THE VIRTUAL WELDING REVOLUTION HAS ARRIVED...

AND IT’S ON THE MOVE!
MANUFACTURING’S WORKFORCE CHALLENGE

Anyone who interfaces with the manufacturing sector knows this cold hard fact: we need more people, we need more investment in training, and we need it now.

Consider this — more than 600,000 skilled positions are unfilled in the United States.¹

The manufacturing sector needs to improve its image in order to draw future workers to these skilled trades.

THE QUESTION: HOW?
THE ANSWER: VIRTUAL REALITY WELDING.

More than 80 percent of U.S. employers report they have a moderate to severe shortage of skilled workers.¹

In a world where skilled labor shortages are rising, the investment and need to not only train but also attract and engage new skilled workers is at an all-time high.

Today’s youth — the future workforce — relies on the virtual world. This means the tactics to engage and interest them in learning the skills needed for future careers need to change.

Virtual reality welding is ideal as:

» An interactive, engaging teaching tool.
» An HR screening tool for testing applicants’ welding skills.
» A tool for refreshing the welding skillset and knowledge of an existing workforce.

Lincoln Electric’s VRTEX Simulated Welding Training Solutions

VRTEX 360 AND VRTEX MOBILE

The systems offer hands-on training that’s consistent with standard industry methodology and evaluation criteria in a fun “gaming” inspired environment, thanks to a specially-equipped virtual reality welding helmet.

VRTEX welding training simulators:

» Attract and engage students.

» Measure and record real-time results.

» Enhance welding training programs.

» Reduce energy consumption, waste and scrap.

» Provide tangible savings.
Both the VRTEX 360 (above) and VRTEX Mobile (left) systems have rich, vivid graphics and feature real-world welding and fume removal equipment.
Instructors have the flexibility to implement curriculum or project based lesson plans to supplement and enhance existing training programs.

VRTEX’s virtual environments are realistic…and fun.
ENGAGING. EXCITING. ENHANCING.

In today’s digital society, virtual training systems allow students of any age to try welding in a safe, virtual environment with realistic imagery and scenes, from a military base to a motorsports garage.

VRTEX simulators can be used at:

» College fairs and recruitment events
» Open houses
» Trade shows
» Seminars

The VRTEX system even replicates proper machine set-up. Before they can “weld,” students must enter the proper material type, process, gas flow and amperage/voltage/wirefeed speed into the system.

Virtual reality welding training doesn’t replace hands-on welding — it enhances it.
People will line up to try their hand at virtual welding...and learn about what it takes to build a career as a skilled trades worker.

**INCREASED COMPREHENSION THROUGH INTERACTION**

Connect a projector or large LCD display to the VRTEX unit so an entire classroom can view what the welder sees under the helmet.

This brings a sense of teamwork to the learning process and increases comprehension through interaction.

Multiple views show accurate, real-time measurement of such key variables as contact tip to work distance, work angle, travel angle, travel speed and position.
# VRTEX Product Differentiation

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<thead>
<tr>
<th>VRTEX 360</th>
<th>VRTEX Mobile</th>
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<tr>
<td><strong>SUMMARY</strong></td>
<td>Basic, Introductory Portable Welding Training Simulator</td>
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<tr>
<td><strong>WELDING PROCESSES</strong></td>
<td>SMAW, GMAW, FCAW-G and FCAW-S are standard with the unit</td>
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<td>Full Featured, Advanced and Scalable Welding Simulator</td>
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<td><strong>JOINT CONFIGURATIONS</strong></td>
<td>Flat Plate</td>
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<tr>
<td>• Flat Plate</td>
<td>Flat Plate</td>
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<tr>
<td>• Tee Joint</td>
<td>Flat Plate</td>
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<tr>
<td>• Groove Joint</td>
<td>Flat Plate</td>
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<tr>
<td>• 6” diameter schedule 40 Pipe</td>
<td>Flat Plate</td>
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<tr>
<td>• 2” diameter XXS Pipe</td>
<td>Flat Plate</td>
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<tr>
<td>• Lap Joint (optional with upgrade 5)</td>
<td>Flat Plate</td>
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<tr>
<td><strong>POSITIONS</strong></td>
<td>SMAW, GMAW, FCAW-G and FCAW-S are standard with the unit</td>
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<td><strong>USABILITY</strong></td>
<td>Unigun – standard unit includes GMAW and SMAW attachment.</td>
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<td>Flexible, all position stand</td>
<td>Flatop multi-position stand with arm rest</td>
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<td><strong>FUNCTIONALITY</strong></td>
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<td>GMAW gun and retractable SMAW stinger (45° / 90° angle adjustment)</td>
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<td><strong>ADDITIONAL FEATURES</strong></td>
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<td>• Advanced Scoring Module (ASME/D1.1), AWS Bend Test and Panning View</td>
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<td>• GMAW Aluminum, Video Replay, Learning Levels</td>
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<td>• GMAW Stainless, Demo Weld, 0.052 solid wire and SMAW on thinner materials</td>
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<tr>
<td>• Lap Joint on all materials, Surface Build-up, additional GMAW-P modes</td>
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<tr>
<td>No software upgrade package</td>
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Challenging out-of-position welding training becomes simple with VRTEX. Students understand what they will see and what it will feel like before they ever pick up a real welding gun.

**EFFECTIVE RESULTS TRANSLATE TO THE REAL WORLD**

From a realistic welding puddle to accurate sounds and movements, what students learn virtually with the VRTEX system seamlessly transfers into real-world, hands-on welding training.

Students move from a VRTEX machine and into a real welding training booth feeling confident about set-up and welding procedures.
Iowa State University studies evaluated VR integrated welding training in terms of physiological and cognitive impact with results proving faster student training and increased certification rates.

Efficient Virtual Learning = Reduced Costs, Improved Safety

Using the VRTEX virtual reality welding simulator as the first-line training method helps reduce waste and scrap, to create a cleaner training environment.

Students can practice repetitive welding without the time needed to tack plate and toss scrap. There’s no real coupon — only one that appears virtually — and quickly — with the press of a button.
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Join the revolution in welding training:
www.VRTEX.com
twitter.com/VRTEX • facebook.com/VRTEX

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