For Sustainable solutions in Steel and Power

**Company Profile** 

"FE TECHNO ENGINEERING & POWER SOLUTIONS" a Process, Engineering

Design and Consulting firm, formed by a group of technocrats, who have decades of

extensive hands-on experience and exposure to the entire range of Steel-making

Technologies from Iron ore beneficiation to Pelletising, Steel melting, steel casters and

Power plants. Our expertise is spread across various aspects of Plant Engineering,

Plant Erection, Project Commissioning, Process Modification, Process Improvement,

Plant Operation and Maintenance. Our group of experts in iron and steel sector has

over 30 years of relevant experience in the field of beneficiation, Pelletising, Sinter

SMS, rolling mills & power plants. Thus our firm is a one point solution provider in iron,

steel & power sector.

Services on Offer

FE TECHNO ENGINEERING & POWER SOLUTIONS shall offer engineering and

technology solutions in the following sectors-

a) Iron and Steel Sector

• Technical feasibility report for Iron ore beneficiation and pelletising facility

(TEFR)

Detailed project reports for Iron Ore beneficiation, pelletising, Iron and steel

plants.

Basic and detail engineering, project management, supervision of erection and

commissioning services for new projects during implementation stage.

Provide advisory services on selection of technology, selection of equipment for

new projects, project monitoring, progress compilation and MIS services to the

management during project implementation stage.

Provide equipment inspection services, conduct performance guarantee tests for

new equipment and process plants as independent consultants for any new

projects in iron ore & steel.



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Our team has In-house expertise to conceptualize, design, install and commissioning-

- Iron Ore washing, grinding and Iron ore beneficiation plants.
- Setting up and operating Iron Ore Pelletizing Plants, working on both Straight-Grate Technology and Grate-Kiln Technology with an annual production capacity from 0.3MTPA to 3MTPA.
- Provide engineering, procurement and commissioning support in setting up steel melting shops (EAF) and casters.
- Process and plant modifications in existing beneficiation and pelletising plants to improve product quality, process optimization and improve productivity.
- Training in Iron Ore Beneficiation and pelletising plant operation.
- Training in Beneficiation, pellet and steel plant equipment maintenance.
- Carryout Plant audits, commissioning and post-commissioning activities,
   Process Stabilization and product quality improvement in new or old plants.

### b) Power Sector

- Design & Engineering for thermal power plants with turbines, boilers & DM Plants.
- Design & engineering of material handling system & utility system for power plants.
- Retro fitting of large electric drives with latest high efficiency motors.
- Modification/replacement of the old electrical installations, drive panels, large HT motors with latest equipment.
- Photo voltaic roof top solar system integration, installation and commissioning.
- LED lighting system for industrial and domestic installations.
- Retro fitting of existing industrial illumination system with new LED illumination system.

We can provide any kind of technical support for steel and power industries in the area of technology, engineering and process related activities.

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**Our Experience in Steel sector** 

We have expertise in design of Process Flow for Iron Ore Beneficiation, pelletizing,

Sintering, Blast furnace, steel melting shops.

We have setup and operated Iron Ore Pelletizing Plants, operating on both Straight-

Grate Technology and Grate-Kiln Technology in India and abroad.

We also provide engineering, procurement and commissioning support in setting up

steel melting shops (EAF) and casters. We serve as one point solution provider for

steel industries from iron ore processing to steel making.

We carryout plant & equipment performance evaluation as well as commissioning and

post-commissioning activities including Process Stabilization / Optimization.

We have experience of over three decades, and have offered vital services / support to

different Iron Ore agglomeration and Steel Plants, and served in all major Steel Plants

across India, from 7.5 MTPY Beneficiation Plant and 3 MTPY Iron Ore Pelletising

Plant at M/s Kudremukh Iron Ore Co Ltd., Integrated Steel Plant at JSW, 4.5 MTPY Iron

Ore Pellet Plant at JSPL Barbil, 1.2 MTPY Iron Ore Beneficiation and Pelletising Plant

of Adhunik Group at Kandra, and 7MTPY pellet plant of TISCO in Jharkhand.

Our overseas team-members have served as Designers, Project Leaders, execution

experts, and have erected, commissioned and operated Beneficiation and Pelletizing

facilities in countries like Bahrain, Brazil, Canada (Quebec & IOC), Iran and Venezuela.

