WELD VR

Welding Simulator

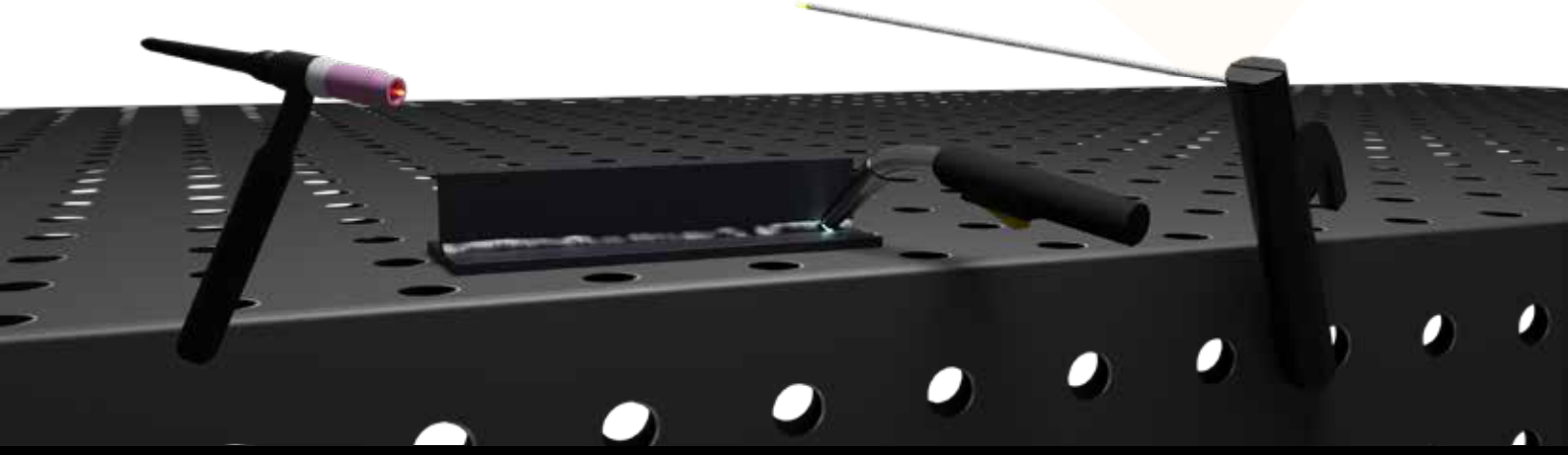
Technical Specifications

Trusted by 120+ Organizations Worldwide!

The WeldVR Welding Simulator, developed by welding and VR experts, provides a highly realistic training environment where users can safely practice and refine welding techniques without the risk of damaging equipment or
endangering themselves or others.

This simulator offers a wide range of welding scenarios and techniques, including MIG, TIG, and Stick welding. It also supports various joint types and welding positions, enabling comprehensive skill development.

With the integration of realistic welding sounds and lifelike puddle simulations, WeldVR allows trainees to fine-tune their responses and adjust their techniques dynamically. This immersive approach helps users enhance their overall welding proficiency in a safe and controlled environment.



WeldVR All-in-One Simulator

COMPACT HARDCASE

Italian-made, this durable hard case is shockproof, dustproof, and waterproof, featuring a custom foam inlay for secure storage.

OCULUS QUEST

The headset has an ergonomic design to ensure comfort and is equipped with next-generation lenses and sharp displays to deliver an immersive and realistic training session without the requirement of external tracking sensors.

WELDING TORCH

Real welding torches integrated into the system, providing the authentic weight, grip, and feel of professional welding tools.

LINK CABLE

Enables casting software to share the user's point of view on an external display for enhanced collaboration and demonstration.

CLOUD ANALYTICS

An advanced cloud-based web platform for comprehensive analytics and reporting.

YOUR LOGO HERE

CUSTOM BRANDING

Customize the VR environment with your corporate identity, including graphics, logos and banners.

TRAINING AND LEARNING MODES

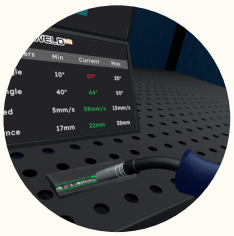
WeldVR features training and learning modules designed to enhance user efficiency, offering interactive examples and a variety of commonly welded joints, including Lap, Tee, Butt, Edge and Corner joints.

DIFFERENT WELDING TYPES

WeldVR supports TIG, MIG, and Stick welding, each with tracked parameters to identify areas for user improvement.

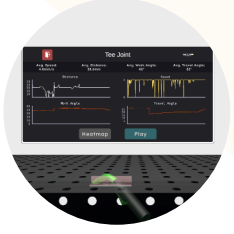
INTERACTIVE LEARNING LESSONS

WeldVR includes built-in interactive lessons to teach the fundamentals of welding.



