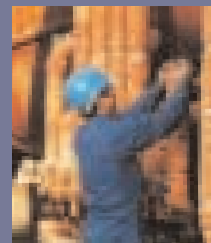


# Annual report 1999



**TECHNIP**



# Contents

## Annual report

Year ended December 31, 1999

- 2 Message from the Chairman
- 4 Technip Group Management
- 6 Technip Profile
- 8 Highlights
- 10 Financial position
- 16 The Year in Review
- 18 Fields of Activity
- 44 Human Resources
- 46 Technip Worldwide

### **TECHNIP**

A limited company capitalized at FF. 315 170 740

#### **Headquarters:**

Tour Technip - La Défense 6 - 170, place Henri Régault  
92973 Paris La Défense cedex - FRANCE

RCS Nanterre B 589 803 261

Ph.: 33 (0) 1 47 78 21 21 - Fax.: 33 (0) 1 47 78 33 40

<http://www.technip.com>



**TECHNIP**





---

# Message from the Chairman

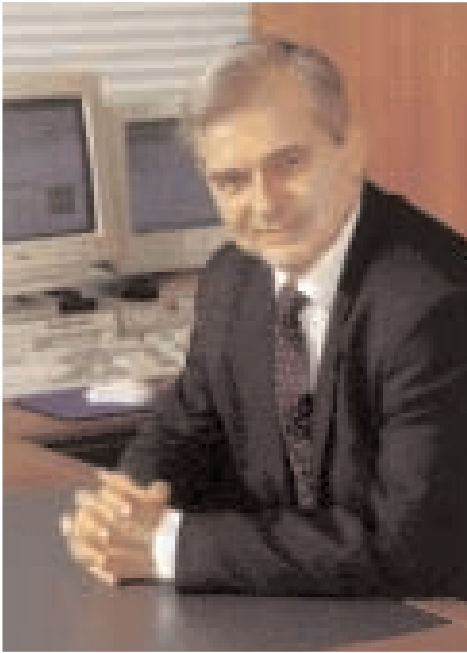
*During the year 1999, TECHNIP passed a milestone in its strategy of orderly and profitable growth: with the acquisition of the two engineering divisions of Mannesmann, our Group climbed up to first place in Europe and fourth place in the world in the engineering and construction sector.*

*Having thus increased by 50% the volume of its sales and its staff, the Group is now solidly implanted in the United States, the Netherlands, Germany and India. It has reinforced its technological portfolio, thanks to the positions held by the former KTI in the ethylene, hydrogen and sulphur markets and by the former MDEU in the areas of pipelines, power plants and underground gas storage.*

*Beyond the simple change in size, this major acquisition will have important effects on the future of Technip:*

*- from a commercial standpoint, it means a significant enlargement of markets and clients, particularly in the Americas and in Germany. In 1999 this enlargement had already resulted in significant orders, as well as in the development of first-rate relations with oil and petrochemical companies.*

*- from a financial standpoint, the acquisition offers prospects of strong growth in revenues. While only modestly profitable in 1999, the new affiliates resulting from the acquisition have set a goal of net profits equal to 3% of their revenues as of 2001.*



*The reduction in the acquisition price by a third — obtained in February 2000 — and the rapid integration of the new affiliates into Technip bode well for our ability to reach this objective.*

*As we begin this year 2000, the economic situation for the engineering and construction industry is sharply improving. The rise in oil prices, the recovery of the Asian economies and the continuation of economic growth in the main industrial regions of the world should result in a considerable increase in investment projects in the sectors that interest us: mainly oil and gas production, refining and petrochemicals, fine chemicals and pharmaceuticals.*

*The Group, which now has a truly global commercial network, recognized know-how and technology and competent and motivated teams, is well placed to make the most of this expansion in the markets.*

A handwritten signature in black ink, appearing to read 'D. Valot', written over a light blue background.

*Daniel VALOT - Chairman and C.E.O.*



# Technip Group Management

## TOP MANAGEMENT

**Daniel VALOT**  
*Chairman and C.E.O.*

**Daniel BURLIN**  
*Senior Executive Vice President  
Finance and Control*

**Georges KRAMMER**  
*Senior Executive Vice President  
Business and Operations*

## EXECUTIVE COMMITTEE

**Anne DECRESSAC**  
*Human Resources*

**Lucien SAJUS**  
*C.E.O. Technip France*

**Nicola GRECO**  
*Managing Director Technip Italy*

**Xavier JACOB**  
*Strategy and Technology*

## DIRECTORATE COMMITTEE

**Samson ALEV**  
*Western Europe*

**Jean DESEILLIGNY**  
*Middle East/Upstream*

**Leonello PARI**  
*C.O.O. Technip Italy*

**David BAKER**  
*Americas*

**Bernard DI TULLIO**  
*Far East*

**Jean-Noël MÉARY**  
*Chemicals / Fertilizers*

**Giorgio CAVANNA**  
*Life Sciences*

**Jean-Pierre CHARNEAU**  
*Cement, Industries*

**Bruno de LESQUEN**  
*Engineering, Construction*

**Jean-François HÉDIARD**  
*Financing*

# Board of Directors

Daniel VALOT  
*Chairman and C.E.O.*

Pierre VAILLAUD  
*Honorary Chairman, Board Member*

Olivier BARBAROUX  
Philippe JEUNET

Miguel CAPARROS  
Jean-Pierre LAMOURE

Christophe de MARGERIE  
Charles PREVOT  
Bruno WEYMULLER

GAZ DE FRANCE  
*Permanent representative:*  
Claude MANDIL

I.S.I.S.  
*Permanent representative:*  
Pierre JACQUARD

# Auditors

## **Cabinet Barbier Frinault & Autres represented by:**

René PROGLIO  
*Titular Auditor*

Gilles PUISSOCHET  
*Alternate Auditor*

Claude CHARRON  
*Titular Auditor*

Laurent LEVESQUE  
*Alternate Auditor*

# Technip profile



## Business: engineering and construction

TECHNIP's business is designing and building industrial and service facilities. Its experience and flexibility allow it to handle everything from preliminary studies to turnkey delivery—in a wide range of sectors, covering both its core activity of hydrocarbons and petrochemicals as well as selected industries.

## A world-class group

Worldwide, with a permanent staff of about 10,000 and annual revenues of nearly 3 billion euros, TECHNIP is one of the world's 5 biggest full-service engineering and construction groups operating internationally in the field of hydrocarbon and petrochemical facilities.

## Active in hydrocarbons, petrochemicals and other selected industries

TECHNIP's principal fields of activity have developed along four main lines:

## TECHNIP

Headquarters (parent company): Paris, France  
Date of incorporation: 1958

Chairman and Chief Executive Officer:  
Daniel VALOT

Senior Executive Vice President,  
Business and Operations:  
Georges KRAMMER

Senior Executive Vice President,  
Finance and Control:  
Daniel BURLIN



### SHAREHOLDERS

- ISIS/ GAZ DE FRANCE/  
TOTAL FINA ELF (29.6%)
- Staff (3.0%)
- TECHNIP (2.9%)
- French retail and institutional  
investors (37.7%)
- International investors (26.8%)

In-house staff: 10,000 worldwide

Revenues: 2.782 billion euros in 1999 (74% outside of Europe)

Net profit: 125 million euros in 1999

Main operational bases: France, Italy, Germany, Netherlands, Abu Dhabi, India, Malaysia, China, USA and Venezuela



## Main engineering centers worldwide



### Oil and gas production:

- Oil and gas field development (onshore and offshore).
- Gas processing and liquefaction.

### Oil refining

### Petrochemicals and fertilizers:

- Aromatics, olefins, polymers.
- Ammonia, urea, nitrogenous and phosphated fertilizers.

### Diversified industries and architectural engineering:

- Basic chemicals, pyrotechnics, hydrometallurgy.
- Life sciences (fine chemicals, pharmaceuticals, biotechnologies, food processing).
- Light industry (textiles, micro-electronics).
- Heavy industry (cement, glass and ceramics).
- Power generation (thermal, nuclear, cogeneration).
- Environmental protection.
- Advanced systems engineering.
- Operation and maintenance.
- Industrial and service buildings.

## Full-range services up to lump-sum turnkey contracts

For any project, TECHNIP can provide all or part of the following services: basic and detailed engineering, procurement, construction and project management services. Every year, the TECHNIP group successfully carries out projects of all sizes, including a thousand small projects.

Supported by its wide experience in joint ventures with foreign partners, TECHNIP is also capable of taking on major turnkey contracts worth several hundred million dollars and arranging the necessary international financing. Moreover, completely independent from suppliers, TECHNIP is fully experienced in seeking the best available equipment at internationally competitive prices. ■

## Business segment breakdown (% of revenues 1999)



- Refining (40%)
- Oil and gas production (21%)
- Petrochemicals, fertilizers (17%)
- Industries/electricity and other (22%)

## Business geographical breakdown (% of revenues 1999)



- Europe (26%)
- Middle East (24%)
- Africa (23%)
- Far East (8%)
- Americas (12%)
- CIS/Central Asia (7%)



# Highlights



## Expansion of the Group

The TECHNIP Group changed in size, thanks to the purchase of the engineering activities of Mannesmann, which took place in March 1999, with effect as of January 1st, 1999. The Group's staff has grown from about 6000 men and women to 10,000, and its global network has developed through its new establishments notably in Germany, the Netherlands, the United States and India.

## Acceleration of growth

Contrary to most of its major competitors, TECHNIP experienced strong acceleration of its growth, despite an economic environment still disrupted by the consequences of the Asian crisis and the collapse of oil prices in 1998. Sales for the year reached 2.782 billion euros, an increase of 51% over the previous year.

Net profits before goodwill depreciation amount to 183 million euros, an increase of 70%. Excluding extraordinary items, recurring net profits amount to 125 million euros, up 16.5%.

## Adjustment of the purchase price of KTI / MDEU

The experts' decision in favor of TECHNIP in February 1999 on the acquisition price of KTI/MDEU led to a reduction of 63 million euros on the initial price of 192 million euros. As a result, the contracts acquired by TECHNIP are now correctly provisioned and goodwill depreciation remains unchanged at 8 million euros per year.

## Turnaround of the new subsidiaries

The new affiliates resulting from the acquisition of KTI/MDEU, now named TECHNIP GERMANY (in Düsseldorf), TECHNIP BENELUX (in The Hague) and TECHNIP USA (in Houston and Los Angeles), generated a net profit in the first year, showing that their turnaround is well under way.

## Sustained activity in the refining sector

Oil refining, generally considered a mature sector, remained a growth segment for TECHNIP (40% of sales) due to the design and construction of major turnkey projects in Egypt, the United Arab Emirates, Turkmenistan and Venezuela. TECHNIP's know-how and international reputation in this area enabled the Group to complete three grassroots refineries during the last five years, as well as numerous units and revampings for existing refineries.

## New success in the gas sector

TECHNIP won two major new contracts in the area of gas production and treatment: the basic engineering and project management of a field development project in Libya and the turnkey expansion of the LNG complex in Nigeria, comprising notably a third liquefaction train. The first two trains, under an earlier contract, were successfully started up in September 1999 and in February 2000 and are now on stream.

## Successful wet tests for TPG 3300

TECHNIP successfully conducted wet tests on a large-scale model of a TPG 3300 platform designed for the development of deep offshore oil and gas fields. These tests constitute a decisive step towards the commercialization of the TPG 3300, whose concept was developed by TECHNIP.



## Marked recovery of activities in the Middle East and Far East

The Middle East regained a significant place in TECHNIP's order book, particularly thanks to the 750-million-dollar turnkey contract, in effect since October 1999, for the design and construction of a petrochemical complex in Qatar (in a 50/50 joint venture with KBR). The geographic breakdown of backlog also shows a clearly marked growth tendency for activities in the Far East, where TECHNIP won several turnkey contracts in the petrochemical sector.

