This is Schweißen & Schneiden 2025

September 15–19, 2025
Messe Essen, Germany

Fronius

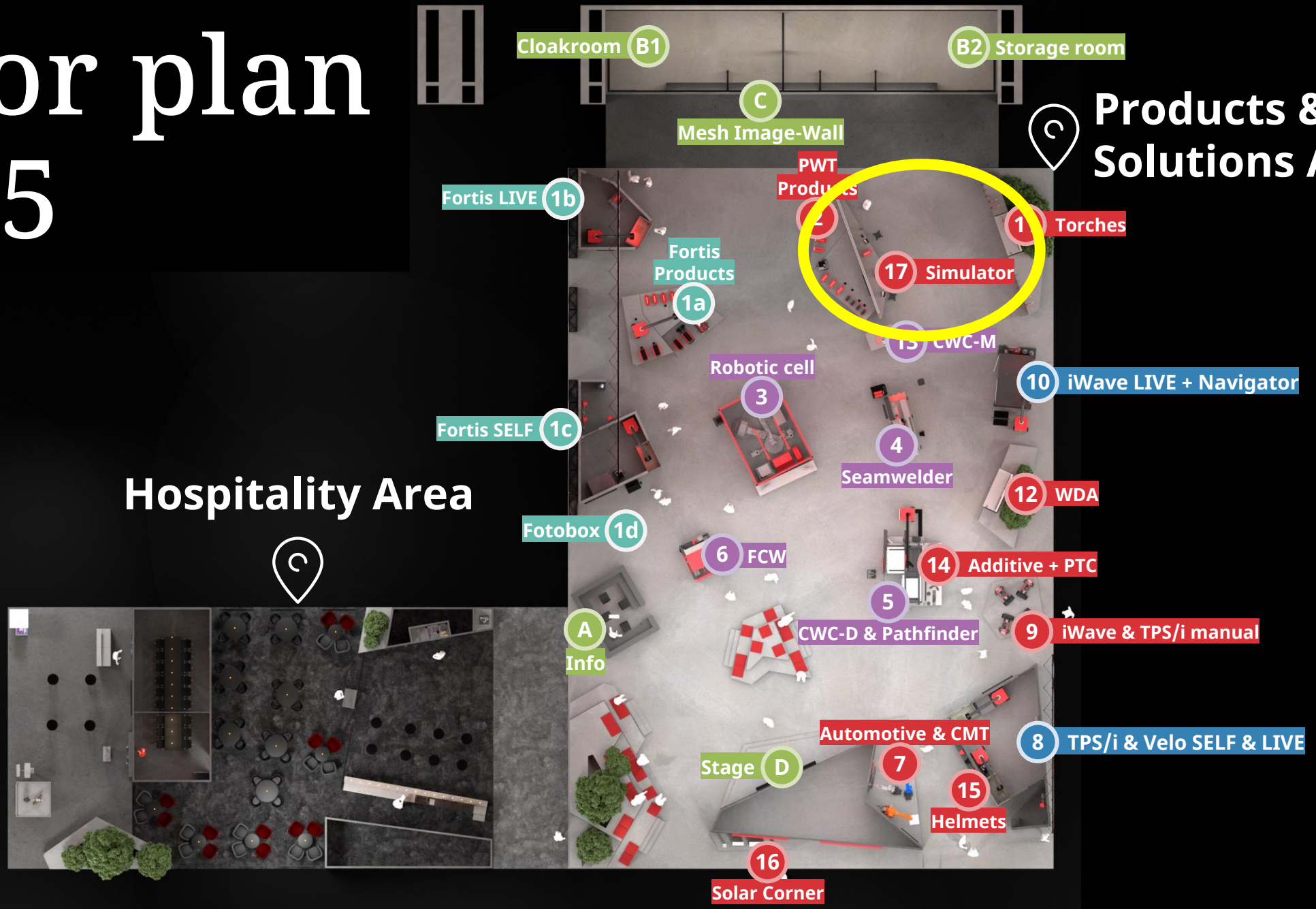
Agenda

Welducation Simulator News - Schweißen & Schneiden 2025

- **Where can I find the simulator stand?**
- **Language expansion - Campus becomes more international**
- **New content - Weldscripts in Ukrainian, Health & Safety in DE/EN incl. knowledge check**
- **New design - Analysis 2.0 (UI/UX), new UI in the XR glasses, animated checklist images**
- **New tasks & features - New positions (PG, PJ, J-L045), adjustable welding direction, handedness, optimized process incl. error criteria**
- **Training configurator - tasks can be customized: torch guidance, angle of attack, parameters, materials, beads/layers, CTWD and much more.**
- **Welducation Simulator – Customer value**

Where can I find the Welducation Simulator stand?

Floor plan 2025



Bird's-eye view

Welducation
Simulator

Free Flow Station

Update 1.3

Languages

- **Multilingualism**
  - Additional menu languages Turkish, Polish, Swedish, Finnish, Croatian, Romanian, Portuguese
  - **Weldscript** in Ukrainian
- **Theory content**
  - The new occupational safety manual which was developed in cooperation with AUVA

