



**ASFAN**  
REALITY

# VR Welding Training



**Realistic. Safe. Smart.**

# VR Welding Simulation Features

<b>Welding types</b>  MIG TIG Stick	<b>Languages</b>  Arabic / English	<b>Joint Types</b>  Butt / Tee / Corner / Edge / Lap / Cylinder	<b>Welding shapes</b>  Straight Zigzag Curlicue	<b>Welding Angle</b>  Flat Horizontal Vertical Overhead	<b>Evaluation Metrics</b>  Work Angle Travel Angle Speed Distance
<b>Skill Levels</b>  Trainee / Beginner / Advanced		<b>Materials</b>  Aluminum / Copper Steel / Stainless Steel	<b>Selectable Hand</b>  Right / Left		<b>Main Advantages</b>  Realistic, Safe, Cost-effective, Repeatable, Cloud analytics

**Additional Underwater Welding  
Scenarios are available**



# Step Into the World of Virtual Welding Training

Step into a fully immersive environment where welding feels real — without the heat, sparks, or risks.

Our VR Welding Simulation offers exceptional realism with highly detailed textures, shadows, and lighting — built to replicate real-world conditions and ensure the most authentic learning experience possible.

This system provides a safe, repeatable, and cost-effective alternative to traditional welding training — designed for educational institutions, industrial training centers, and vocational programs.

**With 3 interactive Content: MIG / TIG / Stick**



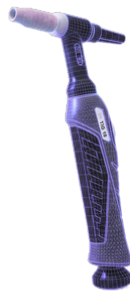
## Why Choose VR Welding Training?

- Unmatched Realism: True-to-life textures, reflections, and lighting.
- Zero Risk: Train safely without fire, heat, or fumes.
- Unlimited Practice: Repeat sessions endlessly until perfection.
- Instant Feedback: Real-time performance indicators.
- Skill-Based Levels: Choose between Beginner and Advanced modes.
- Full Bilingual Interface: Available in Arabic and English.
- Cloud Analytics: Track results, performance, and progress over time.

