# ANNUAL REPORT 1997

SOGEA

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## BOARD OF DIRECTORS

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*Honorary Chairman and Director*

Xavier HUILLARD
*Chairman of the Board*

*Directors*
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Michel CAMBOURNAC
Bernard HUVELIN
Jean MALASSIGNÉ
Roger MARTIN
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Xavier Huillard
*Chairman and Chief Executive Officer*

Pierre-Michel Chaudru
*Deputy General Manager, Ile-de-France*

Jean Rossi
*Deputy General Manager, French Regions*



# EDITORIAL

For Sogea, 1997 was a year of refocusing on its core business lines – building, civil engineering and hydraulic engineering – and on its traditional core markets – the Ile-de-France, the west of France, the north and east of France, Belgium with Denys, the United Kingdom with Norwest Holst and of course Africa and the French overseas departments and territories.

Refocusing involved transferring the water management and distribution and the household waste treatment business activities to Compagnie Générale des Eaux, as well as acquiring CBC and Campenon Bernard SGE subsidiaries in the south-west, west, north and east of France.

1997 was, for Sogea, a year of major projects including the structural work on the Georges Pompidou European Hospital in Paris, the Smart production plant in Hambach (Moselle), the European School in Luxembourg and the Vernègues viaduct on the Mediterranean TGV high-speed rail line. However, most of Sogea's business was done in the framework of a large number of small contracts employing the full range of Sogea's technical,

John Stanion
*Chief Executive of Norwest Holst Ltd.*

Philippe Ratynski
*International Director*

Pierre Billon
*Financial Director*

Christian Cardon
*Legal Director*

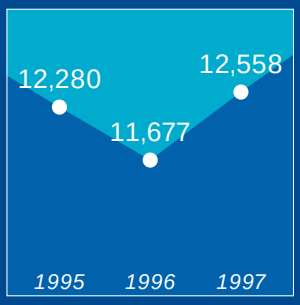
Hervé Meller
*Human Resources Director*

organizational and management capabilities to provide customers with the quality, delivery date and cost guarantees they require.

In France, the building market is expected to remain difficult and the civil engineering market is slipping; against this backdrop, Sogea intends to break even in 1998. Meanwhile the group's U.K. and African operations will be consolidating the recovery they recorded in 1997. For Sogea, the watchwords for 1998 are selectivity, discipline and creativity.

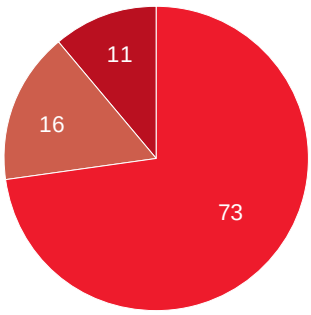
XAVIER HUILLARD

# KEY FIGURES



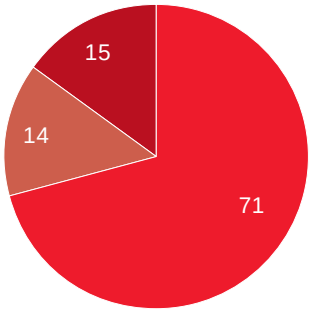

**TURNOVER**
*in millions of French Francs*

**ILE-DE-FRANCE**



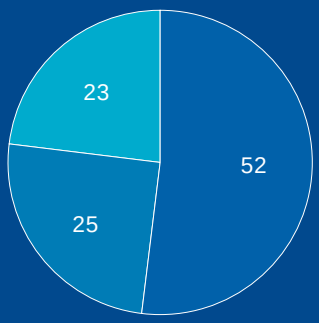

**TURNOVER BY LINE OF BUSINESS**
*as percentage and in millions of FF*

| | |
|---|---|
| Building | 1,639 |
| Civil engineering | 365 |
| Hydraulic engineering and Environment | 255 |



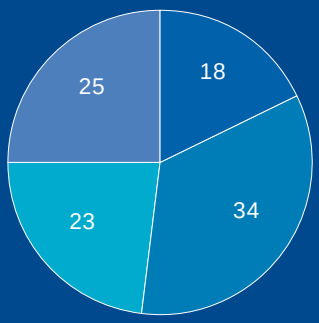

**TURNOVER BY SUBSIDIARY**
*as percentage and in millions of FF*

| | |
|---|---|
| Sicra | 1,601 |
| TPI Ile-de-France | 322 |
| Sobea Ile-de-France | 336 |



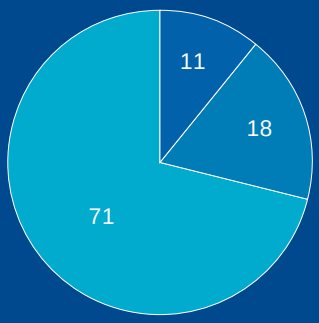

**TURNOVER BY LINE OF BUSINESS**
*as percentage and in millions of FF*

| | |
|---|---|
| Building | 6,487 |
| Civil engineering | 3,183 |
| Hydraulic engineering and Environment | 2,888 |




**TURNOVER BY GEOGRAPHIC AREA**
*as percentage and in millions of FF*

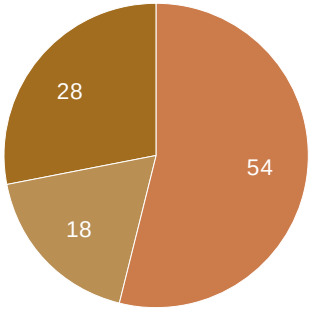
| | |
|---|---|
| Ile-de-France | 2,259 |
| French regions | 4,283 |
| International | 2,916 |
| Norwest Holst | 3,100 |




**EMPLOYEES**

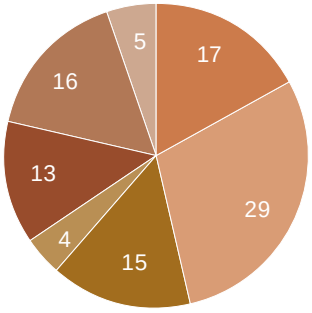
| | |
|---|---|
| Engineers, Managerial | 1,810 |
| Clerical, Technical and Supervisory | 3,114 |
| Manual workers | 11,985 |

## FRENCH REGIONS




**TURNOVER BY LINE OF BUSINESS**
*as percentage and in millions of FF*

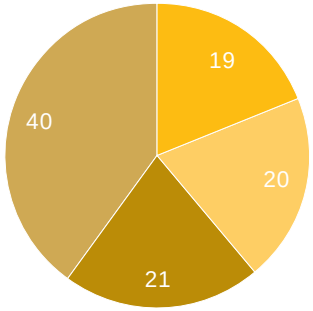
| | |
|---|---|
| Building | 2,314 |
| Civil engineering | 777 |
| Hydraulic engineering and Environment | 1,192 |




**TURNOVER BY SUBSIDIARY**
*as percentage and in millions of FF*

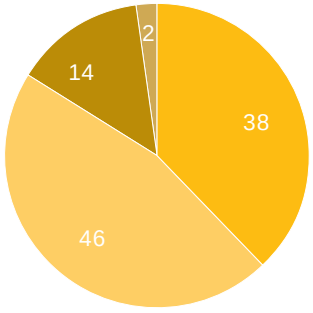
| | |
|---|---|
| Sogea Est | 712 |
| Sogea Nord-Ouest | 1,301 |
| Sogea Ouest | 647 |
| Sogea Rhône-Alpes | 165 |
| Sogea Sud-Est | 553 |
| Sogea Sud-Ouest | 681 |
| Dodin Sud | 224 |

## INTERNATIONAL




**TURNOVER BY LINE OF BUSINESS**
*as percentage and in millions of FF*

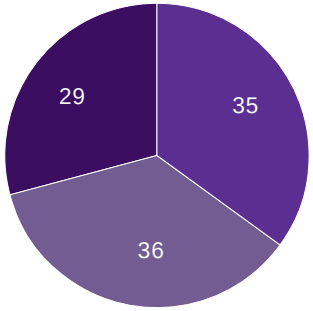
| | |
|---|---|
| Building | 554 |
| Civil engineering | 583 |
| Roadworks | 608 |
| Hydraulic engineering and Environment | 1,171 |




**TURNOVER BY GEOGRAPHIC AREA**
*as percentage and in millions of FF*

| | |
|---|---|
| Overseas Departments and Territories | 1,094 |
| Africa | 1,346 |
| Belgium | 405 |
| Miscellaneous | 71 |

## NORWEST HOLST




**TURNOVER BY LINE OF BUSINESS**
*as percentage and in millions of FF*

| | |
|---|---|
| Building | 1,070 |
| Civil engineering | 1,120 |
| Infrastructure | 910 |

# LOCATIONS

■ In Ile-de-France, Sogea has three subsidiaries - Sicra, specialized in building; TPI Ile-de-France, specialized in civil engineering; and Sobea Ile-de-France, specialized in hydraulic engineering, environmental engineering and car parks.
■ In the French regions Sogea is structured in six regional divisions and a subsidiary specialized in civil engineering, Dodin Sud.Thanks to the broad geographic distribution of its subsidiaries, Sogea thus has strong local roots in the areas in which it does business throughout the country.
■ In addition to the French overseas departments and territories, Sogea's international activity is focused more particularly on Africa (where Sogea and Satom have been operating in 26 countries for more than half a century) and the Benelux countries (through Denys).
■ Norwest Holst covers the full range of building and civil engineering activities throughout the United Kingdom.

