Smooth Robotics

SMOOTHTOOL

MADE FOR WELDING

COBOT WELDING

Increase your throughput

Looking to automate your manual welding? If your production involves a moderate to high product mix and low to medium volumes, a collaborative robot (cobot) welding solution is the ideal fit.

Designed to be flexible, reliable, and safe to operate alongside humans, cobot welding offers a powerful way to boost productivity without the complexity of traditional automation. With a programming interface and consistent high-quality welds, it's the perfect tool for both experienced welders and new operators alike.

SCAN TO LEARN MORE

Cobot Welding helps you overcome:

Skilled Labor Shortage

Empower your team with tools that amplify output and reduce strain

Repetitive Tasks

Deliver consistent and high quality results on repetitive welds

Changing Demands

Stay agile with a flexible setup that adapts easily to shifting production needs

High Setup Costs

Avoid costly implementation and programming, as cobots are quick and easy to operate

Rigid Automation

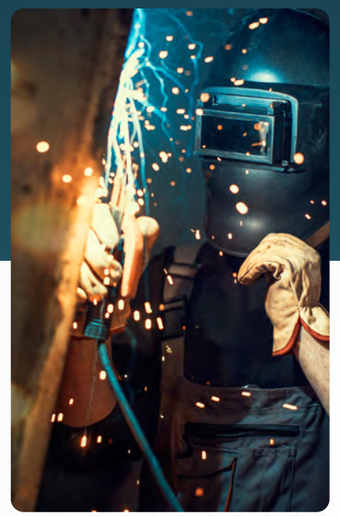
Handle batches and custom jobs with much more ease and flexibility

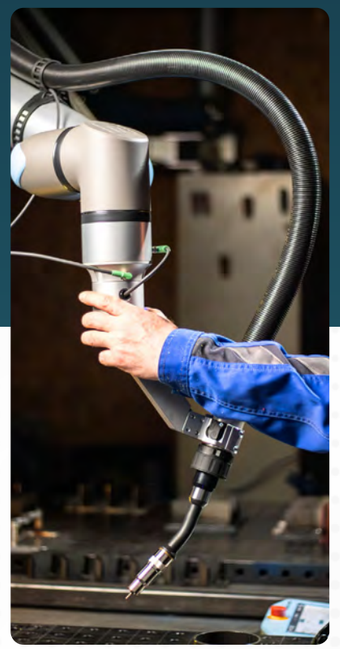
Workplace Inefficiency

Boost productivity and safety through seamless human-robot collaboration

COBOT WELDING

HOW DOES IT COMPARE TO OTHER SOLUTIONS?





Finding the Best Fit for Your Production

Manufacturers have several welding options: manual welding, traditional automation with industrial robots, and collaborative robot (cobot) welding. Each approach has its own advantages and challenges, and the best choice depends on factors like production volume, flexibility, and workforce availability.

While all three methods play a role in modern manufacturing, cobot welding is emerging as a game-changer. It bridges the gap between manual craftsmanship and full automation, delivering both precision and adaptability.

By enhancing the capabilities of human welders rather than replacing them, cobots provide an efficient, cost-effective solution for today's dynamic production environments.

Let's take a closer look at how these approaches compare:

	Traditional Automation	Cobot Welding	Manual Welding
Best For	Low mix, high-volume production	Moderate to high mix, low to moderate volume	High mix, low-volume production
Weld Performance & Suitability	High speed and consistency with minimal changeover	Improves consistency while keeping flexibility for frequent design changes	Best for custom, hands-on precision tasks; but depends on welder skill, harder to maintain consistency
Workforce Involvement	Reduces dependence on welders but demands skilled programmers for setup and operation	Enhances welders' productivity by automating repetitive tasks	Relies entirely on skilled welders to maintain quality over extended work periods
Skill & Hiring Needs	Requires robotics expertise	Reduces need for additional welding hires by optimizing existing workforce skills	No robotics skills needed, but labor shortages are a challenge
Investment	High initial cost	Moderate cost	Lowest initial cost

DISCOVER SMOOTHTOOL

Everything You Need for Precise, High-Quality Welds

- No-code intuitive programming interface
- Powerful features even for complex welding paths
- Smooth and easy experience with full support
- Compatible with all welding power source brands

Get the Job Done

SmoothTool is an intuitive cobot welding package that makes it easy for any welder to get started. With a flexible program structure and support for weaving, offsets, stitching, multipass and more, it handles a wide range of tasks. It's fully compatible with all models across the UR series.

