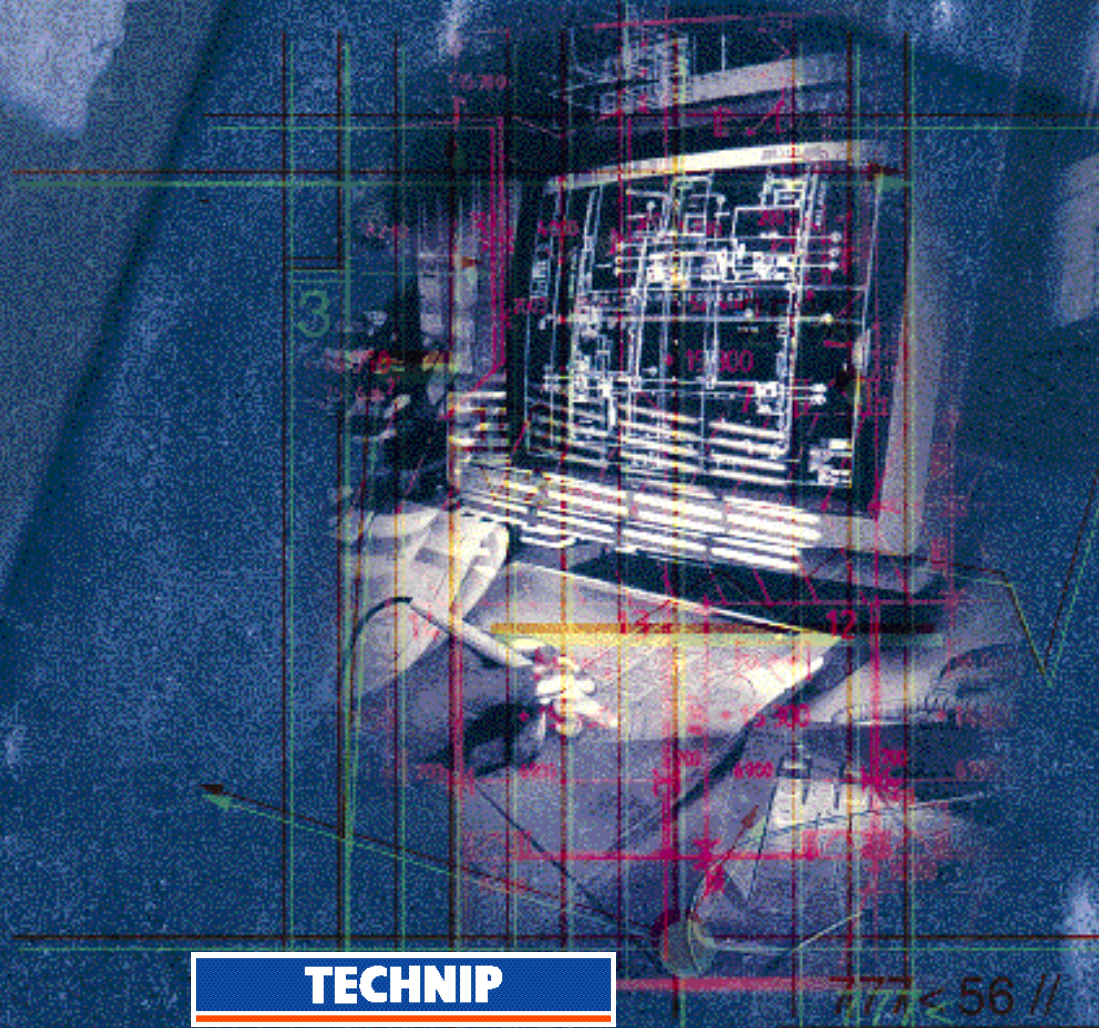


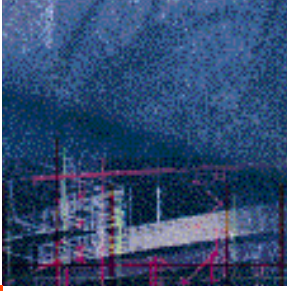
# Annual report 1 9 9 7



**TECHNIP**

G R O U P

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## Contents

### ANNUAL REPORT

Year ended December 31, 1997

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A limited company capitalized at FF 330,650,980

**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

**TECHNIP**

**G R O U P**

# Message from the Chairman

## Message from the Chairman



*I would like, first of all, to thank our shareholders, as well as our clients, for the interest they have shown in TECHNIP and for the confidence they have placed in the members of its staff.*

*In 1997, the TECHNIP group posted a strong rise in its results in spite of a difficult environment, made worse by the monetary crisis in Asia and the slowdown in economic growth within that area of the world. The consolidated turnover amounts to 11.9 billion French francs (+17% over 1996) with consolidated net earnings increasing 17.4% over the previous financial year and climbing to 627 million French francs. In addition, TECHNIP has begun the year 1998 with a backlog of 16.3 billion French francs, representing well over a year's turnover.*

*Geographically, the breakdown of activity has evolved in favor of Western Europe, which has reached a peak at 40% of the turnover and now represents the leading area of activity for the Group. Activity in Africa has more than doubled due to the LNG project in Nigeria and should grow as work on the MIDOR refinery in Egypt progresses. With 17%, the Middle East has remained stable in absolute value. Asia represents 11% (5% in China and 6% in Southeast Asia), in decline because of the intense price competition.*

*In regards to the sectorial breakdown, hydrocarbons (refining, gas, upstream) have experienced a marked increase, from 45% to 54%, of a turnover that has itself grown by 17%. They should continue to represent an important component of the activity in 1998 due to major contracts won in 1997, in particular in the field of refining (Egypt, Venezuela, Dubai, Turkmenistan, Poland, etc.).*

*Petrochemicals have remained stable in absolute value thanks to certain technological domains (ethylene, polyethylene, polypropylene, PTA) and are progressively swinging back to industrialized countries (contracts with AMOCO in the USA, with BP CHEMICALS and APPRYL in Great Britain, with DSM in the Netherlands and in Germany, with KNAUF in Belgium).*

*The field of diversified industries dipped slightly while still concentrating on its main sectors. Cement, marked by the award of a major turnkey contract in the Emirate of Ras Al Khaimah, also remains very active in plant renovation/expansion, a specialty in which TECHNIP CLE has become a world leader. The pharmaceutical industry represented a significant workload, in France, won from major laboratories such as MSD, BOEHRINGER and PFIZER.*

*Lumpsum turnkey contracts are becoming more and more prevalent in hydrocarbon-producing and emerging countries, calling into play all of TECHNIP's capabilities in arranging financing and international procurement. At the same time, other types of contracts are being developed, such as alliance contracts, where the engineering firm, its partners and the client work in close*

*collaboration (Elgin-Franklin in the North Sea and PT PENI in Indonesia) and especially FEED contracts—elaborate front end engineering designs which draw on the technological expertise of the engineering firm. TECHNIP is currently carrying out several FEED projects likely to result in the realization of major projects, notably in the fields of gas in the Middle East and petrochemicals in Europe.*

*Faced with a new geographical redistribution, TECHNIP has managed to establish a foothold in new markets: the new Central Asian republics (without abandoning Russia for as much); Northern Europe including Great Britain, the USA and Australia. TECHNIP has also modified its approach to fast evolving markets like China by creating a joint venture company with local partners.*

*Following the example of its clients, which are now international joint ventures, TECHNIP has multiplied case-by-case associations with major international engineering companies to widen its accessible market while reducing the risks on large-scale projects.*

*The Group has also endowed itself with its own structures to complete its technological offer. The takeover (80% of the capital) of CBS ENGINEERING in Houston will strengthen its positions in the upstream sector, provide it with an access to the Gulf of Mexico and allow it to promote the technologies developed by TECHNIP-GEOPRODUCTION to the major American petroleum firms. The creation of KREBS-SPEICHIM, a company managed equally with SGN, will allow, notably, the development, on an international scale, of fertilizer activities (urea, and the complete range of nitrogen and phosphate products), basic chemicals, specialty chemicals, pyrotechnics as well as the environment and safety, both of which are of the utmost importance to us.*

*Thanks to its solid financial situation, its great flexibility in adapting to market evolutions, and its constantly renewed efforts to reduce its costs (engineering, equipment, jobsite), TECHNIP is prepared to face its ever fierce international competition and to ensure its own development. The 6400 men and women of the Group, who are working in this direction, and I thank them for this, are the best guarantee for our success. The year 1998 can be approached with confidence.*



A handwritten signature in black ink, appearing to read 'P. Valey'. The signature is fluid and cursive, with a long vertical stroke at the end.

*Chairman and Chief Executive Officer*

# Executive committee

## Executive committee



▲  
Lucien  
SAJUS  
Senior  
Executive  
Vice President

▲  
Jacques  
VERDIER  
Chief  
Operating  
Officer

▲  
Georges  
KRAMMER  
Senior  
Executive  
Vice President  
Business and  
Operations

▲  
Pierre  
VAILLAUD  
Chairman  
of the Board  
and Chief  
Executive  
Officer

▲  
Daniel  
BURLIN  
Senior  
Executive  
Vice President  
Finance and  
Control

▲  
Xavier  
JACOB  
Senior  
Executive  
Vice President  
Engineering  
Procurement  
and  
Construction

▲  
Anne  
DECRESSAC  
Executive  
Vice President  
Personnel and  
Communication



# Board of directors

## Board of directors

on April 30, 1998

Pierre VAILLAUD

Chairman of the Board and Chief Executive Officer

Olivier APPERT  
Olivier BARBAROUX

Miguel CAPARROS  
Philippe JEUNET  
Jean-Pierre LAMOURE

Daniel VALOT  
Bruno WEYMULLER

### **GAZ DE FRANCE**

Permanent representative:

Jacques MAIRE

### **ISIS (groupe IFP)**

Permanent representative:

Achille FERRARI


# Auditors

## Auditors

Cabinet Barbier Frinault & Autres represented by:

René PROGLIO

Titular Auditor

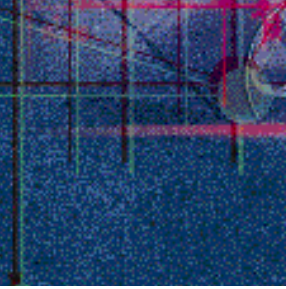


Gilles PUISSOCHET  
Alternate Auditor

Claude CHARRON  
Titular Auditor

Laurent LEVESQUE  
Alternate Auditor

# Technip group 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 for individual units as well as fully integrated complexes in a wide range of sectors, covering both its

core activity of hydrocarbons and petrochemicals as well as selected industries.

## A world-class group

In France, the TECHNIP group is the leading engineering and construction organization. In Europe, it ranks number two. Worldwide, with an annual turnover of around US \$2 billion and a permanent staff of 6,400, it is one of the world's six leading full-service engineering and construction groups operating in its core business.

## Full-range services including management and lump-sum turnkey contracts

For any project, the TECHNIP group can provide all or part of the following services: design, engineering, procurement, construction and project management services.

Every year, the TECHNIP group successfully carries out projects of all sizes, including hundreds of small projects, adapting its multi-disciplined project teams to the specific needs of each contract.