## Rapid growth in the Americas

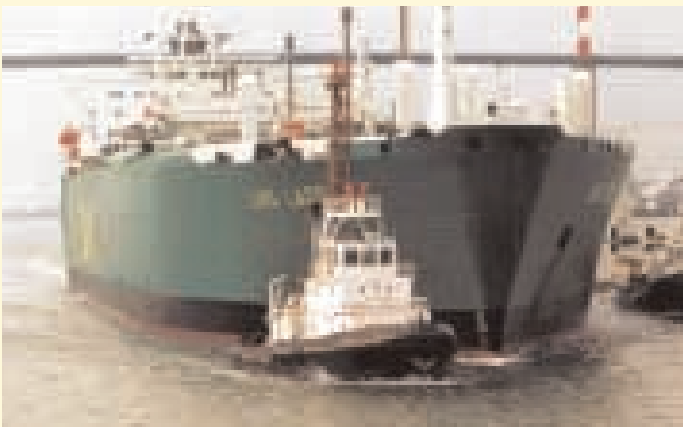
The breakdown of activity by regions did not change significantly compared to 1998, with the exception of the share represented by the Americas, which experienced noteworthy growth, rising from 7% to 12% of consolidated sales, thanks to the activity of the new affiliate TECHNIP USA and to the major extra-heavy crude processing projects in Venezuela.

## Creation of TECHNIP ANGOLA

The Angolan national oil company SONANGOL and TECHNIP joined in a 60/40 partnership to create the first Angolan engineering and construction company, TECHNIP ANGOLA. Based in Luanda, TECHNIP ANGOLA will provide engineering services for the design and construction of industrial facilities, particularly in the oil and gas production sector (offshore and onshore field development/gas processing), and in the refining and petrochemical sectors.

## Significant progress in diversified industries

With the impetus of the new affiliates, diversified industries (excluding oil/petrochemicals) showed considerable progress—up from 16% to 22% of sales—with sales themselves up by 51%. In a good number of the sectors concerned, TECHNIP possesses specific know-how, even proprietary technologies (high-pressure piping for power plants, ethanol, palm oil, pyrotechnics, cement), which constitute real technological niches for the Group. ■



# Financial position

## Consolidated accounts at 31 December, 1999

During the year 1999, TECHNIP had strong growth contrary to most of its major competitors, and this despite an economic environment that remained difficult.

The Group had a change of scale with the purchase of the engineering operations of Mannesmann in March but with effect from 1 January 1999. The Group's workforce increased from 6,000 to 10,000 people and its global network has grown with new operations particularly in Germany, Netherlands, the US and India.

TECHNIP's growth was also demonstrated by the sharp increase in financial results.

The principal financial results for the year 1999 are as follows:

in millions of euros	1999	Increase
Revenues	2782.2	+ 50.7 %
Cash flow from operations	148.6	+ 29.5 %
Operating income	163.5	+ 14.4 %
Group net income : before amortization of goodwill and release of provision for geopolitical risk	125.1	+ 16.5 %
Group net income : before release of provision for geopolitical risk	115.6	+ 9.7 %
Group net income	172.6	+ 63.8 %

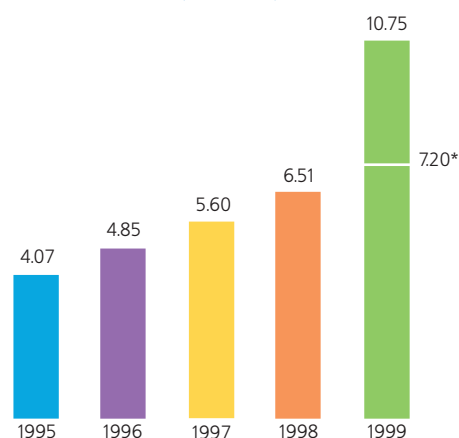
After full dilution to include all options **earnings per share** are as follows:

in euros	1999	Increase
Group net income before release of provision for geopolitical risk	7.20	+ 10.6 %
Group net income	10.75	+ 65.2 %

The strong growth indicated by these figures must be considered in light of three major factors:

- The new subsidiaries KTI/MDEU acquired from Mannesmann generated a positive contribution to profit of 9 million euros (before amortization of goodwill) in their first year, which demonstrates that their recovery is well under way.

## Evolution of diluted earnings per share (in euros)



- The expert study, which supported TECHNIP in respect of the acquisition price of KTI/MDEU, led to a reduction of 63 million euros in the initial price of 192 million euros. As a result, the contracts taken over by TECHNIP are correctly provided for and the amortization of goodwill remains unchanged at 8 million euros per year.

- The release of the geopolitical provision, driven by the growth of the group, led to an exceptional income of 57 million euros net of tax. This improved TECHNIP's shareholders' equity and brought its accounts into line with international accounting standards.

In total, the acquisition of KTI/MDEU led to an increase in total assets at 31 December 1999 of 1,307 million euros (of which 70% was work-in-progress) in the consolidated balance sheet.

**Consolidated revenues**, grew 50.7% to 2,782.2 million euros. On a like for like basis, growth was 4.7%.

During the year the group completed a large number of contracts. Among the most significant in terms of revenue (engineering, materials and works included) were; the Midor refinery at Alexandria in Egypt, the OGD II gas treatment unit in Abu Dhabi, the gas liquefaction plant at Bonny in Nigeria, the naphtha reformer in Egypt and the VEHOP heavy oil treatment plant in Venezuela.

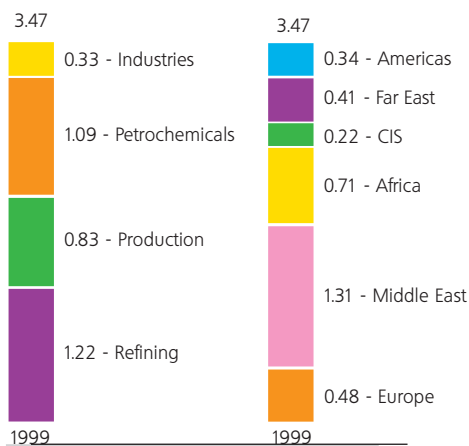
**The geographic breakdown** has not changed greatly since 1998, with the exception of the Americas, which had significant market growth, and went from 7% to 12% of consolidated revenues. This was due to the operation of the new subsidiary TECHNIP USA and large projects in Venezuela. Three major areas represent each over 20% of operations: Europe with 26% of revenues, the Middle East with 24% and Africa with 23%. Refining represents 40%, Oil and Gas Production 21% and Petrochemicals and Fertilizers 17%. Contracts are 85% turnkey or similar.

At the same time, **other contracts signed and commenced** in 1999 will have full effect on results over the coming twenty four months. Examples include the third liquefaction line in Nigeria, the petrochemical complex in Qatar, the lubricants plant in Turkmenistan, all the off-site facilities and utilities for a petrochemical complex in Malaysia and a high-pressure polyethylene unit in Malaysia.

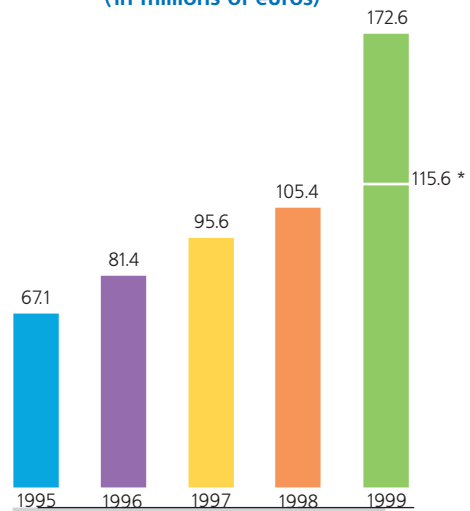
At 31 December 1999, the part of contracts in progress, which only includes contracts in force (**backlog**), amounted to 3.47 billion euros, compared to 2.79 billion euros at 31 December 1998. This **backlog**, which represents around 15 months revenue, demonstrates the ability of the TECHNIP group to survive in an unsettled international context and ensures continuing high levels of business in its major sectors of operation.

The movement in the backlog over the last three years was marked by strong growth in Oil and Gas Production and in Petrochemicals. In 1999, these two sectors achieved an order of size comparable to the refining sector. The backlog growth in the Middle East, Far East and the Americas was particularly marked in recent times.

### Backlog (in billions of euros)

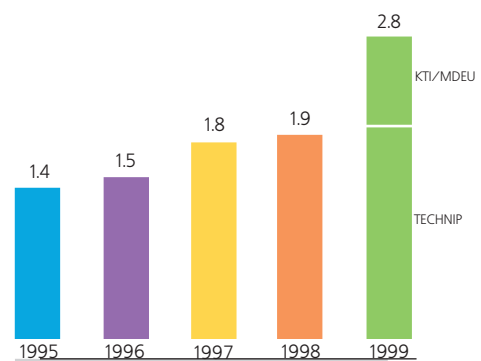


### Evolution of Group net income (in millions of euros)

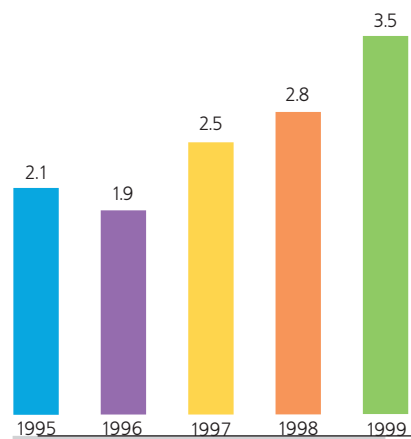


\* excluding the reversal of the provision for geopolitical risk.

### Evolution of consolidated revenues (in billions of euros)



### Evolution of backlog (in billions of euros)



# Financial position



■■■ **Operating income** was 163.5 million euros representing 5.9% of revenues and grew by 14.4% compared to 1998. Operating income arises from the following two factors:

- revenues of 2,782.2 million euros including financial income generated from cash balances in respect of contracts of 19.1 million euros in 1999. In 1998, this was 16.3 million euros.
- operating expenses of 2,618.7 million euros, which were 94.1% of revenues. The major items were equipment and work carried out, i.e. 2,160.6 million euros, and personnel costs of 435.8 million euros. The average growth of payroll costs per employee between 1998 and 1999 amounted roughly to 3%.

**Net financial income** (excluding contracts) of 16.6 million euros in 1999 relates exclusively to the management of the group's own funds. It arises from investments and deposits made on the basis of security and liquidity, and from dividends received from the portfolio of non-consolidated investments, principally COGEMA.

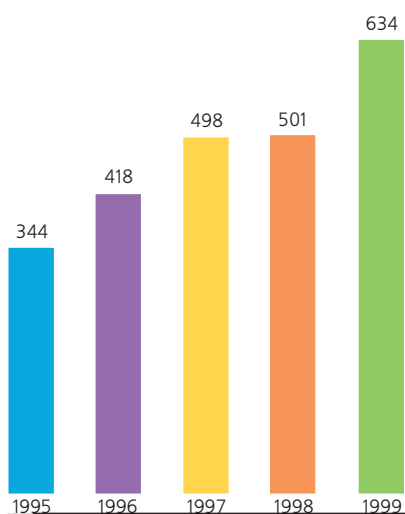
**Net exceptional income** was 2.8 million euros in 1999. This included:

- the gross capital gain on the partial disposal of the non-consolidated shares in COGEMA,
- the gross capital gain on the disposal of fixed assets,
- restructuring costs incurred during the year.

**Current and deferred taxes** of the group, including all subsidiaries and contracts in progress subject to the tax legislation of the country where the contract is being carried out, amounted to 55.9 million euros, net of the deferred tax of 32.9 million euros related to the release of the provision for geopolitical risk.

This represents an apparent group tax rate of around 34.2%, slightly lower than 1998. This rate includes the additional charge on profits taxable in France.

**Evolution of Group's shareholders' equity before appropriation**  
(in millions of euros)



Earnings from **equity accounted companies** arise mainly from the investment in IPEDEX.

**Amortization of goodwill on acquisition** of 9.5 million euros includes 8 million euros in respect of the amortization over 20 years of the goodwill arising on KTI/MDEU.

**The reversal of the provision for geopolitical risk**, net of tax, amounted to 57 million euros (the gross release was 89.9 million euros less the deferred tax provision of 32.9 million euros).

In the past, the group established a provision every year on the basis of various criteria to value the work outstanding on contracts in progress.

This provision was only increased by modest amounts in recent years and was never used.

During the year, the significant development of the group related to:

- the diversification of risk by country and by customer,
- the growth of the group and its financial strength,
- the spreading of the risk among partners, particularly following the acquisition of KTI/MDEU,
- the reorganization that arose from the group operational and legal structure with the creation of a holding company,

have left this provision with no purpose. As a result, it has been released to exceptional income. This new position is now in compliance with international accounting standards.

