

# Skill Development - National Perspective and Role of IIW India

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## INTRODUCTION

The Indian Institute of Welding (IIW India) is a professional body devoted to the promotion and advancement of welding science and technology in India. Established in 1966 it has fourteen branches and chapters spread throughout the country. It has over 4000 welding professionals and 300 industries as members. IIW India is a member society of the International Institute of Welding (IIW) and has been accorded the status of an Authorised National Body for the training and certification of welding professionals by the International Institute of Welding.

Welding is a widely used skill offering opportunities for careers in the fabrication and construction industries as well as for self employment in small scale enterprises.

The major process used in fabrication is welding. The process is used in fabricating everything we see around us like buildings, bridges, flyover, cars, locomotives and coaches, ship, airplanes, general machineries, consumer durables and defense equipment. In fact for every ton of steel used about 5 kg of weld metal is required to be deposited by different welding processes.

With the rapid growth in the Indian economy and steel consumption there is a corresponding growth in welding activities. This has generated a huge demand for skilled and qualified welders and other related knowledgeable professionals in the fabrication and construction industries. Availability of competent and skilled people in welding at all levels is today recognised as a major constraint for the Indian fabrication and construction industry.

In response to the country's need for skilled workmen including welders, the Government of India has taken a number of initiatives with the Prime Minister taking a personal interest in skill development. The Prime Minister's National Council for Skill Development was set up with Mr. S. Ramadorai

as the Advisor to the PM, with the mandate for skilling 500 million people by 2020. This task has been divided between the Government departments who will skill 350 million people and the private sector will skill 150 million. To this end the National Skill Development Corporation has been established to set up industry sector skill development councils and fund private training providers. Recently on the 16th August 2013 the Finance Minister launched the National Skill Certification and Monetary Reward Scheme known as the STAR scheme.

The present article attempts to project the role that IIW India is playing to meet the industries and sector skill councils demand for competent and qualified welders, by acting as "Knowledge Partners" for developing curriculum and course content for the different welding processes, approving welder training centres, training the trainers and as an Independent Assessing Agency for testing and examination of trainees through its Authorised Assessors.

## EXISTING VOCATIONAL TRAINING SYSTEM IN INDIA

Welder training has been part of the vocational training system in India. Vocational training being a concurrent subject under the constitution, the Central and State Governments share responsibility for effective implementation of the vocational training system in the country.

At the national level, the Directorate General of Employment and Training (DGE&T) under the Ministry of Labour and Employment (MoLE), is the nodal body for formulating policies, laying down norms, standards, conducting trade tests and certification of vocational training under the aegis of the National Council of Vocational Training (NCVT). The vocational training system under MoLE is one of the most comprehensive systems in the country.

**Institutional Training**

The State Governments through Industrial Training Institutes / Industrial Training Centres (ITIs/ ITCs ) impart institutionalized vocational training under Craftsman Training Scheme, which is one of the flagship programs run by the DGE&T.

The craftsman training is provided to youth with the objective to prepare semi-skilled workers for industry. The educational qualification required varies from class VIII to class XII depending on the trade. The duration of training varies from 6 months to three years. The trainees after completion of craftsmen training appear in the All India Trade Test to get National Trade Certificate awarded by the NCVT, which is recognised for the purpose of recruitment to the sub-ordinate technical posts at the shop floor level within the country as well as abroad.

At present there are around 10,300 ITIs in the country, approx 2300 in the public sector and balance 8,000 in the private sector with a capacity to train 14.7 lac candidates in various trades. Approximately 20% of the ITIs provide courses in welding but majority for only basic gas and manual metal arc welding.

The capacity of the ITIs, although adequate previously is not sufficient to meet the demand for trained labour in the phase of 6 - 8% growth the country has been achieving over the last few years. In addition there is need to upgrade the ITIs to meet the demands of the latest technologies and new skills and also locate ITIs in rural areas rather than present urban areas.

**On the Job Training – Apprenticeship Training through Industry**

Another important training scheme of DGE&T is apprenticeship training imparted under the Apprentices Act 1961 in industrial establishments to school leavers and ITI graduates with the objective to prepare skilled workers for industry. The educational qualifications vary from class VIII pass to class XII pass depending on the trade. Duration of training varies from one year to four years. All India Trade tests are conducted under the aegis of NCVT and successful candidates are awarded National Apprenticeship Certificate, which is a recognized qualification for recruitment to the shop floor within the country and abroad.

