

N&T provide most

ECONOMIC ENERGY-EFFICIENT TECHNOLOGIES

for Cement plant on turnkey basis projects



Cement is an energy-intensive industry in which the grinding circuits use more than 60% of the total electrical energy consumed and account for most of the manufacturing cost. The requirements to reduce the use of energy in grinding and the emission of CO² from the kilns, process economics, energy reduction, ecology (mostly reduction of CO² emission), conservation of resources and High grade product quality by the equipment used in the grinding circuit, to improve grinding efficiency, minimize specific energy consumption, optimal production capacity and high grade product quality.



**N & T ENGITECH
PVT. LTD.**





ABOUT N & T ENGITECH PVT. LTD.

N & T Engitech is a Multi-Disciplinary Engineering, Equipment Manufacturing, and Company Head Office in Chhapi, North Gujarat and specialized in Energy Efficient Cement plant, minerals plant and materials handling systems serving its clients globally with over 100 professionals working in various disciplines since 2009. Our comprehensive range of services provides innovative, effective and cost-efficient solutions to our client's technical and project management needs.

Fully networked with headquarters through IT systems providing full access to global database. The team consists of highly qualified personnel having wide experience with OEMs for cement industry. Now forms a very strong team in providing our customers with advantage of high quality of consultancy and engineering services at budgetary cost.

We are amongst the few engineering consultancy companies providing total engineering solutions in all disciplines for complete project implementation under one roof. The organization is led by professional consulting engineers having rich experience in the fields of engineering and project implementation of various projects across the globe. Experience of senior management is complemented by young leaders well-versed with the latest technologies and trends.



**Full Range of Key Engineering Services to Cement Industry worldwide
From Design to Execution for cement Plants**

**Core Services Include Feasibility Study, Basic Engineering,
Procurement Services, Pre bid Engineering, and Detailed Engineering**

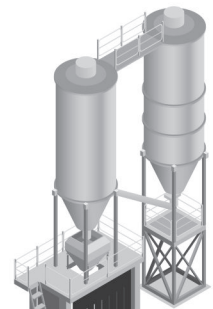


A) MECHANICAL B) PROCESS

C) CIVIL STRUCTURAL

D) ELECTRICAL & INSTRUMENTATION

E) AUTOMATION ENGINEERING



BASIC ENGINEERING

- Review/reassess the basic specifications for plant and machinery and other relevant features of the Project.
- Prepare preliminary plant layouts and process flow sheet based on the agreed preliminary layout with the objective of keeping the capital and operating costs at the optimum level, designs various systems.
- Prepare a concept report covering system for the various plant services (Compressed air, Water storage, distribution, Plant illumination, Workshop, laboratory, fire fighting etc.).

PROCUREMENT

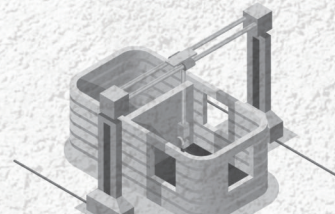
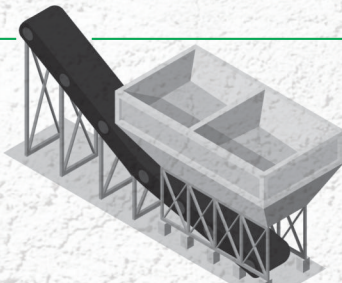
- Preparation of Procurement Specifications.
- Pre Bid/ Clarification Meetings.
- Tender Evaluation and Clarification Meeting.
- Purchase Recommendations.
- Contract Documentation.

DETAILED ENGINEERING OF CEMENT PROJECT



MECHANICAL

- Prepare final layout and flow sheet based on the main machinery selected, with proper code.
- Review and approve data and drawings from suppliers.
- Review & approve fabrication drawings (steel GAs) for all chutes, ducts, Belt conveyor galleries, trestles, short supports, foundations and transfer towers.
- Prepare steel GA's for any interface areas, where required.