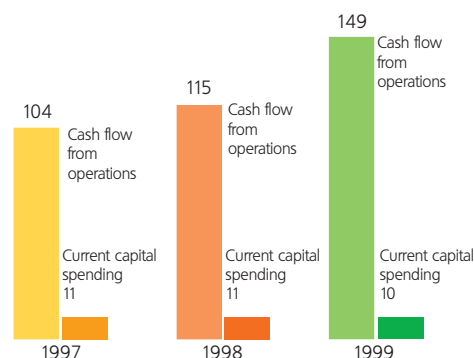
## Consolidated balance sheet and financial position

**Shareholders' equity** at 31 December 1999, before appropriation of the profit for the year was 633.9 million euros compared to 501.6 million euros at 31 December 1998. The movement includes the reduction in capital of 19.8 million euros following the cancellation of 1.49% of the shares. In total, shareholders' equity finances the fixed assets and provides a sound financial basis for the group.

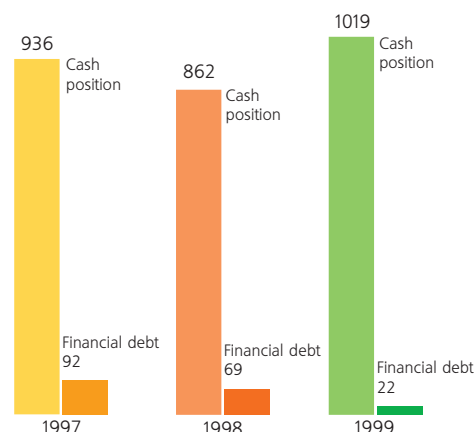
**Cash flow** from operations generated in the year was 148.6 million euros compared to 114.8 million in the previous year. It was substantially in excess of current requirements and has provided, on a regular basis, a significant margin for manoeuvre.

**Fixed assets** were 431.8 million euros. The major items are net goodwill (particularly following the acquisition of KTI/MDEU), the net value of property and the investment in COGEMA. In total, investment in the year was covered by the amortization and depreciation charge of the year. ■■■

### A cash flow well above organic needs (in millions of euros)



### A robust financial structure allowing strategic flexibility (in millions of euros)



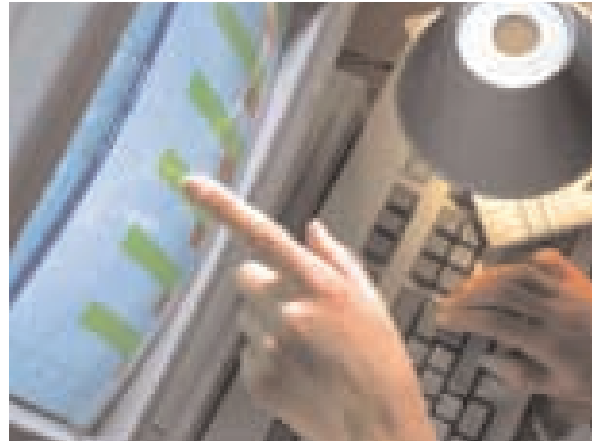
# Financial position

■ ■ ■ **Contracts in progress**, which represent the cost incurred on all contracts in progress, was 3,944.1 million euros at 31 December 1999. The previous year, this was 2,900 million euros. A major part of the increase arises from the inclusion of KTI/MDEU in the group.

**Work in progress** is valued at cost price and comprises mainly turnkey, FOB or similar contracts. These contracts are funded by part payment invoiced to the customers. At 31 December 1999, part payments amounted to 4,580.5 million euros.



**Provisions for liabilities and charges** amounted to 269.5 million euros in total, compared to 236.5 million euros for the previous year. These provide mainly for risks related to contracts, completion costs for contracts at the stage of preliminary acceptance, various charges, social obligations and restructuring costs.



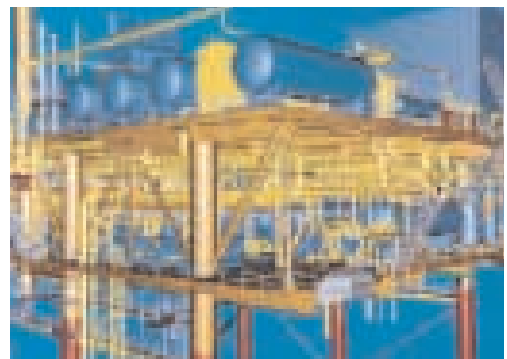
The movement in the year arises mainly from:

- the reversal of the provision of 89.9 million euros for geopolitical risk,
- provisions of 152 million euros arising from the transfer of the KTI/MDEU operations.

**Debt** of 68.5 million euros at the end of 1998 declined to 21.8 million euros at 31 December 1999.

## Parent company accounts at 31 December, 1999

At the completion of the structural reorganization of the group, which in 1999 led to the transfer of the engineering operations of TECHNIP to TECHNIP France, TECHNIP became essentially a holding company. Its accounts at 31 December 1999 must be considered in light of this change and thus they cannot be easily compared to the previous years' accounts.



**Revenues** of 70 million euros represent only dividends and interest received from subsidiaries.

**Net income** was 162.6 million euros. This includes the release of the provision of 89.9 million euros for geopolitical risk.

**Shareholders' equity** was 500 million euros before distribution at 31 December 1999. This includes the effects of capital reduction following the cancellation of 238,277 shares.

## Stock options

It is to be noted that the Board of Directors, during the meetings held on March 30, 1994, February 13, 1995, March 14, 1996 and March 13, 1997, according to the authorizations extended by the Extraordinary General Meetings of February 11, 1993 and May 16, 1995, granted TECHNIP stock options. Furthermore, at its meeting held on April 30, 1998, according to the authorization extended by the Extraordinary General Meeting held on that same day, a new allocation of TECHNIP stock options was granted.

Throughout the year, 95 options were exercised, for 124,140 shares at 20 francs, corresponding to an increase in nominal capital of 2,482,800 francs.



The Board of Directors, on April 30, 1999, authorized by the Extraordinary General Meeting of April 30, 1998, decided on a new allocation of stock options to 250 beneficiaries. This offer concerned 315,520 shares at 20 francs each. The subscription price was fixed at 95.94 euros (or 629.33 francs). Throughout the year, no options were exercised relative to the two plans mentioned above. ■

## SHAREHOLDERS' LOG IN EUROS

	1997	1998	1999
Share capital at the end of the year	50,407,417	48,100,711	48,047,469
Number of shares in issue (on 31 December)	16,532,549	15,775,999	15,758,537
Potential number of shares (on 31 December)	17,077,169	16,191,829	16,050,827
Share price:			
highest	123.33	133	116
lowest	70.43	59	70
on December 31	96.81	80	101.8
Consolidated operating income diluted per share	755	8.83	10.19
Net consolidated income diluted per share	5.60	6.51	10.75
Dividend per share (proposal in 1999)	2.21	2.45	3
Dividend/net consolidated result ratio	38.2 %	36.1 %	39.7 % (a)
Total revenue per share (net dividend + tax credit)	3.32	3.68	4.5
Gross yield per share (price December 31)	3.4 %	4.6 %	4.4 %

(a) Ratio calculated on net income before reversal of the geopolitical reserve.





# The year in review

## JANUARY

### Corporate news

TECHNIP acquires the affiliates and engineering divisions of Mannesmann (KTI/MDEU). This operation represents an increase of about 50% for TECHNIP in terms of staff and sales. It means the Group is now solidly implanted in Germany, the United States, the Netherlands and India and gives it access to technologies that complement its own, particularly in the areas of ethylene, hydrogen and high-pressure piping.

### Bahrain

ALUMINIUM BAHRAIN awards TECHNIP a turnkey contract worth approximately 220 million euros for the design and construction of a petroleum coke calcining plant capable of producing 450,000 tons per year.



## FEBRUARY

### Greece

MOTOR OIL HELLAS entrusts TECHNIP with the design and construction of two new gasoline processing units and with the revamping of its refinery at Corinth in order to bring it into compliance with the new European standards concerning benzene-free and low-sulfur gasoline.



## MARCH

### Nigeria

Nigeria LNG awards TSKJ (TECHNIP-SNAMPROGETTI-KBR-JGC) a turnkey contract worth about 1.2 billion dollars for the expansion of the LNG complex at Bonny. The project includes the construction of a third natural gas liquefaction train, an LPG recovery unit and associated utilities and offsites.

## APRIL

### Czech Republic

TECHNIP is entrusted with the first phase of the revamping and expansion of CHEMOPETROL's ethylene plant at Litvinov.

### Malaysia

Optimal Chemicals—a joint venture company between PETRONAS and UNION CARBIDE—awards TECHNIP a major contract for the design and construction of offsites and infrastructures for a petrochemical complex at Kerteh.

## MAY

### Dubai

The 120,000-barrel/day refinery at Jebel Ali, executed turnkey by TECHNIP for ENOC PROCESSING, comes on stream.

## JUNE

### Angola

The Angolan national oil company SONANGOL and TECHNIP together create the first Angolan engineering company, TECHNIP ANGOLA. The company, based in Luanda, will provide services for the design and construction of industrial facilities in Angola, particularly in the oil and gas sectors.

### Germany

RWE entrusts TECHNIP with a project worth about 50 million euros for the engineering, prefabrication, installation and start-up of the high-pressure piping systems for a new lignite-fired power station to be built near Cologne.

## JULY

### Turkmenistan

The Oil and Gas Ministry of Turkmenistan awards TECHNIP a project worth about 180 million euros for the design and construction of a lube oil plant and the revamping of the vacuum distillation unit at the refinery of Turkmenbashi, on the shores of the Caspian Sea.



## AUGUST

### Libya

AGIP GAS BV—a jointly-owned affiliate of the Italian company AGIP and the Libyan National Oil Company—awards TECHNIP a major contract for basic engineering and project management services for the development of several natural gas fields, both onshore and offshore.



### Nigeria

Nigeria LNG issues acceptance of the first natural gas liquefaction train at Bonny, delivered ready-for-start-up by the consortium TSKJ (TECHNIP-SNAM-PROGETTI-KBR-JGC). The facility, which has a capacity of 2.9 million tons per year, comes on stream the following month.

## SEPTEMBER

### United Arab Emirates

The new one-million-ton/year cement plant, executed turnkey by TECHNIP in the Emirate of Ras Al Khaimah, comes on stream.

## OCTOBER

### Qatar

TECHNIP—in a 50/50 joint venture with Kellogg Brown & Root—signs a 750-million dollar contract with Q-CHEM (QGPC/PHILLIPS) for the design and construction of a petrochemical complex at Maesaieed. The complex includes a 500,000-ton/year ethylene cracker, a hexene-1 unit, two polyethylene units with a combined capacity of over 450,000 tons per year, together with related utilities and offsites.

## NOVEMBER

### India

INDIAN OIL awards TECHNIP a contract worth about 50 million dollars for the turnkey design and construction of a hydrotreatment unit and a hydrogen unit at its refinery in Guwahati, Assam State.

### Malaysia

PETLIN—a company formed by PETRONAS, DSM AND POLYFIN—awards TECHNIP a major project covering the design and construction of a 255,000-ton/year high-pressure polyethylene unit at Kerteh.



### China

The caprolactam plant at Shijiazhuang, designed and built by TECHNIP, starts up successfully. It is made up of nine process units and ten utilities and offsite facilities.

## DECEMBER

### Abu Dhabi

GASCO entrusts TECHNIP with a turnkey project worth about 90 million dollars to revamp and expand the capacity of its gas fractionation plant at Ruwais.

### Spain/Argentina

The Spanish-Argentine group REPSOL-YPF selects TECHNIP to revise and update the oil refining/petrochemicals technical specifications and documents for all its facilities worldwide.

