
ESAB
WE SHAPE THE FUTURE
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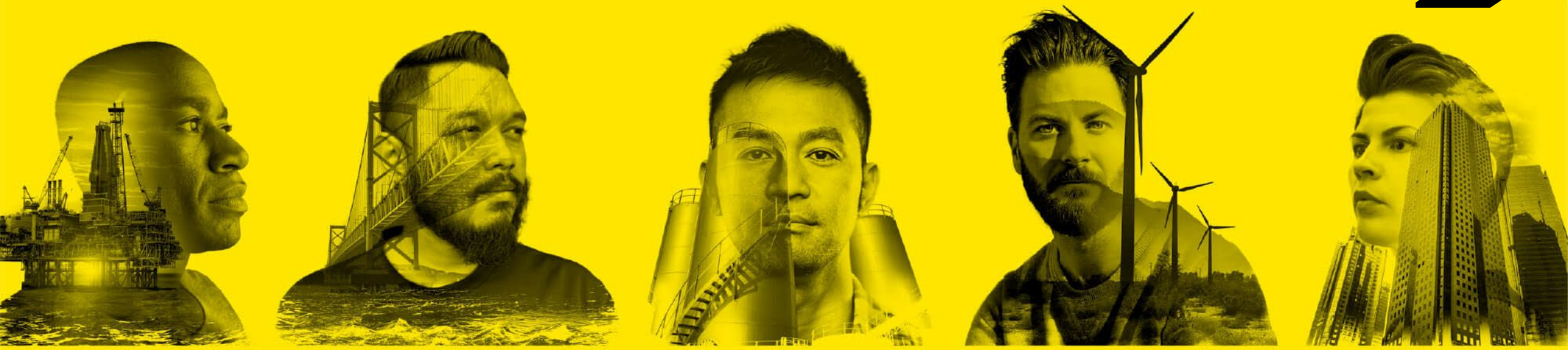


# ESAB COBOT

# ESAB ARISTO EDGE ROBOSYSTEM

**RoboFeed Edge- Wire Feeder**

Lightweight / small dimensions

ESAB TAP connector

Shielding Gas Managment

Powerful motor

**Aristo Edge 500R**

High Duty Cycle

Improved welding performance

Carbon Steel, Stainless Steel, Aluminium

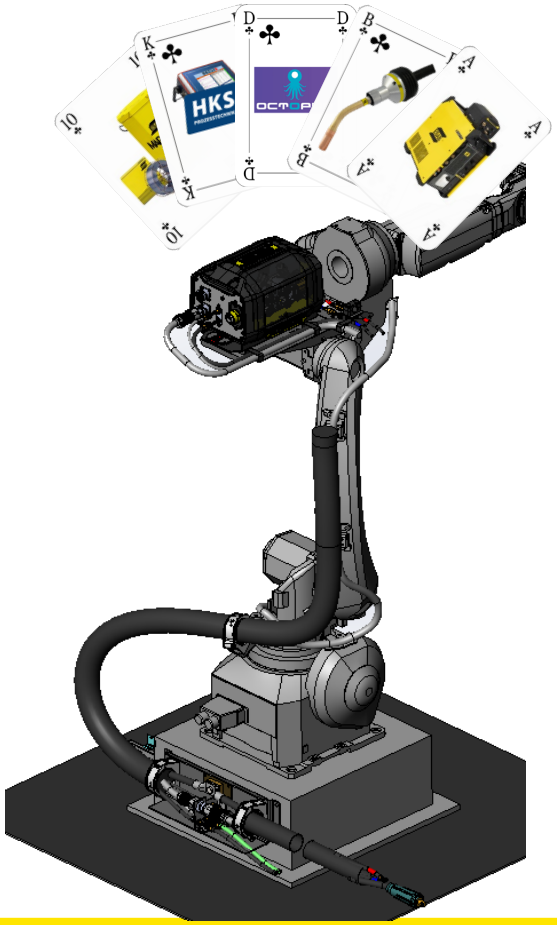
**AGT EDGE - Gateway**

Easy Integration

Versatility - All brands compatible

High speed  seam Tracking


**Added Value by WeldCloud, HKS, OCTOPUZ**

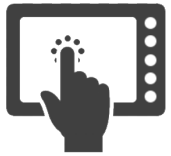



**Edge  RoboticTorch System**

ESAB True Arc Pin

High Duty Cycle

High Precision Tool Center Point (TCP)



