

International Foundry Congress and Exhibition- 2006 December 5th – 6th 2006 - Lahore, Pakistan

Engineering Development Board (EDB) and Pakistan Foundry Association (PFA) jointly organized the first “International Foundry Congress and Exhibition” (IFCE-2006) at Pearl Continental Hotel, Lahore on December 05-06, 2006. The two day event was supported by the World Foundry Organization (WFO) and participated by renowned foundry men from India, Iran, Turkey and England.

Inaugurated by Mr. Jahangir Khan Tareen, Minister for Industries, Production and Special Initiatives and attended by more than 400 delegates from the industrial sector of Pakistan and 50 foreign delegates, the IFCE 2006 was organized to unveil tremendous growth and export potential of the foundry sector of Pakistan and highlight investment prospects and supply chain possibilities the sector offers to potential investors. The IFCE 2006 provided the much needed platform to the participants to share their experiences with regard to the most modern techniques being adopted by foundry industry in the world and provided a unique opportunity to the members of Pakistan Foundry Association to interact with international and domestic foundry players, machinery and equipment manufacturers to exchange views and information on latest technologies and manufacturing practices. On the sidelines of the congress, an exhibition was also held where core competencies were put on display by the foundry industry of Pakistan.

In his inaugural address, Mr. Jahangir Khan Tareen urged upon the foundry men of the country to introduce latest technologies and develop skills to compete in the international market.

The inaugural session was followed by technical proceedings of the congress. Papers were presented by speakers from Pakistan as well as foreign participants. The papers were followed by question answer sessions and

comments by the chair of each session. A summary of papers presented by the speakers is as follows:

Technical Session-1

Subjects	Speakers
Growth Potential of Pakistan with special reference to Casting Foundry Industry	Mr. Imtiaz Rastgar CEO, EDB
Export Potential of Casting	Mr. Staf Henderieckx CBI (Agency for promotion of imports from developing countries)
International/Global Perspective of casting industry with a Scenario for 10 to 15 years	Mr. Andrew Turner, General Secretary WFO

Technical Session-2

Pakistan Level of Technology and Future Prospects	Prof. F.A.Khalid- GIK
Skill Upgradation and Requirement of Paper Training for the Foundry Industry	Dr. P.K.Basutkar (In place of Mr. C.R.Swaminath)
Computer Simulation in Casting Technology	Mr. Marc F. Kothen Magma Soft.

Day Two

Technical Session-1

Melting, Molding, Core Making Technologies suitable for Developing Countries.	Dr. P.K.Basutkar, Consultant, Suzlon Energy
Survey of Foundry Sand in Pakistan	Mr. Munir Ahmad
Automation of Furnaces – A Unique Cost Effective Solution	Dr. Prabhakar Sastri

Technical Session -2

An assessment of environmental issues pertaining to local foundries	Dr. Iqbal Qureshi / Umar Farooq
Low-cost Mechanization of Foundries	Mr. D.D.Vyas

Mr. Imtiaz Rastgar CEO-EDB while addressing the First International Session of Foundry Congress stated that at present 500 small and medium size foundries

are operating in the country with annual production of 300,000 tons Grey iron, SG iron and Carbon steel castings. Non-ferrous foundries, except aluminum die casting industry is still working as small scale jobbing foundries. Room for innovation in this sector is limited when compared to the advanced technologies. There is no mechanization in foundry industry of Pakistan except few foundries such as BCL, Rastgar Engineering, Qadbros, KSB and Chenab Engineering etc. These foundries are dependent on hand molding with no proper control over moulding materials.

Local foundries at present are passing through a transitional phase by introducing mechanization and new techniques to meet quality requirements at global level. The mechanized and integrated foundry plants of Pakistan are equipped with the following facilities:

- Duplex melting.
- High pressure molding lines complete with green sand plants.
- Combination of hot and cold box – core making machines.
- Mechanized system of castings, shake-out, transfer, cooling, shot blasting and grinding / fettling.
- Complete testing facility including chemical, physical, metallographic and spectrometry.
- High tech conventional and CNC pattern making equipment.

Referring to opportunities Mr. Imtiaz Rastgar CEO-EDB said that basic technologies have not undergone much change but the emphasis has changed. The world has become more environment conscious and technologies have to conform to stringent environmental rules. Moreover, the developed countries are facing the problem of waste disposal, expensive labor and shortage of foundry trained manpower. Because of these problems the foundries in the developed countries are at the verge of closure. Pakistan's foundries can avail this opportunity by approaching foreign foundries to source castings from Pakistan at

competitive prices to enhance its market share which suggests that Pakistan's foundry industry should equip itself with the latest technologies such as automation, casting simulation etc.