### Uzbekistan

KREBS-SPEICHIM, the 50/50 joint affiliate of TECHNIP and SGN, wins a contract worth about 60 million euros for the construction of a plant to manufacture components of pyrotechnical products from cellulose. ■

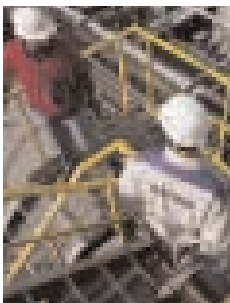


*Second LNG train delivered at Bonny (Nigeria).*

---

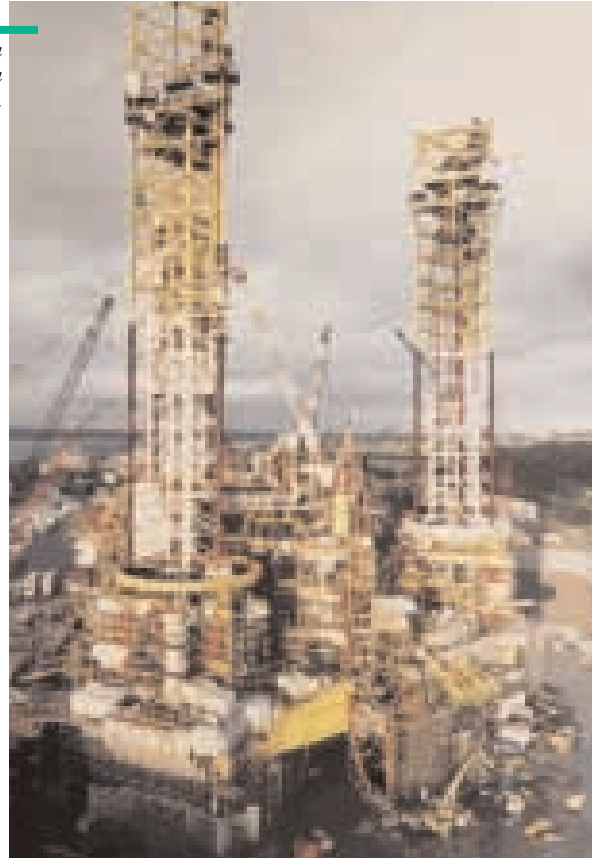
# Fields of activity

## Oil and Gas production



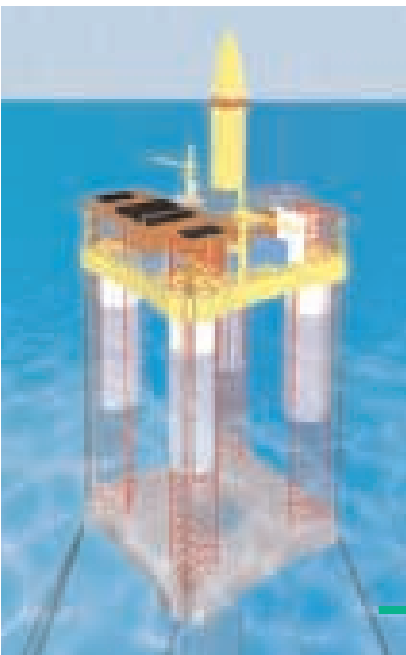
Despite an unfavorable economic environment which was still influenced by the collapse of oil prices in 1998 and the Asian crisis, oil and gas production accounted for 21 % of revenues in 1999, or 584 million euros (425 million euros in 1998). This sector received a boost with the signing of a basic engineering and project management contract for a very large gas field development project in Libya and the award of a new contract in Nigeria for the expansion of the Bonny LNG complex, whose first two liquefaction trains recently came on stream.

*Elgin-Franklin platform in October 1999.*



## Europe and the United States

TECHNIP, in a consortium with McDERMOTT and BARMAC, has practically completed, for ELF EXPLORATION UK, the offshore Elgin-Franklin platform that will soon be installed in the **North Sea**. Designed on the TPG 500 model developed by TECHNIP, this self-elevating production/utilities/accommodation platform was prefabricated in modules and assembled in a dry dock at BARMAC's yard at Nigg, Scotland. The living-quarters hull, the superstructures (containing the process equipment and the utilities), as well as the legs supporting the components above water were built at the same yard. Jack-up tests for the platform (30,000 tons) took place successfully in January 2000. Hydrotests and start-up preparations have begun. Towing to sea is planned for July 2000. Hook-up operations and other operations prior to start-up will then be able to begin. The jack-up will stand on three steel legs anchored 92 m under water by means of piles. The platform should become operational in autumn 2000. It will be able to accommodate up to 69 people and will be able to treat 14.6 million m<sup>3</sup>/day of gas and produce 120,000 barrels/day of condensates. The project is being executed—under an alliance contract signed in March 1997—by an integrated team comprising client representatives and members of the consortium.



*3-D view of the "TPG 3300" platform.*

In June 1999, ENI's AGIP Division awarded TECHNIP's center in Rome a new contract dealing with the development of the oil fields in Val d'Agri in **Italy**. The project concerns the detailed engineering of the 3rd line, the basic engineering of the 4th line and overall supervision of the worksite.

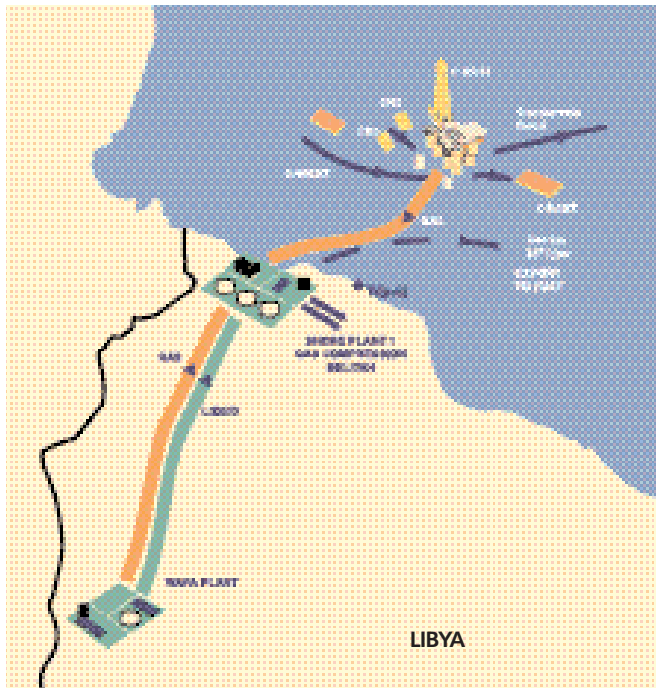
In summer 1999, TECHNIP successfully conducted **wet tests** on a large-scale (1/50th) model of the TPG 3300 platform. The concept of the **TPG 3300**, developed by TECHNIP, is that of a deep draft semi-submersible floating platform designed to develop deepwater hydrocarbon fields. Its deep draft gives it excellent hydrodynamic behavior, allowing the placement of wells on the surface and significant advantages in terms of utilization, cost and safety in comparison with subsea wells. These tests, which took place in California with the participation of several major American oil companies, confirmed the earlier computer simulations carried out by TECHNIP. They constitute a decisive step towards the commercialization of the TPG 3300, which could be used notably in the Gulf of Mexico, in Brazil, in the Gulf of Guinea and in the Caspian Sea.



# Fields of activity

## Oil and gas production

■ ■ ■ In the **United States**, COASTAL FIELD SERVICES entrusted TECHNIP with the revamping of an LPG unit at St. Mary's Parish in Louisiana. The American affiliate of TECHNIP has been executing this project, awarded in November 1999, using its expertise in the area of processing liquids, together with its own process for the cryogenic treatment of gas.

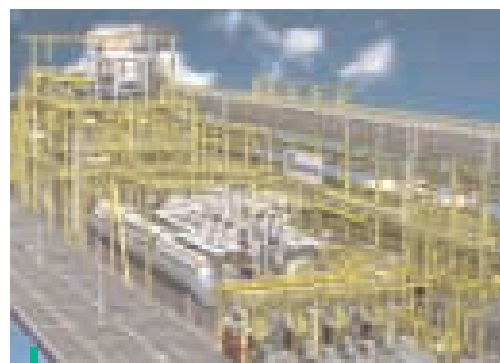


### Africa

In August 1999, TECHNIP won a major basic engineering and project management contract for the development of several natural gas fields in **Libya**. The contract, estimated at 100 million dollars, was signed with AGIP GAS BV, an affiliate of the Italian oil company AGIP, and the Libyan National Oil Co. The project covers the development of an onshore gas field near Wafa, 550 km southwest of Tripoli, and of an offshore gas field located 100 km off the coast Tripoli at a depth of 190 meters. The natural gas and the condensates will be transported by pipelines to a 10 billion-cubic-meters-a-year gas processing plant to be built at Melitah, on the coast. The facilities, for which TECHNIP is executing the engineering, mainly include: an offshore fixed drilling and production

platform and subsea wellheads, subsea pipelines, the processing plant at Wafa, as well as the pipeline network linking the Wafa production center to the Melitah plant (500 km). The investment cost, including an export pipeline to Italy which is not included in the contract, is estimated at 5.5 billion dollars. The basic engineering is being executed by TECHNIP teams in Rome for the onshore portion and in Paris for the offshore portion of the project. The facilities should be operational in late 2003.

Within the framework of the Girassol project in **Angola**, TECHNIP has completed, on behalf of BOUYGUES OFFSHORE/ETPM, a major portion of the basic engineering (250,000 hours) and notably all the process design for a 200,000-barrel-per-day crude oil floating production unit for ELF Exploration Angola. In addition, TECHNIP was chosen at the end of the year by CABINDA GULF OIL Co., the affiliate of CHEVRON in Angola, to perform the front end engineering design for a 20-25 million scfd gas compression module to be installed on the "GS November" complex offshore Cabinda. Phase 1 of this project (definition engineering) is being performed by TECHNIP teams based in Houston. Phase 2 (basic engineering) will be handled by TECHNIP ANGOLA in Luanda by a TECHNIP team composed of Angolan, American and French personnel in order to provide an efficient transfer of know-how to the new affiliate. Created in June 1999 by the national oil company SONANGOL (60%) and TECHNIP



3-D view of top-deck facilities for the Girassol platform (Angola).



*Loading jetty for the LNG complex at Bonny (Nigeria).*

(40%), TECHNIP ANGOLA will assume a growing role in the execution of projects, notably in the deep water sector, which offers significant prospects in Angola.

**A particularly solid level of activity in LNG for TECHNIP in 1999**

In March, Nigeria LNG awarded TSKJ, an equally shared consortium of TECHNIP, SNAMPROGETTI, KBR and JGC, a turnkey contract worth about 1.2 billion dollars for the construction of a third LNG (liquefied natural gas) train with a capacity of 2.9 million tons per year, an LPG recovery unit (1 million tons per year), as well as associated utilities and off-sites at the Bonny Island (Rivers State) complex in **Nigeria**. This expansion of the facilities will allow the processing of an additional 3.7 billion m<sup>3</sup> of gas per year (+50%), the production of associated gas, and a significant reduction in the quantities of flared gas. The third liquefaction train itself will come on stream in 2002, and all the work related to the expansion project will be completed in 2003.

At the end of August 1999, Nigeria LNG issued the acceptance certificate for the first LNG train at Bonny, delivered turnkey by TSKJ. This unit, with a capacity of 2.9 million tons per year, began production the following month, and the first cargo of LNG was shipped during the first half of October to the Montoir

de Bretagne terminal near Nantes in France. In February 2000, the second LNG train, with the same capacity, was pronounced "ready-for-start-up". It began production on February 27. The 2-billion-dollar turnkey contract covering these first two trains had been awarded to TSKJ at the end of December 1995. Today Nigeria LNG (Nigerian National Petroleum Corp., SHELL, ELF, AGIP) is studying the possibility of a new expansion comprising liquefaction trains 4 and 5. ■■■



*Residential area at Bonny (Nigeria).*

# Fields of activity

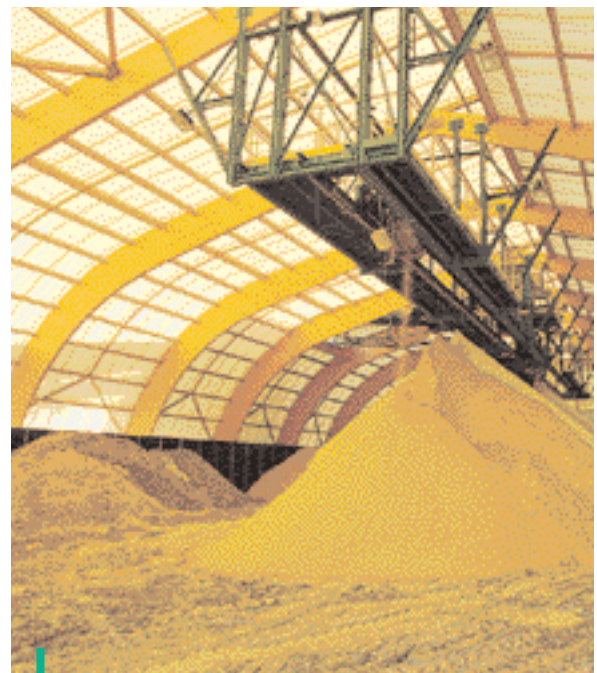
## Oil and gas production

### ■ ■ ■ Middle East

In the gas liquefaction sector, TECHNIP also revised the basic engineering for the new LNG project being developed by YEMEN LNG (a group of international companies whose main shareholder is TOTAL FINA ELF), based on new data from the client. The call for bids for turnkey construction of this complex at Bal Haf in **Yemen** is expected during the first quarter of 2000.