ASSISTANCE AND GUIDES

WeldVR provides comprehensive assistance, including guidelines to visualize welding paths, speed tracking for optimal progress, angle tracking to maintain proper advance and operating angles, and distance tracking to ensure correct arc length.



BUILT-IN GRADING SYSTEM AND ANALYTICS

WeldVR welding simulator features a sophisticated grading and scoring system based on the real-time tracking of user performance in terms of speed, angle and distance. The system records the movements of the user for further analysis.

Main Modules

WeldVR features three professional-grade modules designed to elevate the learning experience:

- Training,
- Lessons,
- Session Replay

The **Training** module allows users to practice MIG, TIG, or Stick welding on a variety of selectable parts, providing hands-on, immersive skill development.

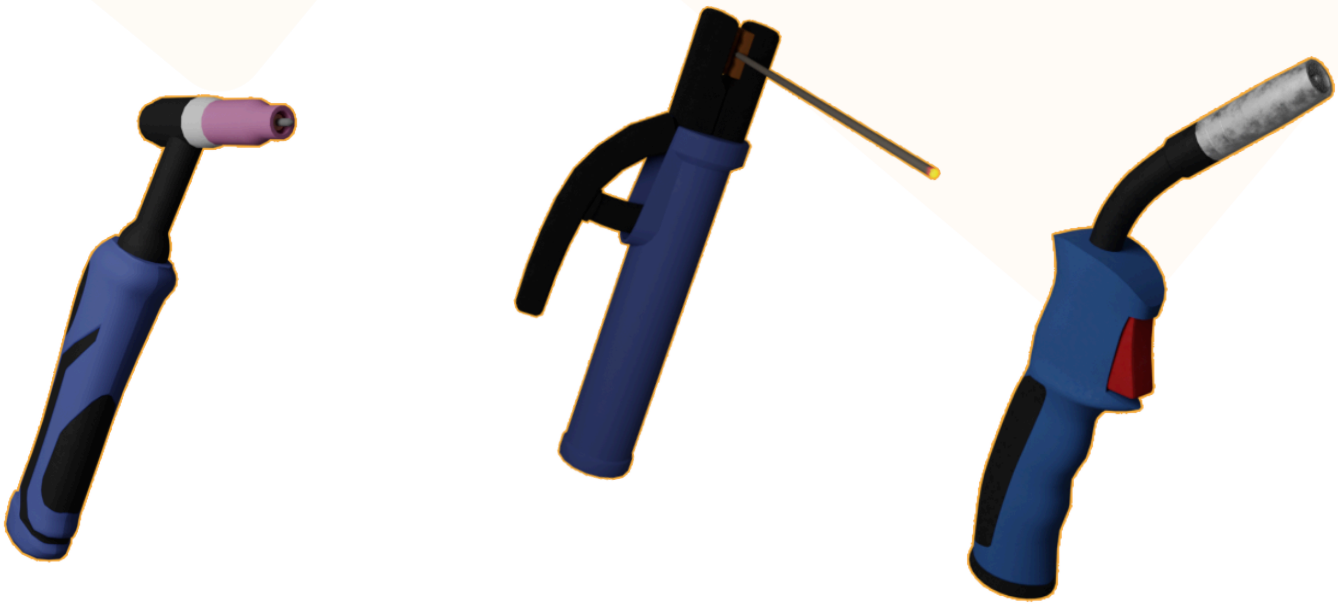
The **Lessons** module delivers structured, in-depth instruction tailored to each welding process, covering essential techniques and best practices for MIG, TIG, and Stick welding.

With **Session Replay**, users can review recorded welding sessions in detail, analyze performance, and identify areas for improvement—supporting continuous skill refinement.

Training Modules

WeldVR includes the three main welding techniques: TIG, MIG, and Stick.

Each welding process can be selected and operated to deliver a highly realistic and immersive experience, supported by precise performance tracking and detailed feedback.



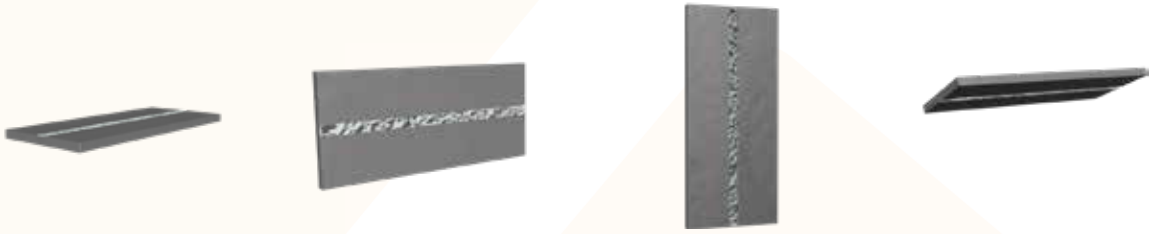
Joint Options and Positions

The system offers multiple joint types in flat, vertical, horizontal, and overhead positions, enabling complete training coverage across all welding orientations.