During the year 2013-14 we have successfully designed, installed, commissioned and

handed over India's first 0.6 MTPA Straight travelling grate Iron Ore Pellet Plant for M/s

Minera Steel and Power, Bellary Karnataka. We set an Industry benchmark by

executing the Project in 14 months. The Plant has surpassed its design capacity within

the first three months of operation.

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**Our Experience in Power Sector** 

We have experts, who have worked in power plants erection, commissioning,

stabilization and maintenance.

Our team members have experience in installation, commissioning and operating DG

based captive power plants, and gas fired boilers, steam turbines & DM water plants.

We can take the jobs like, overhauling of the turbo machineries, boiler annual

inspection, annual maintenance & breakdown repairs of power plants.

We have people with experience in Retrofitting of old electric installations, Slip ring

Induction motors, starter panels, transformers with new VF drives panels and motors

with improved efficiency, and new make/ brand.

**Solar Energy** 

We are keen to work for the Green Energy initiative & sustainable development,

thereby reducing the carbon foot print. We are working actively with solar energy

system providers to popularize domestic roof top photo voltaic installations, thereby

providing consumers with an economically viable & eco-friendly alternative to

conventional power.

**LED Lighting system** 

We believe "Energy saved is Energy Generated". As a first step in reducing energy

consumption for domestic and industrial sector, we can provide alternate solutions for

reducing illumination energy consumption. Use of **LED lighting** can bring down the

lighting load and energy consumption well below 40%. To reduce the impact of financial

burden on existing industrial setup, for total replacement of the existing conventional

HPSV, HPMV and Metal Halide fittings, we can offer economical retro fitting options for

the existing illumination fittings where ever the installed fittings are in good condition.



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#### **TEAM PROFILE**

### Mr. D L Saralaya - Director

A renowned Metallurgist, Mr. Saralaya was graduated from REC Rourkela and completed his M Tech in Metallurgy from Indian Institute of Science, Bangalore.

He started his career with Heavy Engineering Corporation, Ranchi and later joined Kudremukh Iron Ore Company Limited, which he served for over two decades in various capacities. He has been instrumental in commissioning and stabilizing India's largest Iron Ore Beneficiation and Pelletizing complex. He had an assignment with Ashapura Group of Industries before joining JSW Steel Limited. At JSW under his able stewardship, Iron making division and Pelletizing complex, saw a turn-around in product quality and business profitability in its operation.

During his professional career spanning over 4 decades, he has commissioned and stabilized operation, improved production rate and the quality in several Iron Ore Beneficiation and Pellet Plants and has depth knowledge and understanding of the Beneficiation and Pelletizing industry across the globe. He has presented several papers on Pelletizing technology at various conventions and is regarded as the crèmede la-crème of the Industry.

### Recent Assignments and services

- Process Consultant M/s Arya Iron and Steel Ltd Barbil, Orissa
- Process Consultant M/s Adhunik Industries Pellet and Beneficiation Plant,
   Kandra.
- Process Consultant Iron Ore Beneficiation and Pelletising Plant, M/s JSL,
   Bhilwara, Rajasthan.
- Process Consultant M/s ESSAR Vizag Pellet plant, Vizag, AP.
- Project Head Iron Ore Processing, Essar Steel Ltd.
- Senior Vice President Iron Zone, M/s JSW Steel Ltd Bellary, India
- Resident Director M/s Ashapura Volclay.
- HOD Pelletizing facility, M/s Kudremukh Iron Ore Company Ltd.
- Operations In charge Iron Ore Beneficiation, KIOCL.

#### Mr. DAMODAR KANNADKA - Director

Over three decades of experience in Installation, Commissioning, Operation and Maintenance of Pellet Plants, Sinter Plant and Power Plant. He was involved in designing and conceptualizing Pellet Plants, finalizing Plant philosophy, finalization of



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Process equipment, equipment sizing as well as basic & detail engineering for Pellet Plants.

Project In-charge for Minera's 600,000 TPA Pellet Plant, he was involved in Conceptual design, Detail Engineering, Procurement, Project implementation, Commissioning, Stabilizing Plant operation, carrying out Performance Guarantee Test Run & handing over the Plant to the customer.

