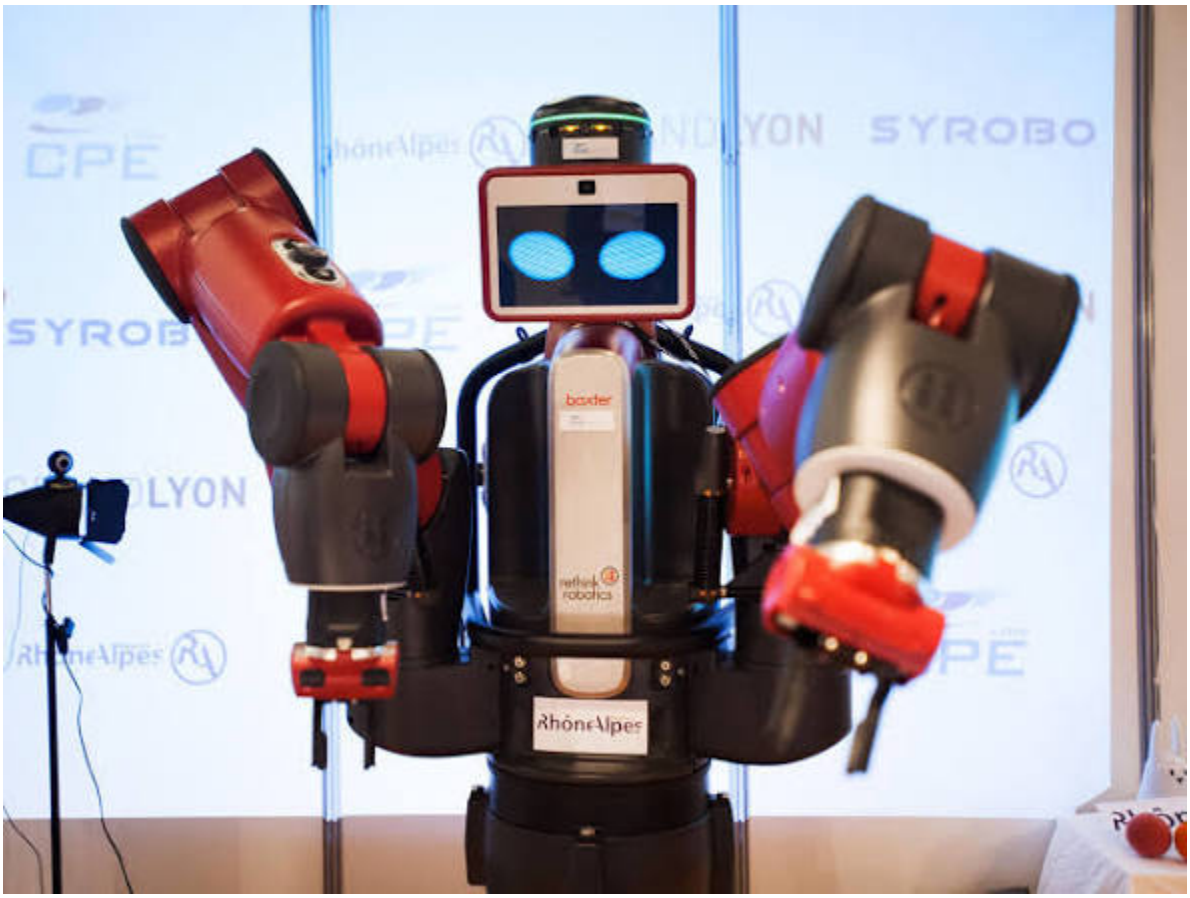
Baxter Rethink Robotics Robot

The Baxter robot was a

dual-arm collaborative industrial robot introduced by Rethink Robotics in 2012. Founded by roboticist Rodney Brooks, the company aimed to create low-cost, easy-to-use robots that could work safely alongside humans in manufacturing environments, particularly for small and medium-sized businesses.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Rethink Robotics discontinued the Baxter robot and shut down in 2018 due to underwhelming sales. Its legacy, however, is its significant impact on collaborative robotics technology and its continued use in research and education.

Key features and capabilities

- **Human-safe design:** Unlike traditional industrial robots, Baxter was designed to work directly with people without the need for safety cages. This was made possible by its compliant, spring-based actuators and an array of sensors that allowed it to detect and adapt to its surroundings.
- **Simple programming:** Baxter could be "trained" to perform tasks by non-experts. A factory worker could physically move the robot's arms to demonstrate a task, and the robot would then memorize and repeat the motion.
- **Adaptability:** With integrated cameras, sonar, and force-sensing joints, Baxter could "feel" and "see" its environment. It could adapt to real-world variability, such as a conveyor belt moving at a different speed, and would slow or stop if a human got too close.
- **Animated face:** The robot featured an animated screen for a "face" that displayed different expressions to communicate its status to human co-workers.
- **Targeted tasks:** Baxter was designed for simple, repetitive tasks like:
    - Loading and unloading lines
    - Packing and kitting items
    - Material handling
    - Sorting
    - Light assembly
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Baxter (robot) - Wikipedia

It is three feet tall and weighs 165 pounds without its pedestal; with its pedestal, it is between five feet and ten inches to six feet and three inches tall an…

Wikipedia

Baxter: A robot for the rest of us - Machine Design

Oct 16, 2012 — Baxter's basics. Baxter is equipped with two arms on a turnable torso. Each arm measures 41 in. from shoulder to wrist and has seven degrees of freedom (dof). T...

Machine Design

Technical specifications

- **Payload:** 2.2 kg (5 lb) per arm.
- **Reach:** 1,210 mm per arm.
- **Degrees of freedom:** 7 per arm.
- **Speed:** Maximum 0.6 to 1 meter per second.
- **Weight:** 75 kg (165 lb) without its mobile pedestal.
- **Sensors:** Five cameras, 360-degree sonar sensors, and joint-level force sensors.
- **Software:** Ran on the open-source Robot Operating System (ROS).
- **Cost:** The initial cost for commercial customers was around $22,000.

Discontinuation and legacy

Despite being a pioneer in collaborative robotics, Baxter was not a commercial success. The company shifted its focus to a smaller, faster, and more precise single-armed robot called Sawyer in 2015, before ultimately shutting down in 2018. Today, Baxter is primarily remembered for its role in advancing the field of human-robot collaboration and is used in robotics research and educational programs.