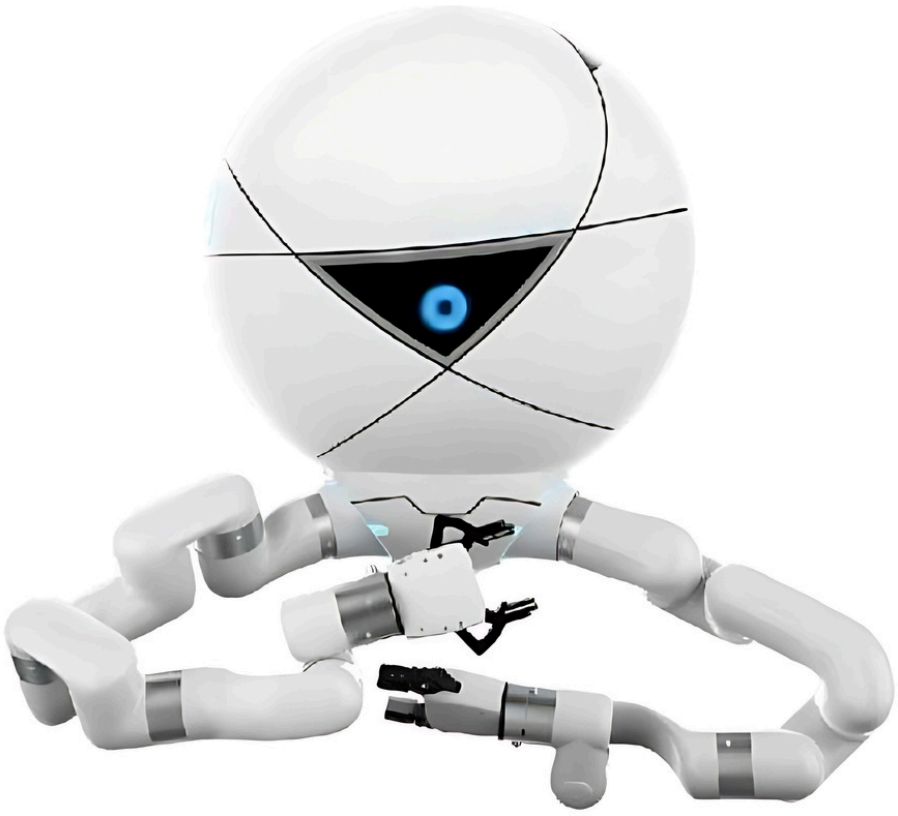
WeMake



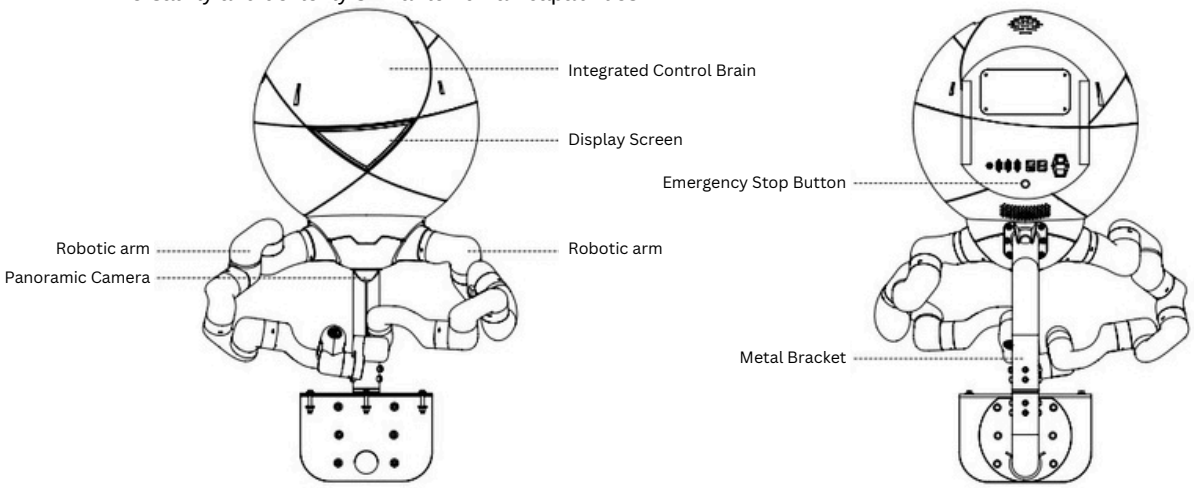
# Artificial Intelligence

## Robotic Barista System

# A.I. Robot Barista

- The WeMake dual-arm A.I. robot is a general-purpose service robot.
- Specifically designed for fixed workstation scenarios in the service industry, such as the food and beverage sector.
- The bionic dual arms possess the fundamental capabilities of human upper limbs.
- After training, it can perform the majority of human operations and skills.