In addition, supported by its strong project management structure and its wide experience in joint ventures with foreign partners, the TECHNIP group is also capable of taking on major turnkey contracts worth several hundred million dollars

## T E C H N I P

Headquarters (Parent company): Paris - France  
Date of incorporation: 1958  
Chairman and CEO: Pierre VAILLAUD

### Shareholders:

ISIS	32.6 %
GAZ DE FRANCE	
TOTAL	
ELF GROUP	

Personnel: 3.8 %

French retail  
and institutional investors: 31.1 %

International investors: 32.5 %

## T E C H N I P G R O U P

In-house staff: 6.400 worldwide  
Turnover: over US \$2 billion in 1997  
(60% outside of Western Europe)

Net profit: US \$110 million in 1997

Main operational bases:  
France, Italy, Abu Dhabi, Malaysia, China,  
Venezuela and the USA

and arranging the necessary international financing. Moreover, completely independent from suppliers, the TECHNIP group is fully experienced in seeking the best available equipment at internationally competitive prices.

### Active in hydrocarbons, petrochemicals and other selected Industries

The TECHNIP group's principal fields of activity have developed along three main lines:

#### Hydrocarbons production and processing:

- Gas and oil field development (onshore and offshore), oil refining, gas processing and liquefaction

#### Petrochemicals and fertilizers:

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

#### Industries, infrastructures, service buildings and other diversified fields:

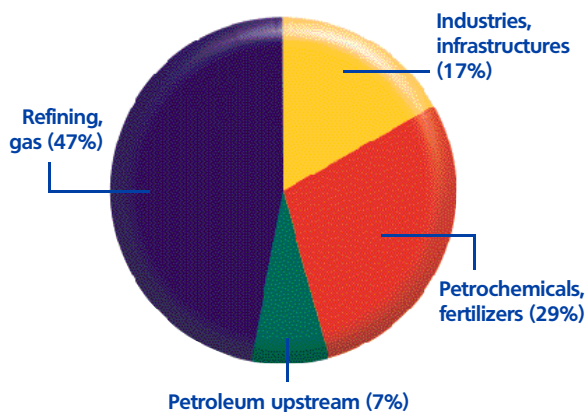
- Light Industry (fine chemicals, pharmaceuticals, food processing and beverages, textiles, micro-electronics)
- Heavy Industry (cement, glass and ceramics, pulp and paper, hydrometallurgy)
- Infrastructures:
  - Power generation
  - Water treatment and desalination
  - Transportation systems
- Environmental protection
- Advanced systems engineering
- Operation and maintenance.

### Major operational bases for a worldwide presence

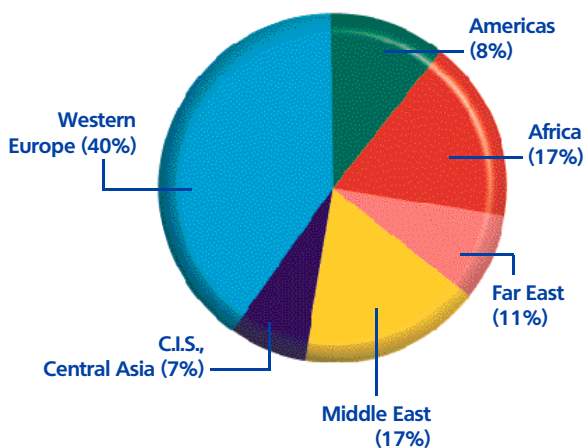
The TECHNIP group conducts more than 90% of its activity outside of France, mainly in Europe, the Middle East, Africa, Asia and Latin America.

Major operational bases outside of France include TECHNIPETROL in Italy, TECHNIP in Abu Dhabi, TECHNIP MALAYSIA, TECHNIP TIANCHEN in China, DIT-HARRIS in Venezuela and CBS ENGINEERING in the USA.

1997 sectorial breakdown (in turnover)



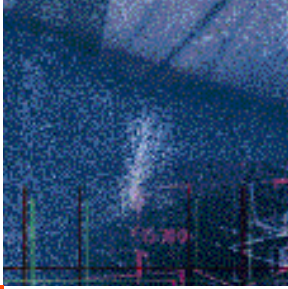
1997 geographical breakdown (in turnover)





# Highlights

## Highlights



### Sharp rise in results

Despite a difficult economic environment, the TECHNIP Group's net earnings rose sharply to 627.1 million francs in 1997, an increase of 17.4% over the previous year, while the economic turnover climbed to 11.9 billion francs (+17%).

### New peak for activity in Western Europe

Western Europe accounts for 40% of consolidated economic turnover, its highest point in the last five years. Business is gradually moving from a previous focus on Southern Europe to countries in Northern Europe: Germany, Belgium, the Netherlands and Great Britain.

### Numerous successes in refining

Worldwide, investments in oil refining have generally been limited. Nevertheless, TECHNIP was awarded a series of contracts for major projects in this sector (Egypt, Venezuela, Dubai and Turkmenistan). TECHNIP also successfully completed two important projects during 1997: the Leuna refinery in Germany and the Bukhara refinery in Uzbekistan, both of which represent outstanding references for the TECHNIP group.

### Development of FEED contracts

Although turnkey contracts continue to represent 85% of economic turnover, the share of FEED contracts has been growing at the same time. These contracts consist in front end engineering designs drawing on



TECHNIP's technological expertise and are likely to result in major turnkey projects (particularly in the Middle East in the field of gas and in Europe in the field of petrochemicals).

### Greater role for financial engineering

Clients increasingly call on the TECHNIP group's expertise in financial engineering to assist them in arranging complex project financing and Security packages. Relevant contracts brought into force in 1997 include: the refining unit in Turkmenistan, the Ras Al Khaimah cement plant and the MIDOR refinery in Egypt.

### Multiplication of international joint ventures

To increase its chances of winning new contracts and in order to optimize risk management on very large projects, the TECHNIP group has multiplied its associations, on a case-by-case basis, with other major engineering companies, who are thus, according to circumstances, either partners or competitors. At present TECHNIP is working in joint ventures on specific projects with five leading American engineering firms, two firms from Germany, one from Great Britain, one Italian, one Japanese and three from Korea.

## Creation of KREBS-SPEICHIM

The creation of KREBS-SPEICHIM, a joint venture company owned equally with SGN, significantly reinforces TECHNIP's presence in the field of fertilizers and in different sectors of the chemical industry.

Founded in December 1997 through the merger of TECHNIP-SPEICHIM with KREBS, the new company, thanks to its staff of 1,000 people and its combined capabilities, has the resources to become a leader in chemical engineering in Europe.

## Transfer of TECHNIP's stake in SGN

Under a July 1997 agreement between TECHNIP and COGEMA providing for, in particular, the creation of KREBS-SPEICHIM, TECHNIP ceded its 34% stake in SGN to COGEMA and was compensated with shares in COGEMA representing a 3.5% stake in the company.

## Reinforcement of upstream resources

With TECHNIP-GEOPRODUCTION in Paris and Abu Dhabi, TECHNIP MALAYSIA at Kuala Lumpur and CBS ENGINEERING at Houston, Texas, the TECHNIP group now counts approximately 900 people working exclusively in the oil and gas upstream sector. The takeover of the majority share in CBS ENGINEERING (80% of the capital), which ensures the Group's proximity to major American oil companies and gives it access to the Gulf of Mexico, and the recognition of certain technologies developed by TECHNIP-GEOPRODUCTION (in particular, through the selection of the TPG 500 for Elgin-Franklin) represent major assets in the pursuit of the development of this activity.

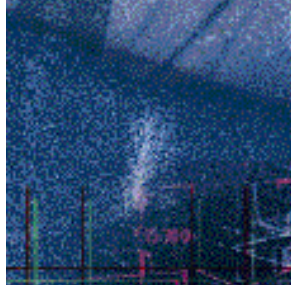
## Well-balanced ownership

At the end of 1997, the ownership of TECHNIP was divided practically



equally among three groups: the original shareholders (ISIS, GDF, TOTAL and ELF), foreign investors and French shareholders. ●





## Consolidated accounts as at December 31, 1997

### Group results and activity

In spite of a difficult international environment the TECHNIP Group's activity and results showed, as in 1996, strong growth. They were not affected by the fluctuations in Asian currencies and the US dollar, thanks to the Group's continuous prudent foreign exchange management. They validated the Group's strategy to focus on anticipating industry trends rather than fighting for regional market shares.

Group net profit amounted to 627.1 million francs, compared to 534.2 million francs in 1996, representing growth of 17.4%.

Consolidated turnover of the TECHNIP group amounted to 11,868 million francs, and grew by 17% compared to previous year.

It incorporated half-year's sales from the recently established KREBS-SPEICHIM company consolidated under the proportional method (50%). For comparative purposes, the turnover increase would have been 15.5% without KREBS-SPEICHIM.

Throughout the year, the Group continued the implementation of various contracts (engineering together with equipment and construction), which were significant in terms of turnover, in particular the Leuna refinery in Germany, the gas liquefaction plant in Bonny, Nigeria, the PTA plant (purified terephthalic acid) for Amoco at Geel in Belgium, the refinery at Bukhara in Uzbekistan, the refinery for Midor near Alexandria in Egypt and the petroleum platform for Elgin-Franklin in the North Sea.

In addition, other contracts signed and begun in 1997, will fully contribute to the Group's activity over the next twenty four months.

Among the significant developments, we would highlight the strong activity in Western Europe which contributed 40% of the turnover, and the growth from 6% to 17% of the activity in Africa. The refining and gas segment represented an important component of the activity with a contribution of 47% of the turnover compared to 41% in 1997. Turnkey or similar contracts remained at 85% of turnover.

The uncompleted part of contracts in progress (**backlog**), which only includes contracts in force, amounted to 16.3 billion francs at 31 December 1997 and represents in excess of one year's turnover and, depending on the level of completion of the contracts, will be spread over roughly the next two years.



**Income before tax**, which shows the Group's activity most clearly, was 1,012.9 million francs for the year. This represented 8.5% of turnover and increased by 27.4% relative to 1996. Income before tax is made up of the following three elements, which may evolve differently depending on the type of contract (service or turnkey), and how it is accomplished:

- **Operating income**, which amounted to 864.2 million francs for the year. It progressed 25.5% compared to the previous year, which amounted to 688.6 million francs.

The turnover including the financial income generated by cash flow on contracts amounted to 115 million francs in 1997 compared to 160 million francs in 1996. Decrease is mainly due to the low interest rates on main financial market places this year.

Operating expenses, which amounted to 11,004.2 million francs, represented 92.7% of turnover. They mainly concerned equipment purchases and construction subcontracting on the one hand, for 9,354.6 million francs, and payroll expenses amounting to 1,570.9 million francs, on the other. Payroll expenses increased by 2% compared to an equal number of employees. Due to the integration of CBS ENGINEERING and KREBS-SPEICHIM, manpower increased in 1997 by 14%.

- **Financial income**, which amounted to 155.4 million francs in 1997 relates exclusively to cash management of the Group's own funds. It was the result of investments selected for their safety and liquidity and of dividends from the Group's investments portfolio.

- **Extraordinary charges**, which amounted to 6.7 million francs in 1997, should be compared to a charge of 23.9 million francs in 1996.

