LATITUDE/LONGITUDE
From Clermont-Ferrand to Quebec, from Mayotte to Burkina Faso... snapshots of Colas expertise around the world.

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We all have a big effort to make

Major motorway projects have been completed in France (A 86, A 20, A 36, A 84, A 6, A 9, A 43). On the international stage, the Port Louis terminal in Mauritius is being completed in excellent conditions, in spite of damage caused by a cyclone on December 9, 1996. In Madagascar, Benin, Gabon, Morocco and Hungary, our teams have worked with great success on some remarkable projects. Our North American operations have proved strong and profitable. Colas Denmark has successfully set up a business in Finland. In Germany, Colas Bauchemie has become a wholly-owned subsidiary of the Group under the terms of our agreements with Shell. And Colas has recently
begun operations in Poland. In Asia, seriously hit by a destabilizing monetary crisis, we are cautiously pressing ahead with our development plans to set up emulsion plants.

This review of our operations leaves no room for doubt that we have all shared in some quite outstanding successes. And let’s not forget some of our other achievements in 1997: the progress we have made in research in conjunction with Shell and the universities of Lyon, Besançon and Bordeaux; the success of the Colas en Actions employee savings scheme; the awards won by our magazine, Routes; numerous distinctions conferred by the profession as part of its safety campaign; and the flawless organization of the second World Congress on Emulsion.

In 1998, we will concentrate all our efforts on boosting productivity, innovation, international development and hiring young people.”

Our 1997 results are better than those we achieved in 1996. Is that good enough? Unfortunately not. We have targeted our profit margin at 3% of sales. This is within our grasp, and we will reach it. In this way, with all of you making a contribution to the entire Colas effort and respecting the business principles laid down by the Group, we shall all move forward together, confidently and assuredly, along the road to shared success.
From Clermont-Ferrand to Quebec, from Mayotte to Burkina Faso... visits to job-sites, snapshots of work in progress, reports on finished projects. Colas expertise around the world.

**BURKINA FASO**

**Renovation project in Burkina Faso**
For the next year and a half, Colas teams in Burkina Faso will be busy working on a contract to renovate a 152 kilometer stretch of Route 7. One of the country’s principal north-south axes, the road provides access to both the second city, Bobo-Dioulasso, and Banfora, and links up with the Ivory Coast border. It runs through Burkina Faso’s most popular tourist regions, the Banfora cliffs and the Karfiguélia Falls. The original road surface will be recycled to a depth of 10 centimeters, then reinforced by a 12 centimeter laterite base course. The base course will be supplied and laid by a central shaper. The next stage will consist in a penetration prime coat followed by a double surface treatment. Work will be carried out on the site during the day, with alternate traffic or detours. Safety regulations will be very strictly enforced.

**Screg Sud-Est puts the finishing touch to the A 41 N and the A 43**
In 1977, when the A 43 was built between Aix-les-Bains and the Epine Tunnel, in the east of France, the motorway operator, AREA, opted to defer part of the public funding to subsequent maintenance work. This was a highly unusual decision, very rarely taken in France. Twenty years later, with traffic stabilized, it had become necessary to give the road structure its final form. The contract was won by Screg Sud-Est’s Annecy office, which worked through the summer on two 20 kilometer stretches, laying 40,000 metric tons of Compomodule to reinforce the roadway, and 175,000 m² of Médilex, as a wearing course. In addition, over a portion of motorway running through the city of Aix-les-Bains, the Annecy office laid 140,000 m² of Microville acoustic asphalt concrete, to reduce road noise. This product won a Golden Decibel award in 1992.
Colas Environnement et Recyclage cleans up a polluted quarry

Colas Environnement et Recyclage (CER) is running a clean-up operation at Amponville, east of Paris, for Novartis, a group created from the merger of Ciba and Sandoz. CER is in-charge of both the engineering and the execution of the program.

The pollution originates from the unauthorized dumping during the 1960s of hundreds of barrels of chlorinated waste in a quarry by an agrochemicals company subsequently purchased by Novartis. After an in-depth audit phase, work on the site was launched mid-1997, for a two-year period. CER's technique consists in thermal desorption, which achieves a level of soil cleansing complying with a national ordinance (residual content below 0.01%).

The choice of on-site processing meant that such transport-related risks as accidents or unpleasant odors could be avoided, and that savings could be made by comparison with incineration at an approved center. In CER's mobile thermal desorption unit, soil is heated to a temperature between 300° and 450° C (600-850° F), which volatilizes contaminants without destroying the soil. Dust is then removed from the gases, and the gaseous pollutants are eliminated by combustion at more than 900° C (1650° F). Finally, the combustion fumes are cleansed and neutralized, while the soil is cooled by the addition of water, to rule out the risk of airborne dust.

The site has been organized in several stages:
• in August and September 1997, preparatory work was carried out by Colas IFEN to transfer certain quarry installations and to allow quarry operations to continue during the process;
• between September and December 1997, an investigation of the subsoil was carried out;
• from November 1997 to February 1998, the key applications for the site (temporary permits and health and safety assurance plans) were completed;
• between March and August 1998, shoring will be placed to secure the future 30-meter deep excavation;
• in fall 1998, a tent will be erected over the planned excavation zone and maintained under negative pressure to limit the environmental impact of the site;
• during winter 1998-99, the soil will be excavated and treated under the treatment process;
• finally, the site will be reclaimed and landscaped as parkland before summer 1999.