**ESAB Connect  / HMI**

Webbrowser based

Intuitive usage

Continuous improvement

**Accessories**

Dress Kits for common robot brands

**Cleaning Station**

JetStream

Reamer Cleaning Station

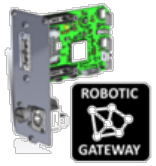
# ESAB ARISTO EDGE ROBOSYSTEM

### Precise and high reliability feeder

- Lightweight
- High performance motor & wire break
- Digital I/O for communicating with additional end of arm tooling
- Precision gas system


### Process package built for heavy use

- 500A @ 60%, 400A @ 100%
- Feeder
- Torch design
- Torch connector




### Growing number of tailored welding processes

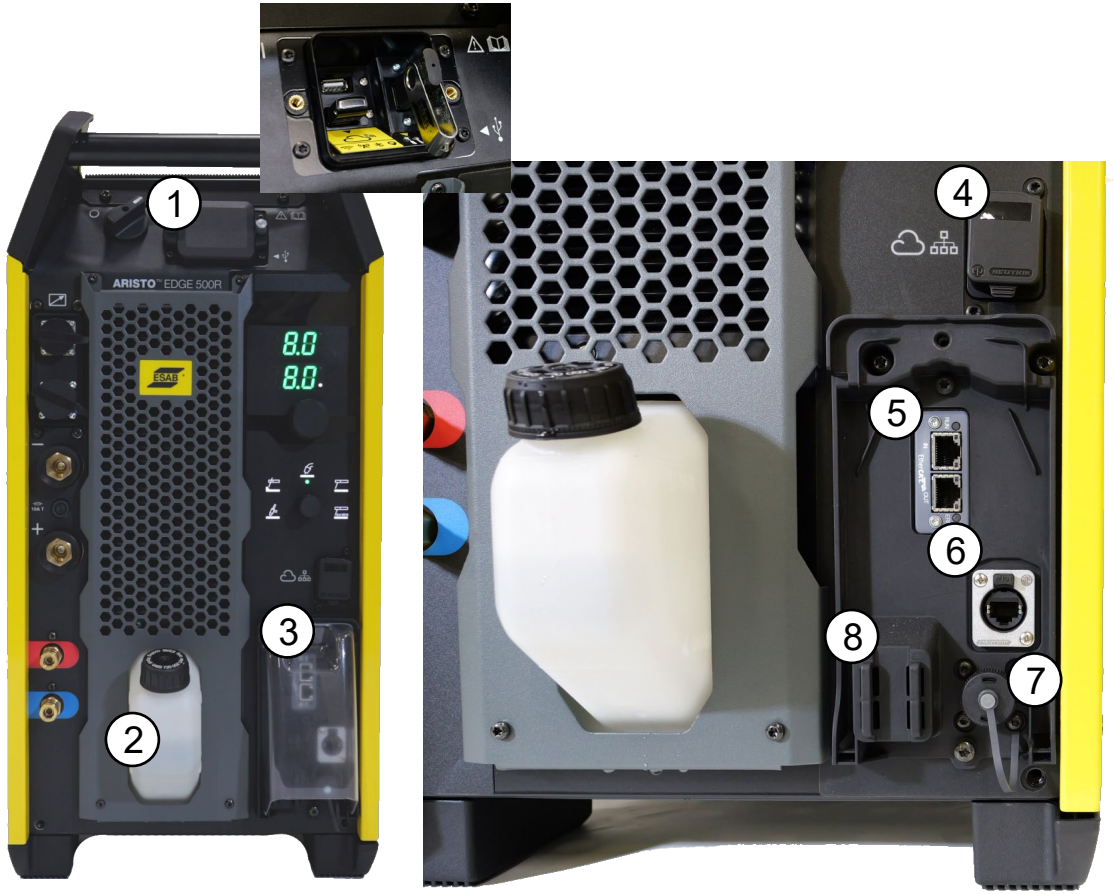
- Advanced Pulse welding
- Thin
- Speed
- Root
- Craft

### Improved usability

- HMI
- Front Cables & feeder bracket
- TAP and buttons
- Slot-in ATG
- IoT Gateway for WeldCloud
- Easy Maintainance

# ARISTO EDGE 500R

- Easy Access Point (1)
  - USB Software update
  - USB WiFi Dongel
- Integrated Cooling Unit (2)
  - Compact dimensions
  - No installation of cooling unit is needed – ready to use
- Integrated IoT Gateway with free license for WeldCloudFleet (3)
- Access point for HMI / Network (4)
- Automation Gateway with AnyBus Modul (5)
  - No installation of Gateway needed
  - Easy installation of standard AnyBus Modul
  - Service Point Access (6)
  - Direct I/O for Safety-Off-Mechanism and Touch Sense (7)
- Strain relieve (8)



