

**MULTI-DISCIPLINARY CONSULTANCY &
ENGINEERING SERVICES for
BUILDING MATERIALS INDUSTRY**



- CONSULTING**
- CONTRACTING**
- BUSINESS DEVELOPMENT**
- CEMENT EXPERTS POOL**



AUSTROPLAN

AUSTRIAN ENGINEERING GMBH

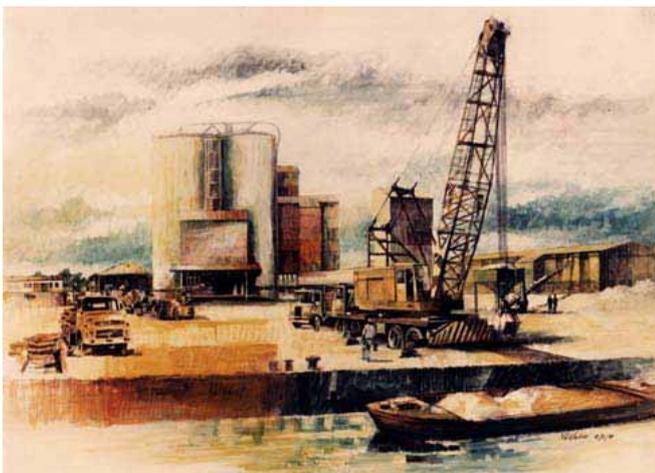
Hietzinger Kai 133, 1130 Vienna, Austria · E-Mail: vienna@astroplan.at
Phone: +43 1 89189 0 · Telefax: +43 1 89189 299 · www.astroplan.at

History

AUSTROPLAN is an Austrian engineering company founded in 1958 by the Federal Government of the Republic of Austria (represented through the Ministry of Finance) and the Federal Chamber of Trade and Industry (Österreichische Bundeswirtschaftskammer).



The original strategy focused on services for international and regional development banks and international organizations. AUSTROPLAN has been commissioned many times as engineering consultants and coordinating organization for Technical Assistance Programmes.



Since 1989, UniCredit Bank Austria AG has held 100 % of the company's shares.

Today AUSTROPLAN provides its multi disciplinary services internationally to private and governmental clients.

AUSTROPLAN's own know-how is supplemented by proven Austrian and international knowledge. Partnerships with experienced experts and companies create the basis for the efficient and reliable elaboration of projects.



AUSTROPLAN has successfully implemented more than 300 projects worldwide and has been entrusted with consulting contracts by nearly all significant international Organizations and Banks.



AUSTROPLAN is synonymous with consulting in the cement industry.

Mission

AUSTROPLAN is a leading service provider for engineering, contracting and management consultancy in the cement and building materials industry.

AUSTROPLAN identifies worldwide new opportunities and develops new ventures and businesses which create value for our customers and future investors.

AUSTROPLAN is independent and therefore acquisition and execution of contracts and selection of business partners takes place on a strictly professional basis.