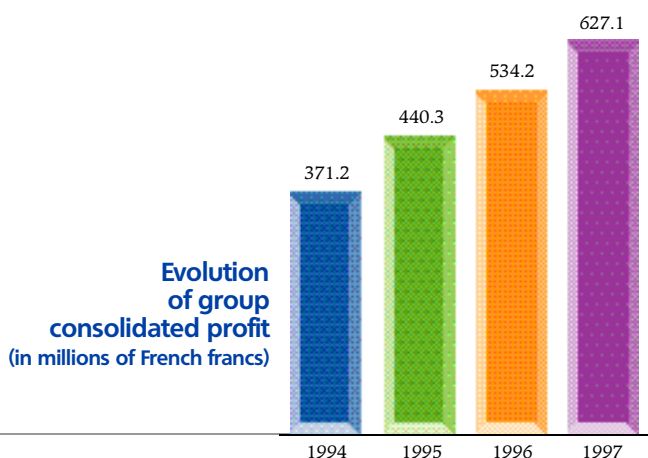
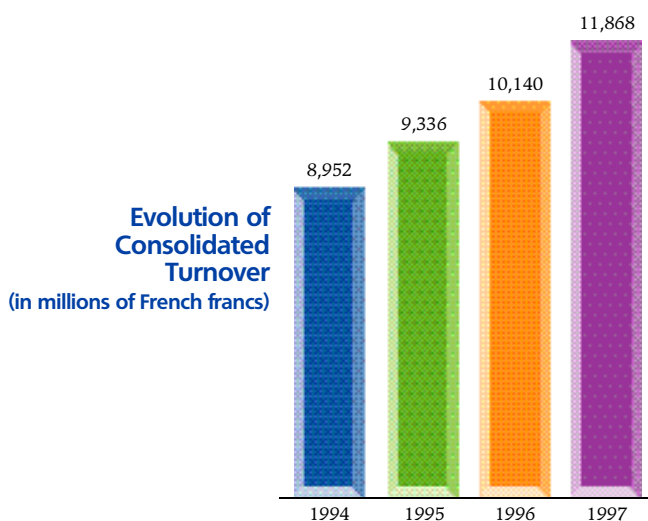
This included:

- the cost of personnel leaving the company, in the framework of human resources management at the Group level, adapted to the needs of each operational base.
- the 10-million-franc allowance for geopolitical risks, set aside in order to limit exposure to a brutal deterioration of environmental conditions. This increase was mainly due to a higher backlog as at December 31, 1997.
- the reversal of a 10-million-franc provision for miscellaneous expenses.
- gains on sales of non consolidated investments (before tax).

Taxes paid by the Group, either for each of its subsidiaries, or for contracts, in application of the fiscal laws of the country in which the contract was carried out, amounted to 361.9 million francs. This represented a nominal tax rate for the Group of around 37%, which is slightly higher than that of 1996. This rate includes the temporary additional French corporate tax burden.

The income from (consolidated entities under equity method) mainly resulted from SGN's contribution for the first half of 1997.

After distribution to minority shareholders, the Group's net profit amounted to 627.1 million francs for 1997. Expressed per fully diluted share (i.e based on the current capital and supposing that all attributed subscription options have been exercised), **the net result per share** represented 36.72 francs. ●●●



# Financial position

## Financial position

### ••• The consolidated balance sheet and its financial structure

**Shareholders' equity** at December 31, 1997, before allocation of the profit for the year, amounted to 3,269 million francs compared to 2,745 million in 1996. This continued increase includes, amongst other things, capital increases made on June 30, 1997 and reserved for the Group's employees.

The change in scope of consolidation (with the integration of KREBS-SPEICHIM and its affiliates by the proportional method) showed an increase of the consolidated balance

sheet. After deduction of the transfer of SPEICHIM, the net impact amounted to 740 million francs.

**Cash flow** generated in the year amounted to 683 million francs, compared to 592 million francs the previous year.

**Fixed assets**, financed by shareholders' equity was slightly above that of the preceding year. This evolution was mainly a result of TECHNIP's investment in COGEMA arising from COGEMA's capital increase subscribed by TECHNIP and paid up by the SGN securities' transfer.

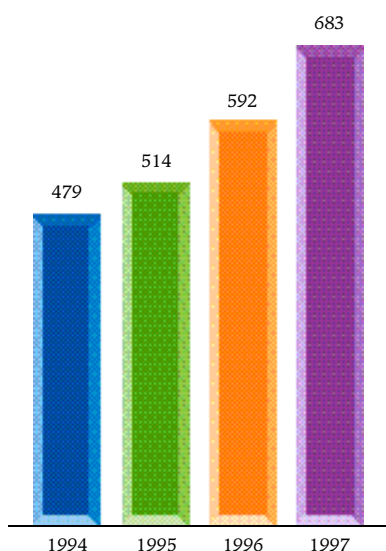
**Work in progress**, which represents the aggregate cost incurred on all contracts under implementation, amounted to 20,191 million francs as at December 31, 1997. For the previous year, it amounted to 19,447 million francs. Increase results mainly from the integration of KREBS-SPEICHIM. Evaluated at cost, the work in progress concerns mainly turnkey contracts, FOB or other similar contracts. These contracts are financed by progressive payments from clients. As at December 31, 1997, those payments amounted to 22,352 million francs.

**Total provisions for contingencies expenses** represented 1,965 million francs, decreasing by 121 million francs compared to the previous year. They mainly cover contract contingencies, expenses to complete contracts that are awaiting provisional acceptance, miscellaneous expenses, and the evaluation of geopolitical risks.

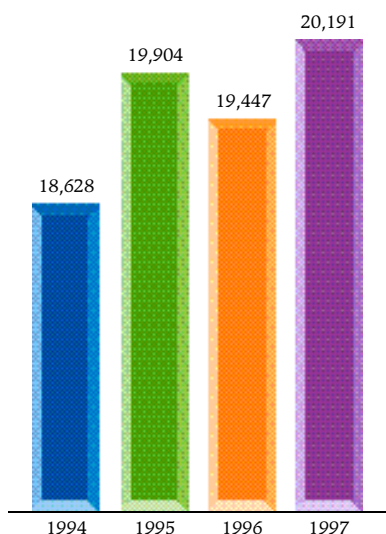
Indeed, carrying out lumpsum turnkey contracts for export leaves the Group open to more than the usual contractual industrial, commercial and financial risks.

The provision for geopolitical risk is calculated each year based on various risk appraisal criteria. It is based on the work still to be completed for contracts under way (backlog). As at December 31, 1997, after a 10-million-franc supplementary allowance, the reserve amounted to 570 million francs.

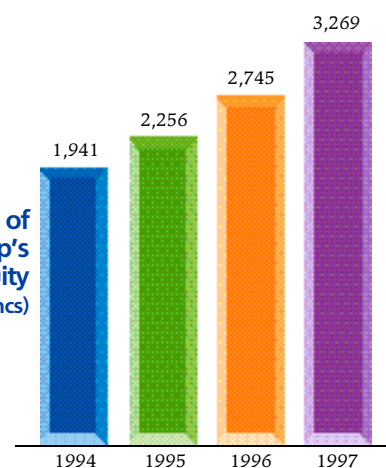
The Group's cash flow  
(in millions of French francs)



Evolution of the Group's work in progress  
(in millions of French francs)



Evolution of the Group's shareholders' equity  
(in millions of French francs)



**Financial debt**, which represented 594 million francs last year is steady at 602 million francs, as at December 31, 1997. Taken out primarily with financial institutions in the form of pre-financing deals or credit lines, these funds are mainly used to finance long-term contracts.



## Corporate financial statements as at December 31, 1997

**Turnover** represented 2,978 million francs, with a profit of 974.2 million francs, including 560.8 million francs of long term net gain on sales of investments. Without this gain, the net profit amounted to 413.4 million francs, compared to 376.1 million francs in 1996.

The significant evolution of the different elements constituting the working capital mainly resulted from the completion of major contracts, (for example the refinery at Bukhara in Uzbekistan, the Leuna refinery in Germany, the ethylene plant in Qatar, the polyester plant at Liao Yang in China, the Losartan pharmaceutical unit, for MSD in France), as well as sustained activity for the contracts in progress: the hydrocarbon processing plants in Abqaiq, Saudi Arabia, for SAUDI ARAMCO, the Sibling cement plant in Lebanon, the refinery in Turkmenistan and the Ras Al Khaimah cement plant in the U.A.E.

The significant evolution of the investments is mainly explained by the 700 million francs worth of shares in COGEMA resulting from the capital increase reserved for TECHNIP and paid up by the SGN securities' transfer.

**Shareholders' equity** amounted to 2,685 million francs as at December 31, 1997, before distribution.

### Stock options

It is to be noted that the Board of Directors, during the meetings held on March 25, 1993, March 30, 1994, February 13, 1995 and March 14, 1996, according to the authorizations granted by the Extraordinary General Meetings of February 11, 1993 and May 16, 1995, have granted Technip stock options.

Throughout the year, 44 options were exercised, for 146,560 shares at 20 francs, which corresponded to an increase in nominal capital of 2,931,200 francs.

The Board of Directors, on March 13, 1997, again calling upon the authority granted them by the Extraordinary General Meeting of May 16, 1995 decided a new allocation of stock options to 167 beneficiaries. This offer concerned a total of 178,973 shares at 20 francs each.

The subscription price was fixed at 568.96 francs per share.

Throughout the year, no options were exercised concerning this plan.

### SHAREHOLDERS' LOG

In French francs	1995	1996	1997
Share capital at the end of the year	317,554,100	325,406,480	330,650,980
Number of shares in issue (on 31 December)	15,877,705	16,270,324	16,532,549
Potential number of shares (on 31 December)	16,494,555	16,783,431	17,077,169
Share price :			
highest	337	508	809
lowest	2435	336	462
on December 31	337	487	635
Consolidated operating income diluted per share	39.55	47.36	59.31
Net consolidated result diluted per share	26.70	31.83	36.72
Dividend per share	9.00	10.50	14.50
Dividend/net consolidated result ratio	32.5%	32%	38.2%
Total revenue per share (net dividend + tax credit)	13.50	15.75	21.75
Gross yield per share (price december 31)	4%	3.2%	3.4%

Stock Department - **Banque Nationale de Paris - CETT - TNE**  
13, boulevard Barbès - 75018 PARIS, France

**TECHNIP's Shareholders Relations** - Patrick PICARD  
170, place Henri Régnauld - 92973 Paris La Défense cedex, France - Ph.: 33 (0) 1 47 78 30 86



# The year in review

## The year in review

### January

#### Contracts for two FCC's:

TECHNIPETROL is awarded, on a turnkey basis, the expansion and revamp of two catalytic crackers (FCC's): in **Poland** at the Plock refinery and in **Colombia** at Barrancabermeja, in association with its Colombian affiliate TIPIEL SA.

### February

#### U.S.A.:

TECHNIP, in association with FLUOR DANIEL, is selected by AMOCO CHEMICAL to design and build a 250,000-ton-a-year polypropylene plant at Chocolate Bayou, Texas.

#### Saudi Arabia:

TPL wins a US \$30 million turnkey contract to expand the power generation plant at Yanbu.



### March

#### Great Britain:

Within the framework of the development of the Elgin-Franklin fields in the British sector of the North Sea, ELF EXPLORATION UK awards the joint venture TPG UK (TECHNIP Group)/ McDERMOTT MARINE CONSTRUCTION/BARMAC a contract for the engineering and construction of a TPG 500 platform designed to treat 14.6 million m<sup>3</sup>/day of gas and to produce 150,000 barrels/day of oil.

