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IRB14050 Single-Arm YuMi®

Product Introduction

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Value Proposition

The newest member of the YuMi family - IRB14050 Single-Arm YuMi

Single-arm YuMi is ABB's most agile and compact collaborative robot yet, and can be easily integrated into any production environment.



Key Features – Single Arm YuMi IRB14050

Launch at Automatica June 2018, Start of sales Nov 2018

Key features

- 500g rated payload
- Small footprint, 7-axis dexterity
- Very lightweight manipulator, 9.6 kg
- Mounting in any position
- Integrated Gripper with Vision and Vacuum
- Best-in-class safety design
- High speed and accuracy
- Optional SafeMove 2 Pro



**New External
Compact Controller
and New FlexPendant**



Customer Benefits

- Flexibility - Easier than ever to integrate into any type of production layout
- Fast and agile - can be combined to reach short cycle times
- Best-in-class safety design - facilitates fenceless operation
- Easier to teach - using Lead through and the new teach pendant
- Integrated SmartGripper - vision, vacuum and servo functions available
- Lower investment, shorter ROI



Why Collaborative Robots?

Main customer drivers for Collaborative Robots

Increase output/reduce labor



Collaborative robots are shifting the traditional limits of “what can be automated”

Robots and human workers collaborate, each doing what they do best to achieve higher productivity together

Adapt to low volume/high mix



From mass production to mass customization

Add automation to existing lines with limited space without changing layout

Ability to carry out different tasks, quick changeover

Enabling SMEs to automate



Small footprint, lightweight, easy to use and can work side-by-side with human co-workers

Robots can be programmed in-house, without hiring specialists

Lower total investment leading to shorter ROIs for automation

Key Characteristics of Collaborative Robots

What makes a good Collaborative Robot?

Safety



- Safety design: YuMi best-in-class
 - No pinch/trap points
 - Rounded padding
 - Integrated cabling
 - Light weight
- Safety through robot controls

Ease-of-use



- Easy and intuitive Lead through programming
- Integrated SmartGripper with vision, vacuum and servo gripper
- Built-in sensing capabilities such as integrated vision and force control

Productivity



- High speed: YuMi best-in-class with 1.5m/s
- High precision 0.02mm
- Path accuracy, superior motion control
- Application engineering support
- Reliability, robustness & customer service