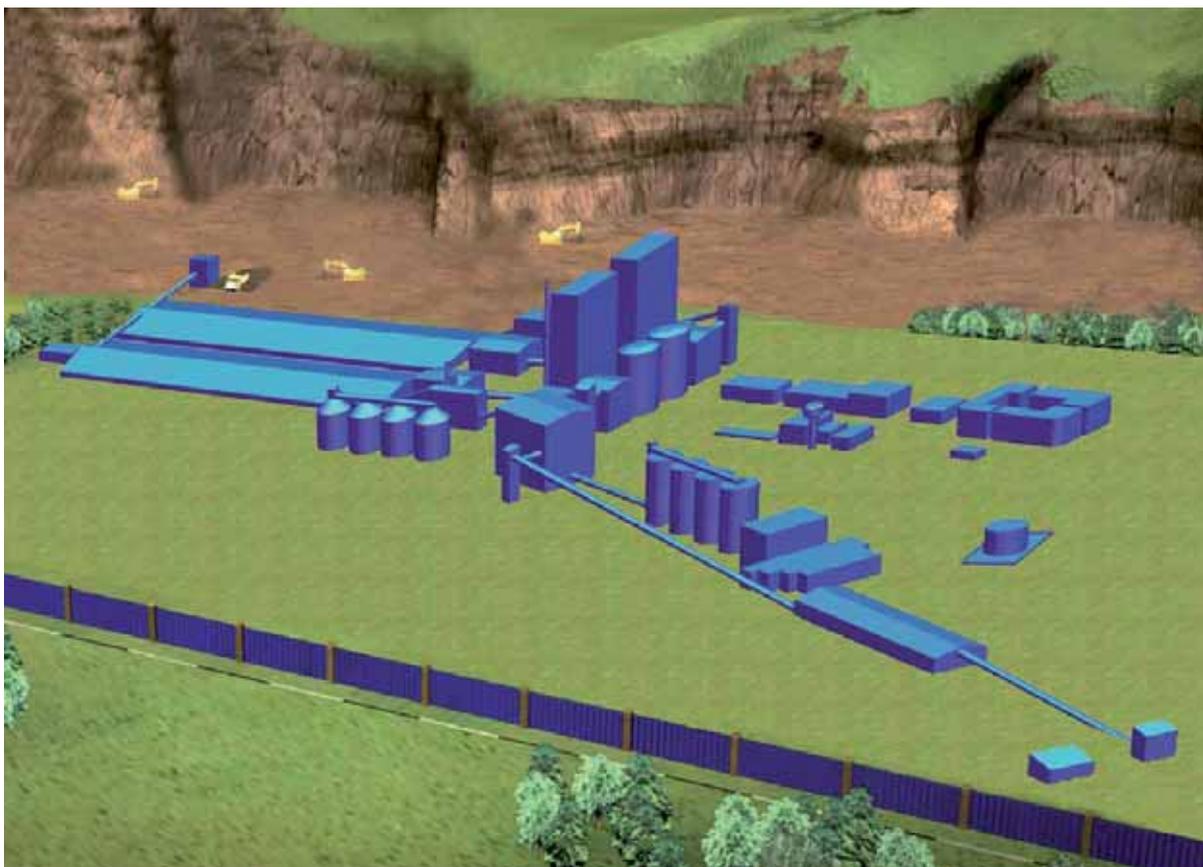
Business Development

The route to today's market is far and wide. Business Development at AUSTROPLAN aims to drive new business opportunities in the cement industry. There fore, our efforts are focused on generating and securing new business as well as on the growth of already existing cement enterprises.

Business Development involves evaluating a business opportunity and then realizing its full potential by applying business intelligence, technical and managerial know-how, business acumen, marketing skills and considering local, regional and global trends.

Considering the current dynamics of the global business environment, the role of business development never ends but is an ongoing process of recognizing new opportunities and inventing nouveau business models based on a strong team effort plus the establishment of strategic partnerships where appropriate.

For Clients and Partners of AUSTROPLAN Business Development is a way to reach their goals in the cement business with projects executed at the highest standards of ethics and professionalism.



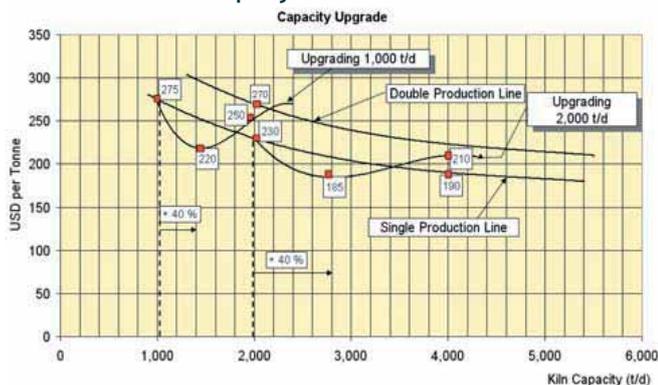
Turning Opportunities into Business Growth for our Clients.

Consulting

Consulting as it is understood and executed by AUSTROPLAN, is perpetually interdisciplinary.

A preliminary, however comprehensive model of the proposed plant, is elaborated based on the Client's preferences and ideas, on the prospects and the environmental constraints as well as on the functional, operational and economical requirements. This model is then refined in the course of several steps, until it is finally possible to determine a comprehensive, clearly defined review of the project and its prospects and risks, which therefore enables a statement about the project's viability.

These pre-feasibility investigations and bankable feasibility studies serve as the basis for the decision to invest and for the following implementation of the project.



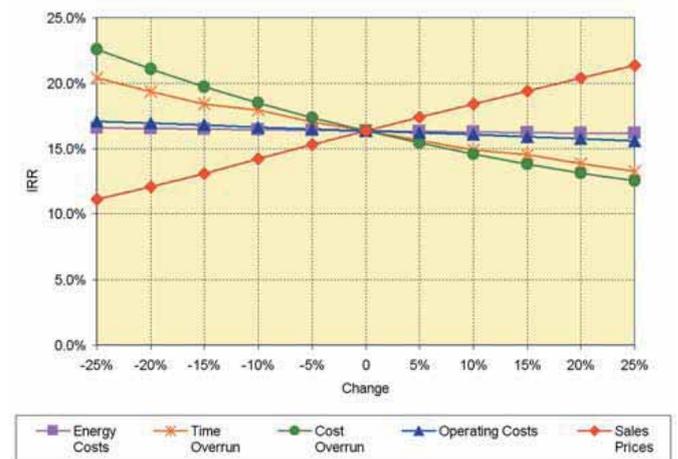
Detail planning, tender documents and evaluation of tenders, detail engineering, supervision of supply and services are then effected, elaborated, coordinated and supervised by an efficient management team. These services are supplemented by procurement, recruitment and training of operational personnel, through acceptance tests and by technical assistance during commissioning and later operation of the plant.

In order to carry out these tasks in an optimal manner, in addition to its own extensive expertise obtained during the many years of providing services around the world, AUSTROPLAN also takes advantage of the expertise available from universities, research and development institutions as well as specialised industrial companies.

CONSULTING SERVICES

Pre-investment Surveys and Studies:

- Market surveys
- Strategy studies
- Sectoral studies
- Raw material studies
- Opportunity and pre-feasibility studies
- Support studies
- Masterplan studies
- Bankable feasibility studies



Consulting Services During Project Implementation:

- Overall project management
- Monitoring of progress, quantities and budget
- Basic and detail design
- Tender documents
- Support studies
- Masterplan studies
- Inspection and testing
- Supervision of work

Technical Assistance:

- Transfer of know-how and technology
- Build-up of management
- Personnel recruitment and training
- Organization and plant operation
- Management services

Contracting

Nearly half a century of experience in General Contracting up to the turn-key realization of Industrial Plants has made AUSTROPLAN internationally reputed experts in this field.

