/ Protective equipment that thinks for itself and protects the welder intelligently and reliably is now a technological possibility thanks to advancing digitisation.

"IN FUTURE, WELDING HELMETS WILL BE ABLE TO DO FAR MORE THAN JUST PROTECT"

Fronius is developing VizorConnect together with OPTREL AG, a supplier of active anti-glare products. The welding helmet communicates with the power source via Bluetooth, leading to significant improvements in workplace safety – and establishing the foundations for future functions. Peter Eicher, Chief Sales Officer and Member of the Executive Board at OPTREL, explains in an interview the demands that protective equipment must satisfy and highlights the advantages of the new welding helmet:

Mr Eicher, what is the main purpose of a piece of protective equipment from a welding perspective?

The primary responsibility is to shield the eyes and skin from dazzling light, infrared and ultraviolet rays, and to protect the respiratory organs against harmful particles, smoke and vapours. However, we view our role as being far more diverse. In addition to protecting the welder's health, our products are also equipped with intelligent components to offer the welder increased comfort in the workplace and that contribute to increased productivity.

Welding helmets and protective clothing are becoming increasingly sophisticated and smarter. If you think back over the past few years, what do you think have been the most important innovations in advancing the development of the welding helmet?

For me it has to be the invention of the OPTREL autopilot function. Adapting the glare shield to the brightness of the arc was terrible for years. In many systems, the user had to adjust the level of darkening manually on the inside of the helmet. As this was such a cumbersome process, many welders simply didn't bother; they instead chose one level of protection that had to suffice for every welding task. That is very tiring for the eyes and can even cause long-term damage. Advanced welding systems offer the possibility of choosing the optimum amperage on the welding torch or using a foot pedal, which also inevitably changes the intensity of the arc. With its intelligent autopilot function, OPTREL offers the perfect solution. An ingenious sensor system constantly measures the intensity of the arc and adapts the helmet's level of darkening automatically. This provides an enormous increase in comfort, meaning the welder tires less easily and can therefore increase their productivity and quality of work.

Where, in your opinion, are developments in welding protective equipment headed?

Current trends in development are clearly heading towards increased comfort and efficiency, as a welder's job description is going to change in future. Metal constructions are being designed to be thinner and thinner in order to support efficient and cost-effective manufacturing processes. This increases the pressure on the quality of the weld seam. Only those who have perfect vision during and after welding will be able to provide the required results in terms of time and quality. The intelligent VizorConnect welding helmet that we developed together with Fronius is a completely new solution. It is the first helmet that automatically connects and communicates with the power source via Bluetooth. When the welder activates the arc ignition on the welding torch, the helmet is sent a signal to darken

its visor. Even before the arc is actually ignited, the eye protection switches from open to closed mode. This has many advantages. It eliminates the bright flash at the start of the welding process, which drastically reduces fatigue. Reliable glare shield operation is always guaranteed, even at the lowest welding currents and with bright lighting in the workplace. Accidental darkening of the helmet, for example due to a neighbouring arc or sudden opening when welding out of position, is now a thing of the past.

Do you have a vision for the perfect welding helmet of the future? If yes, what features would it have? Is there anything missing from current welding helmets that is not yet technologically possible?

In future, welding helmets will be able to do far more than just protect. They will be intelligent enough to integrate seamlessly into production processes and to simply "be there", almost unnoticed. Furthermore, metalworkers of the future will also need to have an eye on numerous parameters during the joining process. What could be closer to this requirement than having this information directly superimposed on the welder's field of vision? With our VizorConnect welding helmet, we have taken the first steps in this direction. It fulfils all the prerequisites of being able to display various welding parameters or other information on the visor, meaning it is equipped for many future functions.

How does the cooperation with Fronius work?

Fronius and OPTREL have been partners for over two decades. We mutually support each other by bringing our technologies together, combining them into a single unit and constantly developing them to produce further enhancements. This allows us to create real added value for our customers when it comes to comprehensive protection, unique comfort, and efficiency while working. We want to not only meet our customers' expectations, but do everything we can to exceed them. ■

/ OPTREL AG

OPTREL is a technology firm based in Wattwil, Switzerland. It is a leading manufacturer of anti-glare products and respiratory protection systems, which are used in a wide range of welding protection system applications and are firmly focused on the user's safety, health and efficiency. The company has approximately 50 employees and exports its products around the world.