




SOLDAMATIC®
AUGMENTED TRAINING FOR WELDING

STATE OF THE ART, TURNKEY,
SCALABLE AND EFFECTIVE
WELDING TRAINING SOLUTION

POWERED BY **AUGMENTED REALITY**





CONTEXT

GLOBAL SHORTAGE OF WELDERS



is well documented and increasing, hence requiring the need to recruit the future generation of welders

TRADITIONAL WELDING TRAINING



is inefficient, risky, costly and polluting the environment

NEW GENERATIONS



demand modern and engaging training solutions



STATE OF THE ART TECHNOLOGY

Soldamatic is the world's leading simulated welding training with state-of-the-art, scalable, proven effective and proprietary, augmented reality-based training solution, created by welders for welders with standardized welding curricula and official certification content.

Soldamatic is being used in **80+ COUNTRIES**

Soldamatic is available in **33 LANGUAGES**



56% decrease of real time in learning



68% decrease of workshop costs



GREEN TECHNOLOGY



84% less accidents



34% more certified welders than traditional methodology

HyperReal-SIM ®

AN EXCLUSIVE AND PATENTED PLATFORM PROVIDED ONLY BY SOLDAMATIC THAT OFFERS THE MOST REALISTIC WELDING TRAINING SYSTEM ASIDE FROM REAL LIFE WELDING



Real welding mask and gloves



Real torches with haptic technology



Welding Joints based on industry best practices



Power source-like controls



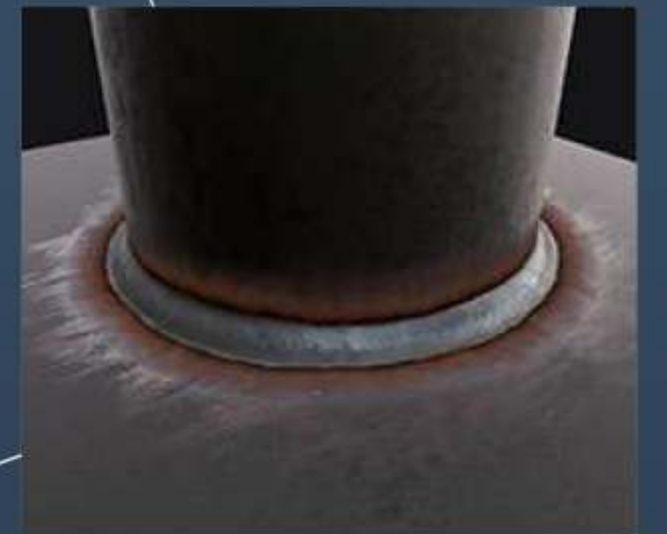
Welding bead quality & Settings



Remastered HD Welding Sound



Precisely calibrated



Examples of Soldamatic's real time welding simulation

ALL THE WELDING PARAMETERS, VISUALS AND SOUND HAVE BEEN **CALIBRATED AT THE REAL WELDING LAB**



AUGMENTED TRAINING

FULLY FLEXIBLE TRAINING SOLUTION - TRANSPARENT AND CONSISTENT EXPERIENCE ON-PREMISE, REMOTE AND VIDEO LEARNING

- Transparent and consistent learning experience from classroom or remote locations with video recording
- Real time server connection is not required, all information is updated once the connection is re-established
- Trainers and students can access the virtual classroom, share their screen and chat in real time



THE AUGMENTED TRAINING METHODOLOGY

- New educational paradigm
- Combine AR simulation with real welding practice
- Allows instructors to manage numerous courses and students



Soldamatic



Real Welding



AUGMENTED LAB

GLOBAL DEPLOYMENT IN EDUCATION AND INDUSTRY 4.0

Seabery - Augmented Training methodology combines the practical part of Augmented Reality with the practical part of reality. This is the concept of Augmented Lab, which allows the students to immerse in simulation environments in which they can practice in the most realistic way without limitations, risk-free, and without additional costs, until they acquire the abilities and skills necessary to move to a real environment.

Augmented Lab Real Workshop



Content by International Publishers



High quality welding curricula developed by international experts to be performed with Soldamatic IE.



