HOLTEC

Bulk Material Handling Services

Advisory • Engineering • Project Management • Plant Operations • Solutions

ISO 9001 Certified

340+ Professionals

Global Experience & Capabilities • Comprehensive Services • Client-focus
Holtec Background

- Established in 1967
- Consulting Firm Focused On The Global Cement & Minerals Industry
  - Advisory, Engineering, Project & Construction Management, Plant Operations & Maintenance, Solutions
- Total solutions
  - Integrated services from concept through commissioning and operations
- 340+ multi-disciplinary professionals
- Extensive experience gained over 3600+ assignments in 80+ countries
- 180+ large engineering projects completed
  - Complete plants and major expansions
- Objective & Impartial
  - Independent ownership - Not part of any contractor/supplier group
- ISO 9001 certified
Resources

- Highly trained, committed and globally experienced professionals who deliver world class services using latest standards and processes.
- Computerized databases spanning all areas e.g.
  - Suppliers, contractors and their capabilities
  - Equipment types & performance
  - Plant data
  - New developments in industry
- Contemporary IT infrastructure
  - Multiple data centres, internet links
  - Latest CAD & Engineering software such as Autocad 2012, Autocad Civil, Revit Structures/MEP, Tekla Structures, STAAD, Primavera P6/CM.
- 53,000 ft² modern offices in Gurgaon, India and Sharjah, UAE. Site offices at various global locations.
Afghanistan, Albania, Algeria, Angola, Australia, Azerbaijan, Bangladesh, Bahrain, Bhutan, Bulgaria, Cambodia, Canada, Central African Republic, China, Congo, Costa Rica, Denmark, Djibouti, Egypt, Ethiopia, France, Georgia, Germany, Ghana, Greece, Hungary, Indonesia, Iraq, Ireland, Italy, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Lao PDR, Libya, Macedonia, Madagascar, Malaysia, Mali, Mauritania, Mauritius, Mexico, Mozambique, Namibia, Nepal, Nigeria, North Korea, Oman, Pakistan, Papua New Guinea, Qatar, Romania, Russia, Rwanda, Saudi Arabia, Senegal, South Africa, Spain, Sri Lanka, Switzerland, Tanzania, Tchad, Thailand, Tunisia, Turkey, UAE, Uganda, Ukraine, USA, Uzbekistan, Venezuela, Vietnam, Yemen, Zanzibar
Some International Clients

Al Rajhi Group
Asian Development Bank
Cimerwa
City Cement
CLI Corporation
Dangote Industries
DANIDA
Derba Midroc Cement
Ehdasse Sanat Corporation
FCB Ciment
Government of Bhutan
Holcim Group
IFC, Washington
Lafarge Group
Longulf Cement
Messebo Cement
Morning Star Cement
Najran Cement Company
NORM LLC Azerbaijan
Northern Region Cement
Orascom Group
Pakland Cement
Puttalam Cement
Qassim Cement
Riyadh Cement Company
Saudi Cement Company
Soufian Cement
Swiss Development Corp
Southern Province Cement Co
TAFICO
United Nations
Vicat Group
Vijier Group
Yemeni Saudi Cement
Some Indian Clients

ABG Cement
ACC
Ambuja Cement
Binani Cement
Birla Corp
Cement Corporation
Century Cement
Chettinad Cement
Chettinad Logistics
Dalmia Cement
Gujarat Siddheen
Heildberg
Hindustan Zinc
IndiaBulls
India Cements
Indo Rama
Jaiprakash Industrie
J K Cement
Lafarge

Kakinada Seaports
Madras Cements
Malabar Cement
Metso Minerals
Orient Cement
OCL India
Paradeep Phosphates
Phoenix Cement
Prism Cement
Priyadarshini Cement
Raasi Cement
Reliance
Sanghi Cement
Saurashtra Cement
Sterlite Industries
TANCEM
Ultratech
Vicat-Sagar
Wonder Cement
Zuari Cement
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<th>Types of Assignments</th>
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EPCM: Engineering Procurement Construction Management groups of 40-80 engineers, draftspersons, managers and support staff that are self sufficient to handle all project activities.
Services For Bulk Material Handling Projects

**Project Formulation Phase**
- Project conceptualization
- Geo-Technical/ Hydrological Investigation
- Techno-Economic Feasibility Studies
- Environmental (EIA/EMP) Studies

**Project Engineering Phase**
- Basic Engineering
- Procurement Assistance
- Detailed Engineering in Mechanical, Civil and Structural, Process, Electrical, Control and Automation
- Project Planning and Monitoring

**Project Implementation Phase**
- Project Management and Control.
- Inspection
- Field Supervision
- Commissioning and Plant Stabilizations Assistance

