OVERSONIC

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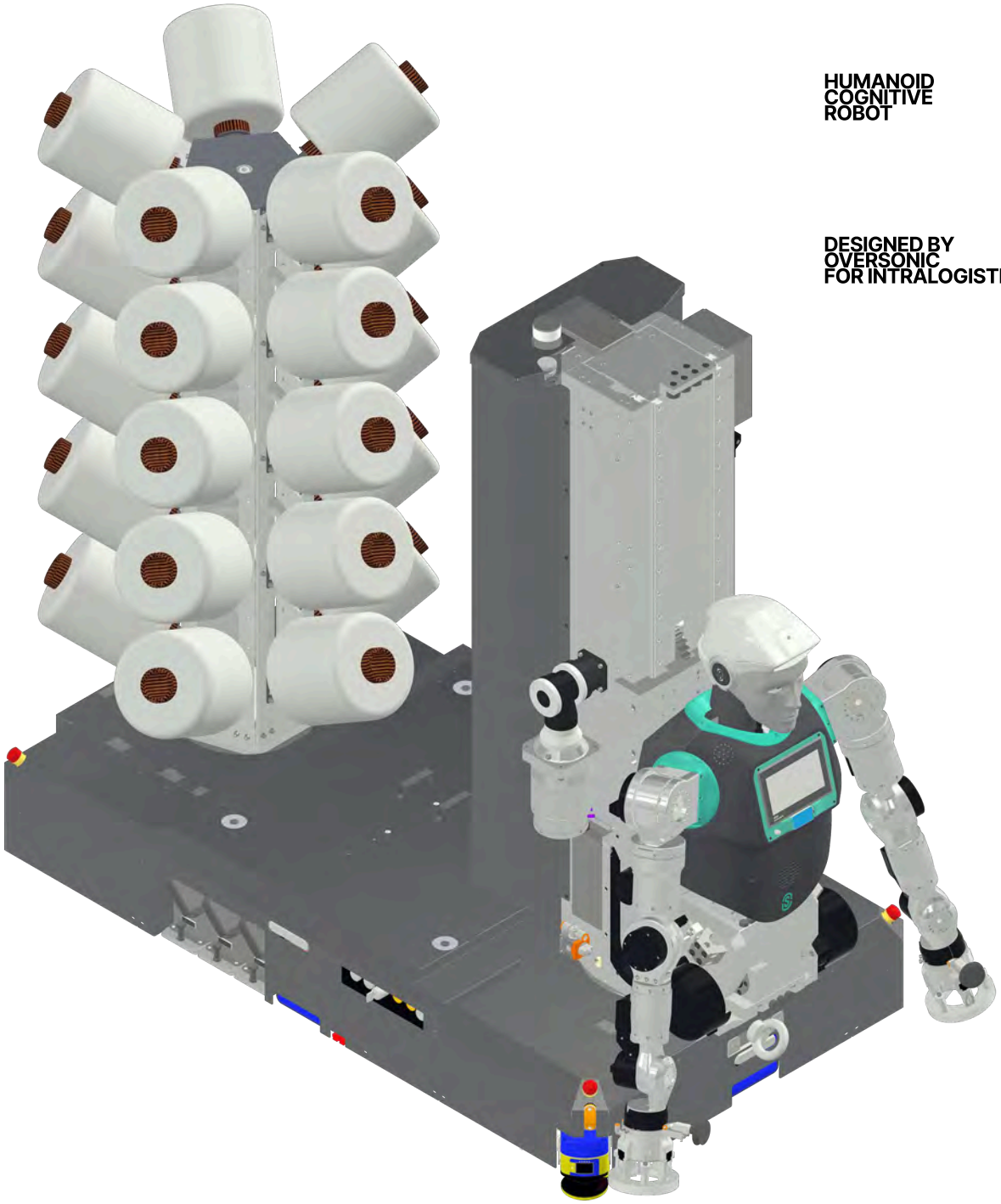
ROBEE