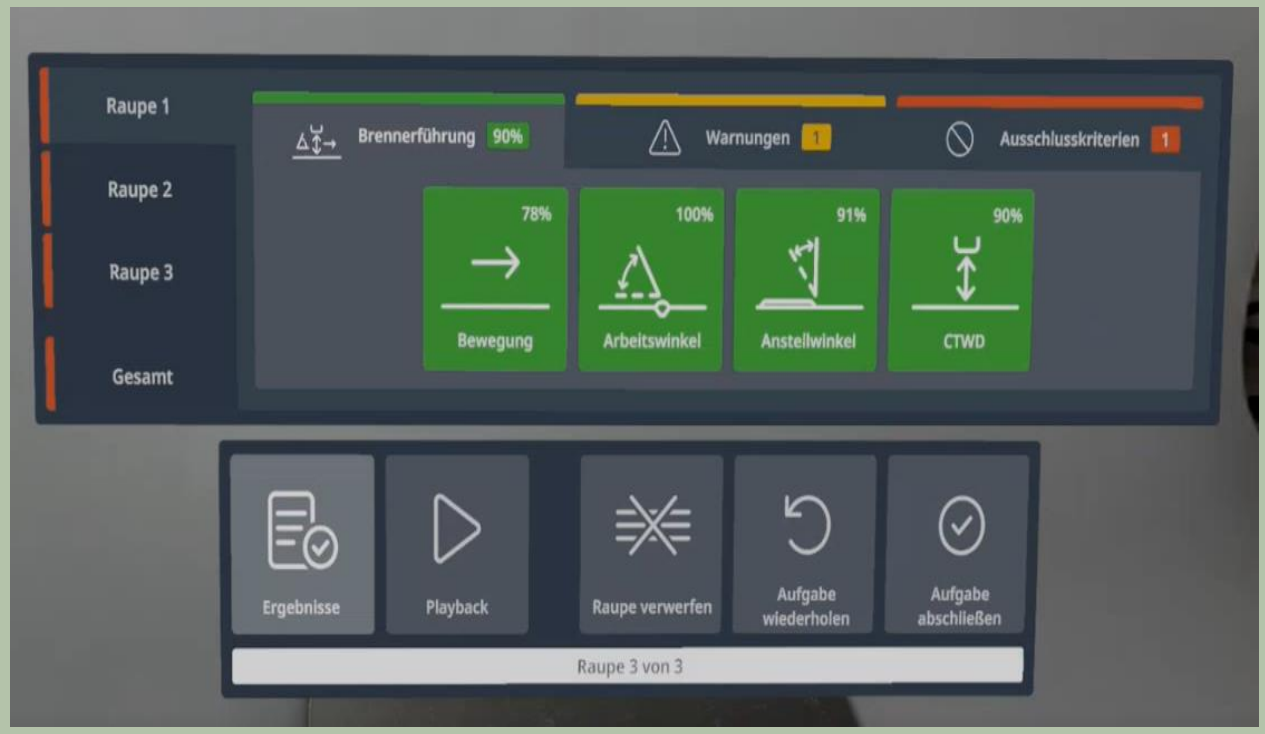
- **Knowledge check**
  - **Occupational safety manual**(Health&Safety)
- **USB update also possible for cloud**

UI/UX/Workflow Redesign

Workflow NEW

The entire process for virtual welding tasks has been refined even further!
From a clearer and simpler user guidance, to the support of the didactic concept during the entire welding process (parameterization, torch guidance, intermediate interactions...) have been adapted to the levels of difficulty. Trainees will thus be even better prepared for real welding tasks!
An exclusion criterion for slag treatment was also implemented as part of this process.

- -Clear and simple presentation
- Improved readability(Dark Mode)
- Improved color coding for successes, errors or warnings
- Adaptation of realistic welding sequences



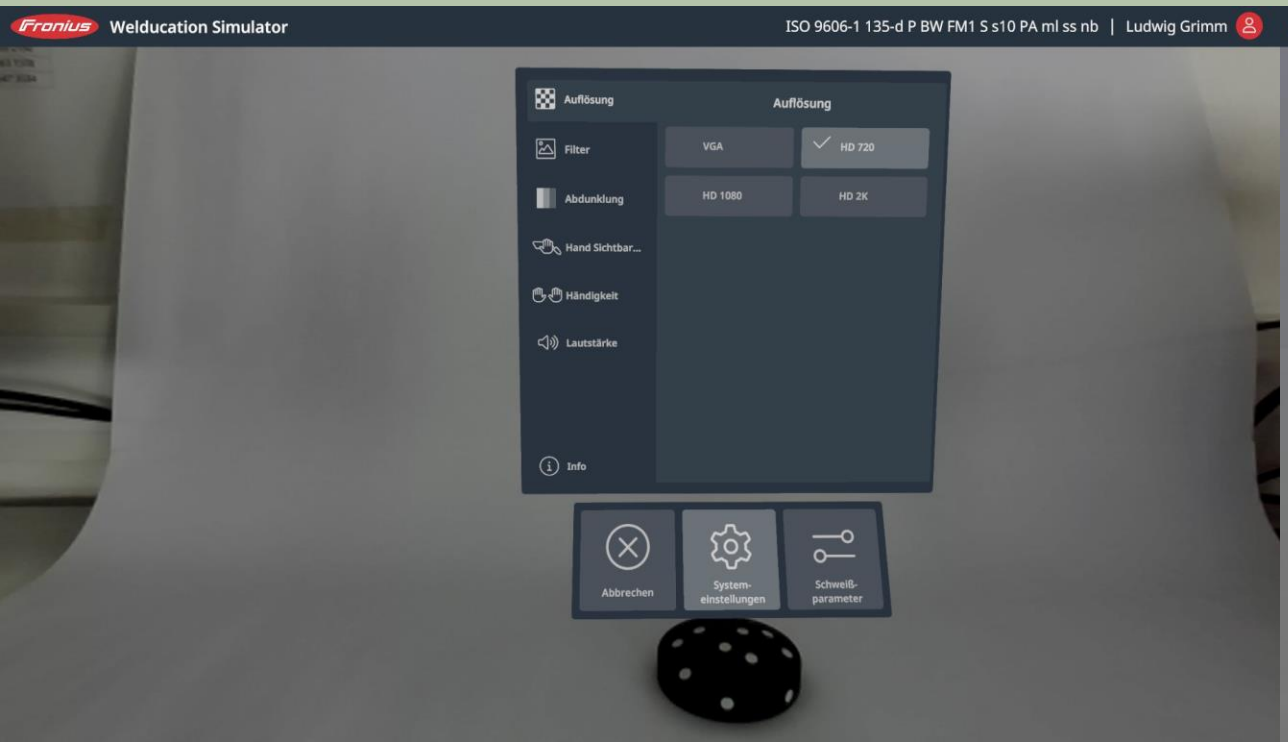
General Features

- ✓To improve readability, the design has been changed to a light font with a dark background.
- ✓The icons are more self-explanatory and if you stay with the burner for longer, additional explanatory texts appear(Tooltips).
- ✓ For a clearer distinction between successes, errors and warnings, the color scheme has been significantly adapted with green, red and yellow.

