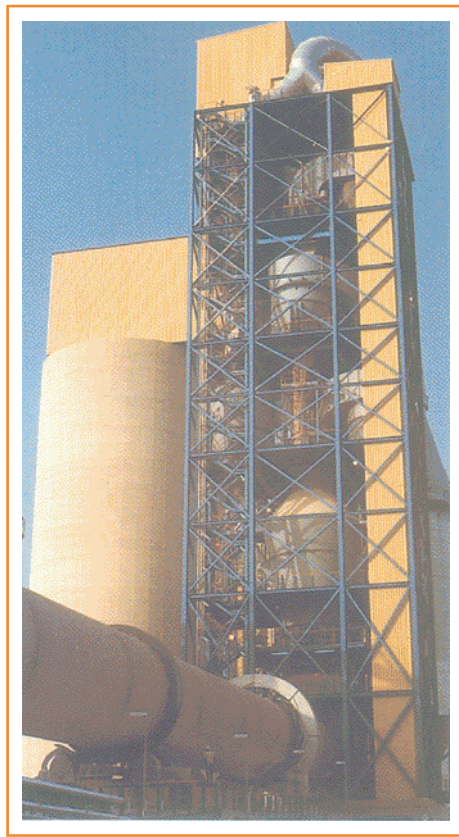


# CONSULTANCY & ENGINEERING SERVICES FOR THE CEMENT INDUSTRY



**AUSTROPLAN**  
AUSTRIAN ENGINEERING GMBH



# COMPANY'S PROFILE

**Objective:** AUSTROPLAN was established in 1958 with the objective of making Austrian technology and know-how available for the development, planning and implementation of new projects as well as for the expansion and rehabilitation/modernization of existing industrial complexes.

**Employees:** Approximately 35 permanent staff of senior professionals with excellent training and long-time experience.

**References:** AUSTROPLAN has been entrusted with Consulting contracts by nearly all significant international and interregional Organisations and Banks.

Furthermore, AUSTROPLAN has elaborated projects for a large number of state-owned and private Clients world-wide.

From the numerous Contracts successfully performed, here are typical examples of comprehensive projects carried out and which are living proof of AUSTROPLAN's expertise as Implementation Monitoring Consultants with extensive technological responsibility:

**Union Cement Company, United Arab Emirates** -  
New cement plant

**Cement Company of Northern Nigeria:** Cement plant expansion

**Helwan Cement Industry, Egypt:** Restructuring for privatisation (Worldbank assignment)

**Mugher Cement Factory, Ethiopia:** Rehabilitation (KfW consultancy-assignment)

**Tabuk Cement Co., Saudi Arabia:** New cement plant

**Libyan Cement Company, Libya:** Cement plant expansion

- White cement plant

- Cement export marine terminal

**Adra Cement Co., Syria:** Cement plant upgrading





# CONSULTANCY & ENGINEERING SERVICES FOR THE CEMENT INDUSTRY

AUSTROPLAN renders professional services to the cement industry in collaboration with Austrian cement manufacturers and research centres. Our appropriate design and implementation services ensure the technical and economic success of a cement plant project.



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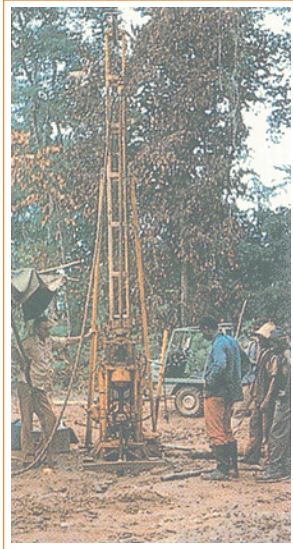
#### Services Offered:

- »»» Investigations & studies
- »»» Design & engineering
- »»» Project implementation
- »»» Operational assistance





# INVESTIGATIONS & STUDIES



## Raw Material Assessment:

- »»» Identification of raw materials
- »»» Geological investigations
- »»» Quality & reserve evaluation
- »»» Laboratory services
- »»» Clinker burning test
- »»» Raw mix proportioning model

Both the raw material assessment and the market survey constitute instrumental parts of a bankable feasibility study. Careful evaluation of all raw material inputs and their deviations as well as the comprehensive technological analysis are basic tools for process engineering and optimal design of a cement plant.

