

Dobot Robotics

One-Stop Palletizing Solution

Makes Automation Accessible
2024/06



Manual Palletizing



Lack of Labor:

- Potential health and safety risks.
- Lack of skilled labor and high wages required.

Limited Space Utilization:

- Limited pallet height and inexperienced workers may not optimize the pallet space.

Inconsistent Quality:

- Human errors in counting, arranging and potential product damage.

Low Efficiency:

- Lower throughput and potentially impacting overall production efficiency.

Case Story



This is a company manufacturing Food, Beverage, & Tobacco with 11 production lines.

This company needs to usually switch product lines to meet different production needs.

Without Dobot Palletizing Solution

- **Production Schedule**

11 production lines for manual palletizing. One day the production line needs to arrange 2 palletizing workers, forming two shifts, each manual working took 6-8 hours.

- **Customer Pain Points:**

- (1) The palletizing workers have a heavy workload, leading to unstable workforce and difficulty in recruitment.
- (2) The palletizing results are also unstable because there is a need for frequent product updates and corresponding mold changes. Manual errors or oversights in the palletizing process result in poor palletizing, causing rework or difficulties in downstream processes.

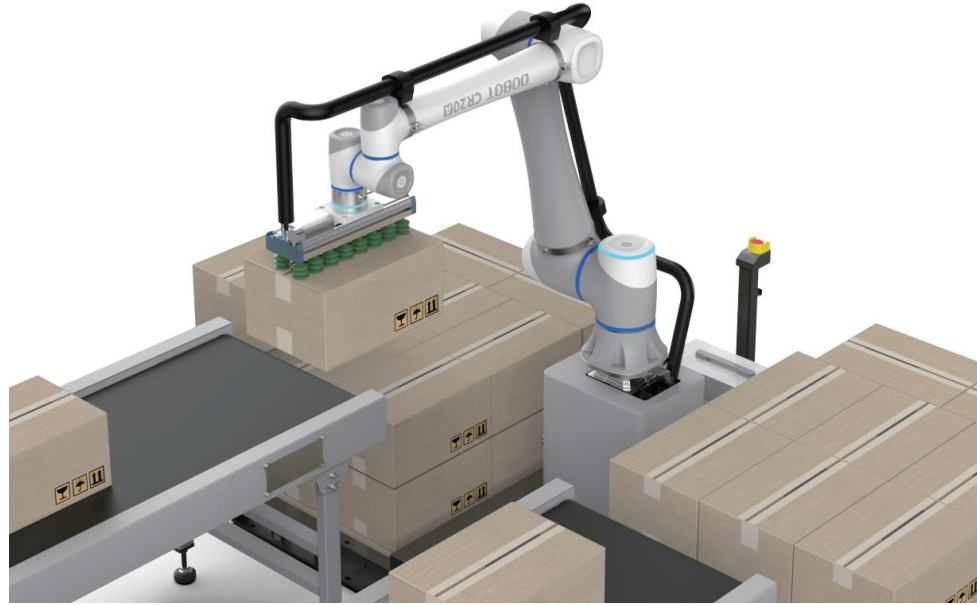
With Dobot Palletizing Solution

- **Solution:**

The user has purchased 11 Dobot palletizing solutions to cover all production lines. Only 1-2 workers are needed for changeovers and forklift operations. The payback period is around 12 months.



Cobot Palletizing



Space-Saving:

Less space needed

Movable :

Easy to reinstall

Quick to Deploy :

No any change to
existing line layout

Flexible:

Available for multi-
variety, fit for small batch
production

How to Choose Your Cobot Palletizing Solution?



1. Function Requirements

- Palletizing & Depalletizing

Note:

- 1 Conveyor 1 Pallet
- 1 Conveyor 2 Pallets
- 2 Conveyor 2 Pallets



2. Movement Requirements

- Payload
- Height
- Efficiency



3. Applicants & Entrepreneurship

- Fixed production line / Flexible production line
- Adjusting production line frequency
- Working space and human-machine collaboration
- Professionals

Dobot Palletizing Workstation



Can be pushed by one person

Palletizing Workstation Composition



1. Dobot CR20A Cobot

The CR20A boasts an impressive maximum payload capacity of 20 kg, a working range of up to 1,700 mm, and a wider coverage area, making it highly capable of effectively handling palletizing tasks.