Clear division of the menus

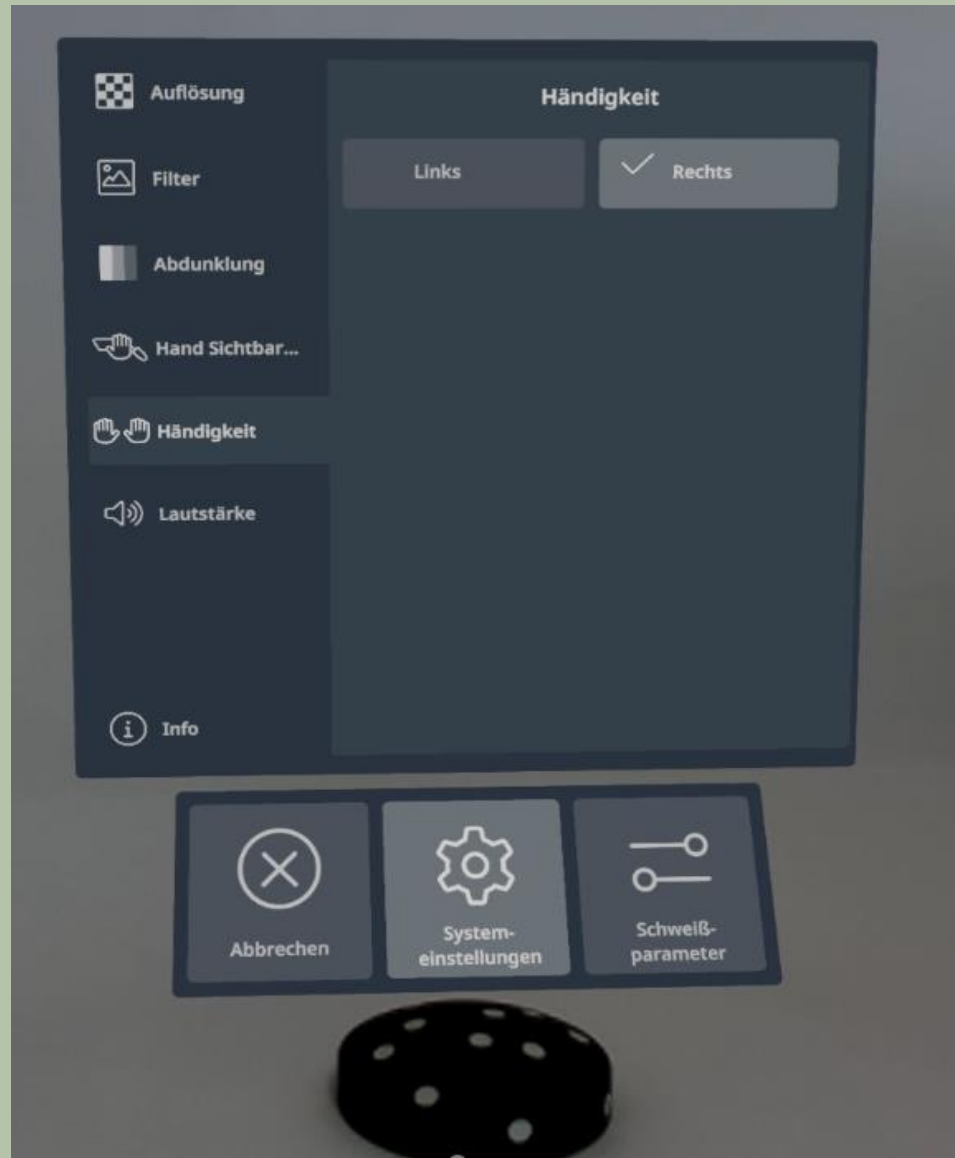
The division of PUK and workpiece has been clearly subdivided!

All system settings and parameters are located on the PUK and all functions and results are displayed on the workpiece.



PUK-System settings

- ✓In addition to the new design and the new structure, the setting options have been expanded with preview images.
- ✓The handedness (left-right handed) can now be changed on the PUK, especially for trade fair use

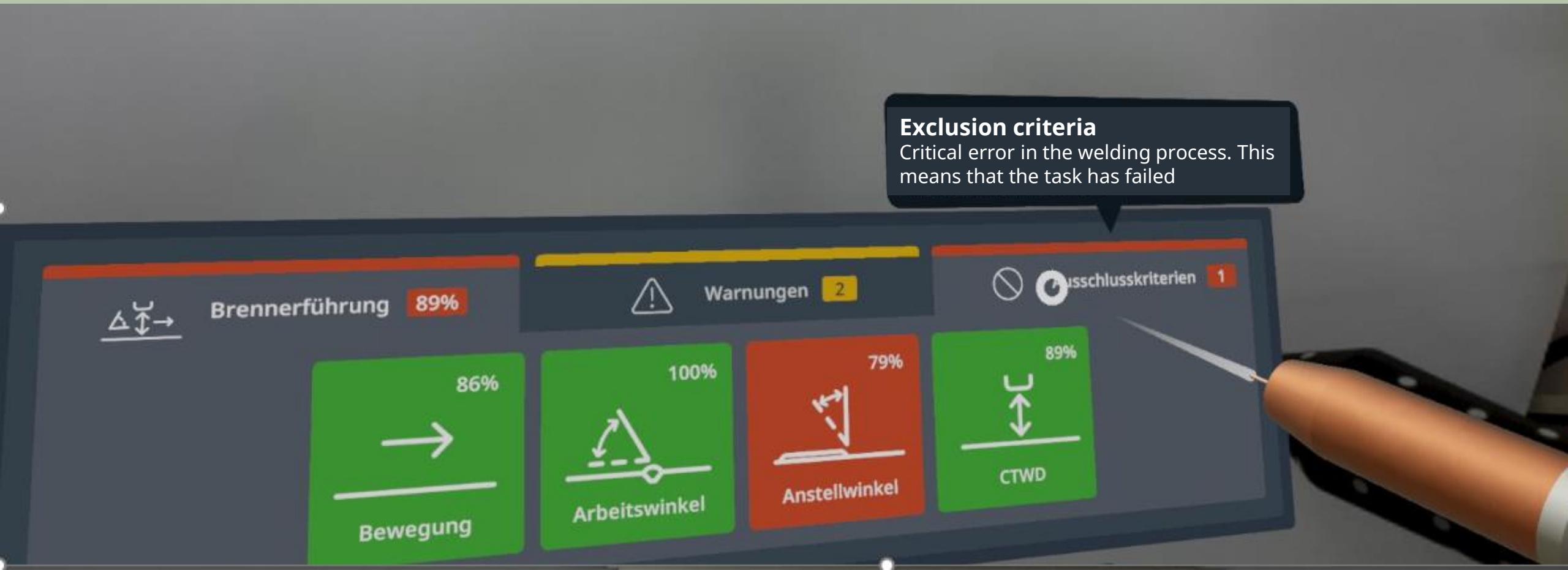


PUK-Welding parameters

The user interface on the PUK has been adapted to that of the TPSi in order to display process-dependent parameter settings and work steps even more realistically.

