Collaborative weighing system utilizing ROS

Exhibition sponsored by: RT Corporation

- Robotic systems based on ROS by utilizing Denso robots

- In combination with the proprietary ROS package for image recognition of deformable objects developed by RT Corporation, Denso robots achieve automated food ingredient weighing, which used to be difficult

All Denso robots are compatible with ROS and ROS2

Denso robots are compatible with open-source software "ROS"; therefore, reduced development lead time and consistent quality of robotic systems can be achieved by utilizing open-source software developed in the ROS community

Denso robots are also compatible with "ROS2" developed for industrial applications, where real-time capability and high communication quality are required

The trajectory of a robot simulated with ROS can be tracked by utilizing the b-CAP Slave Mode of Denso robots

Denso provides support for the development of robotics in the open-source field by partnering with RT Corporation in ROS support business


Industrial 3D Sensors · Developer Tools · Denso Robot ros · Human Interfaces · Path Planning

ROS ROS 2

Applications

ROS is open-source software that contains tools and libraries for robotic system development.ROS is available to everyone, contributing to improved robotic system development speed. DENSO WAVE also creates and publishes packages for robots

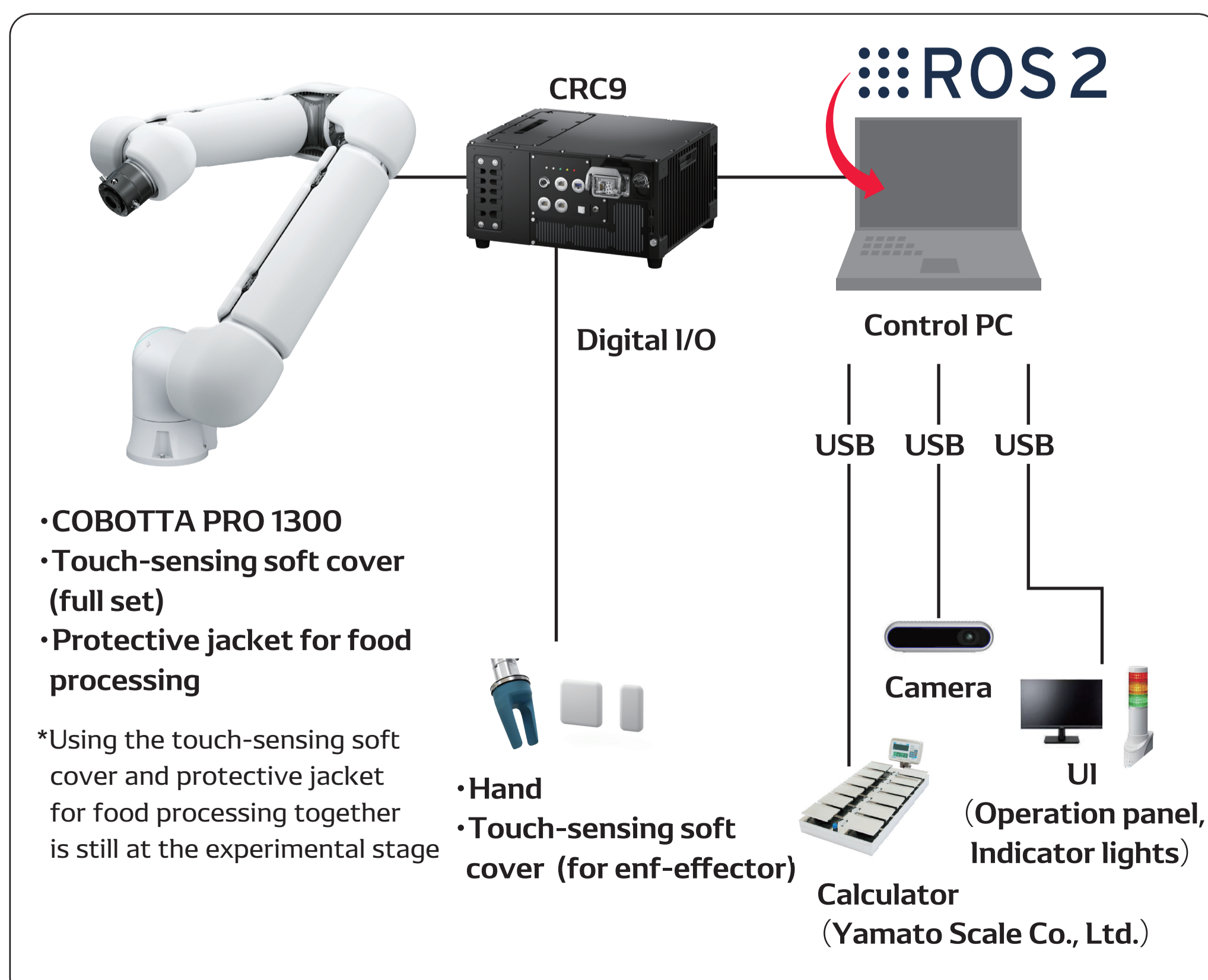## ROS-based collaborative weighing system for deformable food ingredients