This complex and innovative operation is, to date, unique in France.
Tunnel vision to the west of Paris

The second motorway loop around Paris is making progress to the west of the capital, between the towns of Rueil-Malmaison and Vélizy, with the link-up of the A 86. The idea is some 30 years old, but it has only now become possible to put it into practice, for technical, environmental and financial reasons. An acceptable solution was found with the decision to bring in the motorway operator Cofiroute, a company in which Colas is a shareholder. The Cofiroute shareholders all became members of a mixed economy company, Socatop, specially created to carry out work on the motorway. As the layout runs through a sensitive zone, which is both urbanized and hilly, the decision was taken to construct the entire stretch through a tunnel as a way of respecting the environmental requirements. A difference in elevation of around 100 meters over a distance of 4.5 kilometers would have imposed difficult gradients for heavy trucks. There will therefore be a ten kilometer long north-south tunnel on two levels, allowing cars to travel from Rueil-Malmaison to Vélizy, while a 7.2 kilometer east-west tunnel between Rueil and the A 12 will cater to both cars and trucks. The project also includes a number of interchanges. The tunnel boring machines used on the site are 11.7 meters in diameter, and are of the soil and/or mud pressure type. Work was launched in the spring of 1997, and handover has been scheduled for 2004.

New flash: On February 20 1998, the French Council of State overruled the decree authorising the government to concede the concession to Cofiroute. More to come...
A 75 – end of the road
Since 1991, the Group’s three road-building companies, Colas, Sacer and Screg, have all worked in succession on stretches of between 6 and 8 kilometers of the A 75 motorway in central southern France. The new motorway is 65 kilometers long and links the town of Saint-Chély-d’Apcher to the Aveyron department. Most of the sites have been carried out in collaboration with other companies. On the final 6.3 km stretch, recently completed, the three companies worked side-by-side for the first time, under the leadership of STPL, a subsidiary of Screg Sud-Est. A fine example of synergy for a difficult jobsite, at altitude in hilly terrain, at the foot of an 80 meter cliff. This final stage has represented six months of work for a team that varied between 50 and 70 people. The road is well integrated into the environment as a result of a succession of structures along the entire length of the road. The use of bi-level roadways gives users a panoramic view over the valleys that the motorway crosses. The A 75 site won the 1997 Green Riband award from the French Roads Ministry.

Magny TPS uses a new process for jointing paving stones
An original emulsion process for jointing paving stones, Pavé-net, has been developed thanks to collaboration between the Colas IDFN laboratory and Group companies active in paving. Following a number of trial sites, performed by SNPR for the City of Paris, the new process was put to use on a full-size site in the Paris suburbs by Magny TPS, a subsidiary of Colas IDFN. The basic principle of jointing paving stones is to fill in the spaces between the individual stones, in such a way as to eliminate transversal movement to ensure stability, and to prevent infiltration into the pavement structure by runoff water. The objective of the new technique is to carry out the jointing with classic bitumen emulsion, while retaining the visual effect given by the use of colored stones. The Pavé-net process achieves its goal by filling in the gaps with fine aggregates, then spraying an “anti-sticking” product over the entire surface. The paving stones are then coated with sand and cleaned with a
Dreaming of white granite for Christmas

Located in the heart of the city of Clermont-Ferrand, in the shadow of the cathedral, the Place de la Victoire is classified as a heritage site. During the Christmas market, it becomes a magical spot, complete with a hundred wooden chalets. In the record time of three months, Sacer Sud-Est’s Clermont-Ferrand office re-landscaped this festive season tourist attraction, demolishing the existing surfaces, excavating, creating networks, laying two base courses, paving stones and flagstones, enlarging the fountain basins and installing a lighting network. Sacer led a group of four contractors, including SNPR (Colas IDFN), and coordinated the work of around 50 people. By the end of November, the challenge had been met. Re-designed by architect Bernard Huet, the square was surfaced in blocks of white granite, and 70 limetrees planted. The geometric pattern of the square is now only broken by an area laid out in different materials, designating the birthplace of Pascal, the 17th century French philosopher.

Cosson renovates the A1

In July 1997, the Highways Division of the Val d’Oise department, outside Paris, issued an invitation to tender for a contract to replace the old concrete deck of a 350 meter stretch of the A1 motorway leading northward out of Paris. Cosson, a subsidiary of Sereg IDFN, bid as part of the winning group of contractors for a range of services, including the breaking up and excavation of the old deck and base course and removing the materials. The jobsite was organized in two phases to allow for temporary lane closures to heavy summer traffic. On August 4, the teams worked for 18 hours to demolish and excavate the emergency lane, the slow lane and the passing lane, involving some 3,200 m$^3$ of concrete to break up and 2,250 m$^3$ of material to move. On August 11, the second phase, which took 8 hours to carry out, involved dealing with a lesser thickness on the fast lane, but required trucks to reverse for a distance 200 meters. The concrete was taken to a depot belonging to the company where it will be stored prior to crushing.

Bringing down noise levels by 8 dB

In response to protests from angry village dwellers, the Highways Division of the Bas-Rhin department required that traffic noise from the RN 83 running through the locality of Benfeld be brought down by a minimum of 8 decibels. The village is located on the main Strasbourg-Lyon highway, which carries over 200 heavy trucks in each direction daily and the noise from passing traffic is incessant. The public invitation to tender carried with it a performance obligation in terms of achieving stipulated sound levels. Last August, after meticulous preparation involving drilling, purging and laying of borders, the Strasbourg office of Colas Est laid 7,640 m$^2$ of silent Colsof surfacing over 550 meters of 2x2 highway. Noise levels were reduced from 80 dB down to 72 dB, a reduction of 50% on the exponential decibel scale.
Water, water everywhere for the inhabitants of Mayotte

The economic upswing and baby boom affecting the island of Mayotte are the main reasons behind the building of the Combani hill reservoir, the first construction of its type on the island. As there is a shortage of water in the water table, almost the entire water supply has to be pumped from the river to the rest of the island. It was therefore necessary to build a structure for storing the water and redistributing it when water levels are low.