It was found however that welding training provided by ITIs and through the apprenticeship training schemes has been inconsistent in quality and trainees vary in competency. Further the requirements of the NCVT trade tests do not match the requirements of the industry particularly for any coded

fabrication. Thus the fabricator has to invest in further training of the workmen to make them suitable for his job requirements.

Apart from the above there are a large number of private training institutes called ITCs run by fabrication and welding product manufacturing companies and also charitable Institutes like Don Bosco. There also commercial organizations which train and supply manpower to the gulf and Singapore.

**INDIA'S DEMOGRAPHIC PROFILE AND NEED FOR SKILL DEVELOPMENT**

Out of India's present population of 1.2 billion over 700 million are in the working age group. India is one of the few countries which has a surplus potential in working age population and it is estimated that 25% of the additional global work-force in the next few years will be Indians.

As a consequence of the traditional Indian education system there are nearly 200 million graduates in the country whereas the predominantly knowledge based occupations are only 9% as against 91% predominantly skill-based occupations. Thus it maybe noted that there is huge need for skilling people across all sectors of industry, agriculture and services. It is estimated that 12.8 million people enter the workforce every year whereas the total existing training capacity in the country is only around 4 million i.e. 30% of the requirements. Taking into account up-skilling of a major portion of the workforce it would be seen that there needs to be a an eight-fold increase in the training capacity. It is estimated that a total of 500 million people would need to be skilled by 2022.

This shortage of skilled workers is leading to losses in time, cost and quality in all sectors. It is noted that only 8 – 10% of the Indian workforce is skilled as compared to over 80% in the Southeast Asian countries.

**Skills Shortages next 10 yrs estimated at 347 million**

Industry	Incremental requirement (in million)
Building and Construction Industry	33.0
Infrastructure Sector	103.02
Real Estate Services	14.0
Germs and Jewellery	4.6
Leather and Leather Goods	4.6
Organised Retail	17.3
Textiles and Clothing	26.2

Electronics and IT Hardware	3.3
Auto and Auto Components	35.0
IT and ITES	5.3
Banking, Financial Services and Insurance	4.2
Furniture and Furnishings	3.4
Tourism and Hospitality Services	3.6
Construction Material and Building Hardware	1.4
Chemicals and Pharmaceuticals	1.9
Food Processing	9.3
Healthcare	12.7
Transportation and Logistics	17.7
Media and Entertainment	3.0
Education and Skill Development Services	5.8
Select informal employment sectors (domestic help, beauticians, security guards)	37.6
<b>Incremental</b>	<b>347.0</b>

**Demand for Welders**

India presently consumes about 75 million tons of steel every year, most of which is used for fabrication and construction activities. Steel is used for creating infrastructure – roads, bridges etc, for building power plants, petro-chemical and refinery complexes, for railways rolling stock & track, manufacturing ships, locomotives and cars etc. The declared Government plan of massive priority investment in infrastructure and construction envisages much higher steel consumption. The estimate is that of steel consumption in India reaching 100 million tons by 2016.

Obviously, there will be a corresponding growth in welding activities. There is a great demand for qualified and knowledgeable welders and other related skilled professionals in fabrication and construction industries, such that expert welders / welding professionals have become a sought after commodity. It is estimated that there is a demand for 2,50,000 skilled welders in industry today.

A realistic assessment of the requirement would be an additional 20,000 welders per year by 2015-2016 going up to 30,000 welders by 2020. It may be noted that the above demand is for professionally trained and certified welders who can be utilised by the fabrication and construction industries in the organised sector. It does not include the welders required for non-critical applications in unorganised and rural sector in grill gate fabrications etc. An estimated 20,000 welders are also required in this sector.

**GOVERNMENT OF INDIA'S INITIATIVES IN SKILL DEVELOPMENT**

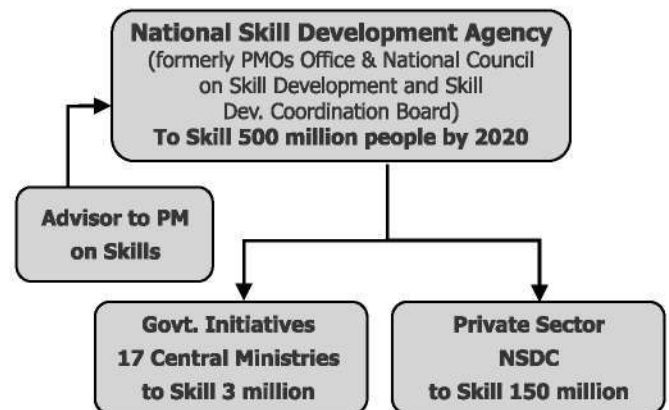
In response to the countries need for skilled workmen including welders, the Government of India has taken a number of initiatives with the Prime Minister taking a personal interest in skill development. The Prime Minister's National Council for Skill Development was set up with Mr. S. Ramadorai as the Advisor to the PM, with the mandate for skilling 500 million people by 2020.