**Operations Phase**
- Plant Operation, Maintenance, Optimization, Capacity Balancing, Plant Modification and Upgradation
- Asset Management and Performance makeover for exiting Operating Facilities
- Civil and Structural Assessment
Capabilities in Bulk Material Handling
I. Crushing & Screening

- Various kinds of materials in different physical forms, with & without screening systems
- Designed crushing systems of all kind and types involving single / multiple stage crushing along with screening and recirculation systems
- Capacity of crushing systems ranges from 50 TPH to 2,500 TPH for various materials
II. Conveying Systems

- In any form, from run of mines (+1 m) to powdery
- Mechanical and pneumatic systems ranging from few t/h to few thousand t/h
- Lengths ranging from a few m to few kms
- Materials in different physical forms, including crushed limestone, Coal, Lignite, Gypsum, cement, flyash, laterite, bauxite, copper concentrate, rock phosphate, etc
III. Storages

- Bulk storages with mechanized stacking and reclaiming for different materials, linear/ circular, covered/ open etc. of capacities up to 100,000 T

- All kind and designs of silos for fine and bulk materials, in RCC/ steel, normal/ pre-stressed, single / multiple compartments, with / without under silo loading systems etc. from 1,000 T up to 150,000 T capacities

- Hoppers designed of different designs/ capacities both for normal/ sticky materials
IV. Loading & Unloading

- Designed large capacity systems for loading & unloading on/from trucks, rail wagons (closed & open), and ships, involving bulk & bagged materials including coal, clinker, cement, various minerals.

- Designed loading systems using Rapid Wagon Loading System (complete railway rake loaded in about 1 hr), ship loading systems to load ships / barges.

- Fully-automatic packing machines and loading system, with or without palletisation.
IV. Loading & Unloading (cont.)

- Bulk loading of clinker

- Wagon unloading from rail wagons (coal/clinker/gypsum etc).
Select Project Profiles
Material Handling for Cement Clinkerisation Units
(130+ numbers executed)

- **Lime Stone Crushing (in mines/plant).** Conveying by trough conveyors.
- **Corrective Crushing (in plant).** Conveying by trough conveyors.
- **Coal Covered Storage**
  - 15,000t to 100,000t
- **Lime Stone Covered Storage**
  - 30,000t to 100,000t

Holtex Services For Cement Units
Typically Include Complete System Selection, Procurement, Engineering, Project & Const Mgmt,
Commissioning, Troubleshooting

- **Coal unloading (Wagon/Truck tippler).** (Capacity 2,500 tph)
- **Belt Conveyors**
  - Cap-1,000 to 2,000 tph
  - Cap-100 to 500 tph

Typical
- **Concrete Quantity**: 100,000m³
- **Structural Steel Fabrication**: 12,000t
- **Plate Fabrication & Erection**: 8,000t
- **Equipment Erection**: 18,000t

- **Belt Conveyors Cap-1,000 to 2,000 tph**
- **Belt Conveyors Cap-100 to 500 tph**

- **Corrective Storage**
  - Covered Storage (20,000t to 50,000t)

Material handling System ranges from 10 tph to 2500 tph
- **Belt Conveyors Cap-100 to 500 tph**
- **Belt Conveyors Cap-1,000 to 2,000 tph**

- **AirSlide & Elevator**
  - Capacity 10,000t to 30000t.

- **Clinker Production Preheater**
  - Ht – upto 85 m
  - Ht – upto 150 m

- **AirSlide & Elevators**
  - Clinker capacity Silo 150,000t

- **Deep Pan Conveyor**

- **R. Material Grinding (VRM/ RP).** Cap. upto 800 tph
- **Raw Meal Storage Silos**
  - Capacity 10,000t to 30000t.
Material Handling for Cement Grinding Units
(20+ numbers executed)

- Clinker Grinding (VRM, BM, RP). Cap. 100tph to 300 tph
- Additive Crushing (in Plant) Conveying by Trough conveyor
- Additive Covered Storage (2,000t to 20,000t)
- Clinker Silo capacity 15,000t to 100,000t
- Cement bag Loading in wagons
- Cement Bag Loading in Trucks
- Cement Bulk Loading
- Flyash Storage
- Flyash Unloading
- Airslides
- Belt Conveyors
- Holtec Services For Cement Units Typically Include Complete System Selection, Procurement, Engineering, Project & Const Mgmt, Commissioning, Troubleshooting

- Typical
  - Concrete Quantity : 50,000m³
  - Structural Steel Fabrication : 5,000 t
  - Plate Fabrication & erection : 3,000t
  - Equipment Erection : 5,000t
  - Material handling System ranges from 10 tph to 2,500 tph