LAP JOINT

1F 2F 3F 4F

BUTT JOINT



1G 2G 3G 4G

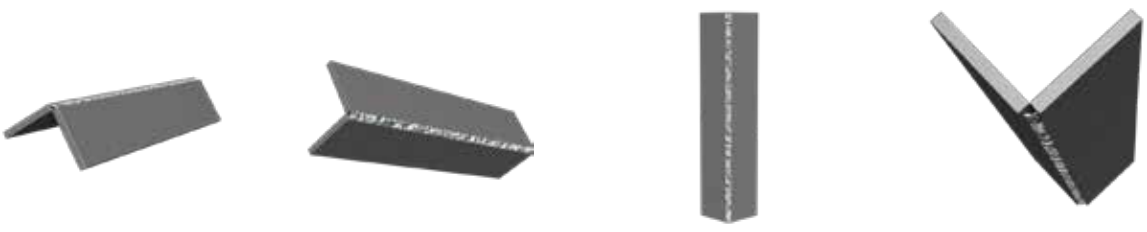
TEE JOINT

1F 2F 3F 4F

EDGE JOINT

1G 2G 3G 4G

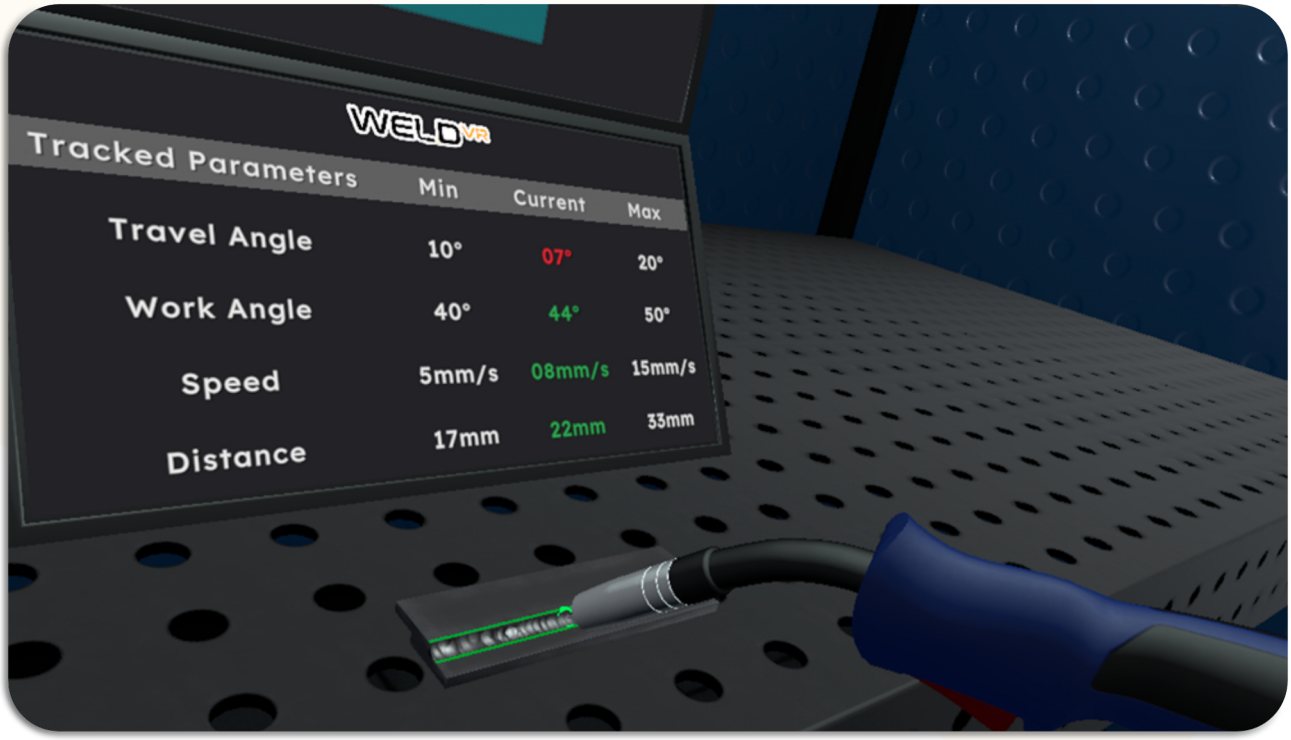
CORNER JOINT



1G 2G 3G 4G

Reticle Aim and Guidelines

The reticle aim ensures precise control by helping maintain the correct distance between the weld tip and the workpiece. When combined with visual guidelines that display two reference lines, the welding path can be easily tracked and aligned for optimal accuracy. This dual guidance system improves overall welding performance, promoting consistent results and better technique control across all welding positions.