#### U.A.E.:

TECHNIP and RAS AL KHAIMAH CEMENT CO. sign a contract, worth about US \$150 million for the turnkey construction of a cement plant, with a capacity of one million tons a year of "Portland" cement, to be built at Khor Kwair in the Emirate of Ras Al Khaimah.

### April

#### ISO 9001 certification:

TIPIEL SA, the Group's Colombian affiliate located in Bogota, receives ISO 9001 certification from Bureau Veritas Quality International.

### May

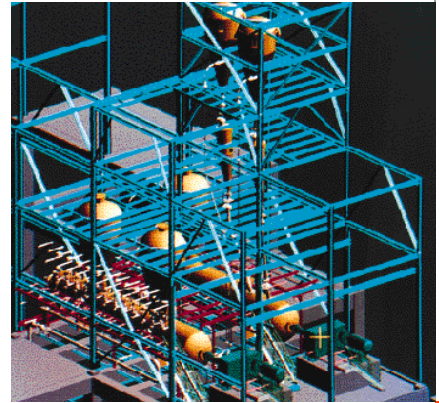
#### Asbestos removal:

TECHNIP TPS is entrusted with the engineering and project management services related to the removal of asbestos from the Berlaymont building, the headquarters of the European Union Commission in Brussels, Belgium.

### June

#### Egypt:

The billion-dollar project, awarded to TECHNIPETROL - TECHNIP - TECHNIP INTERNATIONAL, for the design and construction of a 5-million-ton-a-year refinery at Ameryia (Alexandria) comes into force.



#### Venezuela:

PETROZUATA awards CONTRINA (a joint venture company that includes TECHNIP and DIT-HARRIS) a US \$600 million contract for the engineering and construction, at Jose, of the first Orinoco extra-heavy crude oil processing facilities.

**Australia:**

TECHNIPETROL wins a contract worth about US \$100 million from WESFARMERS CSBP Ltd. for the design and construction of a 650-ton-a-day ammonia plant at Kwinana, near Perth.

**Acquisition:**

TECHNIP reinforces its position in the upstream sector with the takeover of 80% of the capital of CBS ENGINEERING Inc., headquartered in Houston, Texas, U.S.A.



**July**

**Saudi Arabia:**

TECHNIPETROL receives the acceptance certificates for two turnkey plants in Saudi Arabia: a 1,600-ton-a-day sugar refinery at Jeddah and a major ceramic sanitary equipment plant at Yanbu (400,000 pieces of equipment and 40,000 bathtubs a year).

**August**

**Turkmenistan:**

TECHNIP is awarded, by the MINISTRY OF OIL AND GAS OF TURKMENISTAN, a turnkey contract, worth about US \$200 million, for the engineering and construction of a 1.8-million-ton-a-year catalytic cracker to be located in the Turkmenbashi refinery.



**France:**

BOEHRINGER INGELHEIM's new pharmaceutical production facilities, at Reims, are delivered by TECHNIP, whose responsibilities covered engineering and project management for the renovation of the existing unit and the doubling of its capacity to 800 million units per year.

**September**

**Brazil:**

Performance tests of the no.4 burning line at the Salto de Pirapora cement plant in Brazil are successfully completed following the renovation and modification of the facility by TECHNIP CLEPLAN to double its production capacity to 5,000 tons a day.

**October**

**Germany:**

The 8.7-million ton-a-year MIDER (ELF Group) refinery at Leuna is brought on

stream with the start-up of the distillation unit, which is the first industrial application of the D 2000 progressive distillation process, patented and developed by TECHNIP in partnership with ELF.

**November**

**Uzbekistan:**

Provisional acceptance of the 2.5-million-ton-a-year refinery at Bukhara is pronounced following successful performance tests. The complex had started up three months ahead of schedule.

**U.A.E.:**

TECHNIPETROL's contract, awarded in June by ENOC PROCESSING CO. for the turnkey construction of a refinery at Dubai, is amended to double the initially proposed capacity of the plant to 120,000 barrels/day.

**December**

**Corporate news:**

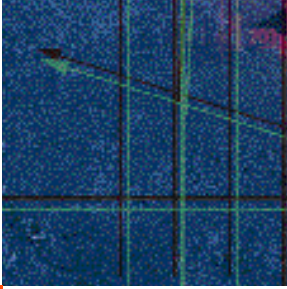
KREBS-SPEICHIM, a joint venture company equally owned by TECHNIP and SGN, is created, with a mandate to develop its activities in chemical engineering, particularly in the fields of fertilizers, specialty chemicals, pyrotechnics, basic chemicals and environmental protection. ●





# Lines of business

## Hydrocarbons



*Hydrocarbons, the Group's primary business sector, experienced a marked increase in 1997 compared to the previous year, growing from 45% to 54% of a consolidated turnover which itself rose by 17%. All sectors within this line benefited from sustained activity, particularly the refining sector which was characterized by the successful completion of large-scale projects (Leuna in Germany, Bukhara in Uzbekistan) and the coming into force of major contracts (in Egypt, Venezuela, Dubai, Turkmenistan etc.). The predominant characteristic of the gas sector was the heightened activity of the Bonny LNG plant in Nigeria. The TECHNIP Group also reinforced its position in the upstream oil sector with the takeover of CBS Engineering in Houston, Texas and the award of a major project in the North Sea (Elgin-Franklin) which will apply the TPG 500 technology developed by TECHNIP-GEOPRODUCTION.*

### Oil refining



*Leuna refinery - Germany.*

## Europe

### The major event in 1997: TECHNIP and its partners deliver the new Leuna refinery in Germany

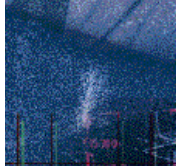
During 1997, all of the refining units and offsites were delivered by TECHNIP and its partners to MIDER (ELF group), on schedule, ready for start-up and certified conform to German and international standards by official certification organisms. The process units were progressively brought on stream beginning with the distillation unit in October. This unit is the first industrial-scale application of the progressive "D 2000" distillation process patented and developed by TECHNIP, in association with Elf. Based on a new sequence of the steps in a traditional separation refining process, this technology allows cuts of 20 to 30% in energy consumption (fuel, steam and electricity) compared to conventional

distillation. All the units are now in operation, producing products such as LPG, gasoline, petrochemical naphtha, fuel oils, gas oils, etc. Facilities related to environmental protection (sulfur units, water treatment, etc.) are also functioning normally. Performance tests began during the first quarter of 1998.

With a capacity of 8.7 million tons a year, the ultra-modern Leuna refinery, which incorporates the most up-to-date environmental protection technologies, constitutes the biggest investment in Europe's refining sector in over 15 years. Under the June 1994 contract with MIDER, the TLT joint venture (THYSSEN-LURGI-TECHNIP ANLAGENBAU) carried out all of the engineering, equipment procurement and construction.

**Project management**, handled by TECHNIP, was a major factor in the success of this exceptional turnkey project. ●●●





# Lines of business

## Hydrocarbons



*Bukhara refinery - Uzbekistan.*

### ●●● Revampings and expansions

Through their activities, the companies of the Group played a role in the upgrading and optimization of Europe's refining facilities.

In July 1997, NYNAS AB (a joint venture between Venezuela's PDVSA and Norway's NESTE OY) awarded TECHNIPETROL a US \$35 million turnkey contract covering the design and construction of a 3,200-barrel-day hydrotreatment unit and an amine treatment unit for the Nynas Hamn refinery near Stockholm, **Sweden**.

TECHNIPETROL also won two new projects in **Poland** worth a total of US \$60 million. The first, for PETROCHEMIA PLOCK, concerns the revamping of a fluidized bed catalytic cracker (KELLOGG process) at the Plock refinery and the second covers the engineering and construction of a 384,000-ton-a-year isomerization unit and the revamping of a 416,000-ton-year reformer at the Gdansk refinery.

Finally, in **Greece**, TECHNIPETROL was awarded by MOTOR OIL HELLAS, in December 1997, the turnkey revamping of a fluidized bed catalytic cracker (FCC) at its refinery in Corinth.

### C.I.S./Central Asia

In **Russia**, TECHNIP successfully completed two refinery revamping projects at Ufa in Bashkortostan: the complete revamp of a 20,000-barrel-a-day hydrocracker at the UFANEFTEKHIM refinery, and the modernization of a one-million-ton-a-year catalytic reformer at the NOVOIL refinery.

In both cases, the use of IFP technologies led to improved product quality. TECHNIP CIS in St. Petersburg and TECHNIP URAL in Ufa performed most of the engineering work on these two projects. TECHNIP also has a contract for the engineering and construction of a new alkylation unit (300,000 tons/year) and sulfur regeneration for the third refinery in Ufa owned by NOVOUFIMSK. The financing for this project is currently being arranged. Since it is likely to be covered by the recent Franco-Russian credit line with repayments guaranteed by a buy-back agreement for petroleum products, the contract could come into force during 1998.

Following successful performance tests, UZBEKNEFTEGAZ pronounced the provisional acceptance of the Bukhara refinery in Uzbekistan in November 1997. Construction was



*Refining units at Ufa - Russia.*

completed in June 1997, just two years after the coming into force of the contract, allowing the refinery to come on stream three months ahead of schedule. This performance is all the more remarkable since this is the first time that TECHNIP has worked in **Uzbekistan**, a country not easily accessible for the transport of equipment. Moreover, this was the first turnkey project to be carried out by a foreign engineering company in the former Soviet Union. Located 55 kilometers from Bukhara, the new 2.5-million-ton-a-year refinery will produce gasoline and gas oil from gas condensates coming from Kokdumalak. The refinery has been designed so that the capacity can possibly be doubled.

The US \$200-million contract signed by the TURKMENISTAN OIL AND GAS MINISTRY (represented by the MEHRAV Group) and TECHNIP for a turnkey MSCC (Milli Second Catalytic Cracking) plant in **Turkmenistan** came into force in August 1997, thanks to a multi-source financing arrangement, including export credits from France, Belgium, Turkey and Malaysia. This 1.8-million-ton-a-year catalytic cracker (UOP process) will be built at the Turkmenbashi refinery, on the coast of the Caspian Sea.

Already active in Russia for many years, the TECHNIP group, backed by these significant references, has now opened the door to the market represented by the new republics of Central Asia.



*Signing of MSCC contract - Turkmenistan.*

## Middle East

In June 1997, ENOC PROCESSING CO. awarded TECHNIPETROL a contract for the engineering, equipment procurement and construction of a condensate refinery at Jebel Ali in the **Emirate of Dubaï (U.A.E.)**. Six months later an addendum to the contract was signed for doubling the refinery's initially planned capacity. The refinery will use UOP technology to process 6 million tons a year of

condensates from the Gulf. It will include five MEROX units and will yield kerosene (2 X 17,000 barrels/day), diesel (11,500 barrels/day), LPG (5,000 barrels/day), and naphtha (33,000 barrels/day) for both local and export markets. The total value of the contract is about US \$183 million. Completion is scheduled for the spring of 1999.

In **Saudi Arabia**, TECHNIP continued to carry out the turnkey contract, signed with SAUDI ARAMCO in August 1996, concerning the development of the Shaybah field. The project covers the construction of hydrocarbon treatment units at the Abqaiq refinery near Dharan. Work is at an advanced stage today and should be completed before the end of 1998. The new facilities include a crude stabilization unit, shipping facilities, an NGL extraction unit and a distributed control system.