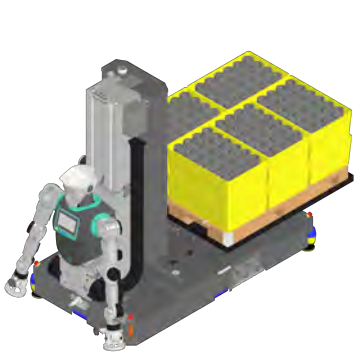
Series F

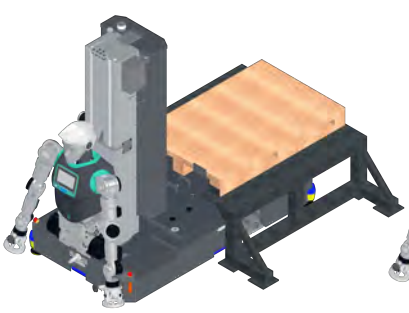
HUMANOID
COGNITIVE
ROBOT

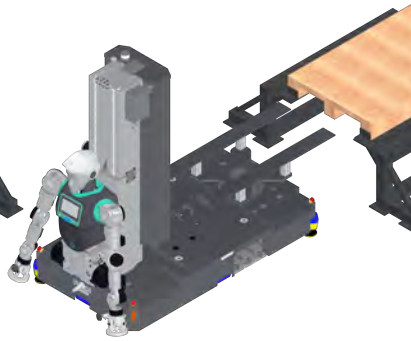
09/2025

DESIGNED BY
OVERSONIC
FOR INTRALOGISTICS









ADVANCED ROBOTICS FOR INTRALOGISTICS

In today's industrial landscape, managing internal material flows is a strategic factor for operational efficiency. The growing variety of products, smaller batch sizes, and the need for continuous traceability demand a rethinking of traditional storage and handling models. Modern intralogistics calls for scalable, autonomous, and collaborative solutions capable of operating in dynamic, shared environments.

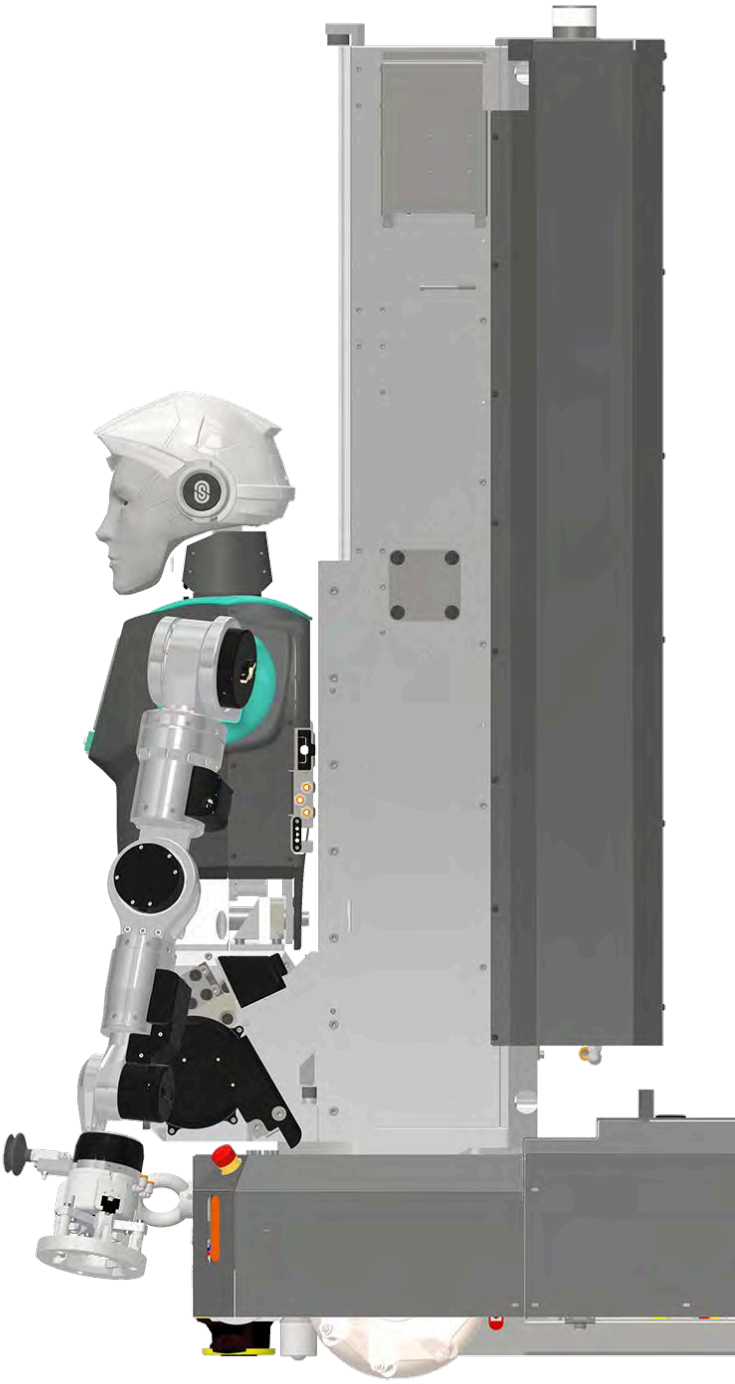
RoBee Series F was developed to meet these needs: a collaborative mobile robotic platform that integrates a humanoid structure for manipulation, an autonomous base for navigation, and a rear module for storage and transport. The system is designed to automate complex operations, reduce cycle times, and enhance safety in internal processes.