A national skills policy was drawn up and the task of skill development has been divided between the Government departments i.e. Ministries of Labour, HRD, MoRD, MSME etc. and the private sector. The public sector has been mandated to skill 350 million people and the private sector to skill 150 million. A National Skill Development Co-ordination Board was set up to co-ordinate the activities of the two sectors.

The National Skill Development Corporation (NSDC) was set up to promote and co-ordinate the skill development activity in the private sector. NSDC was set up in the PPP model with 49% equity held by Ministry of Finance, GOI and 51% held by leading industry associations eg. CII, FICCI, ASSOCHAM etc. The NSDC has a two fold role

1. To fund large private sector training providers to exponentially create additional training capacity.
2. To establish industry sector wise skill development councils. These sector skill councils would assess the skill requirements for their sector and establish labour market information system and also draw up skill development plans. They would also create occupational standards and competency level for job roles within their sector and arrange for training and assessment.

The Prime Ministers National Skill Council and National Skill Development Co-ordination Board has now been subsumed into the National Skill Development Agency.



## **PUBLIC SECTOR SCHEMES**

### **DGE&Ts MES – SDI scheme**

It was found that 63% of school students drop out before class X or even class VIII and thus have limited access to skill development through regular trade courses in ITIs and thus have poor employability. Apart from educational entry requirements the long duration of the courses in the formal training system pose an impediment for a person of limited resources to acquire skills for livelihood.

In response to the above situation, on the 22nd May 2007, the Ministry of Labour & Employment launched the "Skill Development Initiative (SDI) to address the needs of the following target groups with a minimum age limit of 14 years and no upper age limit.

- Early school drop outs and unemployed
- Workers seeking certification of their skills acquired informally
- Workers and ITI graduates seeking skill upgradation
- Previously child labour and their families

It is planned to train 1 million people in the first 5 years of the scheme and then 1 million annually thereafter.

### **Key features of the scheme**

1. DGE&Ts MES-SDI scheme has been developed to provide vocational training to school leavers, existing workers, ITI graduates, etc. to improve their employability by optimally utilizing the infrastructure available in Govt., private institutions and the Industry.
2. Existing skills of the persons can also be tested and certified under this scheme.
3. Demand driven short term training courses based on Modular Employable Skills (MES) decided in consultation with Industry. MES is the 'minimum skills set' which is sufficient for gainful employment.
4. Central government will facilitate and promote training while industry, private sector and State Governments will train the persons.
5. The training under SDI scheme will be provided by various Vocational Training Providers (VTPs) under Central Government, State Governments, Public and Private Sector and Industrial establishments.
6. Flexible delivery mechanism (part time, weekends, full time, onsite/ offsite) to suit needs of various target groups.

7. To ensure impartially, testing of skills of trainees is to be done by independent assessing bodies, who would not be involved in training delivery.

### **IIW India as an Assessing Body**

IIW India had applied for and has been empanelled as an Assessing Body by DGE&T under the MES / SDI scheme from June 2009 for all courses under the Fabrication Sector in all States and Union Territories in India.

To conduct assessment of candidates at various VTPs located throughout the country the council has set up an MES Assessing Body (MAB) under the Education Committee. The MAB has appointed State Co-ordinators and Authorised Assessors in various regions with responsibility to carry out the assessment as per advice received from the respective Regional Directorate of Apprentice Training (RDAT). At present the MAB has 8 state co-ordinators and 28 assessors. Till date IIW India have conducted assessments of over 8,000 candidates under the MES scheme. The empanelment with the Government of India, DGE&T has given IIW India further recognition and national status as a certifying agency in the welding field.

### **Upgradation of ITIs**

The DGE&T has also taken a program added 1500 more ITIs and upgrade 500 existing ITIs as Centers of Excellence and already 800 new ITIs have been added and 100 upgraded. One of the routes is through public private partnership whereby private industry is offered management of government institutes.

In the above context IIW India is collaborating with Bipradas Industrial Training Institute, Krishnagar, West Bengal for upgradation of its facilities and courses under the public private partnership scheme. IIW India Hony. Secretary General is the Chairman of the Industrial Management Committee of the Institute.

