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Solutions to meet every need

MODULA

VERTICAL SOLUTIONS

MODULA PROVIDES SOLUTIONS TO MEET EVERY NEED.

Automatic vertical warehouses for the **picking and storage of materials** of all weights and sizes, in any sector.

- Starting from a **depth of 1.6 m.**
- Up to a **height of 21 m.**
- Tray payload of up to **990 kg.**
- Various **operator bay** types.
- Tray widths **of 1,300 to 4,100 mm.**
- Tray depths **420 - 654 - 857 - 1.257 mm.**

LIFT



Configurable by
height, depth, payload, bas type and number, and tray width

Height up to 21 m

SLIM



Depth
1,600 mm

SPECIAL APPLICATIONS

ADVANCED TECHNOLOGIES FOR SPECIALISED NEEDS.

To meet even the most specific needs, Modula has developed some **special versions of its storage systems.**

- **Insulated storage system** to guarantee controlled temperature and humidity conditions.
- **Storage systems for clean rooms.**
- **Storage systems equipped with fire-extinguishing systems.**

Electronics, plastics, food & beverage and retail are just some of the sectors that can take advantage of these new solutions.

CLEAN ROOM

CLEAN ROOM



From ISO6 to ISO8 according to ISO14644-1:2016.

CLIMATE CONTROL

CONTROLLED TEMPERATURE AND HUMIDITY



Temperature range from +2°C to +40°C with controlled relative humidity ≥ 5%.

FIRE FIGHTING

FIRE FIGHTING SYSTEM



Condensed aerosol fire suppression systems using potassium carbonate salts.

All the advantages of our solutions, seamlessly integrated with other automation systems

FLEXIBILITY

TIME SAVINGS

SPACE SAVINGS

DEDICATED SOFTWARE

ERGONOMICS AND OPERATOR SAFETY

FAST ROI

FEWER ERRORS

MODULA NEXT

THE VLM SOLUTION THAT WORKS LIKE A VENDING MACHINE.

Access permitted to **a single compartment where the required product is stored.**

1. **100% ACCURATE PICKING**
2. **100% TRACKED PICKING**
3. **DEDICATED PICKING.**

A **movable window** system provides access **exclusively to the compartment** containing the **item to be picked,** based on the picking order.





IDEAL APPLICATIONS OF MODULA NEXT.

- Handling of high value-added products.
- Kit handling and picking.
- PPE handling and picking.
- Handling of critical spare parts and components.
- Maintenance, repair and operations (MRO) management.
- Tool management.
- Retailers or manufacturing departments.
- Handling of delicate products.
- Consignment stock.





Picking window dimensions:
from 100x100 mm to 2,500x654 mm
configurable via the WMS software

MODULA PALLET

WITH MODULA, YOU CAN EVEN STORE PALLETS!

To handle **dozens of pallets or a few hundred of them**, there is a warehouse that is **safe, ergonomic, quick to install and easy to use: Modula Pallet.**

The automated storage solution for Euro pallets (1,200 x 800 mm):

- offers pallet storage to **free up floor space** by exploiting **the full height of the warehouse;**
- makes it possible to **move pallets off the floor without a forklift;**
- acts as a **buffer in receiving and shipping** for temporary storage of **incoming or outgoing goods.**





Even so, standard trays for bulk material can be used with Modula Pallet.

The loading bay measures incoming pallets, assessing them by weight and height.
Based on the measurements, **the system identifies the most suitable position** from all those available in the warehouse.

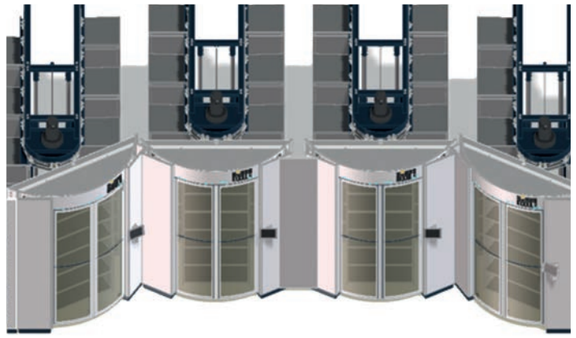
- Safe, ergonomic, with loading from the floor.
- Can be integrated with other technologies such as AMRs, AGVs and roller conveyors.
- Supports mixed storage, even with Lift and Pallet bays positioned opposite one another.
- Proposes multiple picking and loading points.
- Allows for piece picking.

HORIZONTAL SOLUTIONS

MODULA HC.