2. Lifting Axis

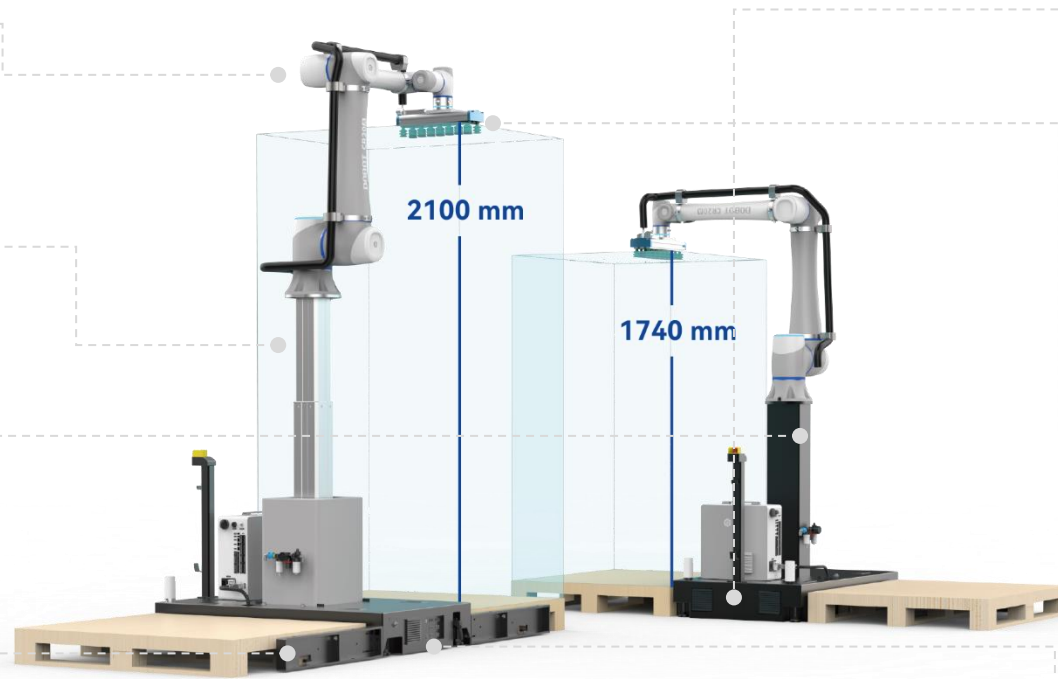
The height of the column has the potential to increase by up to 900 mm, while the maximum height for palletizing can reach 2,100 mm.

3. Fixed Column

The square tube used for welding is 8 mm thick and possesses a stable structure. It is designed with a fixed height of 1,150 mm and can reach a maximum palletizing height of 1,740 mm.

4. Standard Palletizing Base

The palletizing base is equipped with a comprehensive electrical control and communication system, ensuring seamless integration. Its modular hardware design simplifies the construction process, allowing for greater ease and efficiency. Additionally, the inclusion of a reserved forklift hole position enhances convenience during production line changes.



5. Pallet Detection and Positioning Device

The pallet detection and positioning device serves the function of identifying the existence of a pallet at the workstation and verifying that it has been appropriately positioned at the specified location. Its primary role is to detect whether a pallet has been installed and to ensure its precise deployment.

6. End-effector Vacuum Suction Tools (Optional)

Schmalz offers vacuum suction tools that can handle payloads of up to 20 kg and cover a large surface area.

7. External Terminal Panel

With the inclusion of terminal fast-on functionality, the panel offers a convenient and rapid means of connecting to the client control signal. Moreover, the presence of reserved I/O signal interfaces simplifies the process of integrating external devices or systems, allowing for seamless expansion and enhanced versatility.

Safety Certifications

ISO12100, EN60204-1,
ISO10218-2 and ISO13849-1

High Pace

8-13 pace/m,
single/dual suction mode

Brilliant Payload Capacity

Up to 20 kg/ 1500N payload/
2100mm height

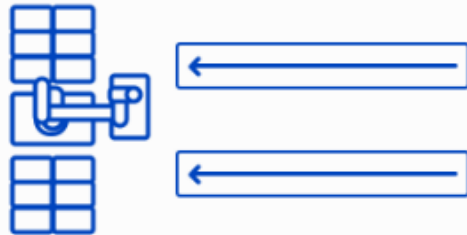
Versatile Functions, Perfect for Diverse Application Scenarios



1. Quick Palletizing & Depalletizing



2. One Workstation, Multiple Product Line*



* Supports:

1 Conveyor 1 Pallet (Left Pallet), 1 Conveyor 1 Pallet
(Right Pallet), 1 Conveyor 2 Pallet, 2 Conveyor 2 Pallet.



Easy to Deploy



- Factory standard forklift can complete transportation.