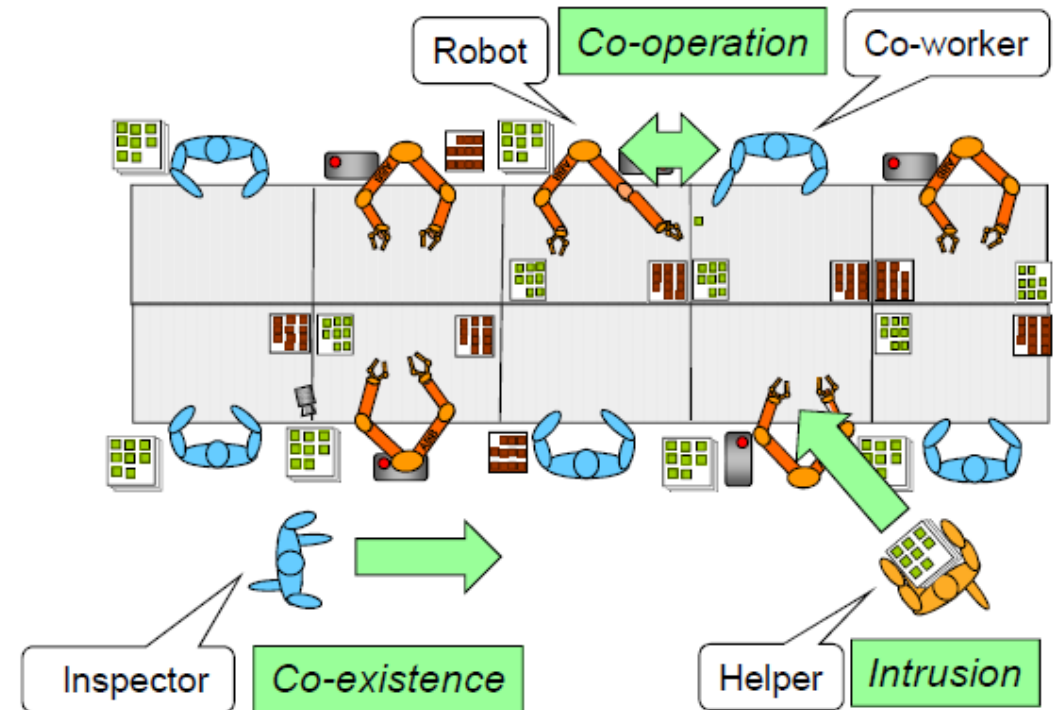
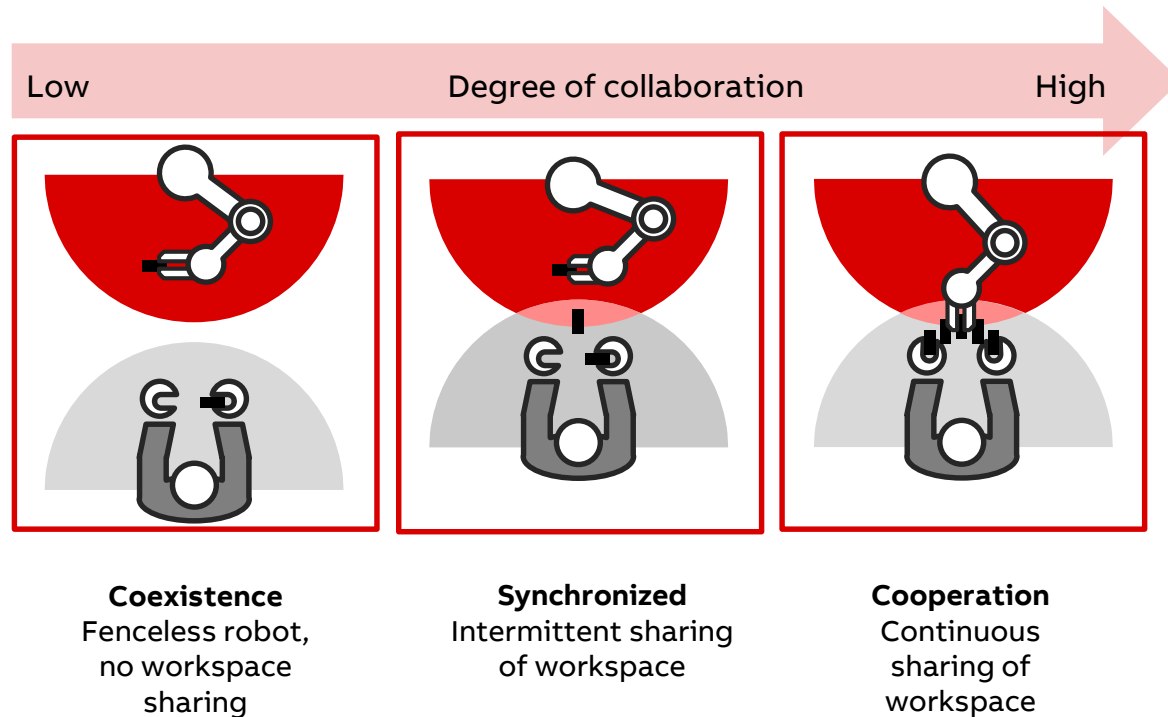
Flexibility



- Light-weight, small footprint, mobile
- Easy to redeploy to adapt to flexible manufacturing
- Lower integration cost/faster ROI
- RobotStudio, offline programming, virtual commissioning

Different Types of Collaborative Operation

The YuMi family with its superior safety is perfect for close Cooperation



YuMi – Market Leading Safety Concept

Unique Safety Concept based on Inherently Safe Principles

YuMi – The Inherently Safe Robot

Mechanical measures:

- Lightweight magnesium arms
- Low Payload (0.5kg)
- Padding
- No pinch points
- Back-drivable brakes
- Collision detection (Software Comfort Function)
- Safely designed “hand”

Controller Safety Functions

- PL d Cat 3 Protective stop and emergency stop
- Supervised speed at hand and elbow with max. 1500 mm/s
- SafeMove 2 as option for additional safety functions



Safe by design

ABB's Collaborative Robot Portfolio

ABB Offering

Inherently Safe & Truly Collaborative

- Unique robots designed based on inherently safe principles
- Robots able to share workspace with human continuously
- External sensors or fences not required*
- Robot can maintain high working speed and still make safe contact with human



Higher Performance, Intermittent Collaboration

- Robots have higher payload and/or speed
- Suitable for intermittent collaboration
- SafeMove 2 + external sensors ensure human safety
- Robot will adjust speed depending on distance to human and stop before contact



From truly collaborative to higher performance, ABB offers different solutions to suit different collaborative operations, always with safety and productivity in mind

ABB