The projects carried out in the course of AUSTROPLAN's history can be found in highly diversified technological fields with distinctive technical demands and were at home in various geographical regions of the world.



With proven experts in the areas of Project Management, AUSTROPLAN knows the special importance of avoiding design and/or supply gaps between individual equipment suppliers in entire plants which can result in negative technical and financial consequences. In this connection, AUSTROPLAN offers their Clients the optimal prerequisites for monitoring contracts in accordance with professional obligations and in tune with technical, economic and scheduling requirements.

For the design and implementation of industrial plant projects, AUSTROPLAN employs personnel with extensive experience and up to date know-how. This can be complemented and supplemented when needed by external know-how from AUSTROPLAN's technology partners, for which many successful examples can be given.

The specific machinery and installations are manufactured in accordance with AUSTROPLAN's

technical specifications and drawings by experienced manufacturers in Austria and other EU-countries, where they are also thoroughly tested before shipping. A comprehensive service package consisting of transport services, training of personnel, monitoring as well as the full erection, commissioning and technical assistance in the initial phase of production completes the service spectrum of AUSTROPLAN as a General Contractor.

AUSTROPLAN also offers utmost support in making financing available which is often the initial step for the successful realization of a project.

AUSTROPLAN - a partner that you can trust with your project as can be certified from extensive references and many satisfied Clients.

Engineering, Supply and Erection of Complete Industrial Plants & Rehabilitation and Modernization of Existing Plants comprises:

- Basic engineering
- Detail engineering
- Know-how and technology
- Pre-shipment inspection
- Delivery of equipment, material and spare parts
- Civil works and/or supervision of erection
- Recruitment and in-plant-training of personnel
- Start-up and commissioning
- Technical assistance

in various fields.



Cement Experts Pool

AUSTROPLAN has recently launched a new service - the **Cement Experts Pool**, a network of cement experts with their competency profiles and their specific professional strengths.

As a result of AUSTROPLAN's activities for international projects, a special need for cement experts with diversified talent and experience has arisen. Since the monitoring of cement projects is closely coupled with time-scheduled phases, not all special fields of expertise are needed continuously. In order to meet the specific demands of each individual project site, a Cement Expert Pool has been developed in order to collect and catalogue cement experts worldwide.

AUSTROPLAN acts as an agent for many experienced cement professionals of all disciplines and functions. Every CV received is catalogued into an in-company data base and is circulated

among the various Project Directors inside and outside of the company. When needed these Project Directors can draw on the data base and choose from the experts most compatible and available.

The Cement Expert Pool enables free-lance cement experts to be assigned to short- middle- and long-term projects allowing for their special abilities and talents to be applied at the utmost advantage and exactly where and when required. The Cement Expert Pool grants these experts flexibility in choosing their assignments and offers the cement experts diversity in their tasks.

AUSTROPLAN can exclusively provide its clients with the specialists needed and the competencies required for the cement and building materials sector.



Investigations & Studies

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 comprehensive technological analyses are basic tools for process engineering and optimal design of a cement plant.



Raw Material Assessment:

- Identification of raw materials
- Geological investigations
- Quality & reserve evaluation
- Laboratory services
 - ✓ Chemical analyses
 - ✓ Technological analyses
- Optimized selection of raw & corrective materials
- Raw mix proportioning model
- Process design impact assessment

Fact-finding Mission:

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

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
- SWOT (Strengths - Weaknesses - Opportunities - Threats) analyses
- Project appraisal



Design & Engineering

Quarry Engineering:

- Hydrological investigation
- Quarry planning
- Equipment selection
- Quarry operations improvement services
- Risk assessment

Process Engineering:

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

Plant Design:

- General layout design and plant arrangement
- Basic engineering

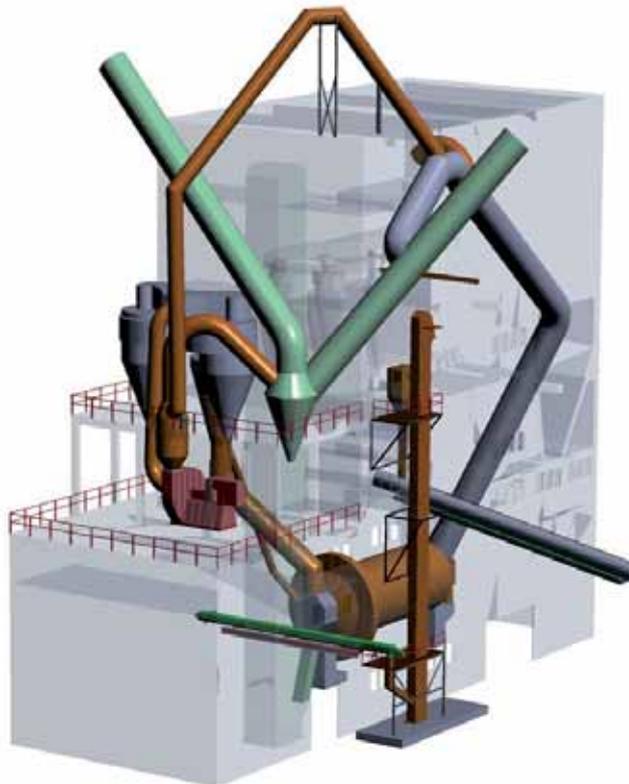
Based on investigations and studies, a project proposal is formulated to support the investor in his priority decisions. Optimum plant design is elaborated independently from any equipment manufacturer. Special attention is given to environmental protection and ecological aspects.