Results menu

The new arrangement with tabs, pictorial and color differentiation and with the help of tooltips, the menu becomes self-explanatory.

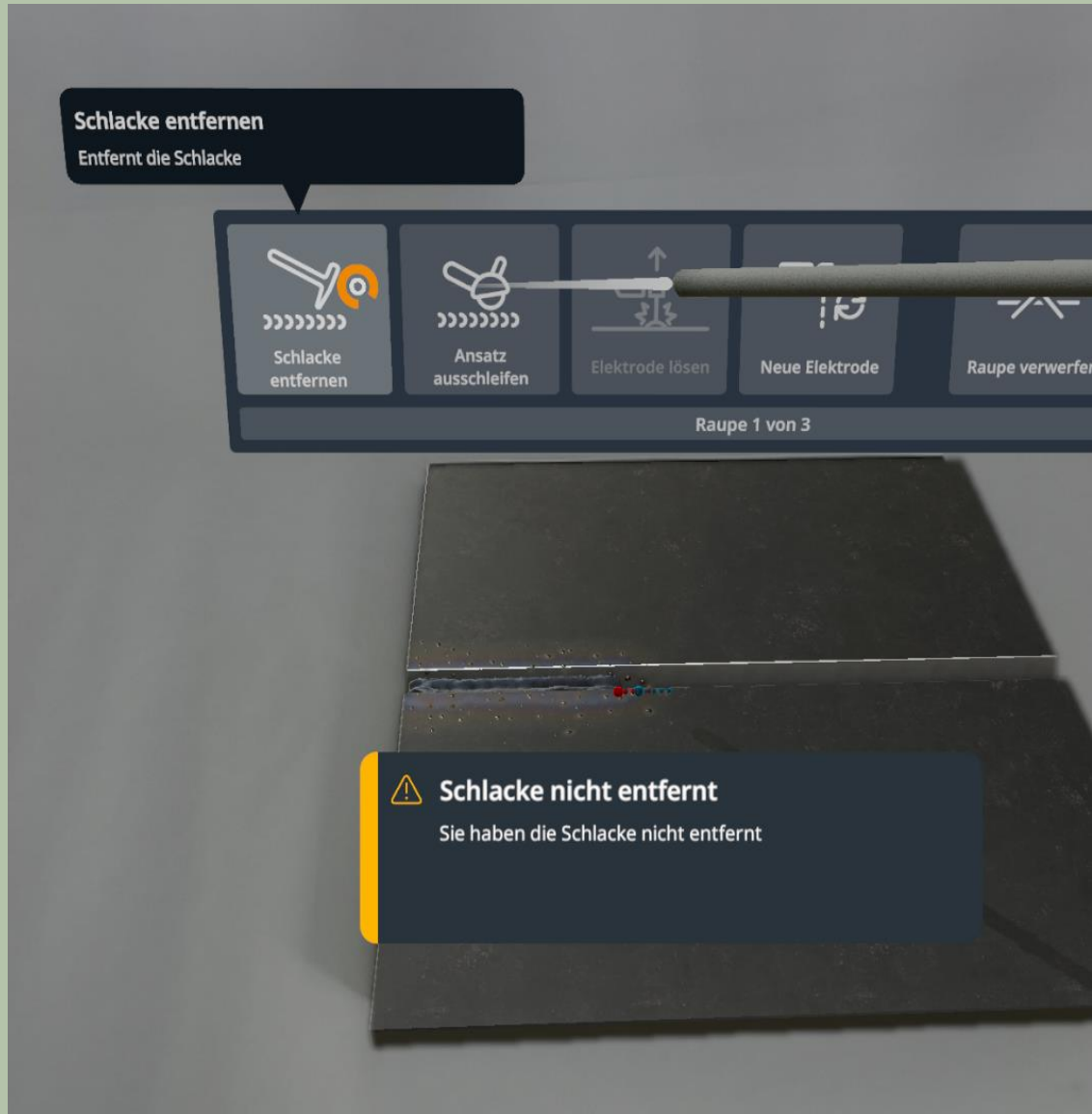


NEW Workflow-Features

As with real welding, ignition cannot take place on the slag and the slag must be removed before surface treatments such as galvanizing or painting in order to ensure the best possible quality and avoid reworking.
These work steps must be carried out accordingly and are supported and evaluated differently depending on the degree of difficulty.

Handling slag

- Realistic consequences of slag formation with E-hand
- Cannot be ignited on slag
- Slag is simulated over the course of the entire task
- Slag must be removed correctly for a positive result