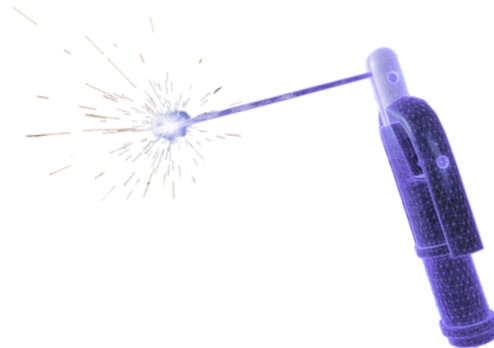
### Scenarios



**1. MIG**



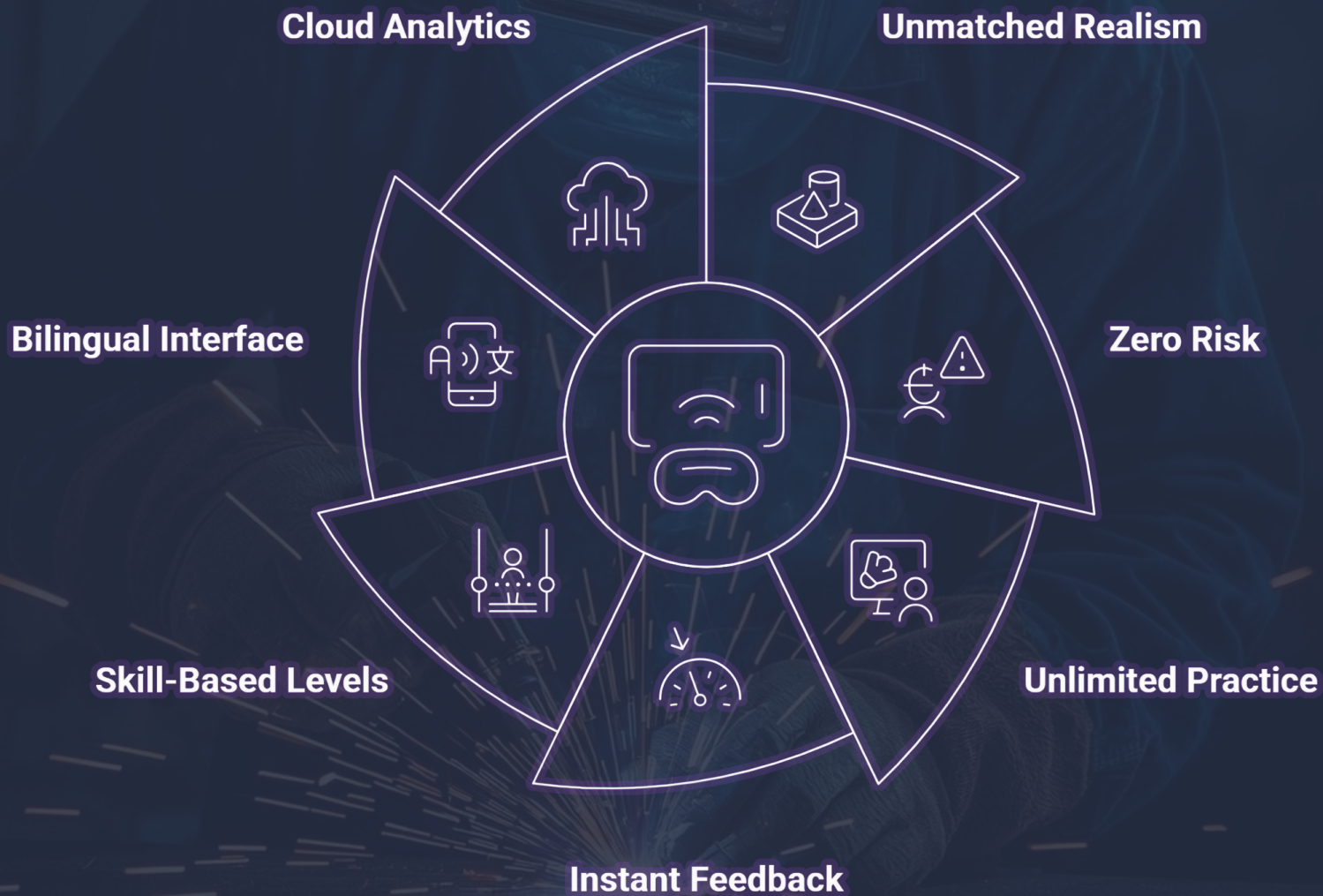
**2. TIG**



**3. STICK**



# VR Welding Simulation

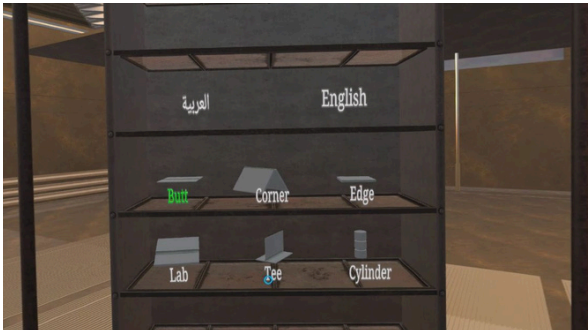


## Customization & Setup

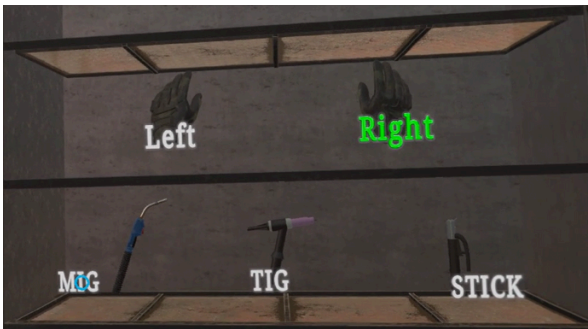
### Personalize Your Training Session

Before starting, each trainee can tailor the experience to match their preferences and skill level.

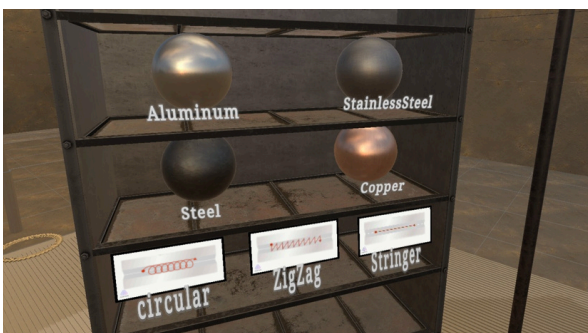
Available options include:



- **Language:** Arabic / English
- **Joint Type:** Butt / Tee / Corner / Edge / Lap/ cylinder



- **Preferred Hand:** Right / Left
- **Gun Type:** MIG / TIG / Stick



- **Material:** Aluminum / Steel / Stainless Steel / Copper
- **Welding Wave Type:** Straight / Zigzag / Curlicue



- **Orientation:** Flat / Horizontal / Vertical / Overhead
- **Skill Level:** Beginner / Advanced

## Inside the Experience

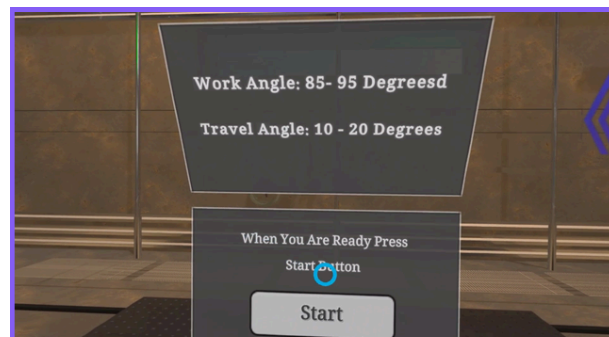
Once all preferences are set — including language, joint type, preferred hand , orientation, gun type, material, wave type, and skill level — the welding simulation begins.

