

Rethink Robotics® meets German Engineering



Sawyer™

The High Performer for Precision Tasks

Meet Sawyer – the flexible, easy to use collaborative robot with sensitive and intuitive handling for high acceptance among employees. The industry's fastest-to-deploy collaborative robot, designed to give manufacturers the high performance and critical flexibility needed to automate what

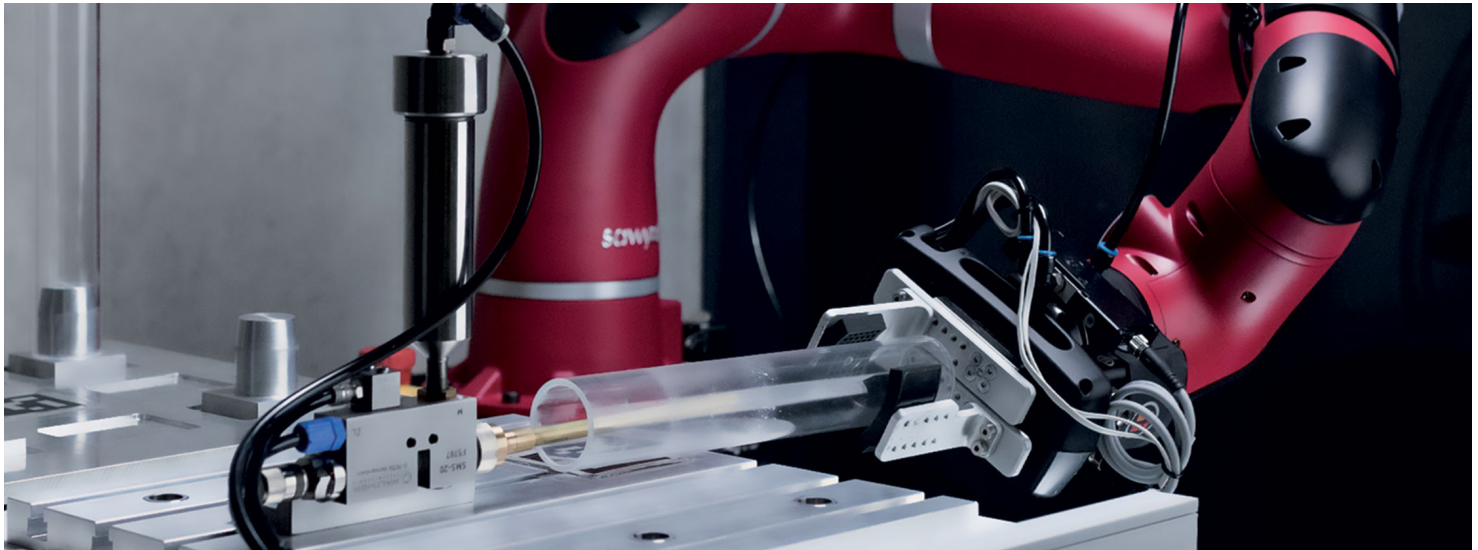
could not simply be automated with industrial robots in the past. Its passion is machine loading, circuit board tests, and other dangerous, dirty, and dull tasks. Sawyer comes as a complete solution, including the Intera software and embedded vision.

Rethink Robotics with its collaborative robot Sawyer stands for:

Easy application

Flexibility

High acceptance among employees



Train by Demonstration: Easy application

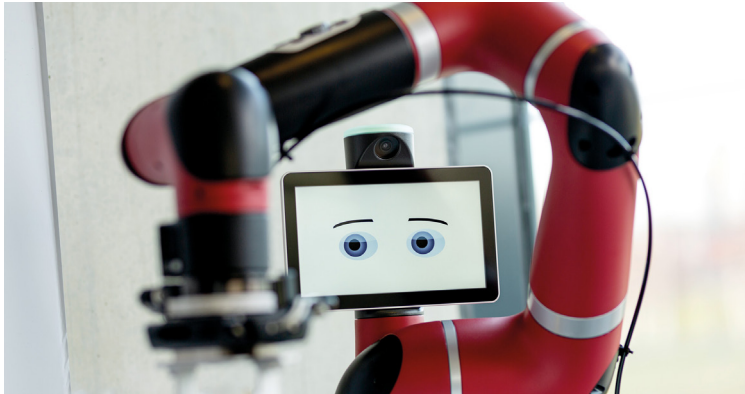
The Intera software gives Sawyer its unique user interface – the robot can be trained by simply demonstrating the procedure moving its arm. The robot is up and running to perform a task within a matter of minutes and easy to use. No other collaborative robot becomes productive in such a short period of time, which leads to a rapid return on investment.

Embedded Vision: Flexibility

Sawyer's embedded vision system – along with the Intera software – allows the robot's positioning system to provide for a dynamic reorientation and a flexible redeployment of the robot. In combination with the easy-to-set landmarks and the mobile pedestal, Sawyer can quickly be deployed in various positions and adapt to changing work environments. This enables a wide variety of applications without requiring additional hardware, software, or integration.

Force Sensing: High acceptance among employees

Unlike most industrial robots that are position controlled, Sawyer permanently controls joint torque and position simultaneously. By monitoring both variables, Sawyer controls and feels the amount of force it applies in different directions, the same way people do when performing tasks, without the need to add sensors or additional hardware. In combination with his friendly eyes, Sawyer is popular among employees.



Intera® provides Extended Control

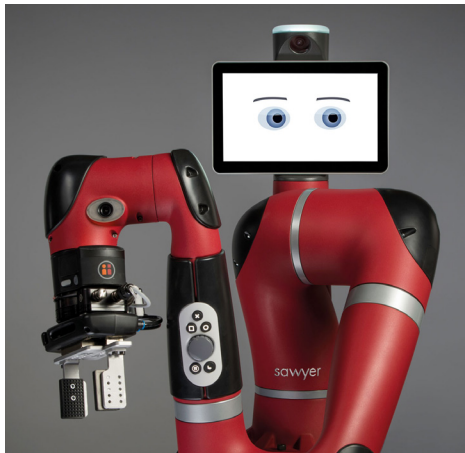
With Intera, Sawyer realizes the full potential of unique titanium flexures in each of its seven joints. The software platform provides advanced control of how the robot physically interacts with its work environment and lets it adapt to its environment easily. Sawyer's force sensing behaviors enable a quick and easy deployment, since it can be integrated into workspaces effortlessly and use fixtures designed for humans.

Target Applications

- CNC machining
- PCB handling and ICT
- Metal fabrication
- Molding operations
- Packaging
- Line loading and unloading
- Test and inspection

The Complete Collaborative Robot Solution

- Intera software – best-in-class Robot Operating Platform
- Embedded Cognex camera
- Robot Positioning System – dynamic reorientation using embedded camera
- ClickSmart gripper kits
- Global support with service hubs in Asia, Europe and USA



Basic Specifications	
Max Reach	1260 mm
Typical Tool Speed	1.5 m/s
Degrees of Freedom	7
Operating Temperature	5° C - 40° C, 80 % relative humidity
Joint Ranges	J0 - J3 = 350 degrees J4 - J5 = 340 degrees J6 = 540 degrees
Payload	4 kg
Power Requirements	100-240 VAG, 47-63 Hz, 4A Max
I/O Ports (Controller)	8 digital in / 8 digital out
Communication	Modbus TCP, TCP/IP
IP Class	54
Collaborative Standards	ISO 10218-1 :2011
I/O End of Arm	4 digital in / 2 digital out / 2 analog in / 24 V DC 2A, ClickSmart plate required