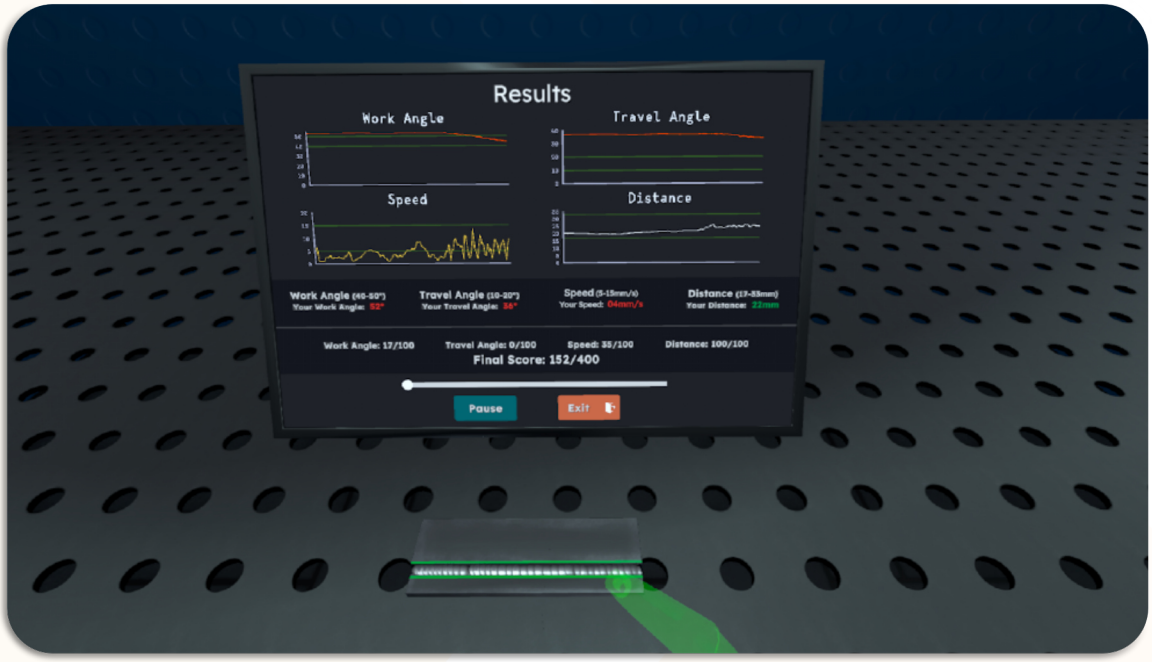
Learning Module

WeldVR delivers comprehensive interactive lessons for MIG, TIG, and Stick welding, covering all essential aspects of the welding process, including:

- Core welding techniques
- Recommended travel angles
- Proper settings for voltage, amperage, and wire speed
- Optimal stick-out lengths
- Electrode types and classification codes
- Welding manipulation methods
- Polarity selection and considerations
- Ignition techniques
- Post-flow procedures

Together, these lessons provide a solid foundation for mastering both fundamental welding principles and advanced practical skills.