Horizontal automatic warehouse for **picking and storing small and medium-size materials.**

- **Fast** picking.
- **Easy-to-install** even in facilities with low ceilings (3 m).
- Length of up to **50 m.**
- Up to **4 carousels** per pod.



2 - 3 - 4 CAROUSELS



MODULA'S BIOTECH TOWER

OUR VERTICAL WAREHOUSE IS A VALUABLE ALLY FOR THE AGRICULTURE OF THE FUTURE.

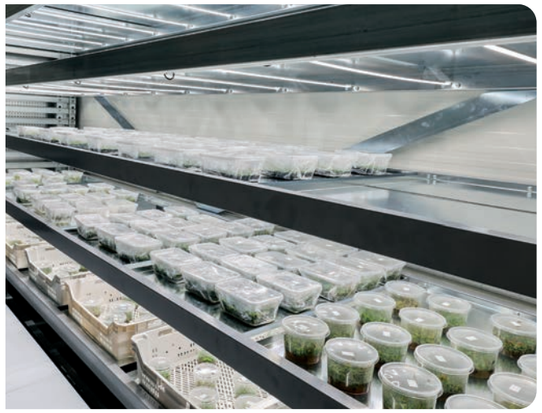
Modula's Biotech Tower is an advanced solution **for cultivating crops in a fully controlled environment,** designed to adapt to a variety of production models:

- vertical cultivation of strawberries, basil, chillies and more
- plant micropropagation
- mushroom and seed cultivation as well as insect farming.

While each project is unique, basic elements remain the same: **technology, efficiency and sustainability.**







Thanks to the **Modula Climate Control** system, every parameter is precisely and consistently regulated, including temperature, light, humidity and irrigation. And the end result?
Optimal growth, zero waste, **no need for pesticides,** and complete control over every production phase. Moreover, in the Modula Biotech Tower, there's no need for fertilisation or carbon enrichment, and cleaning can be carried out between cycles using ozone for total sanitation.

Why to choose the Modula's Biotech Tower?

- No seasonal or weather-related constraints.
- No phytosanitary treatments or chemical agents required.
- Only the necessary light.
- Only the necessary water.
- Continuous monitoring and complete traceability.
- Maximum finished product yield and quality.

The Modula's Biotech Tower is more than just a machine, **it's an intelligent ecosystem that allows for safe, efficient and sustainable cultivation, 365 days a year.**

NEW PRODUCT

MODULA FLEXIBOX

PICK THE BEST.

The new **automated vertical bin storage system** offers enhanced **flexibility, customisation, and speed.** The ideal technology for storage, kitting and order processing.

FLEXIBOX ENSURES THAT ANY REQUIRED ITEM IS DELIVERED TO THE BAY EXACTLY WHEN NEEDED.

It efficiently handles multiple order lines within a single tray, minimising operator waiting times and accelerating order fulfilment through optimised bin combinations.

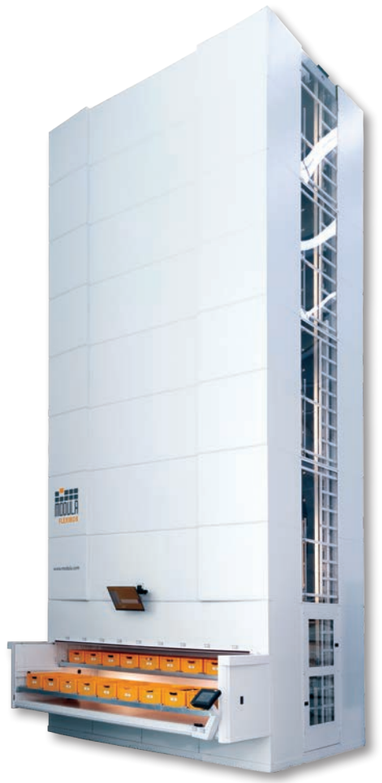
How does it work?

Inside, **the central system only collects the bins needed for picking.** Upon receiving an order, **the Flexibox unit analyses all the order lines and uses the central elevator to retrieve the required bins.**

These bins are placed on **a service tray, which is then delivered directly to the picking bay**, allowing the operators to complete multiple order lines in a single cycle. At the same time, the system **prepares the next tray**, ensuring a seamless and continuous workflow.







SPEED
Up to **180 bins per hour** and even more order lines. **Up to nine bins in a single operation.**

COMPACT
Its space-efficient **vertical design accommodates over 1,000 bins** at heights of up to 21 metres.