The WeMake dual-arm robot features an integrated control system paired with two six-axis robotic arms. These arms, equipped with a variety of specialized robotic grippers, are capable of replicating complex human upper limb actions such as grasping, lifting, moving, pressing, and pulling. The design allows for precise and coordinated movements, making it ideal for applications that require versatility and dexterity similar to human capabilities.



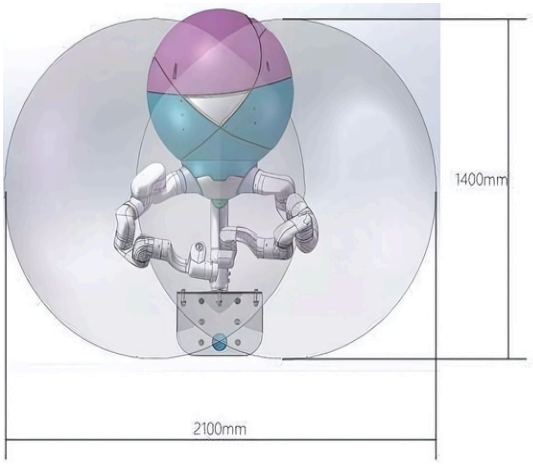

- Integrated Control Brain: Similar to the human brain, it features advanced learning and decision-making capabilities, enabling seamless coordination and control of the left and right mechanical arms.
- Six-Axis Mechanical Arms: Featuring twelve degrees of freedom and 0.1mm repeatability positioning accuracy, these arms can efficiently perform tasks across multiple dimensions within their operational range.
- Perceptual Abilities: Equipped with a panoramic camera, hand-eye cameras within the gripper, and an enhanced voice recognition system, the robot's visual and auditory perception capabilities are significantly elevated, enhancing overall system intelligence.

Using WeMake's dual-arm robot, equipped with the specialized training platform Carrot Studio, enables the robot to acquire a wide range of operational skills. This includes preparing pour-over coffee with the finesse of a barista, brewing traditional kung fu tea with precise cup warming and rinsing akin to a tea master, and crafting a variety of flavored cocktails with the expertise of a professional bartender.

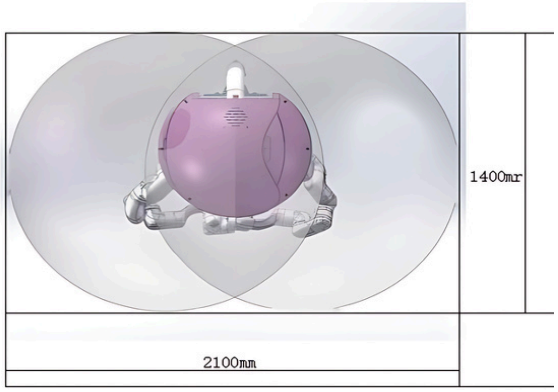
## WeMake dual-arm A.I. robot is a general-purpose robot.

# A.I. Robot Barista

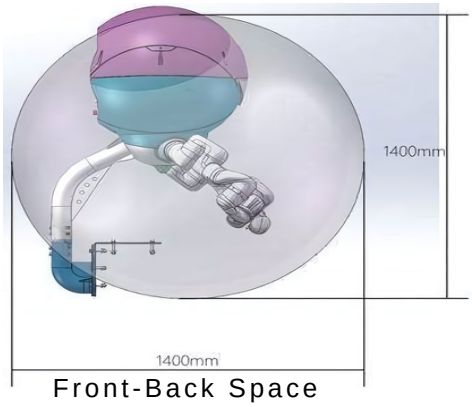
## Operating Space



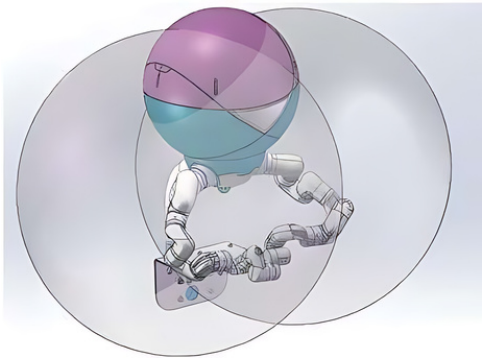

Left-Right Space (Front View)



