

“Emerging trend in **Welding Industry** is to increase productivity in GTAW process”



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Q. As a prominent player in the space, which trends and innovations in your opinion are emerging and will continue to shape the future of the welding and induction heating segments? How are technology trends like robotics and automation influencing the industry segments?

The trends are definitely towards productivity improvement along with cost reduction and quality improvement. GTAW process is one of the best welding processes, however it has a downside that is speed. As far as quality and appearances it is one of the best processes. The trend now is to increase productivity in GTAW. With the advent of tools such as cold wire feeders and hot wire power sources, it has become possible to derive better speeds with GTAW. Significantly reducing cost of consumable wastage and increasing speed while keeping the quality intact. Such value added products are going to help many industrial segments get better output at lower costs. Similarly, keyhole technology in GTAW is also helping make GTAW process zoom past SAW productivity upto certain thicknesses. For example our SWAT (SigmaWeld Accelerated Tig) process which is based on the keyhole welding process, can produce square butt welding of

Stainless Steel, Titanium and alloy steel upto 10mm without any edge preparation. This means a traditional 4 pass run for an 8mm thick plate happens in a single pass. Further more, the speeds of welding are now upwards of 400mm / min. So a 1 meter 8mm plate to plate joint would take you just about 2.5 minutes, compared to 4 passes of about 20 minutes each. This means a 80 minutes job can be done in about 2.5 minutes ! These are great to use in critical applications as well where difficult to weld materials such as titanium, alloy steel used in aerospace or defense can now be easily welded with high speed using small automation solution with S.W.A.T

Induction Heating is a process which “inducts” heat into the metal directly, compared to the traditional ways of heating via conduction this process is far more efficient, fast and cost effective. It can uniformly heat a large area of metal without and physical contact and without getting the surroundings heated. It is widely used in the Pre Weld / Post Weld heat treatment of certain alloys of steel. With the reduced costing and faster heating it is getting more and more popular for Pre Weld , Post Weld heat treatment applications. Automation and Robotics are designed to help reduce the load on the human, not replace him. Automation will always help reduce the dependency on manpower and increasing productivity. It is more about upskilling the operator. With little training , the new welder and operate the Automation or Robot and produce excellent weld joints. Although there has to be a cost parity and justification for the kind of solution used ie Robot or Automation. Now the future is Cobots or Collaborative Robots , these are ment to learn and help the Human Operator and not replace him. There are many companies working on these

Cobots now.

Q. Tell us about the scale and global reach of Electronics Devices Worldwide Pvt Ltd.

Electronics Devices Worldwide Pvt Ltd was established in 1974, with a core objective to produce import substitute products in India. We have come a long way since then, today we have exports to more than 80 countries. Our products include Induction Heaters for various applications, Induction Cap Sealers , Packaging Automation, Vision Systems, Sigma Weld Inverter Based welding power sources and automations systems. EDWPL has a strong team of 250 people working globally and growing at a 15% growth rate consistently for the past 5 years.

Q. Comment on how the demands of Indian customers have evolved over time. How is Electronics Devices meeting these requirements/expectations to ensure customer satisfaction?

Indian customer over time has had the exposure of working with both domestic and international customers. Now the Indian customer understands the impact of quality and need to achieve the desired results with semi-skilled or unskilled operators. This effectively means that the machines (welding power sources) should be able to produce high quality welds with little training to the operator. As always cost needs to be brought down in runtime as well as capital investments needed. Further , data required to understand what is happening on the shop floor in terms of equipment usage, uptime and parameters of welding are being monitored. Industry 4.0 or Weld Monitoring systems are being received well. This data now can be analyzed and appropriate action can be taken to ensure consistency in welding and

maximum resource utilization. We at EDWPL, have always worked very closely with the end users to enhance the product features that are needed on the shop floor. We have a dedicated Research and Development department where we can easily customize solutions for the upcoming challenges in the Welding Power Sources. We have developed the Pro series of Inverter Based Welding Power Sources which undertake a lot of Artificial Intelligence and can help the welder weld better, faster and ensure repeated quality. We have also developed the Data Monitoring Systems which help end users understand the shop floor usage and analyze capacity utilization with ease. One of the key advantages at EDWPL is our exposure to various industries from Food, Pharma to Nuclear and Aerospace. We are able to cross deploy the best practices of the industry as per application need.