You start by adjusting the welding table height to your comfort. A virtual panel then appears, displaying key parameters to focus on, such as the work angle and travel angle. Then another panel appear provides real-time reference ranges for minimum and maximum speed, angles, and distance to guide your performance.

When ready, you lower your protective mask and begin the welding process.

During the simulation, a live chart and numerical indicators display your performance metrics — including movement accuracy, angle consistency, and welding stability.

At the end of the session, your final score and evaluation appear, showing detailed feedback on your overall technique and helping you improve with every attempt.



## Scoring & Evaluation

Get Your Performance Score Instantly

After completing the weld, the system automatically calculates a final score out of 400

based on accuracy in:

1. Work angle
2. Travel angle
3. Speed
4. Distance



The trainee can then:

- Select **Retry** to repeat the same task as many times as needed.
- Use the **Track Recorder** to review their exact movements and see how they achieved their score — frame by frame.





# Instructor & Analytics System

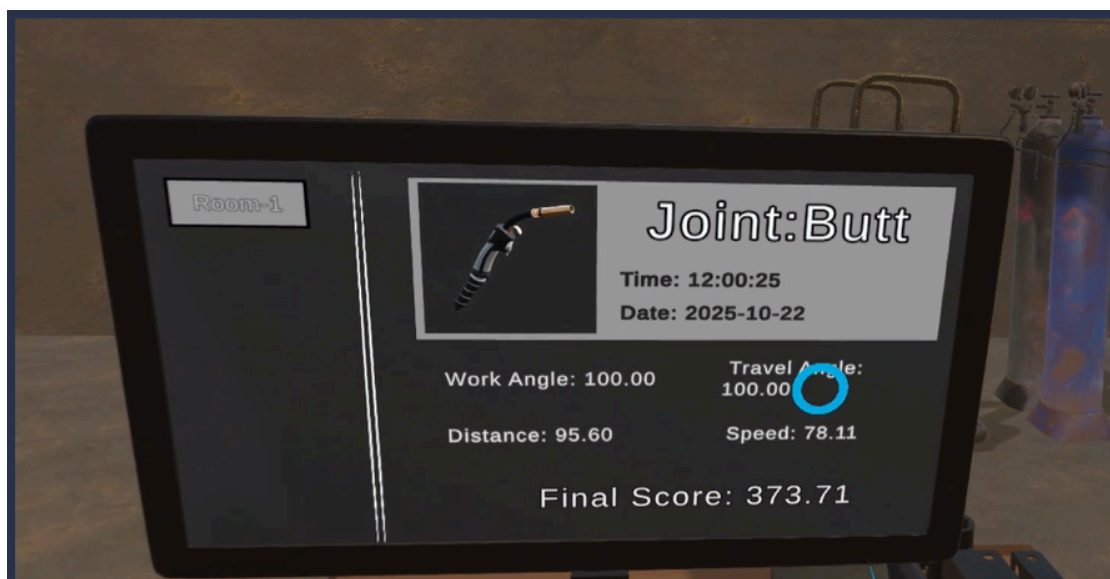
## Smart Performance Monitoring for Institutions

Our integrated Instructor Web System allows trainers and supervisors to manage and analyze all trainee results through cloud-based analytics.

### Key functions:

- View detailed trainee profiles and scores.
- Monitor skill progression over time.
- Compare performance between users.
- Generate visual reports and charts.

The platform enables data-driven training decisions and helps institutions measure the true impact of VR learning.



