

# **MELFA Coding without** programming.

Reference exhibition

Teaching system with voice or natural language.

#### The concept of "teaching" for flexible production

#### Shortage of robot engineers

### > Simplified teaching for task instructions

- Direct teaching with voice enables system building even for non-experts.
- It enables to reduce significant costs from outsourcing system changes.

## Updating the cell for flexible production

## Easy prototyping

- Once verified in the collaborative robot, transition the same task to the industrial robot with voice commands.
- Iterate teaching to collaborative robots and replication to industrial robots realize flexible production.

# Challenging to modify the program

#### Easy to make partial changes later

• Content received via voice is structured and stored, allowing for easy instruction changes like "Change screw size from M3 to M4." "OK!"

#### **Example of operation change at a** manufacturing site

**①** Effortless setup and prototyping with collaborative robots.



\*This is in collaboration with THINKING ROBOTS INC. in Boston.



Define new screw type M3.

I will teach you how to assemble the circuit breaker.

Tighten the cover and ..., and screw it to ...

Then, transfer the work to the industrial robot.



#### **Automating the World**