ELECTRICAL

- System design for power system, Earthing system and lightning protection system for the plant, based on the machinery selected, approved layout/ flow-sheet and to keep the capital and operating costs at the optimum level.
- Scrutinize the GA drawings, power and control schematics and design details for the equipment submitted by the suppliers.
- Prepare layout drawings and general arrangement with fixing detail for various electrical systems in the plant.



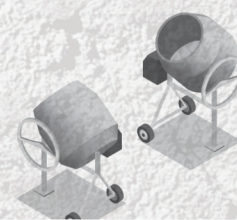
INSTRUMENTATION

- Prepare control concept of the plant, identify number of control rooms, type of microprocessor controls, control loops for optimised operation of the plant, system architecture for central control based on latest programmable controllers available.
- Scrutinise the GA drawings, control schematics, interface/inter-connection diagrams, I/O addresses etc submitted by the supplier.
- Prepare detailed design and schemes for various components of the C&I system for the entire plant.



CIVIL AND STRUCTURAL

- Prepare specifications for releasing to tenders for carrying out soil investigation and topographic survey work to the extent required. Supervise and evaluate soil investigation results and topographic survey carried out by independent external specialist agencies.
- Design foundations, buildings and structurals in conformity with the project engineering and general arrangement drawings for the process departments and material handling sections. Foundations will be designed on the load data provided by different suppliers of the machinery.
- The design of all duct supports, conveyor belt supports / foundations, bins and hoppers, stacks, stairs, platforms, railing etc shall form part of civil design scope.
- Prepare RCC working drawings to enable the civil contractor(s) to prepare bar bending schedule and execute the work at site.
- Prepare structural steel drawings (Steel GA's only) "Good for fabrication" giving details of structural system, shape and size of members, splices details for the members to enable the fabricator to prepare shop floor details.
- Prepare schematic drawings for the plant services within the plant area such as Roads, drainage, Sanitary system etc.





CONSTRUCTION, ERECTION & COMMISSIONING

On Site Field services are specialized supervisory services rendered by functional experts in the multi discipline domain for installation of cement plant in a cohesive manner.

Engineers specializing in civil construction, structural fabrication and equipment erection provide designer supervision during the implementation phase of the project. They, additionally, assist in start-up and plant commissioning by ensuring that individual items of plant and machinery and the department/ plant as a whole, meet performance criteria as laid down in the specifications, both qualitatively and quantitatively.