In addition, TECHNIP won a 90-million-dollar turnkey contract from GASCO (Abu Dhabi Gas Industries) to upgrade the fractionation plant at Ruwais in **Abu Dhabi**. The project involves the two NGL fractionation units, the cooling systems, the mercaptan removal sections and the sulphur recovery unit. The objective of this project is to increase the capacity of the facilities in order to process and treat additional quantities of feedstocks from Habshan and the Ruwais refinery, as well as to supply ethane feedstock to the new BOROUGE petrochemical plant. Execution of the project has been entrusted to TECHNIP's local engineering center in Abu Dhabi (300 people), to which GASCO had earlier awarded a 30-million-dollar contract now being carried out for the revamping of the control system at this plant and its terminal.

The construction of new natural gas processing facilities at Habshan in the Emirate of **Abu Dhabi** had reached practically 50% completion at the end of 1999. The civil engineering has been completed and the jobsite is now in an active phase of mechanical assembly. Work should be completed during summer 2000, and start-up is scheduled for the end of the year. This 1.3-billion-dollar turnkey project, designated "OGD2" (Onshore Gas Project phase 2), is being executed by a 50/50 joint venture made up of TECHNIP and BECHTEL.



*Sulfur storage and handling facilities at Ruwais (U.A.E.).*

It will allow ABU DHABI NATIONAL OIL Company (ADNOC) to process an additional 10 billion m<sup>3</sup>/year of natural gas, approximately doubling the capacity of the Habshan complex. The new facilities will also produce NGL, condensates and sulphur.

This major project is part of the continuing close collaboration between TECHNIP, its American partner, the construction company CCCI, and the client ADNOC. The first phase of the Habshan project was carried out by TECHNIP/BECHTEL in 1996, and in 1997 TECHNIP completed the basic engineering for OGD2.



*Sulfur unit at the "OGD 2" gas complex at Habshan (Abu Dhabi).*

In **Qatar**, QAPCO has entrusted TECHNIP's center in Rome with the expansion of an ethane recovery unit at Umm Saïd. In addition, TECHNIP's center in Abu Dhabi completed, for ELF, the basic engineering for the second development phase of the Al Khaleej offshore oil field.

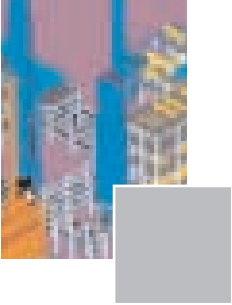
TECHNIP continued work on the contract concerning facilities related to the development of the Hawiyah gas field in **Saudi Arabia**. The project includes 3 sulphur production units (350 t/day each), loading facilities and all utilities for a plant that will allow SAUDI ARABIAN CO. to deliver 16 billion m<sup>3</sup> of gas to the Saudi distribution network starting in 2002.

## Asia

In **Malaysia**, TECHNIP completed the detailed design of the main complex for the development of the Angsi field, located 165 km offshore Terengganu. The facilities include a processing platform and a drilling/production platform, interconnected by a 100-meter-long bridge. It is the largest project undertaken jointly by PETRONAS Carigali and ESSO Production Malaysia. TECHNIP's engineering center in Kuala Lumpur also completed, for GLOBAL Industries Offshore, an engineering contract for the installation and start-up of a 54-km subsea gas pipeline, linking, at a depth of approximately 65 meters, the Pailin processing platform and the Erawan production platform in the Gulf of Thailand. Start-up took place in August 1999. ■■■







*Overall view of the MIDOR/MIDTAP refinery (Egypt).*

---

# Fields of activity

## Oil refining

Accounting for 40% of revenues, oil refining represented the leading field of activity for TECHNIP in 1999, thanks notably to the execution of major turnkey projects in Egypt, Dubäi, and Turkmenistan, as well as the construction of two extra-heavy crude oil processing complexes in Venezuela. In addition, the application – as of January 1, 2000 – of the new European standards for the production of gasolines with low benzene and sulfur content stimulated activity in the upgrading of refineries in Europe.

## Europe

In **France**, TECHNIP completed the "Essence 2000" projects at the Grandpuits and Donges refineries, the goals of which were to add fractionation columns and convert existing units to reduce the benzene content of the gasolines produced. These two contracts for project management and engineering services, signed in September 1998, were carried out to the satisfaction of ELF ANTAR GAZ in just thirteen and a half months. On the Donges site, TECHNIP also completed the revamping of the fluid-bed catalytic cracker (FCC), which allows the recovery and valorization of propylene. In this case as well, the work of the French TECHNIP teams was carried out in very short time frames, and 60% of the work was completed during the two-week shutdown of the units.

In September and October 1999, TECHNIP successfully installed fractionation columns to reduce the benzene content of gasolines produced in the Göteborg and Lysekil refineries in **Sweden**. Both these projects were executed by TECHNIP's engineering center in Rome.



In **Spain**, TECHNIP provided REPSOL with a benzene splitter for the refinery at Cartagena. The project was completed turnkey by the TECHNIP engineering center based in Barcelona. Delivery of the unit "ready-for-start-up" took place at the beginning of December 1999, almost four weeks ahead of schedule. In addition, TECHNIP was awarded a service contract by REPSOL/YPF at the end of 1999 to revise and update all the Hispano-Argentine group's technical specifications and documents for its refineries and petrochemical plants worldwide.

*"Essence 2000" project at Grandpuits (France).*



# Fields of activity

## Oil refining

*Refinery at Cressier (Switzerland).*

- ■ ■ Mechanical acceptance of the 1800 ton/day platform splitter designed and executed by the TECHNIP teams of Lyon at the Cressier refinery in **Switzerland** was issued by SHELL on February 17, 2000 — three weeks ahead of schedule.

Other projects related to environmental regulations were launched in 1999 and at the beginning of 2000.

In February 1999, MOTOR OIL HELLAS awarded TECHNIP a major project to upgrade the Corinth refinery in **Greece**. The contract covers front end design, detail engineering, procurement and construction of two units based on IFP technologies: a 1,200 ton/day "Benfree" (without benzene) gasoline production unit and a 2,300 ton/day FCC gasoline hydrotreater. Construction is scheduled for completion in September 2000. The contract also includes the revamping of the naphtha hydrotreater and of the regenerative catalytic



reformer. Execution of the project has been entrusted to the TECHNIP engineering center in Rome, which had previously been entrusted with the revamping of the catalytic cracker that started up again after completion of works in March 1999.

In February 2000, RAFFINERIA DI MILAZZO awarded the TECHNIP engineering center in Rome two turnkey projects amounting to a total of about 38 million euros for the revamping of the Milazzo refinery in **Italy**. Services mainly cover the design and construction of a new 6,800 ton/day gasoil hydrodesulphurization unit and the revamping of an amine unit and the vacuum distillation unit.

These projects constitute significant references for TECHNIP. They put the Group in a good position with respect to the prospects of more important projects which will be required by the application of probably stricter fuel quality standards, starting in 2005.

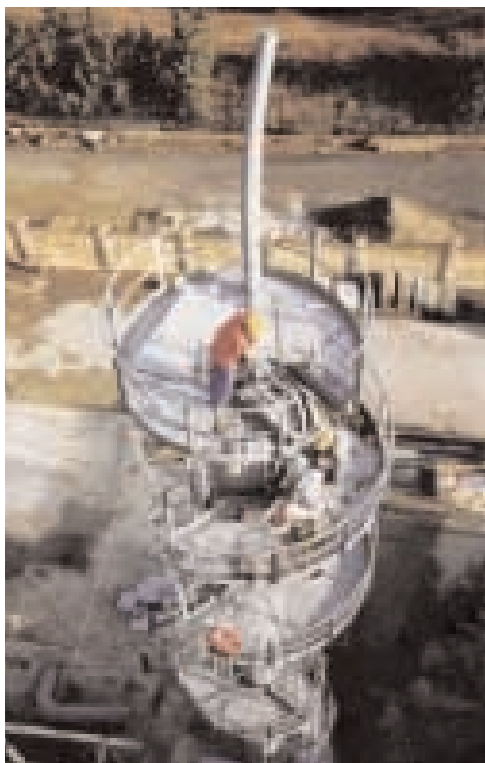


*FCC unit at Corinth refinery (Greece).*

In addition, TECHNIP carried out several classic revamping and optimization projects for refineries.

In **Belgium**, TECHNIP, under a lumpsum turnkey contract, completed in twelve months the revamping of the three main units (atmospheric distillation, vacuum distillation and visbreaker) of a relatively old 4 million-ton/year refinery at Antwerp. The objective of the project was to increase the refining capacity by 25% and to maximize the products with high added value, as well as to improve the energy balance and to install a centralized control system. Heavy construction work on the site was carried out during a six-week scheduled shutdown of the refinery. Belgian Refinery Corp. issued the "ready-for-start-up" certificate on December 29, 1999.

In **Poland**, TECHNIP's Italian teams completed the revamping of the fluid-bed catalytic cracker (FCC) at the Plock refinery and began construction, on the same site, of two new units: a 600,000-ton/year isomerization unit and a 460,000-ton/year light naphtha hydrotreater that should come on stream at the end of June 2000. The teams also continued construction of a 384,000 ton/year isomerization unit and the revamping of an FCC in the Gdansk refinery, for which performance tests took place successfully in February 2000.



TECHNIP's teams based in The Hague also designed and built at Gdansk a 20,000-Nm<sup>3</sup>/hour hydrogen unit and a hydrogen recovery unit capable of treating 38,000 Nm<sup>3</sup>/hour of feedgas. These units have been on stream since February 2000.

Lastly, in the information and automation systems sector, TECHNIP has been awarded by ERG PETROLI the extension of FORWARD software to help in scheduling crudes and in operational decisions in the Priolo refinery in Italy. MOTOR OIL HELLAS also entrusted TECHNIP with the installation of a centralized control and security system (DCS/ESD) in the Corinth refinery in Greece.

## Africa

TECHNIP is carrying out two large turnkey projects simultaneously at Alexandria in **Egypt**.

At the end of 1999, activity on the site of the MIDOR/MIDTAP refinery at Ameryia (free zone of Alexandria) was at its peak with 5000 people mobilized on the worksite under the supervision of TECHNIP's Italo-French project team. Work was already 82% complete. ■■■



# Fields of activity

## Oil refining



*Isomerization unit and catalytic cracker at the MIDOR refinery (Egypt).*

- ■ ■ The turnkey project, worth about one billion dollars, had been entrusted to TECHNIP in June 1997. Designed according to a high-conversion scheme, including a hydrocracker and a delayed coker, this 100,000-barrel/day (5 million tons per year) refinery will be able to convert heavy products into desulphurized distillates and will produce a limited quantity of coke. It will use the most advanced technology and meet the most exacting environmental standards, notably the European directives scheduled for the year 2005. When it becomes operational in 2001, the MIDOR/MIDTAP refinery will indisputably be the most sophisticated refinery in the Mediterranean Basin and the best adapted to the requirements of the market.

On a neighboring site at Ameryia, TECHNIP continued, from its center in Rome, the execution of a 170 million-dollar project entrusted to it by ALEXANDRIA PETROLEUM Co. in June 1998. This is a naphtha reforming complex made up of several units designed to produce lead-free gasoline.