ILE-DE-FRANCE



# HIGHLIGHTS

■ JANUARY ■ 1 January: Sicra receives ISO 9002 certification for its maintenance activities.
■ Together with CREED (Center for Environment and Waste Research and Testing) Sogea is selected by the French Ministries of Equipment and Education in the framework of a "more uniform approach to asbestos removal".
■ FEBRUARY ■ 17 February: Start of construction of a drinking water pipeline in Bethlehem at the headquarters of the Palestinian water authority. Sogea is asked to oversee the project. ■ 21 February: Foundation stone laid for the La Trinité purification plant. Sogea Martinique will build it in twelve months.

The La Trinité water purification plant.

■ MARCH ■ 21 March: TPI Ile-de-France delivers to the Paris airport authority the T9 terminal at Roissy Charles De Gaulle following nine months of work during which the terminal remained open.
■ APRIL ■ 22 April: Inauguration of the car park at the Chatou train station which was renovated by Sobea Ile-de-France and decorated with fresco reproductions of great Impressionist works. ■ 30 April: Sogea Nord-Ouest receives ISO 9002 certification for its building activities in Normandy and its public works activities in the Nord. MAY ■ 27 May: SBTPC, a Sogea subsidiary on Réunion, inaugurates the new La Chaloupe bridge in Saint-Leu which carries the RN1 highway across the Ravine. ■ JUNE ■ 7 June: The President of the French Republic and the Minister of Culture inaugurate the Palais des Beaux Arts in Lille which was renovated by Sogea Nord-Ouest.

The Palais des Beaux Arts in Lille.

■ 23 June: Sogea Bretagne inaugurates the Beaurade water purification plant in Rennes.
■ KM Group Services, a Norwest Holst subsidiary specialized in thermal insulation, obtains ISO 9002 certification.
■ JULY ■ 15 July: AFAQ (French Association for Quality Assurance) grants ISO 9001 certification to SBTPC for its building activity. The same day, Sogea Est receives ISO 9002 certification for its pipeline activity.
■ 18 July: Sogea Nord-Ouest obtains its third ISO 9002

FRENCH REGIONS

INTERNATIONAL

UNITED KINGDOM



certification of the year for its civil engineering activity in the Centre region. ■ **AUGUST** ■ 4 August: Sogea Est starts work on the La Dragée housing project in Nantes. The 59-unit project is part of a "quality organization system" experiment. ■ Sogea is awarded the contract to operate the Mikouloungou uranium mine in Gabon. ■ Late August: On Réunion, the Bois-des-Nèfles middle school, built by Sogea Réunion, is handed over, and SBTPC delivers the Rivière-Saint-Louis high school.

■ **SEPTEMBER** ■ 1 September: Sogea Sud-Est obtains ISO 9002 certification for all of its activities. ■ 12 September: Foundation stone laid for the Sillonière dam in the Vouvraie Valley (Vendée). Construction is entrusted to Dodin Nord.

■ **OCTOBER** ■ 27 October: Jacques Chirac and Helmut Kohl inaugurate the MCC plant in Hambach which manufactures the Smart Car. Sogea Est put up the 23 plant buildings

The MCC plant in Hambach.

and laid the 150 km-long pipeline system. ■ Satom begins work on the FF 151 million Bangui-Damara-Sibut road project in the Central African Republic.

■ **NOVEMBER** ■ 14 November: Inauguration in Poitiers, on the site of the Futuroscope, of the ESPEMEN (Ecole Supérieure pour le Personnel d'Encadrement du Ministère de l'Education Nationale) built by Sogea Ouest. ■ 20 November: Sogea and Satom sign a contract worth more than FF 600 million for roads and infrastructure in Cameroon. In Senegal, Sogea is awarded the contract for the Dakar drinking water supply system.

■ **DECEMBER** ■ Norwest Holst starts work on extension and renovation of St. Mary's Hospital west of London. ■ 24 December: Satom signs the contract for the water supply system in Iriba, Chad. ■ Chanzy-Pardoux is awarded the contract to build the incineration plant for greater Metz.

# ILE-DE-FRANCE

Strengthened by its new organizational structure in Ile-de-France, Sogea was active on all building and civil engineering markets in 1997 through three specialized subsidiaries: Sicra, in building; TPI Ile-de-France in civil engineering; and Sobea Ile-de-France in hydraulic and environmental engineering. Apart from these traditional activities, Sogea also has subsidiaries specializing in services through Sobea Ile-de-France and its subsidiaries Effiparc and Gefiparc (construction, renovation and management of car parks) and Sicra Maintenance-Multiservices (maintenance works).

**With locations in Nanterre, Rungis, Herblay, Massy and Marne-la-Vallée, Sogea's Ile-de-France subsidiaries work throughout the greater Paris area.**

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# BUILDING

On a market in considerable decline, Sicra's volume in its main lines of business held steady in 1997.

In new construction, the largest project carried out by Sogea in 1997 was the Georges Pompidou European Hospital (architect: Aymeric Zublena) for the Assistance Publique de Paris. On schedule, Sogea completed most of the structural work, so that commissioning of the hospital can take place on the target date of 1 October 1998. Sicra carried out many public building projects in 1997: extension of the Saint Nicolas private high school and middle school in Issy-les-Moulineaux (Fernier et Associés); start of the Voltaire gymnasium project in Nanterre (Bernard-Simonet), the Nanteuil-le-Haudouin elementary school (Alexandre et Sandoz), the police headquarters in the Reuilly ZAC in Paris's 12th arrondissement (Perisse Michel) and the Saint Louis pre-school in the 10th arrondissement. Meanwhile, Sicra made further progress on the private new building market, making the most of synergies with the Générale des Eaux group's property development subsidiaries. At La Défense, Sicra took part in building the housing in the E district of the Danton ZAC for the George V Habitat company and in completing the T4 tower (Conceptua) and the Colisée building (Atelier Melot) for Sari. For SEERI, it built housing in the Le Pacha district of the Front-de-Seine ZAC in Levallois-Perret (Bechu and Zublena). In the Dupleix ZAC in Paris, Sorif asked Sicra to build the Bailli-de-Suffren housing units. In Boulogne-Billancourt, George V Industrie entrusted to Sicra the construction of office space on the Quai du Point-du-Jour (C. de Portzamparc).

Sicra worked with Sirca, its subsidiary specialized in industrial building, on a large number of



A MODEL CONSTRUCTION SITE IN OCCUPIED PREMISES

August 1997: Sicra starts work on the Quatre-Tours complex at Blanc-Mesnil. This is a large 769-unit renovation project in occupied premises and is an experimental works project under the Ministry of Housing's Plan Architecture Construction called "supplies scheduling and routing in a sequential renovation project". The goal is to minimize the duration of work in the apartments – and the inconvenience to the tenants – thanks to work and supplies scheduling and the collection of the supplies needed by each worker at the start of each task. Among the tools and methods developed in this experiment were topomaintenance, which makes it possible to optimize utilization of construction equipment, and sequential organization, which divides tasks into separate and autonomous work units.

3

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**1. Sicra started renovation work on the Quatre-Tours complex at Blanc-Mesnil.**

**2. In the heart of Paris, the Georges Pompidou European Hospital for which Sogea did the structural work.**

**3. Sicra handed over, at the end of 1997, the vehicle test facility and the materials engineering center at the Renault Technocentre.**

**4. The old BP tower at La Défense, renovated by Sicra. Special feature: construction of a seven-level underground parking garage below the 15 storeys which were kept.**

projects for its clients in industry and the service sector. For example, it delivered to the Trema group the large Grand Ciel shopping center in Evry (BPP Groupe 6) and completed the two laboratory buildings at the Renault Technocentre in Guyancourt (J. Ferrier).

