

NOETIX

# Bionic Robot — Hobbs W1

The next generation of  
bionic intelligent agents for  
human-robot interaction.

Created by NOETIX



NOETIX

# Product Introduction

The Hobbs W1 is the first wheeled bionic humanoid robot with 54 degrees of freedom, achieving a milestone leap from static interaction to dynamic execution. The W1 innovatively integrates a robotic arm, dexterous hand, and wheeled mobile platform, giving the robot a complete "body". Simultaneously, through in-depth optimization of core algorithms, mechanical structure, and appearance design, it achieves a dual leap in interaction smoothness and system stability. Its more approachable anthropomorphic aesthetics and more reliable performance together create a more intelligent and user-friendly bionic robot masterpiece.

54 DoF

Whole-body DoF

85 %

Facial expression  
imitation accuracy

90 %

Emotional  
expression accuracy

150 ms

Face imitation latency

8 h

Battery life

1.2 m/s

Max speed

# NOETIX Features

## Bionic Skin

Platinum silicone material, less prone to oiliness and aging

## Genuine Human Hair Texture

Using real human hair material, replicating the natural shine and feel of human hair

## 3 RGB Cameras

Two built-in cameras in eyes + one built-in camera in the chest area, enabling facial detail capture and ambient awareness

## Linear Microphone Array

Multi-point sound pickup, noise reduction and interference resistance, ensuring accurate speech recognition

## 7-inch Display

High-definition display for easier operation

## 2 Speakers

Clear and natural sound quality

## 3 Sets of Ultrasonic Sensors

Rapidly detect obstacles at close range, ensuring safe movement

## 2 × 5 DoF (Single Arm)

More flexible arm movements, enabling diverse actions

## LiDAR

High-precision SLAM navigation and positioning, and long-range obstacle avoidance

## 2 × 6 DoF (Single Hand)

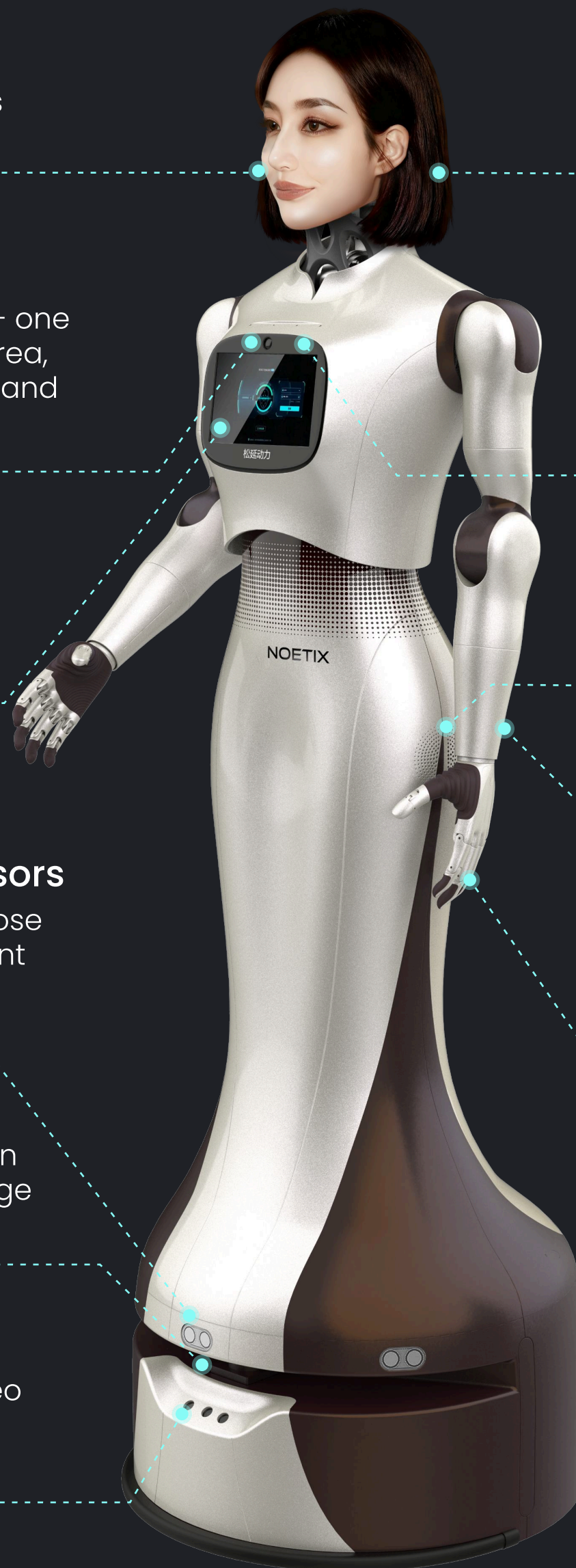
More precise and flexible movements, enabling complex hand operations

## 3D Stereo Vision

Real-time environmental stereo structure perception, aiding visual navigation

## Status Indicator Lights

Intuitively display the robot's operating status



## Anthropomorphic Performance

Accurately understands context, make appropriate facial expressions such as anger and smile, transforming into an interactive object with personality and emotions, enhancing trust and willingness to interact.