# ROBOFEED EDGE

Precision gas management

High performance motor w/ 0- backlash gears

Wire inching by forward length

High speed communicatio ns

Digital I/O to control external equipment

Lightweight / small dimensions

Quick-connect fittings

Quick-mount adjustable bracket

Integrated Wire Brake Function

Nozzle and wire sense

High visibility interior with feeding indivador

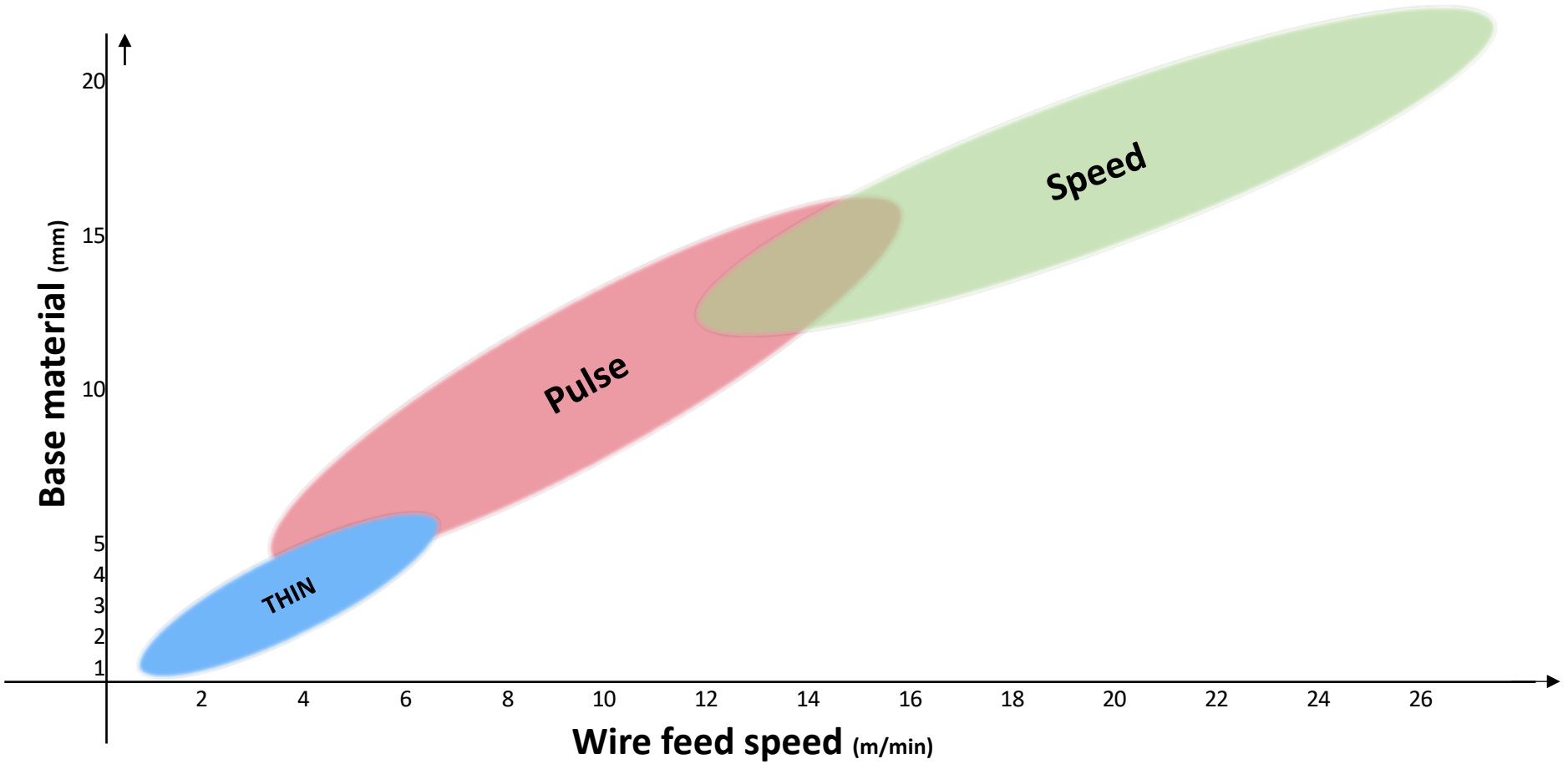
ESAB TrueArcPin (TAP) with unique benefits or EURO available