The humanoid unit features two robotic arms with advanced kinematics and multi-axis control, mounted on a pneumatic support structure with vertical motion and axial rotation. This mechanism enables multi-level and multi-orientation operations, ensuring precision and adaptability. Artificial vision systems and cognitive correction algorithms allow for object recognition and safe interaction with the environment.

The support structure acts as a mechanical interface between the base and the humanoid unit, extending the operational volume and facilitating access to shelves, containers, and workstations. It is engineered to maintain stability and accuracy even under variable load conditions.

The mobile base is an AGV/AMR unit with omnidirectional navigation, equipped with LIDAR sensors, encoders, and environmental vision. Its control system enables autonomous route planning, interaction with digital infrastructure, and safe traffic management, even in complex and shared environments.

The rear module, integrated with the base, is a load-bearing



Contact us for a demo

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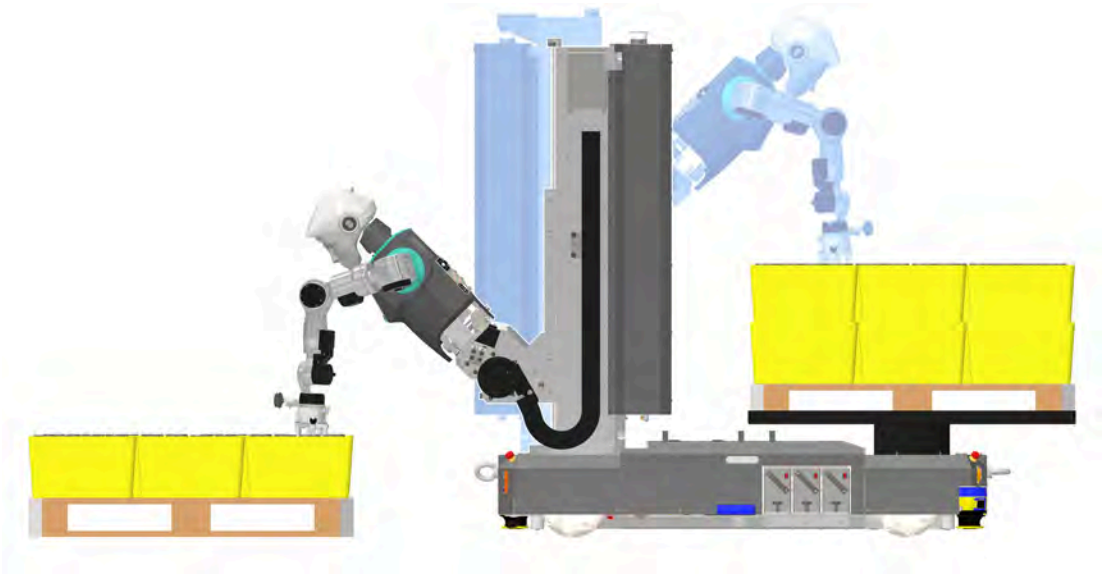