Combani is located in the center of the island, in a natural basin crossed by a slow-running but permanent river. The reservoir has been scaled to hold 1.5 million cubic meters of water, which for the moment is enough to supply the Bouyonni waterworks that provides water for the northern part of Mayotte and Mamoutzou, the largest settlement on the island. Subsequently, a connection will be added to provide water for the western and southern regions.

The construction of the reservoir by Colas Mayotte’s teams entailed diverting a track and replacing it by a road on the right bank of the river, with the building of a crossing structure upstream from the future reservoir. The dike, built from 120,000 m³ of material extracted on site, is crossed by a drainage ditch that will channel any water that filters through. Drainage strips under the dike evacuate the water from the ditch to the reservoir downstream.

The construction of the concrete floodwater run-off, requiring 2,800 m³ of concrete and 350 metric tons of steel, was carried out by Colas Mayotte subsidiary Smec.

It took a total of nine months of construction work, the synergies of teams from the Indian Ocean and several weeks of lengthy negotiations with local farmers and planters worried about its impact, to complete this major structure that will provide the people of Mayotte with greatly improved water resources.
Another rubber-tree plant

Natural rubber and latex, extracted by tapping the hevea rubber plant, are processed and then used in many products associated with roads, such as tires. In fact, tire manufacturers absorb two thirds of the world’s natural rubber production because of the material’s excellent properties of resistance, low internal heat and good shock-absorbing qualities. So to secure future supplies of rubber to meet demand from tire users, who are also road users, Colas Gabon plays an active role in Gabon’s rubber plantation programs.

Over a surface of 1,000 hectares (2,500 acres), caterpillar tractors open up tracks and prepare the land for cultivation. These operations are carried out in conjunction with the Gabon hevea forest development corporation, Hevegab and the African Development Bank. The program has brought employment to many of the region’s inhabitants and has positioned the Gabon subsidiary as an economic player capable of generating jobs in the province.

Teams work with the seasons, staying out of the undergrowth during the rainy season so as not to upset the balance of the topsoil ecosystem when driving equipment over it. At this period, they work in secondary forest, trying to avoid some of the worst pitfalls such as attacks by swarms of bees or disorientation, which may occur when opening up new zones to be worked by hand with machetes and no navigational equipment. All of the action undertaken contributes to extending areas under hevea plantation, improves the income of the local population and has the additional payoff of halting population drain from the countryside to the cities.
The RN 88 upgrades in time for the World Cup

Prior to the kick-off of the World Cup soccer tournament, part of which will be staged in Saint Etienne, the Loire department Highways Division decided to upgrade the stretch of the RN 88 between Saint Chamond and Saint Etienne to motorway standard and widen it from 4 to 6 lanes. Work on the jobsite, which is under traffic, was started by the Saint Etienne office (Colas Rhône-Alpes) during the first quarter of 1997. The teams first worked on creating an access road and then grouped together for the road surfacing phase. A total of 150,000 metric tons of asphalt concrete were laid over the five kilo-meter stretch, using a Sacer portable asphalt plant installed next to a railroad, which allowed aggregates to be shipped in by rail. To ensure the new roadway blends in with its surroundings, 3% of the total amount of the contract is to be spent on landscaping work. The amount of the budget will allow for the construction of merlons of earth that will provide new vistas of the Pilat mountain range while protecting local residents from noise nuisance.

Brouage – back to the 17th century

Novello, the Colas Sud-Ouest subsidiary, has for the third time running won a contract for restoration work on the Brouage citadel, between Rochefort and Oléron in western France. The 17th century former salt port has been the subject of a large-scale restoration and rehabilitation program since being listed as a French national heritage site in 1989. Involved as a contractor since 1993, the work carried out by Novello – always between January and May so as not to interfere with the tourist season – has so far consisted in demolition of asphalt roadways and sidewalks, repair and renovation of various mains services, construction of foundations in cement bound aggregates and laying of cobblestone and flagstone pavements in 17th century style materials. In all, nearly 20 million French francs’ worth of work will have been carried out between 1993 and 2000.
**BELGIUM**

**Screg Belgium takes off at Liège airport**
Two Screg Belgium subsidiaries, Matagne & Vandamme and Van Broekhoven, are jointly constructing an 80,000 m² reinforced concrete deck at Liège airport. The works form part of the construction of a sorting hub for the Australian express parcel service, TNT Express Worldwide. In order to protect the fresh concrete from rain and sun, the concrete mixer is followed by a 60 meter-long series of tarpaulins. As soon as work is completed, the new facility will have simultaneous handling capacity for some thirty airplanes. TNT will use the hub to distribute incoming parcels to Belgium, Germany, France, the Netherlands and Luxembourg.

As part of the same contract, Matagne & Vandamme is laying 10,000 m² of cold-mix asphalt, constructing part of the airport sanitary system, laying and fitting of a kilometer of inspection ducts and installing lighting for the hub and its access roads. The total value of these contracts is 55 million French francs. The total investment budget for the site stands at 500 million French francs, and it is likely to provide 600 new jobs in the Liège area.

**MAYOTTE**

**Island of Mayotte hit by baby boom**
In 1985, Mayotte built a hospital scaled to its then population of 60,000 inhabitants. Twelve years later, the Insee census bureau figures revealed that the island’s population had swollen to 131,000 – making it one of the fastest growing on the planet.

A 51% increase in the birth rate over the last four years means that hospital services have been stretched to breaking point, with maternity beds attaining a 120% occupancy rate!

Much-needed relief is on its way in the form of an obstetrics and pediatric unit now being constructed within the grounds of the Mamoudzou hospital.

Smec, the Mayotte subsidiary of Colas, has obtained the first three allocations, working in conjunction with GTOI structural engineering offices and quality department. In 18 months, teams have poured the 10,000 m² flooring and erected 55 sanitary units in precast concrete. To meet cyclone and earthquake specifications, the facades have been designed in insulated sandwich panels that are assembled on site.