# TRUEFLOW - DIGITAL GAS CONTROL

- Provides **Easy** setting of gas flow, directly from the wire feeder, typically set up by the weld-enginer
- Giving **consistent** results, no matter the gas, cables/torch used or input pressure in the system, no pre-calibration or re-calibration needed
- **Save gas with every weld**
  - Saves considerable amount of gas during starts, especially when cables are a bit longer
  - Being able to set exact flow saves gas during the entire weld
  - Each pre-set JOB can have its unique flow setting
- **WPS adherence** becomes easier when you don't need the welder to validate the flow
  - No extra margin is needed either so with the flow precision comes saving during the weld
  - Avoiding the gas surge improves the shielding gas protection at weld starts for improved quality
- **Trust** that you got the right flow
  - Once set the system will deliver right flow and warn if right flow cannot be achieved
    - During pre-flow time system will sense if it can achieve set flow, if not system will not initiate weld
    - During welding system will detect if insufficient gas flow is detected and perform a controlled stop with end-sequence if needed
    - Sudden pressure drop (if gas hose gets damaged), immediate stop of welding

# WELD MODES

# ARISTO EDGE WELDMODES




Fe - 1.0 mm Shielding gas - M21 - Typical construction element - S355/S420

# ARISTO EDGE WELDMODES THIN

**Problems addressed (Need)**

- As a welder I get spatter using short-arc process and the plate is deformed when welding sheet metal.

**Application**

- Thin plate/sheet metal, t: 0,8-3 mm
  - Corner, overlap, fillet

**Driver**

- Reduce deformations
- Reduce spatter

**Verification**

- Carbon steel,
  - t:0,8 mm - 3mm. Fillet, PB, overlaps
  - Solid wire 0,9mm (.035”), 1,0mm (.040”), 1,14mm(.045”) and 1.2mm (.047”) Ar+15-20%$CO_2$

## Market claims:

- **Reduced spatter**
- **Lower heat input and reduced welding distortions**
- **Increased process stability**

# ARISTO EDGE WELDMODES SPEED

**Problem to address (Need)**

- Out of the box weld mode for good control in the high parameter range.

**Solution**

- CV control with a low amplitude high frequency pulse overlay that improves metal transfer

**Market claims:**

- **Higher thermal efficiency and focused arc**
- **Better control of weld pool at higher travel speeds**
- **Deeper penetration**
- **Ability to weld in more narrow gap joints**

**Driver**

- Increased productivity requirements

**Application & Market**

- Fillet welds
- Reduced bevel, <40° included

**Result for the welder**

- Focused arc with improved control in higher travel speeds
- Reduced amount of spatter
- Deeper more focused penetration in fillet welds
- Ability to weld in more narrow grooves

# ESAB TEACH TOOL

## AUTOMATE YOUR WELDING

- **ESAB Teach Tool (Programming Flange) :**

Use the Programming Flange to show your robot how you want the job done.

**All you need to get the job done and deliver perfect welds**

- Tool is a user-friendly cobot welding package, catering to various welding tasks.
- Its program structure ensures exceptional flexibility, allowing for effortless incorporation of weaving patterns, offset items, stitch welds, or multipass welding.
- Compatibility with both CB and e-series robots as well as the new UR20 means that all features function across all UR's robot types.

UNIVERSAL ROBOTS+ Certified

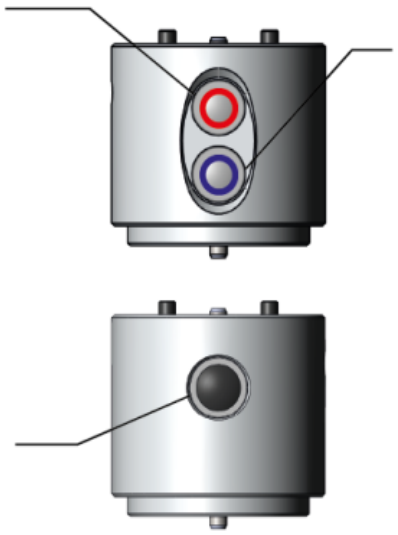
- **User-friendly interface:** Intuitive No-code programming
- Step Through guide: Guides you through the programming step by step

