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Global Tactile Sensor Arrays for Embodied AI Dexterous Hands Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global Tactile Sensor Arrays for Embodied AI Dexterous Hands market size was valued at US$ 278 million in 2025 and is forecast to a readjusted size of US$ 651 million by 2032 with a CAGR of 13.6% during review period.

In 2025, global sales of tactile sensor arrays for embodied AI dexterous hands are projected to reach approximately 900,000 units, with an average selling price of around $300 per unit.

Tactile sensor arrays for embodied AI dexterous hands are distributed sensing components integrated into robot fingertips, palms, or flexible skin surfaces. Utilizing technologies such as capacitance, piezoresistance, optics, and magnetoelasticity, these arrays capture data on pressure, shear force, slippage, surface texture, and contact status. They serve as critical sensing components enabling humanoid robots to execute fine-grained manipulation, achieve compliant control, and facilitate safe human-robot interaction.

These tactile sensor arrays (often referred to as 'electronic skin') act as a 'rapid tactile feedback loop' connecting the AI ??brain to the physical world, playing a pivotal role in enabling anthropomorphic, precision-oriented operations. Currently, the role of tactile perception is evolving from an 'optional feature' into an 'intelligent standard configuration.'The upstream segment of this industry encompasses the R&D of core components?including flexible materials, Micro-Electro-Mechanical Systems (MEMS), and sensor array chips. The downstream segment connects directly to robot body manufacturing, as well as various embodied AI application scenarios involving

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multimodal operations and large-scale model training across sectors such as industrial automation, logistics, and domestic services.

This report is a detailed and comprehensive analysis for global Tactile Sensor Arrays for Embodied AI Dexterous Hands market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

Global Tactile Sensor Arrays for Embodied AI Dexterous Hands market size and forecasts, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Tactile Sensor Arrays for Embodied AI Dexterous Hands market size and forecasts by region and country, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Tactile Sensor Arrays for Embodied AI Dexterous Hands market size and forecasts, by Type and by Application, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Tactile Sensor Arrays for Embodied AI Dexterous Hands market shares of main players, shipments in revenue ($ Million), sales quantity (K Units), and ASP (US$/Unit), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries

To assess the growth potential for Tactile Sensor Arrays for Embodied AI Dexterous Hands

To forecast future growth in each product and end-use market

To assess competitive factors affecting the marketplace

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This report profiles key players in the global Tactile Sensor Arrays for Embodied AI Dexterous Hands market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Pressure Profile Systems (US), Tekscan (US), SynTouch (US), Sensel (US), XELA Robotics (JP), Nitta Corporation (JP), Wacoh-Tech (JP), Touchence (JP), Tacterion (DE), Touchlab (GB), etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Market Segmentation

Tactile Sensor Arrays for Embodied AI Dexterous Hands market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Type

Capacitive Tactile Sensor Arrays

Piezoresistive Tactile Sensor Arrays

Optical/Gel Tactile Sensor Arrays

Magnetic Elastomer Tactile Sensor Arrays

Market segment by Number of Contacts

8?8 or Below Taxel Matrix

16?16?32?32 Taxel Matrix

64?64 and Above Taxel Matrix

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Other Custom Matrix

Market segment by Technology

Pressure/Normal Force Sensing

Shear/Slip Sensing

Texture/Vibration Sensing

Multimodal Tactile Sensing

Market segment by Application

Humanoid Dexterous Hands

Industrial Adaptive Gripping

Teleoperation and Haptics

Medical Rehabilitation Robots

Major players covered

Pressure Profile Systems (US)

Tekscan (US)

SynTouch (US)

Sensel (US)

XELA Robotics (JP)

Nitta Corporation (JP)

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Wacoh-Tech (JP)

Touchence (JP)

Tacterion (DE)

Touchlab (GB)

WEISS Robotics (DE)

Pasini Sensor Technology (CN)

TacSense Technology (CN)

Bota Systems (CH)

Market segment by region, regional analysis covers

North America (United States, Canada, and Mexico)

Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)

Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)

South America (Brazil, Argentina, Colombia, and Rest of South America)

Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

The content of the study subjects, includes a total of 15 chapters:

Chapter 1, to describe Tactile Sensor Arrays for Embodied AI Dexterous Hands product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Tactile Sensor Arrays for Embodied AI Dexterous Hands, with price, sales quantity, revenue, and global

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market share of Tactile Sensor Arrays for Embodied AI Dexterous Hands from 2021 to 2026.

Chapter 3, the Tactile Sensor Arrays for Embodied AI Dexterous Hands competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the Tactile Sensor Arrays for Embodied AI Dexterous Hands breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

Chapter 5 and 6, to segment the sales by Type and by Application, with sales market share and growth rate by Type, by Application, from 2021 to 2032.

Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value, and market share for key countries in the world, from 2021 to 2026.and Tactile Sensor Arrays for Embodied AI Dexterous Hands market forecast, by regions, by Type, and by Application, with sales and revenue, from 2027 to 2032.

Chapter 12, market dynamics, drivers, restraints, trends, and Porters Five Forces analysis.

Chapter 13, the key raw materials and key suppliers, and industry chain of Tactile Sensor Arrays for Embodied AI Dexterous Hands.

Chapter 14 and 15, to describe Tactile Sensor Arrays for Embodied AI Dexterous Hands sales channel, distributors, customers, research findings and conclusion.

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