*NGL stripping column - Abqaiq refinery - Saudi Arabia*

Meanwhile, TECHNIPETROL has continued, and nearly completed, construction of a tank farm for refined products at Jizan (16 multi-product tanks, pipelines, etc.) for SAUDI ARAMCO. ●●●



### Africa

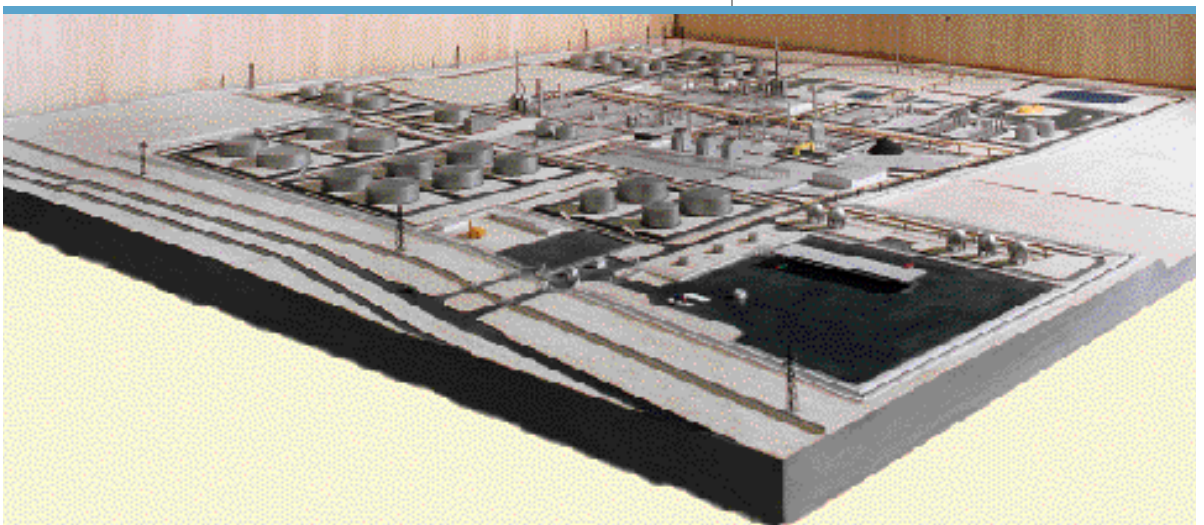
#### The "MIDOR refinery" in Egypt

The billion-dollar project for the turnkey design and construction of the 'MIDOR refinery' came into force on June 30, 1997. The companies of the Group - TECHNIPETROL, TECHNIP and TECHNIP INTERNATIONAL - had earlier signed two interdependent contracts covering the supply of a 5-million-ton-a-year grassroots refinery in the free zone of Ameryia in **Egypt**. The first contract, signed with MIDOR (MIDDLE EAST OIL REFINERY), covers the engineering, equipment supply and construction of the process units. MIDOR is 60%-owned by the Egyptian oil company EGPC, 20% by the Egyptian private company HUSSEIN SALEM and 20% by the private group MERHAV. The second contract was signed with MIDTAP (MIDDLE EAST OIL TANKAGE AND

PIPELINES CO.) and covers engineering, equipment supply and construction of the refinery's utilities and offsites. MIDTAP shareholders are EGPC (40%), the MISR Bank (30%) and Egyptian private investors (30%). The project is partially financed by the European Investment Bank and all payments have been secured by irrevocable letters of credit and confirmed by international banks.

The design of Ameryia refinery is based on a high conversion scheme including a hydrocracker and a delayed coker. The refinery will also include: crude and vacuum distillation, naphtha hydrotreater, naphtha splitter, catalytic reformer, isomerization (Penex), kerosene sweetening (Merox), distillate hydrotreater, hydrogen, light ends and gasoline recovery, amine regeneration, sulfur treatment, sour water strippers, light ends MEROX unit, as well as utilities and offsites. Currently, basic engineering of the project is just about finished, earthworks are complete and the actual construction is slated to begin this summer. The refinery will come on stream at the end of 2000.

*Model of MIDOR refinery - Egypt.*





*Signing of "VEHOP" project - Venezuela.*

## Latin America

### First project for Orinoco extra-heavy crude oil treatment processing facilities

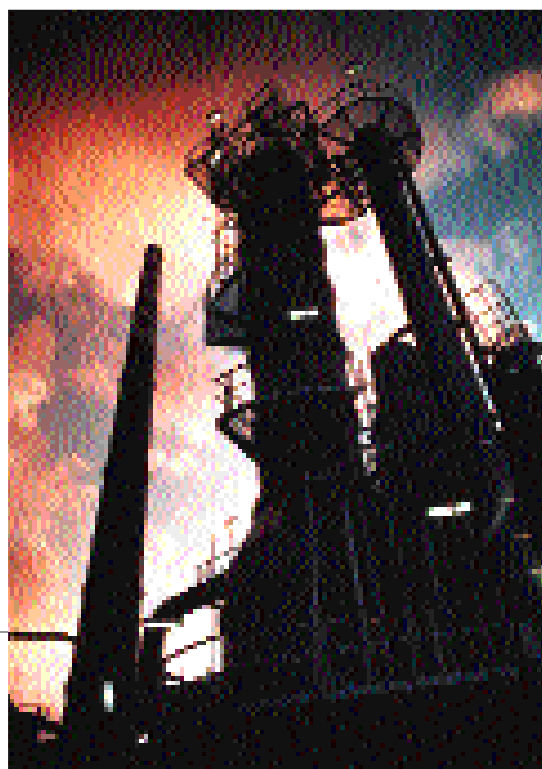
On June 30, 1997, PETROZUATA CA, a joint venture made up of CONOCO (50.1%) and MARAVEN (49.9%), awarded CONTRINA a US \$600-million contract for the engineering, equipment supply and construction of the extra-heavy crude treatment units at José, near Puerto La Cruz, in **Venezuela**. CONTRINA was specially created, in the form of a permanent joint venture, to participate in Venezuela's heavy oil development program. It is made up of five engineering and construction companies: TECHNIP (Paris, France); BROWN & ROOT and PARSONS (Houston, Texas, USA); PROYECTA, and DIT HARRIS of the TECHNIP group (Caracas, Venezuela).

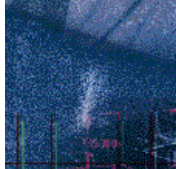
The current contract covers the process units and utilities for the downstream "VEHOP" project (VENEZUELA EXTRA HEAVY OIL PROJECT), the purpose of which is to treat the extra-heavy crude oil from the Zuata field in the Orinoco belt. The 120,000-barrel-a-day plant will include: crude desalter/vacuum distillation, delayed coker, gas recovery

plant/fuel gas system, naphtha hydrotreater, amine regeneration, sour water stripping, sulfur recovery, utilities and offsites.

This project is important for CONTRINA since it is the first contract to be awarded for processing extra-heavy crude in Venezuela. With 270 billion barrels of recuperable reserves, the Orinoco belt is currently the world's largest reservoir of heavy crude scheduled to be developed - through five other projects similar to the VEHOP project - in the coming years.

TECHNIPETROL and its Colombian affiliate TIPIEL SA, in association with the companies DISTRAL and CMD, are carrying out a turnkey contract, worth more than US \$30 million, awarded by ECOPETROL at the end of 1996. It covers the revamping and capacity increase of the fluidized bed catalytic cracker (UOP process) at the Barrancabermeja refinery in **Colombia**.





# Lines of business

## Hydrocarbons

## Gas

### Middle East

Within the framework of the debottlenecking of the North Field gas treatment facilities in **Qatar**, TECHNIP successfully revamped and expanded the capacity of the gas processing units at Messaieed on behalf of QATAR GENERAL PETROLEUM CORPORATION.

For ABU DHABI NATIONAL OIL COMPANY (ADNOC), TECHNIP performed the front end engineering design for the second phase of the Bab/Habshan gas treatment complex in **Abu Dhabi**. The project, called OGD2 (Onshore Gas Development II), covers facilities to process 1.2 billion scfd of



*Fractionation column - OGD 1 - Abu Dhabi.*

gas from the Thammama C and D gas fields in the Habshan zone. TECHNIP, under a turnkey contract, had previously carried out the OGD1 project, in association with BECHTEL.

As part of its program to upgrade the gas it produces, particularly at Bab-Habshan, ADNOC has awarded TECHNIP-GEOPRODUCTION (Abu Dhabi) the basic engineering for the expansion of the sulfur processing, storage, handling, and loading facilities built at Ruwais by TECHNIP in 1996. This project, which will increase the site's sulfur treatment capacity to 7,650 tons per day from 4,250, represents the first significant step towards downstream work for TPG's Abu Dhabi office.

In order to take into account changes in the planned capacity and in the composition of the gas to be processed, TECHNIP continued the front end engineering design of the gas liquefaction plant at Bal Haf in **Yemen**. All the engineering and the tender documents, prepared by TECHNIP for the construction of a 5.3-billion-ton-a-year plant and two pipelines, will be handed over during the first half of 1998 to YEMEN LNG (an association of international companies whose main shareholder is TOTAL).

The gas compression station on the El Isba field in **Syria**, the turnkey design and construction of which was awarded to TPL by AL FURAT PETROLEUM CO. in May 1996, is now being completed.

### Africa

The turnkey construction of the Bonny LNG plant in **Nigeria** progressed significantly in 1997 with 70% of the job complete at the end of the year. Detailed engineering was practically finished and purchase orders were placed for almost all of the equipment and materials. Construction of the plant itself was 40% complete. This \$2-billion contract, awarded to TSKJ (TECHNIP/SNAMPROGETTI/KELLOGG/JGC) by Nigeria LNG



*Bonny liquefaction train - Nigeria.*

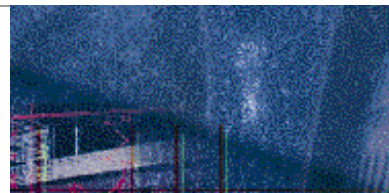
LTD. in December 1996, covers the design and construction of a 5.9-million-ton-a-year liquefied natural gas complex (two liquefaction trains, a network of gas pipelines, and utilities and offsites including a vast residential area). As initially scheduled, the first liquefaction train will be completed in the summer of 1999 and the second train five months later. First deliveries of LNG to Europe should begin in October 1999. NIGERIA NATIONAL PETROLEUM CORP., SHELL, ELF, AGIP and PHILLIPS will supply the complex with 8.6 billion cubic meters of gas per year. European customers for the LNG are ENEL (Italy), ENAGAS (Spain), BOTAS (Turkey), GAZ DE FRANCE, and TRANSGAS (Portugal).

### Latin America

At the beginning of the year, TECHNIPETROL signed, with YPF, a consultancy contract for the project management of an NGL fractionation unit at Loma La Lata in **Argentina**. ●



*Bonny residential area  
Nigeria.*







## Oil and gas upstream

### Operational base in Houston, Texas (USA): CBS ENGINEERING

In 1997, TECHNIP reinforced its position in the upstream sector with its takeover of 80% of CBS ENGINEERING INC., a company with a staff of 200, headquartered in Houston, Texas. The firm specializes in basic and detailed engineering and project management services for oil and gas production facilities, both onshore and offshore: metallic structures, platforms, pipelines, subsea equipment, floating production platforms, and minimal platforms.