Key Features of Our Software

Our welding automation software is packed with features to enhance your productivity and ensure high-quality welds every time.

3D Visualization
Visualize and touch up your program in 3D

Weaving
Add weaving patterns to linear/circular paths

Multipass
Easily create a weld with multiple passes

Angle System
Insert the desired work and travel angles

Stitching
Control stitching with custom parameters

Touch Sense
Locate your piece and adjust the path

Offset
Copy and offset in all directions and rotation

Tacking
Make precise consistent tacks for superior quality

Surfacing
Apply hardfacing and cladding for durability

Seam Tracking*
Auto-adjust the path with arc seam tracking

External Axis*
Add linear or rotary axis with external axis support

Profile System
Create, save and reuse welding parameters

* Seam Tracking and External Axis are optional add-ons, subject to an additional cost. Please note that Seam Tracking is only compatible with a select range of power sources.

SCAN TO LEARN MORE

With SmoothTool, you gain access to exclusive software updates, professional support, a dedicated end-user platform, and comprehensive guides, ensuring reliable assistance at every stage of your welding operations.

COMPANIES ARE ALREADY REAPING THE BENEFITS

Based on our needs and the purely financial, it makes much more sense to us. We ensure uniform products, and our welders avoid the tedious and repetitive work. They are happy with their new colleague.

MADS MILLING ERIKSEN
Owner, Alusteel A/S, Kværndrup, Denmark

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. SmoothTool 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

The biggest change has been the time savings. Once the cobot’s working path is set, it handles the rest of the process autonomously,” Mr. Lin explains. “This has not only improved efficiency but also allowed us to maintain exceptional quality in our products.

Mr. LIN
Owner, Shun Fu Enterprise, Taiwan

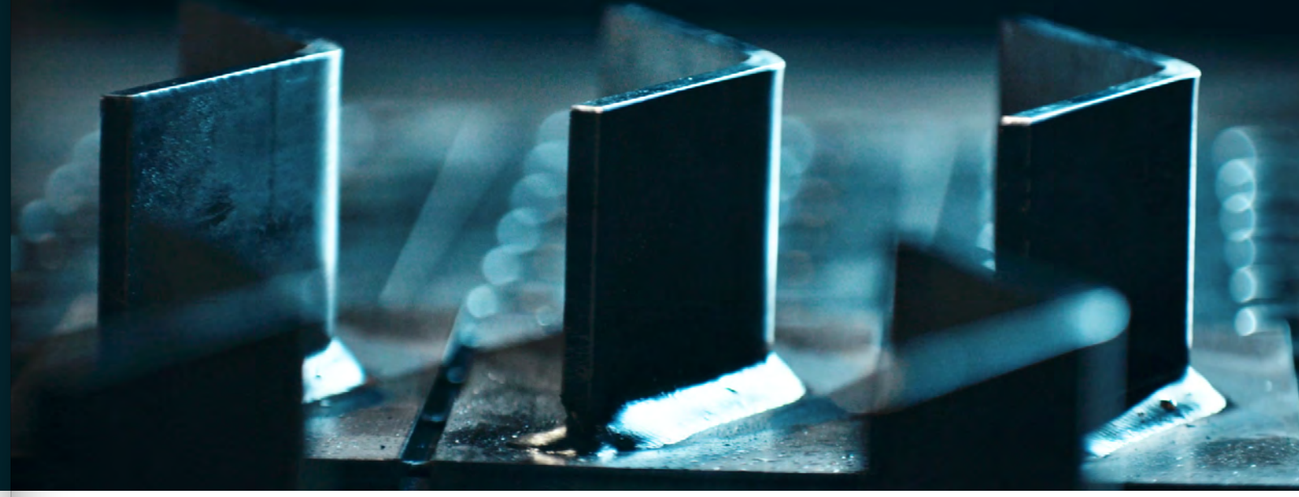
“We’ve looked at different options and we’ve seen the ease of use for Smooth Robotics. We felt that this was the easiest for companies to get to grips with and difficulty in setting up this equipment is the biggest barrier to them adopting to technology. So that simple to use and easy to learn solution means that we can help them integrate it.”

