

Increased Welding Productivity

Effortless No-Code Programming

Extensive Integration Options

Consistent Quality of Welds

# SmoothTool

MADE FOR WELDING

Smooth  
Robotics

# Cobot welding increases your throughput

## Future-proof your offerings and welding capabilities

If you are looking to automate your manual welding and have high mix and low volume parts, a cobot welding solution is the right choice for you. With the strength of being flexible, reliable, and built to cooperate in a shared workspace the cobot welding solution is a powerful tool for any welder or operator. It comes with a programming interface that is easy to use and a guarantee of consistent welds.

## Experience the Power of Collaboration

Cobot Welding systems are specifically designed to work alongside human operators, enhancing productivity and efficiency. By harnessing the strength of collaboration, this state-of-the-art technology ensures a harmonious and synergistic working environment.

## Cobot welding is your solution to:

### Lack of skilled welders:

Give your welders the best tool for maximizing their efficiency

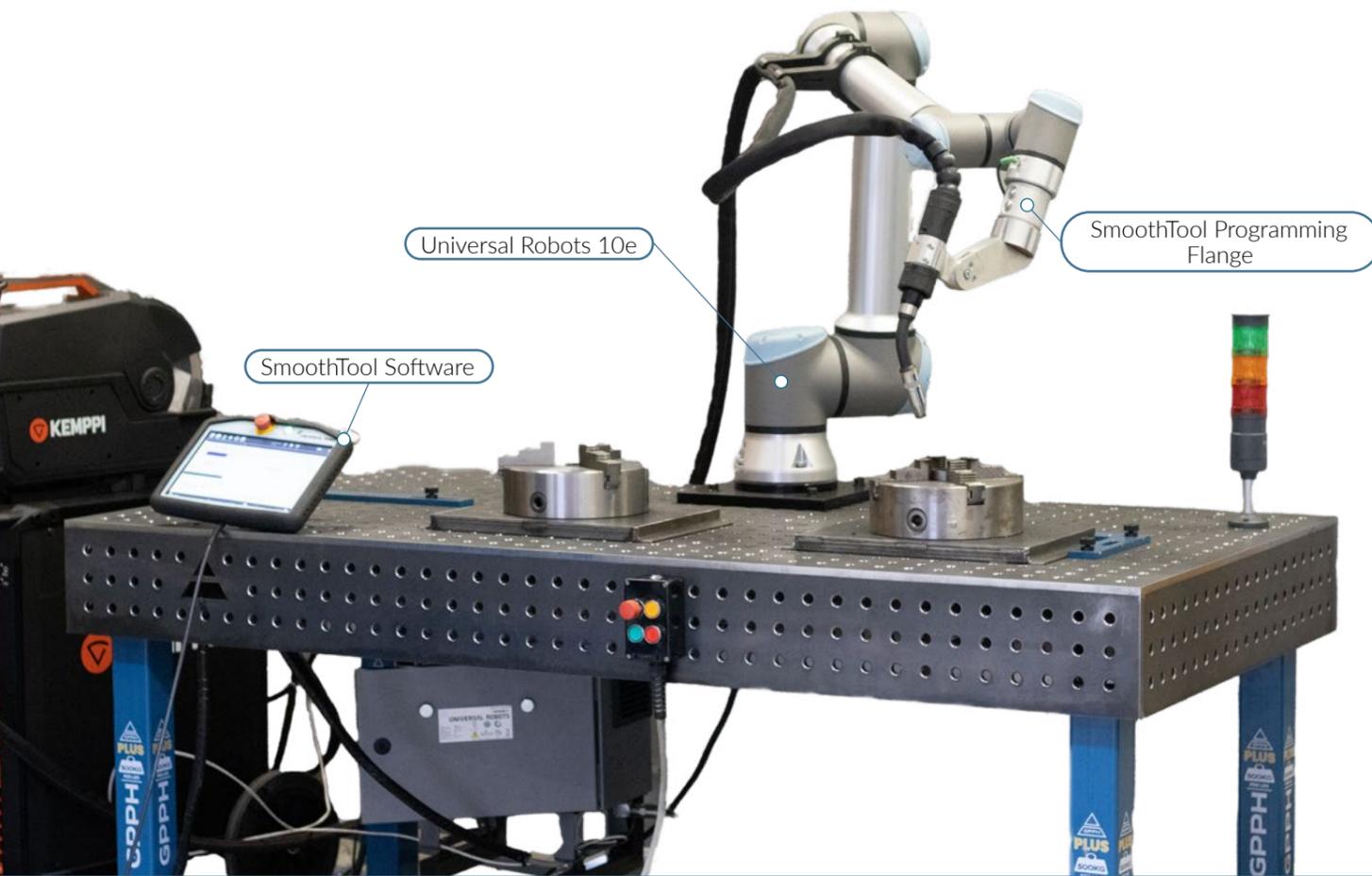
### Repetitive welds:

Consistently delivers high quality results for long or repetitive welds

### Changing demands:

Highly adaptable solution that enhances market responsiveness





# Cobot welding: how does it compare to other solutions?

Cobot welding, manual welding, and traditional welding automation with industrial robots represent distinct approaches to welding in manufacturing.