Q. As a key member of The Indian Institute of Welding, please update us on the role the association is playing to spur growth in Indian welding industry and address some of its challenges, such as skills gap.

The Indian Institute of welding which is the only member society of the International institute of welding objective is to develop the welding science and technology in the country. IIW India organizes regular technical lectures, Various Refresher courses in the subjects that are needed to various industries, Specific Seminars on selected themes, International welding symposiums, technology development programs, Welding Education programs on all aspects of welding science and technology through its branches and centres spread all over the country.

IIW organizes annual welding competition of the welders in all the industrial sectors in different combinations at the regional level, and the selected toppers from the branches will compete in the National level and the

National winners will be eligible for the International competition. Thereby Giving an opportunity for the welders to upgrade their skills Annual welding Engineer contest, Elocutions contest for the Young Engineers are also a great initiative of the Institute to develop talent search of the welding industry.

IIW is the Knowledge partner for various sectors of the Industry as preparing the required training materials and also conduct the same. Besides training the engineers, welders and The institute also Trains the Trainers (TOT) of the various bodies to spread the welding science and technology.

IIW is appointed by NSDC as a knowledge partner, Assessing body with various Sector skill council to promote the welding science in various sectors, Such as Capitol Goods sector, Automotive sector, Steel sector. The training and certification of the IIW is certified by QCI under ISO 17024 certification which is recognized at the national and at International levels.

Q. What can we expect from International Congress 2020 (IC2020) being organized by The Indian Institute of Welding in association with The International Institute of Welding from 6th to 8th February 2020?

The International congress IC 2020 is the 5th International congress in the country. This event is awarded to India once in 3 years. The highlight of this year event is the exposure to the Latest techniques in metal joining with Industry 4.0 as the focus point. With digitalization and the Automation growth is the backbone of the country's Growth. This congress will address about 150 technical papers from over 20 countries on all subjects. There will be an exclusive session by the Young professional who will showcase their research knowledge. Besides there will be special interaction session on the "National Welding capability" and on the Skill development needs of the country. We expect about 800 delegates

will be attending the event. Overseas Delegates from the SAARC countries, Singapore, China, Japan, Korea Thailand and from Europe are expected to attend the event. Along with the International welding congress WELDINDIA 2020 the show will include a Welding Exhibition for 3 days to showcase the latest Trends in the welding and cutting Industry by eminent world leaders of welding fraternity.

Q. Comment on the present status of the Indian Welding sector vis-à-vis global peers. What are the future growth prospects and opportunities in welding in India?

The Indian Welding Sector is directly connected with our manufacturing and steel Sector. In broader terms, there are few critical sectors such as Power, Automobile, Defense and Aerospace, Oil and Gas to name a few. These are sectors where welding plays an important role. All these sectors are going through a technology enhancement and shifting to new materials. For example, auto industry is moving towards the EV, this means that most of the traditional parts that were being used in the 4 Wheeler segment will undergo a drastic change. New lighter materials will be needed and so will be the challenge of welding them. Similarly, with the make in India program working towards Indigenizing many parts and defense products will lead to up gradation of welding procedures and equipments needed to ensure the quality of weld required. India is on a fast track as far as the Aerospace Industry is concerned. With the success of both Mangal Yan and ChandraYaan 2, the need for speed and distance in the space travel has increased.

ISRO and their vendors are working hard to "Make In India" the new technology with / without much help from other countries. These challenges will help fuel the next growth path for the Indian Welding Industry both technically and commercially. ■