Involved in Pre - Commissioning and commissioning of 1.2 MTPY Pelletizing Plant at OMML (Adhunik group), Kandra, Jharkhand. He was actively involved in operation and process stabilization along with logic development for the plant automation system.

Significantly contributed in Commissioning and stabilization of 4.5 MTPY Iron Ore Pellet Plant, at Jindal Steel & Power Ltd., Barbil, Orissa. During the commissioning stage, he helped streamline the Plant Process.

Served as Project Manager and was responsible for Scheduling, Plant Erection, Supervision, Testing and Commissioning of two Sinter Plants for JSW Steel Ltd.

Competent in troubleshooting and repairs, scheduling and implementing preventive maintenance measures for Plant & Machinery of Power plants, sinter plant & Pelletizing Plant

#### Mr. RAGHAVENDRA S RAO - Director

Over 12 years of experience in Engineering, Project Planning, Erection & Commissioning of various units of Steel Plants & turbines.

Pellet Plant commissioning and stabilization activities of 1.2 MTPY Pelletizing plant at OMML (Adhunik group), Kandra, Jharkhand. He was actively involved in the Commissioning and stabilizing of Indurating machine and the Balling discs, operation stabilization of the Indurating furnace and the process gas system.

Involved in the commissioning of 4.5 MTPY Pelletizing plant at Jindal Steel & Power Ltd., Barbil, Orissa as well as in commissioning of various Pellet Plant process equipment such as Hot air generators, Dryers, Ball Mill, Raymond Mill, ESPs and material handling systems and plant utility system.

He was responsible for monitoring of Project execution involving various facets of Engineering, Procurement, Erection & Commissioning activities, finalization and approval of Mechanical Packages, generation of Progress Report, monitoring and expediting various activities related to blast furnace equipments, turbo blowers at JSW Steel Ltd during 7MTPA expansion project.



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He worked as a key co-coordinator for the mechanical design for the 0.6 MTPY Pellet Plant of Minera Steel, Bellary.

Presently, he takes care of conceptualization, Plant Philosophy finalization, Basic and Detailed Engineering of Small & Medium scale Pellet & Beneficiation Plant Projects.

Mr. GOVIND BELEGAL Technical Advisor - Electric Arc Furnace & Rolling Mills M.Tech in Mechanical Engg. & Metal Forming Machines from IIT, Kanpur. He has over 33 years of distinguished carrier with leading Global Technology providers related to core Industries of following sectors:

- 1. Steel making and Continuous Casting Technologies for Long Products.
- 2. Metal & Mineral Processing
- 3. Oil & Natural Gas Industry
- 4. General Engineering & Manufacturing

Posses experience in following varied functions:

- 1. Sales and Marketing (Technical & Commercial)
- 2. Design and Engineering
- 3. Contract and Project Management
- 4. Procurement & Supply Chain Management
- 5. Site Services: Erection / Commissioning activities and after Sales & Service.

Various Companies worked and associated with, since 1981:

- Technical Advisor / Consultant to European Technology Suppliers and Indian Steel Plants for Steel Making & Continuous Casting Plants (L.P) and Mineral processing.
- 2. M/s. Mittal Corp Ltd., / M/s. KNK Corp Pvt. Ltd. President (Projects): Setting up EAF & AOD based Alloy & Stainless Steel Producing Plant with Continuous Casting, Rolling (B&WRM) and finishing facilities. Special project for Technology selection and Project Implementation for 1.2 million ton of Iron Ore Beneficiation and Pellet Plant.
- 3. M/s. Transdanube , Romania ( Group Co. of African Steel Mill , Nigeria) , Technical Advisor , Setting up of state of the art Mini Steel Plant in Romania to produce 400,000 MTPA TMT and WRM rolling mill with EAF, LRF and CCM and up-gradation of existing Steel making and Continuous Casting facilities at Nigerian plants.