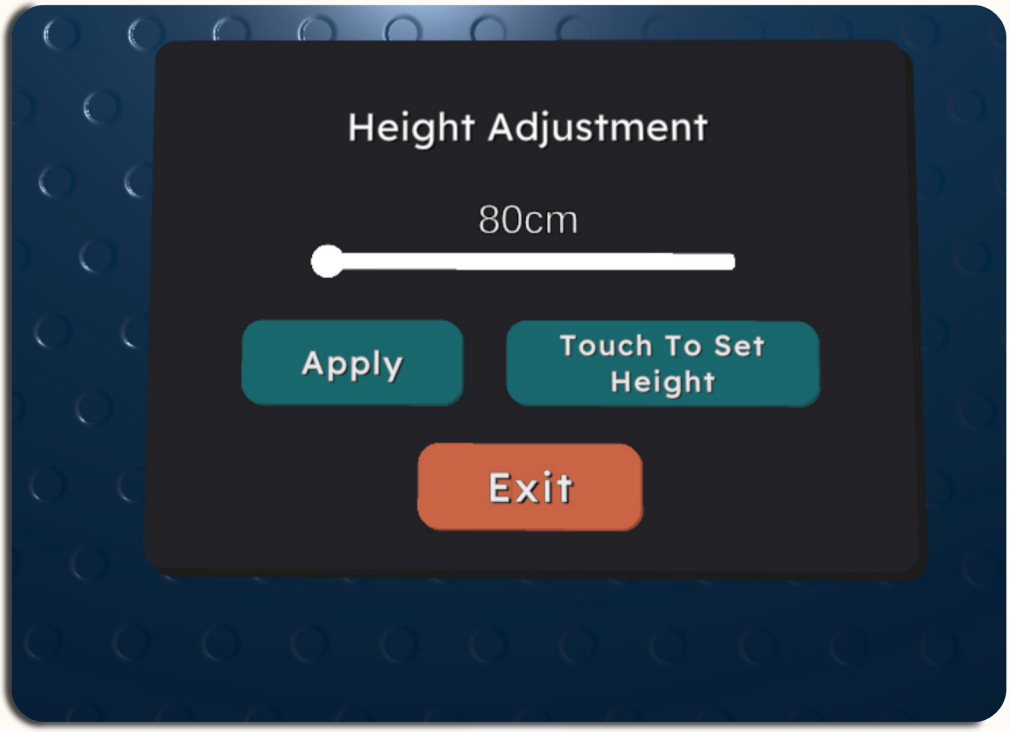
Session Replay

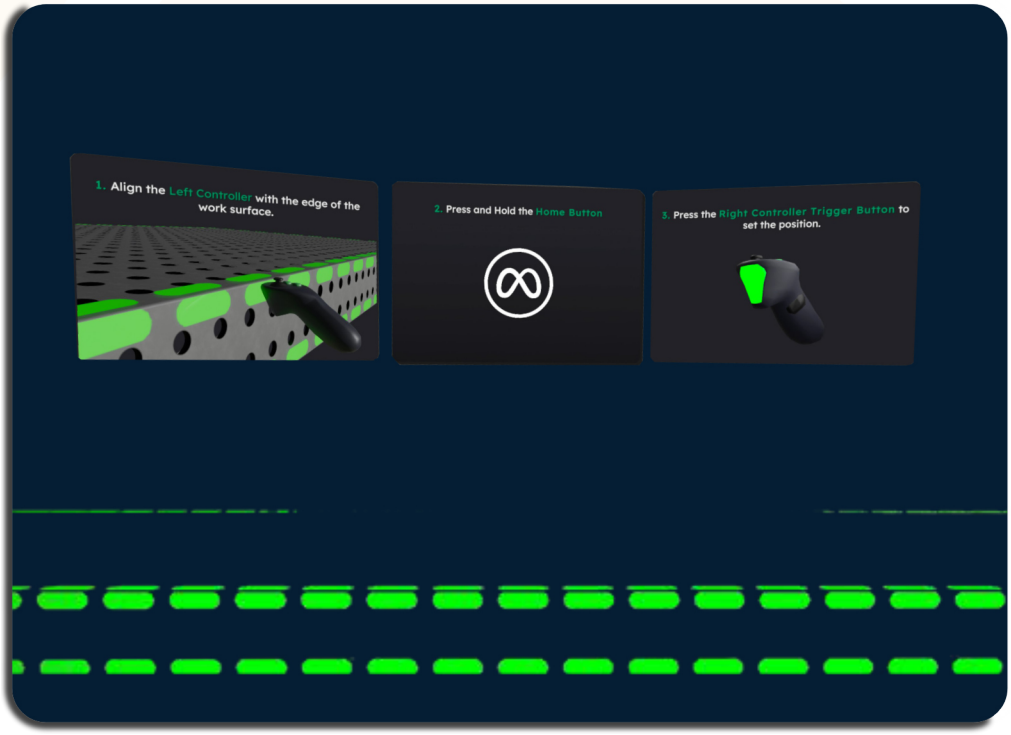


The session browser provides access to all previously recorded sessions. Selecting a session loads the recording for replay and review, making it easy to analyze past work and identify areas for improvement. This feature supports progress tracking, technique refinement, and continuous performance enhancement.