- Modular design, assembly completed in 30mins.



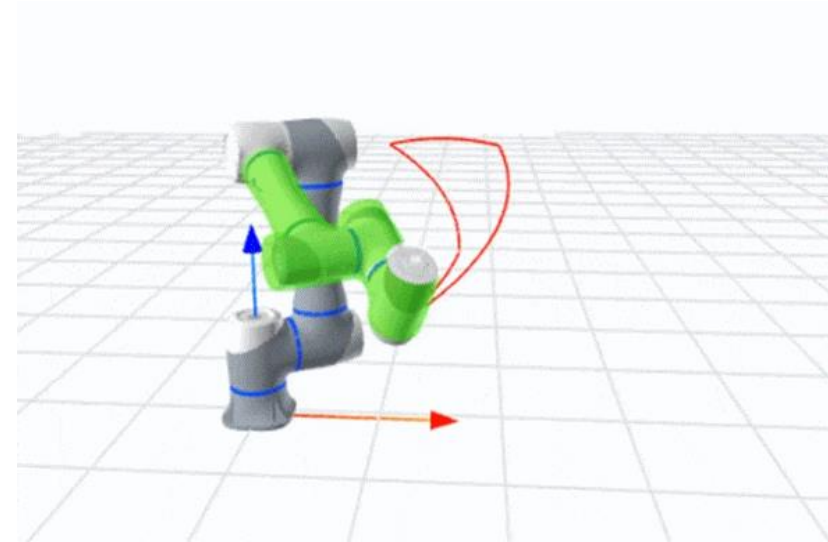
- Dedicated process package, deployment completed in 5 steps;
- Quick to use, quick to switch.

Visualized Design, Cobot Can be Used by Beginners on Multiple Terminals



Intelligent Interactive Panel

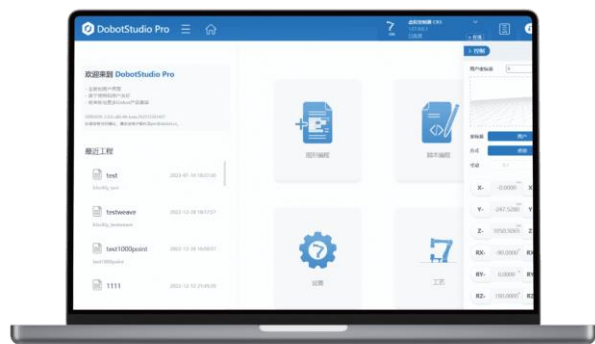
Easily achieve enable, drag teaching, gripper control, etc.



Visualized Motion Trajectory

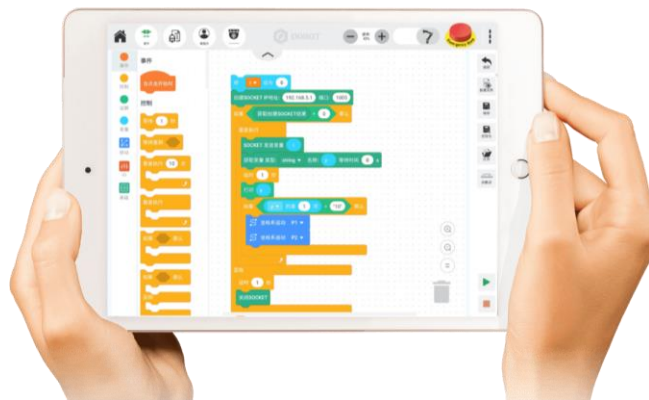
Real-time display of motion trajectory
for more efficient debugging;
Supports log traceability for rapid problem solving

Plug and Play, Easy to Use



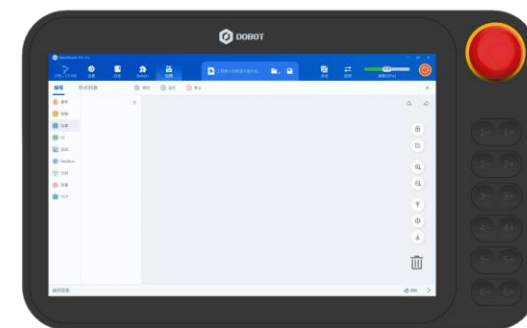
PC Software Platform

Provides flexible operation and higher programming efficiency through scripting.