RYAN SHERIDAN
Academic Leader, New College Lanarkshire, Scotland

SCAN TO LEARN MORE

OUR FEATURES

OPTIMIZE YOUR PRODUCTION WITH...



Multipass & Comprehensive Profile System

Cut down on setup time and ramp up productivity with SmoothTool's powerful Multipass Welding Feature combined with the Multipass Profile System. This dynamic duo is designed to make even the most complex weld jobs fast, repeatable, and effortless to set up. From base pass to final layer, you'll streamline your workflow and build a smart library of welding profiles, ready to use at a moment's notice.

WHY SMOOTHTOOL?

- Significantly reduces programming and setup time for multipass welds.
- Increases consistency and repeatability for recurring welding tasks.
- Enables faster job changeovers with minimal effort.
- Builds a reusable library of multipass welds tailored to your needs.
- Boosts overall productivity and throughput on the shop floor.

HOW TO USE:

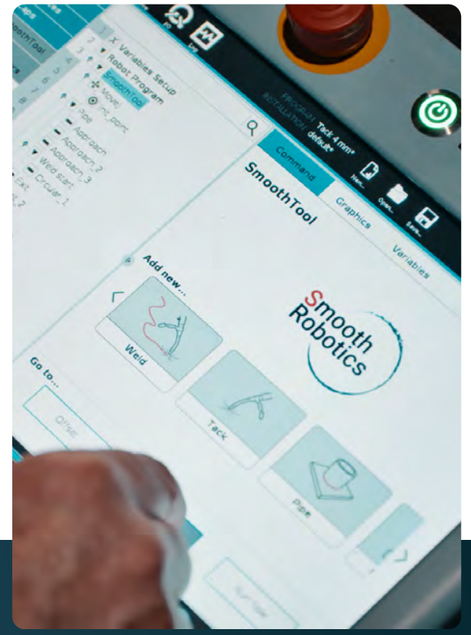
- Teach the base pass once to define the weld path.
- Copy and customize additional passes as needed.
- Set all relevant weld parameters, including power source settings.
- Save the full setup as a named profile for future use.
- For repeat jobs, simply teach the base pass and load the saved profile, no need to reconfigure the rest.

Weld Profiles & Default Profile Option

Stop wasting time re-entering the same weld parameters for every new job. With SmoothTool's Weld Profiles and Default Profile Option, you can standardize and speed up your welding workflow by applying your preferred settings instantly, whether you're working with linear or circular welds. Build a personalized library of welding presets, and let SmoothTool do the rest.

WHY SMOOTHTOOL?

- Reduces repetitive setup tasks and minimizes chances for user error.
- Ensures process consistency across welds, operators, and shifts.
- Speeds up production with pre-configured settings ready to go.
- Ideal for teams handling a variety of weld types but aiming for standardized quality.
- Empowers welders to focus more on execution and less on configuration.



HOW TO USE:

- Save your weld settings as reusable weld profiles.
- Apply profiles across both linear and circular weld types.
- Name each profile and include comments to clarify use cases or material types.
- Set one profile as default so your preferred parameters are automatically applied to new welds.
- Eliminate manual adjustments and ensure every new weld starts with your ideal setup.

3D Universe

Step into SmoothTool's 3D Universe**,** a powerful, visual programming environment that puts you in full control of your welds before striking an arc. This industry-unique feature lets you preview, validate, and fine-tune your welding paths in a realistic 3D workspace, eliminating guesswork and saving valuable setup time. It's precision, productivity, and peace of mind - all in one.

WHY SMOOTHTOOL?

- Prevents costly weld errors before they happen by validating the setup in advance.
- Saves time by eliminating dry runs and reducing trial-and-error.
- Enables fast recovery from interruptions, minimizing downtime.
- Empowers welders with a visual, intuitive way to edit and perfect welds, without requiring programming expertise.
- Gives SmoothTool a clear competitive advantage, as no other cobot welding software offers this level of visual control.