Sicra did a brisk business in the building renovation sector with several projects in occupied premises. Examples are the renovation of 621 units in Les Ulis for Résidence Urbaine de France (Varroquier et Beledin) and the restructuring of the Pirandello high school in the 13th arrondissement of Paris for the Ile-de-France regional authorities (Cabinet Choay et de Lamotte). It again demonstrated its capabilities in structural renovation of office buildings with the transformation of the future headquarters of the Compagnie Générale des Eaux in the Avenue Friedland (F1 Développement) and the renovation of several storeys of the Ariane tower at La Défense for CGIS (Deltour). Also noteworthy are the renovation of the headquarters of Alcatel-Alsthom in the rue La Boétie in Paris's 8th arrondissement (Sogelerg Ingénierie) and that of the Mederic group in the rue Laffitte in the 9th arrondissement (DTACC, M. Carvenis), as well as two projects for the La Mondiale insurance company in the rue du Rocher in the 8th arrondissement (Lesne, Bennadec et Paris) and the rue Piccini in the 16th arrondissement (A. Bechu).

In the area of maintenance, in which Sicra has developed a number of building management services through its subsidiary Sicra Maintenance-Multiservices, the company continued its activities at the headquarters of Disney Consumers in Paris and of Arthur Andersen in Neuilly. Sicra also maintains and manages Léonard de Vinci University in Courbevoie and the facilities of the French national library, the Bibliothèque Nationale de France, in Paris, together with SDEL. Finally, Sicra Maintenance Multiservices, working within a multiservice consortium, won the maintenance and management contract for the Stade de France in Saint-Denis (see above).

MAINTENANCE

## New contract for the Stade de France

*A few months before completion of the Stade de France project, Sicra Maintenance-Multiservices was awarded the contract for "multi-service" management of the facility which will be the venue for the World Cup final in July 1998. A success commensurate with Sicra's endeavors over the last several years to provide a broad range of maintenance services to a large number of public and private sector customers. This effort was also recognized in January 1997 when ISO 9002 certification was granted to Sicra for its maintenance activities.*

# CIVIL ENGINEERING

TPI Ile-de-France, a SOGEA subsidiary specializing in civil engineering, covers most types of work in this area: underground works, construction of engineering structures, maintenance and drainage system works.

In 1997, this Paris area subsidiary focused on construction sites on the A86 motorway. TPI Ile-de-France continued work on behalf of EPAD (Etablissement Public d'Aménagement de la Défense) on the largest underground interchange in Europe which will connect the A14 and A86 motorways at Nanterre. This work on the southern A86 motorway between the Becquet bridge and the diverted collector main north-west of the Avenue Hoche includes construction of a central wall and the junctions of the feeders connecting the A86 and the interchange. Additionally, TPI started construction on the underground portion of the motorway at Rueil-Malmaison between Pourtour and Roosevelt Boulevards. This project is 410 meters long and includes a 350-meter section in the north, six emergency exits and a 55-meter access ramp.

Also noteworthy is TPI's work in the sheathing of the buildings of the water treatment plant in Joinville-le-Pont for Sagep (Société Anonyme de Gestion des Eaux de Paris). The project's special feature was the installation of 9-tonne prefabricated elements requiring the use of a 60-tonne track-laying crane.

1

# HYDRAULIC ENGINEERING

Sobea Ile-de-France works in the different areas of hydraulic engineering: laying, renovating and maintaining pipelines and networks for all fluids, with and without inspection facilities. It also specializes in civil engineering work related to the environment and in the construction, renovation and management of car parks.

In the field of hydraulic engineering, Sobea Ile-de-France laid a large number of pipelines. It replaced the pipework at the Joinville-le-Pont plant for Sagep and the pipelines at Moret-sur-Loing, Ville-Saint-Jacques and Thiais. It also completed work on wells in Ivry, Fontainebleau and Provins.

With respect to sewer and drainage system work, Sobea Ile-de-France completed the systems for the joint municipal authority in the Villeneuve-Saint-Georges area covering the towns of Boussy-Saint-Antoine, Yerres, Mandres-les-Roses and Vigneux, as well as the systems of the Montbrison district in Rueil-Malmaison.

3

2

1. Sobea Ile-de-France supplied and installed 16,000 square meters of granite surfacing on the square in front of the Stade de France.
2. EPAD entrusted Sogea and TPI Ile-de-France with the work on the A14-A86 interchange in the southern zone in Nanterre.
3. Sobea Ile-de-France started civil engineering work on the Meaux water purification plant in September 1996.

In the area of environmental engineering, Sobea Ile-de-France continued work on the Meaux water purification plant with a population-equivalent capacity of 130,000. On this site a record 1,300 cubic meters of concrete was cast to construct the slab of the future buffer tank which will contain 7,100 cubic meters of water. The company also completed the household waste treatment center in Monthyon and the Clichy-la-Briche collector main. It also started construction of a drinking water reservoir, which is partly below ground level, and a storage building for chemicals at Choisy-le-Roi for the Ile-de-France water authority.

On the Stade de France construction site in Saint-Denis, Sobea Ile-de-France supplied and installed the Villeroc slabs and completed the installation of the granite on the square.

With regard to parking facilities, in 1997 Sobea Ile-de-France completed rehabilitation of the car park at the Chatou train station and started extension work on the Harlay car park (Pont-Neuf, Paris). It was awarded new management contracts in Ville-d'Avray (306 spaces), Sèvres (752 spaces) and Chaville (603 spaces). Meanwhile, its subsidiary Effiparc extended its own car park activity. In 1997 it began managing car parks at the Place des Fêtes (620 spaces) and the Méridien-Etoile hotel (490 spaces, see opposite) in Paris and one in Meaux (2,837 spaces). The total number of parking spaces under Sogea management in Ile-de-France went up from 12,000 to 18,000 in one year.

MERIDIEN-ETOILE HOTEL

## New generation car park

*Because Effiparc, a subsidiary of Sobea Ile-de-France, can offer high-performance solutions to improve efficiency and convenience of urban parking facilities, it was selected in May 1997 to manage the car park at the Méridien-Etoile hotel at the Porte Maillot in Paris. Checkpoints were installed at each level, pedestrian exits were glassed in and renovated, video monitoring was expanded, pedestrian and car signposting was installed, etc. These were the technical and commercial features that made all the difference. To give the facility its own personality, the access ramps will be painted with jazz frescos.*

In 1997 major changes in the group's consolidation scope were completed, refocusing it on its core business lines. Sogea acquired eleven new regional subsidiaries. Three of them came from Campenon Bernard SGE: Gauchoux and Bourdarios in the South-west and CBO in the West region.

# FRENCH REGIONS

Eight came from CBC: Caroni Construction et Génie Civil de Lens, in the North; GBC Atlantique and the Société Anonyme des Entreprises Heulin in the West region; CA2B Dominguez and THB in the South-west; and finally Sotram Construction and Chanzy-Pardoux in the East region.

These changes enabled Sogea to further expand its business in the French regions and considerably strengthen its position in the building sector.

**Sogea's regional subsidiaries give it excellent geographical coverage in Brittany.**

1

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# BUILDING

The acquisition of new subsidiaries has enabled Sogea to expand into new geographical areas and new specialities. This momentum is developing particularly strongly in the North, thanks to the integration of Caroni, and in the East region where Chanzy-Pardoux has contributed its experience on the Luxembourg market and its know-how in the field of historic monuments.

**PUBLIC BUILDINGS**

In 1997 Chanzy-Pardoux started construction of the European School in Luxembourg (Cabinet Bauer), a project which is scheduled to take three years to complete. Its renovation and historic monuments activity included renovation of the Luxembourg Chamber of Deputies (M. Huybrechts, Cabinet Architecture et Environnement), the cathedrals at Nancy (A. Caillaux, Meurthe et Moselle department of architecture) and Strasbourg (Fonquernie) as well as Malbrouck Castle (M. Goutal) in Moselle. It has also been selected to renovate the cathedral in Toul (T. Algrin, architect-in-chief for historic monuments).