E-LEARNING MANAGEMENT SYSTEM (LMS) APPLICATION SPECIFICALLY **DESIGNED TO WORK UNDER THE AUGMENTED TRAINING METHODOLOGY**

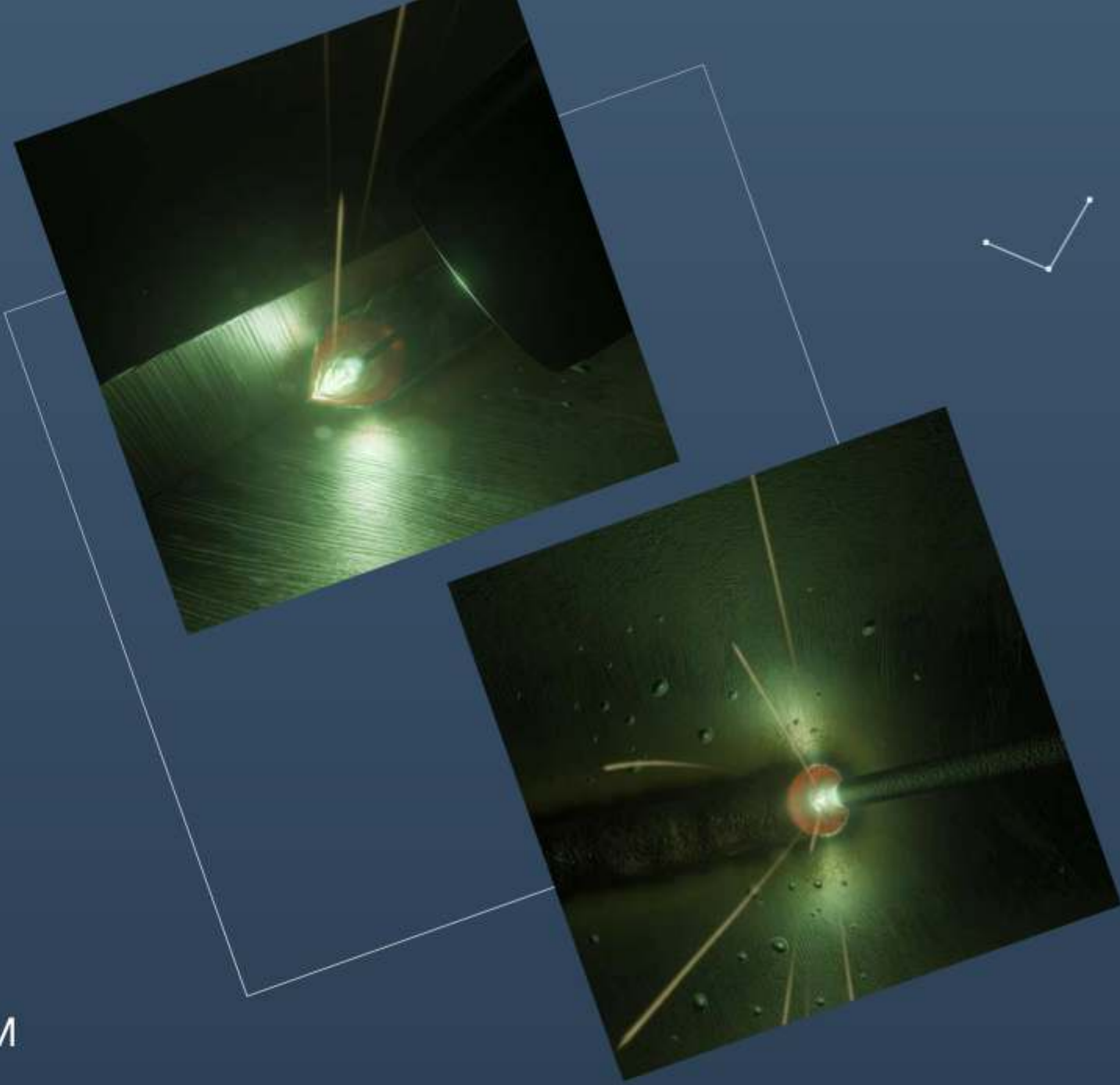
- Create and manage courses: Theory, practice and tests
- Review exercises and generate statistics and reports
- Share exercises, review the virtual classroom and chat live
- Students have their own access to their courses, contents, practices and reports



WHAT'S NEW

HIGH REALISM GRAPHIC BASED ON PBR

The graphics are based on photorealism and physical rendering (PBR), which uses realistic shading and lighting models along with measured surface values to accurately represent real-world materials.