Cobot welding involves collaborative robots working alongside human operators, enhancing efficiency and productivity of the staff.

Manual welding relies on skilled labor for precise control in application but may be less consistent.

Welding automation with industrial robots employs programmed machines offering consistency in high volumes but often requiring significant initial investment, programming experts and inflexibility for small batches.

**Cobot welding is bridging the gap between manual skill and automated precision, catering to diverse manufacturing needs with agility and cost-effectiveness.**



## Traditional welding automation

- Provides high speed and productivity for large-scale productions with minimum changeover
- Requires a dedicated welding cell due to high safety risks
- Removes the need for welders but creates demand for skilled programmers instead



## Cobot welding

- Suits productions with high mix of sortiment in smaller batches
- Equips the welder with an effective and precise tool to take care of repetitive tasks enhancing productivity and weld quality
- Relies on human input but removes the need for recruiting more welding experts



## Manual welding

- Delivers maximum efficiency in high-mix of welding tasks but suffers from diminishing results for larger batch sizes
- Requires skilled welders who are expected to reach consistent weld quality standards over long periods of time
- Least cost-extensive option but vulnerable to scarcity of workers

Explore which type of welding application is the most suitable for your production



Best Fit	Traditional Automation	Collaborative Welding	Manual Welding
Mix	Low	Moderate to High	High
Volume	High	Low to Moderate	Low
Robotics Skill	High	Low	None
Welder Present	No	Yes	Yes
Investment	High	Moderate	Low

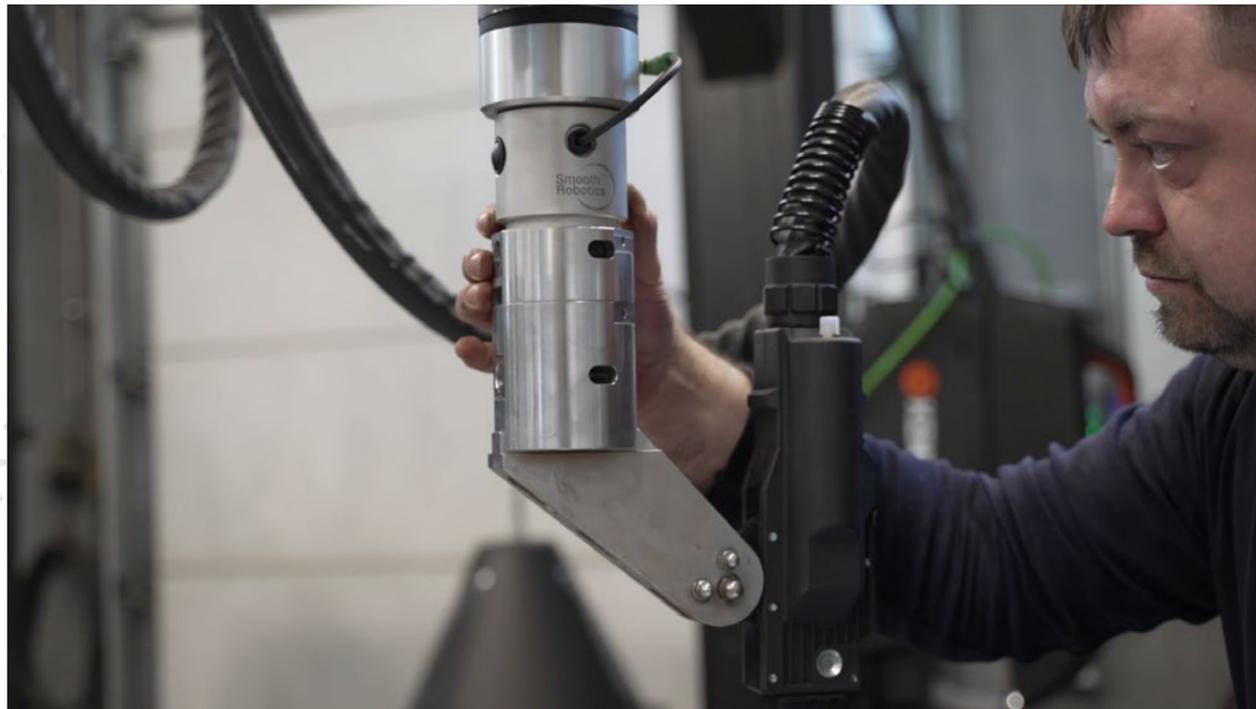
# SmoothTool automate your welding

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

SmoothTool is a user-friendly cobot welding package that is easy to learn and navigate, which makes the transition to welding with a cobot seamless for any welder. It offers a wide range of functionality catering to a variety of welding tasks.