In the area of health and human services, Sogea carried out work for the hospitals at Bédarieux (M. Nyer), Ingwiller (Coulon-Richter), La Seyne-sur-Mer (Ami-Bader-Bal), Le Neubourg (V. Brossy), and Neunberg (Coulon et Richter) as well as the Lanval hospital in Nice (C.-J. Schmeltz). It built the pneumo-cardiology unit at the teaching hospital in Rennes (25,000 square meters of floor space; Malivel, Seraqui et Delteil, NMS Architecture) and a logistics building for the teaching hospital in Tours (A. Zublena). In Le Mans, Heulin completed a building for the ASSEDIC (Cabinet Prebay). In Poitiers, finally, GBC-Atlantique is building a training center for AFPA (D. Laming).

In the field of schools and universities, Sogea handed over the southern Orléans high school

3

4

1. In Poitiers, on the site of the Futuroscope, the ESPEMEN built by Sogea Ouest.
2. Chanzy-Pardoux, a Sogea Est subsidiary, is building the new European School in Luxembourg.
3. Sogea Sud-Est will deliver the Grasse courthouse in October 1998.
4. Chanzy-Pardoux's historic monuments division started work on restoring Strasbourg Cathedral in February, 1997.

in 1997 (Créature-SCP Brun-Giquelle) and the Ecole Supérieure des Personnels d'Encadrement du Ministère de l'Education Nationale (Cabinet Dubus et Lott), located on the site of the Futuroscope in Poitiers. It also did work on the Anna de Noailles middle school in Noailles (Cabinet ZAD), the Henri Beaumont middle school in Beauvais (G.G. Noël), and the high schools in Bouaye (J.-P. Logerais) and Langon (F. Gauthier), and it carried out structural renovation of the Aristide Briand middle school in Evreux (J. Berteau, Concept Architecture). Sogea is rehabilitating the Clemenceau high school in Nantes (M. Lepinay) and the Blaise Pascal high school in Rouen (Cabinet ACAU). In La Roche-sur-Yon, the company is building the university library (D. Laming) and renovating the Kastler high school (M. Goujon). In Lille, it is building the Paul Verlaine middle school (A. Lemay); in Montpellier, the Las Cases middle school (Cusy and Maraval) and in Marseille the Estaque high school (Eisenlhor-Siame). Finally, in Talence, Gauchoux is building the Mangendie high school (SCP Chaveron et Bazerque) and CA2B Dominguez is restructuring the Victor Louis high school (A. Rodriguez, Artotec).

Sogea's work is highly varied in other fields as well. Notable examples are the Bethune (Maillard-Vilette Associés) and Grasse (C. de Portzamparc) courthouses, the Lens police station, the gendarmerie base at Vannes (Etablissement du Génie), the officers' mess at Brive, the Colmar first-aid center, and the detention center in Nice (BBG). In the area of sports, Sogea built the Dampierre-en-Burly complex in the Loiret (D. Rod), rebuilt the Brisson stadium in Beauvais (Beauvais department of architecture and buildings) and modernized the stadium at Lens (Martic), which has been rejuvenated for the World Cup. Finally, the second phase of the Boulogne-sur-Mer oceanographic museum (J. Rougerie), the extension of the Hyères airport (Bui Kien Quoc) and the construction of the hemicycle of the European Parliament in Strasbourg (Architecture Studio Europe) are worthy of mention.

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1. After completing the Atmel electronic components plant in Rousset in six months, Sogea Sud-Est is now completing the SGS Thomson plant at the same site.
2. Sogea Est built the 23 buildings and laid the 150 km of pipes at the MCC plant in Hambach.
3. Sogea Sud-Ouest is currently building the Jardins du Consulat complex in Montpellier: two phases of 86 student housing units and 35 home-ownership units (A. Garcia-Diaz and A. Fainsilber).

**HOUSING**

Sogea is one of the leading French public housing construction and renovation companies. Its innovative processes regularly receive awards, particularly in the context of the LQCM procedure (Controlled Quality, Controlled Cost Housing). In 1997 it thus won the contract to build 82 units in Beauvais (Gallois, Dreuzy, Indzik).

The contribution of the new subsidiaries made it possible for Sogea to broaden its coverage of the housing market and work virtually nation-wide. Gauchoux, for example, is doing the structural work on the Maison des Scientifiques in Talence which will contain 1,500 units (A. Loisier) and GBC Atlantique is building the La Gâtine retirement home for the Edylis company in Angoulême (J. Remond).

In the North it built 79 housing units for the elderly at Tourcoing and 34 subsidized-rent units in Longeaux (H. Dufau). It is rehabilitating 700 public housing units in Amiens (G. de Konink et Bachelier, 188 units; Groupe Arcane, 252 units; G. Duez and R. Gaignard, 264 units) and a mining village in Wingles. In the West region it is building 106 units in Caen (M. Dalibard), building 44 new units and renovating 437 existing units in Le Havre (J. Amoyal) and building 253 student housing units in Rouen (A. Elie). In the East region, Sogea is renovating the 304 units of the Cité des Oiseaux in Nancy (J.-J. Guyot) and building 59 others within the La Dragée project (Cabinet Costet et Laurent). In the Centre, the company is doing work in Chartres, where it is building 75 housing units for the Aviron development company (SCP Blot et Rivière) and in the Loir-et-Cher it is working in Romorantin, where it is renovating 164 units. In Limoges, it is carrying out several projects for the Crédit Immobilier du Limousin, Baticat and the OPHLM. In the south, finally, it is renovating 141 units in Pamiers (B. Bach, OPHLM) and carrying out construction work in Toulon for the Logis Familial Varois (Hubert).

PREPARING TOMORROW'S CONSTRUCTION SITES

Pursuing its innovative approach to building in 1997, Sogea carried out a number of experimental projects. In Nancy, where Sogea Est started construction of 59 housing units in the rue Saint-Nicolas, the company had an opportunity to further enhance its "quality organization system" based on a skills reporting and review procedure.

In Beauvais, Sogea Nord-Ouest is building the La Désinence project under an LQCM (Controlled Quality, Controlled Cost Housing) procedure. This experiment is part of the run-up to an in-depth reorganization of the building trades. The goal is set very high: reduce rents and service charges by 20 %. In partnership with Styltech, a subsidiary of Usinor, Sogea Sud-Ouest has started construction of 38 metal structure units in an experimental project at the Crès, near Montpellier, which is focused on developing cost-effective dry construction systems.

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**BUILDINGS FOR INDUSTRY AND THE SERVICE SECTOR**

Sogea's expansion has been substantially focused on industrial, retail and service sector building construction.

In this sector, the construction of the Smart manufacturing plant (MCC) in Hambach, Moselle (Sexer-Loyrette) was the outstanding project of 1997. Sogea was in charge of all the pipework and the 23 buildings of the industrial site which was inaugurated on 27 October 1997 by President Chirac and Chancellor Kohl.

Sogea built a number of other manufacturing plants in 1997. After handing over a microprocessor plant to Atmel (Jacobs), the company continued work at Rousset near Aix-en-Provence on one of the industrial sites of SGS Thomson (AMA). It also worked for the Coflexip, Total and Agram companies, for Laboratoires Janssen and the Générale de Chauffe company for which it built three cogeneration units (J.-M. Fabry).

In the retail sector, Sogea extended the Mérignac Intermarché (M. Boutin and Ph. Carle) and the Leclerc Center in Rezé (Cabinet Brunerie). It also built the headquarters of the Barbara company (Phelouzat) in the Centre, the Atlantique business park in Cherbourg (A. Boisroux) and the Europa D tower in Montpellier, a project in white concrete designed by architect Ricardo Bofill in the heart of the Antigone district. It renovated the offices of the AVA insurance company in Rouen (architect: ACAU) and those of Rhône-Poulenc in Le Mans (Rhône-Poulenc). It renovated the Occidental Hotel in Nice (Caporal) and the Berck casino for the Partouche group (Philippe Ollier). Finally, in 1997 some 50 radiotelephone relay stations, designed and built entirely by Sogea, were completed for SFR.