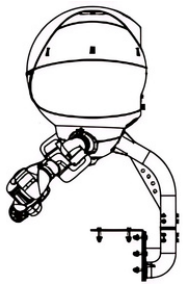

Left-Right Space (Top View)



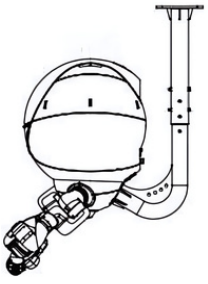

Front-Back Space



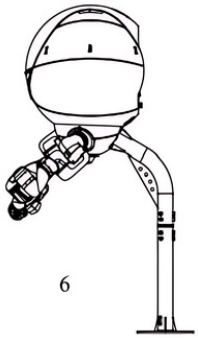
## Flexible Mounting Methods



Side-mount



Top-mount



Upright-mounted

# A.I. Robot Barista

## Main Parameters and Operating Environment

| Basic Parameters | |
|---|---|
| Weight | 133.6 lb |
| Repeatability Positioning Accuracy | ±0.004 in |
| Maximum Payload per Arm | 11.02 lb × 2 |
| IP Protection Rating | IP43 |
| Control System | Integrated inside the robot |
| POWER | |
| Power Input Voltage | AC220V |
| Power Input Frequency | 50-60Hz |
| Maximum Input Current | 4A |
| Power Cable Length | 10 ft |
| Operating Environment | |
| Operating Temperature | 39-113°F |
| Operating Humidity | 30%-70%RH |
| Operating Altitude | No higher than 6561.68 ft |

## Robot Training

Carrot Studio is a specialized robotic training platform designed to impart operational skills customized to client-specific requirements. Following a brief training period, clients can efficiently use this tool to continually retrain robots, thereby enhancing their proficiency for day-to-day tasks. This enables a dynamic and adaptive skillset development, ensuring robots maintain high performance aligned with evolving operational needs.

# Work Like Humans

The robot operates like a human, requiring preparation and integration within the work environment.

## Robot work = Robot + End Effector (Gripper) + Work Environment Setup

① Robot (Employee)

To perform operations according to the pre-trained skills.


② Gripper

To execute grasping and other hand movements according to the required skills of operation.


③ Work Environment Setup

Includes: workbench/equipment/tools and utensils needed for the robot's work

Workbench

Equipment

Tools & Utensils

# Taking Robot Barista as an Example

## Robot Barista = Trained Robot+Adapted Gripper +Work Environment Setup

### ① Robot Barista

A versatile robot with advanced barista capabilities, the robot barista can be reprogrammed to adapt to specific coffee-making techniques based on customer preferences, ensuring it meets a wide range of customer needs.

### ② Gripper

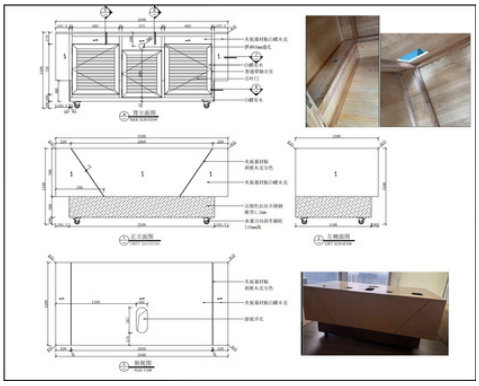
The robot barista's hand consists of a robotic gripper equipped with specialized fixtures designed to operate coffee-making equipment and handle utensils efficiently.

### ③ Work Environment Setup

Includes workbench, grinder, water heater, kettle, automatic filter paper dispenser, smart cup holder, dry-wet separation waste disposal unit, and local network gateway, among other features.

### Coffee Workbench

The coffee workbench serves as a dedicated platform for robotic coffee preparation at a fixed workstation. All necessary equipment and utensils are strategically arranged on the workbench to ensure efficient accessibility and seamless operation by the robot.



# Taking Robot Barista as an Example

## Grinder

Industry-standard grinder. Can be sourced from third party.