RESPECTFUL
Low energy consumption, less than that of a standard hair dryer. Safe and ergonomic workstations.

SMART AND EASILY IMPLEMENTED
Low initial investment, no construction work, and **minimal installation times**, for an **extremely quick ROI.**

SCALABLE AND MODULAR
The solutions can be gradually expanded from one unit to an entire series, **with the possibility of seamlessly integrating with VLM Modula systems** using a single software.

CUSTOMISABLE SPACES
Each bin can be customised with partitions and dividers to store various items in the same box.

AUTOMATIC AND PRECISE
Eliminates manual errors and improves overall inventory management.

DIGITAL NATIVE
Managed by WMS, it **integrates seamlessly with third-party systems such as AMR, Conveyor, Robot and Put-to-Light systems** for greater efficiency. It can be equipped with AI solutions to further optimise performance.

FLEXIBOX ADAPTS TO EVERY NEED.

Possible configurations:

- Internal Bay
- External Bay
- Buffer Bay
- Smart Preparation
- Immediate tray call.

TRAYS AND LOADING UNITS

LIFT ↓ **TRAYS**

FLEXIBOX ↓ **BINS**





ROBOTIC INTEGRATIONS

TOP-NOTCH AUTOMATION.

Modula **integrates with AMRs, Robots and Cobots** in different contexts and applications, guaranteeing:

- Safety and ergonomics.
- Modularity and scalability.
- Speed of installation.
- Flexibility.
- Native software integration.
- Precision.

MODULA WITH SPECIAL BAY AND AMR.

This solution combines a Modula vertical automatic warehouse with a **special bay that interfaces with an autonomous mobile robot (AMR)** equipped with a special module. The Modula storage tray is designed to **accommodate up to 9 boxes,** which are **automatically collected by the AMR robot,** without the operator's intervention, and deposited inside the warehouse.

Modula warehouses can interface with anthropomorphic robots that meet the following requirements:

- **Modula WMS Premium software.**
  This is needed in order to use the **standard protocol for integration between the Modula unit and the robot.**
  Communication takes place via Siemens or Socket PLC, with the same command structure used for both solutions.

- **Robot Interface Kit.**
  Installed on the electrical panel, this is used to manage **three output signals** from the Modula to the robot, and **two input signals** from the robot to the Modula.





ADVANCED PICKING SOLUTIONS

IMPROVED PRODUCTIVITY.

Vertical warehouse and horizontal carousels can be equipped with **picking systems** that, when **combined with the WMS software, make picking even faster and more efficient.**

PUT TO LIGHT

Put to Light solutions are the **best option** for **order preparation when a fast, intuitive, scalable and error-free process is needed.**

- 7-colour validation button
- 128x32 pixel OLED display
- Aluminium support structure



PICKING STATION

An all-inclusive **fixed modular picking station** that comes equipped with various picking positions, complete with shelves to support the containers and a certain number of Put to Light displays.

- Integrated Put to Light system
- Put to Light system for up to 3 shelves
- Modular design



PICKING CART

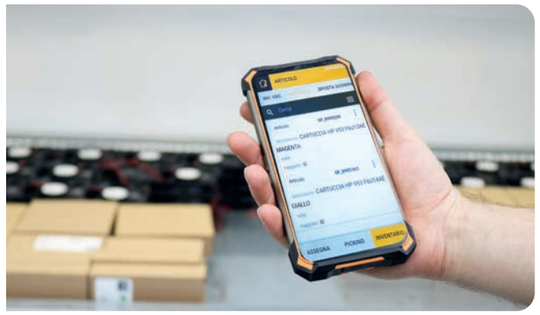
An **all-inclusive mobile modular picking station** equipped with several order-picking positions. It consists of a trolley with 4 pivoting wheels for easy manoeuvrability. It is available with a **light or colour-coded system**, and can be combined with **Pocket monitors and wearables** for easy mobile picking.

- Manual or automatic transport
- Integrated Put to Light system and Wi-Fi
- Put to Light system for up to 3 shelves



MOBILE PICKING APP

An **App developed for Android devices** that provides **maximum mobility** for operations, mainly for manual storage systems managed using Modula WMS.



MODULA WMS SOFTWARE

THE SMART SOUL OF THE WAREHOUSE.

Software capable of managing Modula storage systems with high efficiency to obtain the best performance.

- **Manual and automatic warehouse** management.
- **Inventory** management.
- Optimisation of **picking and placing orders**.
- **Interface with ERP and DAM software.**



MODULA WMS BASE

Basic version of our WMS, designed for those who want to manage their Modula system efficiently but **do not need to connect it to the company's ERP** or use special additional functions.