ADVANCED TORCHES

- New Advanced Torches with - New AWM
 - > New camera added to the tip of the torch to allow vision of blind spots
 - > Accuracy of solution improved due to use of multiple cameras
 - > Icons have been added to the simulation to show detailed detection
 - > SMAW electrode holder can be rotated to accommodate better to different welding positions
- Focus on TIG/GTAW Advance Torches : Patented New Advanced GTAW rod that simulates dipping technique



METALS

CARBON STEEL

STAINLESS STEEL

ALUMINUM

Real Piece



New Soldamatic



WELDS

SMAW

GMAW

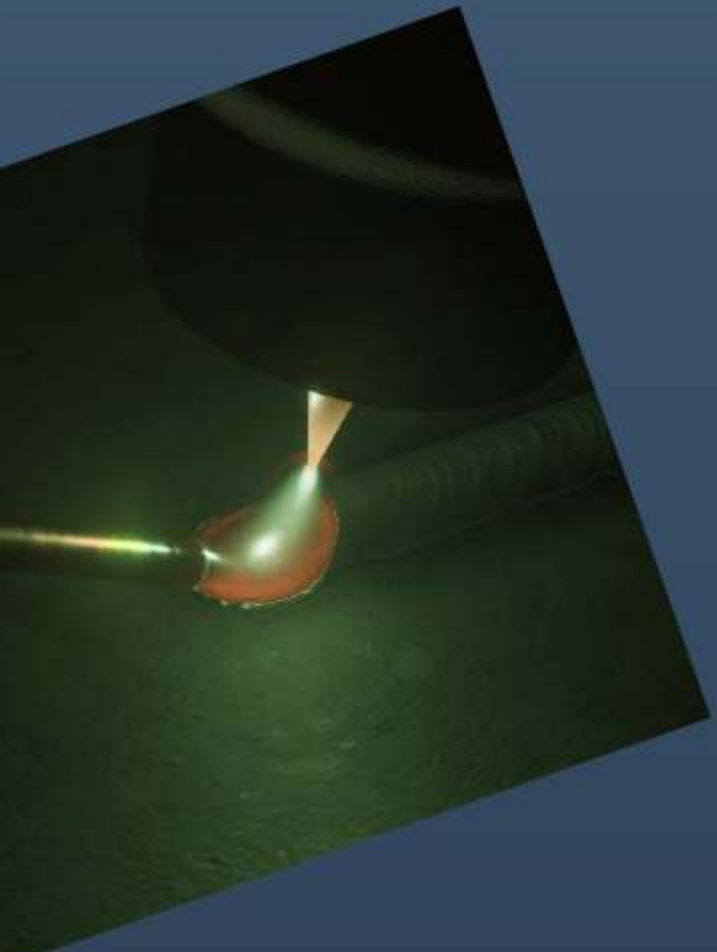
FCAW

New Soldamatic

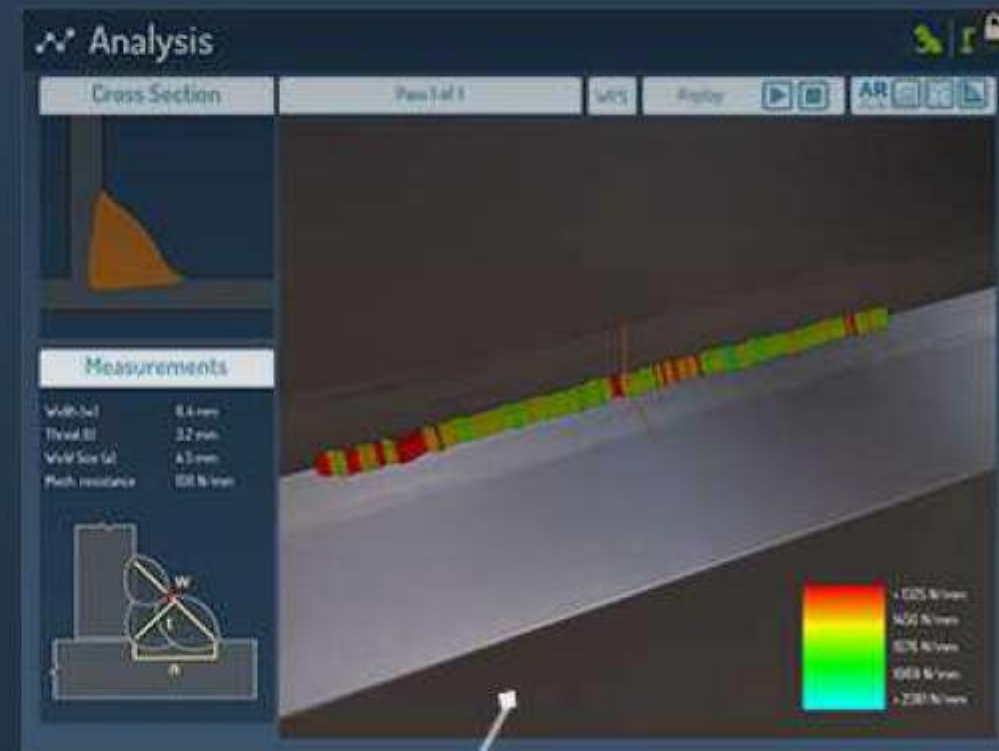
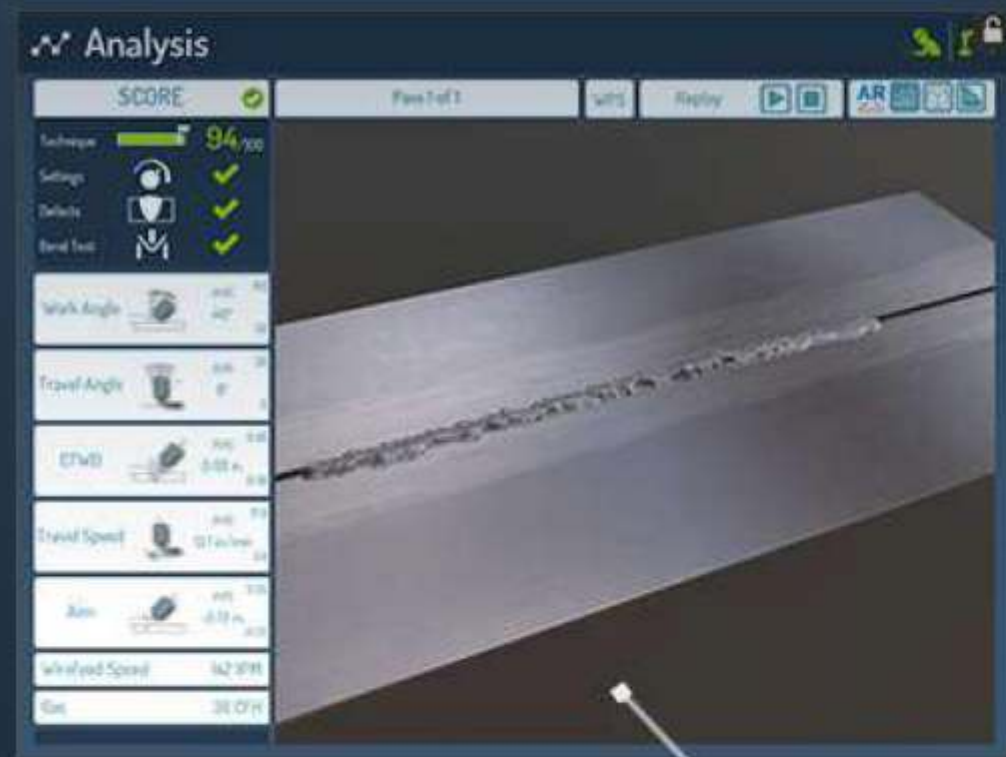


GTAW IMPROVEMENT

- Improved weld bead geometry and surface detail
- Overhauled weld puddle simulation for a more true-to-life TIG welding experience. See how the filler rod melts into the weld puddle
- Enhanced weld arc graphics representative of the real TIG welding process
- New real time guide to help students learn how to establish weld puddle and use filler rod to lay weld bead of uniform size
- New Advanced GTAW rod that simulates dipping technique

