# Higher Accuracy of Absolute Position and Trajectory

**Coming soon**
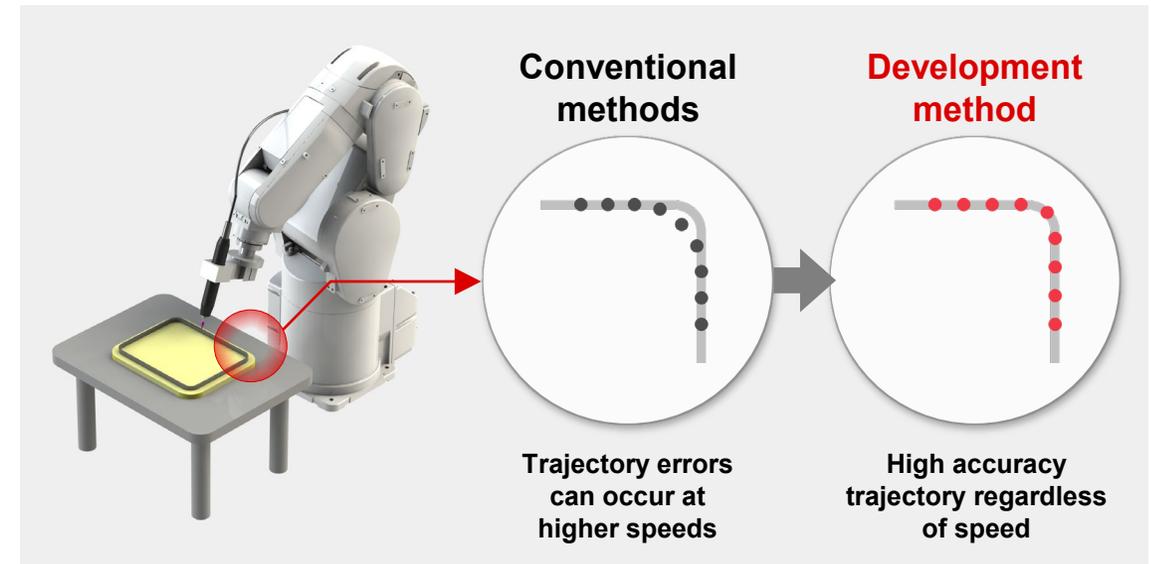
Improved end-effector trajectory control during arc and spline interpolations.

The trajectory does not change even if the operating speed changes, so there is no need for adjustment after teaching.

Realization of higher precision and shorter adjustment time for applications such as sealant application, cutting, etc.



Conventional methods

Development method

Trajectory errors can occur at higher speeds

High accuracy trajectory regardless of speed

MITSUBISHI ELECTRIC
*Changes for the Better*

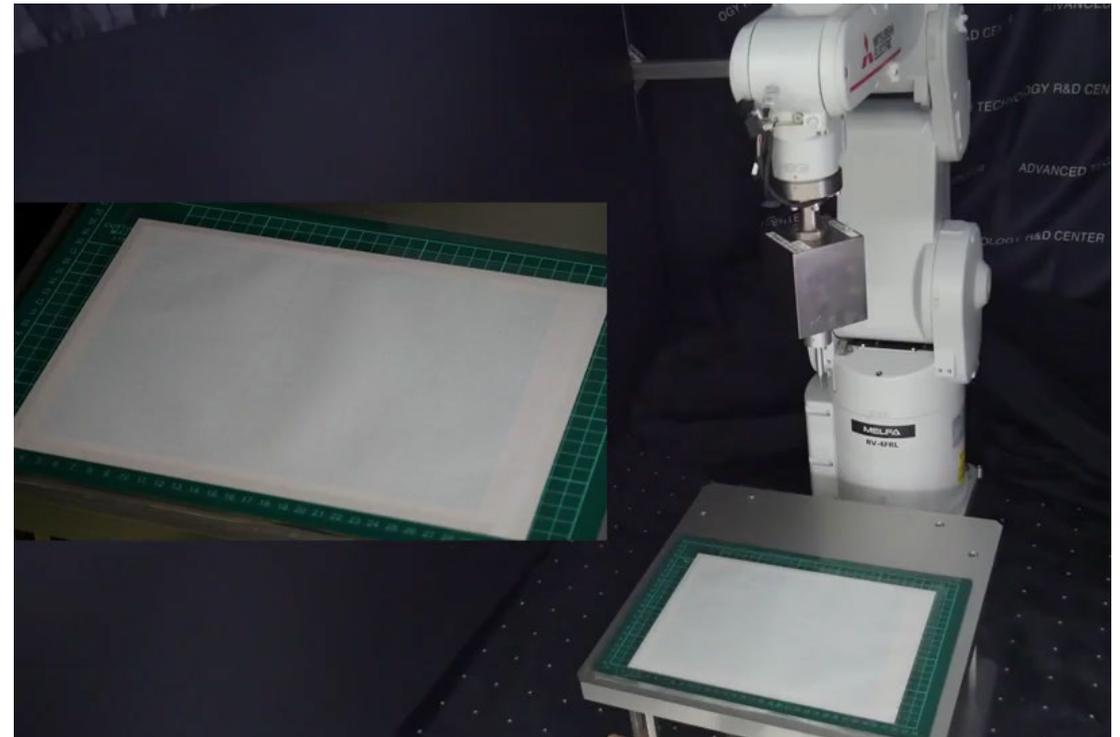# Higher Accuracy of Absolute Position and Trajectory

