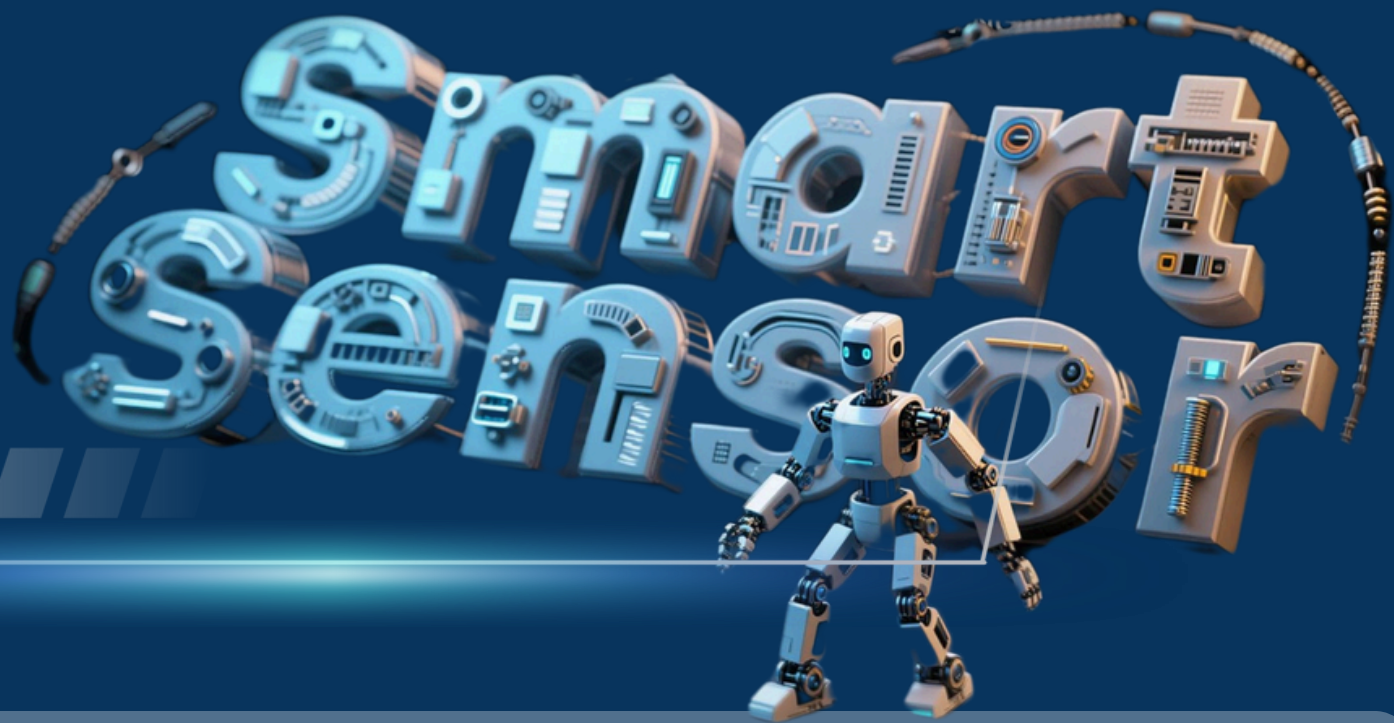




2025 Smart Sensor Asia · Robotics



Forum Organizer

Tyche Emerge Exhibitions Ltd.

Date & Location

08.27-08.28

China · Shenzhen
Kempinski Hotel

Timetable

Day 1 - a.m.

09:00	New Opportunities for Smart Sensor Industry Development Driven by Dual Forces of Policy Guidance and Market Demand
09:20	Quantum Sensors Open a New Era for Embodied Robotics Applications (High-Precision Navigation)
09:40	Full-Body Perception Solutions for Humanoid Robots
10:00	Biomimetic Sensing vs. Traditional Sensing: Which Path is More Suitable for Commercialization?
10:20	RaaS (Robot as a Service) Extends from Deterministic Industrial Tasks (e.g., Welding, Palletizing) to Flexible Service Scenarios (e.g., Housekeeping, Healthcare Assistance), Forming a "Technology-Scenario-Business" Closed Loop
10:40	Evaluation of Growth Potential in Smart Sensor Sub-Sectors Amid the Humanoid Robot Boom