The first cries are due to be heard in October, 1998.

**FRANCE**

**Hi-tech performance on the A20**
Construction work started in July 1995 on the A 20 motorway between Brive and Montauban, in south-western France. ASF, principal contractor, chose Colas Sud-Ouest to perform the sanitation and roadway work on the Brive-Souillac section, a contract worth 100 million French francs.

Since November 1997, the teams have been at work on the construction of 22.1 km of roadway, three interchanges and a rest area. Hand-over is scheduled to take place before October 1998. An interesting technical aspect of the site is the use of laser-guided equipment (a grader and a profiler) to lay untreated base gravel. After the completion of this section, along with that of Cahors-Sud – Montauban, both of which will be open to traffic at the end of this year, only two more sections (Souillac – Cahors Nord and Cahors Nord – Cahors Sud) remain to be completed.

This major European surface link between northern Europe and the Iberian peninsula is scheduled to come into operation in 2000.
Colas Guadeloupe lays its first elastomer road asphalt

The Gourbeyre hill in Guadeloupe is a stretch of the RN 1 highway, the main road linking the island’s two main cities, Basse-Terre, the administrative capital, and Pointe-à-Pitre, the business capital. Its steep incline, 10% on average over four kilometers, means that trucks must move along it slowly, whether ascending or descending. In one direction the road carries trucks transporting aggregates from the quarries in Basse-Terre to Grande-Terre and in the other, container traffic supplying Basse-Terre from the port of Pointe-à-Pitre.

Renovation work had already been carried out on the surface in the mid-1980s, with an elastomer emulsion surface dressing. The work meant that it was possible to postpone resurfacing until last year, when numerous signs of structural disorder such as cracking and deflection made it apparent that resurfacing would be needed. Colas Guadeloupe responded to the call for tender with specific products Colbase X and Ruflex M14, both of which met the quality specifications of the jobsite. These products allowed a considerably thinner surface to be applied than the original one, executed in traditional asphalt concrete. Colbase X was laid in an 8 centimeter layer and Ruflex M14 in a 4 centimeter thickness. A certain amount of work was carried out at night, to keep traffic diverted into the Basse-Terre town center.
On the road through Morocco

Morocco has a major stake in the development of its infrastructures. The teams from GTR, the Group's Moroccan subsidiary, are active in the program, carrying out a 45-km stretch of motorway.
Abdeslem El Hajouin, the site supervisor in charge of asphalt mix application, smiles. "We shall hand over this stretch in mid-February, Allah willing..." After three years of drought, Morocco is now going through its third rainy winter. The gullies are overflowing, the ground is saturated and can absorb no more rainwater. Though skeptical, the GTR teams try to stay optimistic. The original handover date of December 31, 1997 has already been postponed a month and a half and the new deadline is closing in. Despite the lack of visibility, so to speak, concerning site progress, and because the days go by and each is different from the last, the men on site are at their most responsive, striving day in and day out to step up their production and application rates.

Morocco has for some time been focusing on the problems of its infrastructure with the aim of improving road conditions for international transport. By 2001-2002, all major road links will have been upgraded to European standards and traffic should have been improved, despite the high cost of tolls (15 dirhams for 100 km – twice the average worker’s hourly pay), which may deter more than a few. This year alone, more than 150 kilometers of motorway over the entire country are under work. After the Casablanca-Rabat and Rabat-Larache stretches of toll road, the Fez-Meknes highway, which will eventually extend as far as Rabat, will bring the entire eastern part of the country out of isolation.

**MOROCCO ADOPTS FRENCH CONSTRUCTION STANDARDS**

The Moroccan government has not stinted on this huge program of infrastructure construction and upgrading. The specifications, drawn up by the government-controlled Autoroutes du Maroc (ADM), are modeled on French design, and call for a 2x2 motorway with emergency lanes and a conventional asphalt mix surface... a far cry from the roads
Over 4,000 metric tons of road base asphalt were produced in one day, enough to lay two kilometers of roadway — a record for Morocco.

Europea Solutions for a European Specification

GTR is the principal subcontractor of the Italian RFCC consortium for the paving works, the road base asphalt and the asphalt concrete. But for the execution of the work itself, the methods used are along the lines of those used on most major jobsites. For instance, the cost of materials, a decisive factor in the tender, has been kept to a minimum thanks to the two quarries opened near the road site – a basalt quarry for the production of asphalt concrete and a limestone quarry for the road base asphalt.

Gregory Laloux, who has recently joined the Group, is in charge of the crushing and mixing plants. He is responsible for their daily running and their output, his first experience in the field after training as a plant operator. 

Gregory joined the Group in May 1996 after studying Mechanical Engineering and doing two years’ teaching in Chad as a National Service volunteer. When he was assigned to Morocco, where as part of his training he was to help out on the plant maintenance teams, he traveled all over the country to familiarize himself with the machines. “For me, one of the special aspects of GTR was the diversity of its equipment,” he says.

Last September he joined the Fez-Meknes site team and took charge of the mills and the crushing and mixing stations. The way the site was organized gave him the opportunity to add to his skills. “My duties on this site have given me the chance to learn as much about the work as I have about the plant,” he explains. “It has given me a wider perspective of the industry.”

Gregory appreciates the expatriation experience, finding it full of things to discover. Any regrets? “Morocco is a vast country and I don’t really have the time to take advantage of all its riches.”
Security guards, supply drivers and cooks are among the jobsite personnel. As the support base is cut off from the surrounding villages, tight organization is essential.