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# CIVIL ENGINEERING

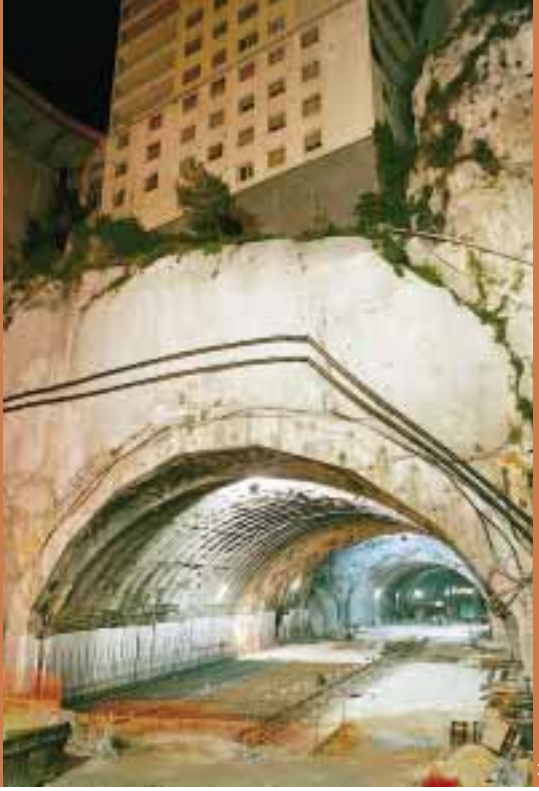
SOGEA handles all types of civil engineering work, including underground works, engineering structures, river and maritime works, construction of waste treatment plants, laying of telephone cables, etc.

In 1997 the company continued work on the new Monaco underground railway station in accordance with the contractual schedule and budget, despite the inevitable problems inherent in such a large-scale project in the very heart of the Principality.

For the French National Railways, Sogea and its specialized subsidiary Dodin Sud completed several sections and structures along the right of way of the future Mediterranean TGV high-speed rail line. These included the 1,200 meter long Vernègues viaduct (Amedeo) for which such technologies as sliding construction of part of the 13,000-tonne variable-geometry concrete deck were employed.

Dodin Sud is also building several engineering structures along the A89 motorway between Bordeaux and Clermont-Ferrand, in particular the Ussel bypass, the Bergères viaduct (Ateliers J.-P. Loupiac) and three bridges over the Isle (Lavigne et Montois). In addition, the company continued work on the Tanus viaduct (Fraleu) over the Viaur Valley between Rodez and Albi, a structure which will hold the French record – 190 meters – for a cantilevered bridge span. These projects expanded Dodin Sud's order book and enabled it to recruit a large number of young employees (28% of its workforce is under 30 years of age).

Sogea is also building a cantilevered bridge in Poumas for the Lozère DDE (Dezeuze) and civil engineering structures on the road which will connect the centers of Grasse and Cannes and on the northern segment of the Magnan-Fabron urban motorway near Nice. Sogea Sud-Est is also building the slip roads to the northern Marseille ring road.



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1. Between heaven and earth, the Tanus viaduct in the Viaur Valley, with a record 190 meter span.

2. The Vernègues viaduct on the Mediterranean TGV high-speed rail line: 1,210 meters long and 15 meters wide, this variable-geometry structure was built by Sogea Sud-Est and Dodin Sud.

3. In the heart of the Principality, the future Monaco underground station built by Sogea Sud-Est.

4. In 1997 Dodin Nord handed over the new marina at L'Ile d'Yeu in the Vendée.

With its subsidiary Dodin Nord, Sogea has begun work on the Rennes VAL tramway, a project for which it is building the northern station (Systra-Sogretl), a viaduct (Cabinet Foster) and covered trenches. Specialized in maritime and river works, Dodin Nord is also building the Sillonière dam in the Vendée (DDAF) and won the contract for maintenance of the banks of the Seine and the Marne. This subsidiary is also working, in partnership with Sogea Est, on the Meurthe river development project and in 1997 it handed over a marina in L'Ile-d'Yeu (Sables-d'Olonne DDE maritime department).

In the waste treatment sector, Sogea is building incineration plants in Bourg-d'Oisans in the Isère and in Mulhouse (Cabinet Claude Bucher) as well as the urban waste sorting center in that city (M. Leonetti). In this field it is working in synergy with SGE Environnement, a company set up by the SGE group to design and market industrial facilities for waste treatment.

Finally, the Générale des Eaux group subsidiary Cegetel has awarded to Sogea, in partnership with GTIE, the contract to lay a major proportion of the telephone cables in the 22 regional capitals in France, as part of its expansion on the newly liberalized telecommunications market.

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# HYDRAULIC ENGINEERING

Sogea has a track record going back more than 100 years in water supply and drainage and sewer system design and construction.

Sogea is today one of the leading specialized hydraulic engineering and pipe laying companies in France, covering the full range of activities in this sector:

• design and management of drinking water supply systems and rainwater and waste water drainage systems;

• laying, renovation and maintenance of pipes in all dimensions and materials (cast iron, steel, concrete, plastics);

• construction and operation of drinking water and waste water purification plants.

Sogea lays drinking water and waste water pipelines nation-wide. In 1997 it handed over, for example, a very large cast-iron transfer main with a length of 5 kilometers and a diameter of 1,400 millimeters which links greater Orléans with its new purification plant. In Toulon, Sogea was awarded a six-year contract to lay drinking water pipes with a diameter of 1,100 millimeters. In Le Havre, Mulhouse and La Wantzenau (Bas-Rhin), its urban network system maintenance contracts have been renewed. In the Rhône-Alpes region Sogea built the Emissaire du Plateau du Sud-Est main. This is a structure cast in a trench over a distance of 2,800 meters. Alone or in partnership with other companies belonging to the Générale des Eaux group, and

**1. The Emissaire du Plateau du Sud-Est main built by Sogea Rhône-Alpes.**

**2. Last June, Sogea Bretagne inaugurated the Beaurade water purification plant.**

**3. In Nancy, Sogea is managing the public service contract covering the drinking water supply and drainage systems.**

**4. Sogea Nord-Ouest handed over a transfer main in Orléans in 1997.**

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in particular OTV, Sogea builds drinking water treatment and waste water purification plants. In 1997 it handed over the Beauvais station (for which it provided the civil engineering), as well as those in Belfort, Cavaillon, Gérardmer (V. Lemarquis) and Montmélian in Savoy. Meanwhile it completed the extension of the Emeraude purification plant in the greater Rouen area, increasing its population-equivalent capacity from 370,000 to 550,000. Finally, it built the Rezé station in the Loire-Atlantique and the Richemont Station in the Moselle (population-equivalent capacity: 700,000). In June 1997, Sogea inaugurated the Beaurade purification plant near Rennes with a population-equivalent capacity of 350,000.

In addition, Sogea operates many purification plants and manages several public service contracts for drinking water supply and drainage systems. Examples are the cities of Troyes and Nancy.



1997, THE YEAR OF QUALITY

A stated goal of most building and civil engineering companies is to receive the renowned ISO certification. Of the 185 certifications awarded so far to the sector by AFAQ, Sogea and its subsidiaries have received no fewer than 21.

Even more than in previous years, quality was the focus of the company's approach in 1997. Witness the nine new certifications – seven of them in the French regions – obtained in a single year.

Sogea Nord-Ouest received three ISO 9002 certifications for its building activity in Normandy and its civil engineering activity in the Nord and the Centre. For its part, Sogea Est was awarded certification for its pipework activity. Finally, for the first time in its history, AFAQ awarded 9002 certification to a single company for three different activities: Sogea Sud-Est received this triple distinction on 3 September.

# INTERNATIONAL

Sogea and its subsidiaries are involved in a great variety of projects all over the world. Examples are the construction of float glass plants for Saint-Gobain in Mexico and Brazil (completed) and in China (ongoing), drainage system management consulting and support in Palestine, management of pipe manufacturing plants in Morocco and South Africa. In Portugal, the company is building its third purification plant in the Porto region, in Freixo, while profitably operating the composting plant it built in Vale do Ave.

Sogea's main areas of operations worldwide are the French overseas departments and territories, Africa and, through its subsidiaries Denys and Norwest Holst, Belgium and Great Britain in Europe.

**Sogea was awarded a large contract for roadworks and infrastructure in Cameroon in 1997.**

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# OVERSEAS DEPARTMENTS AND TERRITORIES

Faced with a downturn in the economy, all of Sogea's subsidiaries in the overseas departments and territories were restructured and specialized.

In the French Antilles, Sogea Guadeloupe is focusing primarily on drinking water distribution and drainage systems in the framework of 17 public service contracts. It supplies more than 100,000 inhabitants of the Guadeloupe archipelago with water. At the end of the year, sale of this activity to the Compagnie Générale des Eaux was initiated.

Dodin Guadeloupe for its part concentrated on construction of public housing, and more particularly on 152 units in Morne-à-Vache (Winter-Durennel/Couliau-Baury), 148 in Blachon (M. Corbin) and 76 in Pointe-à-Pitre (Adolphe, Générale d'Architecture).