## Human-like Appearance

Overcoming the uncanny valley effect with extreme realism, significantly reducing the mechanical feel of artificial objects, providing users with an immersive service experience comparable to that of a real person.

## Mobility & Flexibility

Can proactively greet guests and guide crowds, or move to designated locations to provide services, upgrading from a static "display" to a dynamic "service participant".

## Conversational Continuity

Supports multiple languages and continuous dialogue, with memory capabilities, efficiently completing consultation, guidance, and explanation services, providing coherent and personalized service.

# Product Specifications

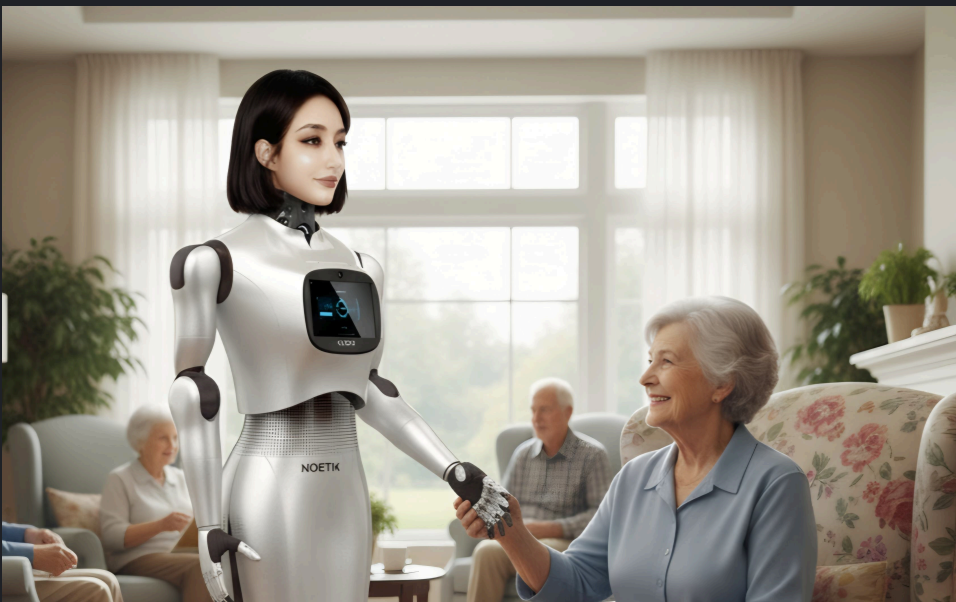
Category	Feature	Specification
Basic Parameters	Length × Width × Height	525 × 525 × 1700mm
	Weight	75kg
	Battery Life	Working 6h, Standby 8h
	0-100% Charging Time	Standard 6.5h, Fast Charge 2h
Body Parameters	Face+Neck Active DoF	32DoF
	Overall Face Passive DoF	8DoF
	Face Material	Silicone Rubber
	Realism Level	Wax figure level (customizable face/hair/makeup)
	Speaker Array	2 pcs (built into waist)
	RGB Camera Classification	2 pcs (in eyes), 1 pc (in chest)
	Multi Air Outlet Array	4 mics (in chest)
	Conversational Latency	< 1200ms
	Expression Simulation Latency	< 150ms
	Head Pitch Angle	± 27° (total 54°)
Head Roll Angle	± 25° (total 50°)	
Head Yaw Angle	± 35° (total 70°)	
Arm Parameters	Dual Arm DoF	2×5Dof (per arm)
	Dual Hand DoF	2×6Dof (per hand)
Chassis Parameters	Sensor System	Lidar, 3D Vision Camera, Ultrasonic Sensor, IMU, Infrared Sensor
	Moving Speed	1.2m/s (Max)
	Maximum Climbing Slope	10°
	Maximum Obstacle Crossing	18mm
	Maximum Gap Crossing	30mm
	Minimum Passing Width	800mm
	Safety Protection	360° Obstacle Avoidance, Chassis 3TOF (Anti-Fall Support)
	One-Time Mapping Area	50000m <sup>2</sup>
Maximum Operating Area	80000m <sup>2</sup>	

# Application Scenarios



## Tourism Reception

Applicable to museums, exhibition halls, business lobbies, and other venues for active guest greeting. It provides route guidance, on-site navigation, and service consultation, and can introduce product information or exhibition details as needed.



## Companionship Services

Suitable for elderly care institutions and community day care centers for emotional companionship of the elderly. It can also be used in child care scenarios to interact with kids and tell stories.



## Entertainment and Commercial Performances

Adaptable to art exhibitions, commercial events, and other scenarios for scripted performances. It can be customized with theme-specific appearances and personas, serving as an interactive check-in spot for customers. It can easily drive customer flow and consumption.



## Scientific Research and Education

It provides multilingual cross-platform interfaces, allowing universities/enterprises to develop customized functions based on their needs. Universities and research institutions can use it for testing and verifying algorithms and scientific technologies.



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