**HISTORY**

**Nearly as old as the Group itself**

Only a few months after the founding of the Société Routière Colas in France, the Grands Travaux Routiers (GTR) company saw the light of day in Morocco in 1930. Out of this early North African base, road construction companies started to develop in Senegal and other African countries in the early 1950s, in partnership with French interests. In 1962, ten years before Morocco passed legislation intended to restrict foreign investment, the directors of GTR had already decided to offer half the capital for sale to Moroccan shareholders. Today, the two major Group companies in Morocco (GTR and La Route Marocaine) are still held jointly with local interests, and they operate throughout the entire country.

With Philippe Decarnin at their helm for the last two years, the Group's Moroccan companies together make up the largest civil engineering and public works organization in the country. In addition to a flourishing earthworks business, the Group also carries out maintenance work and is participating in the construction of new road links in the east and south of Morocco.

➤ engineer. He arrives to supervise his plant before daybreak and knows just how essential his job is, particularly if the weather forecast means that production must be stepped up. Laloux and site manager Luc di Francia are proud to tell of the day they achieved record production. "It was December 11," they recall. "Both men and machines worked non-stop to produce over 4,000 metric tons of road base asphalt in one day, which meant we could lay two kilometers of roadway — a record for Morocco!" It is the type of production target both men would like to have attained more often, were it not for the fact that their progress is contingent on that of the Italian team working upstream from the road base asphalt application, who are also slowed down by the rain.

**A NOMADIC LIFE FOLLOWING THE SITE MACHINES**

To meet the demands of the jobsite, which requires a high production capacity and major plant resources, there are almost 150 operatives working on the site. Most of them have come from GTR branches. In Morocco,
struction workers are nomadic, following the machines around whenever a jobsite needs plant and manpower.

Some forty operatives have been recruited locally as support for the teams. Security guards, supply drivers and cooks are also among the jobsite personnel. They are on the support base, some several hundred meters away from the site, where they are cut off from the surrounding villages. Their job is to take care of the tents and other buildings which constitute the support base. “The teams are on the job seven days a week. Given the hours they are working, all supplies must be in and meals must be ready when the operatives get back to their tents,” explains Luc di Francia.

When preparatory work starts on a Moroccan jobsite, there is no shortage of manpower. The news spreads quickly by word of mouth. The workers recruited are mainly farm laborers who have suffered badly through the alternating years of drought and flood which have made the ground unworkable. The campaign to bring the rural areas out of their isolation launched three years ago by the

Ministry of Public Works has led to a surplus of local jobs.

A YEAR GEARED TO THE MUSLIM CALENDAR

The Moroccan working year is structured around Muslim religious holidays. The end of Ramadan, Moulud Day and the Feast of the Sacrifice are the three most important. The operatives work for three months non-stop, then have a four- or five-day break so they can travel home to be with their families and friends. Soon after Ramadan comes Throne Day, on March 3. This is the date on which the stretch of motorway is due to be handed over and inaugurated.

But, in spite of all the scheduling difficulties that have been experienced, the verdict on the project is already positive. “This site is a new experience for the men who are trained in this type of work. It constitutes a substantial reference for the company in a country that is working hard to acquire the means for its development,” concludes Philippe Decarnin, head of the Group’s Moroccan operations.
A quarry defying time

Just to the south of the city of Marseille, the Perasso quarry produces nearly a million metric tons of limestone materials annually. It is the biggest Colas Midi-Méditerranée quarry facility, both in terms of volume and area quarried.
Lunch-break in the Perasso quarry: it is 11.45 am. The trucks and equipment working near the quarry face are moved out, the traffic is stopped. All of the operatives cease work except one, Frédéric Gavoille, the explosives engineer, who takes cover in a little hut. Far away, a blast on a siren can be heard. A few minutes later, he pushes the detonator and the silence is torn apart by an explosion.

In less than five seconds, nearly 8,000 m$^3$ of rock – around 20,000 metric tons – falls away on a pre-determined course, with a dull rumble which sends out a series of slight tremors. The echo takes a few more seconds to die away.

In order to carry out this weekly operation, first some twenty holes, 25 meters in depth and 115 millimeters in diameter, have to be drilled into the limestone at an angle of 8° and spaced four meters apart. Each hole then has to be filled with successive layers of explosive and gravel, with a fuse running through them to a detonator. The 1,200 kilograms of explosive was delivered under security guard in the early hours of the morning.

After blasting, the raw material is sorted and collected by loaders or excavators which fill up the dumpers and shuttle between ➤
the quarry face and the primary cone crusher.

**A 180 HECTARE SITE**

In 2000, the Perasso quarry will have been in the Group for 20 years, but the history of the quarry goes back to the middle of the last century (see opposite). The site covers an area of 180 hectares (445 acres).

“All of the limestone boulder quarries are operated in the same way,” explains Thierry Pongy, head of Perasso. “Every year we quarry a million metric tons of grey or white limestone from here, depending on which layer of sediment we are working through. But what is special about Perasso is that we have a 300 meter-high quarry face.”

Because of geographical problems, the Toulouse valley site is spread over several levels, from the quarry site down to the crushing stations.

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**FROM CRUSHED SAND TO CONCRETE BLOCKS**

At the other end of the site, the plant that manufactures pre-cast concrete blocks, using the sand and gravel extracted from the quarry, constitutes Perasso’s other area of business. The blocks are unmolded as soon as they come out of the press, kiln-dried for twenty-four hours and then placed on palettes in the storage area.

At the head of this installation is Bruno Grazini, who came to his job a year ago from SCLTP Nice (Colas Midi Méditerranée), where he was in charge of the maintenance shop. The move from mechanics to production was not easy, but Bruno has gained both knowledge and experience. He now knows all of the workings of his production facility, which he regards as being hi-tech. His principal concern is
with safety, but Bruno knows that here the stakes are different from jobs involving road works. "Here, rather than worrying about coordinating a series of different trades, what I have to deal with is industrial automation, which can cause unexpected problems," he explains. For all other aspects of his work, he finds the same team spirit prevails. "We always run tight teams where everyone co-operates," he adds.