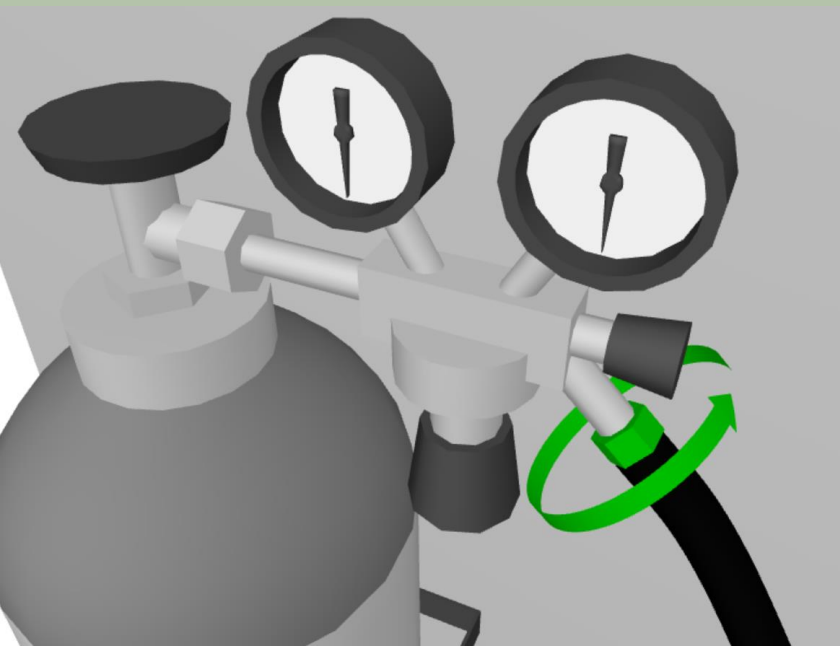
Checklist images NEW

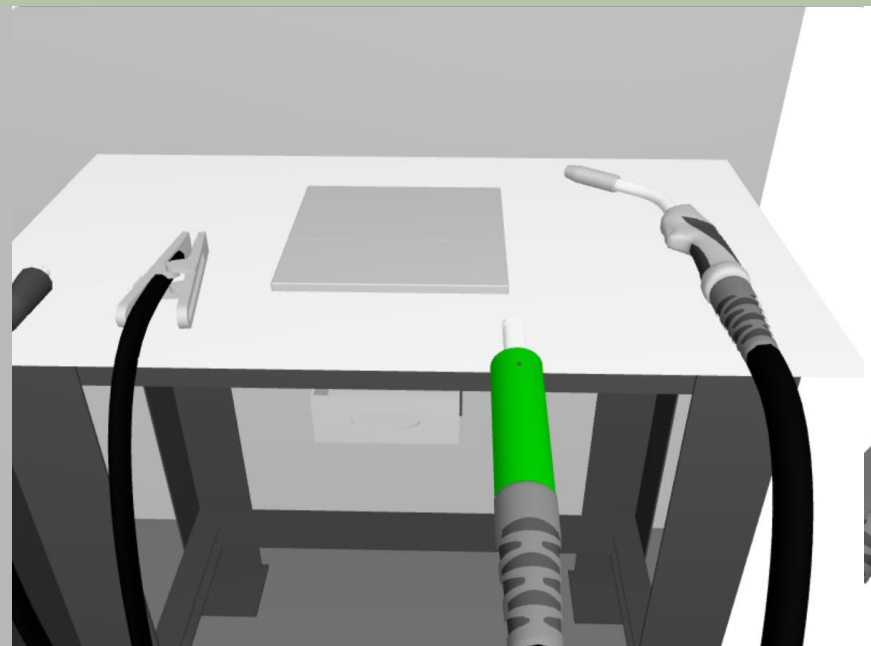
– Checklist with work steps that must be carried out as in a real welding task

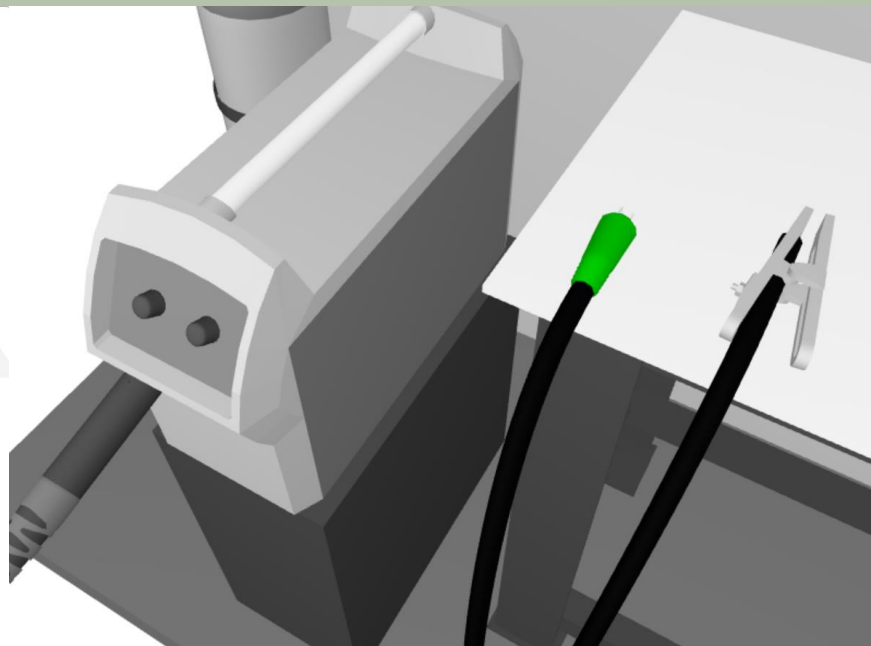
– Each work step is now explained with its own 3D animation