iOS & Android Software Platform

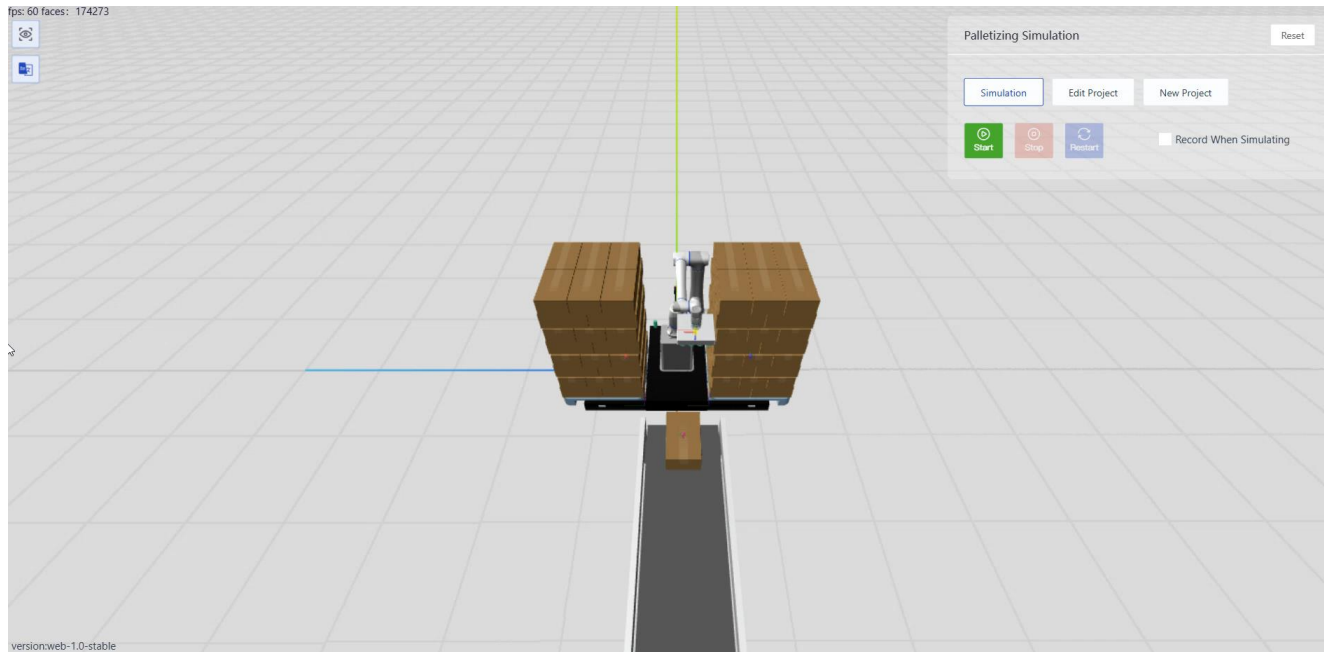
Plug & play for simple operation



Teach Pendant

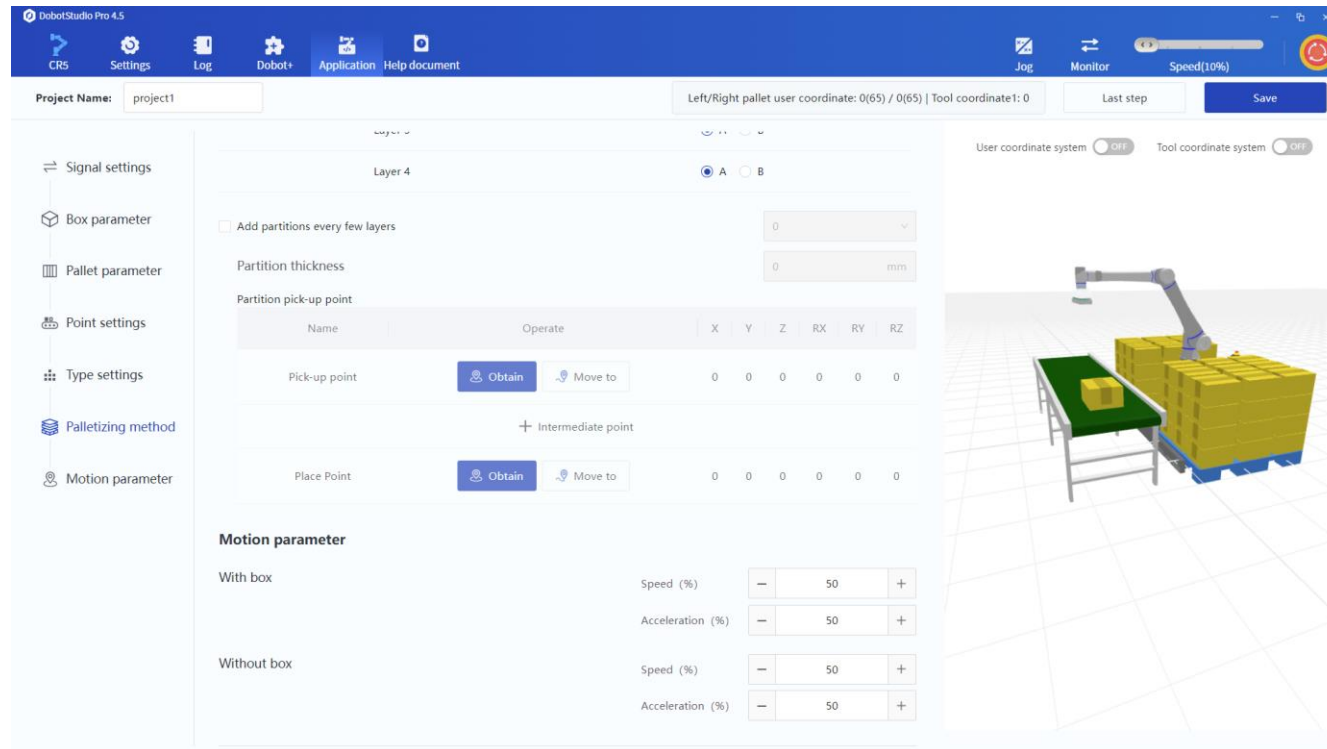
Compatible with traditional robot operation habits, supports both wired and wireless modes.

Functions of Palletizing Process Package



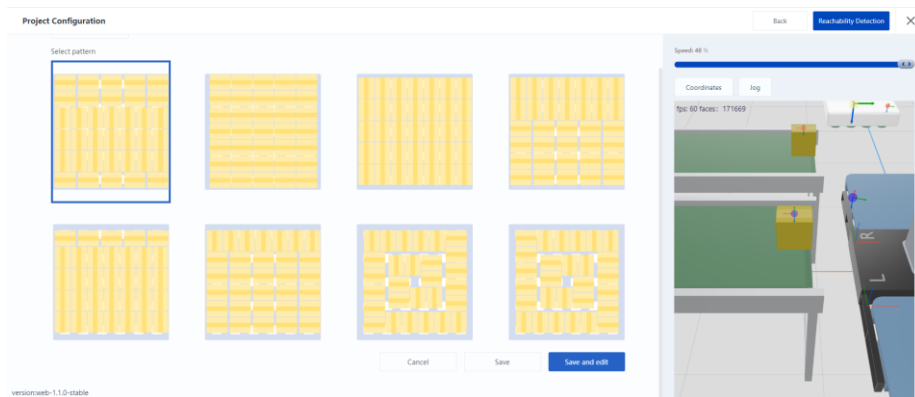
- **No Programming:** Deployment and adjustment through parameterization.
- **Versatility:** Various settings such as stacking pattern and robot movement trajectory.
- **3D Simulated Palletizing:** Simulation to preview deployment results, accelerating efficiency and identifying potential issues.
- **One for All:** Fully integrated software controls welding, palletizing, and end-effectors without platform switching.

Key Feature 1: Visual Configuration



The Palletizing Process Package has a **3D display function** that shows boxes, pallets, stack patterns, and layers in real-time 3D graphics, simplifying the configuration process.