### **Training Schemes under other Govt Ministries**

Apart from the DGE&T a number of other Ministries, e.g. Ministry of Human Resource Development, Ministry of Rural Development, Ministry of Micro, Small and Medium Enterprises sponsor specific schemes for training in skills particularly for BPL and SC / ST candidates, which they deem relevant to their areas. Funds are released from the National Rural Livelihood Mission and National Urban Livelihood Mission. Along with this most of the State Government operate schemes such as Employment Generation and Marketing Missions.

Most of the above schemes involve full or part funding of the cost of training which is conducted through public ITIs or private ITCs.

## ACTIVITIES UNDER THE NSDC

### Funding of Private Sector Training Institutes

NSDC provides funds by way of soft loans to private sector organizations to set up or expand training capacities for various skills required by the industry. The institutes proposals must be scalable, self-sustaining and provide outcome based training. Institutions like IL&FS, B-Able, Pipal Tree, Gram Tarang, Inskills, Globsyn, Empower, NIIT etc are some of the large organizations who have been funded by NSDC and the target is to generate 67 million additional capacity over a 10 year framework.

### Formation and Functioning of Sector Skill Councils

NSDCs other major role is to catalyze the formation of Industry Sector Skill development Councils (SSCs). Till date over 30 odd SSCs have been set up including Auto sector, security Retail, IT/ITES, Healthcare, Gems & Jewellery, Textiles, Capital Goods, food Processing, Leather, etc.

The following sectors have welding as a major function and job role. Auto, Capital Goods, Construction, Mining and Iron & Steel.

The basic roles and responsibilities of the SSC's cover the following

- Establish Labour Market Information System (LMIS)
- Create occupational standards and competency levels for job roles (NVQC)
- Skill demand analysis and skill development plan
- Developing skill competency standards and qualifications
- Affiliation and accreditation of Training Institutes
- Set up Academia of Excellence as required
- Training of Trainers
- Develop guidelines and participate in Assessment and Certification of Trainers
- Provide a platform to employ trained and certified skilled manpower by the industry sector

One of the main tasks of the SSCs is to map the Job Roles required by their industry sector and then develop the

Qualification Packs and the National Occupational Standards (NOS) required for these job roles. An occupational standard describes what an individual needs to do, know and understand in order to carry out a particular job role or function. They are basically performance standards that individuals must achieve when carrying out functions in the workplace together with specifications of the underpinning knowledge and understanding. A qualification pack for a job role may comprise of a number of NOS. Obviously it is essential that all training and assessment activity is aligned with the NOS for each job role.

### STAR Scheme of Govt. of India's

This is a Rs 1000 crore pan-India scheme launched by the Ministry of Finance branded as STAR – Standard Training Assessment and Reward. The scheme is to benefit one million people and is to be implemented by the NSDC.

NSDC have initially asked 20 Industry Sector Skill Councils (SSCs) to operate the scheme. While the scheme covers all job roles. Initially only a few high-market demand job roles have been selected from NVEQF/NSQF levels 1 – 4 (welders & helpers are included) Each tested and certified trainee to get an average of Rs 10,000 to meet training costs (for welders Rs 15,000). Payment will be direct to candidates bank account opened with Aadhar card.

### Features of the STAR Scheme

The training delivery will be through any Govt affiliated Public/Private institutions or NSDC training partners. Other training institutes to be directly affiliated by the SSCs after pre-screening assessment.

The assessment of trainees will be through assessing agencies who cannot be training providers. Initially only a select few assessment agencies with national presence and demonstrated ability will be selected by the SSCs. Assessment fees to be paid by the SSCs.

Certification will be jointly by the NSDC and the SSC and will be recognised by all members of the SSC and will be made a requirement for employment by the industry sector.

## ROLE OF IIW INDIA

In the above background IIW India have defined the following role for the institute.

- Knowledge Provider to industry and Training Institutes

- Assessment & Certification
- Training the Trainers
- Operate the National Welding Training & Certification Scheme at the national level
- Operate ANB India as an authorized body of IIW for International qualifications

#### **IIW India's Strategy in Skill Development**

- Collaborate with Sector Skill Councils to meet their specific needs w.r.t. welding.
- Design and develop industry sector - specific courses, course curriculum, lesson plans, course notes and testing & certification requirements to meet the needs of industry and various training programs.
- Actual welder training is to be delivered through ATBs, ATIs and external training institutes. IIW India will assess capability and approve.
- Use IIW-India's National Welders Training and Certification Scheme (NWTCS) as a vehicle for the above programs.
- Develop robust and efficient infrastructure to act as leading assessment and certification body for welding training.
- Conduct Teachers training programs.