HOW TO USE:

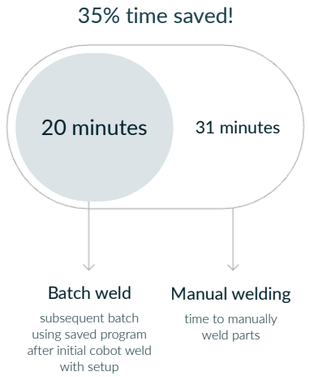
- Preview your entire weld path with real-time visualization of angles, weaving patterns, and parameter settings.
- Use the Touch Up function to adjust individual weld points directly in the 3D view.
- Select any point as your new weld starting location with the Start Here option, ideal for resuming interrupted welds without rerunning the full program.
- Incorporate your robot base and welding table into the scene for true-to-scale accuracy.

Stitch Welding

Stitch Welding is a great solution for thin sheet metal - it limits heat, prevents warping, and cuts down on filler use. Built into SmoothTool's Weaving options, it helps you weld smarter and more efficiently without compromising quality.

WHY SMOOTHTOOL?

- Avoids warping or burn-through on sensitive parts.
- Cuts material costs by reducing filler usage.
- Boosts efficiency by letting the welder prepare parts while the cobot stitches.
- Ensures consistent quality with every batch - minimizes weld defects.

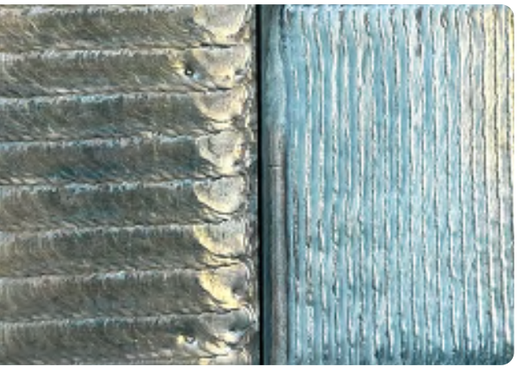


HOW TO USE:

- Enable stitch welding in the Weaving menu under Parameters.
- Adjust stitch length, spacing, the number of stitches and other options
- Combine with features like the Angle System for added control.
- Ideal for use on thin materials where heat management is critical.

Surfacing: Hardfacing & Cladding

When your goal is to protect parts from wear, corrosion, or heat damage, SmoothTool's Surfacing, a versatile feature for Cladding and Hardfacing applications - gets the job done - consistently and automatically. These surfacing methods are ideal for restoring parts or boosting durability, and SmoothTool makes the setup smooth, repeatable, and easy to customize.



EFFECT

- Higher arc-on time and consistent weld quality.
- Safer work environment with less strain and fume exposure.
- Lower labor and material costs.
- Simple setup with repeatable, high-quality results.
- Extended part life and reduced downtime.

HOW TO USE:

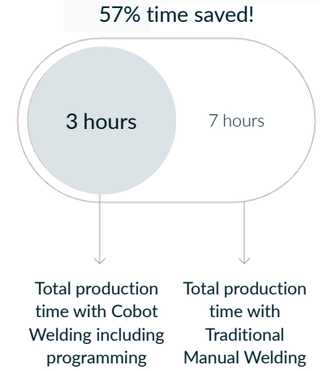
- Choose your surfacing method: Hardfacing for wear protection, or Cladding for corrosion resistance.
- Place your flat or curved part on the welding table or bring your cobot with SmoothTool to the weld area mounted on a magnetic base.
- Set up your weld path using SmoothTool's user-friendly wizard.
- Customize the outline, infill welds and adjust parameters such as angles and weaving.
- Start welding and let the cobot apply a precise and even surface layer.