Its program structure ensures exceptional flexibility, allowing for effortless incorporation of numerous weaving patterns, offset items, stitch welds, or multipass welding.

The 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.



## SmoothTool benefits:

A welder can operate the welding cobot without assistance and programming knowledge

The welding program can be set up solely by using the programming flange, hence becoming the welder's best tool

SmoothTool's features are developed with the welder's user experience in mind and continuously enhanced based on user input



Learn more about SmoothTool





## Integrate with your preferred power source

Choose from our list of pre-integrated power sources or use your existing power source with an I/O setup

SmoothTool comes with a number of plug-and-produce-ready power source integrations. Besides these, I/O and callback functions can be used to integrate with all other power sources.

The list comprises power sources from leading brands like Lorch, ESAB, EWM, Kemppi and Fronius among others.

The primary advantage of pre-integrated options is their ability to facilitate seamless job switching within a welding program, eliminating the need to halt the process midway to modify power source parameters.

This advanced capability of SmoothTool allows for swift parameter setup and hassle-free communication with the power source directly within the software without the need for manual configuration at the power source.

Read about integration options on our website



## Retrofit and get started today

Start automating your welding processes right away using your existing power source

The RetroFit Kit, a novel off-the-shelf product from Smooth Robotics, simplifies the process of integrating older manual power sources with a cobot setup.

This Kit is compatible with all Euro/US Connector-equipped power sources. Simply attach the RetroFit connector plate, install the adaptor, hook up the feedback shunt and you are ready and set to weld!



Adaptor



Feedback Shunt



Connector Plate

### Learn at a quick glance

Welding with SmoothTool and a pre-integrated power source gives you full control over all parameter settings and allows you to perform even the most advanced weld jobs

Welding with SmoothTool and the RetroFit Kit offers an easy way to perform basic welds with a manual power source with limited scope of configurable parameters

# Companies are already reaping the benefits of Cobot Welding

Explore more case stories on our website



“ On the ease of use, setting up to begin welding was the most important factor for us. We did not want to spend 30 minutes programming for 15 minutes of welding. The Smooth Robotics Software has hands down been epic in quick programming. I have found that if we have to weld more than 12” in length, it is more effective to use the robot. Even for just 1 part. This is a game changer. ”



Shawn Wentzel  
Owner - Wenteq Inc  
California, USA



Sven-Ingvar Björck  
Owner, Vattholma Mekano AB  
Uppsala, Sweden

“ It’s very difficult to find skilled welders and a lot of our work is actual weld time, so that’s why we bought the robot. SmoothTool makes programming the robot easy and that’s what made it the right fit for us. It’s still new to us, but we already have minimum 20-30% in time savings on the welding jobs. ”





# Features advanced made easy

SmoothTool offers a comprehensive welding software solution with all the tools that a welder needs.

The advanced capabilities of SmoothTool allow you to explore the potential of cobot welding and experiment with different methods of production automation to achieve the best possible outcome.

Learn about our software highlights on the following pages.

Other features available: Slope down, Run Flow page, parameter profiles, weld templates, customizable default values, support for external switch/light/fume extraction and much more!