#### **IIW India's Assessment & Certification Infrastructure**

In support of IIW-India's assessment & certification activities, the Institute has a major advantage in that a majority of its 4500 odd members are welding professionals at various levels, located under the different branches spread over the country.

The institute has already set up an infrastructure of State co-ordinators and Authorised Assessors for the MES scheme. This will be expanded to meet the needs of the NWTCS and STAR schemes assessment activity. This will allow the Institute to provide suitably competent examiners and infrastructure at different locations to serve the various schemes and ATIs.

#### **IIW India's Strategy for Sector Skill Councils**

- Collaborating with SSCs as Knowledge Partners
- Acting as assessment agencies

#### **Status of Collaboration with SSCs**

Automobile Sector – Agreement as a "Knowledge Partner" and "Assessing Agency" under STAR scheme signed. IIW India have started assessment for ASDC under the STAR scheme from October 2013 and 40 assessments conducted and 1170

candidates assessed. Have also carried out center assessment of ASDCs direct training partners.

Capital Goods Sector – Following an audit of IIW India's head office infrastructure agreement finalized for IIW India to act as CGSC's Knowledge Partner and sole Assessing agency for welding. The agreement also provides for assessment and joint certification with CGSC for candidates outside STAR scheme. First assessment under STAR scheme has been done in March 2014.

Steel Sector - IIW India has been included in the SSC Council with HSG nominated to the Board. The Steel Sector Council (IISCC), has been re-constituted recently and its activities are expected to commence shortly.

Construction Sector – SSC formed and operating. However lower priority has been accorded to collaboration with them, as they have not identified welding as an important job role or made QPs for welders.

#### **International Welder Courses**

To promote Education and Qualification in welding in India in line with International Standards which would be globally recognised and accepted ANB India had applied for and become an Authorised National Body (ANB India) of IIW in July 2007 to operate their International System for Education, examination and Qualification of welding personnel. The courses cover all levels starting from International Welding Engineer down to International Welder.

The International welder courses cover the main welding processes of MMAW, GTAW, GMAW & FCAW at the levels of Fillet Welder, Plate Welder and Tube (Pipe) welder. The training programs are conducted at IIW India Approved training Bodies (ATBs) and follow the IIW guidelines with respect to syllabus and practical test and theoretical examination requirements. The assessment tests are conducted by ANB India's Authorised Examiners at the ATBs. Successful candidates are awarded International Welder diplomas for the relevant process and level. They also receive ISO 9606 or EN 287 certificates which are accepted globally.

Till date about 40 candidates Trained at Don Bosco, Cochin and Quivan Technical Institute have been awarded International Welding diplomas and certification as per EN 287 / ISO 9606. These diplomas and certificates provide an opportunity for young people to receive due recognition and value for their skill outside the country and also serve as a bench mark for standard of welder training programs at the national level.

The IIW accreditation also authorizes ANB India's authorized examiners to conduct Welders Approval Testing and Certification to meet the industries demand for certification of experienced welders already engaged in welding job to meet their own quality system requirements eg ISO 3834 or to comply with customer's or collaborators requirements. The certificates may be issued as per ISO 9606 / EN387 / ASME Sec IX.

Apart from this ANB India also has the International Welding Practitioner, International Welding Specialist and International Welding Inspection Personnel diplomas within their scope. These courses cater to the next rung of progression for the shop floor welder and are meant for Specialised welding machine operators, welding foremen and supervisors, welding inspectors and very importantly welding instructors. It is acknowledged that the most important factor in any training is the quality and competency of the Instructor. This is particularly true for welding.

#### **IIW India's National Welder Training and Certification Scheme.**

The Scheme has been prepared to meet the demand of industry for welders, trained and certified to a level of competency commensurate with the requirements of any of the welder qualification and certification standards or codes i.e. IS:7310 / IS:817, IBR, ISO:9606-1, BSEN:287 and ASME Sec IX / AWS D1.1. and many others.

The scheme is specifically designed for large number of pre-school leaving candidates and dropouts who are unable to continue with formal education and provides an opportunity to build alternative careers. The National Welders' Training and Certification Scheme (NWTCS) will make the qualified welders better acceptable to industry all over India and open up opportunity and mobility throughout the country. The scheme covers requirements for 'Training & Certification' or 'Certification' only and is operated by the IIW-INDIA National Certification Board.