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## Support Studies:

- »»» Regional survey
- »»» Sector analysis
- »»» Development masterplan
- »»» Market survey
- »»» Transport study

## Pre-investment Studies:

- »»» Opportunity study
- »»» Pre-feasibility study
- »»» Bankable feasibility study
- »»» Financial analysis
- »»» Risk and sensitivity analysis
- »»» Project appraisal

## Fact-finding Missions:

- »»» Site investigations
- »»» Resources inventory
- »»» Property evaluation
- »»» Plant inspection
- »»» Restructuring programme
- »»» Special appraisal mission





# DESIGN & ENGINEERING

## Quarry Design:

- » Mine layout
- » Exploitation programme
- » Hydrological investigation
- » Overburden removal
- » Equipment specification

## Process Engineering:

- » Basic process design
- » Material balance
- » Heat balance
- » Process control scheme

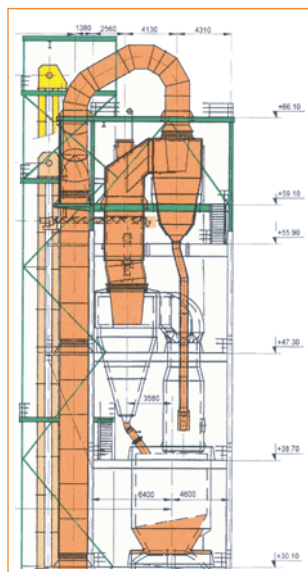


## Plant Design:

- » General layout design and plant arrangement
- » Basic engineering

Based on investigations and studies, a project proposal is formulated to support the investor in his priority decisions.

Optimum plant design is elaborated independently from any equipment manufacturer. Special attention is given to environmental protection and ecological aspects.



## Tender Documents:

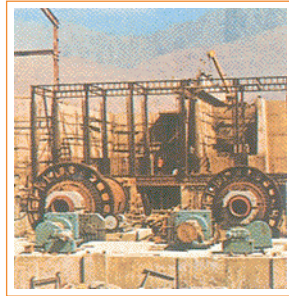
- » Instructions to tenderers
- » Commercial conditions
- » Technical specifications
- » Draft contract
- » Evaluation of tenders
- » Assistance in negotiations





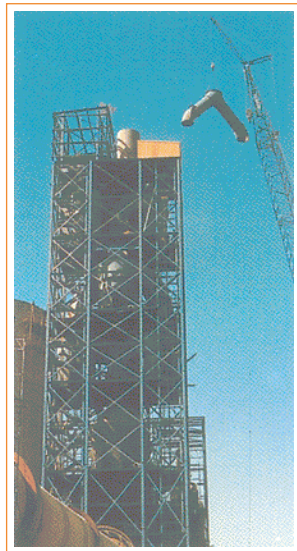


# PROJECT IMPLEMENTATION



## Financial Engineering:

- Cost estimate
- Evaluation of assets
- Financing concept
- Compensation deals

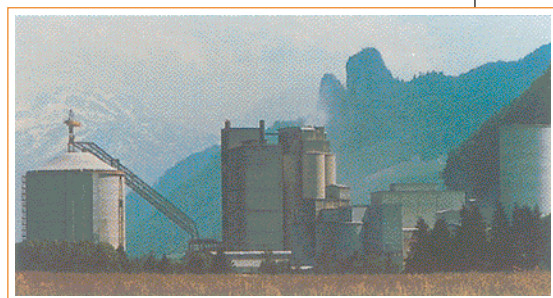


## Project Monitoring:

- Approval of design
- Progress reports
- Pre-shipment inspection
- Cost control
- Supervision of construction
- Supervision of start-up
- Supervision of test-runs
- Claim analysis

## Procurement Services:

- Bid evaluation
- Purchase orders
- Procurement of equipment
- Procurement of spare parts
- Repair arrangement



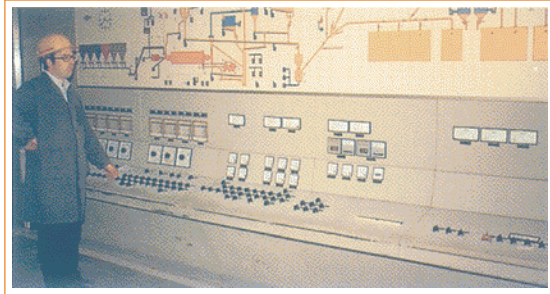


# OPERATIONAL ASSISTANCE

## Training of Personnel:

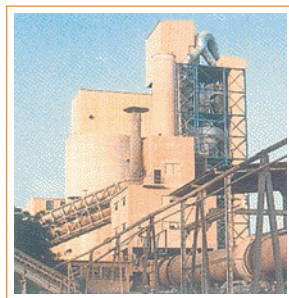
- »»» Assistance in recruitment
- »»» Training programmes
- »»» On-the-job training

Training of the employer's personnel at high and medium level is an integral part of our service. Special emphasis is given to preventive maintenance and safety.



## Production:

- »»» Management consulting
- »»» Transfer of product know-how
- »»» Quality control
- »»» Clinker microscopy
- »»» Problem solution



## Rehabilitation &

### Optimisation:

- »»» Mine rehabilitation
- »»» Plant revamping
- »»» Process modification
- »»» Plant optimisation
- »»» Rationalisation programme



## AUSTROPLAN

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