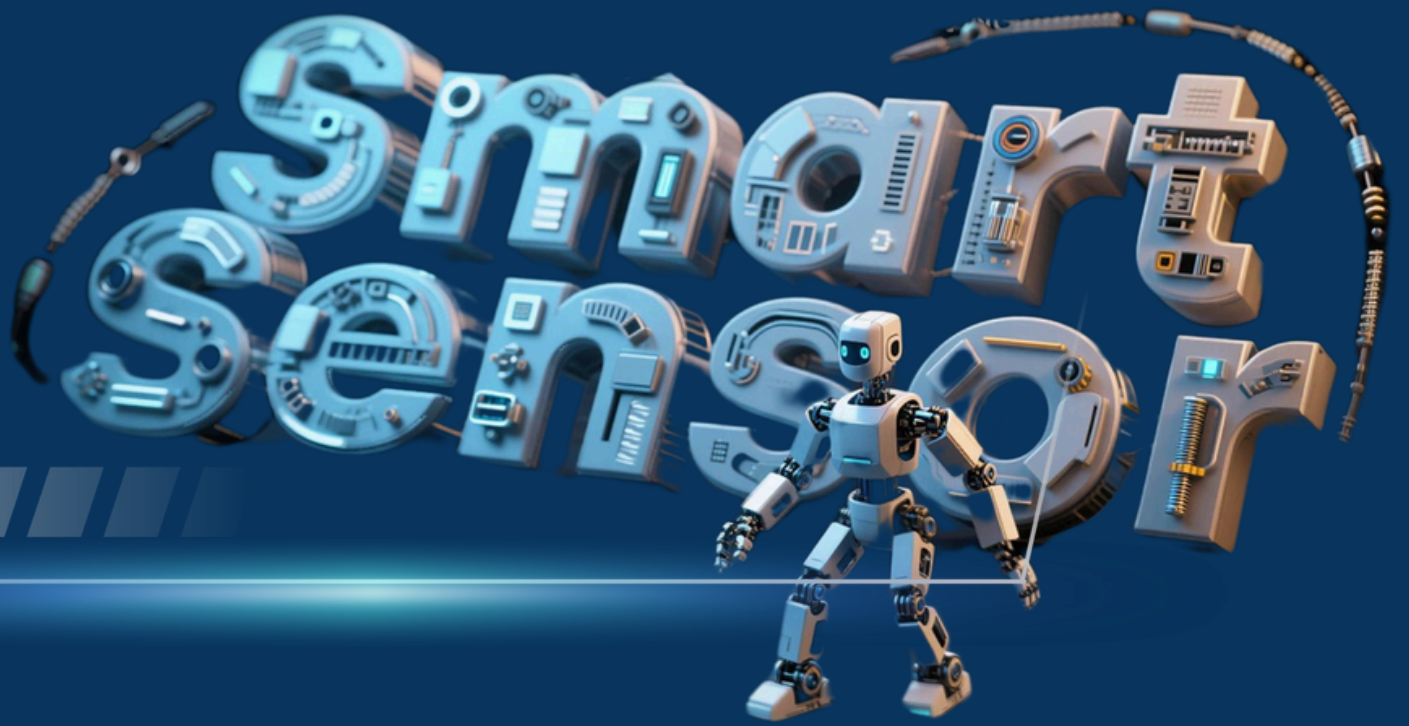


Day 1 - a.m.

- 11:00 2025 Global Market Share Forecast (Optical vs. Magnetic vs. Capacitive)
- 11:20 The Interactive Relationship Between Talent Mobility and Regional Industrial Development in Smart Sensor Industry

Day 1 - p.m.

- 13:00 Research Progress on MEMS-Based Micro-Displacement Sensors
- 13:20 Development Progress of Wireless-Powered Displacement Sensors
- 14:00 Fusion of Angle Sensors and Inertial Measurement Units (IMUs) to Optimize Posture Perception in Humanoid Robots
- 14:20 Composite Navigation Technology in Humanoid Robots
- 14:40 Self-Calibration Technology for Accelerometers Ensures Long-Term Operational Stability of Humanoid Robots
- 15:00 Precision Enhancement Strategies for High-Resolution Vision Sensors in Complex Environment Navigation of Humanoid Robots
- 15:20 Neuromorphic Vision Sensors: Integration of Biomimetic Vision and Edge Computing
- 15:40 Sensor Fusion Technology for Multispectral/High Dynamic Range (HDR) Imaging
- 16:00 Biomimetic Olfactory Sensors: Bio-Hybrid Sensors Based on Insect/Mammal



Day 1 - p.m.

16:20

Power Consumption vs. Performance Trade-offs in Miniaturized Electronic Noses

16:40

Olfactory-Visual Multimodal Robots (e.g., Fire Search and Rescue Robots)

17:00

Embedded Design for Multimodal Fusion (Odor+Temperature+Humidity)

17:20

Application of Adaptive Filtering Technology in Anti-Interference for Auditory Sensors of Humanoid Robots

17:40

Roundtable: How Can Smart Sensing Break Through the "Perception Ceiling" of Robotic Autonomous Decision-Making?

Day 2 - a.m.

09:00

Innovative Applications of Ultrasonic Auditory Sensors in Close-Range Detection and Obstacle Avoidance for Humanoid Robots

09:20

Fiber Optic Acoustic Sensors: High-Precision Sound Pressure Measurement in Industrial Inspection

09:40

Technical Implementation of Torque Sensors for Joint Force Monitoring and Control in Humanoid Robots

10:00

Repeat Positioning Accuracy Optimization for Industrial Robots

10:20

Capacitive vs. Inductive vs. Photoelectric: Applicability Comparison in Different Industrial Scenarios

10:40

Anti-Interference and Reliability Improvement: Algorithm Compensation Technology for Transparent/Reflective Object Detection



Day 2 - p.m.

- | | | |
|-------|---|---|
| 13:00 | ● | Proximity Threshold Setting for Collision Prevention Systems in Collaborative Robots |
| 13:20 | ● | Optical Tactile Sensing: Three-Dimensional Force Reconstruction Based on FBG Optical Fibers and Microstructural Deformation |
| 14:00 | ● | Large-Area Fabrication Process for Stretchable Electronic Skin |
| 14:20 | ● | Distributed Tactile Arrays vs. Localized High-Precision Sensing: The Optimal Solution for Humanoid Robots |
| 14:40 | ● | Adsorption Property Optimization of Nano-Sensitive Materials: Graphene/MOFs Materials |
| 15:00 | ● | Power Supply Systems Based on Environmental Energy Harvesting (Thermoelectric/RF Energy) |
| 15:20 | ● | Low-Power and Self-Powering Technologies |
| 15:40 | ● | A New Era of Human-Robot Collaboration: How Flexible Sensors Make Robots More "Human-Aware" |