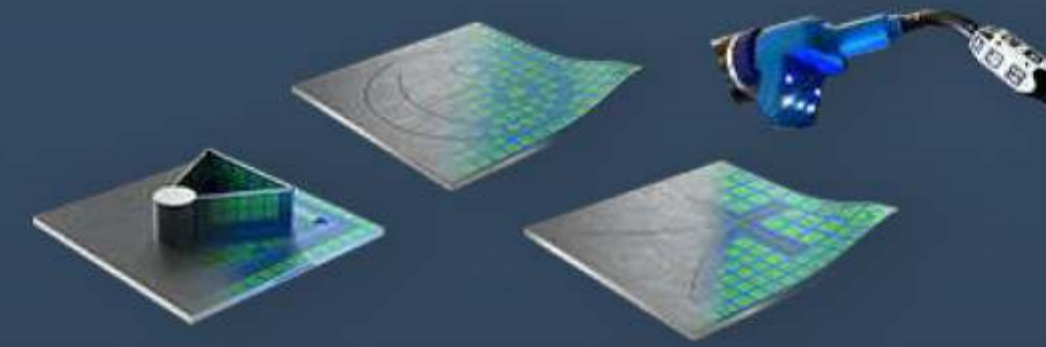


CROSS SECTION, MECHANICAL RESISTANCE AND BEND TEST



ROBOTICS

- Educational Partnership with COMAU & KUKA
- FANUC & ABB
- New Robotics Torches Options
 - 1) Robotic vision module
 - 2) Robotic educational
 - 3) Robotics advanced torch
- New robots connection (Hiwin, Staubli)
- New User interface improvements
- New I/O mapping signals
- New AWMs based on International Welding Association

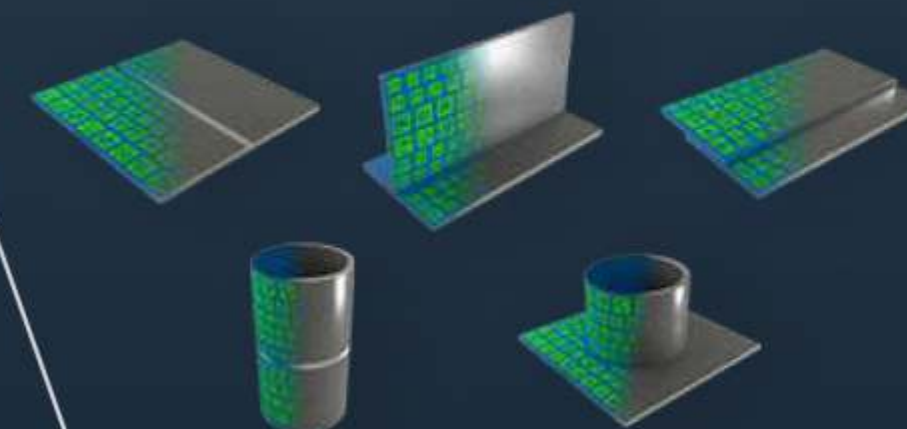


WELDING JOINTS

MOST COMPREHENSIVE AND ADVANCED WELDING TRAINING JOINTS TO TRAIN EVERY TYPE AND LEVEL OF WELDER, AND NEARLY EVERY WELDING PROCESS SEQUENCE

TRAINING WELDING JOINTS

The most used welding joints for training in the world in accordance with the UNE-EN ISO 9606 norm.



INDUSTRIAL WELDING MULTIJOINTS

Bring real welding joints to Augmented Reality. Developed to cover specific welding training and performance needs.



ADVANCED **WELDING MULTIJOINTS**

DESIGNED FOR VERTICAL SECTORS AND ADVANCED WELDERS.



GMAW (MIG/MAG)
Carbon Steel
Positions: PB & PF

Foundational Ambidex

AWM-001



GMAW (MIG/MAG)
Carbon Steel
Positions: PB, PF, PD & PH

Foundational Complex Sequence

AWM-002



GMAW (MIG/MAG)
Carbon Steel
Positions: PB, PF, PD & PA

Heavy Industry Specific Practices

AWM-003



GMAW (MIG/MAG)
Carbon Steel
Positions: PB

Automotive Chassis Assembly

AWM-004



GMAW (MIG/MAG)
Carbon Steel
Positions: PA, PB, PC, PD, PE, PF

Automotive Thin Plates

AWM-005



GMAW (MIG/MAG)
Carbon Steel
Positions: PF

Shipbuilding Open Root

AWM-006



GMAW (MIG/MAG)
Carbon Steel
Positions: PF

Shipbuilding Backing Strip

AWM-007



GMAW (MIG/MAG) & FCAW
Carbon Steel
Positions: 6G

Pipeline 6' Schedule 80

AWM-008



GMAW (MIG/MAG)
Carbon Steel
Positions: PA

Robotic Foundational "House"