MODULA WMS PREMIUM

A comprehensive, **expandable and integrable** package that **even allows for integration with the company's existing ERP software**, with numerous advanced functions and options available**.**

MODULA DRIVER

MODULA LINK

These two software packages **can be used by companies who already have a WMS** and **want to connect it to the Modula**, so as to manage all activities with the same system, **without having to change their own management software**.

OPTIMISATION | **ERP INTEGRATION** | **TIME SAVINGS** | **CONFIGURABILITY AND EASE OF USE** | **CONTROL AND EFFICIENCY**

MODULA OPTIMIZER

MAXIMUM EFFICIENCY FOR WAREHOUSE MANAGEMENT.

Modula Optimizer is an **optional software licence, available for Modula WMS Premium**, that offers advanced tools for improving warehouse efficiency.

Its main design features are:

- **Sizing**
  It calculates the **optimal configuration** for the **layout of the Modula units** based on the customer's specific requirements.
- **Basic tray layout**
  It sets a **basic tray layout** for efficient space and resource management.
- **Advanced tray layout**
  Enables a more complex and detailed configuration, **adapting the tray layout** to maximise productivity.
- **Order simulation**
  Allows the user to **simulate the flow of orders** and evaluate the system's performance based on the expected workload.



MODULA IOT

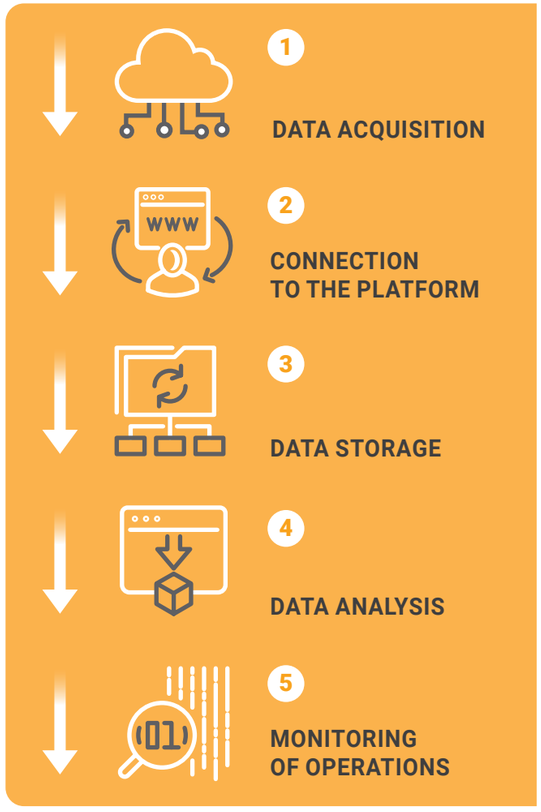
EVERY MODULA UNDER CONSTANT CONTROL, WITH MODULA IOT.

Modula IoT allows for **increasingly interconnected and advanced control**, making it ideal for companies with modern and integrated technological infrastructures.

Modula IoT is the **licence that allows all the information relating to the warehouse activities to be viewed on the web**, such as:

- Plant telemetry data.
- Storage system status (online - offline - error).
- Energy consumption.
- Fullness (weight - volume - surface area).
- Work cycles.
- Maintenance.
- Opening of support tickets.
- System logs and much more.





The data can be viewed:

- via **Modula Web Analytics** (web side)
- using the **OPC-UA protocol** to integrate the Modula with compatible telemetry systems already used by the company.

It is possible to combine the two modes and use both.

COMPREHENSIVE SERVICES

SERVICE YOU CAN RELY ON.

Modula offers a wide range of services related to vertical and horizontal automated warehouses.

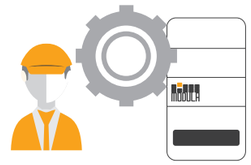
Our **team of specialist technicians supports companies throughout each phase** of the process of optimising their warehouse, from the design phase through to implementation, offering high-quality comprehensive support.



TELEPHONE SUPPORT
Hardware and Software



REMOTE SUPPORT
Through Team Viewer



OPTIONS AND SPARE PARTS KITS



ON-SITE MAINTENANCE



PREVENTIVE MAINTENANCE



MODIFICATIONS AND RELOCATIONS



AFTER-SALES CONSULTATION



UPGRADES, UPDATES AND SOFTWARE CONSULTING



TRAINING

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