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- 4. M/s. Danieli India Ltd., Kolkotta, India, a fully owned subsidiary of Danieli & C, Buttrio, Italy. Vice President (Melt Shop & Caster Long Product), Functional Head Long Product Business (India, South Asia and Middle East) for Steel Making & Continuous Casting. Head Administration for Mumbai outfit of Danieli Group Companies.
- M/s. SMS Concast India Pvt. Ltd., Pune .,a fully owned subsidiary of SMS Concast AG , Switzerland.( A Group Company of SMS Siemag, Germany / SMS Meer, Italy ).
  - Executive Director (Technical) & Board Member. Heading Global Design wing of CC Technologies of Concast/Zurich. Key Accounts Manager for India business for CC Machines and responsible for S&M , Project & Contract Management, Supply Chain Management and Site activities for projects of SAIL, TATA's, JSPL, JSW, MITTAL, KALYANI, MUKUND, MONNET etc.
- M/s. Krupp-Koppers India Ltd., Pune, Senior Manager (Sales & Marketing), Techno-Commercial Sales for various technologies like "Coke Oven Batterie, De-Sulpharisation Plants, Secondary Steel making process and Slab Casters" for technology providers like KOPPERS, POLYSIUS and CLECIM.
- 7. M/s. ELKEM Metallurgy Pvt. Ltd., Mumbai, a fully owned subsidiary of ELKEM, Norway. (Technical association with Scandinavian Scanlance-Sweden & INTECO-Austria), Senior Manager (S&M and Project Execution) Design, Engineering & Project implementation of 2x8MVA Ferro-Silicon Plant for SAIL and Secondary Steel refining (IRUT) plant for RINL.
- M/s.Concast India Ltd., Mumbai , a Group Company of Concast AG., Switzerland ,Manager ( S&M , Projects & Procurement) Design , Engineering & Project execution, Site Services for Implementation of Continuous Casting Technology for Indian and Overseas countries.
- M/s.Humpreys & Glasgow Consultation Pvt. Ltd., Mumbai, (British Company)
   Engineer (Design). Design , Engineering , Technical evaluation & recommendation for Petro-Chemical Projects, Cement & Sponge Iron projects and Fume Extraction & Pollution Control Systems.



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Abreast with state of the art Technology and Equipments for:

- Continuous Casting Technology and Equipments for Long products like Billets,
   Blooms and Rounds & Mini Slab Products of Concast, Danieli, Clecim, DEC,
   Pomini-Techint, Sarralle and many other European / Chinese Suppliers.
- 2. Quality Control and enhancement Systems (Noble and Value addition items) like Electromagnetic Stirrers, Flow Control Systems ,etc for CC applications.
- 3. Steel Making through Electric Arc Furnace (EAF), Induction Furnace (IF) and Energy Optimization Furnace (EOF) of SMS Group, Danieli Centromet, S-VA, Sarralle, Tenova and many other European and local suppliers.
- 4. Secondary Steel Refining process through Ladle Furnace (LRF) & Vacuum Degassing (VD).
- 5. Stainless Steel making process through Argon-Oxygen Degassing (AOD) & Vacuum Oxygen Degassing (VOD) of various European and Local Suppliers.
- 6. Sub-merged Arc Furnaces for Ferro Alloys (Ferro Silicon / Chrome) Plants of ELKEM.
- 7. Fume Extraction cum Dust Cleaning & Pollution Control Plants from European, Japanese, Chinese and Local Suppliers for Steel melt shops and Cement Plants.
- 8. Technology and Equipments for Coke Oven Batteries and Desulphurization Plants of THYSSEN-KRUPP.
- 9. Technology and Equipments for Iron Ore Beneficiation and Pellet plants from Danieli and Chinese and Russian Technology Suppliers.
- 10. Material Handling and Storage Plants / Systems for Sponge Iron, Cement, Steel Plants.
- 11. Utility Systems like Water Treatment Plants and Circulation Systems, Oxygen Plants, etc. for Steel and Cement Industries.

**Mr. PAUL LOUVELLE** Technical Advisor – Iron Ore Agglomeration Plant design, Project execution & Operation

Mr. Paul Louvelle has over 40 years of international experience in the Iron ore and Bauxite industries. He possesses in-depth know-how of all aspects of Pelletizing operations, including Crushing, Concentrating, Washing, Floatation and Filtering. He has experience in providing support to project groups covering green-field and brownfield Plants. He has provided technical assistance to Iron Ore Plant operators in India, Mexico, Venezuela and Iran. He has led operating teams in several new plants and



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several Plant Process modification start-ups. Mr. Louvelle is a conscientious, highly motivated professional and is capable of working very well both independently and as a member of an integrated team. He possesses a vast network of contacts in Mineral-Processing industry.