Robotic Foundational "Face"

AWM-009 / AWM-010



GMAW (MIG/MAG)
Carbon Steel
Positions: 6G

Pipeline 6GR

AWM-011



GMAW (MIG/MAG)
Carbon Steel
Positions: 6G

Pipeline Monster Coupon

AWM-012



GMAW (MIG/MAG)
Aluminium
Positions: PA

Open root with V-Groove

AWM-013



GMAW (MIG/MAG)
Carbon Steel
Positions: PA

Foundational Multilap

AWM-014



GMAW (MIG/MAG)
Carbon Steel
Positions: PA

Robotic Foundational Assembly

AWM-015



GMAW (MIG/MAG)
Carbon Steel
Positions: PB, PF, HLO45

Robotics Foundational Complex Sequence

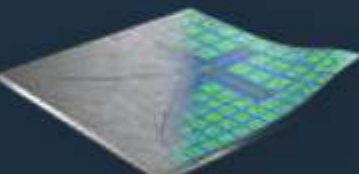
AWM-016



GMAW (MIG/MAG)
Carbon Steel
Positions: pb, pf

Robotics AWS CRAW

AWM-017



GMAW (MIG/MAG)
Carbon Steel
Positions: PA

Robotics Foundational "Chinese character - 大"

AWM-018



GMAW (MIG/MAG)
Carbon Steel
Positions: PB, PF

Robotics AWS CRAW

AWM-019



GMAW, FCAW, SMAW, GTAW
Carbon Steel
Positions: PA, PB, PC, PD/PE

AWS EDU coupons

AWM-020



SOLDAMATIC ROBOTICS

IS THE MOST REALISTIC, COMPLETE, FLEXIBLE, AND PROGRAMMABLE ROBOTIC WELDING TRAINING SOLUTION.

SOLDAMATIC ROBOTICS IS CONNECTED TO A **ROBOT ARM**



Training operators in robot programming for specific welding routines



Modernizes the welding training center by training students in the latest industry requirements



Augmented Reality technology allows the use of the teach pendant of a real robot, thus reducing consumption and risk



Soldamatic Robotics software works with almost any robot on the market



It incorporates different welding parts based on real market practices



- > Tested content with **hundreds of practices available.**
- > **Remote access**, from any place and any time.
- > It can be **integrated in almost any robot** in the actual market.