Key features

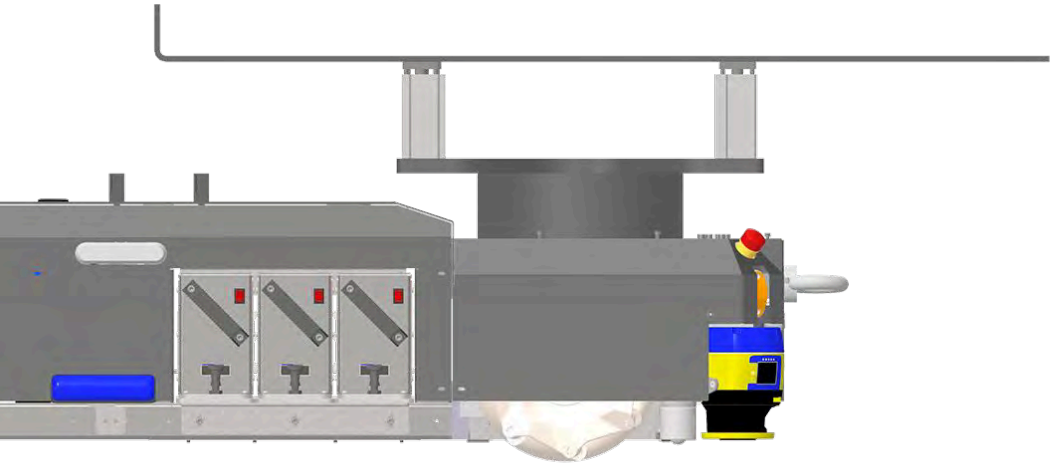
- Humanoid structure with 7-axis articulated arms
- Mechanical support with vertical guidance and axial rotation
- Rear storage module (standard or custom)
- Autonomous omnidirectional AGV/AMR navigation
- Wrist-mounted camera for cognitive correction
- User interface with front display and VoiceBot
- Cloud connectivity

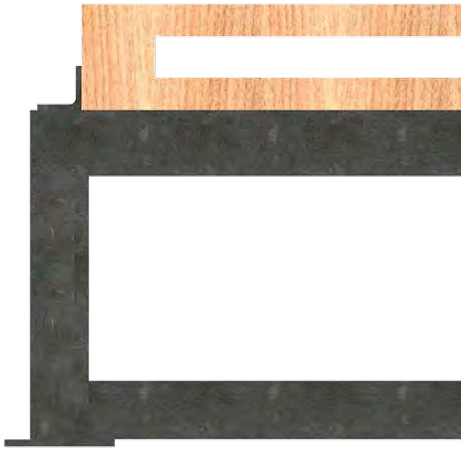
Application areas

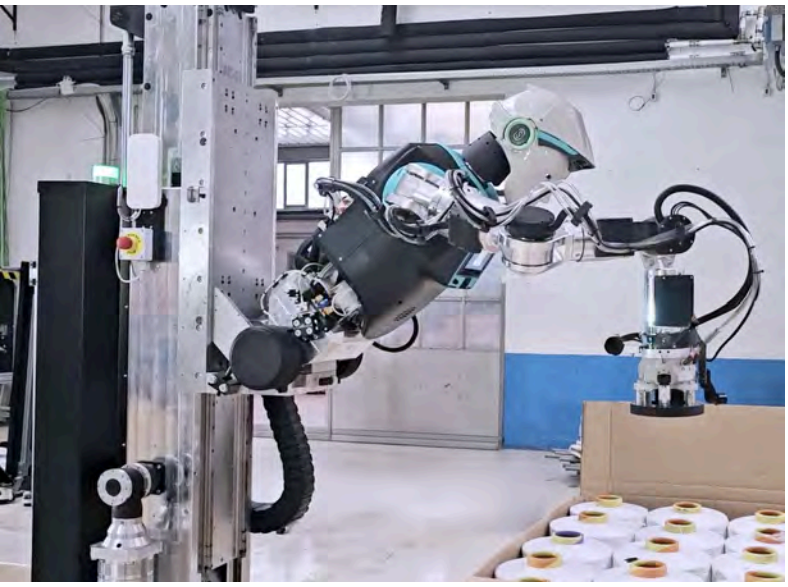
- Automated handling and palletizing
- Internal logistics and warehouse management
- Support for flexible production lines
- Collaborative interaction in shared environments
- Assembly and manipulation of industrial components
- Autonomous transport of loads along dynamic routes