# ESAB TEACH TOOL

## Path teaching / No Code programming

- 3 buttons
- 2 Program buttons and 1 break release button
- Guidthrough menu

**Circular button**
**Short press:** Create new circular segment.
**Long press:** Delete previous segment.



**Linear button**
**Short press:** Create new linear segment.
**Long press:** Jump to next mode.

**Freedrive**
Activate freedrive which allows the robot to be pulled around.

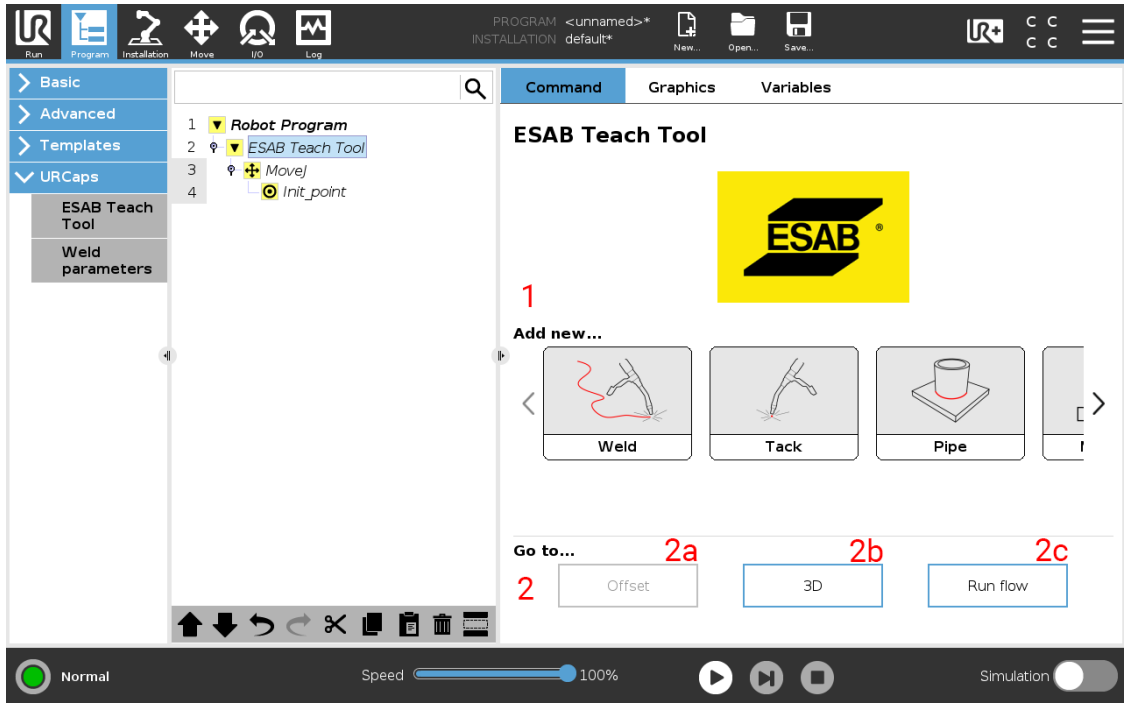


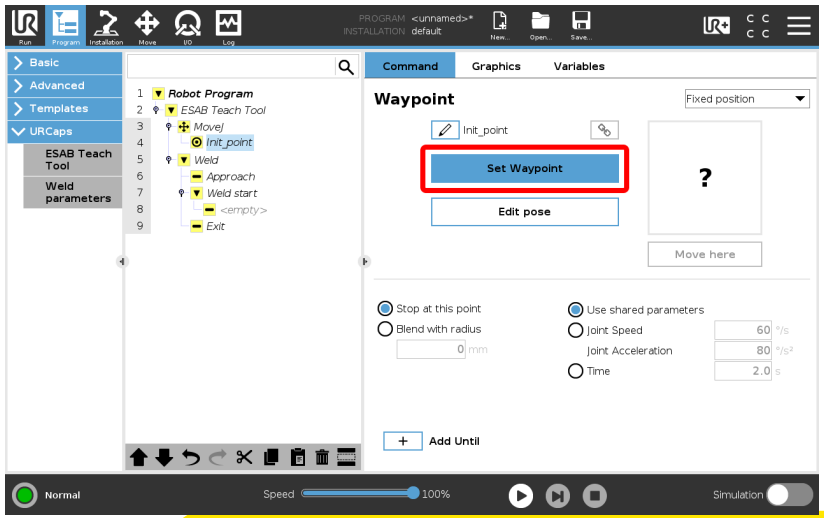
IF YOU CAN COUNT TO THREE YOU CAN PROGRAM ME

