



Confederation of Indian Industry
CII Naoroji Godrej Centre of Manufacturing Excellence



CII Conference on Welding 2016

Theme: Welding Innovation, Challenges and Applications in India

CII Naoroji Godrej Centre of Manufacturing Excellence

Wednesday, 16 November 2016, Mumbai

Theme Note

CII Naoroji Godrej Centre of Manufacturing Excellence is pleased to invite you to the 1st Conference on Welding 2016 in Mumbai, India. The Conference theme is “Welding Innovation, Challenges and Applications in India”. The welding industry is changing worldwide and evolving into a sophisticated technology utilizing new software, automation and communication technologies to improve quality and integrity of joining conventional and new materials.

In many industries, application of large and heavy equipment in their processes and procedures is a general occurrence. Many processes of engineering like welding, fabrication which involves cutting, bending, and assembling of metals are integral part of modern manufacturing and better understanding and global knowhow and advancements are the need of the hour.

Welding is the core of modern technology and it has gone through a complete evolution today, following the utmost precedence that machines have garnered in our lives. There is a rapid development in this industry and new methods are being discovered and added day by day.

Welding is an ever growing discipline which presents challenges and work opportunities for new generations of engineers. The CII Conference on Welding will provide opportunities to showcase and understand the advancements of welding in manufacturing, construction and country-wide infrastructures. And also the stopgaps it faces in India, and further discuss the ways to overcome it.

Industrial sectors of interest include Shipbuilding, Transportation, Energy, Pressure and Process Equipment, Aerospace and many more.

The Conference will consider the various key aspects related to the welding sector in India :

- The understanding of the economics of using welding related processes to enhance welding productivity



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- Role and contribution of the welding sector to the Indian manufacturing process
- Need for consistency in measurement of welding productivity across establishments where welding is a critical enabling technology
- Shortage of skilled and quality manpower in the welding and associated sector

The Conference will be based on the following sub-themes :

Welding in India : Advancements and Challenges

Welding is the core of modern technology and it has gone through a complete evolution today, following the utmost precedence that machines have garnered in our lives. There is a rapid development in this industry and new methods are being discovered and added day by day. The Inaugural Plenary will discuss the advancements of welding in manufacturing, construction and country-wide infrastructures. And also focus on the stopgaps it faces in India, with suggestions to overcoming them. And what are the key competitive challenges the industry is facing with respect to materials, manufacturing integration, workforce and quality?

Future Trends – Internet of Things, IoT, Industry 4.0 and Weld Cloud in India

Many processes of engineering like welding, fabrication which involves cutting, bending, and assembling of metals are integral part of modern manufacturing and better understanding and global knowhow and advancements are the need of the hour. Technology advances have blurred the boundaries between the digital and physical worlds. Intelligent, interconnected systems now seamlessly support activities along the entire value chain.

What does this mean for the welding sector? Does it mean reduced costs and improved efficiencies? Or greater speed and scale? It means smarter products and services. It means evolving from disrupted to disruptor. Are we ready for Smart Manufacturing? Can India be a hub for integration for consumables and machines?

Evolution of Material Sciences in the Welding sector and the challenges faced

Welding is a critical technique for the joining of materials in the Nation's major manufacturing industries. WELDING goes well beyond the bounds of its simple description. Welding today is applied to a wide variety of materials and products, using such advanced technologies as lasers and plasma arcs. The future of welding holds even greater promise as methods are devised for joining dissimilar and non-metallic materials, and for creating products of innovative shapes and designs.



The WELDING INDUSTRY consists of the “users” of welding techniques as well as the companies, universities, and other organizations that provide the equipment, materials, processes and support services for welding. Research and development is key to the overall growth of this crucial sector; this Session will discuss the challenges faced in the evolution of material sciences in India and what are the relevant developments that are taking place at present?

Skill development and Training in Welding Sector

The development of skills for 500 million Indians in less than 10 years is not only a matter of national urgency; it is astounding in its scale. The development of skills has been driven by the requirements of the market all this while but much remains to be done.

This Session will discuss about the intensive efforts needed by both the government and private sector in considering the huge efforts in skilling people engaged in welding and related operations, so that it benefits the Indian manufacturing sector.

Safety and Non Destructive Testing for Welding in India

Safety is a critical consideration for any welding project. Welding operators face an array of hazards. To help keep welders safe, safety guidelines need to be adhered to in order to help control, minimize, or to help employers and workers avoid welding hazards. Further, regulations and standards, with emphasis on safety, may need to be considered by government to limit industry's energy use and environmental impact. In addition, there is widespread requirement for non-destructive testing during the manufacturing process so that the risk factor is reduced, thus facilitating durability and long lasting capacity.

To remain a player in the rapidly changing, global, manufacturing environment of the future, the welding industry may need to consider a refined system of codes and standards and also induct various methods of NDT that will be beneficial in due course.