CBS ENGINEERING, formed in 1980 by its current managers, has completed over 1,800 projects of all sizes worldwide, notably in the Caribbean area. Its recent engineering and service contracts include: the "Pedernalès phase 2" development project in **Venezuela** for BP Exploration; in **Trinidad**, two gas drilling and production platforms, "Flamboyant" and "Immortelle" (450 MMSCFD), and a 40"-diameter pipeline for AMOCO Trinidad; a four-pile platform for SHELL/PECTEN's Lipenja field in **Cameroon**; and oil production facilities for ORYX ENERGY for the Arman field on the coast of the Caspian sea in **Kazakhstan**.

In order to meet a new type of demand from operators, CBS has developed the 'Minimal Offshore Support Structure' (MOSS), that substantially cuts costs by reducing the weight of offshore jackets and piles. These structures are particularly

well suited for marginal fields using unmanned platforms. CBS is also in a good position to promote sales of TECHNIP GEOPRODUCTION technologies - the self-installing TPG 500 platform, the semi submersible TPG 3300 deep-water platform, the UNIDECK TPG integrated deck installation method, floating production

units and subsea polyphase pumping systems - to the «Majors» and American independent petroleum companies.

### North Sea (Great Britain)

In March 1997, TPG UK (TECHNIP Group), in a joint venture with McDERMOTT MARINE CONSTRUCTION and BARMAC, was awarded the engineering, equipment supply, construction, installation, hook-up and start-up preparation of a TPG 500 platform for the development of the Elgin-Franklin fields operated by ELF EXPLORATION UK.

Representing an investment of about £400 million, this production/utilities/accommodation platform is designed to process 14.6 million m<sup>3</sup> of gas, produce 150,000 barrels a day of condensates, and house up to 69 people. Located on the Elgin field, 240 kilometers from Aberdeen, the 3-legged platform will stand at a water depth of 92 meters on piled steel foundations and is scheduled to come into operation in 2000. This alliance contract is being carried out by an integrated project team made up of personnel from the joint venture and the client. The work is running to schedule. Dry dock assembly of the platform hull began in February 1998. TPG-licensed equipment and the leg components are now being delivered to the jobsite.

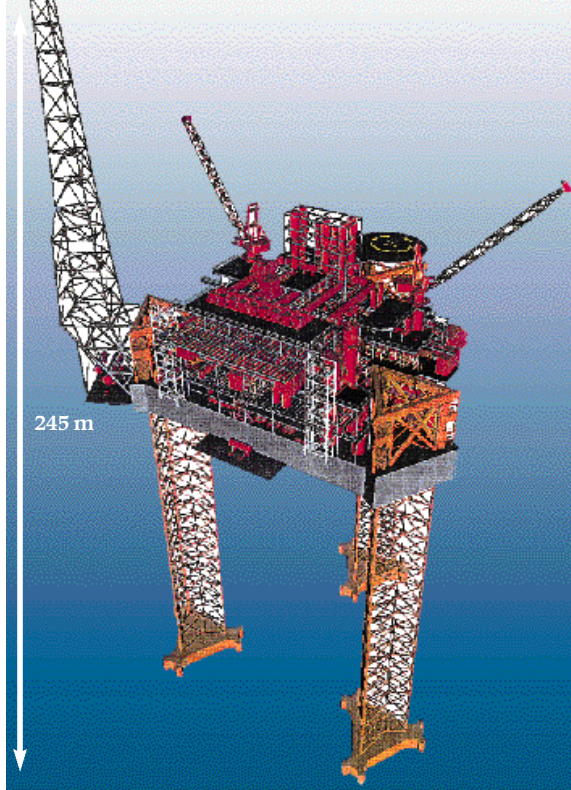
This selection of the TPG 500 by ELF EXPLORATION UK and its partners (TEXACO, SHELL, ARCO, BRITISH GAS, AGIP, HARDY and RUHRGAS) is an excellent showcase for marketing this innovative TECHNIP-GEOPRODUCTION technology. Fully equipped on land and ready to self-install at sea, the TPG 500 permits substantial savings over conventional methods. Particularly well suited to the extremely difficult conditions of the North Sea, the TPG 500 was first used for a BP EXPLORATION drilling/production platform, installed in 110 meters of water, on the Harding field in January 1996.

### Middle East

ADCO awarded TECHNIP-GEOPRODUCTION (**Abu Dhabi**) an engineering and services contract for the installation of new control rooms and distributed control systems for the Bu Hasa and Asab onshore fields.



MOSS platform - Gulf of Mexico.



## Asia

As part of the development program for the Maharaja Lela/Jamalulaman gas field in **Brunei**, TECHNIP MALAYSIA was awarded, by ELF PETROLEUM ASIA BV, a major contract covering engineering, equipment supply, construction and installation of a gas terminal at Lumut. TECHNIP MALAYSIA was also awarded, by BOUYGUES OFFSHORE, an engineering contract for offshore facilities.

In **Malaysia**, PETRONAS CARIGALI awarded TECHNIP MALAYSIA a contract for the conceptual design and basic engineering for the development of offshore fields (Angsi, Bunga and Kekwa) as well as detailed engineering for a compression (50 MMSCFD) and oil/gas separation unit for the Samarang field. SARAWAK SHELL Bhd awarded the company a contract for the conceptual and detailed engineering of the expansion and revamping of offshore installations at Sarawak.

For NIPPON OIL EXPLORATION, TECHNIP MALAYSIA is carrying out a contract covering detailed engineering of the development of the Helong gas field (200 km off the coast of Sarawak).

For ESSO, TECHNIP MALAYSIA successfully completed the revamping of the crude oil terminal at Terrenganu near Kerteh.

ADMA OPCO awarded TECHNIP-GEOPRODUCTION Abu Dhabi the design and detailed engineering of three monopod platforms for the Umm Shaif offshore field. This contract follows an important service contract awarded by the same client, at the end of 1996, for the development of pilot gas re-injection facilities for the Zakum offshore field.

Finally, ADGAS awarded its first contract to TPG Abu Dhabi for detailed engineering, procurement services and construction management of a loading pipeline for methane tankers.

Thus, with a staff of 200, TECHNIP-GEOPRODUCTION Abu-Dhabi is now working directly for all of the ADNOC subsidiaries operating in Abu Dhabi.

## Africa

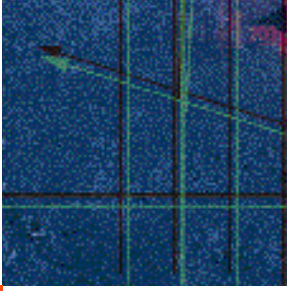
TECHNIP-GEOPRODUCTION successfully completed, to ELF PETROLEUM NIGERIA's satisfaction, the basic engineering contract for the development of the onshore Obite gas field in **Nigeria**. TECHNIP-GEOPRODUCTION was also awarded a contract for detailed engineering of treatment facilities for water used in injection at the Obagi center, one of the three production centers on the Obite field.

## Latin America

In **Venezuela**, the 'Deep Jusepin' project was carried out by the TECHNIP-GEOPRODUCTION/DIT-HARRIS/INELECTRA joint venture, in two phases: a preliminary development phase for 10,000 b/d was completed in less than eight months and the permanent development phase for 30,000 b/d took 14 months. The facilities were brought on stream at the end of October 1997. ●



*Separation unit - Deep Jusepin - Venezuela*



# Lines of business

## Petrochemicals - Chemicals

*Petrochemicals and fertilizers represented a stable share of the Group's activity in absolute terms, with a turnover amounting to almost 3.5 billion francs. Certain companies in the Group obtained noteworthy commercial successes in markets not easily accessible: TECHNIPETROL won a major turnkey contract for an ammonia plant in Australia and TECHNIP was awarded a project for a polypropylene plant in the U.S.A. by an American client. In petrochemicals, several recently awarded contracts point to a satisfactory level of activity in Western Europe for 1998. In addition, the creation of KREBS-SPEICHIM, at the end of 1997, will reinforce the TECHNIP group's position in fertilizers and in the sectors of the chemical industry.*

## Petrochemicals/Chemicals



*Cooper River PTA plant - U.S.A*

### North America

TECHNIP, in association with one of the leading American engineering companies, FLUOR DANIEL, was selected by AMOCO CHEMICAL in February 1997 to design and construct a new polypropylene unit for the chemicals complex at Chocolate Bayou, Texas, U.S.A. Within the joint venture, TECHNIP carried out basic engineering and some of the detailed engineering for the process units and prepared the specifications and the selection of the critical equipment. FLUOR DANIEL is responsible for the engineering of the utilities and offsites, some of the detailed engineering for process units, procurement and construction. With a capacity of 250,000 tons per year, this single-reactor unit will use AMOCO CHEMICAL's gas-phase technology. It will come on stream in early 1999.

At Cooper River in South Carolina, TECHNIPETROL successfully completed a contract to double the capacity of a purified terephthalic acid (PTA) plant to one million tons a year. TECHNIPETROL duplicated a similar plant built in Malaysia for the same client, AMOCO CHEMICAL, while at the same time satisfying specific local requirements (American regulations, climatic conditions, construction methods, etc.). The Group's Italian company has designed and constructed six PTA plants in various countries (2 million

# - Fertilizers

tons per year in all), including four for AMOCO CHEMICAL, the world's largest producer of this intermediate used in the production of polyester.

In July 1997, KREBS-SPEICHIM won a contract to supply equipment to expand capacity at ALBCHEM's sodium chlorate unit at Bruderheim in **Canada**. The facility, whose capacity will be brought up to 70,000 tons a year from 50,000, was designed and built by KREBS-SPEICHIM using its own proprietary technology. It should be pointed out that this sodium chlorate technology is used in more than 30 units throughout the world, particularly in the U.S.A. and Canada.

## Western Europe

At Geel in **Belgium**, TECHNIPETROL continued work on a contract won in March 1996 covering the construction of a new 500,000-ton-a-year PTA plant for AMOCO CHEMICAL BELGIUM. The unit, for which TECHNIPETROL performed the front end engineering design in 1995, is now nearing completion. It is the second of its kind designed and built by TECHNIPETROL at Geel for the same client.

Construction work on a 40,000-ton-a-year expandable polystyrene plant near Mons in Belgium began in September 1997. TECHNIP was awarded, in December 1996, the engineering and project management of this project by GABRIEL TECHNOLOGIE, of the KNAUF LA RHENANE group, one of Europe's leading producers of building materials (plaster and insulation) and packaging. Investment represents about US \$60 million.



*Geel PTA plant - Belgium.*

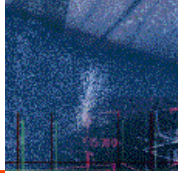


*Port Jérôme rubber drying unit - France.*

Acceptance of the new rubber drying line, built at Port Jerome in **France**, was pronounced in January 1998 by BAYER ELASTOMERES. TECHNIP carried out basic and detailed engineering as well as management of the project, the aim of which was to modernize the site with respect to environmental protection and optimization of production, quality control and safety.

In February 1998, the Dutch group DSM awarded TECHNIP a contract for the revamping and expansion of the ethylene cracker NAK3 at its Geleen petrochemicals complex near Maastricht in the **Netherlands**. The contract covers detailed engineering, equipment supply and construction. The project will permit an increase in production of both propylene and ethylene. Shutdown of the cracker, scheduled for March 2000, will mark the beginning of the second phase of the works.