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
- Financial 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 equipment
- Procurement of spare parts
- Repair arrangement

Rehabilitation & Optimization:

- Mine rehabilitation
- Plant revamping
- Process modification
- Plant optimization
- Rationalization programme



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

In addition to the fulfilment of all Standard Requirements for Portland Cement, the uniform quality of the product(s) is most important to secure a place on the market. Therefore, we offer product quality assessment and other services to solve related problems.

Rehabilitation & Optimization:

- Mine rehabilitation
- Plant revamping
- Process modification
- Plant optimization
- Rationalization programme



Inspection - Testing - Expediting

The AUSTROPLAN inspection team is an impartial service organization to protect our Client's interests.

Whenever our customers at home and abroad execute projects they share a basic need. Each of them wants to be certain that machinery, equipment, and material supplied meet the desired standards of quality, conform to contract specifications and approved drawings, are delivered in accordance with established delivery schedules and erection programs, and are protected / packed for shipment in an adequate manner considering prevailing transportation and storage conditions.



Comparatively few Owners have the required experienced staff and organization to follow-up manufacturing, testing, inspection, packing and shipping of these goods in such a manner as to have perfect control of quality and timely performance of the suppliers.

Relying only on the supplier's internal expediting, project control and inspection may, in particular for F.O.B. and C.I.F. contracts, lead to unnecessary problems during erection and start-up.

Conditions at ports and other places of heavy-material handling become more and more inadequate for the volume of cargo to be handled.

Consequently, serious technical and financial problems arise at the construction sites due to delay and/or damage. Expediting, shop inspection and packing inspection are cost and time saving measures to alleviate these situations.

The AUSTROPLAN inspection team fills this need - wherever a Customer's interest may be involved - in his own country or anywhere in the world. Our group of professionals has the experience to expedite, to inspect and to control large or small projects.

Through the AUSTROPLAN inspection services our Clients receive full control with a flexible and convenient contact point. Thereby saving time and money, reducing risk and increasing the overall efficiency of the project execution.

FIELDS OF ACTIVITIES

AUSTROPLAN's inspection activities cover expediting and inspection of Industrial Plants or complete Industrial Complexes for various Industries, consisting of:

- Heavy machinery - rolling mills, paper mills, presses, furnaces, continuous casting machines, kilns
- Heat exchangers - reformers, condensers, aluminium heat exchangers
- Plate work - pressure vessels, tanks, ducts
- Rotating machinery - pumps, gas and steam turbines, compressors, fans
- Structural steel
- Lifting equipment - heavy - duty cranes
- Piping and valves
- Heating, cooling and ventilating equipment
- Refractory material
- Electrical machinery - motors, generators, transformers
- Electrical equipment - switchgears, motor control centres, control boards
- Instrumentation and control equipment.

Inspection - Testing - Expediting

SCOPE OF ACTIVITIES

The approach and philosophy of EXPENDING and INSPECTION as performed by AUSTROPLAN covers a broader than normal range of activities and includes:

Expediting

During all phases of project execution a team of experienced engineers collects information on project progress and controls the timing and coordination of work to be carried out.

AUSTROPLAN's team of selected engineers is expediting and checking the actual progress of design, purchasing, manufacturing, testing, packing and shipment as performed by the suppliers, based on agreed contractual delivery schedules.

Regular detailed reports inform the Client on the actual state and progress of the project, indicating forthcoming bottlenecks and delays, and proposing preventive measures. This enables the Client to coordinate his measures in an efficient and effective manner.

Pre-inspection

Soon after the supply contract has been signed, but in any case before manufacturing at the various sub-suppliers begins, AUSTROPLAN's inspection team establishes, together with the supplier, the required procedures including:

- detailed inspection & testing manual for all main equipment;
- extent of pre-fabrication / pre-assembly of large structures and similar items, which results in substantial cost savings (shipping costs versus erection costs) in particular for F.O.B. contracts;

- detailed packing manual bearing in mind the optimization of transportation costs (i.e. optimal ratio of shipping volume to weight of equipment), which results in considerable savings on shipping costs.

Our team of inspectors consists of highly qualified and specialized engineers (not technicians) in the various fields of Engineering.

The approach of the AUSTROPLAN inspection team during this initial phase of "pre-inspection" normally includes a spot review of the functional interrelation of essential plant components.

Experience on recently executed large projects has proven that the approach taken by the AUSTROPLAN inspection team provides an effective additional tool in the overall execution of large projects in order to minimize problems which may otherwise only become apparent during erection and/ or start-up.



Inspection - Testing - Expediting

Inspection and Testing

Stage by stage Inspection & Testing is executed by experienced specialised engineers during manufacture and prior to shipment.

Depending on the nature of the contract and the equipment involved, inspection may consist of:

- Inspection of raw material, including various destructive / non-destructive testing
- Intermediate inspection during fabrication
- Visual and dimensional inspection
- Non-destructive testing: radiographic-, ultrasonic-, liquid penetrant- and magnetic particle examination, leak testing
- Witness of functional / no-load and/or complete performance tests
- Pre-assembly inspection of structures and large equipment
- Painting inspection
- Quantity check
- Packing / marking inspection.



All inspections and tests are based on applicable standards, specifications, approved drawings and the agreed inspection and testing manuals

to ensure that the manufactured equipment is in accordance with the contractual specifications and the requirements of the process of production, taking into consideration the conformity of equipment with the high standards of current engineering practice.