## Water Heater and Kettle

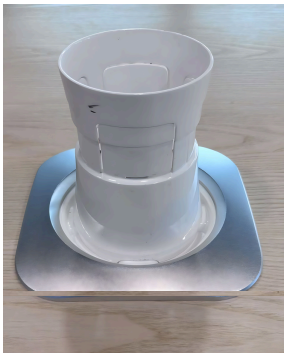
A commercial-grade water heater is required to supply hot water for coffee preparation. The kettle must be compatible with a robotic gripper or customized to ensure seamless integration with the handling mechanism.

## Automatic Filter Loader

The automatic filter loader system features an integrated automatic filter paper rack and filter cup rack. The filter paper handling device is specifically customized to enhance the efficiency of the robot barista.

## Smart Cup Holder

The smart cup holder features a QR code recognition function, enabling it to identify different SKU production instructions. It also includes a dedicated cup holder, which is adaptable to various cup types and facilitates efficient pickup by the robotic arm. Designed specifically for the robot barista, the smart cup holder enhances compatibility and efficiency in automated beverage preparation.



# Taking Robot Barista as an Example

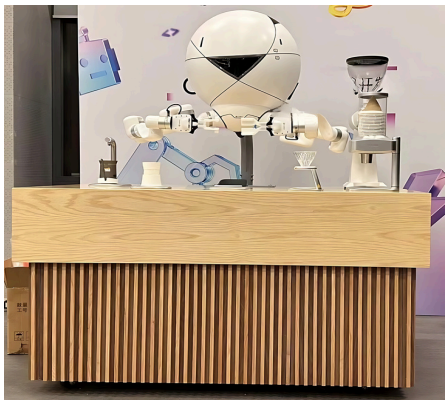
## Dry-Wet Separation Waste Disposal Device

The dry-wet separation waste disposal unit is integrated into the workbench to manage wastewater, coffee grounds produced by the robot barista during coffee preparation, as well as discarded coffee cups and other waste from customers. This system efficiently segregates liquid and solid waste, enhancing hygiene and operational efficiency. It is a standard, commercially available component.


## Supporting Devices

Includes accessories for adapting and integrating the robot into the work environment, such as a wireless gateway, water pump, and equipment mounting parts. With the exception of proprietary fastening components, all other items can be sourced from third-party suppliers.

## At this stage, following on-site integration and installation, the robot barista is ready to commence operations.



# Our Proposal

## Proposal Objectives

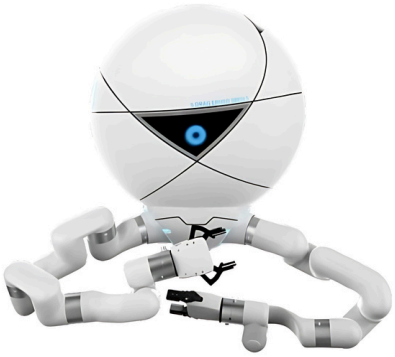
- A system for making pour-over coffee with a robot
- Produces both hot and iced coffee
- One set for PoC (Proof of Concept) validation

## System Configuration Proposal

One Robot Barista

① FeN03 dual-arm robot

**Price: $ 50,000**



② Gripper

WeMake robot universal gripper components (x Arm) 2 pieces

**Price: $2,000/each**

# Our Proposal

## ③ Supporting work environment
## (according to the current robot barista system standards)

| Hardware | Specifications | Quantity | Price | 3rd Pty. | Luobot |
|---|---|---|---|---|---|
| Workbench | Customized | 1 | $3,000 | ✓ | |
| Grinder | EK43s (Germany) | 1 | $3,500 | ✓ | |
| | C98PRO-DD (China) | 1 | $1,000 | ✓ | |
| Water Heater | Marco，3L MIX UC3 | 1 | $2,600 | ✓ | |
| Kettle | WeMake made | 1 | $150 | | ✓ |
| Filter Loader | WeMake made | 1 | $1,500 | | ✓ |
| Smart Cup Holder | WeMake made | 1 | $650 | | ✓ |
| Waste Disposal Device | WeMake made | 1 | $200 | | ✓ |
| Smart Gateway & Adapters | WeMake made | 1 | $1,000 | | ✓ |
| Installation & Setup | WeMake provisioned | 1 | $6,000 | | ✓ |
| **Est. Cost of Supporting Work Environment** | | **1** | **$21,600** | | |

Note: The above configuration does not include the possible need for an ice maker and ice storage equipment for making iced coffee.