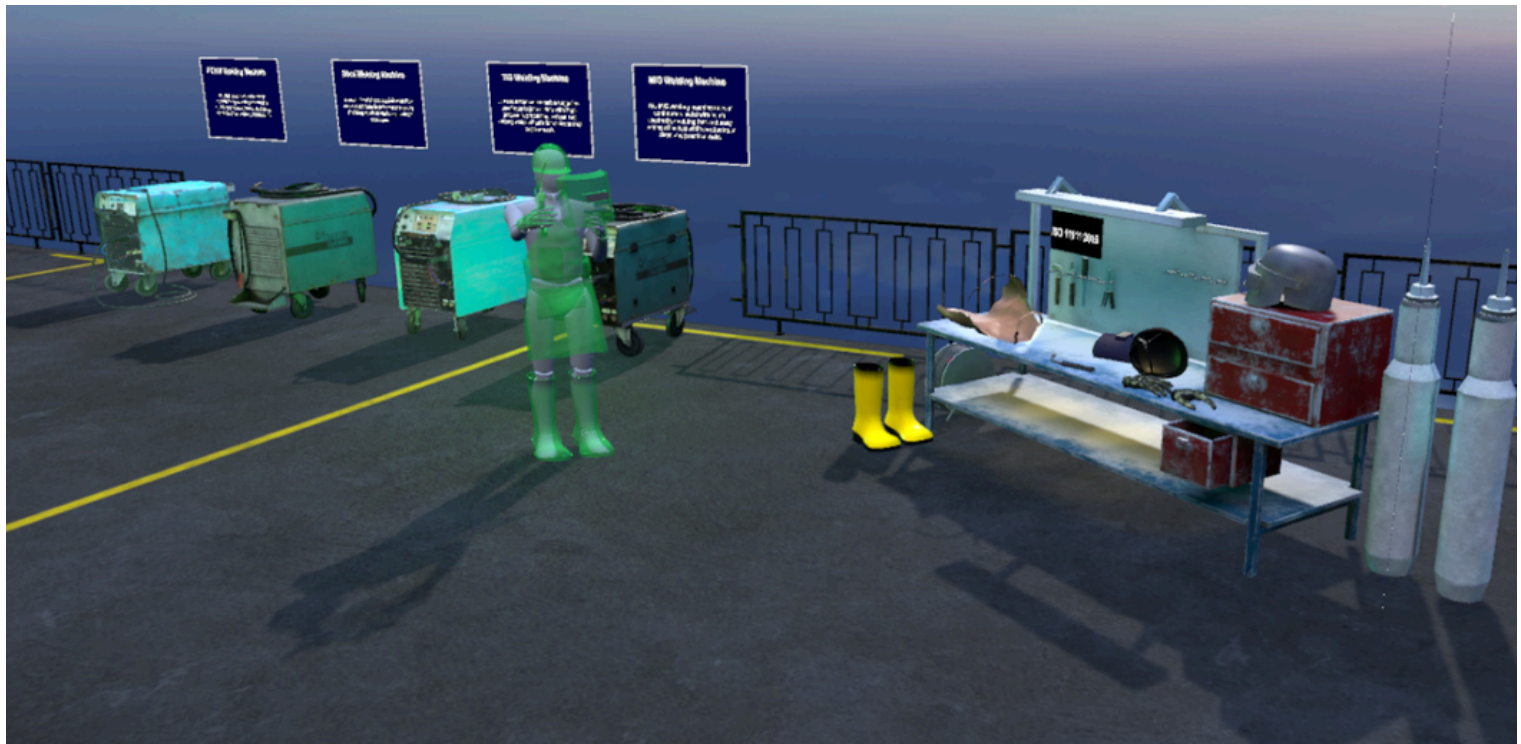


# Welding Safety Training

Master Safety Before You Weld

Safety is the foundation of every professional welder's training.

Our VR Welding Safety Module is designed to teach the correct use of personal protective equipment (PPE) through an engaging, interactive experience — available in both Arabic and English.



## Step into the Virtual **Safety** Zone

Before approaching any welding task, the trainee enters a virtual safety area where essential PPE items are presented, including:



## Interactive Safety Learning

In this scenario, the trainee faces a virtual character who is already wearing all the proper gear.

The task is to equip another character standing in front of them by selecting and correctly placing each safety item – matching it exactly to the reference model.

Only when every piece of equipment is positioned correctly can the trainee proceed to the welding area.

This hands-on simulation reinforces proper PPE habits and ensures trainees understand the importance of protective preparation before any welding activity.

### Aligned with European ISO Welding Standards

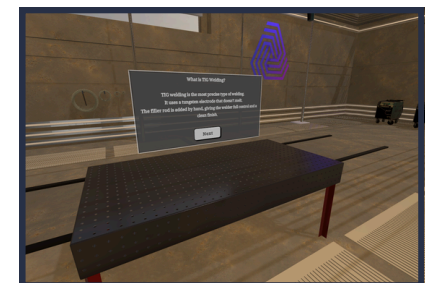


# VR Training Lecture

As part of the immersive welding training experience, the VR Training Lecture section provides essential theoretical knowledge through interactive virtual panels. Each panel includes audio explanations, text descriptions, and illustrative images, allowing trainees to explore information at their own pace.

The lecture introduces the different types of welding guns used in professional settings, explaining their mechanisms, applications, and safety considerations. By combining visuals, audio, and 3D interaction, this module ensures a complete understanding of the tools before starting practical training.

This pre-training step helps users build confidence and technical awareness.







# ASFAN

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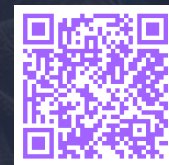
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