The above inspections and tests are carried out at the manufacturer's premises jointly with the manufacturer's personnel in accordance with contract terms.

Owing to AUSTROPLAN's close cooperation with research institutes and technical universities, our inspection teams have the facilities to carry out analyses and various special tests.

Inspection reports (complete with supporting test certificates, mill sheets, etc.) are prepared for each inspection and issued to the Client at regular intervals.

Inspection - Testing - Expediting

Release for Shipment

Especially for F.O.B. and C.I.F. supply contracts the Client has the need to establish a "function" in the overall project execution, which enables the Client to control any shipment and to have a pre-acceptance certificate issued by the Client's inspector.

AUSTROPLAN's inspection services fulfil this need by means of issuing the "Release Certificate for Shipment" after each shipment has passed the final AUSTROPLAN inspection (including packing inspection).

The suppliers can ship and draw money from the Letter of Credit solely against this certificate.



Inspection - Testing - Expediting

Overall Project Control

The implementation of large industrial projects necessitates the involvement of an inspection and expediting body. This body – as we understand the overall function of inspection and expediting – not only performs the detailed activities of inspection and expediting as described above, but acts as a coordinating and information flow centre between the various parties involved, such as the Client, the Consultant Engineer, the various main contractors and suppliers, the freight forwarder and shipping lines, etc.

With this approach and philosophy of project control, AUSTROPLAN has provided efficient and effective services for the execution of large projects involving contractors / suppliers in Japan, Europe and the USA.

This philosophy of overall control, information and coordination assists the Client's Project Management by providing immediate, on the spot information on if, when and which decisions are required.

Based on the above philosophy, when planning an industrial project of any size, AUSTROPLAN's EXPEDITING and INSPECTIONS services can be the answer to the efficient and effective execution of YOUR PROJECT.



Spare Parts Procurement Services

AUSTROPLAN's services in spare parts procurement provide countless advantages to manufacturing plants by carrying out the manifold activities which are indispensable until the numerous parts need for a plant can be taken over in their own warehouse.

The many different parts originating from numerous suppliers mean that the plant's spare parts division is forced to contact each individual supplier with requests for offers and negotiate and set up delivery contracts for sometimes only a few pieces of equipment needed.

AUSTROPLAN's spare parts procurement services takes over all of these activities so that the manufacturer only has to send their request to ONE party.



AUSTROPLAN will collect all of the various requested and required spare parts into one shipment, thus enabling extensive savings in transport costs compared to the cost of shipping the equipment individually. In some cases the needed equipment is no longer manufactured. In this case AUSTROPLAN is in the position to determine and deliver the relevant successor equipment to meet the specific needs of the Client.

AUSTROPLAN has long-standing experience in procurement and delivery of spare parts for cement plants in Nigeria and Libya and in providing spare parts for LPG cylinder manufacturing plants and LPG cylinder repair plants in Iraq, Libya, Morocco and Saudi Arabia.



You are kindly invited to submit your enquiries to:

SpareParts@austroplan.at

Reference Project

SINJAR CEMENT PLANT REHABILITATION PROJECT – IRAQ

- Design Capacity: 1,800,000 t/y cement
2 x 3,200 t/d clinker
- Main Steps of the Rehabilitation Work:
 - ✓ Erection of a captive power plant
 - ✓ Planning of future quarry operation
 - ✓ Upgrade of the raw mill and kiln electrostatic precipitators
 - ✓ Modification of preheater, kiln inlet and outlet sealing
 - ✓ Modification of all installed bag filters to jet-pulse type
 - ✓ Installation of several new bag filters in order to reduce dust emissions
 - ✓ Installation of several new frequency controlled AC drives for process machinery with variable speed
 - ✓ Installation of new ID fans
 - ✓ Upgrade of clinker coolers including electrostatic precipitators and clean gas fans
 - ✓ Installation of new motors for all eight ball mills
- AUSTROPLAN's Scope of Services:
 - ✓ Fact-finding mission / site investigation
 - ✓ Evaluation and verification of the data received
 - ✓ Preparation of the tender documentation for the rehabilitation project
 - ✓ Evaluation of offers
 - ✓ Assistance to the client during negotiations
 - ✓ Site Services
- Financing: by Owner



Reference Project

YANBU CEMENT PLANT - SAUDI ARABIA

- Capacity: 3,500,000 t/y
- One New Stationary Crushing Plant
- Overland Belt Conveyors
- Two Vertical Roller Mills [2 x 450 t/h]
- Two Raw Meal Silos [28 kt each]
- 100 % Standby Kiln Feed
- Kiln Plant [10,000 t/d]
- Clinker Stage-coolers
- Two Clinker Silos [40 kt each]
- Five Cement Mills [5 x 150 t/h]
- Four Cement Silos [15 kt each]
- Packing Plant [6 x 120 t/h]
- Diesel Power Plant
- **AUSTROPLAN's Scope of Services:**
 - ✔ Project Implementation Monitoring
 - ✔ Approval of Design
 - ✔ Pre-shipment Inspections
 - ✔ Supervision of Works on Site
- Main Contractor: Sinoma International
- Financing: by Owner



Reference Project

TABUK CEMENT PLANT - SAUDI ARABIA

- Capacity: 1,200,000 t/y
- Project Implementation
Monitoring Consulting
- Upgrading of Kiln Plant
Additional Silo
- Installation of Roller-press for
Increase in Capacity of Cement Grinding
- Decrease in Operating Cost
- Main Suppliers:
Claudius Peters
KHD Humboldt Wedag
- Financing: by Owner