*Naphtha reforming complex at Alexandria (Egypt).*





*MIDOR refinery jobsite team (Egypt).*



*One of the heaters for the vacuum distillation unit at the MIDOR refinery (Egypt).*

The facilities comprise in particular a 700,000-ton/year naphtha splitter, a 460,000-ton/year Penex isomerization unit, a 495,000-ton/year catalytic reformer and a regeneration section—using UOP processes—as well as an LPG recovery unit and associated utilities and offsites. Despite a very tight schedule, construction was 82 % complete at the end of 1999. The facilities should come on stream during the summer of 2000.

In addition, the TECHNIP engineering center in Rome, which is playing a leading role in the execution of the two projects cited above, was also awarded, by ALEXANDRIA MINERAL OIL in March 1999, a project management contract concerning a lube oil plant under construction at Alexandria.



Even though refining activity in Africa remained very concentrated in Egypt, TECHNIP did not stay away from projects which, although admittedly still in a preliminary stage, nevertheless offer interesting prospects in other countries. Thus, TECHNIP was chosen to carry out a feasibility study for construction of a 2.5 million-ton/year grassroots refinery in **Djibouti**. Société Ivoirienne de Raffinage selected TECHNIP to carry out a feasibility study for the debottlenecking of SMB's asphalt unit at Abidjan in **Ivory Coast**. SOGARA awarded TECHNIP a feasibility study for revamping catalytic reforming furnaces at Port Gentil in **Gabon**. Lastly, in **Angola**, TECHNIP was entrusted, at the end of 1999, with a study and management mission for the construction of a refinery in Benguela Province (Lobito region). Moreover, the national oil company SONANGOL and TECHNIP created together (60/40), in June 1999, the first Angolan engineering and construction company, TECHNIP ANGOLA. Based in Luanda, this company will provide engineering services for the design and construction of industrial facilities, particularly in the refining sector.



# Fields of activity

## Oil refining



*M.S.C.C. unit at the Turkmenbashi refinery (Turkmenistan).*

### Central Asia

In July 1999, the Ministry of Oil and Gas of **Turkmenistan** awarded TECHNIP the design and construction of an 80,000-ton/year lube oil plant, as well as the revamping of a vacuum distillation unit in the oil refining complex of Turkmenbashi, located on the shores of the Caspian Sea. The turnkey contract is worth 180 million euros. The project is being executed from TECHNIP's engineering center in Düsseldorf.

On the same site at Turkmenbashi, the construction of a catalytic cracker, subject of an earlier contract executed by TECHNIP from Paris and worth 200 million euros, is in the completion stage. Having a capacity of 1.8 million tons/year, this MSCC (Milli Second Catalytic Cracker) using UOP technology is designed to convert distillate cuts into gasoline. At the end of the year, construction had reached 80% progress. At the client's request, the engineering and the construction of the utilities were carried out ahead of schedule. These utilities (water cooling towers and seawater desalination units), which feed the cracking unit and the refinery, came on stream six months ahead of the initially scheduled date. The construction of the cracker will be completed at the end of May 2000.

### Middle East

The coming on stream of the condensate refinery at **Dubai** is the most significant event for TECHNIP in this region. Despite a very short contractual deadline (22 months) and major changes in the definition of the project while it was under way, this 183 million-dollar turnkey project was successfully carried out by an integrated team made up of representatives of the client ENOC PROCESSING Co. and TECHNIP engineers and technicians from Rome. The Jebel Ali refinery comprises a 120,000-barrel/day vacuum distillation unit and 5 Merox (UOP) units designed to treat condensates from the Gulf region and to produce kerosene, diesel, LPG and naphtha for the local and export markets.

At the far end of the refining downstream sector, TECHNIP won from the company ALUMINIUM BAHRAIN (ALBA) a turnkey contract worth 220 million euros for the design and construction of a 450,000-ton coke calcining plant in **Bahrain**. The calcined coke is used for making anodes used to extract aluminum from alumina. In addition, the heat generated in the calcining process will be used by the desalination plant to produce 41,000 m<sup>3</sup>/day of potable water from seawater. The project is being carried out by TECHNIP teams based in Düsseldorf.



*Condensate refinery at Dubai.*

## Asia

The year 1999 was marked by the winning against stiff competition of a turnkey contract worth about 50 million dollars in **India**. The project, entrusted to TECHNIP by INDIAN OIL Corp. in November 1999, concerns the design and construction of a hydrotreater and a hydrogen unit at the Guwahati refinery in Assam Province in the far-eastern part of the country. UOP is the selected licensor for the hydrotreater, while TECHNIP's in-house "KTI Technology"

In the Far East, TECHNIP obtained a new reference for its FORWARD software with an order from JAPAN ENERGY for the Mizushima refinery in **Japan**. TECHNIP had earlier installed the FORWARD system in the LG CALTEX refinery in **Korea**. Elsewhere, EUROBATC, an affiliate of KREBS-SPEICHHIM (TECHNIP/SGN) specialized in the design and construction of integrated facilities for batch processing, received from CALTEX LUBRICANTS VIETNAM acceptance of a skid-mounted lubricant production unit built at Haiphong in **Vietnam** and from PETRON, acceptance of an 80,000-ton/year oil blending unit, installed in Manila in the **Philippines**. ■ ■ ■



will be applied to the hydrogen unit. This project will be executed by TECHNIP from the premises of its affiliate in New Delhi (KT India), under the supervision of a team from TECHNIP's center in Rome. Mechanical completion is scheduled for May 2001.

*Oil blending unit at Manila (Philippines).*





# Fields of activity

## Oil refining



*Hydrogen unit at Carson, California (U.S.A.).*

have built together. Through their cooperative agreement, TECHNIP provides design expertise for hydrogen plants and steam methane reformers, while APCI provides hydrogen purification and regeneration systems and operates and maintains the facilities for customers under long-term agreements.

### Latin America

Through CONTRINA, TECHNIP was very active in **Venezuela** in the extra-heavy crude processing sector in the Orinoco Belt. CONTRINA was created in 1997 by TECHNIP, in association with two North American partners, PARSONS and KBR, and two Venezuelan partners, DIT-HARRIS of the TECHNIP Group and PROYECTA. CONTRINA is dedicated exclusively to the execution of projects related to the Venezuelan program to upgrade heavy crudes from the Orinoco Belt. CONTRINA is the leader today in this sector, since the company has been awarded two of the three projects which have been launched so far.



### United States

In the hydrogen sector, TECHNIP's offices in San Dimas (Los Angeles) participated, with Air Products & Chemicals Inc. (APCI), in the construction of a 100 million scfd hydrogen plant for Equilon Enterprises in Carson, California. The Carson plant produces high-purity hydrogen, which is critical for converting heavy crude oils into gasoline compliant with Californian standards and into low-sulfur diesel. This project represents the ninth facility that TECHNIP USA and APCI



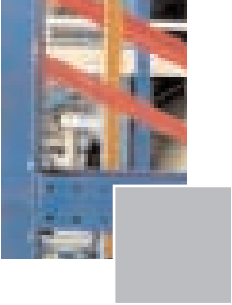
*Overall view of the SINCOR jobsite at Jose (Venezuela).*

In June 1997, PETROZUATA, a joint venture company formed by CONOCO and Petroleos de Venezuela (PdVSA), awarded CONTRINA a 600-million-dollar project for the design and construction of upgrading facilities with a capacity of 120,000 barrels/day and associated utilities and offsites near Jose in Anzoategui State. The complex includes, in particular, a desalination/vacuum distillation unit, a delayed coker, a gas recovery plant, a naphtha hydrotreater, as well as a sulphur recovery unit. It is designed to produce a 20° API synthetic crude, which will later be processed in CONOCO's refineries in the United States and PdVSA's refineries in Venezuela. At the end of December 1999, all the engineering work carried out in Houston and in Caracas as well as the deliveries of materials had been completed. Construction work had reached approximately 60% achievement, in conformity with the schedule required to meet the contractual delivery date for the facility at the end of August 2000.

CONTRINA was also awarded, in September 1998, a turnkey contract worth 750 million dollars, by SINCOR, a joint venture company composed of TOTAL FINA ELF and PdVSA. The project involves the design and construction of an extra-heavy crude upgrading complex and associated utilities and offsites at Jose, near Puerto La Cruz. The facilities are designed to process the same type of extra-heavy crude (below 10° API) from the Zuata area as used by PETROZUATA. However, at the SINCOR complex the crude will first be diluted and

processed to produce a light synthetic crude (32° API) of very high quality, with low sulphur content and without any "bottom-of-the-barrel". The facilities themselves are also appreciably different. They mainly comprise a 284,000 barrel/day vacuum distillation unit, a sweet hydrocracker and a naphtha hydrotreater using the IFP process, as well as utilities and offsites and a distributed control and security system. The complex also includes a delayed coker and a hydrogen unit for which CONTRINA will assure the interface although it is not responsible for construction. The basic engineering for the project is being carried out entirely by TECHNIP in Paris. Dispatch of the preassembled equipment modules of exceptional size will begin in March 2000. The facilities will be delivered "ready-for-start-up" in September 2001. ■





*Caprolactam complex at Shijiazhuang (China).*

---

# Fields of activity

## Petrochemicals - Fertilizers

Petrochemicals and fertilizers represented about 473 million euros for TECHNIP in 1999 (17% of revenues), i.e. a share practically unchanged in relative value compared to 1998 and up 42% in absolute value. Contrary to preceding years, construction and revamping of facilities was most sustained in Europe. During the last quarter, TECHNIP won a very large turnkey contract for the Q-CHEM complex in Qatar and several projects in Asia (in Malaysia), adding further to the numerous references TECHNIP has already acquired in polyolefins – a sector where TECHNIP enjoys a significant market share (14% of the world's polyethylene capacity and 8% of the world's polypropylene capacity). In addition, thanks to the new affiliates resulting from the acquisition of KTI/MDEU, TECHNIP has strengthened its positions in the ethylene and furnaces sector.

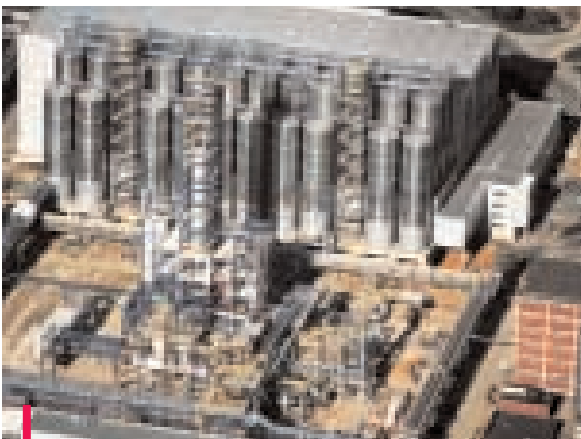
Grangemouth site  
(Scotland).



## U.S.A. and Europe

TECHNIP, in association with Parsons, signed an alliance contract worth about 150 million dollars with the client, AMERICAN ACRYL, to build a petrochemical complex in the **United States**. AMERICAN ACRYL is a 50/50 joint venture between NIPPON SHOKUBAI and ELF ATOCHEM. The complex, which will be built at Bayport in Texas, will include a 120,000-ton/year acrylic acid plant and a butyl acrylate plant, together with related offsites and utilities. The design and construction contract (engineering, equipment supply and construction) was signed in February 2000 and is scheduled for completion by the end of 2001. The services awarded to TECHNIP—in particular the process section and procurement—will be handled out by TECHNIP USA's teams in Houston, with support from specialists on hand from Paris. The basic design had been executed earlier by PARSONS/TECHNIP.

Within the framework of a joint venture with FLUOR DANIEL, TECHNIP executed all basic engineering for a 250,000-ton/year polypropylene plant built for BP AMOCO at Chocolate Bayou, Texas, and brought on stream during the first quarter of 1999.



Polypropylene plant at Gelsenkirchen (Germany).

In **Europe**, with the exception of the contract awarded to KREBS-SPEICHIM by BUTACHIMIE (Rhodia/Du Pont) for engineering and project management services for a hydrocyanic acid facility at Chalampé in **France**, TECHNIP's petrochemical activity consisted primarily of execution of projects awarded in 1998 in the **polyolefins** sector.