## In summary, the total cost of a robot barista coffee system is $75,600

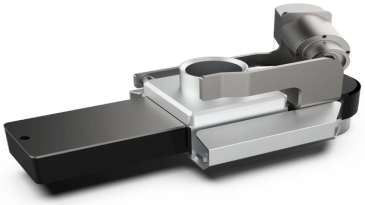
## Proposal Objectives

- A system for making pour-over coffee with a robot
- Produces both hot and iced coffee
- One set for PoC (Proof of Concept) validation

## Coffee Bean Loading Solutions

### ① Single Large Batch Loading

Coffee beans are loaded in batches into the grinder or bean counter hopper. The robot then dispenses a fixed amount of beans each time, operates the grinder, and collects the ground coffee.
Advantages:
Convenient operation.
Reduces the frequency of manual maintenance.
Drawbacks:
Only serve one type of coffee bean.
Hard to maintain the freshness of coffee bean.



### ② Multi-Individual Loading

Different coffee beans are pre-placed by staff into multiple independent coffee bean containers. During production, the robot selects the appropriate container, places the beans in the grinder, and then proceeds to make the coffee.
Advantages:
Accommodates multiple types of coffee beans.
Offers a wider variety of SKUs and flavors.

Disadvantages:
Requires additional independent coffee bean containers identification device (cost approximately $1,000).
Increases manual preparation work.

## Proposal Objectives

- A system for making pour-over coffee with a robot
- Produces both hot and iced coffee
- One set for PoC (Proof of Concept) validation

## Iced Coffee Solutions

### ① Automatic Ice Maker Solution

Install a fully automatic ice maker in the work environment. The robot automatically dispense ice into a cup before proceeding with the pour-over coffee operation.
Advantages:
High degree of automation, no need for manual intervention from ice dispensing.
Disadvantages:
Increased configuration cost (around $8,000) for the work environment;

### ② Auto-Manual Hybrid Solution

This solution requires human staff and robot to work synchronously. In manual mode, staff pour ice cubes into cups and then hand them to the robot for coffee making. In mode mode, the robot retrieves ice cubes from a specially designed ice storage container and pour them to the coffee cups.

Advantages:
Reduces configuration costs, aligns with customers' habit.
Disadvantages:
Requires the venue to have ice-making capabilities and an suitable ice storage device that is compatible with robot operation

## Proposal Objectives

- A system for making pour-over coffee with a robot
- Produces both hot and iced coffee
- One set for PoC (Proof of Concept) validation

## PoC Verification Solutions

### ① Standard Product Verification Solution

Purchase and implement WeMake's existing robot barista system for verification. The current system offers pour-over coffee functionality, utilizes an independent coffee bean loading mode, and add ice manually.
Advantages:
Short setup/delivery cycle (25 days). Lower training and implementation costs.
Disadvantages:
Fixed workbench appearance may not align with Wynn's image, larger footprint, higher transportation cost.

### ② Customized Workbench Solution

Purchase only the WeMake dual-arm robot and the customized items specified in the environmental configuration, while the client prepares the workbench and other necessary hardware according to provisioned design.

Advantages:
The system's appearance can be tailored to align with client's brand image.
Accommodates personalized requirements.
Disadvantages:
Extended delivery cycle.
Higher implementation costs.

## Proposal Objectives

- A system for making pour-over coffee with a robot
- Produces both hot and iced coffee
- One set for PoC (Proof of Concept) validation

## ④ Prototype PoC Solution


Prototype: WeMake dual-arm robot coffee system

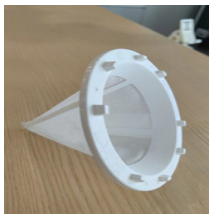
Functions: Pour-over coffee + Tea brewing

SKU: Pour-over coffee 220ml/cup, 160ml/cup
Tea 220ml/cup

Environment: Power and operating environment refer to "WeMake Dual-Arm Robot Main Parameters and Operating Environment Table"

Space: Footprint and other spatial data refer to attached "WeMake Dual-Arm Robot Coffee" product manual

Consumables: Customer provides bottled water and coffee beans, WeMake provides automatic filter paper