VISION TECHNOLOGY	AUGMENTED REALITY																
WELDING PROCESSES SUPPORTED	MANUAL: GMAW (MIG/MAG) & FCAW G/S, SMAW (MMA Electrode), GTAW (TIG) ROBOTICS: GMAW (MIG/MAG) & FCAW G/S																
WELDING POSITIONS	PA, PB, PC, PD, PF/PG, PE, PH/PJ, HLO45/JLO45 - 1F, 2F, 3F, 4F, 5F, 6F, 1G, 2G, 3G, 4G, 5G, 6G HLO45 (6G) available in AWM-002, AWM-008, AWM-011, AWM-012 and AWM-016. 6GR available in AWM-011 (Pipeline 6GR)																
DEFAULT WELDING JOINTS INCLUDED																	
ADDITIONAL WELDING JOINTS AVAILABLE	20 Additional Advanced Welding Multijoints available for manual and robot welding based on Foundational, Automotive, Railway, Shipbuilding and Oil & Gas industries Manual: AWM001, AWM002, AWM003, AWM004, AWM005, AWM006, AWM007, AWM008, AWM011, AWM012, AWM013, AWM014, AWM020 available for AWS training content Robotics: AWM001, AWM004, AWM009, AWM010, AWM015, AWM016, AWM017, AWM018, AWM019																
WELDING JOINTS FOR SPECIFIC INDUSTRIAL NEEDS	With Industrial Welding Services																
ON DEMAND TAILOR MADE COUPONS	Including the physical workpiece. Industrial Welding Services																
PIECE CAN BE MANIPULATED SEPARATELY	It can be manipulated at any time during the exercise to perform a visual inspection of the welding bead. The																
REAL WELDING TORCHES	MANUAL: YES, by Abicor Binzel																
REAL ADVANCED WELDING TORCHES	Handle ergonomics by Abicor Binzel																
HAPTICS	Advanced GMAW/FCAW torch includes vibration feature																
WELDING SOUNDS	Recorded in a real welding lab																
REAL WELDING MASK	YES																
VOLTAGE SELECTION	ROBOTICS: in job selection																
SHIELDING GAS SELECTION																	
WIRE SPEED SELECTION	during the exercise ROBOTICS: in job selection																
PLUG WELDING	In AWM-005 (Automotive Thin Plates) and Industrial Services																
COUPON MATERIAL SELECTION	Carbon Steel, Stainless Steel, Aluminium																
GAS COMPOSITION	<table border="1"> <thead> <tr> <th>MATERIAL</th> <th>GMAW</th> <th>GTAW</th> <th>FCAW</th> </tr> </thead> <tbody> <tr> <td>Carbon Steel</td> <td>Argon - Co², CO²</td> <td>Helium*</td> <td>Argon - Co², CO²</td> </tr> <tr> <td>Aluminium</td> <td>Argon</td> <td>Argon</td> <td>-</td> </tr> <tr> <td>Stainless Steel</td> <td>Argon - O²</td> <td>Argon</td> <td>-</td> </tr> </tbody> </table>	MATERIAL	GMAW	GTAW	FCAW	Carbon Steel	Argon - Co ² , CO ²	Helium*	Argon - Co ² , CO ²	Aluminium	Argon	Argon	-	Stainless Steel	Argon - O ²	Argon	-
MATERIAL	GMAW	GTAW	FCAW														
Carbon Steel	Argon - Co ² , CO ²	Helium*	Argon - Co ² , CO ²														
Aluminium	Argon	Argon	-														
Stainless Steel	Argon - O ²	Argon	-														
COUPON THICKNESS SELECTION	YES: 3mm, 6mm, 10mm 1mm, 2mm, 7mm, 8mm, 15mm, 16mm, 20mm, 25mm available with Advanced license																
POSSIBILITY TO USE OTHER THICKNESSES	On demand with Industrial Welding Services																

	MATERIAL	GMAW	SMAW	GTAW	
	Carbon	0.8mm, 1mm, 1.2 mm	2.5mm, 3.25mm, 4mm	2mm, 2.4mm, 3.2 mm	
	Stainless Steel				
	Aluminium	1mm, 1.2mm	-		
	MATERIAL	GMAW	SMAW	GTAW	FCAW
	Carbon Steel	ER70S-6	E7018, E6010, E6013	ER70S-6	E71T-1, E71T-7
	Stainless Steel	E316LSi	E316L	ER316L	
	Aluminium	ER5356	-	ER5356	
POSSIBILITY TO TRY DIFFERENT SETTINGS DURING THE EXERCISE AND THEIR EFFECTS IN THE WELDING BEAD	YES				
MULTIPASS EXERCISE WITH DIFFERENT WELDING PROCESSES	YES				
WELDING TECHNIQUE	Push / Drag				
	Straight, Triangle, Convex, Circle, Zigzag				
WELDING DIRECTION	ROBOTICS: Right to left/ Left to right				
OPEN ROOT WELDING	In AWM-006, AWM-008, AWM-011, AWM-012, AWM-013 and AWM-015				
TRANSFER MODES	Short circuit, globular, spray, pulsed-arc (available for AWM welding joints)				
UNDO WELDING	It is possible to undo a pass or weldment repeating only a certain part of the exercise				
	They can be added/removed				
POSSIBILITY TO CONNECT THE UNIT TO A ROBOTIC ARM	Robotics license needed				
ANALYSIS MODULE	YES				
ADVANCED ANALYSIS MODULE	Included in Advanced licenses. Mechanical Resistance and Cross Section				
DEFECTS ANALYZED	AWM welding joints)				