At the beginning of March 1998, DSM POLYOLEFINS GmbH, the German affiliate of the DSM group, awarded TECHNIP a contract for the engineering and project management of a new polypropylene unit at Gelsenkirchen in **Germany**. Services include basic and detailed engineering, equipment and materials supply, and construction supervision. The plant, which will use AMOCO CHEMICAL's gas-phase technology, will come on stream in 2000. TECHNIP previously designed and built, for DSM at Geleen, a 150,000-ton-a-year polypropylene plant, using the same technology, which came on stream in 1996. ●●●



# Lines of business

## Petrochemicals - Chemicals

- Since the second half of 1997, TECHNIP, in association with the British construction and engineering group AMEC Process and Energy, has been working on two contracts for the front end engineering design of petrochemical plants in Grangemouth, **Scotland**. The first project, awarded by APPRYL -a joint venture made up of ELF ATOCHEM (51%) and BP CHEMICALS (49%)- covers basic engineering and preparation of detailed engineering of a 250,000-ton-a-year polypropylene plant using APPRYL technology. The second project covers similar services for a 300,000-ton-a-year single-train polyethylene plant using BP CHEMICALS technology. The two plants would be erected in the same area and would use common utilities and offsites. Both of these engineering contracts, undertaken under an alliance agreement between TECHNIP, AMEC and the two clients, are now practically complete, which could allow APPRYL and BP CHEMICALS to make their final investment decisions in 1998.

In **Italy**, TECHNIPETROL has been awarded, by POLIMERI EUROPA (ENICHEM/UNION CARBIDE), the revamping and expansion of its Brindisi ethylene plant. ENICHEM has also awarded the company the revamping of the instrumentation and the automation (installation of a DCS system) of the Porto Marghera ethylene plant.

### Middle East

Performance tests of the revamped Umm Said ethylene plant in **Qatar** took place successfully in January 1997. Since then the plant has been operating above its contractual capacity (525,000 tons/year). The project was conducted while the plant was in operation, requiring only very short shutdowns for equipment replacement and tie-in. The capacity expansion, carried out by TECHNIP using TOPKIN technology, owned jointly with KTI, is very exceptional (75% in a single step). In addition, the project permitted the modernization of the plant, operated by QAPCO, with respect to control and safety. TECHNIPETROL participated in the project by carrying out the expansion of the plant's utilities.

TPL and TECHNIP have nearly completed work on the contracts awarded by TABRIZ PETROCHEMICAL COMPANY in 1993. The contracts covered basic and detailed engineering, equipment supply, construction assistance, and start-up assistance for most of the units (ethylene, polyethylene, polystyrene, ethylbenzene and styrene) at the Tabriz complex, located in the northwest of **Iran**.



### Asia

The construction of a new 200,000-ton-a-year polyethylene line at Merak in **Indonesia** is nearly complete, with start-up scheduled for April 1998. The project is being carried out under an alliance agreement between TECHNIP MALAYSIA (detailed engineering and equipment supply), JGC (construction), and the client PT PENI (whose main shareholder is BP CHEMICALS), who is responsible for start-up. TECHNIP (Lyon) had earlier performed basic engineering. Built in the west of Java, the unit is based on the new BP CHEMICALS technology, which utilizes pentane condensation and a modified catalyst.



*Merak polyethylene plant - Indonesia.*

# - Fertilizers

KREBS-SPEICHIM is responsible for the turnkey delivery in 1998, on the same industrial site at Merak, of a 100,000-ton-a-year vinyl chloride monomer (VCM) plant for PT SIM, a joint venture between the Indonesian group SALIM and the Japanese company SUMITOMO.

TECHNIP MALAYSIA completed, three months ahead of schedule and to the satisfaction of the client, POLYETHYLENE MALAYSIA, a compounding unit for polyethylene and additives at Kerteh in **Malaysia**. At Kuantan, TECHNIPETROL/TECHNIP MALAYSIA completed de-bottlenecking of the AMOCO CHEMICAL PTA plant, thus increasing the plant's capacity by 20% for an additional 100,000 tons a year of capacity.

CABOT MALAYSIA awarded TECHNIP MALAYSIA the turnkey design and construction of a carbon black plant, with a capacity of over 40,000 tons a year, to be built at Port Dickson.

**In the sector of polymers**, the Group is designing and building in **China**, for SINOPEC, a 140,000-ton-a-year polyethylene plant at Qilu, Shandong province



*Liao Yang polyester plant - China*



*Tabriz complex - Iran.*

(TECHNIPETROL), and a 200,000-ton-a-year polypropylene plant at Yanshan near Beijing (TECHNIP).

**In the sector of chlorinated products**, TECHNIPETROL is designing and building a 24,000-ton-a-year epichlorhydrine unit at Yueyang in Hunan province. After having its technology selected by CNCCC/CANGZHOU CHEMICAL INDUSTRIES, KREBS-SPEICHIM was awarded the basic engineering and specific equipment supply for the construction, at Cangzhou (Hebei), of a dichloroethane cracking unit, designed to produce 120,000 tons a year of VCM. KREBS-SPEICHIM also obtained the acceptance certificate of a 20,000-ton-a-year bulk PVC plant, based on the ELF ATOCHEM process, built at Yibin (Sichuan province).

**Finally, in the sector of synthetic fibers**, KREBS-SPEICHIM obtained provisional acceptance of a polyester plant (200,000 tons a year, based on the ZIMMER process) built at Liao Yang in Liaoning province. Construction by TECHNIPETROL of the 50,000-ton-a-year caprolactam plant at Shijiazhuang, in the province of Hebei, is nearly complete. Caprolactam is an intermediate product used in the production of nylon.

## Latin America

Under the terms of a turnkey contract signed in 1996, TECHNIPETROL, in a consortium with JANTESA, is designing and constructing a 120,000-ton-a-year PVC unit, based on the GEON process, for PEQUIVEN at El Tablazo in **Venezuela**. Completion is scheduled for the first half of 1998. ●



## Fertilizers

The recently established company KREBS-SPEICHIM, of which six months of activity is included in the 1997 turnover (50% according to the proportional method), represents a major player for the Group in the fertilizer sector. The combined experience of several companies in the Group means that capabilities cover ammonia and urea, as well as the whole range of nitrogenous and phosphate fertilizers, from basic products used in their composition (nitric acid, sulfuric acid, phosphoric acid) on through all forms of compound fertilizers.

### Europe

In March 1997, CHEMOPROJEKT, the Czech affiliate of KREBS-SPEICHIM based in Prague, won a turnkey contract, worth about US \$30 million, from DUSLO for the design and construction of a 900-ton-a-day nitric acid plant to be built at Sala, in **Slovakia**. The project team, combining resources from both CHEMOPROJEKT and KREBS-SPEICHIM, is based in Prague.

### Middle East

In March 1997, the SNAMPROGETTI/TECHNIP joint venture was selected to finalize with OMAN FERTILIZERS the turnkey contract, worth about US \$800 million, for the design and construction of an ammonia/urea complex at Sour in the Sultanate of Oman. The project includes two ammonia units (2 X 1,750 tons/day) using the TOPSOE process, and two urea

units (2 X 2,200 tons/day) using SNAMPROGETTI technology. Project financing is currently being arranged, which should allow the contract to come into force in the near future.

In April 1997, KREBS-SPEICHIM performed the start-up of the sulfuric acid (2,000 tons/day) and phosphoric acid (700 tons/day) units built at Eshidiya in **Jordan** on behalf of INDO JORDAN CHEMICALS CO. In addition, as scheduled in the contract signed by KREBS and CHIYODA, the provisional acceptance of the NPK plant at Aqaba was pronounced in July 1997 by NIPPON JORDAN FERTILIZER CO. With a capacity of 300,000 tons per year, the Aqaba plant represents a major reference for the Group.



*Aqaba fertilizer plant - Jordan.*

# - Fertilizers

## Asia

Within a consortium including KLÖCKNER and two Pakistani partners, DESCON and HABIB RAFIK, KREBS-SPEICHIM, as technical leader, is participating in the execution of a US \$250 million contract for a fertilizer complex at Bin Qasim in **Pakistan**. KREBS-SPEICHIM's services concern, in particular, a 1,670-ton-a-day urea unit (STAMICARBON process and HYDRO-AGRI granulation process), the engineering of which was performed in collaboration with its Czech affiliate CHEMOPROJEKT and a 1,350-ton-a-day diammonium phosphate unit (Grand Paroisse process). Start-up of the units is scheduled for 1998.

In **China**, the aluminum fluoride plant at Luzai (6,000 tons/year) is being erected and the new facilities at Jinchang (200 tons/day of phosphoric acid and 400 tons/day of DAP) are in the start-up phase (KREBS-SPEICHIM).

## Australia

In July 1997, TECHNIPETROL was awarded, by WESFARMERS CSBP, a turnkey contract, worth about US \$100 million, for a 650-ton-a-day ammonia plant to be built at Kwinana, near Perth in **Australia**. The plant will employ TOPSOE process technology. Construction is scheduled for completion in 1999.

## Latin America

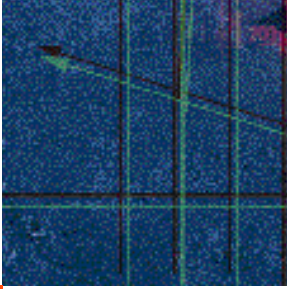
Under the terms of a turnkey contract, worth about US \$50 million, awarded by FERTILIZANTES FOSFATADOS SA (FOSFERTIL) in April 1997, KREBS-SPEICHIM and its Brazilian affiliate KREBS ENGENHARIA are working in close collaboration on the turnkey design and construction of a 1,800-ton-a-day sulfuric acid unit and the expansion of a phosphoric acid unit (470 to 1,020 tons/day) at Uberaba in **Brazil**. The project is based on KREBS-SPEICHIM's phosphoric acid technology and basic engineering, and demonstrates FOSFERTIL'S confidence in the specialists of both KREBS-SPEICHIM and Rio de Janeiro-based KREBS ENGENHARIA. ●



*Uberaba phosphoric acid unit - Brazil.*







## Cement

The cement field, which accounts for over half the turnover of TECHNIP's "diversified industries" sector, was marked by the award, in 1997, of a major new turnkey contract in the United Arab Emirates and the award of expansion and upgrading projects (U.S.A. and Morocco). TECHNIP CLE's activity was steady thanks to start-up operations of facilities, particularly in Brazil.

### Turnkey projects

Financing of the contract, signed in March 1997 by RAS AL KHAIMAH CEMENT CO. (RAKCC) and TECHNIP, for the turnkey construction, at Khor Khwair in the **Emirate of Ras Al Khaimah, United Arab Emirates**, had been entirely arranged at the end of 1997. Execution of the contract, worth about US \$150 million, had already begun last July thanks to the setting up of an initial credit installment. The plant, which will apply TECHNIP CLE technology, in particular for precalcination, grinding and environmental protection, will come on stream in 2000. LAFARGE, as consultant to the client and future operator of the plant, has signed a buy-back agreement with RAKCC for part of the final products, which will be marketed in the Emirates and abroad.



*But Son cement plant - Vietnam.*

In **Lebanon**, TECHNIP CLE continued the engineering and construction of the Sibline cement plant (2,400 tons/day), which is now 80% complete.

The But Son cement plant (4,000 tons/day) near Hanoi in **Vietnam**, the design and construction of which was awarded to TECHNIP CLE by VINACIMEX, is about to enter the start-up phase.