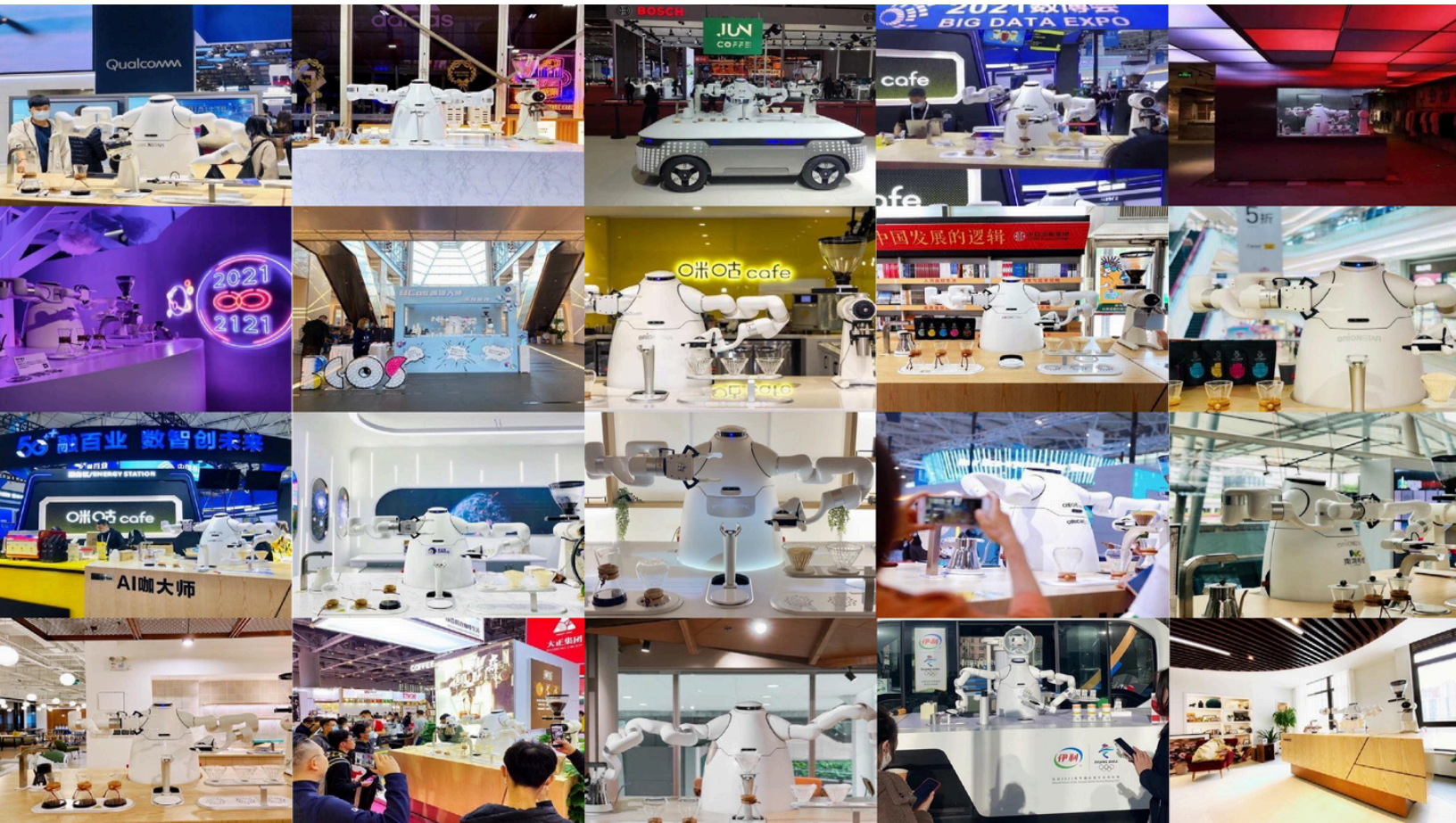
Service: Includes transportation, disassembly/assembly, debugging, 1 staff training session, 2 robot training sessions, 24-hour maintenance response

Cycle: Prototype delivery cycle is 15 days, PoC verification cycle is 60 consecutive days

Cost: PoC verification package cost  $10,000 (can be deducted from future purchase price), 50% upfront deposit, balance due upon delivery.

WeMake

# Delegate repetitive, tedious, heavy, and dangerous work to robots



WeMake

Save Space

Attract Attention

- Low labor cost
- Fast & Efficient
- Zero contact


## Sub-millimeter Stability

Tested over 30,000 hours, the dual-arm robot offers high precision and visual training for consistent, high-quality coffee making.

## Triple Efficiency

Occupying just 32 Sqft, it operates 24/7, producing 600 cups daily, with rapid cost recovery.