Sogea Martinique has expanded its business thanks to the start of construction of the La Trinité and Fort-de-France purification plants, for which a contract was signed in 1992 but work was postponed until 1997 for lack of funding. The company is active on the buoyant environmental protection engineering market, a sector in which a large investment program has been set up in the French Antilles. In addition, Sogea Martinique is building a university dormitory in Schoelcher (Montjoly) and steadily expanding its civil engineering activity, building small structures, carrying out work on roads and various network systems, etc.



QUALITY AND INNOVATION IN THE HEART OF THE INDIAN OCEAN

On 15 July, SBTPC Réunion obtained ISO 9001 certification for its building activity, thus becoming the first Sogea subsidiary to be awarded certification overseas and the year's fifth Sogea subsidiary to receive certification.

Resolutely focusing on quality and innovation, SBTPC, working with Semader and architect Goetz, started an LQCM project in 1997 involving construction of 63 public housing units in Saint-Louis in the Palissade ZAC. Called Petite Natte, the operation aims to reduce construction costs by 10 %.

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1. Sogea Guadeloupe provides drinking water distribution and drainage for more than 100,000 inhabitants of the archipelago.

2. Begun in 1985, the southern boulevard in Saint-Denis provides a bypass for the city. SBTPC opened a new 1.3 km segment (Gimart-Jaurès) to traffic on 2 June 1997.

3. Last August the Bois-des-Nèfles middle school, built in eleven months by Sogea Réunion, was handed over.

4. On 21 February 1997, Sogea Martinique teams laid the foundation stone for the La Trinité purification plant.

In the Indian Ocean SBTPC Réunion is the leading building and civil engineering company. Half of its activity is in the area of public housing, in particular in Saint-Denis where it has three contracts for construction of 228 units (Van Nuwenborg, Claudon, Masson et Menage, Groupe IV), 59 units (G. Le Blanc) and 156 units (Marais-Tessier) respectively, as well as shops and parking facilities. In Saint-Paul, SBTPC is building 75 housing units in Le Plateau-Caillou. It is also building a technical college in Saint-Pierre (Tessier et Dryere, SARL d'Architecture Arch'Image) and a 50-bed retirement home in Saint-Louis (G. Torcatis). Its subsidiary SMTPC is meanwhile building 28 pre-school classrooms in Mayotte (Cabinet d'Architecture Arom).

In civil engineering, SBTPC is building, among other things, a bridge in Ravine-du-Chaudron, engineering structures along the Bras-Panon bypass and a variety of roads and networks in Saint-Leu and the ZACs of Palissade in Saint Louis and Ravine-à-Marquet in La Possession.
Sogea Reunion is building the Corne Saint André sports complex, the offices of ZAC 2000 in the Le Pont municipality and it is doing the civil engineering work – for example, Antenne 4 – in connection with the large east-west water diversion project.
In Mayotte, finally, Sogea distributes water and is carrying out numerous projects in the areas of hydraulic engineering, building and civil engineering. Sogea Mayotte for example completed in record time a saltwater desalination plant at Petite-Terre aimed at overcoming the island's water shortage.

# AFRICA

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Throughout the African continent Sogea is the leading company in its main lines of business, particularly roadworks and hydraulic engineering.
1996 was a year of considerable losses in the whole of East Africa, but Sogea's restructuring program had an overall effect in 1997. Altogether, consolidated net sales remained stable in 1997 at FF 1,400 million and could go up in 1998 thanks to major marketing successes in central Africa.
The eastern and southern zone has now returned to profit. In addition, volume was high for Sogea, and for its subsidiary Satom, in its traditional areas of operation in Morocco, West Africa and central Africa.
By the end of the year, 60% of the 200 km road between Mille, in Ethiopia, and Assab, in Eritrea, had been completed. From the start, this project has suffered considerable damage, delays and disruption, attributable in large measure to the local authorities. Sogea therefore has drawn up a complaint and filed for arbitration before the International Chamber of Commerce.
Barring further disruption, this difficult project should be completed in the course of the last quarter of 1998.

In central Africa, Sogea signed a large contract at the end of the year for the construction of infrastructure and roads between Cameroon and Chad. Sogea also started work on the 173 km road linking Bangui, Damara and Sibut in the Central African Republic. In the area of earthworks and roadworks, the main achievements of 1997 included completion of the 255 km paved road between Nouakchott and Akjoujt in Mauritania, while construction of the 107 km paved road between Mitzic and Oyem, Gabon, proceeded at a fast pace. Construction and maintenance of paved and unpaved roads remained a brisk business in Niger, Chad and Mali. In addition, Sogea has gained new market share in this sector in Burkina Faso, Ivory Coast and Equatorial Guinea, while continuing its ongoing operations in Benin, Cameroon, Uganda, Tanzania and Togo.



RUN OF RIVER

FF 238 million: this is the value of two contracts which Sogea was awarded to build two dams in Africa. The first is at Ziga, Burkina Faso; the second at Dapaong, northern Togo. The first structure, worth FF 173 million, will be built by Sogea at Ziga in the framework of a consortium in which Sogea is the lead company (with Kanazoé, the leading local construction company in Sub-Saharan Africa). The consortium won the contract thanks to an option comprising compacted rolled concrete for the spillway and underground cut-off walls for the embankment. This dam, to be built within a very short period of time, will require major earthmoving work (620,000 cubic meters of backfill) and 36,000 cubic meters of concrete.
In Dapaong, Sogea and Satom are building a 400,000 cubic meter embankment dam comprising 9,000 square meters of underground cut-off wall and 3,700 cubic meters of concrete for floodwater control. This project, with a value of FF 65 million, also includes construction of a water supply system (treatment, pumping, and pipes).

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1. The Mikouloungou uranium mine in Gabon. Sogea performs ore extraction work there.

2. In the Central African Republic, Satom started construction of a 173 km road linking Bangui, Damara and Sibut.

3. Sogea created a Moroccon location in 1931 when it set up its cement tube and pipeline plant in Sidi Bouknadel, 15 km north of Rabat.

Apart from earthworks, Sogea carried out forest clearing work for Hévégab in Gabon, uranium ore mining for Comuf and operation of the dump in Libreville. In hydraulic engineering, the company successfully continued its activities in Morocco, obtaining in particular six contracts for renovation of drinking water treatment plants and extension of agricultural irrigation systems.

In western and southern Africa, Sogea completed the difficult water supply projects in Kampala, Uganda, and Lobito and Benguela, Angola. In Kenya it continued renovation of the drinking water pipeline system between Baricho and Mombasa and between Massinga and Kitui.

In western Africa, Sogea is again working in Senegal with a contract for the drinking water supply system in Dakar. In Ghana it has started work on the drinking water systems of the towns of Wa and Tamale. Hydraulic engineering activity also continued at a satisfactory level in Gabon, Mali, Chad and South Africa.

Net building sales volume amounted to some FF 100 million in 1997. Among the main projects in 1997 were the N'Toum and Mouila high schools in Gabon (Ministry of National Education of Gabon), the Parakou market in Benin, the millet market in N'Djamena, Chad and various buildings for Elf-Congo in Pointe-Noire.

In civil engineering the main projects were the completion of the gold treatment plant in Sadiola, Mali, the construction of the Tombo III power station in Conakry, Guinea, the installation of a new generator at the Banjul power station in Gambia and construction of the Voungou and Doubou bridges in Gabon.

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# BENELUX

Denys, Sogea's Belgian subsidiary, has two specialties: civil and hydraulic engineering using advanced technologies – boring and laying of underground pipes with micro-tunnelling machines – on the one hand, and restoration of historic monuments on the other. Denys operates on the entire Benelux market and, increasingly, in neighboring countries.

Three particularly large projects were carried out in 1997. For the Distrigaz company Denys first laid gas pipelines across the Albert canal and the Meuse, and at the Meuse crossing at Lixhe. On the site, the company used a mud pressure tunnel boring machine with a diameter of 3,800 millimeters.

Then, Gaz de France awarded Denys a large contract comprising building and laying of a gas pipeline from Loon-Plage to Drincham. This project, which will require a number of obstacles to be crossed with a remote-controlled micro-tunnelling machine, is part of the Artère des Hauts de France project which crosses the north of the country. The work, which started in May 1997, includes construction of a 14 km pipeline.