Since developed countries have started shifting their casting requirements to developing countries therefore, Pakistan should undertake to become a source of providing finished castings to developed countries, as India has already taken the lead and became a major source for supply of finished castings to developed countries.

Since, the cluster development is not common among SMEs in foundry industry, therefore, foundries are required to be segregated cluster wise which would in turn help develop foundry industry technologically and skill wise through sharing of knowledge and skills among foundries.

Mr. Imtiaz Rastgar also mentioned steps to be taken for the growth of foundry industry including establishment of training centers, acquisition of latest technologies, mechanization of molding lines and availability of foundry inputs. There should be a gradual shift from molasses sand molding to green sand molding for better quality of castings, technology up-gradation, HR development, joint ventures and exploration of export market. He also under lined that Pakistan must capture atleast 2% share in the American market out of its 13.7mt/annum requirement for sustainable export growth .

Mr. Munir Ahmad, of technical services centre emphasized in his paper that most common casting process used in the foundry industry is the sand cast system for ferrous castings in green sand molding systems. In addition to green sand chemically bounded sand cast systems is used for cores and non ferrous casting. He said that more than 80% problems are due to poor sand quality. He identified more than 60 locations of Punjab, NWFP and Azad Kashmir for good quality sand having 99.9% silica.

Mr. Andrew Turner, Secretary General of World Foundry Organization (WFO), while presenting his paper stated that much emphasis has been placed, in recent years, on the so called decline in the international foundry industry with the on going reorganization of his impact on green issues and the greater importance being placed upon environment friendly production techniques. A number of serious issues such as raw material shortages and labour shortages have impacted greatly on global foundry industry. He identified some of the importance characteristics facing by the foundry industry presently and some of future issues that may pose threat or provide opportunity to the foundry industry.

He informed that WFO facilitates the technique co-operation between different nations, internationally united to promote and coordinate the activities of cast metal and associated industry with in their own individual countries and overseas. The objectives of WFO are as follows:

- Promotion of the technology of the foundry industry
- Improving the image and understanding of the industry via the global exchange of knowledge
- Providing focus to all aspects of cast metals engineering
- Promoting international co-operation between Member Associations and other organizations
- Encouraging education and training in the industry
- Promoting the technical application of research and development of cast components.

The paper presented by Mr. Staf Henderieckx of CMI, suggested that selling casting abroad would be a new initiative for Pakistani foundries but would be subject to the international market laws. The market activity is a balance between offered products and demanded products. He said that the situation in Europe suggest that the required volumes are rather stable because of little increase whereas the offered quantities are decreasing which means that there is an

opportunity for Pakistani Foundry Industry. The difference between a close market as was in Pakistan and in open market with WTO regulations required to be realized because the change from close to an open market system has threats and opportunities. The Pakistani Foundry Industry must realize that no company in the international market is waiting for Pakistani Foundries but they are only looking for good suppliers which means, beside price and delivery time these suppliers are meeting the required quality. The required quality is composed of several components i.e. legal quality, product quality, company quality and emotional quality.

Dr. P.K. Basutkar of India presented his paper on foundry process and their upgrading skills. He emphasized the need to up-grade skills in sand preparation, pattern making, core making, casting designs, quality techniques, energy conservation, destructive and non destructive testing, metallurgy etc. While concluding he stressed upon the need to provide advanced training at all levels, bridging the gap between institutions and industries. He urged upon the foundry industry to aim at global business sense. The re-orientation training for all level of staff is must to update their knowledge and up-grade their skills with attitudinal training. Attitude of an individual plays an extremely important role in ones performance because in spite of the availability of best knowledge and skills, the ability to provide desired services by individuals cannot be affectively achieved if they are not imbibe with appropriate attitude.

The only lady speaker of the congress, Mrs. Prabha Kulkarui, President Trimerti Engineering Tools (Pvt) Ltd., India suggested that Foundry Industry Should establish a cluster for solving sand problems. She said that they have established a cluster for 120 factories in India and solved the problem.

Mr. Ajmal Cheema, Minister for department of Industries, Commerce and Investment of Government of Punjab while speaking as chief guest at the closing session assured that Punjab Government would provide all possible assistance to foundry industry of the country for its success.



Inaugural Session



Inaugural Session



Dr. M. Akram Sheikh, Dy. Chairman Planning Commission Presenting an award to Mr. Rastgar, CEO, EDB

Exhibitors Booths

