

# Baxter Mobility Base

Dataspeed is proud to introduce the Baxter Mobility Base. An add-on that gets Baxter to travel anywhere. A Mecanum wheel system enables any combination of translation and rotation. Baxter can move forward, backward or sideways while independently controlling its rotation. Baxter is able to travel on most flat surfaces like carpet, tile, cement and asphalt. The compact base (32" by 31") enables Baxter to travel through office hallways and doorways.



## FEATURES

- ▶ Mecanum wheel system for maximum mobility. 4-wheel independent suspension for maximum traction.
- ▶ High performance encoder/servo controllers precisely controlling velocity.
- ▶ Sensor cage beneath mounting plate designed to accommodate a variety of sensors including 2D and 3D lidars, cameras, sonar and radar.
- ▶ 360 degree collision detection using bumper switches.
- ▶ Embedded PC with solid state hard drive and Intel i5 processor.
- ▶ Integrated 9 DOF IMU (3-axis rate, accel, magnetometer).
- ▶ Downward facing camera for precision navigation using optical registration based on QR codes.
- ▶ Docking port providing power to charge the on-board 24V battery system and wired ethernet connection for communicating with the building network.
- ▶ Very low power sleep mode with auto-wakeup feature, ability to wake up based on alarm clock or motion sensed.
- ▶ ROS Indigo operating system enabling tight integration with Baxter.
- ▶ Dimensions: 31" front to back, 32" side to side and 24" bottom to top. (60.9" top of Baxter). Weight: 220 pounds, Top speed: 5 mph.

## OPTIONAL ACCESSORIES

- ▶ 24V power inverter backpack available to power Baxter and accessories from the Mobility Base battery pack
- ▶ Variety of brackets for mounting different sensors



## Baxter Mobility Base

The ability of Baxter to move in any direction or orient itself at any angle creates new opportunities to put this unique robot to use. Combining the mobility base with navigation sensors including 360 degree 2D and 3D lidar, mono/stereo cameras, inertial measurement and UWB-based radio ranging enables Baxter to travel throughout your building, even venturing outside. The base includes a downward facing camera as well as inertial measurement, additional sensors can be mounted in the sensor pod beneath Baxter's base



### POTENTIAL USES FOR MOBILE BAXTER

- ▶ **LOGISTICS** - Baxter can place or retrieve material at your warehouse using your existing rack systems.
- ▶ **SECURITY** - Baxter can continually move within your building, performing security functions.
- ▶ **MANUFACTURING** - Baxter can bring line workers the material they need, when they need it, and then deliver the finished goods to the shipping department.
- ▶ **RETAIL** - Baxter can scan your store shelves and let you know what your physical inventory is, then help to restock the shelves.
- ▶ **QUALITY CONTROL** - Baxter can maneuver around your finished goods, performing a variety of inspections.
- ▶ **TELEPRESENCE** - Baxter can come to your workspace and you can use its monitor and camera as part of telepresence.
- ▶ **MANUFACTURING** - Baxter can attend your machining center, loading and unloading material.
- ▶ **FIRST RESPONDER** - Baxter can be sent into buildings that may be harmful to people.
- ▶ **MANUFACTURING** - Multiple Baxter's can be teamed together to move heavy carts of material.
- ▶ **MAINTENANCE** - Baxter can perform cleaning tasks like washing windows or vacuuming the floors.
- ▶ **VSECURITY CHECKPOINT** - Baxter can maneuver around vehicles, inspecting the inside and outside.