Reference Project

TAHAMAH CEMENT PLANT - SAUDI ARABIA

- Capacity: 1,700,000 t/y Greenfield Plant
 - Limestone Crusher: 1,200 t/h
 - Corrective Material Crusher: 500 t/h
 - Raw Material Grinding: 400 t/h
 - Kiln Plant: 5,000 t/d
 - Cement Mills: 2 x 150 t/h
 - Captive Power Plant: (7+1) x 7 MW capacity (Diesel / HFO)
- AUSTROPLAN's Scope of Services:
 - ✓ Project Implementation Monitoring Consultancy
 - ✓ Approval of Design
 - ✓ Pre-shipment Inspections
 - ✓ Supervision of Works on Site
 - ✓ Start-up and Commissioning
 - Main Contractor: Sinoma International



Reference Project

OBAJANA CEMENT PLANT - NIGERIA

- Capacity: 2 x 2,200,000 t/y Greenfield Plant
- 7 km Overland Belt Conveyor
- 90 km Natural Gas Pipeline
3 x 36 MW Captive Power Plant
- 90 kWh/t Low Energy Plant
2 VRM for Raw Meal Grinding
4 VRM for Cement Grinding

AUSTROPLAN's Scope of Services:

- Market Study
Due Diligence Survey
Financial Engineering
Supervision of Implementation
- Main Suppliers: F.L.Smidth, Haver & Boecker,
General Electric, ETS Group
- Major Shareholder: Dangote Industries,
Nigeria



Reference Project

HOFUF CEMENT PLANT - SAUDI ARABIA

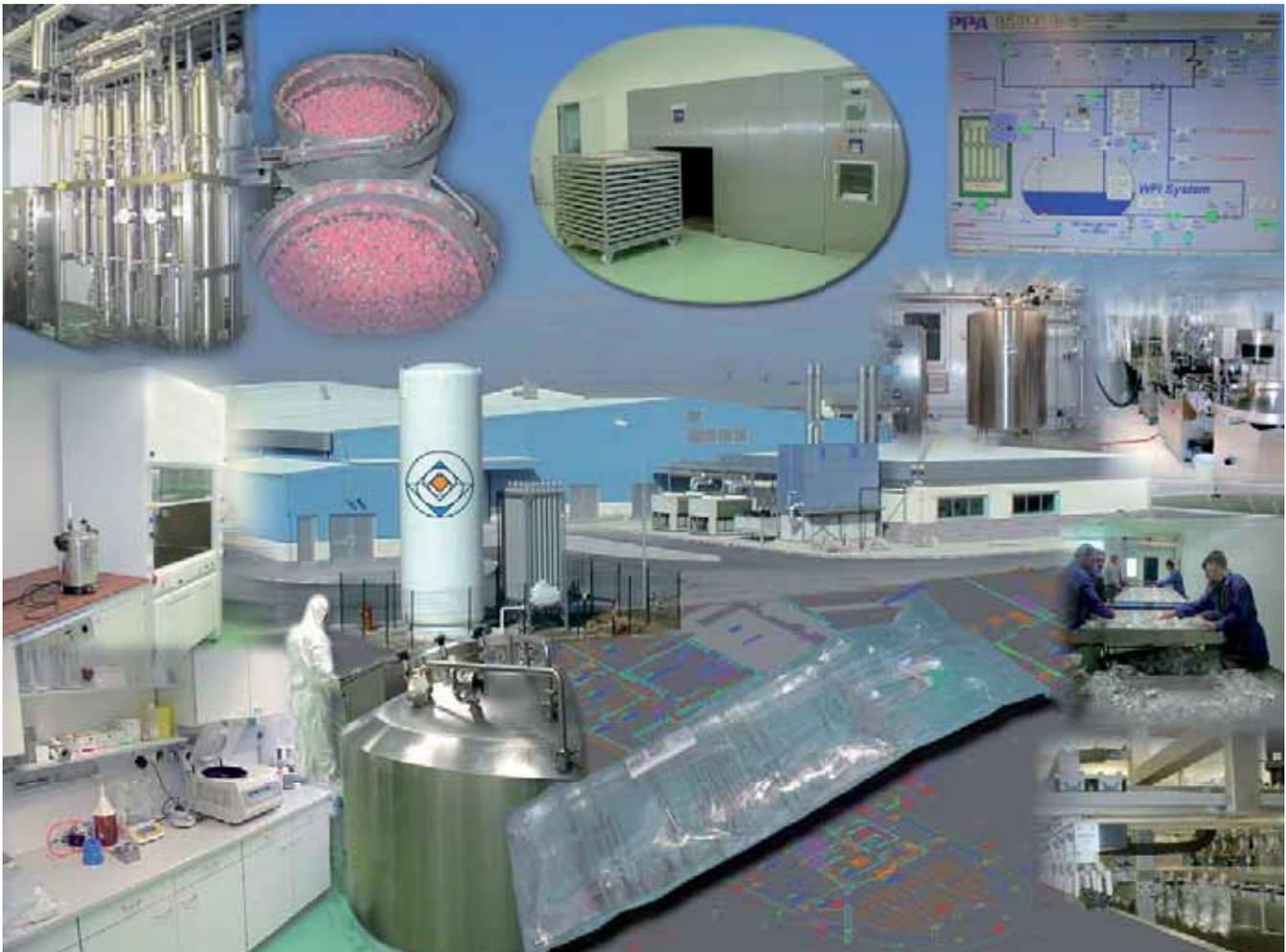
- Capacity: 2 x 3,500,000 t/y
- Two Stationary Crushing Plants [2 x 2,500 t/h]
 - ✔ 8.8 km Overland Belt Conveyors
 - ✔ Four Vertical Roller Mills [4 x 450 t/h]
 - ✔ Two Kiln Plants [2 x 10,000 t/d]
 - ✔ Two Clinker Stage-coolers
 - ✔ Three Cement Combi-mills with roller-presses [3 x 280 t/h]
- **AUSTROPLAN's Scope of Services:**
 - ✔ Preparation of Tender Documents
 - ✔ Project Implementation Monitoring
 - ✔ Approval of Design
 - ✔ Pre-shipment Inspections
 - ✔ Supervision of Works on Site
- Main Contractor: Sinoma International
- Financing: by Owner