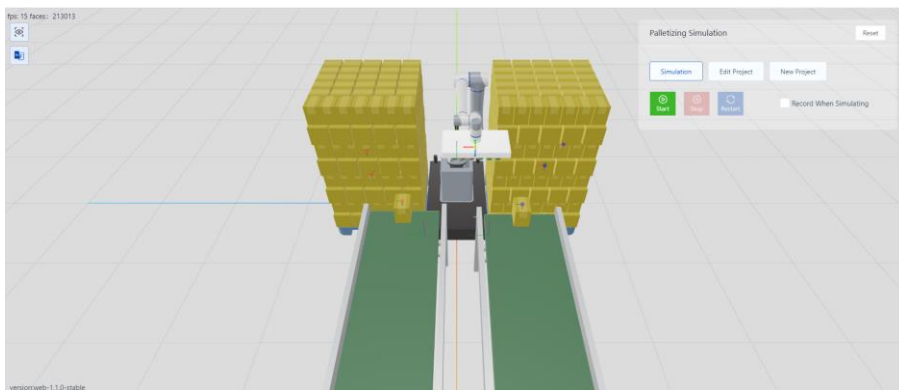
Key Feature 2: Auto-Generation for Palletizing Patterns



- **Palletizing Patterns**

The palletizing process package can automatically generate stacking patterns, avoiding the complex operation and time-consuming process of manual placement, greatly accelerating the deployment and adjustment time.

Palletizing Patterns



- **Palletizing Overall Preview**

Supports overall preview of the entire palletizing effect to confirm if the desired result is achieved.

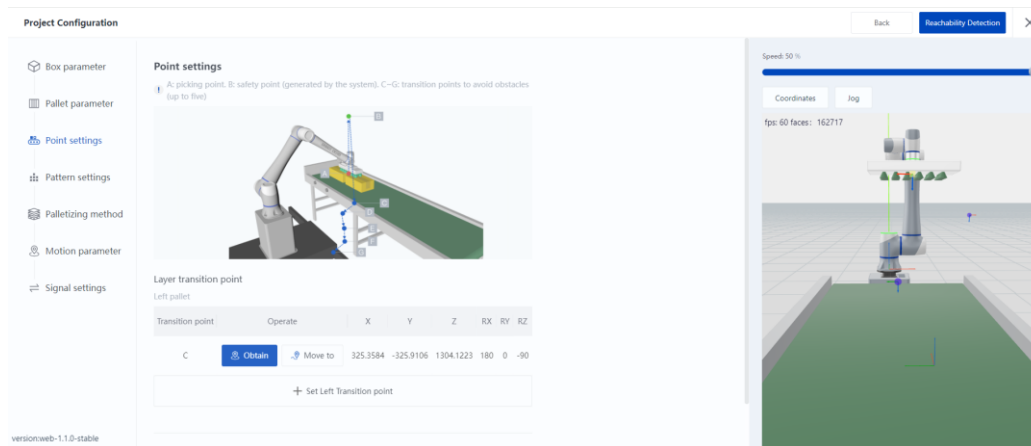
Palletizing Overall Preview

Key Feature 3: Easily Set up Points



- Supports Configuration of Box Transition Point and Target Point

- It allows you to set the palletizing position and the box transition point, which minimizes the effect of box size and pallet height differences, eliminates extra space between boxes, and compacts them.
- User can also set the palletizing position and the box transition point independently, which makes debugging easier.