The two high-capacity units being constructed on the Grangemouth site in **Scotland** are in the completion phase. Construction work on the PP3 polypropylene plant is finished. This unit, destined for APPRYL (Elf Atochem/BP), will have a capacity of 250,000 tons per year. The PEX polyethylene plant will be delivered in June 2000, ready-for-start-up. Destined for BP CHEMICALS, it will have a capacity of 300,000 tons per year and will utilize BP's Innovene technology. The two units are being built near each other, which will allow joint usage of utilities (control room and electrical substation buildings, cooling tower, flare). These projects were executed within the framework of alliance contracts—between TECHNIP, AMEC and the clients—by a single project team made up of representatives of the four partners. The services provided include engineering and equipment supply, as well as assistance in construction of the plants and in commissioning.

At the beginning of 2000, TECHNIP received mechanical acceptance of the polypropylene plant built for DSM Polyolefine GmbH at Gelsenkirchen in **Germany**. With a capacity of 250,000 tons per year, this facility, based on AMOCO technology, is comparable to the plant built at Chocolate Bayou in the United States, which came on stream several months earlier. ■■■



# Fields of activity

## Petrochemicals - Fertilizers

*Sulfuric acid unit at Sala  
(Slovakia).*



■ ■ ■ In the ethylene sector, the Dutch teams of TECHNIP based in The Hague has been entrusted by CHEMOPETROL with the revamping and expansion of its ethylene cracker at Litvinov in the **Czech Republic**.

In **Italy**, TECHNIP completed the revamping and expansion of the Brindisi ethylene complex for POLIMERI EUROPA (Enichem/Union Carbide). Mechanical acceptance was issued in September 1999.

LUSOTECNA, TECHNIP's affiliate based in Lisbon, carried out detailed engineering, equipment supply, supervision of assembly and project management services for the instrumentation and revamping of the steamcracker at the BOREALIS ethylene plant at Sines in **Portugal**.



*Ethylene complex at Brindisi (Italy).*

Lastly, in the **Netherlands**, TECHNIP's center in Paris is on the verge of completing the revamping of the NAK3 steamcracker at the DSM complex in Geleen, which will allow a significant increase in propylene and ethylene production capacity. Meanwhile, the TECHNIP center in The Hague (formerly KTI) is handling the revamping of 18 furnaces in order to double the capacity of DOW's ethylene plant at Terneuzen.

In the **fertilizers** sector, CHEMOPROJEKT — the affiliate of KREBS-SPEICHIM (TECHNIP/SGN) based in Prague — successfully carried out the start-up of a 900-ton/day sulfuric acid unit at Sala in **Slovakia**. The plant, which was designed and constructed for DUSLO, utilizes Grande Paroisse's mono-pressure process.

UCEGO filter.



## Africa

KREBS-SPEICHIM (TECHNIP/SGN) is currently carrying out a turnkey project worth 150 million euros to double the capacity of the phosphoric acid complex belonging to Industries Chimiques du Sénégal (ICS). The new facilities will be built on the site of Darou Koudoss, 100 km from Dakar in **Senegal**. They will include a 1015-ton/day phosphoric acid unit, a 3000-ton/day sulfuric acid unit, as well as utilities and offsites, and will come on stream in 2001. Construction, under license by KREBS-SPEICHIM, of the UCEGO 12A filter used to filter phosphoric slurry, has just been completed in the French plant of the Aoustin company, with which KREBS-SPEICHIM is developing a whole range of filters of this type. The filter at the Darou Koudoss plant is the 87th UCEGO filter to be sold in the world.

## Middle East

TECHNIP, in a 50/50 joint venture with Kellogg Brown & Root (KBR), won a turnkey contract worth 750 million dollars for the design and construction of a petrochemical complex at Maesaieed in **Qatar**. The project will be executed on behalf of Q-CHEM, a company jointly owned by Qatar General Petroleum Corp. (QGPC) and PHILLIPS. It involves the construction

of a 500,000-ton/year ethylene cracker, a two-train polyethylene plant capable of producing over 450,000 tons a year of high and/or low-density polyethylene, a 47,000-ton/year hexene-1 unit, and associated utilities and offsite facilities. KBR is responsible for the ethylene technology and has already ordered "KTI Technology" furnaces from TECHNIP's American affiliate. The polyethylene and hexene-1 units will use PHILLIPS technologies. The contract, which came into force in October 1999 is to be completed in 2002. The engineering is currently underway — with KBR in Houston handling the ethylene and hexene-1 units, and TECHNIP in Paris the polyethylene units, the utilities and offsites. Approximately 4,000 people are expected to be working on the Maesaieed site during the third quarter of 2001. ■ ■ ■



# Fields of activity

## Petrochemicals - Fertilizers



*Furnace module being transported to Al Jubail (Saudi Arabia).*

In **Saudi Arabia**, within the framework of the contract concerning the No. 3 ethylene cracker at Al Jubail (800,000 tons/year), TECHNIP began delivery in December 1999 of the modules for the eight furnaces ordered by PETROKEMIA. The design and construction of these furnaces are being carried out entirely by TECHNIP, based on its proprietary "KTI Technology".

### Asia

TECHNIP's engineering center in Malaysia was awarded two significant contracts in 1999 for the construction of facilities on the site of Kerteh in **Malaysia**. The first turnkey contract, signed with OPTIMAL CHEMICALS (a joint venture between PETRONAS and UNION CARBIDE), involves offsites and infrastructures: electrical substations and distribution networks, incineration and waste water treatment units, buildings, access roads and pipeline interconnections. The second contract covers the design and construction of a 255,000-ton/year polyethylene plant, based on STAMICARBON's high-pressure technology. The project is for PETLIN — a company formed by PETRONAS, DSM and POLYFIN.

TECHNIP's engineering center in Malaysia is also carrying out two projects that will be completed during the second half of 2000. One is the construction at Tanjung Langsat, Johor State, for TITAN POLYETHYLENE (Malaysia) of a 100,000-ton/year high-density polyethylene plant using MITSUI CHEMICALS' technology. The other is the construction of a 150,000-ton/year PVC plant at Kerteh for the company VINYL CHLORIDE (Malaysia).

■ ■ ■ At the same time, TECHNIP — in association with KRUPP UHDE — is continuing work on the design and construction, at Umm Saïd in Qatar, of a complex for the production of EDC (175,000 tons/year of ethylene dichloride), VCM (230,000 tons/year of vinyl chloride monomer) and caustic soda (290,000 tons/year). The contract, which was awarded in December 1998, is worth about 430 million dollars. The facilities, which will also include offsites and utilities, are being built for QVC, a joint venture company formed by QGPC, QAPCO, NORSE HYDRO and ELF ATOCHEM. Works will be completed during the summer of 2001.



*Polyethylene plant  
at Qilu (China).*

In **China**, TECHNIP won a contract in February 2000 for the design and equipment supply of a 200,000-ton/year polypropylene plant at Yangzi, in Jiangsu Province, a region located north of Shanghai.

TECHNIP received provisional acceptance of two other polyolefin units: the polypropylene plant (200,000 tons/year) using AMOCO technology and built at Yanshan, near Beijing, and the polyethylene plant (140,000 tons/year) at the Qilu complex in the province of Shandong, which uses DSM/STAMICARBON high-pressure polymerization technology.

The caprolactam plant at Shijiazhuang in the province of Hebei came on stream in November 1999. The facilities were designed and constructed for SINOPEC by the TECHNIP

engineering center in Rome. With a capacity of 50,000 tons per year of caprolactam (an intermediate product used in the manufacture of nylon fibers), the plant includes nine process units, plus utilities and offsites.

In the **fertilizers** sector, KREBS-SPEICHIM, in association with TESSAG-INA, received provisional acceptance of a DAP (1350 tons/day) and urea (1670 tons/day) complex built at Bin Qasim, near Karachi in **Pakistan**, for FAUJI JORDAN FERTILIZER Co. For its part, TECHNIP's center in Rome completed, for WESFARMERS CSBP, the construction of a 650-ton/day ammonia plant using TOPSOE technology at Kwinana, near Perth in **Australia**.

## Latin America

At El Tablazo in **Venezuela**, the 120,000-ton/year PVC plant, designed and constructed turnkey by TECHNIP's Italian teams and the construction firm JANTESA, started up successfully in March 1999. ■



*Fertilizer complex at  
Bin Qasim (Pakistan).*





*Cement plant at Ras Al Khaimah (U.A.E.).*

---

# Fields of activity

## Industries & Buildings

Activities outside the hydrocarbons / petrochemicals sectors progressed noticeably in 1999, particularly due to the impetus of new affiliates resulting from the acquisition of KTI / MDEU. These activities represent revenues of about 612 million euros (22 %), versus 295 million euros in 1998. They amalgamate various sectors in which TECHNIP has developed particular know-how and even, in certain cases, proprietary technologies (cement, ethanol, palm oil) and specialized affiliates (KREBS-SPEICHIM for specialty chemicals, agro-food industries, pyrotechnics and TECHNIP TPS for buildings).

## Electricity and cogeneration

RWE, the leading producer of electricity in **Germany**, awarded TECHNIP's Düsseldorf-based German affiliate a contract worth about 50 million euros for the engineering, prefabrication, delivery, installation and start-up of the high-pressure piping systems for a new state-of-the-art lignite-fired power plant to be built at Niederaussem, near Cologne.

In December 1999, TECHNIP obtained provisional acceptance and the "First Industrial Production" certificate for continuous operation at full capacity during 120 hours of the cogeneration unit built on LYONDELL's petrochemical site at Fos-sur-Mer in **France**.



*Cogeneration unit at Fos-sur-Mer (France).*

## Pharmaceuticals

At the beginning of 1999, AVENTIS PASTEUR awarded TECHNIP a contract for engineering and project management services at its pharmaceutical site at Val de Reuil in the west of **France**.

In October 1999, SOLVAY PEPTISYNTHA, an affiliate of the SOLVAY Group specialized in the synthesis of peptides, entrusted TECHNIP with the expansion of its pharmaceutical unit at Brussels in **Belgium**. The project consists in the creation of a new synthesis section. TECHNIP is also responsible for IQ-OQ qualification of the facilities required by the Food and Drug Administration.



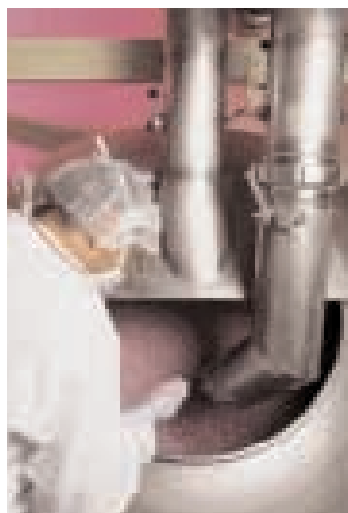
*UCAR's graphitization unit at Notre Dame de Briançon (France).*

## Chemicals and Pyrotechnics

KREBS-SPEICHIM, the 50/50 joint affiliate of TECHNIP and SGN, was awarded a contract in June 1999 for the revamping of a chlorates plant (sodium chlorate and magnesium chlorate) at Ferghana in **Uzbekistan**. In December, UZPROM-MASHIMPEKS awarded the company a contract worth about 60 million euros for the design and construction near Tashkent of a plant for the manufacturing, from cellulose, of the components for pyrotechnic products.

In **France**, the IRIS project awarded to TECHNIP for the doubling of the capacity of MSSA's metallic sodium and liquid chlorine production plant at Pomblière is currently in the finishing stage. The salt processing unit and the chlorine sections are operational. The sodium filtration facility and the new electrolysis facility should start up at the end of March 2000.

TECHNIP also completed a graphite plant for UCAR FRANCE at its site in Notre-Dame de Briançon, near Moutiers. Graphitization allows the manufacturing of products such as electrodes for aluminum ovens.



# Fields of activity

## Industries & Buildings

### Agro-food Industries

COCA-COLA awarded TECHNIP a project management and engineering services contract for the conversion of its concentrates plant at Signes near Toulon in **France** to an integrated production plant for "Minute Maid" fruit juices. The facilities will be substantially revamped to be able to handle the production of fresh products. Investment is valued at 45 million euros.

KREBS-SPEICHIM, the affiliate of TECHNIP and SGN, won from the company PALMCI, the biggest producer of palm oil in **Ivory Coast**, a turnkey contract for the construction of a mill that will produce 20,000 tons of crude oil and 4,000 tons of palm kernels annually. The plant will be the sixth oil mill to be designed and built by KREBS-SPEICHIM, based on its own technology, in Ivory Coast.



