

# Dual Arm Robot Controller

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- ⇒ Technology for dual arm robot controller used in the industrial site in recently developed markets
- ⇒ Unlike existing vertical articulated robot, the robot has two arms and two end-effectors. The technology includes dual arm robot language and dual arm robot teaching function to reflect the changes.

### Client / Market

- Dual arm robot development companies
- Teaching pendant for dual arm robot development companies

### Necessity of this Technology

- Existing industrial vertical articulated robot had one arm and one end-effector, therefore the controller was used to teach and control only one end-effector.
- However, a dual arm robot has two end-effectors that it requires high-level controlling algorithm for two end-effector control, teaching method to teach both arms, and robot language for two arms.

### Technical Differentiation

- Direct teaching using partner relationship between the two arms
- Position and force control with the dynamics and kinematics algorithm for real-time control of the dual-arm robot
- The institute has been developing dual arm robot-related controller for 6 years since 2010.
- For application at industrial sites, experiments were conducted for various processes to improve completeness of the control algorithm and teaching method.
- Equipped with real-time control algorithm (dynamics, kinematics) for dual arm robot applicable for industrial robots

### Excellence of Technology

- By conducting research on application of dual arm robot in the industrial sites for 6 years, dual arm robot real-time control algorithm (dynamics, kinematics), dual arm robot teaching language and direct teaching function that the industries need were developed.
- The technology developed by the institute was actually applied on a dual arm robot, and its excellence was verified.

## DESIRED PARTNERSHIP

Technology Transfer

Licensing

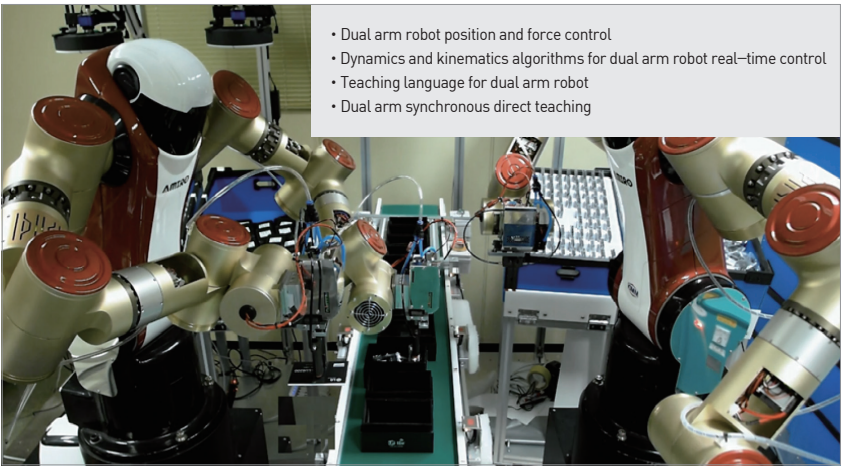
Joint Research

Other



## TECHNOLOGY READINESS LEVEL [TRL]

- |                             |                                     |                              |                       |   |                           |  |                                  |   |
|-----------------------------|-------------------------------------|------------------------------|-----------------------|---|---------------------------|--|----------------------------------|---|
| Research, basic explanation | Project concept or idea development | Technology idea verification | Prototype development | Trial product production/ evaluation in similar environment | Pilot field demonstration | Development and optimization of commercial model | Commercial product demonstration | Mass production and initial market launch |
|-----------------------------|-------------------------------------|------------------------------|-----------------------|---|---------------------------|--|----------------------------------|---|



### Current Intellectual Property Right Status

#### PATENT

- Robot Teaching Device (KR1263487)
- Dual Arm Robot Direct Teaching Method (KR1193211)

#### KNOW-HOW

- EtherCAT communication
- Realtime control