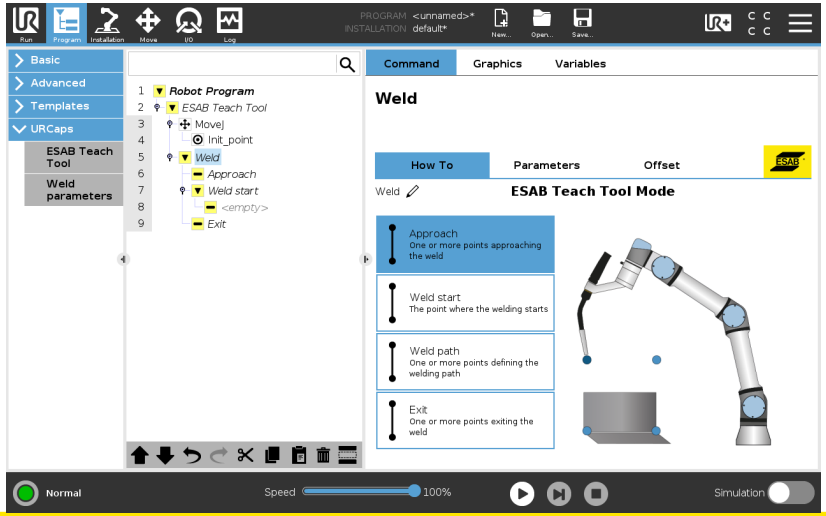
# ESAB TEACH TOOL

## Guidthrough menu

- Set away point
- set program / teach mode
- Select Weld and how to
- Guidthrough menu






"30 seconds is all it takes to weld precision into performance."

# ESAB TEACH TOOL

## Advanced Features

Made easy by the touch of a button

**Multi-PassWelding**

Enhance your workflow with custom multipass welds

**Feature benefits:**

- Quick and easy setup of the number of passes, their individual length and other weld parameters
- Ability to save your multipass weld settings for future use
- The fully customizable Multipass system ensures smooth and efficient delivery of strong and reliable multipass welds

# ESAB TEACH TOOL

## Advanced Features

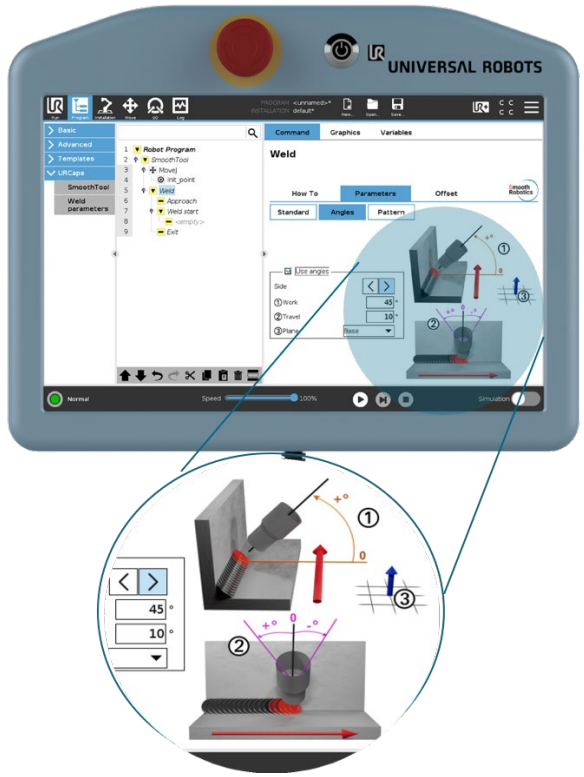
Made easy by the touch of a button

### The Angle System

Set your desired work and travel angles with ease and precision

### Feature benefits:

- Achieve superior weld quality with consistent angles of the torch throughout the whole weld
- Precise manual angle programming is no longer required
- Complex welding scenarios such as corners are effortlessly handled by error-free angle control