<u>Since 2011 worked with SNC-LAVALIN INC., Montreal, Quebec, Canada</u> as Project manager for Global Mining and Metallurgy

- Arcellor Mittal 8Mtpa & 24Mtpa Expansion Deputy construction manager / commissioning manager for 8mta expansion of the existing concentrator.
- Iron Ore Company of Canada Manager for a Pre-feasibility study for pelletizing hematite and magnetite fines.
- New Millennium 21Mtpa Taconite Project Area Manager, pelletizing section.
- USIMINUS Mineracao Brazil Projecto Compacto Critical Technical Review of their proposed 17Mtya mine and concentrator.

### HATCH ASSOCIATES, Montreal, Quebec, Canada

Technical Manager - Provided Engineering and Technical Services to Pelletizing Plants & as Consultant provided technical assistance for two Pellet Plant projects in Iran <a href="2002 Jindal Vijayanagar Steel Ltd. (JVSL)">2002 Jindal Vijayanagar Steel Ltd. (JVSL)</a> India, worked to debottleneck a newly commissioned 3.0 MTPY design Pellet Plant

<u>2005</u> Provided technical bid evaluation on a proposal for a second Pelletizing line with a capacity 6 MTPY capacity to be built for GIIC, Bahrain as member of the McLellen & Partners, UK

### 1998-2001 IRON ORE COMPANY OF CANADA (IOC)

Superintendent - Research and Development Provided technical support to the Carol Lake Pellet Plant. Coordinated various activities related to the Pellet Plant Phase II Expansion, Provided technical support to project engineering for the Sept-Isles Pellet Plant Expansion Project; the project involved restarting of one of two idle Allis Chambers Grate/Kilns Pelletizing process lines and enhancing plant capacity from 3.0 to 4.5 MTPY. Advocated the concept of dry windboxes. Worked with design teams to optimize the Process and reduce costs in all areas of operations.

### 1996-1998 GULF INDUSTRIAL INVESTMENT COMPANY (Arab Iron and Steel)

Production Superintendent: Responsible for the production department of a 4.0 MTPY Kobe design grate/kiln-Pelletizing process. Developed and implemented several modifications related to plant productivity, cleanliness and lowering maintenance and operating costs.

1994-1996 MET-CHEM CANADA INC., Mangalore, India



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Project Manager, Pellet Plant for Kudremukh Iron Ore Company Itd. at Mangalore. Responsible for improving Pellet quality and increasing production level from 3.0 MTPY to 3.5 MTPY.

### 1992-1994 MET-CHEM CANADA INC., Montreal, Quebec, Canada

Manager (Pelletizing):Provided technical support to the various overseas projects Participated in feasibility studies, project proposals and technical negotiations with prospective clients. Led the technical negotiations for upgrading and re-rating of the AHMSA, Monclova, Mexico Pelletizing Plant design capacity from 3.0 to 3.56 MTPY.

### 1990-1992 MET-CHEM CANADA INC., Matanzas, Venezuela

Project Manager: Responsible for improving pellet quality and increasing production level of two Lurgi straight-grate Pelletizing lines from the 6.6 MTPY to 8.0 MTPY in CVG, Sidor Pellet Plant.

### 1988-1990 MET-CHEM CANADA INC., Monclova, Mexico

Pelletizing Superintendent / Project Manager- Responsible for all aspects of production. Achieved the production level to its design rate of 3.0 Mtpy.

## 1986-1988 MET-CHEM CANADA INC., India

Provided technical assistance for the 7.5 MTPY Iron Ore concentrator and 3.0 MTPY pellet plant at KIOCL.

### 1981-1983 MET-CHEM CANADA INC., India

Senior Supervisor: Supervised an Iron Ore Mining, Beneficiation, Slurry Pipeline and Port facility; the Plant flow sheet for 7.5 MTPY capacity concentrator included 60" primary crushers, four concentrator lines utilizing 32' x 16' autogenous mills, magnetic gravity separation, regrinding and a 68 km long slurry pumping system. Managed the Port Facility, Mangalore; responsible for start-up and technical assistance for both operations and maintenance of the port facility.

### 1977-1981 SIDBEC NORMINES INC. Port-Cartier, Quebec

Shift / General Foreman: Facility included a 3.0 MTPY Iron Ore Concentrator utilizing hydraulic classification & WHIMS, a 6.0 MTPY two line Pelletizing Plant producing D. R. and Blast Furnace grade Pellets. As General Foreman - Operations, was responsible for the operation and administration of the Pellet Plant Indurating section.