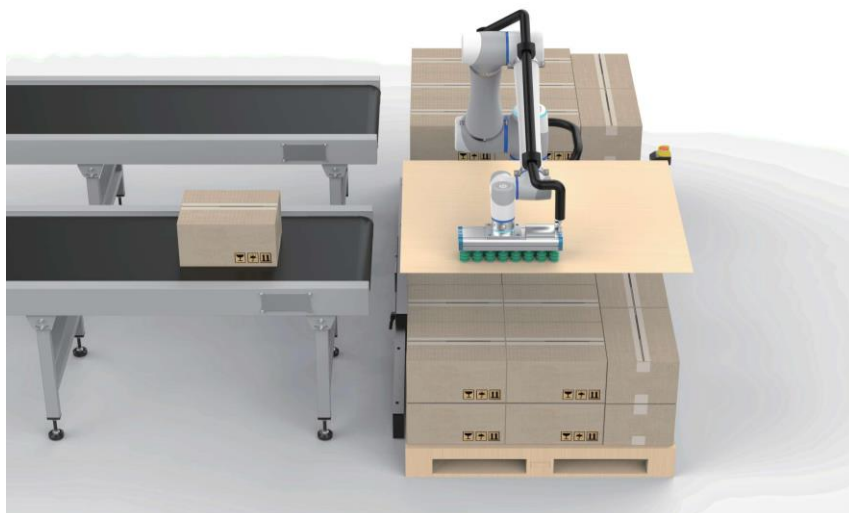


Transition Point Settings

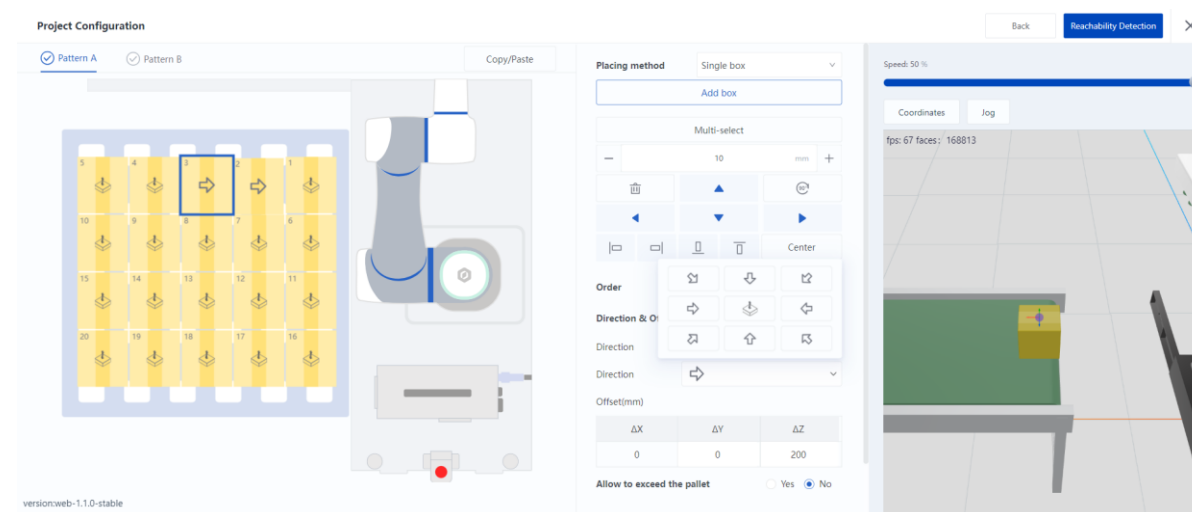


The Actual Stacking Effect

Other Features



- Supports easy **plug-in of interlayer** to increase the stability of palletizing.



- The Palletizing Process Platform allows for the **customization of box palletizing order and entry directions for 8 different types**.
- This function is used to **support complex palletizing requirements**, such as the need for a specific sequence or obstacles in the motion trajectory due to tolerances.

Single/Dual Suction Mode



- Efficient Dual-suction Mode

- It supports free configure to pick one or two boxes at a time, which boosts palletizing efficiency and adapts to faster scenarios.
- It has a dual-suction mode that can pick two boxes at a time, increasing palletizing efficiency by up to 62.5% and enabling easy and efficient palletizing.