**A TRADING BUSINESS TO SUPPORT PRODUCTION**

To provide support for the production side of the business, a trading activity was set up some years ago. By buying in concrete beams and steel, a flooring product has been developed that also incorporates the filler blocks made in the precast concrete plant.

The flooring is sold by the square meter, "exactly as if it were carpet", smiles Christian Tosi, Perasso sales manager.

A stone's throw from there, two ready-mix plants are in full operation. This year they will produce 80,000 m³ of concrete, 20,000 m³ of which will be used for the construction of the new Marseille velodrome.

**ENVIRONMENTAL FRIENDLINESS**

The entire chain of production installed on the Perasso quarry site is subject to severe environmental controls. Legislation on air and water pollution levels means that hazards are kept to a minimum. For example, to lessen the amount of dust generated by trucks, the tracks and site roads are constantly sprayed with water to keep the dust on the ground. Trucks carrying sand are always sprayed at the exit to the quarry. Crushing plants have sidings and dust-extractors. Runoff water and waste water from the concrete plants are processed through a series of settling ponds and then recycled on the site.

The southern part of the site, which has been worked in the recent past, is currently being reclaimed. The rock has undergone special treatment to age it with an artificial "patina" so that it blends in with the colors of the surrounding hills. A hill has been reconstructed with some terracing on its slopes. New topsoil has been brought in to secure the planting of trees and shrubs, giving the countryside back its original aspect. The quarry is now being developed toward the east, where the steeply sloping terrain implies new constraints.

**HISTORY**

**150 years of quarrying**

In 1840, a Monsieur Bonifay started to quarry the slopes of the Toulouse valley, although not at all on the scale the operation has attained today. Back then the quarries were a tiny breach in the flank of a hill and they yielded building stone and gravel. Little by little, the site grew and was extended. However, it was with the establishment of Perasso et Fils (Perasso and Son) in 1930 that the site underwent real development. Its brand name, Le Sablier (the sand quarry), and slogan "Les sables Perasso défient le temps" (Perasso sand is everlasting) are known by the entire trade, from major construction companies to the local bricklayer.
With only creepy and crawly wildlife for company, the team from La Suburbaugh work day after day on maintaining the City of Paris water network.
A journey through the sewers of Paris

Beneath the French capital runs a vast labyrinth of dingy, oval-arched passageways – the famous sewers of Paris. They are the daily workplace of a thirty-strong La Suburbaine team whose task is to keep things on the surface as sweet and fresh as their name suggests – the City of Paris Fountaineers.

Make no mistake, despite its picturesque title, the job of the Fountaineers could not be more down to earth. To understand it better, we took a trip to their underground workplace. If you trace the source of the water that flows from Parisians’ faucets, 70% comes from water sources located about 100 kilometers outside the town and the remaining 30% from water treatment plants located somewhat nearer. The water is then carried to the capital’s main reservoirs through aqueducts built at the end of the 17th century. From the Montsouris, Ménilmontant, Bagnolet and Saint Cloud reservoirs, it is gravity-borne into the city’s large diameter water mains to be distributed through smaller pipes that are laid in the sewer conduits.

The underground network was built in the 19th century, at the time major transformations were made to the city, carried out by the urban planner Haussmann. The 3,350 km of pipeworks for both drinking and waste water date, for the most part, back to the beginning of this century. As that makes them nearly a hundred years old, rehab and maintenance work is performed on a continuous basis. La Suburbaine was originally awarded the maintenance contract for the Left Bank water network in 1974 by Sagep, the city of Paris water utility. The type of work most usually performed by La Suburbaine is the removal and installation of pipework of all diameters when parts of the network are overhauled or when it has to be extended. The network still needs to be constantly enlarged, despite the fact that inner Paris water consumption is on the decline, due mainly to the proliferation of office space.

MEN OF MANY SKILLS

The work requires a team of thirty men, all multi-skilled, out of the forty who are employed in the Paris sector of the Aulnay-sous-Bois Office. Changing large-diameter drinking water mains and replacing valves are typical examples of the type of work the team performs. Down in the 15th Arrondissement of Paris, a site is under way on Boulevard Lefebvre. The old valves are not only very worn, they are also very large. They are being replaced by modern, smaller models. The new valve that is being installed replaces one that is six times its weight. The jobsite will last three weeks, no longer, and during this time the water will be diverted by another main.

A manhole been opened up, so work...
can be performed in the open air and equipment and materials brought up to the surface and taken down. The old large-diameter cast-iron pipes will be cut into two-meter sections with a chainsaw powered by compressed air. "When they were laid, the joints were sealed in lead, which is why they have resisted time and corrosion so well, but it is also the reason we are having so much trouble dismantling the pipes," explains Gérard Vignoud, manager of this sector.

Crouched in the pipe, Tonio, who came to France from his native Portugal two years ago, works supervised by his uncle Antonio, a highly skilled worker who has seen many a jobsite and was himself trained in the craft by his now-retired father. "There isn't just the damp and the dark and being in an uncomfortable position," grins Tonio, "there's the noise to put up with as well!" After a two hour struggle, the men win and the severed length of pipe, weighing a ton, is hoisted out with a crane and replaced by galvanized steel sections.

**UNDER PRESSURE**

The most difficult part of the job for the men in the sewers is anchoring the pipes. Water flows through the network under pressure that is maintained at 4 or 5 bars, but when hydraulic tests are carried out, this is raised to 12 bars to test the solidity of the anchorage, the watertightness of the seals and the resistance of the pipes. The slightest weakness and an entire “quarter” of Paris can be flooded. To prevent such an occurrence, Sagep carries out regular inspections of work in progress to ensure that each stage is correctly executed.