### 1973-1977 LAMCO J.V. OPERATING CO., Liberia, W. Africa

Shift Foreman/General Foreman: Supervised 12 MTPY Iron Ore beneficiation plant equipped with screening, crushing and ore classification, grinding, flotation, low and



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high intensity WHIMS. Expanded responsibility to include a 2 MTPY Dravo-Lurgi design Pelletizing Plant,

1966-1973 IRON ORE COMPANY OF CANADA (IOC), Labrador City, NF, Canada Plant Operator: Positions held included thickeners, grinding, filtering, agglomeration, induration, product screening and train loading system.

Mr. JEAN GUY LAVOIE Technical Advisor – Pelletising Projects Technology

Education: Graduated from, Institute d'Entrainement Specialise Quebec (Québec)

Canada, Welding techniques and Metallurgy in 1964.

**Technical Papers** 

U. S. Patent No. 6,053,330 for a green pellet roller screen automatic spacing system to Improve screened pellet size distribution and reduce machine downtime during rollers precision gapping.

### Summary of Experience

Over 48 year's practical experience in Mechanical Maintenance in Iron Ore Concentrators and Pellet Plants throughout the world. Design Specialist in Ore Handling system, wet and dry grinding concentrator and Iron Ore Pellet Plant. Specialist in the field of design and retrofitting new equipment for the improvement and upgrading of concentrator and Iron Ore Pellet Plants including the design and installation of six (6) Double Deck Roller Screens and associated equipment with extensive knowledge of welding and fabrication techniques. Specialist in the application of wear resistant coatings to vulnerable material, such as ore mixer paddles and pellet plant process fans blades etc.

### Relevant Experience

Northern Heavy Industries (NHI) Shenyang, Liaoning Province, PR China-

As Senior Consultant (Technical) Lead working on the design of 2.5 MTPY Pellet Plant Induration machine for Khorasan Steel Co., in Mashhad Province in the Islamic Republic of Iran.

#### SNC Lavalin Montreal Quebec Canada-

As Senior Manager Technical, worked on the pre-feasibility project of Rio Tinto IOC Genesis project in Labrador City NFLD. The project consists in the verification, validation and the rearrangement of the concentrator of a capacity of 25.0 MTPY of various qualities of Iron ore.

TOA Consulting Services Limited Hamilton Ontario Canada



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Senior Technical Manager, responsible for the inspection and the refurbishing program of a 3.0 MTPY Magnetite Iron Ore concentrator in Musan, North Korea (DPRK). Initiator and responsible for the negotiations with the Ministry of Steel, Government of India for the purchase and the relocation in North Korea (DPRK) of the Kudremukh Iron Ore Company Limited (KIOCL) closed mine site and beneficiation plant located at Kudremukh, Karnataka, India.

As team member of BBA Inc. Montreal Quebec Canada, worked for

<u>Black Iron Resources Shimanovkoe Ukraine -</u> Senior Technical Manager, responsible for the pre-feasibility design of an 8.0 MTPY Pelletizing Plant with associated equipment for Ukraine.

### Alderon Resources Inc. Labrador City NFLD

Senior Technical Manager, responsible for the pre-feasibility design of a 7.0 MTPY Pelletizing Plant with associates equipment.

### Iron Ore Company of Canada Labrador City NFLD Canada

Inspect existing Aggregates Plant at IOC Mine Site for the probable repair and upgrade of the existing rock crusher used for the production of aggregates for the mines' road topping and blast holes stemming material.

#### Iron Ore Company Of Canada Labrador City NFLD Canada

Responsible for the design and installation of new Iron Ore green pellet screening system for Pellet machine # 5 & # 6 and associated mechanical equipment for facility upgrades. The system was finally duly installed and commissioned by IOC successfully in February 2010.

Consultant team member for Hatch Canada Worked for following projects -

### Iron Ore Company Of Canada Labrador City NFLD Canada

Responsible for the original design of new Iron Ore green pellet screening system for pellet machine # 5 & # 6 and associated mechanical equipment for facility upgrades.

Mubarakeh and Khuzestan Steel, Islamic Republic of Iran

Responsible for the design and installation of new iron ore balling, screening and associated mechanical equipment for the production facility upgrades. Responsible for the new balling disc and double deck roller screen innovative design.