Reference Project

PARENTERAL SOLUTION PLANT - TURKEY

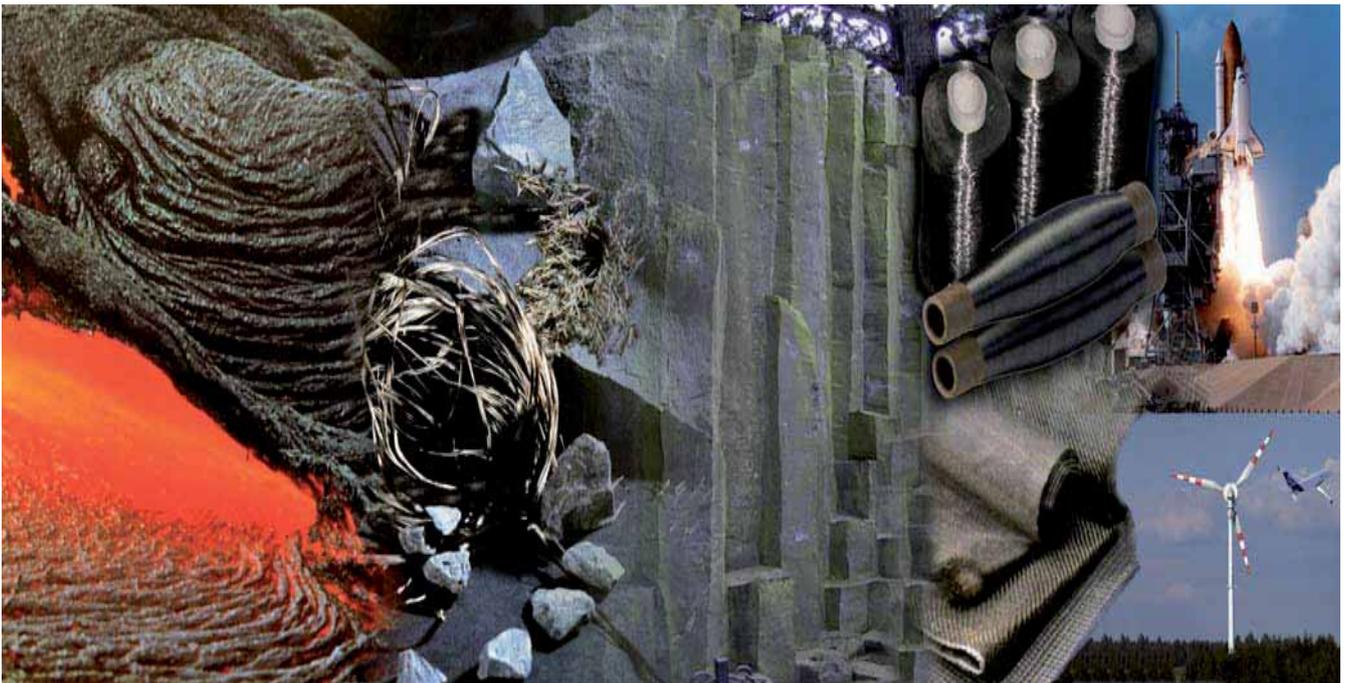
- Capacity at Single-shift Operation:
3,000,000 l/y Infusion Solution, Greenfield Plant
- Basic Plant Conception
Raw Water Treatment Plant: approx. 4,000 l/h
Water Purification Plant: approx. 2,000 l/h
Solution Preparation & Filtration:
approx. 5,000 l/Batch
- Fully Automatic Bag Making
Filling & Sealing Plant:
4,000 to 4,500 Pouches/h
- Sterilizing System: 2 x 12 m³ Chambers
- Packing & Cartonizing Plant
- Laboratory & Quality Control Facilities
- Detailed Plant Engineering and Supply of
all Process Machinery and Equipment
- Turn-key Project Implementation with a
Turkish Civil Contractor for All Building
Works and Utility Facilities
- Plant Start-up and Commissioning as well
as 12 Months Operational Assistance in
Production & Quality Control
- Owner: TSS Turktipsan A.S., Turkey
- Financing: by Owner



Reference Project

BASALTIC FIBERS PROJECT - AUSTRIA

- Capacity: 24,000 t/y Endless Fibers, Greenfield Plant
- Basic Plant Concept
 - 1 x 0,0750 t/y Research Furnace
 - 4 x 06,000 t/y Fiber Production Lines
 - 1 x 24,000 t/y Fiber Processing Lines
- Evaluation of Plant Location
- Preparation of Project Documentation for the Local Authorities to Obtain Building and production Permit
- Preparation of Technical and Commercial Tender Documents
- Project Implementation Monitoring and Start-up
- Owner:
ASA.TEC Asamer Basaltic Fibers GmbH
- Financing: by Owner



Reference Project

LPG CYLINDER MANUFACTURING PLANT - LIBYA, MOROCCO, SAUDI ARABIA, ETC.

