

## Condemned to constantly innovate...

*...these are the words spoken, in June 2015, by Hans-Peter Mariner, CEO of Polysoude, at the opening of the "Open House" of welding specialists at Nantes (France). It has to be noted that while taking a closer look at the equipment of Polysoude, innovation is not only a word, but a business philosophy which is reflected particularly by the TIG<sup>er</sup>.*

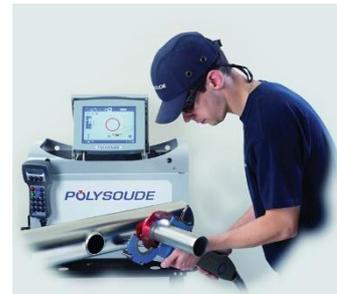
Interview with Hans Peter Mariner, CEO of Polysoude

### What was the goal of the Open House?

It has been half a century already since Polysoude has given itself the objective to meet industrial requirements through innovative solutions with a considerable added value and proficiency.

To be able to accomplish this, the entity of the group Global Welding Technologies (GWT) employs around 270 employees (of which 160 are based in France at the company's headquarters in Nantes) and designs, manufactures and markets all kinds of equipment using TIG Arc welding, starting with Orbital welding (tube to tube, tube to tube-sheet, in every dimension or thickness required), automated welding (TIG hot or cold wire, Plasma) and finally weld overlay cladding solutions (TIG hot or cold wire) and other related services.

*Today, the TIG cladding has increased from 5 to 30% of our turnover; therefore it is now one of our main activities, according to Hans-Peter Mariner. We have invested heavily to push as far as possible the automation of processes through the utilization of all available "tool carriers".*



The applied areas? Food-/ Pharmaceutical-/ Process-/ Aviation- Industry, Power generation incl. the nuclear sector or, more recently, the petrochemical and gas market. State of the Art ...The TIG<sup>er</sup> technology is the result of an exclusive Polysoude development based on the juxtaposition of two TIG arcs, which are organized and controlled in a way to combine the two powers in a single arc, giving it a more intense calorific power.

In addition, adding the preheated wire via the Joule effect, allows to exploit the particular outline of the puddle and to improve the process efficiency.

The advantages are numerous and vary between identical welding qualities similar to traditional TIG welding and high speed welding (due to low arc pressure) and asymmetry obtained between the arc column and the welding puddle following the orientation of the electrodes.

Polysoude emerges from a phase of major projects with considerable innovative efforts which are currently in the final stage.

The installations that are presented in our workshops can affirm that these major projects are innovative solutions that are still unique on the market. We are, so to speak, pioneers in this field of expertise.

### What is the TIG process and which advantages does it provide compared to other welding processes?

Up to the year 2000, the TIG process was equal for quality, but also for low productivity. Since the year 2000, to enhance the performance of TIG, Polysoude invested heavily in new developments. The result of these investments is noticeable through the Narrow Gap, TIG Hot Wire, TIG<sup>er</sup> (high efficiency cladding). These

techniques now provide a level of productivity guaranteeing the competitiveness of our solutions while maintaining the quality of the TIG process.

The intrinsic qualities of the process are numerous. For instance, it is possible to apply this method in an important range of wall thicknesses (0,5 to 300 mm) and almost on all metals, without smoke or welding sparks.

In addition, it is a stable and reliable process, which allows performing all welding positions.

Finally, and this presents a significant advantage in a 4.0 industrial context, the TIG attracts by its ability to be automated.

### In which needs and developments of the welding business does this process respond?

As mentioned above, the TIG process had to adapt to new market requirements, namely the association of quality welding and productivity.

Increasingly, manufacturers are forced to guarantee a perfect welding result, taking into account respecting the environment which has become a major concern as well as security requirements that are essential in numerous industries such as aviation, nuclear, pharmaceutical and petrol.

To meet these requirements, it is essential to adapt to the actual market and to guarantee the performance of the processes through automation.

As a matter of fact, automation allows reproducing equal quality, cycle after cycle. Moreover, it allows welding parts in areas that are inaccessible to men, including complicated shaped parts.



### In the TIG process, where does automation stand from now on?

By nature, the TIG process is the most likely to be automated. The only limitations that we could face could come from the adaptation of the tool or the “tool carrier” such as the welding head, the column and boom or the robot.



### Much is said about the 4.0 industry; in what way does this new welding process position itself in future industries?

Like the welding world in general, the TIG process, which has a long history, attempts – today more than ever – to position itself in the 4.0 industry. This is done mainly through the use of embedded intelligence as sensors and modern tool carriers such as robots. The Human-Machine Interface (HMI) through its intuitive appeal, functions within the logic of the 4.0 Industry.