### Consultant For Met-Chem Canada

worked for Iron Ore Company of Canada Sept-Iles Pellet Plant Quebec, Canada; Responsible for the design and installation of new Iron Ore Balling and associates



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recycle conveying equipment layout in the slurry filtering, green ball and green ball screening area.

### Divhan Maden Pellet Plant, Divrigi, Turkey; (For Met-Chem Canada)

Retro fit installation of a double deck roller screen pellet classifying system and associated equipment on an Allis Chalmers Pelletizing Rotary Kiln. Technical Assistance on maintenance-related down-time problems.

## A.H.M.S.A. Pellet Plant, Monclova, Coahuila, Mexico

3.0 MTPY Pelletizing Plant, responsible for the trouble shouting of major / minor breakdown of Pellet Plant equipment. Also, responsible for the Plant equipment modifications necessary to up-grade production and the maintenance, including the design and installation of a double deck Roller screen, the implementation of a preventive maintenance program in the Pellet Plant. Prepare a design for a new innovative pellet screening system with associate equipment at each balling disc for green pellet quality improvement and production increase.

### USX Minntac Pellet Operations, Minnesota, U.S.A

Retrofit design for a new 4.5 meter wide green pellet roller screen system and associate equipment, including the design of a 5.0 meter wide fines removal belt conveyor for the Allis Chalmers Rotary kiln feed.

### Kudremukh Pellet Plant Mangalore, Karnataka, India

3.0 MTPY Pelletizing Plant, responsible for the design, installation and startup of a double deck roller screen. Implementation and Supervision of Plant modifications and Process improvements in the start-up of a 7.5 MTPY Iron Ore concentrator.

### C.V.G. SIDOR Matanzas, Puerto Ordaz, Venezuela

Pellet Plant - Responsible for the design and installation of two double deck roller screens with associated equipment. Assisted, advised to make the necessary changes to increase the plant capacity from 6.2 MTPY to 8.5 MTPY of an Iron Ore Pelletizing Plant.

## Quebec Cartier Mining, Port-Cartier Quebec Canada:

Responsible for the initial organization of the machine, welding and vulcanizing shops in a 5.5 MTPY concentrator and 6 MTPY pelletizing plant with associated stockpiling and ship loading. In- charge of the maintenance in the Balling and the indurating section of the Pellet Plant.

Eutectic Canada Ltd., Sept-lles (Quebec ) Canada



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Welding specialist for the Iron Ore, Aluminum and Pulp and Paper industries Shefferville & Labrador City: Responsible for the development of new applications in the field of preventive maintenance domain such as work on the development of WC coating procedure for the pellet plant process fan liners. Application technique for special hard facing of the Iron Ore mixer plows. Responsible for the procedure & development of rebuilding gyratory crusher mantle liners (60 X 109) at Mount-Wright and (60 X 89) at Gagnon for QUEBEC CARTIER MINING CO.

<u>Convex S.A., Port Of Constanta, Romania</u> Technical assistance, co-ordination and trouble shooting for the emergency repair of the fallen product hopper of 2000 TPD capacity ship unloader no. 2, as well as the inspection and preventive repair on the ship unloader no. 1.

### Eastern Coalfields Ltd Rajmahal, Bihar, India;

Responsible for the turn key project of a 10.5 MTPY Coal Mine, also supervised the activities of different trade groups for the Construction and Commissioning of a Coal Handling and Storage facility. Organized and supervised the assembly / welding and fabrication work needed for the site erection of large mining equipment from North American manufacturers.

### Mr. D. LOKANATH Specialist – Iron ore Beneficiation and Pelletising Process

A Mechanical Engineer with over 32 years of field experience in Iron ore beneficiation and Pelletizing Plants. He has worked in project, operation and maintenance of Pellet plant in both straight grate and grate kiln design.

He started his career from M/s Kudremukh Iron Ore Company Pellet Plant, as Maintenance Engineer. He has served in Iran for both Straight grate and Rotary Kiln plants in Erection and Maintenance. He has hands on experience in Erection, Operation and Maintenance of heavy Plant equipment like Rotary Kilns, Rotary Dryers, Grinding Mills, Vertical Roller Grinding Mills, Process Fans, Indurating machines and Material Handling equipments. His contribution has been significant in Commissioning and Trial - run of Minera Pellet Plant in 2014.