Finally, for PWN, Denys started construction of a large water supply system in the Netherlands. Denys is also laying pipe for Air Liquide at five different sites and is renovating the sewers in the center of Brussels. In Ghent, Denys is building a cable-stayed bridge (Ministère de la Communauté Flamande). In the field of historic monuments, it is continuing rehabilitation work in Ghent: restoration of the facades of the courthouse (Régie des Bâtiments) and restoration of Saint-Baafs Abbey (City of Ghent).



35 METERS UNDERGROUND

February 1997: In a joint venture with Smet-Tunnelling, Denys signs a FF 135 million contract with Distrigaz for a pipeline across the Albert Canal and the Meuse. The operation is part of the huge project to connect the UK-Europe Euroconnector pipeline at Zeebrugge with the continental networks in the north-eastern part of Belgium. The project includes construction of two 380 meter long tunnels with an inside diameter of 3.1 meters as well as the laying of a one meter diameter gas pipeline. Boring depths will reach 35 meters. Mixed faced mud pressure balanced tunnel boring machines will be used to excavate the tunnels and reinforced concrete arch liners will form the final support.

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1. On the Lixhe project, Denys is using a 3,800 millimeter diameter mixed faced mud pressure balanced tunnel boring machine.

2. Denys is building and laying a gas pipeline linking Loon-Plage and Drincham for Gaz de France.

3. Expanding its activities in all of the countries bordering on Belgium, Denys has started a large water supply project in Heemskerk, the Netherlands.

In Oelegem, Socea, a subsidiary of Denys, is continuing to manufacture reinforced concrete pipes for boring operations (technical tunnels, drinking water supply systems, drainage systems). It also makes prestressed and reinforced concrete pipes with sheet metal cores for cooling water systems in thermal and nuclear power stations and for drinking water supply systems. Finally, Socea makes concrete segments for wells and tunnel arch liners. Pipe diameters manufactured at the Oelegem plant range between 600 and 3,200 millimeters.

PIPELINES

## An anchor for Archimedes

*The purpose of the anchoring system developed by Denys is to eliminate the Archimedes effect in pipelines laid below the groundwater table. This innovation has been approved by Gaz de France and utilized in the laying of a gas pipeline in swampy terrain. The anchors are driven into position. Two Kevlar straps run under the pipes and assembled with self-tightening loops prestress the pipe. The advantages of this system, compared to conventional ballasting with staples, are numerous. For one thing it can be installed easily and quickly, and is lightweight and cost-effective. For another it eliminates the risk that the pipeline will be pushed down by overballasting or pierced by the staples. Finally, this anchoring system has no influence on cathodic protection and provides corrosion, bacteriological and chemical resistance.*

# NORWEST HOLST

In 1997 Norwest Holst returned to profit. In an expanding British building and civil engineering market, the company reaped the full benefit of the efforts it had made during the construction slump in the United Kingdom. These efforts comprised a drastic reduction of costs, better selection of business and a considerable improvement in quality of service. With a nation-wide preserve, Norwest Holst is active throughout the construction sector: building, civil engineering, mechanical engineering, housing and manufacturing.

**In north Wales at the mouth of the River Dee, Norwest Holst built the Flintshire cable-stayed bridge, opened by Her Majesty Queen Elizabeth on 6 March 1998.**

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# BUILDING

Norwest Holst expanded its geographical coverage by setting up a new regional office in Derby for the east Midlands to complement its locations in Manchester, Birmingham, Winchester and London. The new office immediately won major contracts such as the construction of a large car park in the center of Derby and the renovation and extension of the concert hall and cultural center in Hanley (Levitt, Bernstein Associates).

1997 was a particularly successful year in the refurbishment sector. In London, the company completed the central escalator of the famous Harrods department store (Lee Reading Harbinson) and the Royal Bank of Scotland in the City (EPR Design Limited), while continuing renovation of department stores in Oxford Street and reconstruction of the Tudor Court hotel (Llewelyn Davies). Near Manchester, the company began the refurbishment of the Preston shopping center (Bradshaw, Rowse and Harkes). In the education sector, Norwest Holst is building premises for the University of Southampton (Wilson Mason & Partners), a school in Crosslee (Ellis William) and student accomodation near Manchester (Cruickshank Seward). In addition, the company is building two hospitals near London (Genesis and YRM Architects), a new courthouse in Southampton (Hampshire County Council Architect) and a theater in Brindley place (Temple Cox Nicholls). In the field of social housing, Holst Homes obtained 17 contracts for construction and renovation of 600 units. It is building more and more private housing under “semi-public” contracts in which public housing associations and public authorities partly finance their construction projects by making land available for property development. This is the case in the Perry Common project involving a contract for 36 home-ownership houses and 81 low-rent houses (Webb Seegar Moorhouse).

**1. With its subsidiary Holst Ltd., Norwest Holst is continuing its property development activity, as here at Perry Common.**

**2. Norwest Holst handed over the Brindley place Multistorey Car Park in Birmingham in September 1997.**

**3. Norwest Holst has completed the 3.8 km bridge over the River Dee in northern Wales.**

**4. Norwest Holst is building a new purification plant – Minworth – near Birmingham for Severn Trent Water.**

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# CIVIL ENGINEERING

Norwest Holst undertakes large projects in all areas of civil engineering: engineering structures, roadworks, earthworks, underground works, water, drainage and gas systems, purification plants and railway infrastructure.

For example, in 1997 the company completed the crossing over the Dee estuary in north Wales (see below). It continued construction, predomnently below ground level, of sections of an urban motorway link road on a major thoroughfare in east London (sections 3 and 4 of the Hackney contract).

Civil engineering at the Davyhulme waste water treatment works near Manchester was completed ahead of schedule and handed over to OTV Birwelco in record time. The company received an order for a new plant near Birmingham from Severn Trent Water, which has also asked Norwest Holst to rehabilitate 104 km of pipeline in the Midlands.

To respond to the ambitious investment plans for the rail network adopted by the privatized Railtrack company, Norwest Holst set up a rail division in 1997 (see page 37) which was awarded contracts to rehabilitate stations in Chester, Rhyl, Llandudno, Oxford-Didcot and Watford. In a related area, the company renovated the Mornington Crescent underground station in London. The foundation and soil engineering subsidiary, Norwest Holst Soil Engineering, was for its part very active in remediation of polluted former industrial sites. As for the subsidiary specializing in earthworks, John Jones Excavation, it confirmed its position as market leader in the United Kingdom. Among other achievements it was involved in the large A1-M1 motorway concession project.

RIVER DEE CROSSING

The new cable stayed bridge over the River Dee, named the Flintshire Bridge, was opened on 6 March 1998. It carries the A548 motorway across the river in north Wales between Shotton and Connah's Quay. Her Majesty Queen Elizabeth opened the bridge which Norwest Holst began building in September 1994. It is 3.8 km long and has a 118 meter inverted Y tower from which 76 cable stays supporting the 30,000 tonne structure are suspended.

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# ENGINEERING

In 1997 Rosser & Russell, specializing in building services (mechanical, electrical and air-conditioning) continued the large projects begun the previous year: construction of the future European headquarters of the Japanese Daiwa bank (consulting engineer: Ove-Arup and Partners) and hand-over of the SmithKline Beecham pharmaceuticals complex in Harlow. Many new contracts were also signed with a variety of clients including Visa, Marks & Spencer, the BBC, Selfridges, the University of London, etc. The company also expanded its business on the medium-sized projects and maintenance markets.

Specializing in industrial infrastructure, Capper Engineering Services has expanded its activity on the markets for water and waste treatment, chemicals and the agro-food sector. In 1997, the company supplied installation and maintenance services to companies such as North West Water, Nestlé, EVC, ICI and Glaxo Wellcome.

In addition, Norwest Holst took control of G+H (UK) Ltd, previously managed by a German subsidiary of SGE. This company has now been restructured and refocused on its core business: industrial insulation, fit-out services for the offshore industry and acoustic insulation. These activities have now been brought together in two new subsidiaries, KM Group Services and N+H Acoustics, which were acquired Norwest Holst in 1998.

It is particularly worth mentioning that the Conren company, specializing in polymerized surfacings, has won the “Queen’s Award for Export Achievement”, a prize recognizing the export performance of this subsidiary whose sales abroad rose 80% in 1997.

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1. John Jones Excavation, specializing in earthworks, continued the A1-M1 motorway project linking Leeds and London.

2. Rosser and Russell has been responsible for maintenance in the Pepsi Trocadero entertainment center in Picadilly since 1997. With a capacity of 16 million visitors per year, this is the largest center of its kind in Europe.