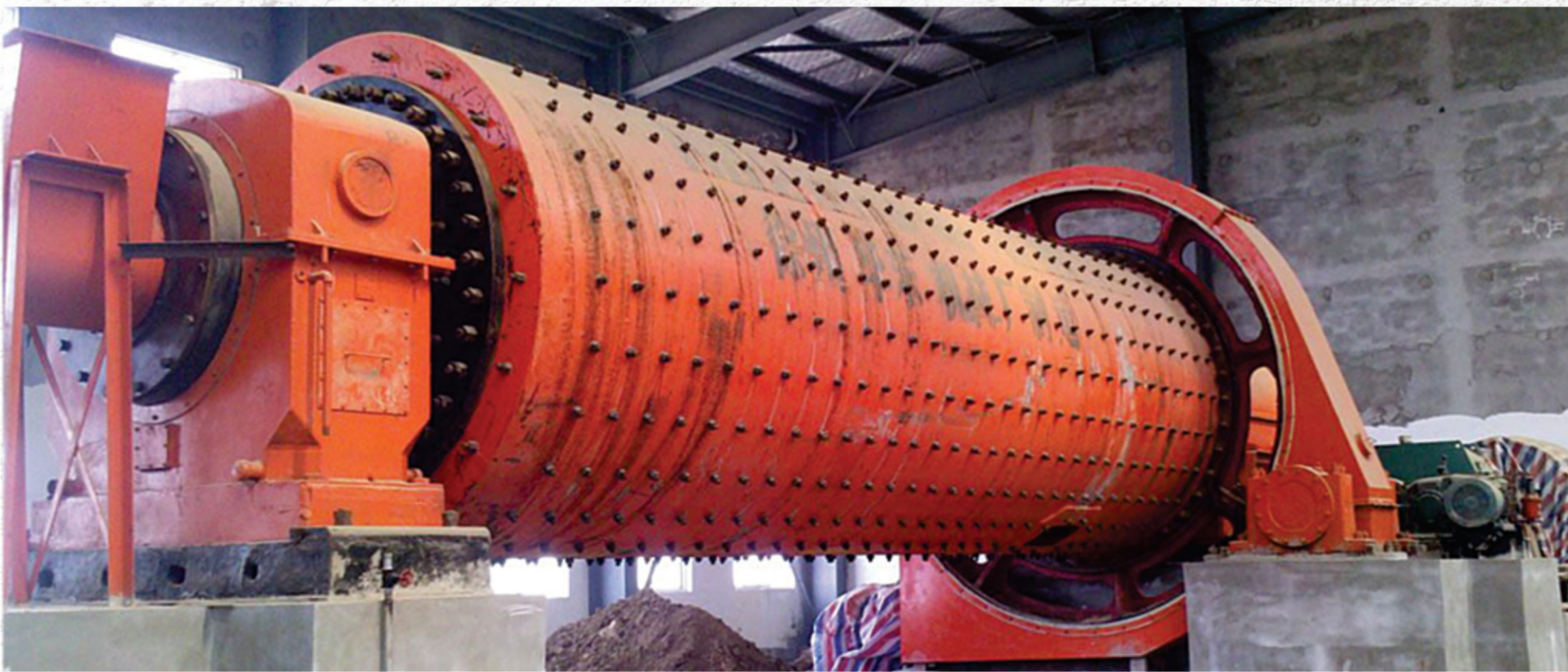
PLANT PRODUCTION / PROCESS QUALITY OPTIMIZATION STUDY

DATA ANALYSIS

- Raw mix design
- Heat, mass & gas balance
- Assessment of efficiency for critical fans
- Assessment of various unit operations
- Capacity Assessment – de-bottlenecking, modernizing and potential hidden capacity
- Benchmarking

REPORT COVERAGE

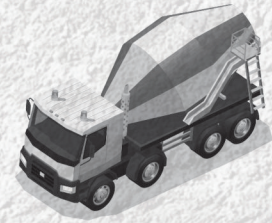
- Plant's strengths and weaknesses
- Key Performance Indicators: Actuals vs. planned
- Assets' Condition
- Improvement potential
- Main recommendations
- Action plans
- Detailed action plans with responsibilities and time frame for execution



THE SERVICE CAN TYPICALLY:

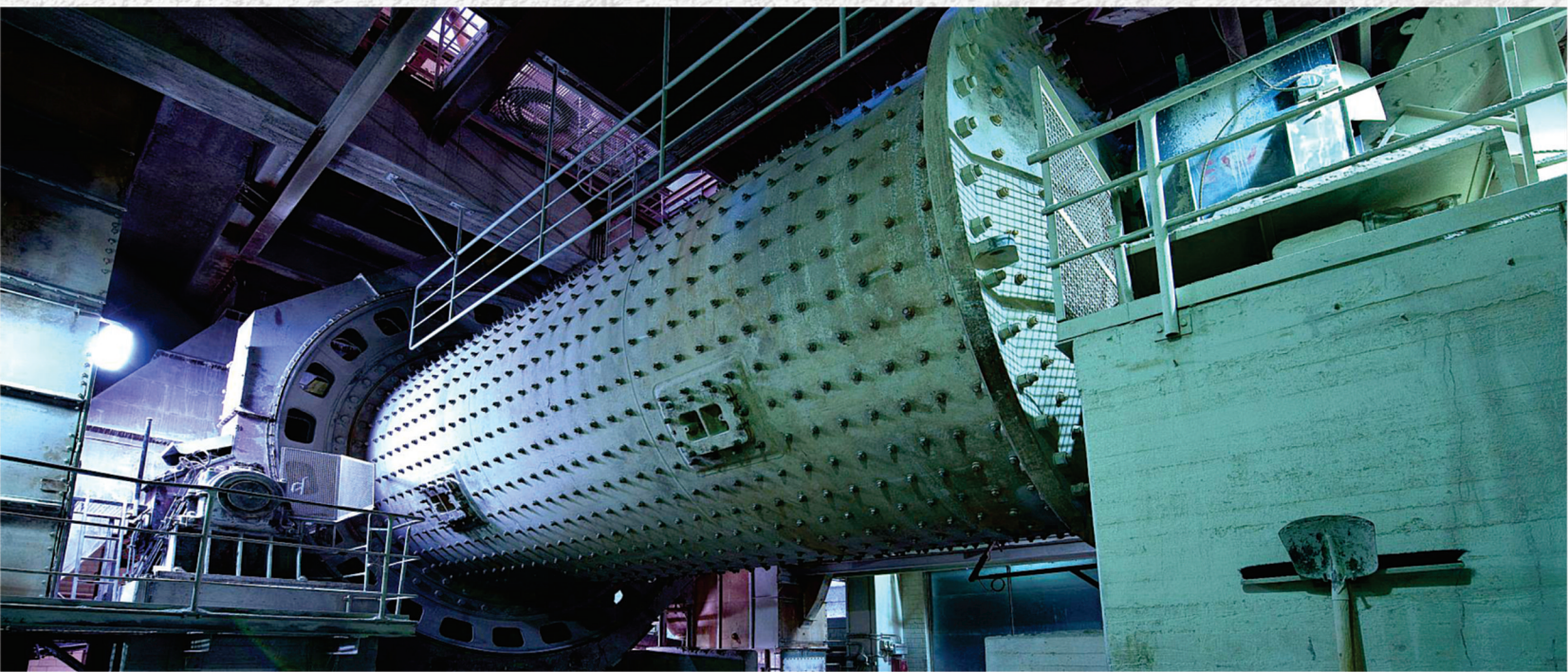
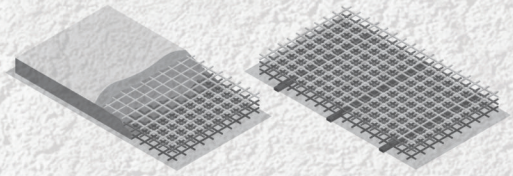
- Answer such questions and help the owner take corrective timely actions.
- Keep a continuous watch on assets performance.
- Guide owner (through action plans) as to what needs to be done to improve overall returns on investments.

To perform the above service, we undertake quarterly visits to the plant (by a group of people from various disciplines) and an Asset Fitness model is developed. The results are presented to the owners and action plans are finalised and put into implementation.



THE ABOVE SERVICES ARE PROVIDED AT A NOMINAL COST AND MAY RESULT INTO

- Periodic assessment of various assets.
- Timely intervention, in case of need.
- Improving plant life and resources.
- Increasing revenues, cost savings and improving returns on investments.
- In our 35 years of experience, we have done substantial work on performance enhancement of various cement projects.
- We possess the necessary experience for plant operation, as well as skills to upgrade the plants.
- We have large databases for benchmarking plant operations and follow best practices prevalent in the industry.
- We have a continuous source of feedback on the performance, maintenance and operations related aspects of all the renowned cement manufacturers and suppliers worldwide.



COST OPTIMIZATION

Cost optimization study is crucial to maximize returns under the given constraints, by maximizing desired factors and minimizing undesired ones.

Costs of running a plant are escalating every year and cement plants have limited influence on external variables such as market prices, fuel cost, etc. Thus, the focus, today, for improving the bottom line is on optimizing operations and reducing costs. Some of the cost optimization possibilities are follows:

- Optimization of available raw material, correctives, additives, fuel.
- Measures to enhance life of mines.
- Optimum utilization of equipment, enhanced performance / efficiency.
- Control on stores and spares/consumables, saving in direct cost.
- Reduction in energy consumption.
- De-bottlenecking and modernization.
- Reduction in Logistics Cost.
- Sales Dispatch Rationalization.
- Product Mix Optimization.
- Optimizing organization structure.



A UNIT OF NNT GROUP OF COMPANIES



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