# Buildings

## New expansion projects and unit upgrades

In June 1997, NATIONAL CEMENT (USA), a fully-owned affiliate of CEMENTS VICAT, signed a contract with TECHNIP covering engineering and equipment supply for the remodelling and expansion of the drying line (to 3,100 tons/day of clinker from 1,900 tons/day) at its cement plant in Lebec, California, U.S.A.

LAFARGE CEMENTS MAROC awarded TECHNIP CLE two modernization projects for its cement plants in Bouskoura, near Casablanca and at Meknes in **Morocco**. Both projects consist mainly in the remodelling of the preheaters and the installation of precalciners.

## Start-up of renovated plants

The Port-La-Nouvelle cement plant, near Narbonne in **France**, was brought back into operation in February 1998 following optimization design and construction work carried out by TECHNIP CLE under a contract, worth about US \$17 million, awarded by LAFARGE CEMENTS in July 1996. Using the most advanced technologies for environmental protection and energy savings, TECHNIP CLE supplied, in particular, equipment based on its proprietary technologies (a low pressure drop cyclone preheater and a complete MINOX® precalciner).



*Port-La-Nouvelle cement plant - France.*



The facilities renovated at Volos in **Greece** have been in operation since June 1997.

In the Near East, TECHNIP CLE successfully completed the Fuhais project in **Jordan**.

In **Brazil**, the no. 4 drying line of the Salto de Pirapora cement plant was brought back into service in March 1997 with its capacity doubled to 5,000 tons a day. Shutdown of the kiln was limited to just five months. TECHNIP CLEPLAN, the Group's Brazilian affiliate based in Sao Paulo, carried out this project for VOTORANTIM. It included complete engineering of the facility, supply of preheater and RSP precalciner technologies, and supervision of manufacturing and construction. TECHNIP CLEPLAN also increased the capacity of the cement grinding unit by installing two CKP 180 pregrinders and a ball grinder. The total project was the equivalent of delivering, on a turnkey basis, a good-sized grassroots cement plant.

For CIMENTO ITAU, an affiliate of the VOTORANTIM group, TECHNIP CLE also revamped and expanded the Itau de Minas cement plant by supplying and installing two CKP grinders. The renovated facilities have been brought back into operation and performance tests are scheduled for March 1998. TECHNIP CLE is also about to start up, for VOTORANTIM, a new CKP 220 pregrinder installed at the Rio Negro cement plant and, for the CIMPOR group, the production line expansion and a CKP 220 at the Cajati cement plant. ●



## Pharmaceuticals and cosmetics

Although not significant in terms of turnover, since most of the projects are service contracts, this sector represents a not-inconsiderable share of the workload for the Group (by way of example: 10% of engineering hours for TECHNIP in France). It covers activities ranging from the synthesis of active ingredients to formulation and distribution facilities.

### Pharmaceuticals

The "Losartan 1" pharmaceutical synthesis unit was brought on stream in August 1997, following which MERCK SHARP & DOHM (MSD) renewed its confidence in TECHNIP by awarding it the engineering, equipment supply and construction supervision of the doubling of the unit's capacity. Located at Mirabel, near Riom in **France**, the unit synthesizes a molecule used for hypertension.

KREBS-SPEICHIM (through SNPE INGENIERIE) developed its partnerships with major pharmaceutical producers, signing contracts with SANOFI for a new formulation unit, and with ORIL for a second fine chemicals plant at Bolbec.



*Amboise pharmaceutical production unit  
France.*

In May 1997, TECHNIP completed the first phase of the project, awarded by PFIZER in 1996, for the expansion of its pharmaceutical plant at Amboise. The new facilities include a high-ceilinged warehouse (27m high, 28m wide and



*Reims pharmaceutical production unit - France.*

120m long), a cold storage warehouse and a logistics platform. Since then, a second phase, concerning the renovation of 11,000 square meters, has begun.

TECHNIP (Lyon) successfully completed the engineering and project management of the renovation and expansion of a major pharmaceuticals production plant at Reims for BOEHRINGER INGELHEIM FRANCE. The project, aimed at doubling the plant's capacity (to 800 million units per year), included engineering, equipment supply, works subcontracting, construction supervision and start-up assistance. TECHNIP, in close collaboration with the client, is currently working on "facilities qualification" to obtain approval from the FDA (Food and Drug Administration). The pharmaceutical plant at Reims manufactures medications in a wide range of forms: liquids, aerosols, and solids (uncoated, coated and sugar-coated tablets).

### Cosmetics

TECHNIP, in association with the architectural firm BEG, has been awarded, by the Japanese group SHISEIDO, the engineering and project management for the construction of a perfumes and cosmetics production plant near Orléans in **France**.

L'OREAL awarded TECHNIP the complete engineering of a plant to produce shampoos and creams at Warsaw in **Poland**. ●

## Agro-industries

### Ethanol

SEDAMYL, an affiliate of the Belgian group AMYLUM, awarded KREBS-SPEICHIM the turnkey supply of a 1,200-hl/day ethanol distillation/rectification unit. The unit will be built at Nesle in **France**. KREBS-SPEICHIM is also building ethanol plants at Uralsk and Kustanaï in **Kazakhstan** and has won a new contract for basic engineering and equipment supply of an ethanol plant at Lishu, **China**.

### Sugar

TECHNIPETROL delivered a turnkey sugar refinery with a capacity of 1,600 tons/day to UNITED SUGAR CO. at Jeddah in **Saudi Arabia**. The contract amounted to US \$140 million. ●

## Manufacturing industries

TECHNIPETROL/TPL ARABIA delivered, to SAUDI INDUSTRIAL DEVELOPMENT CO., a plant at Yanbu in

**Saudi Arabia**, which produces 400,000 pieces of ceramic sanitary equipment and 40,000 acrylic bathtubs annually. ●

## Hydrometallurgy

SUMITOMO METALS & MINING, Japan's largest mining company, selected KREBS-SPEICHIM technology for its new cobalt extraction unit at Niihama in **Japan**.

KREBS-SPEICHIM will also supply 16 mixer-settlers, of its own design, built in France according to very strict Japanese regulations.

The group ERAMET, the world's third largest nickel producer, awarded KREBS-SPEICHIM a contract covering engineering and project management for the construction of a liquid/liquid extraction unit to be built at Le Havre in **France**. Again, KREBS-SPEICHIM will supply the battery of mixer-settlers of its own design. ●

## Power plants and cogeneration

The expansion of the power plant at Yanbu in **Saudi Arabia** is 80% complete. This project, worth about US \$30 million, had been awarded to TPL by ARABIAN INDUSTRIAL FIBERS CO. in early 1997. It covers, in particular, the supply of a 65-MW turbine and a 171-ton/hour steam generator.

In addition, TPL completed, in December 1997, the turnkey design and construction of a 120-MW power plant at Omar in **Syria** for AL FURAT PETROLEUM CO.

In early 1998, TECHNIPETROL was awarded a turnkey contract for a waste incinerator designed to produce energy (steam and electricity). The unit will be built at Mantua in **Italy** and will include a 100,000-ton-per-year fluidized bed incinerator. ●

## Buildings

TECHNIP TPS has established itself as a leader in the engineering of asbestos removal with the award of two major European projects: the Jussieu University campus in Paris and the European Commission headquarters (the Berlaymont building), in Brussels.

In the renovation sector, TECHNIP TPS has won two other significant projects: GAZ DE FRANCE selected the company as deputy project manager for the structural renovation of its headquarters in Paris, and CAISSE DE DEPOTS ET CONSIGNATIONS awarded the company, in association with the architect Christian BIECHER, the renovation of a building situated on the quai Anatole France in Paris, which used to house the CNRS research center, in order to transform it into the bank's headquarters.



*Asbestos removal at the Berlaymont building - Brussels.*

Finally, in association with the architect Dominique PERRAULT, TECHNIP TPS gained heightened recognition after winning the European Pavillon Mies Van der Rohe architectural award given by the European Commission and Parliament for the new French National Library, for which TECHNIP TPS performed most of the engineering (heat, electrical and mechanical engineering). ●

## A basic principal: design "clean plants" from the start

At every step in the design of a facility, TECHNIP integrates the necessary elements which contribute to the respect of the environment.

During basic engineering, the objectives to be attained are defined in collaboration with the client in accordance with applicable regulations.

Throughout the other design phases, potential sources of pollution are identified and studied, and appropriate measures are decided on to reduce their effects:

- atmospheric gaseous discharges are limited to the minimum technically necessary for the operation of the facilities,
- no industrial waste water or liquids are discharged into the environment without prior treatment and control of their characteristics,
- as for noise, acoustic studies are developed for all facilities in order to ensure that noise levels are acceptable.

At the client's request, the companies of the TECHNIP group perform in-depth environmental impact studies integrating both the analysis of national and international regulatory constraints as well as specific demands by the authorities. These environmental impact studies are essential for clients in obtaining operating permits for their facilities.

TECHNIP also carries out environmental audits on existing plants to assist in improving their performance in the field of environmental protection.



## Priority objectives: hygiene, safety and environment (HSE)

As with environmental protection measures, norms to ensure safety and hygiene are taken into account and integrated at every stage of project development (design, construction, operation and maintenance).

The implementation of this principal is based on a code of practice which includes the following commitments:

- **During the design phase:** performance of plant design with the objective of supplying the client with a plant that is safe to operate and maintain, and respectful of the environment
- **During the construction phase:**
  - provide employees with regulatory safe and healthy workplaces,
  - foster an accident prevention philosophy,
  - provide adequate training and instruction for personnel so that work can be carried out safely,
  - monitor conformity with HSE policy objectives throughout the life of the project and, if necessary, implement remedial actions.

Project and jobsite teams are particularly aware of these HSE objectives and receive specialized training in these fields.

# Human resources

## Human resources

*With the know-how of its 6,400 employees around the world as a major asset, the TECHNIP Group is continuing its human resources policy based on developing to the fullest the multiple capabilities which make up the Group and the improvement of their collective efficiency.*

### From welcoming...

In 1997, recruitment of young engineers and technicians continued, marked by a greater international openness, as well as by exchanges with the various affiliates of the Group, whether in the form of training programs or by placing CSNE trainees (young people performing voluntary military service in companies overseas) in Germany, Belgium, the United States, Italy, Malaysia and Russia.



### ...to training

The objective of the training policy at TECHNIP was to keep abreast of the evolution of its different trades. Because of their specific requirements, in-house training was favored in this field.

It also meant keeping abreast of the various technological evolutions linked to the emergence of a new generation of systems and to the rapid development of the new Group-wide electronic mail system.

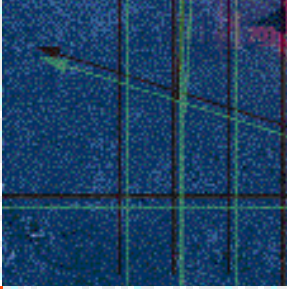
In addition, the training program integrated a strong intercultural dimension in order to allow the people concerned to constantly improve communication with clients, partners, and local suppliers abroad.

### Contractual policy

The year 1997 was marked by the continuation of the Group's contractual policy with the signing of agreements concerning employee profit sharing and the establishment of a plan for an increase in capital limited to employees of the Group in France that year.

As a result, more than two thirds of TECHNIP employees now hold shares in the company through the Group's savings plan.





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