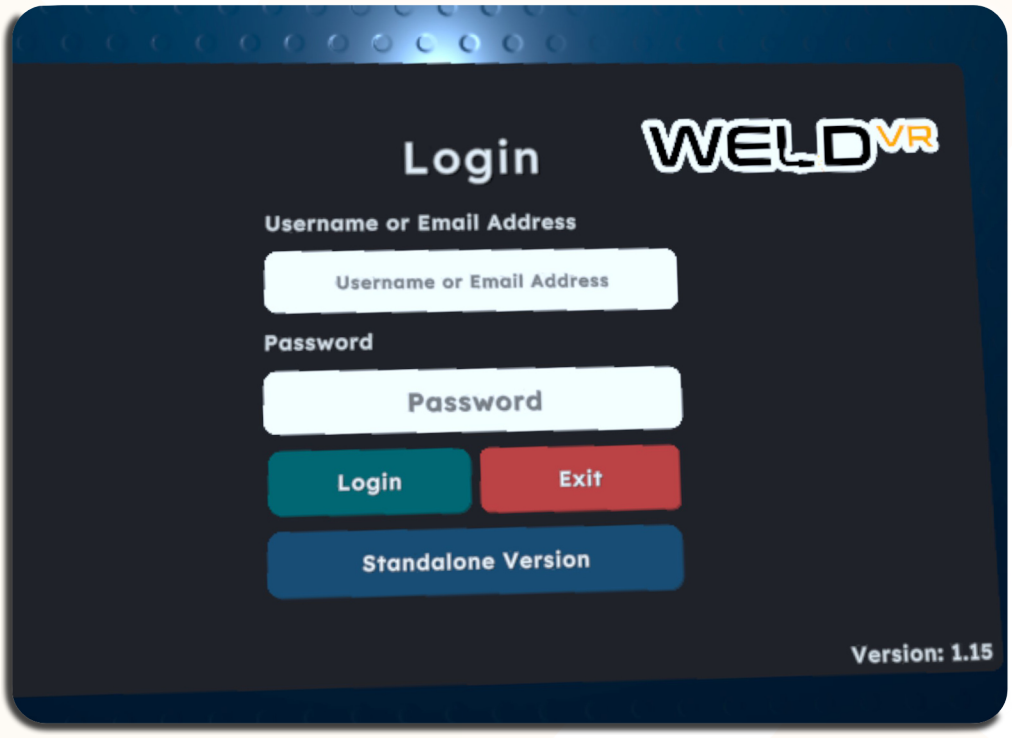
Table Height

The table height can be adjusted in two ways: manually, using a slider to set the height up to 120 cm, or through the mixed reality feature. With mixed reality enabled, the outline of the virtual table can be aligned with a real table, allowing the system to automatically match the virtual table height to the real-world measurement.