3. Norwest Holst began finishing work on the future headquarters of Daiwa Europe in February 1997. This 24,000 square meter, 18 storey building will have office space for 2,000 people.

Norwest Holst and its specialized manufacturing subsidiary have for many years been developing a number of technically innovative product lines. In 1997, the company worked on a resin foundation made of colored granulates (a product that Norwest Holst is already using on the Southampton Courthouse project). In addition it is developing a new range of maintenance products and a new generation of airtight membranes. In 1998 it will complete its testing of “Aquatect”, a product which eliminates steam, and “Rooftex RAC”, a product which combines watertightness and reflection of sunlight.

A NEW DIVISION

## Norwest Holst Rail

*A new division of Norwest Holst, set up a response to increasing demand following the recent privatization of British Rail. Construction and renovation of infrastructure, signalling, telecommunications and other facilities on the lines, maintenance, etc. are all provided. Norwest Holst Rail has already booked new contracts worth £ 10 million or about FF 100 million.*

# ADDRESSES OF SOGEA'S MAIN LOCATIONS

## FRENCH REGIONS

### East Region

**Sogea Est/Halle**
ZA Lesmenils - BP 69
54703 Pont-à-Mousson Cedex, France

**Chanzy-Pardoux**
Rue Costes-et-Bellonte
57157 Marly, France

### North-west Region

**Sogea Nord-Ouest**
335, rue du Rouvray - BP 43
76650 Petit-Couronne, France

**Caroni Construction**
274, boulevard Clemenceau
BP 1029
59701 Marcq-en-Barœul Cedex, France

**Sogea Centre**
7/9, rue Pasteur
Saint-Avertin - BP 104
37171 Chambray-lès-Tours Cedex, France

### West Region

**Sogea Ouest**
213, route de Rennes - BP 39
44701 Orvault Cedex, France

**Sogea**
9, place de l'Europe - BP 320
92851 Rueil-Malmaison Cedex, France
Tel. : + 33 1 47 16 40 00
Fax : + 33 1 47 51 91 01

## ILE-DE-FRANCE

**Sicra**
36, rue du Séminaire
Centra 307 - Chevilly-Larue
94586 Rungis Cedex, France

**TPI Ile-de-France**
38, rue du Séminaire
Centra 401 - Chevilly-Larue
94616 Rungis Cedex, France

**Sobea Ile-de-France**
62, rue Ernest-Renan - BP 414
92004 Nanterre Cedex, France

**Sogea Atlantique**
213, route de Rennes - BP 39
44701 Orvault Cedex, France

**Sogea Bretagne**
ZI du Prat - Avenue Paul-Duplex
CP 3724
56037 Vannes Cedex, France

**Dodin Nord**
9, rue du Tonnelier - CP 2603
44805 Saint-Herblain, France

**Heulin**
301, avenue Bollée - BP 229
72005 Le Mans Cedex, France

### South-west Region

**Sogea Sud-Ouest**
381, avenue du Mas-d'Argelliers
34966 Montpellier Cedex 2, France

3, rue Gaspard-Monge
ZAC de Pessac-Canéjan
BP 160
33606 Pessac Cedex, France

60, boulevard de Thibaud
BP 1788
31084 Toulouse Cedex 1, France

### South-east Region

**Sogea Sud-Est**
Lotissement Plein-Soleil - BP 27
13080 Luynes, France

ZI de Toulon Est
21, avenue I. et F. Joliot-Curie
BP 248
83078 Toulon Cedex, France

Espace Carros - BP 134
06513 Carros Cedex, France

11, avenue de la Gloriette
BP 645
84032 Avignon Cedex, France

### Rhône-Alpes Region

**Sogea Rhône-Alpes**
12/14, route de Vienne
BP 7007
69343 Lyon Cedex 07, France

### Specialized subsidiary

**Dodin Sud**
26, chemin de la Flambère
BP 3128
31026 Toulouse Cedex, France

## OVERSEAS DEPARTMENTS AND TERRITORIES

**Sogea Martinique**
206, avenue Maurice-Bishop
BP 485
97241 Fort-de-France Cedex, France

**Dodin Guadeloupe**
Impasse Émile-Dessout
ZI de Jarry - BP 2284
97198 Jarry Cedex, France

Sogea Réunion
1, boulevard du Chaudron
BP 21
97491 Sainte-Clothilde Cedex, France

SBTPC
Société Bourbonnaise de Travaux Publics
28, rue Jules-Verne - BP 2013
97824 Le Port Cedex, France

Sogea Mayotte
94, rue du Commerce - BP 22
97600 Mamoudzou, France

## AFRICA

### Benin
Satom
BP 2190 - Quartier Akpakpa
Rue de l'Hôtel-Aledjo-PLM
Cotonou

### Burkina Faso
Satom
ZI Goughin
01 BP 571 Ouagadougou 01
Ouagadougou

### Cameroon
Sogea/Satom
Boulevard des Nations-Unies
BP 283
Douala

### Central African Republic
Satom
Avenue David-Dacko - BP 1368
Bangui

### Chad
Satom
Route de Farcha - BP 14
N'Djamena

### Congo
SGE Congo
120/121, boulevard Lyautey
BP 212
Brazzaville

### Democratic Republic of Congo (formerly Zaire)
SGE Zaïre
43, avenue de l'Équateur
BP 737
Kinshasa Gombe

### Ethiopia
Sogea
Bole-Area
Woreda 17, Kebele 23
House Number 2417
Addis-Abeba

### Gabon
Sogea/Satom
Boulevard Rémi-Issembé
BP 3936
ZI d'Oloumi
Libreville

### Gambia
Sogea
PO Box 2230
Serrekunda
Banjul

### Ghana
Sogea/Satom Ghana Branch
Airport Residential Area
Houses n° 3 and 5
Ambassadorial Estate Extension
PO Box C 754 Cantonments
Roman Ridge Accra

### Guinea
Satom
BP 862
Conakry

### Equatorial Guinea
Chez Sogea Gabon
Boulevard Rémi-Issembé
BP 3936
ZI d'Oloumi
Libreville

### Ivory Coast
Sogea/Satom
Immeuble Longchamp
Avenue Marchand - BP 1876
Abidjan 01 Plateau

### Kenya
Sogea
Royal Ngao House
Hospital Road
PO Box 39367
Nairobi

### Mali
Satom
Route des Abattoirs - BP 77
Bamako

### Mauritania
Satom
BP 5573
Ilot A n° 0076 Tevragh Zeina
Nouakchott

### Morocco
Sogea
165, avenue Allal-Ben-Abdallah
BP 121
Rabat

### Niger
Satom
ZI Route des Brasseries
BP 139
Niamey

### Republic of South Africa
Southern Pipeline Contractors
PO Box 61
1836 Kliprivier (Transval)

### São Tomé
Satom
BP 285
São Tomé

### Senegal
Sogea
Dakar

### Tanzania
Sogea Tanzania Branch
Chole Road
Plot n° 1401 E
Msasani Peninsula
Dar es-Salaam

### Togo
Sogea/Satom
BP 374
Lome

### Uganda
Sogea
Nakawa Industrial Area
Plot M n° 257
PO Box 6942
Kampala

## BELGIUM

Denys
Industrieweg 124
Gent
B-9032 Wondelgem

Socea
Vaartstraat 126
B-2520 Oelegem/Ranst

## PORTUGAL

Sogea Portugal
Edificio Montevideo
Avenida Montevideo, 236
4150 Porto

## UNITED KINGDOM

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Norwest Holst Construction Ltd
KM Group Services Ltd
Astral House, Imperial Way
Watford Hertfordshire WD2 4YX

John Jones Excavation Ltd
Norjon House, Newby Road
Hazel Grove, Stockport
Cheshire SK7 5DU

Norwest Holst Soil Engineering Ltd
Parkside Lane
Dewsbury Road
Leeds LS11 5SX

Rosser & Russell Ltd
Orbit House, 1-6 Ritz Parade
London W5 3RD

Capper Engineering Services Ltd
Capper House, Ditton Road
Widnes, Cheshire WA8 0PG

N+H Acoustics Ltd
38 Station Road
Wokingham RG40 2AE

Conren Ltd
Redwither Works, Wrexham
Clwyd LL13 9RD

Holst Ltd
Holst House, Brook Street
Knutsford, Cheshire WA 16 8EB

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The Georges-Pompidou European Hospital
in Paris.

173 kilometers of road
in the Central African Republic.

Pipe laying in south-eastern France.

The Flintshire Bridge in northern Wales.