# ESAB TEACH TOOL

## Advanced Features

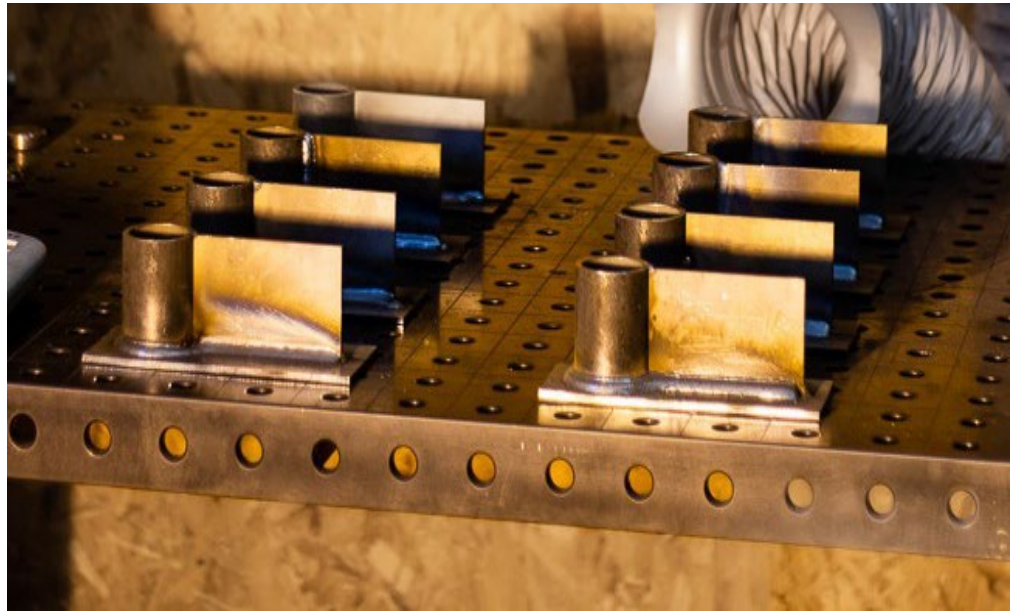
Made easy by the touch of a button

**The Offset Feature**

Simply copy and paste your welding

**Feature benefits:**

- Cconveniently relocate your welding program to a new location by copying your existing program and placing it elsewhere
- Precise control over offset adjustments in the X, Y, Z dimensions, and orientation
- Streamlined program relocation with the intuitive three-point offset method guarantees a seamless user experience



# ESAB TEACH TOOL

## Advanced Features

Made easy by the touch of a button

### Weaving patterns

Weaving made easy with ESAB TeachTool

- **Feature benefits:**
- Achieve desired results with four main weaving patterns: Trapezoid, Zig Zag, Circles and Crescent
- Streamline your weave bead welding with full and precise control over the torch movement with each pattern
- Applicable on both linear and circular weld segments


**Welding Weaving Pattern Comparison**

| Pattern | Fusion | Heat Input | Speed | Typical Use |
|---|---|---|---|---|
| Trapezoid | ✅ Strong sidewall | 🔥 High | 🐢 Slower | Multi-pass, deep welds |
| Zig-Zag | ⚠️ Moderate | 🔥 Medium | 🚀 Fast | Fillets, sheet metal |
| Circular | ✅ Full penetration | 🔥🔥 Very High | 🐢 Slower | Pipe, pressure vessels |
| Crescent | ✅ Good tie-in & blend | 🔥 Medium-High | ⚖️ Medium | Aluminum, stainless |