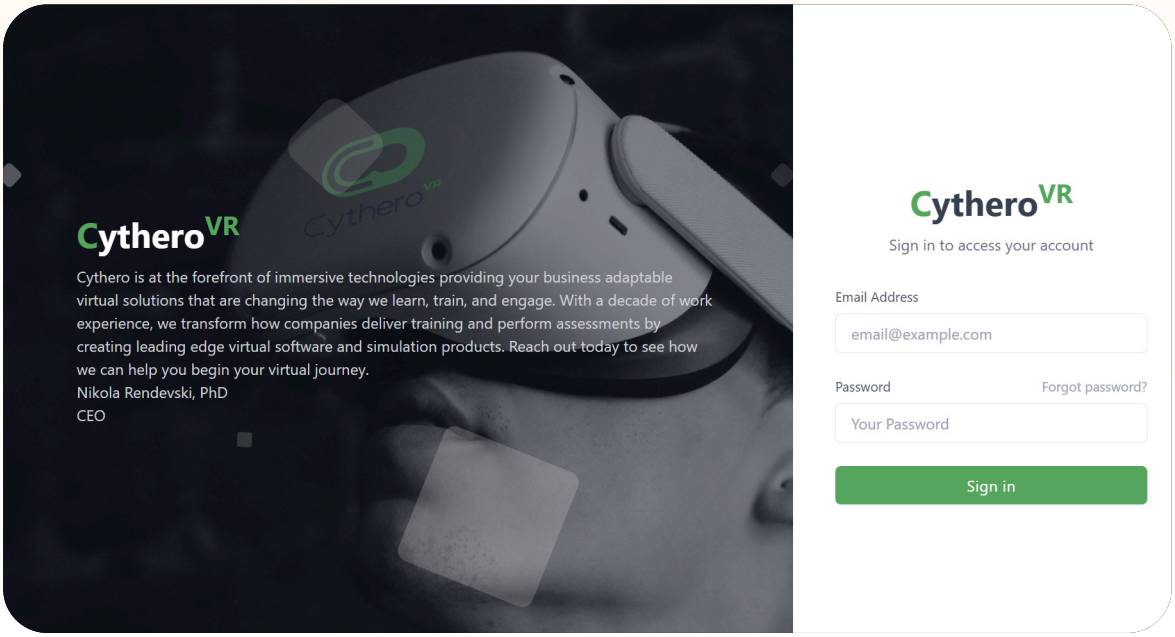




Enterprise Mode and Cloud Analytics

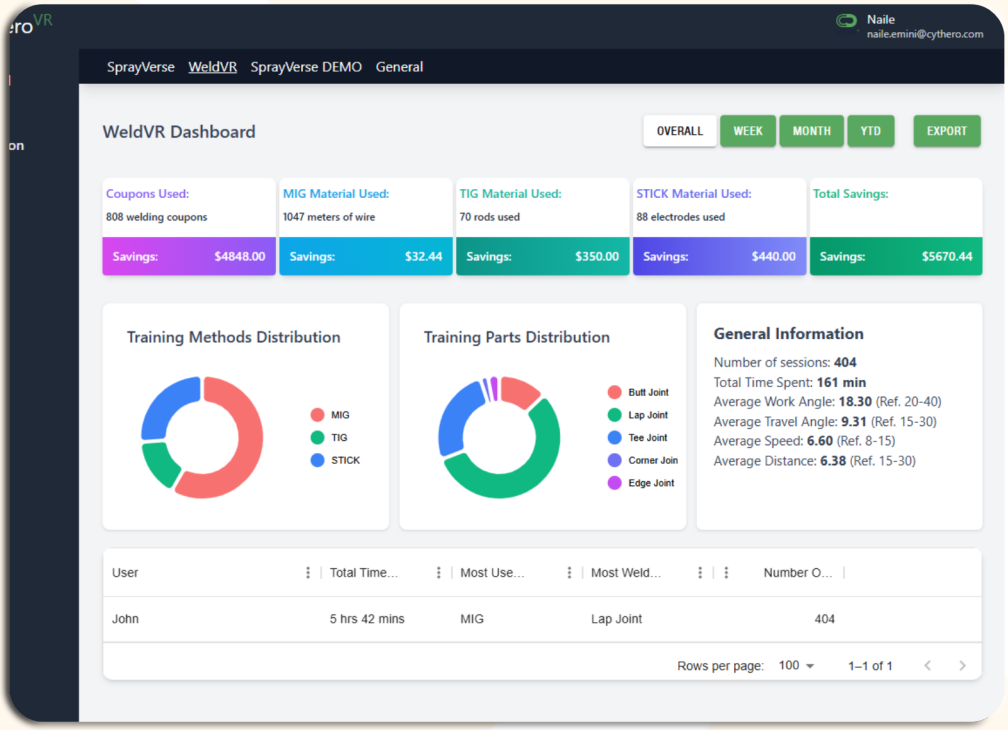


The Enterprise Version enables logging in and creating multiple user accounts within your organization,with tools to track individual user progress. It includes a web-based administration panel for managing users,organization setings, and active VR devices.



The web-based administration panel is designed to manage users, configure organization settings, track trainee progress, oversee active VR devices, and generate detailed reports.

Cloud Analytics and Reporting

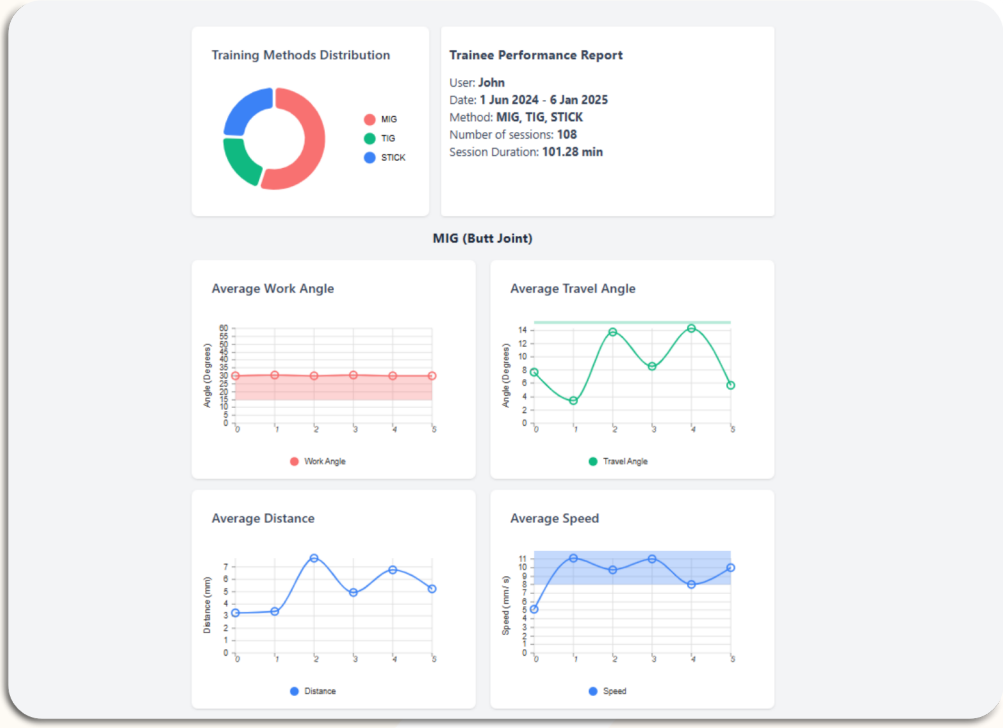


Each WeldVR All-in-One package includes five years of complimentary access to the cloud-based web portal for analytics and reporting. The portal features an intuitive dashboard that delivers detailed insights into training performance.