A few kilometers away, preparations are under way for the coming Millennium with a new type of service performed by the teams. In the area around the enormous new Bibliothèque de France reference library, a new housing development is growing up, apartment blocks are being constructed and the Fount-
ainees are busy in the new sewage network, built out of concrete. The main problem here is very little headroom. A team is working on laying a small-diameter main that will carry drinking water to the new Seine Left Bank business district. Cast iron is the strongest and most natural material to use.

"Now a site like this presents absolutely no problems," beams Gérard Vignoud, who nonetheless hastens to add, with the pride of a veteran, that he has seen much worse. After 15 years on jobsites, his most cherished memory is without a doubt the replacement of the piping that supplies water to the fountains in the gardens of the Chateau of Versailles, a job that also involved repair of the foundations in the tunnel. Recalls Gérard: "They were the first pipes to be cast at the Fontigny foundry, with the date 1670 on them in Roman numerals and they were embossed with a Fleur de Lys. On the ground, even the excavator could hardly lift the hexagonal, three-foot sections." The team was rewarded for its courageous efforts — one of the underground sections is now displayed in the museum of the leading French cast-iron foundry, Pont-À-Mousson.

DOWN IN THE DARK AND THE STENCH

On to the last, but by no means least, of the sites, in the 13th Arrondissement of Paris, where the task of the teams is to reinforce the network by laying a new pipe, fixed to the vault of the tunnel. This is work in the sewers in all its glory. Boots, coveralls, helmets, gloves — men working surrounded by darkness and a terrible stench, wading in waste water from the apartment blocks lining the street. A few solitary lights powered by a small generator at street level give off a pale glow, just strong enough to work by. More is not required as it would only serve to illuminate the surroundings. Happily, the noise made by the men at work and the gas detector machine have temporarily driven away the sewer's more permanent residents.

"The worst, apart from the stink and the continual dampness, is that there is no room to handle equipment. No matter what type of job we are on, we always have to do it in an uncomfortable position," says José, site foreman. Gérard Vignoud is no stranger to the problem. "Temporary workers sometimes only last three hours, because of the hardship conditions," he admits. "Our men are conscientious, hard working and courageous — not only do they cope with the environment, they also have specific know-how and special skills." Apart from minor mistakes and handling problems which have no serious consequences, the major risks of the job are caused by storms and the huge quantities of water that may run down drains in a matter of minutes. In the event of a storm, the men either come up to the surface immediately, or build raised platforms when they know they are working in high-risk zones.

### HISTORY

**Gas in the pipeworks**

The main business of the Suburbaine Gas and Electricity company, est. 1908, was producing gas for street lighting. A mains services division grew up, supplying towns and private houses with the gas supply produced by the plant. When gas became a public utility in France, the company changed its name to the Suburbaine industrial and civil works company. The company's gas production business was taken over by the Gaz de France public utility and the Suburbaine kept the civil works business. In 1957 the company became the Suburbaine mains services company, and then the Suburbaine pipeworks and mains services company, the name it still bears today. In just a few years it diversified into large diameter pipeworks and won its first overseas contracts. In 1986 it was acquired by the Spac group. Today, the Suburbaine has 4 Paris offices, 3 in the French provinces, yearly sales of over 200 million francs and a workforce of 400.
Creating new products, honing new methods, responding to new markets, organizing people, breaking new ground... What's changing at Colas around the world.

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**COLD MIX**

Selective cold asphalt mix – a tried and true process

Coating aggregates with bitumen emulsion is far from being a new idea. A number of products have already been in use for some time, including the best known of them, Colgrave emulsion, which was invented by Colas in the 1950s. The product has been used successfully for nearly fifty years, particularly in the south-west of France. However, the technique, intended primarily for reporfling, minor repair and strengthening work, is limited in application, principally because of its low mechanical resistance properties and the problems of coating large components.

The current state of market competition, the move to non-polluting road techniques, the absence or remoteness of hot-mix plants in certain areas, and the existence of average or light traffic-bearing roads that do not require heavy structural investment all combine to make selective cold asphalt mix a process that is well suited to today's markets. Cold-mix asphalt (i.e. emulsions) is starting to be used for subbases and for wearing courses as well.

Total selective cold asphalt mix is a patented manufacturing process that guarantees excellent coating quality, high workability of the asphalt and core boring at thirty days. It is the process used to produce Colgrave S.

The process has already been put to the test in September 1997 in South-West France. The work was carried out by the Montluçon office (Colas Sud-Ouest) as part of a local government Innovation Charter. The completed job was rewarded with an "Innovation Routière" (road innovation) citation, awarded by the SETRA.
Raycol installs a high-capacity modified bitumen unit

Raycol installed an automatic modified bitumen manufacturing plant with a capacity of 13 metric tons per hour in 1997. The plant, constructed on a modular concept, was designed by the Colas SA equipment department and manufactured by Spac.

Four 200 metric ton tanks complete the installation, which represents global investment equivalent to 20 million French francs. This constitutes a new activity for Raycol, which will now be able to cover a broader range of products and to start up production of modified bitumen emulsion in the near future.

Raycol, one of the Group's Thai subsidiaries, is specialized in the manufacture of bitumen emulsion. In 1997, the company's output for the year stood at 90,000 metric tons.

COLAS SUD-OUEST
The technical department gets a new home
In September 1997, the Technical and Development department of Colas Sud-Ouest and the Floirac laboratory moved into its own new specially designed premises in a striking contemporary style of architecture. The Floirac laboratory building, strongly inspired by the Magny central laboratory layout, has three test rooms (binders, mixes and aggregates), offices and a room that will be utilized for field team training, among other purposes.