He has previously worked in Shyam SEL & Power Pvt Ltd. Kolkata India as AVP project & successfully commissioned 0.6MTPA grate kiln pellet plant in December 2013.

As a technical advisor (operation and maintenance) for commercial production at Ardakan 3.4 MTPA grate kiln pelletizing plant, Iran, as incharge of the plant operation and maintenance, and achieved production above rated capacity for two years.



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Commissioned 3.4 MTPA grate kiln pelletisation plant (APP Iran) supplied by KOBE Steel Japan, worked as a commissioning incharge.

Commissioning and maintenance experience of 0.5 MTPA shaft pelletizing furnace in KIOCL. Erection, commissioning and maintenance experience of 3.5 MTPA pellet plant (lurgi design) at KIOCL, Mangalore owned by Government of India.

### MR AK MISHRA Technical Advisor – Refractory

He has over 3 decades experience in the field of Refractory Lining for Indurating Furnaces and Rotary Kilns. He has in-depth knowledge and insights in Refractory design and interlocking patterns for different applications. He has been instrumental in preparation of specifications for Refractory, as well as inspection, installation and furnace dry out and Commissioning of major Pellet Plants in India like Kudremukh, JSPL1 & 2 and BMM. He is also an Advisor for refractory installations for many plants.

### Mr. SS BAGEL Specialist - Refractory

He has served the Iron and Steel industry as Refractory Specialist for over 35 years. He started his career at SAIL's Steel Plant and then shifted to Cement Plants. He has been instrumental in Refractory installation for recently commissioned Pellet Plant for Minera Steel and Power at Bellary.

### Mr. BALAJI SHANKAR Senior Engineer - Mechanical

With over 14 years of experience as a Mechanical Engineer in Steel Plants, he has exposure to various Steel Plant Projects such as Blast Furnaces, PCI, and Pelletizing Plant etc. and has been involved from the Project Planning stage to Execution, Commissioning and Stabilization.

Involved in execution of Blast Furnace #3 and #4 Projects of M/s JSW Steel Itd, Bellary, handled critical equipments in the furnace such as top-charging, cast house & hot blast stoves. After the successful commissioning of the Blast Furnace # 4, he worked as area In-charge of critical areas as mechanical maintenance Engineer. During this period, he has carried out scheduling of preventive maintenance, spare procurement planning, development of the Indigenous spares, preparation of the breakdown analysis report & CAPA.

Actively involved in execution of Structural, Mechanical equipment, Material Handling system, Utility facilities, he worked as a key coordinator for the commissioning activity

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and was involved in Performance Guarantee Test Run of MINERA's 0.6 MTPY Pellet plant.

At present, he assists Basic and Detail Engineering of small and medium scale Iron Ore Pellet & Beneficiation Plants.

## Mr. KAVAN SHARMA Engineer - Mechanical

A Mechanical Engineering graduate, he has exposure to Project Implementation and monitoring activity of Pellet Plant. Assisting in supervisory activity for mechanical, structural works & equipment erection. Preparation of daily progress reports, precommissioning checks on various plant equipment, preparation of erection protocols and conducting cold trails at Minera Project, Bellary. He was involved in successfully commissioning the 0.6 MTPA Minera pellet plant.

### Mr. SHASHANK BHAT Engineer - Electrical & Instrumentation

Graduate Engineer in E&C from Vishweswarayya University, Belgaum. Involved in Project Engineering, Implementation and Commissioning of small scale Pellet Plant from concept stage. Also instrumental in preparation of P & IDs, Cable scheduling, Electrical Line Diagrams, Feeder Lists, Control logics and Automation. Key job carried out for successful implementation and stabilizing the plant Automation system during Commissioning.

### Mr. HANUMANTHA REDDY Design Assistance

Has more than 10years of experience in Design and Detail Engineering drawings for Civil, Structural Works with focus on STADPRO analysis and ACAD. Has carried out detailed design drawings for JSW Steel Plant, BMM Ispat, Hospet, BTPS Thermal Power Plant and Cement plants at various locations.

With our core capability in design, engineering, Installation, commissioning, process plant operation and maintenance we are sure to deliver the best of the industrial solutions to our prospective clients.

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