## Flexible Modularity

Fully automated with intelligent systems for filtering and cleaning, reducing maintenance and costs.

## Fourfold Safety Protection

Features detection systems, 360° cameras, and emergency stop buttons for comprehensive safety.

## Bionic Design

Mimics human movements with intelligent control, surpassing human capabilities in tight spaces.

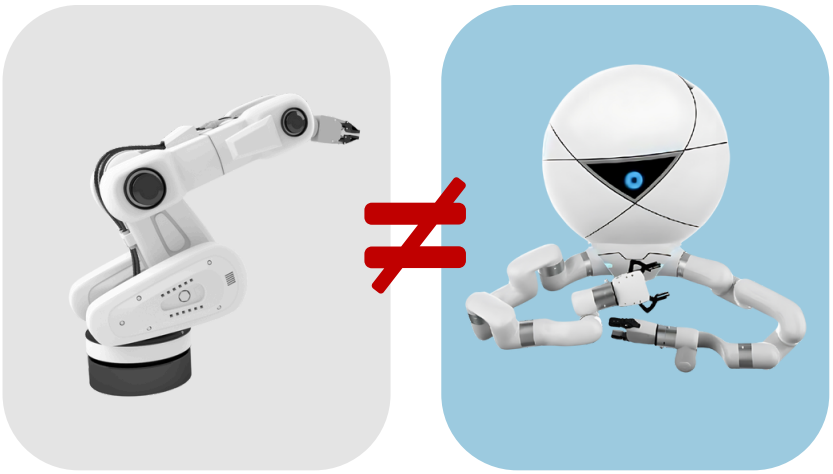
## Comprehensive Service

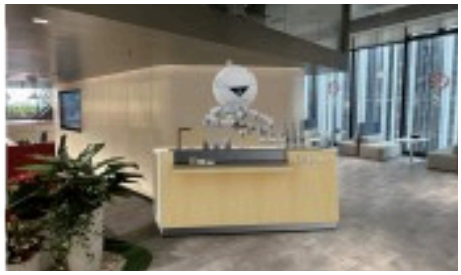
Ready within 8 hours, supports multiple installation modes, ensures quality, and offers quick repairs with customizable solutions.

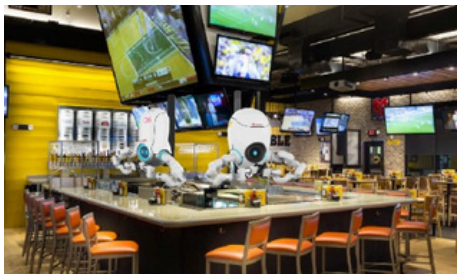
# Let Every Corner of the World Taste Master-Level Coffee

## Mechanical Arm Coffee Machine
## Doesn't equal to
## Robot Barista

Unlike conventional mechanical arms, the fully automated robot barista can achieve full automation from coffee beans to a good cup of coffee. The ingredients are fresh, ground and brewed on the spot, ensuring consistent quality.







| Coffee Machine All-in-One Self-Service Parameter Table | |
|---|---|
| **Item** | **All-in-One Version** |
| Dimensions (L*W*H) | 98.4" * 47.2" * 74.8" |
| Weight | 595 lbs |
| Coffee Bean Type | Machine bean grinding |
| Ice Maker | Lifting ice cube ice maker (ice storage box, ice delivery port) |
| Water Tank | 23.7 fl oz |
| Milk Container | Out of machine 15.2 fl oz |
| Cleaning Cycle | 5-6 hours |
| Payment Method | Banknotes, coins, mobile payment, membership card |
| Input Voltage | AC 220V |
| Rated Power | 4500W |
| Safety Certification | CE certified |
| Automatic Change Function | - |
| Automatic Cup Dispensing Function | - |
| Remote Management | √ |
| **Coffee Machine Base Parameters** | |
| Operating Environment | Indoor temperature: 41°F - 95°F |
| Installation Height | 29.5" |
| Base Dimensions | 98.4" * 47.2" * 42.1" |
| Base Weight | 441 lbs |
| Total Power | 3.1kW |
| Input Voltage | AC 100-240V |
| Power (Hot water/Cold water) | Max 3500W / Min 500W |
| Maximum Current | Max 10A |

## CONTACT US

**WeMake, Corp.**
(650) 489-5808
info@WeMake.cloud