*Ethanol plant at Aktubinsk (Kazakhstan).*

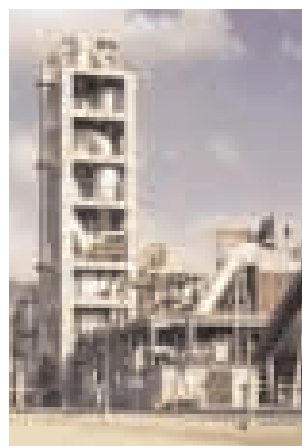
In the ethanol sector, which is also one of its specialties, KREBS-SPEICHIM successfully completed performance tests for the plant built at Aktubinsk in **Kazakhstan**. With a capacity of 80,000 hl/year, this unit, based on KREBS-SPEICHIM's proprietary technology, gives the Group its first industrial reference in ethanol produced from wheat. ■



### Cement

In the cement sector, the most significant event for TECHNIP in 1999 was the start-up of the cement plant at Ras Al Khaimah in the **United Arab Emirates**. This plant, with a capacity of one million tons per year, was designed and built entirely by TECHNIP, within the framework of a turnkey contract worth 137 million euros, awarded in March 1997 by RAS AL KHAIMAH CEMENT Co. (RAKCC). The project covered, in addition to the production sections, the construction of all utilities generation and distribution, as well as offsites, in particular the installation of sea shipping facilities near the site at Khor Khair. This cement plant, which successfully passed production tests last December, includes TECHNIP CLE proprietary items, in particular: the ball mills, the separators, the preheater, the precalciner and the rotary kiln. The plant, which is operated by LAFARGE, uses the most up-to-date technology and meets very strict standards with respect

to dust emissions. It represents an outstanding international reference for TECHNIP.



In **Morocco**, TECHNIP completed on schedule and to the satisfaction of the client, LAFARGE CEMENTS, the modernization of the preheater of kiln No. 1 of the Meknès cement plant (1,800 tons/year) and the transformation of the burning line of the Bouskoura cement plant (3,200 tons/year), located near Rabat. Performance tests took place successfully in June/July 1999 in these cement plants, both of which are fueled with petroleum coke. TECHNIP also carried out for ASMAR, of the Italian group Italcementi, the capacity expansion of the clinker grinding unit (from 100 to 165 tons/hour) of the cement plant at M'Zoudia near Marrakech. This expansion was made possible by the addition of a CKP 180 pregrinder. Lastly, TECHNIP is currently completing the first phase of the expansion (from 1,550 to 2,000 tons/day of clinker) and the optimization of the cement plant at Temara near Rabat for ASMENT DE TEMARA of the Portuguese group CIMPOR.



*Cement plant at Bouskoura (Morocco).*

Acceptance was officially issued for two grassroots units which had been delivered turnkey at the end of 1998: the 4,000-ton/day cement plant at But Son in **Vietnam** and the 2,400-ton/day line at the Sibling cement plant in **Lebanon**. ■



*Cement plant at But Son (Vietnam).*

## Buildings

In June 1999, the Berlaymont building in Brussels, **Belgium**, the former headquarters of the European Community, was the subject of an "asbestos free certificate". For two years, TECHNIP TPS had managed the firms that carried out the work on this vast 200,000-square-meter complex. This achievement, combined with similar work carried out at the Jussieu campus in Paris, makes TECHNIP TPS the undisputed specialist in the engineering of asbestos removal.

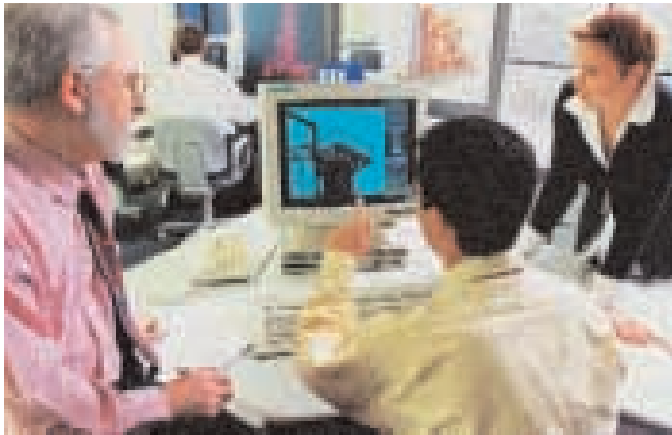
TECHNIP TPS was selected to participate, alongside the architect Jacques Ferrier, in the major restructural work of the Collège de **France** in Paris. The project, which will start in 2001, involves the laboratories, the library and certain lecture halls.

LUSOTECNA, the Portuguese affiliate of TECHNIP, completed, in association with the architectural firm REGINO CRUZ, the detailed engineering for the future Estoril Convention Center in Portugal. ■

*Berlaymont building at Brussels (Belgium).*



# Human resources



TECHNIP has strengthened its potential for carrying out industrial and technological projects on an international scale and now numbers 10,000 people who have the flexibility to adapt easily to the needs of clients by organizing themselves into multicultural and mobile teams. The Group is continuing to develop the expertise and know-how of its collaborators, whose complementary skills assure the success of the projects that are entrusted to them.

The strong involvement of its employees in the life and the success of TECHNIP is further strengthened by the development of employee shareholding plans and the enlargement of stock option plans.

## Internationalization of the teams

The expansion of the Group through the acquisition at the beginning of 1999 of the companies KTI and MDEU has added 3,600 new collaborators to its teams, while enriching the teams' skills in all branches of engineering and construction and enhancing their internationalization.

Three years ago, more than 50% of the people working at TECHNIP were of French nationality. Today that proportion is no more than 30%. The others are European, American, Russian, Malaysian, Indian, etc.



The loyalty to TECHNIP shown by the people who work here (an average of 12 years with the Group) also contributes to raising their level of expertise even higher, while at the same time assuring the cohesion of teams and the effectiveness of their performance together in carrying out contracts.

## Motivation and employee shareholding

The employees hold more than 3% of the shares in the company. For this reason, TECHNIP is listed on the IAS index (based on employee shareholding), which comprises 28 stocks listed on the Paris Stock Exchange. This new index aims to measure the performance on the stock exchange of firms having a significant percentage of shares held by employees.

In France, 75% of TECHNIP's employees are shareholders. The same possibility is expected to be extended in 2000 to all those working at the Group's main locations around the world.

At the same time, an expansion of stock options and greater internationalization of these programs is planned. ■



At the same time, personnel mobility is on the rise: today 10% of the employees are posted away from their base.

The establishment of a "TECHNIP Mobility" site on the Group's Intranet will facilitate this geographic and professional mobility.

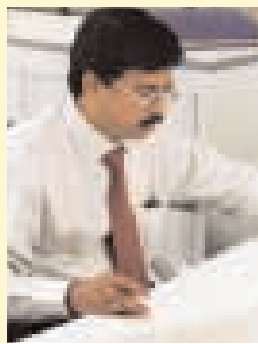
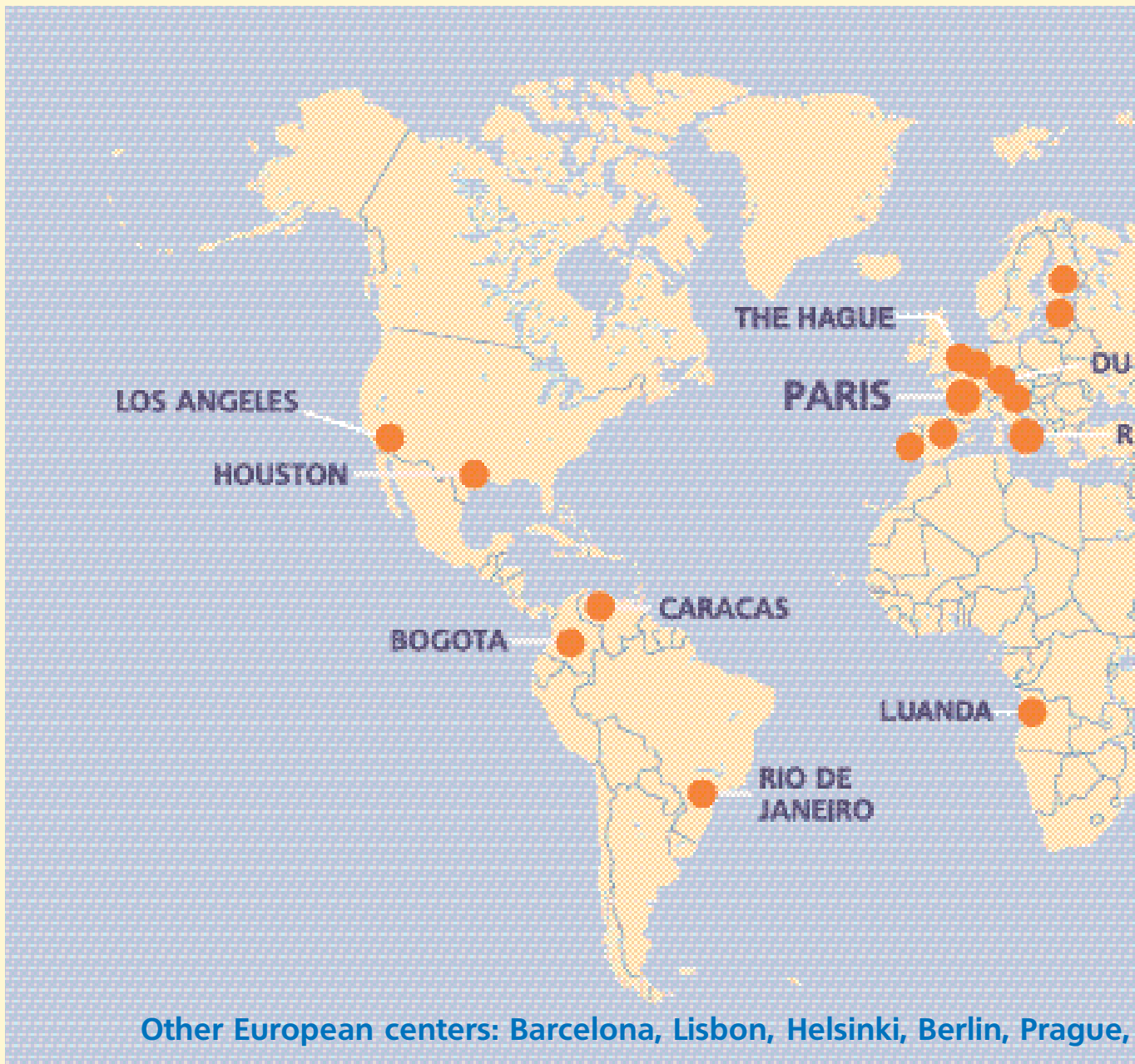
## Expertise and development of skills

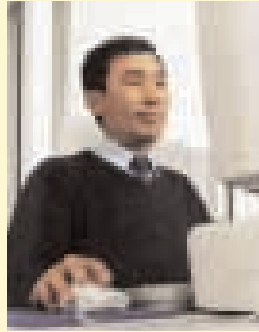
The solid initial training of TECHNIP's employees (more than 50% hold diplomas) is complemented throughout their professional lives at TECHNIP by training courses that enable them to adapt their knowledge in each area to the evolutions in technology and data processing, as well as to optimize the ability of each person to manage complex projects within ever shorter time frames.

One person out of two benefits from training each year.



# Technip worldwide









**Edited by**  
**Technip's Communication Department**

**Editors:**  
Sylvie HALLEMANS (Annual report)  
Raymond MARI (Financial report)

**Design and printing:**  
COMÈTE Communication  
33 (0) 1 41 02 92 80

**Photos:**  
Photo libraries of TECHNIP, TOTAL FINA ELF,  
BP, KREBS-SPEICHIM  
J.J. Humphrey • J.P. Bédoin • Ph. Plisson  
A. Lemaesquier • J. Cadot • V. Dieudonné • X.



**Headquarters :**

**Tour Technip • La Défense 6 • 170, place Henri Régnault  
92973 Paris La Défense cedex • FRANCE**

**Ph. : 33 (0) 1 47 78 21 21**

**Fax. : 33 (0) 1 47 78 33 40**

**Web site : <http://www.technip.com>**

**TECHNIP**