- Capacity of Single Shift Operation:
From 70,000 to 550,000 LPG Cylinders / Year
- Type of Cylinders:
2 kg up to 33 kg
- Basic & Detailed Design and Engineering for Complete Plant including all Machinery and Equipment for the Manufacturing Process
- Supply of Complete Machinery and Equipment for the Process
- Supply of Laboratory & Quality Control Facilities
- Supervision of Erection & Commissioning
- Training of Personnel (in Europe and on Site)



Reference Project

LPG CYLINDER REPAIR / REQUALIFICATION PLANT - SAUDI ARABIA

- Capacity of Single Shift Operation: Repair and Requalification of 600,000 Used LPG Cylinder per Year
- Type of Cylinders: 11 kg and 26 kg
- Basic and Detailed Design and Engineering for Complete Plant, including all Machinery and Equipment for the Repair and Requalification Process
- Supply of Complete Machinery and Equipment for the Process
- Supervision of Erection and Commissioning
- Training of Personnel (in Europe and on Site)



Reference Project

BIOFUEL PROJECT - ROMANIA

- Capacity: 500,000 t/y Seed Processing Facility, Greenfield Plant
- Basic Plant Concept
 - 200,000 t/y Oil Mill
 - 100,000 t/y Biodiesel Plant
 - 30,000 kW Seed Cake Power Plant
- Preparation of Project Documentation for the Local Authorities to Obtain Building and Production Permit
- Preparation of Technical and Commercial Tender Documents
- Owner: Biofuel Development S.R.L., Romania
- Financing: by Owner



China Experience

AUSTROPLAN has extensive experience in both working with Chinese companies as well as the supervision of the provision of Chinese services to clients for the successful completion of projects. Some examples are:

➤ **Tahamah Cement Plant, Southern Province Cement Company, Saudi Arabia**

Supervision of project implementation for a new Greenfield cement plant with a capacity of 5,000 t/d clinker constructed in the mountains at Tahamah, Southern Saudi Arabia. **Supervision of the Chinese general turn-key contractor SINOMA International Engineering Co. Ltd.** The project includes a captive power plant, 10 km water pipeline from the new water wells and all ancillary buildings and access roads.

➤ **Hofuf Cement Plant Expansion, Saudi Cement Company, Saudi Arabia.**

Preparation of tender documents and project implementation monitoring consultancy, incl. supervision of construction of two production lines with a capacity of 2x 10,000 t/d clinker for the additional production of 6,600,000 t/y ordinary Portland cement and sulphate resistant cement at Hofuf, Saudi Arabia. The project includes an 8.8 km overland conveyor belt from the limestone quarry to the plant, which was constructed by Thyssen-Krupp Fördertechnik, Germany. **The turnkey plant has been successfully completed by SINOMA International Engineering Co. Ltd., P.R. China**, the EPC-contractor for the 2 x 10,000 tpd cement plant. The plant was taken over by the Client in August 2009.

➤ **Yanbu Cement Plant Expansion, Yanbu Cement Company, Saudi Arabia**

AUSTROPLAN is carrying out design approvals and provides the full range of their inspection, site supervision and implementation monitoring services. The capacity of the YANBU cement plant expansion is based on a single high-efficiency kiln plant with 10,000 tpd nominal output.

The EPC turnkey contractor is again SINOMA, P.R. China. Once this project is completed – expected in June 2011 - the total production of YCC will exceed 7,000,000 tpy.

➤ **Production Plant for Membrane Switches, Guangdong Wanjiale Electronic Membrane Switch Co. Ltd., P. R. China.**

Engineering, supply, training of personnel, supervision of erection and commissioning of machinery and equipment for a plant to produce various types of membrane switches, including production materials and spare parts.

➤ **Production Plant for Membrane Switches, Linyi Electrical Cables Factory, Shandong Province, P. R. China.**

Engineering, supply, training of personnel, supervision of erection and commissioning of machinery and equipment for a plant to produce various types of membrane switches, including production materials and spare parts.

➤ **Iron & Steel Plant Expansion, China International Iron & Steel Investment Corporation (CSI) and Wuhan Iron & Steel Company (WISCO), P. R. China**

Feasibility study for the expansion project of Wuhan iron & steelworks from 5 to 7 million tonnes per year in cooperation with WISDRI (the Wuhan Iron & Steel Design & Research Institute).

Basic design and tender documents for a new 2.5 million tonnes per year LD (BOF) steelmaking plant for flat products to be implemented at WISCO's works in Wuhan.

➤ **Composting Plant, Municipality of Tianjin P. R. China**

Solid waste management study for a 500 t/day composting pilot plant for municipal solid waste and sewage sludge in the city of Tianjin.



AUSTROPLAN

AUSTRIAN ENGINEERING GMBH

Hietzinger Kai 133, 1130 Vienna, Austria • E-Mail: vienna@austroplan.at
Phone: +43 1 89189 0 • Telefax: +43 1 89189 299 • www.austroplan.at