Material usage for MIG, TIG, and Stick welding can be tracked alongside cost savings, while training methods and parts distribution are presented through clear visual charts. The portal also provides comprehensive session data, including total sessions completed, average travel angle, welding speed, and distance.

Together, these analytics and reports enable both trainees and organizations to optimize welding training and continuously improve overall performance.

Trainee Performance Report

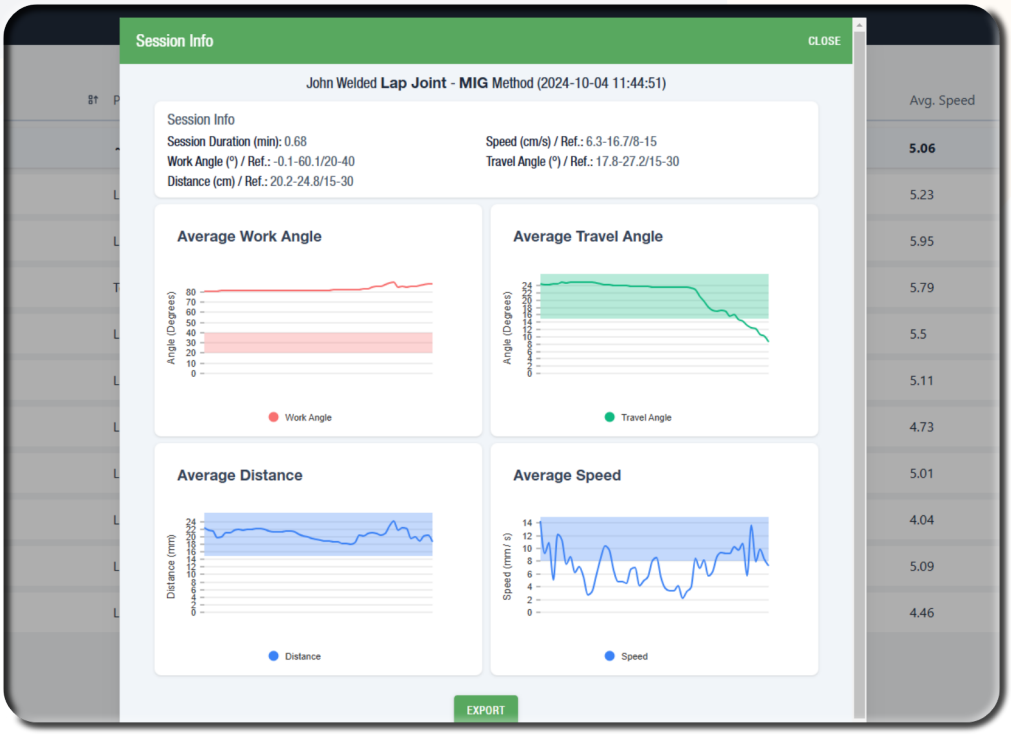


The trainee performance report provides a clear overview of progress, showing completed joint types and performance scores over time. It also highlights areas for improvement, allowing trainees to focus on specific skills and continuously enhance their overall performance.

Session Report

The session report delivers a detailed overview of an individual session, including key data such as duration, material usage, and average values for critical parameters like travel angle, work angle, welding speed, and distance.

User	Part	Method	Date	Avg. Work Angle	Avg. Travel Angle	Avg. Speed
~Total	**~**	**~**	**~**	**29.26**	**16.23**	**5.06**
John	Lap Joint	MIG	2024-10-04 11:44:51	30.09	4.71	5.23
John	Lap Joint	TIG	2024-10-04 11:46:23	30.04	12.66	5.95
John	Tee Joint	STICK	2024-10-04 11:53:14	20.94	6.18	5.79
John	Lap Joint	MIG	2024-10-04 12:15:18	30.26	21.79	5.5
John	Lap Joint	MIG	2024-10-04 12:17:22	30.05	14.35	5.11
John	Lap Joint	MIG	2024-10-04 12:25:05	30.21	22.66	4.73
John	Lap Joint	MIG	2024-10-04 12:26:03	30.08	22.56	5.01
John	Lap Joint	MIG	2024-10-04 12:53:52	30.04	14.25	4.04
John	Lap Joint	MIG	2024-10-04 13:04:31	30.02	20.85	5.09
John	Lap Joint	MIG	2024-10-04 13:07:43	30.11	18.27	4.46



Part Report

The part report delivers a detailed breakdown of performance on a specific joint or task, providing clear insight into progress over a defined time period. It includes scores from each attempt or session, highlighting both strengths and areas that require improvement.