– Click/touch on a preview image to start the animation as an enlarged pop-up

– All relevant areas are highlighted in color in the animation





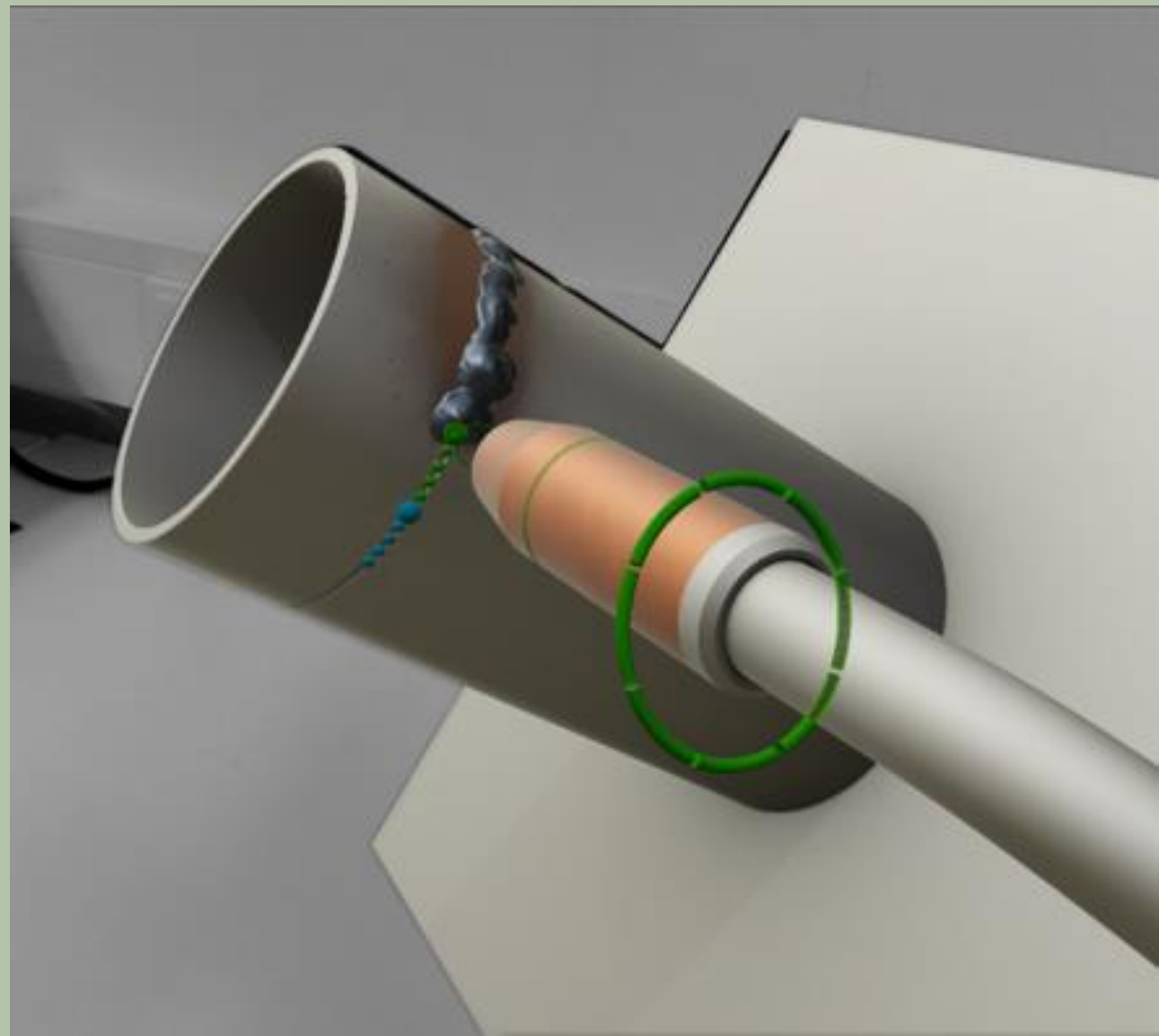


Welding direction

- The welding direction can be set in the configurator
  - Free welding direction:
    - The welding direction depends on handedness, position and process
- Defined welding direction:
  - The task must be completed with the defined welding direction
- Special positions (e.g.: PF, PG):
  - The welding direction cannot be changed in the configurator, as the welding direction is already defined by the selected position (drop seam, stay seam)

Drop seam welding task(s)

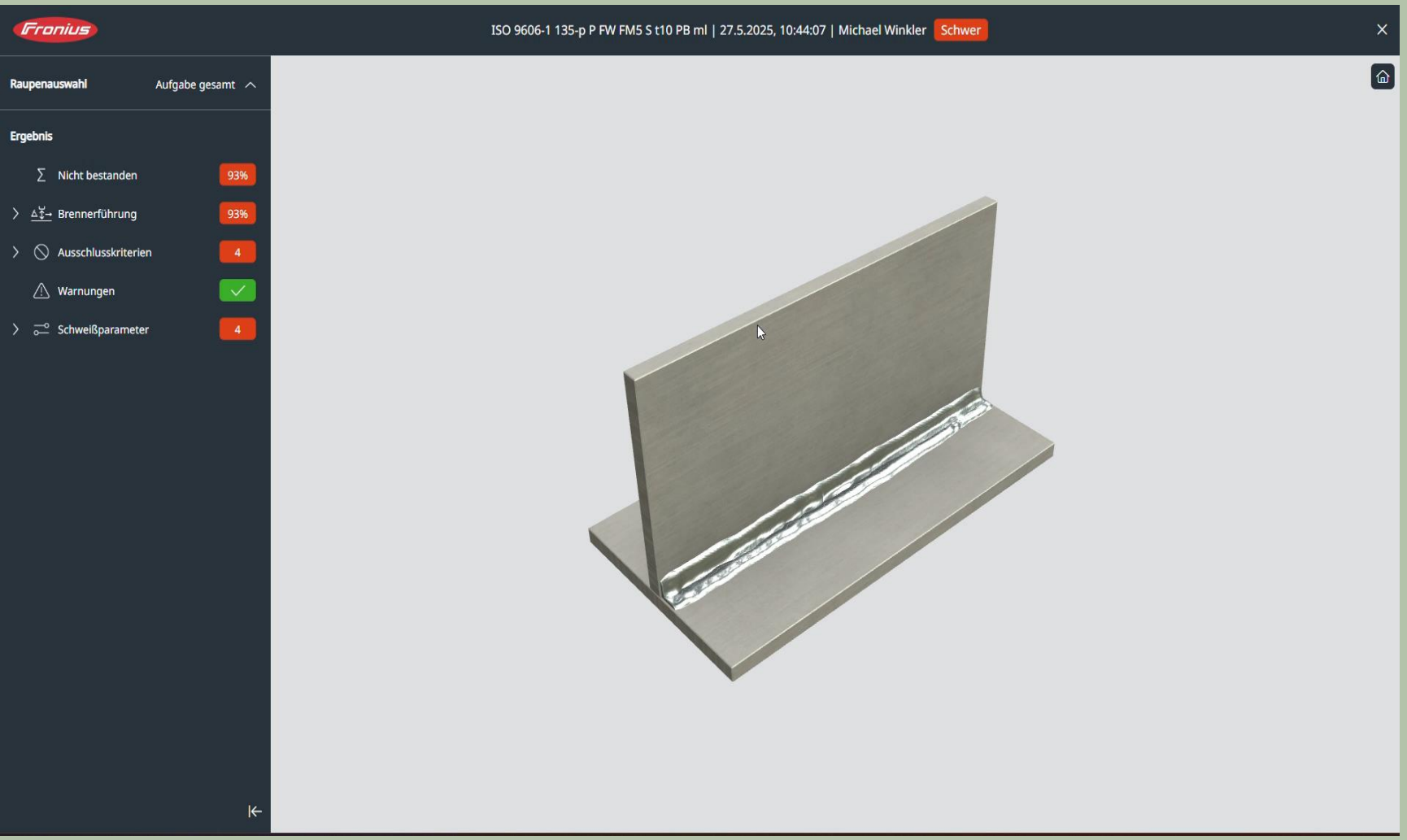
Drop seam welding tasks for sheet metal/PG, pipe/PJ and J-L045 have now been added to the welding task list. We therefore cover all welding seam positions and should prevent premature elimination from tenders!