To operate the scheme IIW India's strategy is to inspect and approve existing welding training institutes as Approved Training Institutes (ATIs) provided they have the required standard of practical and theoretical training facilities and faculty as specified in the scheme. At present there are over 30 ATIs under IIW India's NWTCS. Further to ensure an uniform standard of training delivery at the ATIs, IIW India have introduced Welding Instructors courses and also provide lesson plans and course notes to the ATIs.

NWTCS Courses for Welders - Divided into 4 categories

- Foundation Course – 3 nos.
- Industry oriented standard courses – 4 nos.
- Special Courses – 6 nos.
- Industry oriented short term skill upgradation courses

In developing these courses, consideration has been given to the Skill set requirements and competency levels required by the various industry sectors. In this context, IIW-India is working in close co-ordination with various Industry Sectors Skill Development Councils (SSCs) formed under the National Skill Development Council e.g. Automobile Sectors Skill Development Council, Steel Sector, Capital goods sector etc. Joint certification with the relevant SSC to provide formal industry sector acceptance and employability.

#### **Collaboration with IL&FS**

As part of strategy to collaborate with large training organisations to step jump growth of NWTCS a comprehensive MOU with IL&FS was signed at Bangalore in February 2014. IL&FS are one of the largest skills training company in the country having trained over 8.0 lac people.

#### **Features of Agreement with IL&FS**

- All present and future IL&FS skill schools offering welding will become ATIs under NWTCS.
- IL&FS will open Centers of Excellence in 4 regions for conducting both NWTCS and higher level courses for welding engineers and supervisors. Also courses on advanced processes e.g. Laser welding & cutting, operation of robots, ToT, etc.
- CoEs may also be upgraded to ATBs under ANB India.
- CoEs will also act as hubs for IIW India's assessment and certification activities with IIW India authorised assessors / examiners operating out of them.

#### **Training the Trainers**

IIW India recognizes a huge shortage of competent welding instructors and also need to upgrade the existing trainers. This training is directly imparted by IIW-India. IIW India has a Collaboration with National Institute of Technical Teachers Training & Research to utilize their training facilities and infrastructure. Two Welding Instructors Training program for ATI Instructors was conducted from In April and August 2013 at NITTTTR to ensure uniform standards of theoretical and practical training throughout the country.

### Best Welder and Best Welding Engineer Competition

To motivate welders and welding supervisors / engineers IIW India organises an annual All India competition through its branches. Each branch conducts practical and theoretical tests and selects the best welders / welding engineers from their regions. The final competition is held along with the IIW India National seminar and prizes awarded to the winners at the inaugural function. One of the objectives of the institute in holding this competition, is to enhance the self respect and dignity of the welding profession.

### CONCLUSION

From the foregoing it will be seen that IIW India has been consistently pursuing its mission of human resources development in the welding field in India as fulfillment of its national role. While there has been considerable progress in the various programs taken up by the institute, both at the national and international level, much still needs to be done and the institute is working steadfastly to pursue a greater role in the national skill development mission.

### ABOUT THE AUTHOR



#### CAREER PROFILE

- Metallurgist with over 40 years experience in the development, manufacture, quality control, training, application and marketing of welding products with Indian Oxygen Ltd (now BOC India Ltd).
- In 1990 took over as Chief Executive of Maharashtra Weldaids Ltd, Nagpur (a joint sector company of IOL with SICOM) a company producing automatic welding consumables and welding machines and power sources.
- Re-joined BOC India Ltd in 1994 as General Manager – Research and Applications Development.
- Retired in November 2004. Continued with BOC Gases as a consultant for re-starting their Gas & Arc equipment business, and training of field sales staff.
- Presently having parallel appointments with the Indian Institute of Welding as
- Executive Director, responsible for over-all functioning of the institute,
- CEO of the IIW India – ANB responsible for international welding education and certification in India and
- Scheme Manager of IIW India ANBCC responsible for company certification in compliance with ISO 3834.
- Fellow of the Indian Institute of Welding and past General Secretary.
- Delivered the Sir L. P. Mishra Memorial Lecture at the plenary session of the first International Welding Conference held in India at Mumbai in February 2005
- Past Chairman of the CII Technical Sub-committee on Welding and Member secretary of the GOI DGTD panel set up for Welding in 1988.
- Past Member of the CII National Committee on Technology.
- Presently member of the CII National Committee on Skill Development