By utilizing the proprietary image recognition technology developed by RT Corporation, gripping points of deformable food ingredients can be recognized by a 3D camera

ROS packages for Denso robots can access I/O and position information controlled by a robot controller.
Denso robots are controlled based on the image recognition result.
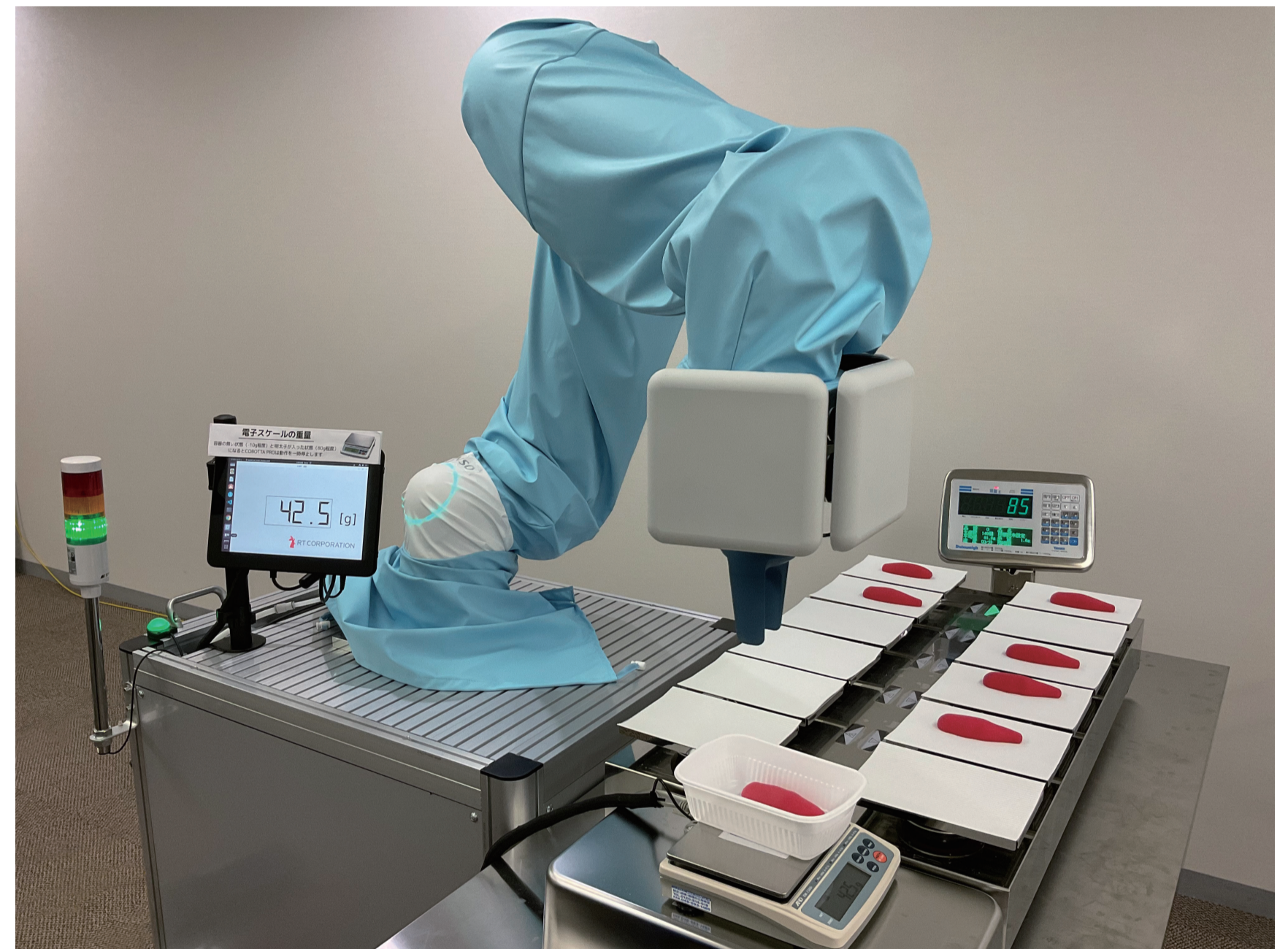
* A robot protective jacket for food processing allows a robot to be used for food processing where a strict hygienic environment is required

System configuration

CRC9

ROS 2

Digital I/O

Control PC

USB   USB   USB

·COBOTTA PRO 1300
·Touch-sensing soft cover (full set)
·Protective jacket for food processing

*Using the touch-sensing soft cover and protective jacket for food processing together is still at the experimental stage

·Hand
·Touch-sensing soft cover (for enf-effector)

Camera

Calculator
（Yamato Scale Co., Ltd.）

UI
（Operation panel, Indicator lights）

Touch-sensing soft cover `Optional`

Attaching this high-sensitivity soft cover increases the speed of collaborative operation to allow higher productivity.

Silicon cover

Hi-sensitivity built-in sensor

for end-effector

Models that cover the end effector are also available.