**Coming soon**

>> Image

Real-time correction of tracking errors and arm deformation to achieve higher accuracy.

Significantly improved trajectory accuracy around corners compared to conventional methods.

Applicable to any trajectory, including three-dimensional shapes.



**MITSUBISHI ELECTRIC**
*Changes for the Better*

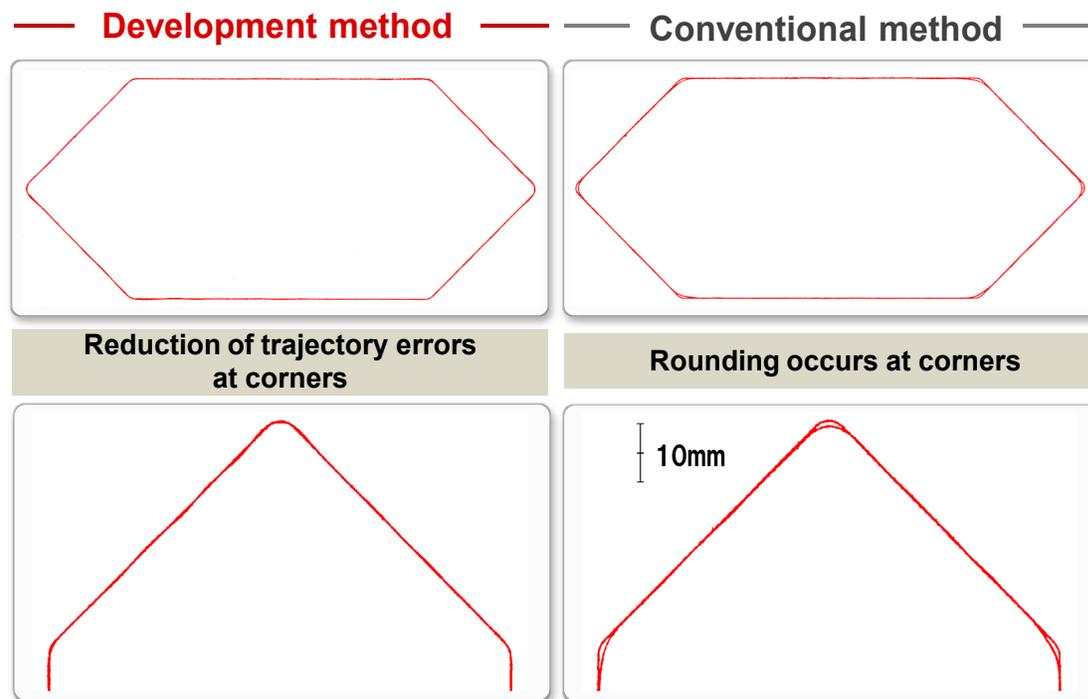# Higher Accuracy of Absolute Position and Trajectory

**Coming soon**

Image

**Real-time correction of tracking errors and arm deformation to achieve higher accuracy.**

**Significantly improved trajectory accuracy around corners compared to conventional methods.**

**Applicable to any trajectory, including three-dimensional shapes.**

—— Development method —— | —— Conventional method ——
---|---

| Reduction of trajectory errors at corners | Rounding occurs at corners |
|---|---|

10mm

Reduces trajectory errors by up to **80%**

**MITSUBISHI ELECTRIC**
*Changes for the Better*

# Higher Accuracy of Absolute Position and Trajectory

**Coming soon**

Automatic adjustment of robot kinematic geometric parameter model by using measurement data of tool tip position.

Reduces the absolute position error to less than 1/10th of compared with before adjustment. Reduces the absolute positioning error of the tool to less than 1/10th of conventional methods.

There is no need to teach robot manually for matching an actual path with the command path Trajectories created with CAD data do not need to be corrected in the real environment, reducing teaching time.



Command Trajectory

Measuring tool tip position

Calibration in advance for each robot

Deviations and distortions between the command path and the actual path

**Adjusted Robot kinematic model**
Model parameters
・Link length
・Tool parameters
…

Removes deviation and distortion

**MITSUBISHI ELECTRIC**
*Changes for the Better*