# ESAB TEACH TOOL

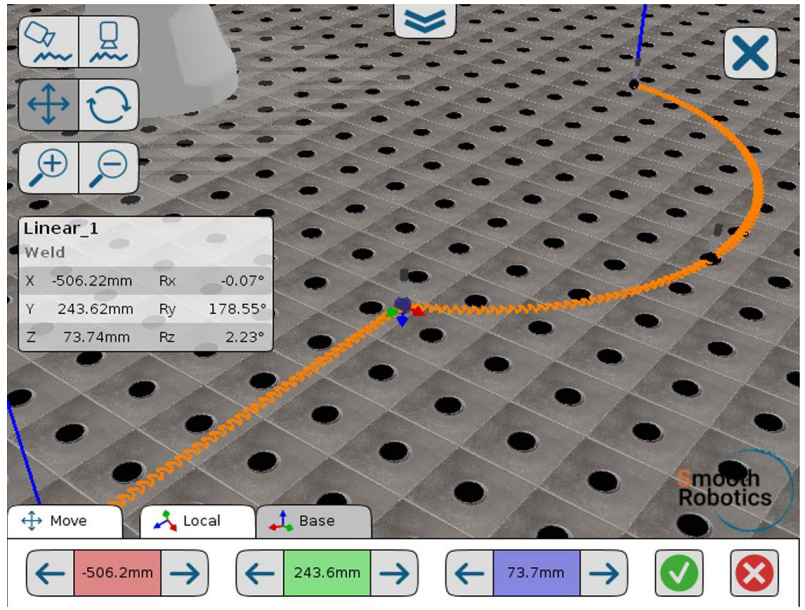
## Advanced Features

Made easy by the touch of a button

### 3D Universe

Prevent errors by visualizing your welding path

- **Feature benefits:**
- Gain better understanding of your welding path and programming decisions with the ability to preview and correct your welding program
- The “touch-up” function enables you to make adjustments by moving points in the 3D space and modifying torch angles
- A welding table and robot base can be incorporated into the scene to provide a tangible and scaled environment for your convenience



# ESAB TEACH TOOL

## Advanced Features

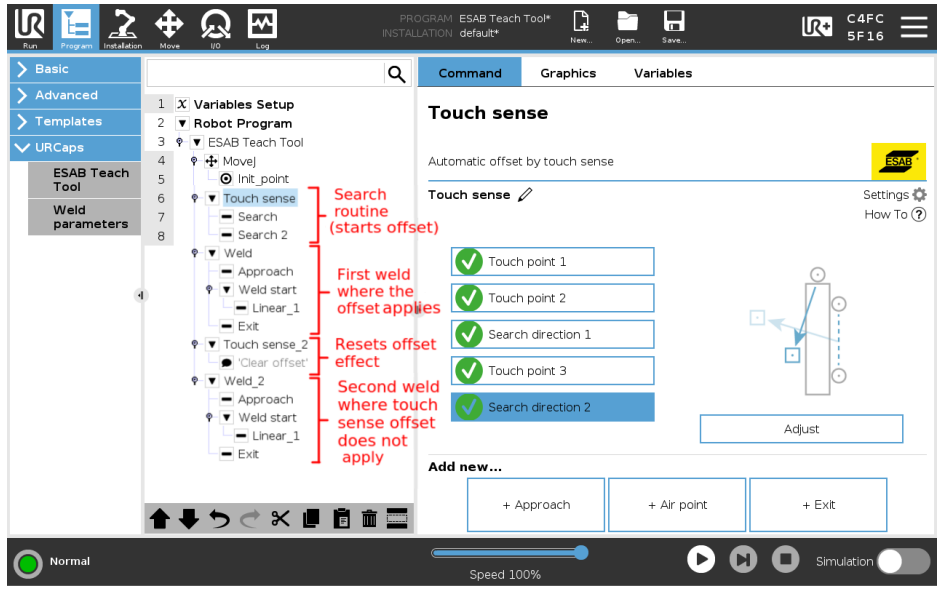
Made easy by the touch of a button

### Touch sense“

- The welding system detects the exact position of the workpiece by making electrical contact with it.This helps compensate for variations in part placement, ensuring accurate weld positioning.

### How It Works:

- Initial Contact: The welding torch (or wire) lightly touches the workpiece at predefined points.
- Electrical Circuit Completion: When contact is made, the system detects the exact location.
- Offset Calculation: The robot or welding system adjusts its programmed path based on the detected position.
- Accurate Welding: The adjusted path ensures that the weld is applied correctly, even if the workpiece is slightly misaligned.




### Benefits:

- Compensates for fixture and workpiece tolerances.
- Improves weld accuracy and consistency.
- Reduces scrap and rework by minimizing misalignment errors.
- Works well for applications where parts have slight variations.

# ESAB TEACH TOOL

## Advanced Features

Made easy by the touch of a button

### Surfacing

A feature that covers both hardfacing and cladding, it allows the user to create programs covering large surfaces easily and quickly. The surfacing feature is separated into three sub types, one designed to handle flat surfaces and two capable of handling curved surfaces.

### How It Works:

- Select surface type Flat or curved
- The surfacing wizard will be a guide through all the mandatory points that must be set, in order
- to create a valid surfacing program.
- Select or de-select outline
- Set number of passes
- Outline separation/overlap
- Start Offset
- Infill mode Standard or Mesh pattern

### Advantages:

- Surface Enhancement improves wear, corrosion, heat, or impact resistance of components.
- Cost Efficiency extends the life of expensive parts, reducing the need for full replacement.
- Various application types hardfacing (wear resistance), cladding (corrosion resistance), or build-up (restoration).
- Wide range of materials uses carbon steel, stainless steel, cobalt-, nickel-, or carbide-based alloys.
- With or without overlap or Mesh pattern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