring your packaging is 'Automation Ready'.

I have completed the following:

- Reviewed and understood the ALDI Golden Rules
- Reviewed and understood the Business Partner Automation Readiness Handbook
- Discussed changes with your ALDI Buying Assistant/Director



Our Support Team of experts will be on hand to ensure you have the information and support you need to successfully implement these requirements. We look forward to working with you to facilitate this exciting work and hope to continue our partnership for many years to come.



**00** Welcome and Introduction

**01** Overview of ALDI Automated DC

**02** Automation & Packaging Requirements

**03** Delivery and Site Information

**04** Are you Automation Ready?