- Material Handling for Cement Grinding Units (20+ numbers executed)
Cross-Country Limestone Conveying

- 1250 TPH Limestone conveying system in Ethiopia for Limestone transportation from quarry to plant
- Conveyor length 6.4 km Lift- 900 m
- Conveyor in 4 sections (longest being 2.5 km)
- Very difficult gradient involving 2 major tunnels
- Holtec’s involvement - From concept formulation till project commissioning including basic engineering, procurement and detailed engineering project commissioned in 2012
Alumina Handling

- Project involved Powder Alumina unloading from rail wagons, Storage in 2 x 30,000 T RCC silos and ship loading of Alumina at Kakinada Sea Port
- Project designed for 3 Million TPA
- Rail unloading capacities ~ 1000 TPH
- Ship loading facilities ~1500 TPH.
- Holtec’s involvement - From concept formulation till project commissioning including basic engineering, procurement and detailed engineering
- Project completed in 2007
Coal Unloading and Distribution

- Project Involved 7-8 Million TPA of raw coal import, unloading from ships at Chennai port and distribution to various consumption customers in their storage yards. Before the project, material movement was through trucks.

- Conveyors designed under congested port conditions, without disturbing the existing operations

- Conveyor systems of 2 x 1500 TPH

- Holtec’s involvement – basic engineering, procurement, detailed engineering and supervision for site execution

- Project completed in 2008
A reputed power company, which is located at a distance of about 30 km from Neyveli Lignite mines, ordered Lignite transportation project on BOOT basis.

- Project included rapid loading of lignite on bottom discharge wagons, Track hopper unloading, and material conveying to plant.
- Loading, unloading and conveying capacities in the range of 3000 TPH
- System capacity required 4 / 5 rakes per day of lignite transportation on merry go round basis, including loading, travel and unloading.
- Holtec’s involvement - From concept formulation till project commissioning including basic engineering, procurement and detailed engineering.
- Project completed in 2003.
One of our clients operates 0.4 Million TPA copper smelting facilities at Tuticorin, which is being doubled in capacity.

160 MW thermal power plant is also under execution.

Copper concentrate, Rock phosphate and coal are received at Tuticorin Port (about 4-5 Million TPA at full capacity). Materials to be loaded on railway rakes by rapid loading system (under proposal stage), unloaded at plant end and transportation to plant by a set of pipe conveyors and trough conveyors.

System capacities – loading of entire rake in about 1.5 hrs, and unloading in 2.5 hrs. Capacity of the system in the range of 3,000 TPH.

Common System designed for 3 different materials having different physical characteristics.

Holtec’s involvement - From concept formulation till project commissioning including basic engineering, procurement and detailed engineering.

Project status - Under Execution.
One of our major clients, operate 4 production lines in the mountains of Himachal Pradesh, India.

They receive coal flyash and other raw materials from plains of Punjab, and dispatch Clinker and cement (in bag and bulk) to their various consumers across the country.

All materials coming from / going to mountains, is by trucks and all transportation to plains is through rail route.

A depot is being developed where all such materials could be received, stored and dispatched (by rail / road) to their respective destinations.

Total yearly handling expected from this Depot is about 15 Million TPA. Daily expected handling about 50,000 T.

Holtec responsibilities include concept development, feasibility study and basic engineering.

Project status - Feasibility.
One of our clients in Saudi Arabia wanted to transport about 5 Million TPA of cement through 4-5 rail rake loads from their cement production facility to Riyadh and Dammam port. The project also included export of about 3-4 Million TPA of cement through their captive facilities from Dammam port.

For the loading of cement at plant end, rail loading facilities are being created, whereas at the port-end, rail unloading, large capacity storage and ship loading facilities are being developed.

Holtec responsibilities include concept development, feasibility study, basic engineering and procurement assistance.

Project status – Under execution.
Holtec Is…
- A 45+ year old, ISO-9001, international, engineering & business consulting company that has a large base of highly-experienced professionals, and state-of-the-art infrastructure that allows it to execute demanding bulk material handling projects of all sizes

Holtec Has…
- Wide-ranging experience in executing projects under both EPC and multi-package modes for various bulk materials with a large range of throughput rates, storage, transport, loading/unloading requirements

Holtec Can…
- Provide all engineering, procurement, project & construction management, commissioning, troubleshooting services needed to conceptualize and execute bulk material handling projects efficiently
- Create customized solutions integrating different equipment/technologies to optimize project cost and system performance

Holtec Will…
- Always meet its commitments and remain singularly focused on client requirements
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