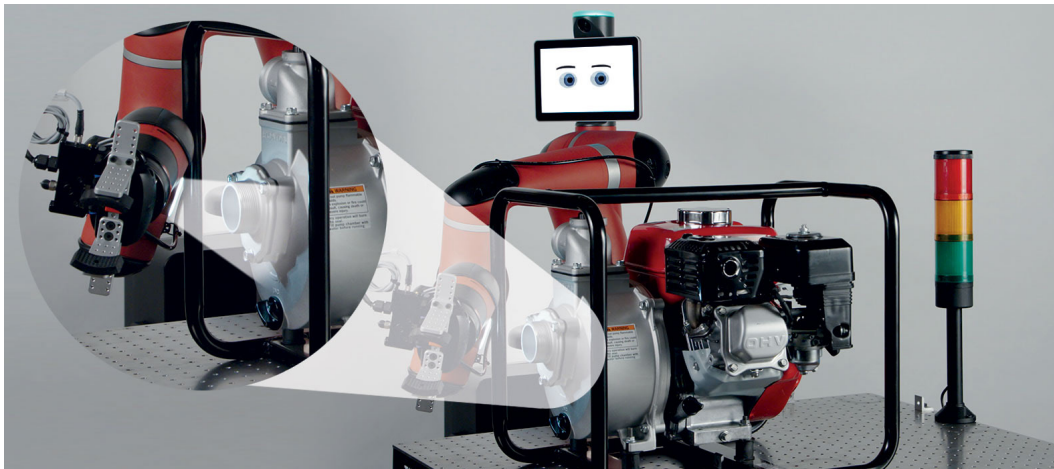


Intera[®]

The Force behind the World's Fastest to Deploy Robot

Technologies are converging to reshape how factories operate, learn, and connect. Rethink Robotics' Software Intera 5 is redefining the speed and ease with which manufacturers can effectively deploy automation.

Intera 5 is an approach to automation that's a gateway toward incorporating the industrial internet of things (IIoT) into your factory in a meaningful way and the first step toward a smart factory.





Intera[®]

The Software to Connect, Control & Coordinate

With the ability to connect and coordinate a work cell, Rethink Robotics' Sawyer is bringing a new level of intelligence to the factory floor.

The vision for a fully IIoT enabled factory is based on a series of steps toward automating specific work cells. With Rethink Robotics' software Intera 5, this journey begins by controlling the robot. The software provides a powerful, yet flexible interface to the robot, reducing integration time and the cost of deployment.

Intera 5 also serves as a central controller for other devices interacting with the robot, allowing you to train the entire work cell from a single location. When the entire work cell is controlled through Intera 5, data collection, aggregation, and analysis will lead to better decision making - paving the way for fully integrated IIoT.



High sensitivity force behaviors.

Adaptive decisions as a task is running.



Quick training for common tasks (patterns, signals, etc.)

Easy integration with existing equipment.



Dynamic registration using embedded camera.

Vision pick: static and moving conveyors.

HAHN GROUP

advanced automation

With the acquisition of Rethink Robotics' assets by the HAHN Group in October 2018, Rethink Robotics meets German Engineering. Rethink Robotics is now building on the know-how and experience of the HAHN Group, one of the leaders in the fields of industrial automation and robotics. The mission remains the same: By providing the reliable and safe cobot Sawyer in combination with the software Interæ 5, manufacturers will achieve greater productivity and with that Rethink Robotics GmbH will help manufacturers around the world automate more than ever before.

The **HAHN Group** consists of a network of specialized companies for industrial automation and robotic solutions. With its own production sites in Austria, China, Czech Republic, Croatia, Germany, Great Britain, India, Israel, Mexico, Switzerland, Sweden, Turkey, and the USA, the group currently has approx. 1,400 employees at 24 locations. Well-known customers from the automotive, consumer goods, electronics, medical technology, and healthcare industries benefit from the HAHN Group's 30 years of expertise and automation know-how. For more information, visit www.hahn.group/en



part of the **HAHN GROUP**

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