REPORT FEATURES	CTWD, Travel Speed, Work Angle, Travel Angle, Trajectory, Voltage, Wirefeed Speed, Technical Parameters, Equipment
AUGMENTED TRAINING CONTENT	Developed by Seabery: Augmented Training Soldamatic Welding Course; Augmented Training Methodology; Introduction to Robot Welding; MAG position PF / PD / PH
INTERNATIONAL PUBLISHERS CONTENT	AWS, CESOL, DVS, Ludo Breemans
LMS APPLICATION	Soldamatic e-Learning for Teachers and Students
LMS APPLICATION:TEACHER ACCESS	Easy web access and also desktop application
LMS APPLICATION:STUDENTS ACCESS	Web access. Visualize contents, progress, take tests, live chat
LMS APPLICATION:LIVE CHAT	Available for teachers and students
LMS APPLICATION:SHAREVIEW	Teachers can see what the students see in real time in their laptop, either within the same classroom or online
	Synchronous and asynchronous options
	centers online, seeing in real time their progress and the welders' point of view while welding
STUDENT PERSONALIZED PROFILE	Practices report and progression
REPORTS	Exercises, courses, students and diploma reports. Also CSV format available for end-user custom reports
CUSTOMIZED PRACTICES	Customized in Soldamatic E-Learning
REAL ENVIRONMENT DURING SIMULATION	YES
SUBSCRIPTION OPTIONS	Annual or Lifetime
UPDATES	the license with no additional cost New system versions included in the annual license with no additional cost
REMOTE MAINTENANCE	YES
SPECIFIC CUSTOMER ADAPTATIONS ON DEMAND	YES
REGULATIONS	CE and FCC
CERTIFICATIONS	ISO 9001 Quality Management System ISO 14001 Environmental Management System
WARRANTY	1 year by default, up to 2 more years optional
SOLDAMATIC SIMULATOR	
	442,5x239,5x457,5mm (17.42x94.29x18.72 in.)
	9.46 Kilograms (20.85 lbs.)
	10.5 Kilograms (23.15 lbs.)
ACCESSORIES	ROBOTICS: Vision Module, Robotics educational torch and Robotics advanced torch OPTIONAL: GTAW (TIG) Pedal, Workstand, Augmented Lab

POWER SUPPLY	100V-240V
PROCESSOR	Intel® Core™ i5 10th gen
CHIPSET	Intel® Q470E
RAM	16 GB (2 x 8GB Dual-Channel) DDR4 2400Mhz
GRAPHIC CARD	NVIDIA Quadro T1000
HARD DISK	M.2 SSD 128GB
AUDIO	-
OPERATING SYSTEM	Seabery Operating System optimized for Soldamatic 2023
AUTOMATIC SHUTDOWN	-
DISPLAY SIZE	9.7"
DISPLAY RESOLUTION	HD LCD 1024 x 768 XGA
BACK PANEL PORTS	Screen: HDMI/Display Ports USB: 4 x USB 3.2 Gen 1 Connection: 2x LAN 2x Antennas Intel® WiFi6 Dual Band Audio: microphone & speakers ports Others: Robotics port
FRONT PANEL PORTS	1 X USB type A, 1 X USB type B
AR VISION MODULE RESOLUTION	MIPI LCD 4,7" HDMI Display input up to 1280x720 Ultra-low video distortion 24-bit True Colour
-	640x480 / 800x600 Autofocus
UNIT CAN BE USED WITH GLASSES	YES
OPERATING TEMPERATURE	0 - 45°
HUMIDITY	10 - 80%

SOLDAMATIC SERVER

INSTALLATION TYPE	ON-PREMISE OR CLOUD
RAM MEMORY	8GB DDR4 3200MH
MOTHERBOARD	Asus H110M-E
MICROPROCESSOR	Intel Core i3-12100
POWER SUPPLY	Fuente 500w
HARD DISK 1	SSD 240GB SATA3
-	1TB SATA3
NETWORK CARD	TP-Link TG-3468

WINDOWS	MacOS
WINDOWS 10 64 BITS	OS Min: High Sierra 10.13
Processor: Intel I5 2.5GHz	Processor: Intel I5 1.86GHz
RAM: 8GB	RAM: 8GB
-	Graphic card: Intel Iris Plus Graphics 640



Seabery is the international leader in professional skills training with augmented reality-based simulation training solutions for the 21st century workforce, with partners and presence in more than 80 countries.

Soldamatic is leading welding training with a State-of-the-art, Turn-Key, and Scalable solution to create the next generation



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