Read about SmoothTool features on our website

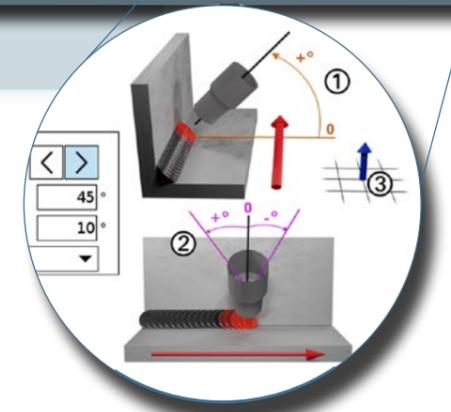


## The Angle System

Set your desired work and travel angles with ease and precision

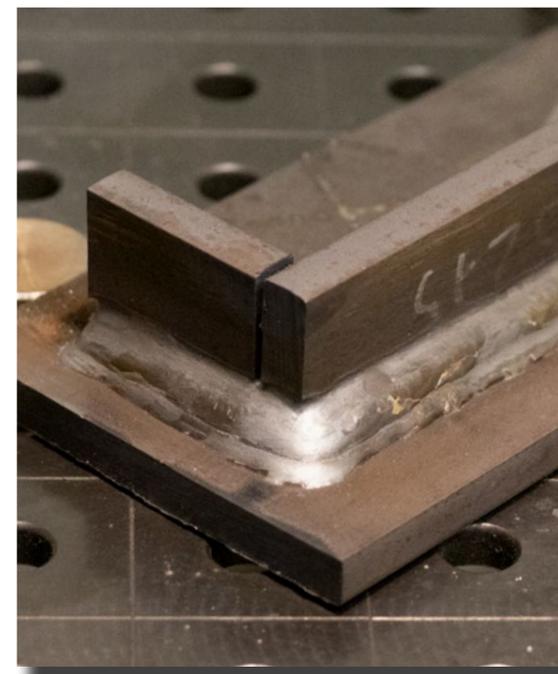
### Feature benefits:

- 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



## Multipass Welding

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

## The Offset Feature

Simply copy and paste your welding

### Feature benefits:

- Conveniently 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

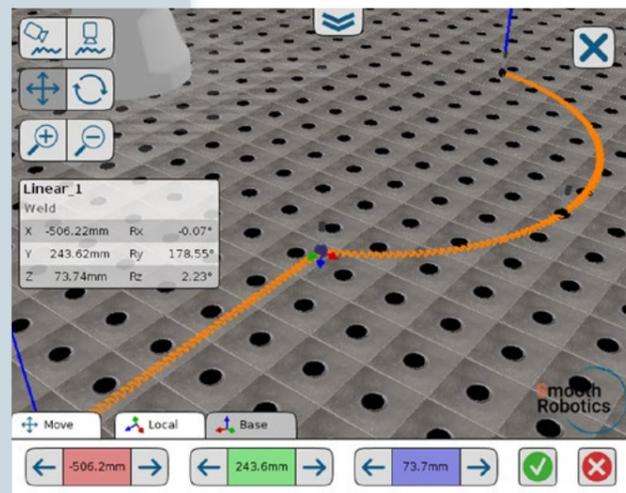


## 3D Universe

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

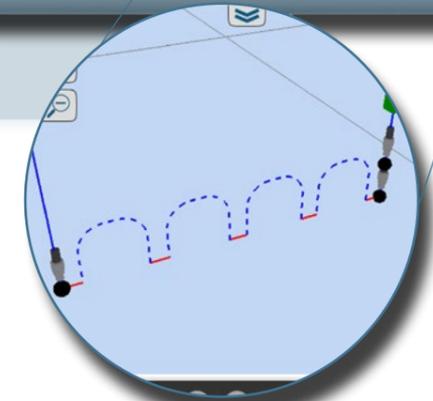
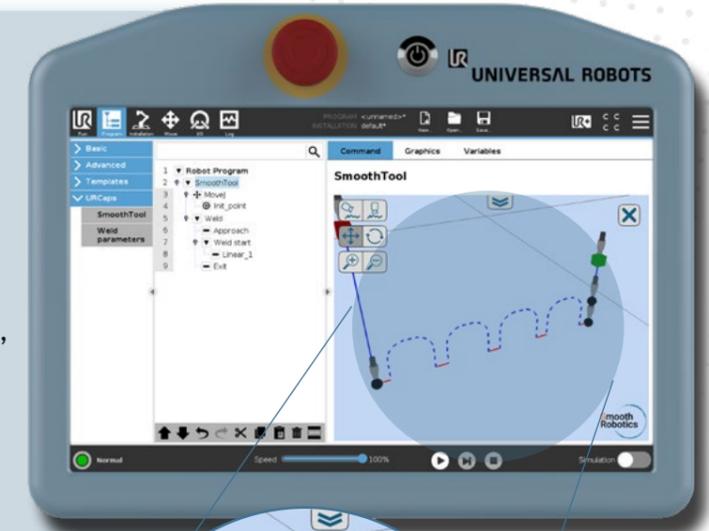


## Stitch Welding

Reduce your costs with custom stitch welds

### Feature benefits:

- Optimize your welding technique to cut production costs associated with use of material
- Flexible customization of parameters such as stitch length, number of stitches, air speed and torch retraction distance for precise control over your welding process
- The potential for warping, burn-through and other weld defects is easily mitigated



## Weaving patterns

Weaving made easy with SmoothTool

### Feature benefits:

- Achieve desired results with four main weaving patterns: Trapezoid, Zig Zag, Circles and Crescent and more
- 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



Trapezoid    Zig Zag    Circles    Crescent

# SmoothTool made for welding

We have partners all over the world.  
Find one near you.



Your local Smooth Robotics Partner:



For more information visit us at:  
[www.smooth-robotics.com](http://www.smooth-robotics.com)

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