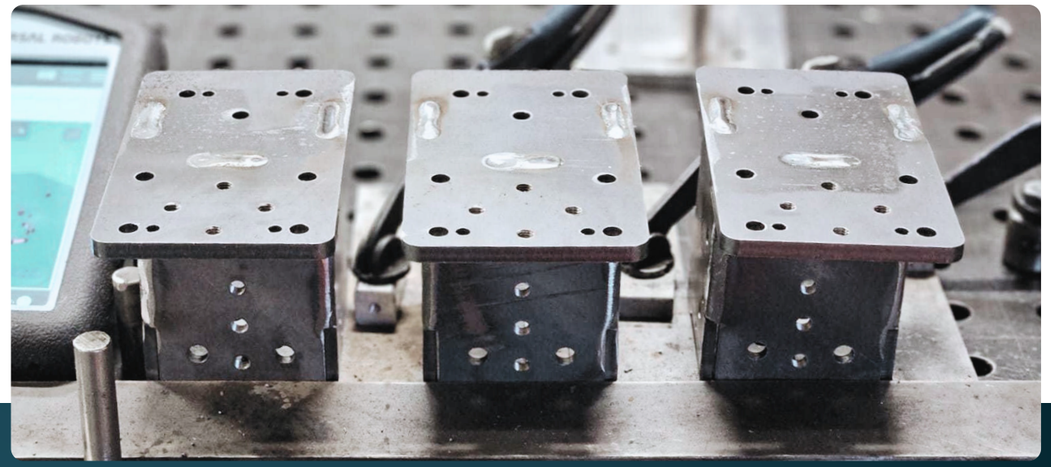
Offset with ixtures

Streamline your production with quick Offset programming and fixtures. Let the cobot weld your parts while you prepare your next set of weld pieces. Maximize both your team's productivity and the value of your cobot welding solution.

EFFECT

- Replicates your welds without re-programming.
- Minimizes downtime and keeps your workflow moving between batches.
- Accelerates output by allowing the cobot and welder to operate simultaneously.
- Lowers scrap and rework by improving weld accuracy and consistency.





HOW TO USE:

- Prepare fixtures with a number of weld pieces.
- Program your welds on a single weld piece.
- Easily duplicate the entire weld program to a new fixture position using quick Offset based on a real reference point.
- Utilize cobot weld time by preparing the next batch.

SCAN TO
LEARN MORE

DISCOVER THE POWER OF INTEGRATION

Smart Integration for Your Setup

SmoothTool is designed to work with any welding power source, giving you full flexibility regardless of your setup.

You can take advantage of our Protocol-Based Integration, tailored to your power source, using communication standards EtherNet/IP or Modbus. Additionally, we support communication with the power source via Digital I/O, either directly or through our RetroFit Kit for older machines, as well as via URScript Callback.

Ready-to-Use Pre-Integrations

With SmoothTool's growing library of pre-integrated power sources, setup is fast and configuration is simple. Depending on your selected pre-integration you are able to customize your power source settings with these options:

- Job mode with trimming
- Synergic lines
- Wire forward / backward
- Gas and air test
- Wizard approach (Wire, Gas, Material)

Supported brands include:

ESAB · ewm · KEMPPI · WECO WELD THE WORLD · SOLDAMATIC · MEGMEET WELDING TECHNOLOGY · Miller · Fronius · LORCH · OTC

OUR RETROFIT KIT

If you're using manual welding machines but want to move toward automation, the RetroFit Kit offers a smart and practical solution. It connects your existing power source to SmoothTool, making it easier to automate repetitive tasks, improve precision, and boost efficiency, all without replacing your current equipment.

- Seamless Integration
- Universal Compatibility
- User-Friendly Setup
- Cost-Effective
- Enhanced Productivity

Extend the Life of Your Welding Setup

Designed to support a smooth transition to robotic welding, the kit helps you get more out of your setup while maintaining the flexibility you depend on. Even older machines can be upgraded to fit into a more modern, automated workflow.

It's available with Euro, Lincoln, and Miller connectors, and makes it possible to upgrade at your own pace, instead of investing in entirely new equipment.

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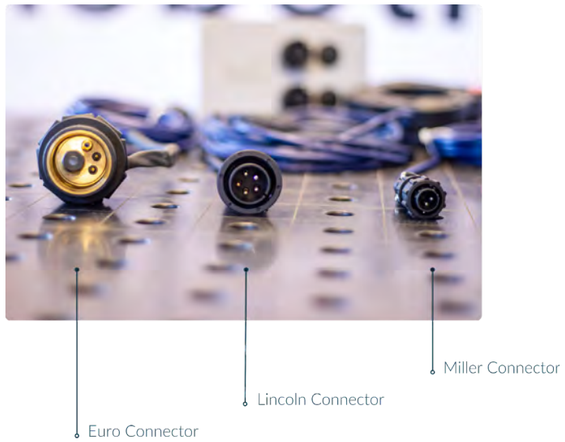