Analysis

- Complete UI redesign
  - Compliant with the Fronius design system
  - Consistent design language Simulation & analysis
    - Same rating breakdown, same icons, etc.
- Improved user experience
  - Performance gains, responsiveness, better recognition of touch gestures
- New features
  - Display of parameters over time (graphs)
  - Interactive icons for time classification of the 12 most important welding events (grinding, slag removal…) during the welding task
  - Dynamically coloring timeline based on the results (Timeline)

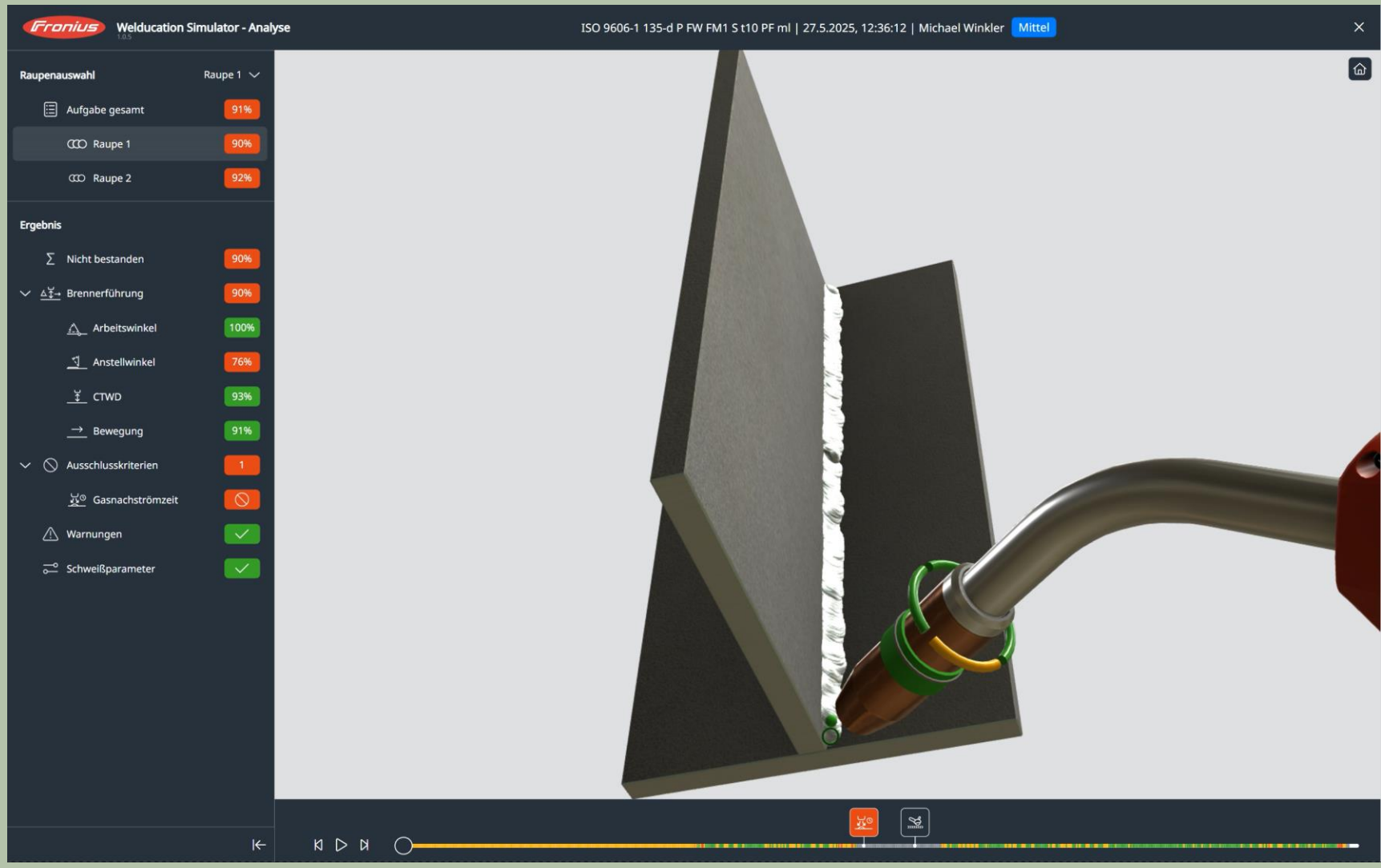
Analysis



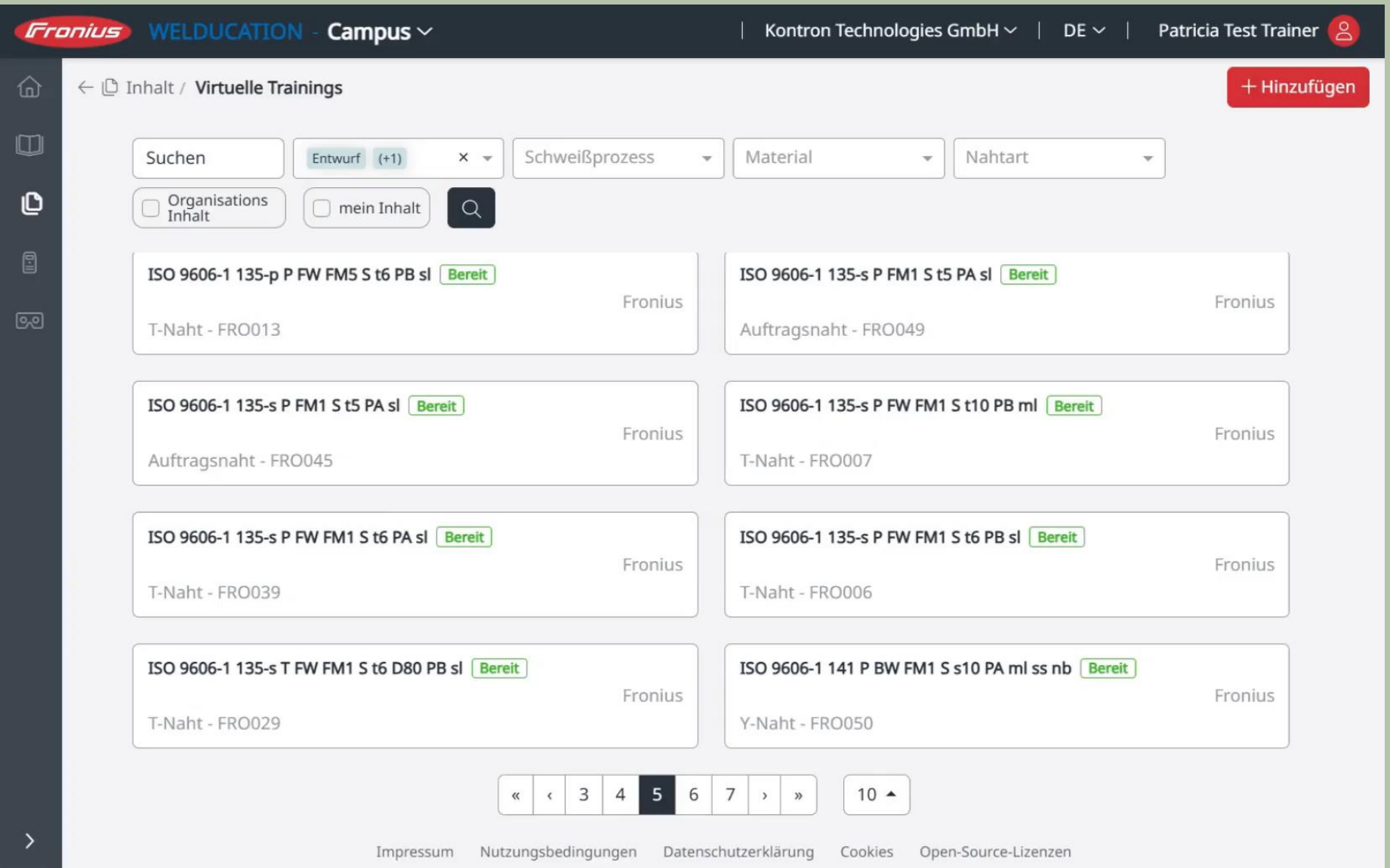
With this release, we are introducing a comprehensively revised analysis function that makes virtual welding training even more efficient. It provides a better overview of the trainee's entire task as well as detailed information such as torch guidance, exclusion criteria, welding parameters and much more.
You also have the option of graphically displaying values such as angle of attack and stickout (see video)