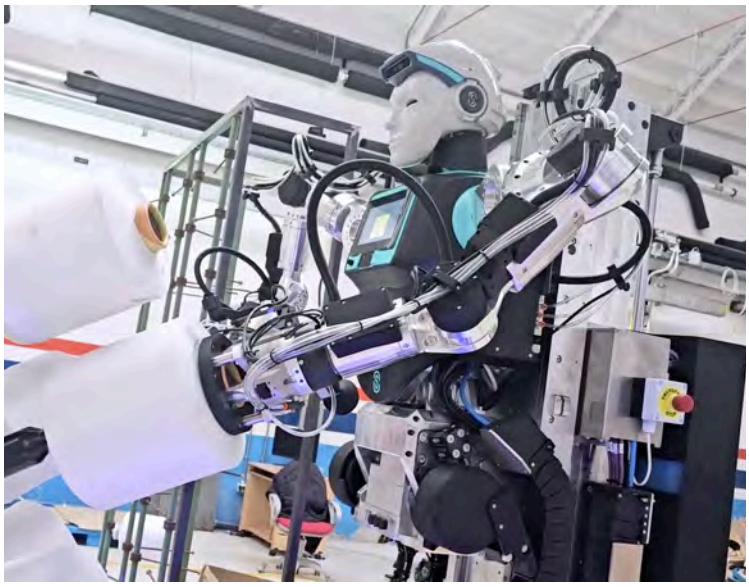
structure with standard axial rotation, designed to support pick & place operations performed by the humanoid unit. In its standard configuration, it accommodates europallets and industrial containers. Optional configurations allow for different geometries or additional automation features, such as lifting systems or internal compartmentalization.
RoBee F is compatible with MES, WMS, and industrial IoT platforms, enabling centralized fleet management, real-time monitoring, and flow optimization. Its advanced user interface — featuring touchscreen, voicebot, and visual signaling — simplifies operator interaction and mission initiation.

Oversonic Robotics Srl Società Benefit is a software company that designs and develops cognitive computing systems, with a particular focus on robotics applications. Founded in 2020, the company established its technological and production center in Carate Brianza (MB) and operates from two additional sites: a representative office in Milan and an operational office in Rovereto (TN), within the Mechatronics Hub of Trentino Sviluppo.
The company employs a team of 65 people, including about 50 software, mechanical, and electronics engineers from various parts of the world. While naturally oriented toward international collaboration, the company maintains a strong Italian identity, offering products that represent the creativity and ingenuity of Italian entrepreneurship and technological know-how.









Physical specifications

Weight	850 kg
Height	200 cm
Footprint	80 * 120 cm
Arm reach	120 cm

Navigation base

Max. speed	0.6 m/s
Omnidirectional drive	Included
Sensor obstacle detection SIL 3	Included

Sensori integrati

Motor controls	Feedback su potenza e forza
Navigation	Lidars and cameras
Vision & video streaming	Depth cameras
Cameras included	8

Working environment

Type	Indoor
Operating T range	5 °C / 50 °C

Connectivity

Wireless	WiFi 6, 5G ready

Power

Batteries included	6
Battery type	Lithium ion + Graphene supercap
Battery autonomy	Up to 8 hours (typical usage)
Supply voltage	AC 230 V

Manipulation

Cognitive accuracy	±5 mm
Deterministic accuracy	±1 mm
Repeatability	0.5 mm

Carico massimo

Single arm	10 kg
Double arm	20 kg
Rear axle transport	500 kg

Audio

Speakers	60 W
Microphone	Cardioid
Voicebot	Included

CE

ISO 56002:2021 - 48001:2028 - 9001:2015 - 27001:2013 - 14001:2015
Machine Directive 2006/42/CE - D.LGS. 17/2010
EMC-EMI Compliancy
IPX4 Protection