More Work, Fewer Errors, Less Time

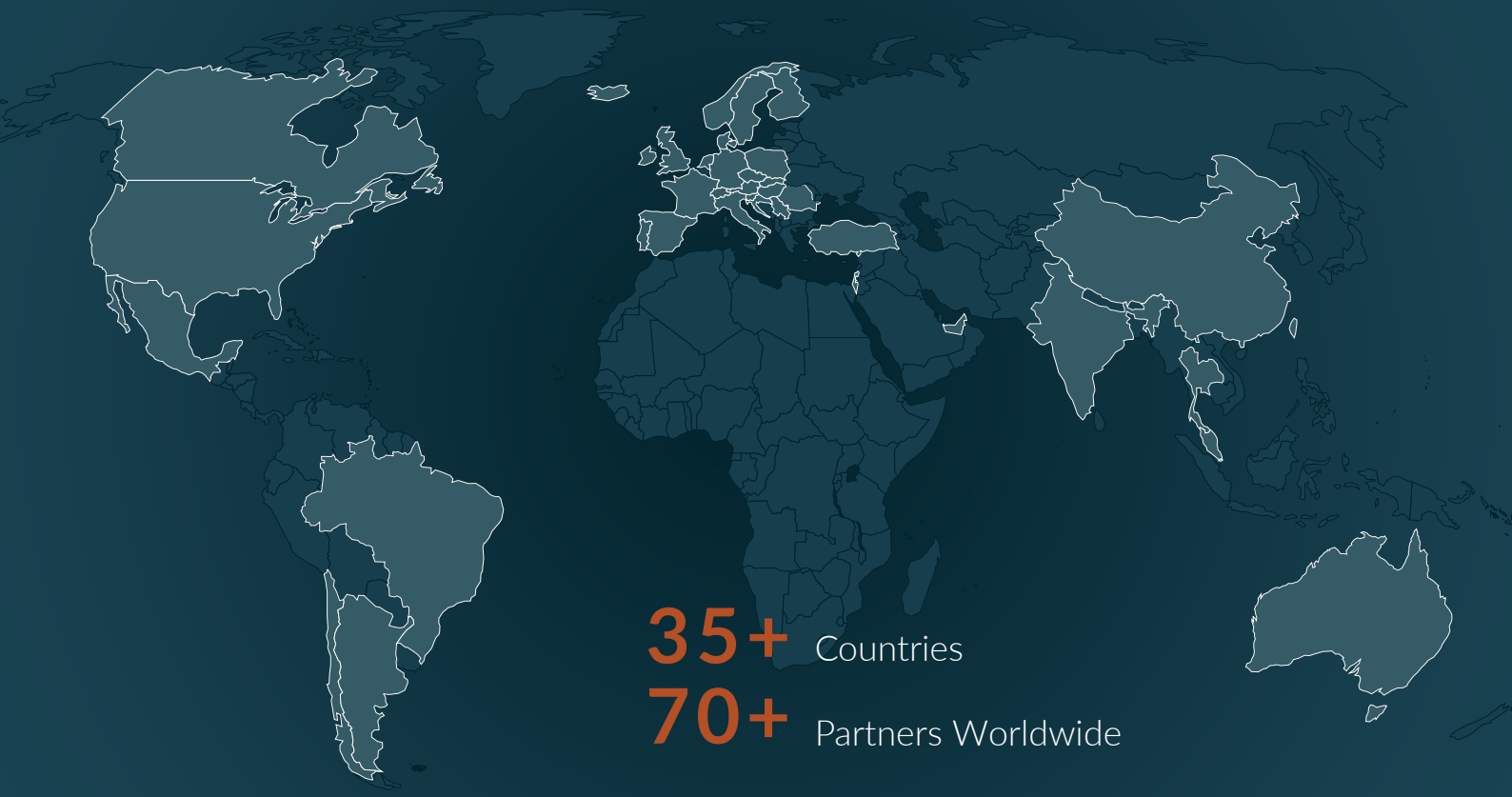
This modular approach not only extends the life of your current setup but also adapts as your business evolves.

By combining the precision of robotic welding with the versatility of manual power sources, you can boost productivity and take on both high-volume and complex welding tasks with confidence.

SMOOTHTOOL

MADE FOR WELDING

Global reach, local support.
Connect with a Smooth Robotics partner near you.



35+ Countries

70+ Partners Worldwide

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