Analysis - Welding-Events

– Interactive icons for scheduling the 12 most important events during the welding task



Trainings-Konfigurator

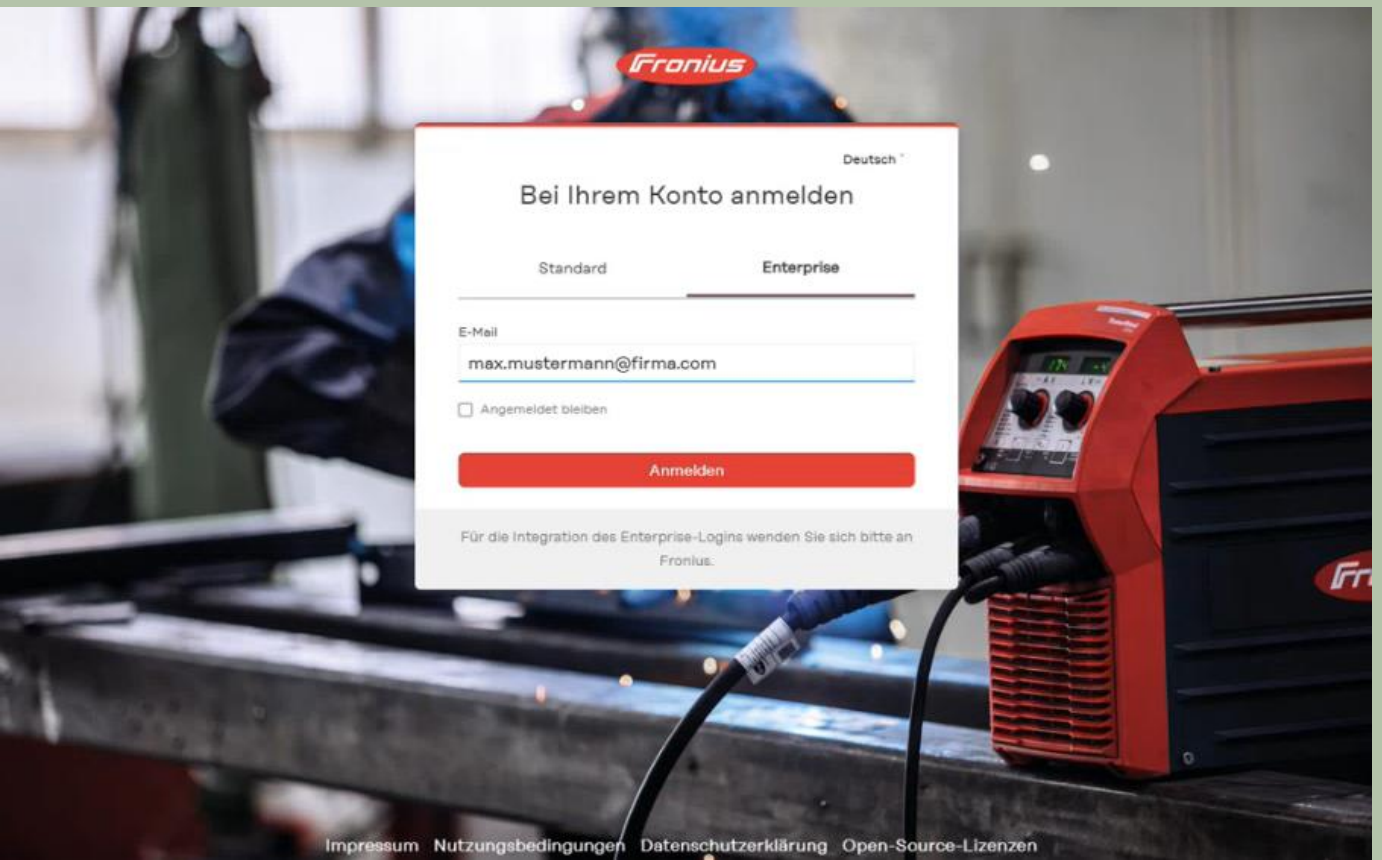


The trainer configurator can be used to create or modify virtual trainings(Welding tasks). The tool enables points such as: Adjustments of the torch, welding parameters of the welding machine, etc. and thus create additional individual training courses.

Single-Sign-On

As an option for cloud users, your own company account including password management can be used directly.

Separate information on this will follow!



Advantages:

- Improved user experience (only one login)
- Centralized identity management
- Only one password or less password storage in different systems = **increased security**

Customer value

Customer value – „Ready to weld“ with the Fronius Welducation Simulator

With our welding simulator, trainees not only train pure handling such as CTWD (contact tip to workpiece distance), speed or angle of approach - we prepare the trainees “ready to weld” with Welducation Simulator – you get an “all in one” package from the PPE, posters, scripts to the simulator and real welding devices.

Example:
What must be observed before, during and after welding?

- Parameter settings
- Gas flow rate
- Remove slag with MMA
- Grind approach
- Gas post-flow for TIG, MAG & MIG

The customer should understand how to save resources such as personnel, materials of all kinds such as wear parts, scrap, etc.

Trainees can learn to weld in a CO2-neutral & environmentally friendly way in a safe area.