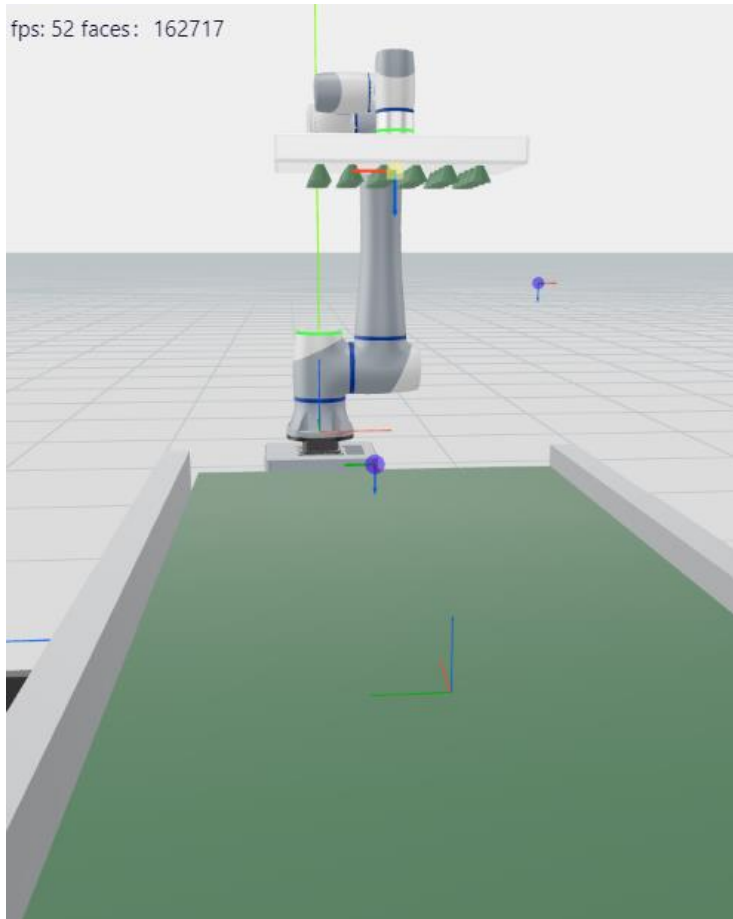


Single Suction Mode



Double Suction Mode

Palletizing Stimulated Software Platform



[Click to try automated palletizing](#)

Dobot Stimulated Software Platform helps users and system integrators simulate the real-time effects of automated palletizing, and evaluate the work pace.

- Directly simulates the **actual pallet** and **box dimensions** in real-world scenarios.
- Simulates the **deployment process** and **actual functionality** of the real-world palletizing solution.

Certifications



- Certificated by CE-MD, CE-RED, and RoHs.



On the Way... ..

FCC, NRTL,

Case Studies



Services & Supports



Get dedicated support you need to optimize Dobot robots.

Dobot offers lifecycle services including product selection, deployment, repair, warranty, and online diagnostics. Technical experts provide real-time support to quickly resolve issues and maximize production uptime.

- Customer Support 24/7
- Full Lifecycle Services from Selection to Diagnostics
- Online/Offline Training and On-Site Support
- Standard 12-Month Warranty, Extendable to 5 Years
- Loaner Units Minimize Downtime
- Remote Monitoring and Fault Diagnosis

Product Selection

**Online
Diagnosis**

**Application &
Deployment**

Repair & Warranty

Training System

Dobot offers a progressive curriculum of training courses from basic to advanced levels, helping customers systematically understand the operating principles, usage methods, and maintenance of robots. Trainees who pass the assessment upon completion will receive a customer service engineer certification and training certificate.

On-Site Training

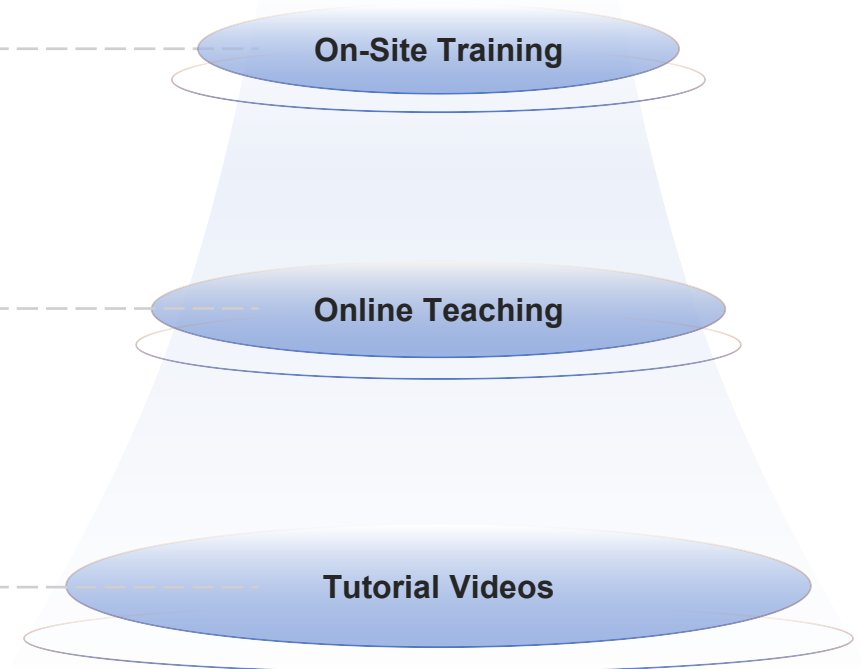
Integrates theory and practice, enabling trainees to comprehensively master professional robotic skills.

Online Teaching

Experienced tutors share industry insights, enabling in-depth learning of robotic application knowledge.

Tutorial Videos

Beginner training enables learners to quickly master collaborative robot basics.



Thank you.



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