Why SCARA?
A Comparison between 3-axis r-theta robot vs. 4-axis SCARA robot
The 3-axis r-theta robot is the mostly adopted wafer handling robot for decades in semiconductor industry, people would wonder why shall they change to SCARA (Selective Compliance Articulated Robot Arm) type if current robot “didn’t break, why fix it?”

In addition to the 30~50% higher throughput with its motion blending feature, SCARA also provides reduced tool footprint for many applications.
R-Theta vs. SCARA

**Competitors’ R-Theta**

(Limited Range of movement, has dead zones)

Forearm and aftarm are mechanically coupled equating to less range of movement. R-Theta robots can not do a linear move in an arbitrary x/y direction.

**IR-820 SCARA**

(Selectively Compliant Articulated Robot Arm)

Each of IR-820’s three independent Theta axes rotates $640^\circ$ eliminating “dead zones, requiring smallest footprint.
EFEM Footprint

R-Theta vs. IR-820 SCARA

EFEM with traditional R-theta Robot

EFEM with SCARA Robot

~ 10% footprint shrinkage!
Sample 2-FOUP Layout

IR-820 can improve your footprint and reach higher throughput
IR-820 fits in the smallest space possible and doesn’t require a track for 3-FOUP reach

NOTE: End-effector length: 12”