COLD-MIX ASPHALT
Colas Ltd (UK) creates Ralumac 2000
Ralumac 2000 was developed by Colas Ltd in the UK as a response to British specifications stipulating a sand value of over 1.5 millimeters. It also responds to a need for greater reductions in noise levels and ensures the widespread use of bitumen emulsion.
A market survey of the product, in terms of the number of square meters and the cost price, demonstrated the importance of the role this cold-mix emulsion plays in the entire range of surface pavements.
To protect Ralumac 2000, patents have been filed for the equipment. This includes an automatic thickness controller and a new application system.
The focus last year was on industrial production, but 1998 will see the transformation of half of the Colas Ltd installed capacity as regards application equipment.
A charter for road safety

On November 25, 1997, Alain Bodon, the French inter-ministry delegate for road safety, and Alain Dupont signed a partnership agreement for a campaign promoting road safety and measures covering risks caused by driver behavior. This partnership, set out in the form of a road safety charter, targets a 25% reduction over three years of the company's own accident rate, of the number of people who are victims of accidents, and of the cost to the company of workplace-related road accidents. This charter forms part of the safety drive which has been in force for a number of years within the subsidiaries of the Group. Scereg already signed a contract with the Department of Road Safety back in 1994.

"Road safety is an issue that we must address," stated Alain Dupont at the signing. "It is a component of human progress. The objective is to make all drivers take responsibility for safety." As a road constructor, Colas has a particular sensitivity to road safety issues, is anxious to prevent mishap or injury to its employees, and is aware of the need to bring down costs arising from a too-high accident rate. As a result, the company has decided the time has come to evolve from a stance of management of accidents and purchase of insurance towards a real policy of risk prevention.

To ensure the success of the policy, the Group is working in partnership with the Department of Road Safety and the UAP insurance group. Forming the cornerstone of the accident prevention program are a steering committee made up of coordinators from each subsidiary, whose job will be to train the majority of the personnel, plus a document and software resource supplied by UAP called Scope, which deals with driver safety in the work environment.

The program links a series of procedures to be developed over a period of three years with a set of tools consisting of software, videos and handbooks. Quarterly accident prevention reports will attest to the actions taken on a regular basis. The training package consists of two modules. The first, lasting half a day, is a reminder of the 11 rules for safe driving (safety of the driver, the fleet and the environment surrounding the vehicle), while the second session, lasting three hours, covers how to fill out an insurance statement at the scene of an accident.

Following 1997, which was a year for raising awareness, the subsidiaries are now able to request the use of tools and technical support from headquarters. In the first instance, the program is targeted at the drivers of the Group's 13,500 vehicles in France and the French overseas departments, who drive some 300 million kilometers every year.

Following this, the charter is likely to be extended, in stages, to all the countries and territories in which Colas operates. In 1996, the average rate of vehicle accidents (excluding site equipment) varied between 0.14 and 0.39 per vehicle, per year. Figures that demonstrate, if proof were needed, the urgent need for awareness campaigns and upstream training programs in the field.
A word with Alain Bodon, inter-ministry delegate for road safety

How did the road safety charters come into being?
Dealing with the issue of road safety within companies is a complex matter. It calls on cross-disciplinary technical skills and requires the setting up of a partnership strategy that mobilizes all the players involved, both inside and outside the company. The road safety charter is an answer to this imperative. It generates the pooling of skills and know-how required to design and implement effective accident prevention programs that are a genuine commitment on the part of companies and their personnel.

Colas is the 17th company to subscribe to an accident prevention program of this type. Have the other sixteen companies already obtained satisfactory results?
All the companies that have committed themselves to the initiative have now set up accident prevention programs. The best among them have achieved significant results. Bringing down the accident rate by as much as 50% is a completely attainable target from the third year onward.

Are these charters applicable to all types of company?
Yes, absolutely all types of companies, no matter what their size, their business, their geographical location and their sphere of influence, are represented in the road safety charters, including of course, the public sector. The difference in its techniques and forms of practice explains why such a small number of charters have been signed within the sector.

Will these actions in partnership with companies have repercussions on the rest of the population?
The modification of people’s behavior, through setting up educational programs, has of course made a positive impact both for work-related and personal journeys. One of the companies that has signed a charter conducted a survey that showed a significant reduction in both personal and work-related accidents.

Beyond the scope of the charters now in force, does the government envisage involving all French companies in the movement?
The results obtained by the participating companies will be analyzed by the department of road safety during the first quarter of 1998. The conclusions will be communicated to the participants and a national club will be set up to serve as a forum for sharing experiences, breeding ideas and formulating propositions. The club will define the framework of an accident prevention program adaptable to the entire work environment and will provide solutions for each specific case.

Training drivers and making them aware of safety issues is obviously a good thing, but shouldn’t something be done about certain dangerous roads, which cause so many fatalities?
Road accidents result from a conjunction of a number of factors that have caused degradation in driving conditions for one or more road-users. These factors are usually classified into one of four categories: individual, road, vehicle and environment. The problems arising from the road are to do with road layout, roadway, surface, shoulders, road signs and road markings. In-depth research has shown that by improving the infrastructure it is possible to avoid 30% of serious accidents. These types of infrastructure improvement tend to be very expensive and are of two kinds – corrective improvements (safety improvements) and preventative improvements. For preventative improvements, the inter-ministry commission on road safety is looking into setting up a safety audit for road construction projects, to ensure that they contribute actively to user safety and encourage drivers to drive as safely as possible.

SCREG EST WINS 1997 ROAD SAFETY TROPHY
With 76 accidents involving liability for a fleet of 633 vehicles, Screg Est was the winner of the 1997 internal trophy for road safety. The presentation was made on October 31 by Philippe Gresset, Chairman of Screg, in the presence of Alain Bodon, inter-ministry delegate for road safety.

ROUTES number 4
The 1997 ‘Compagnons de la Route’ awards ceremony was held on November 26. The enlargement of the Group in France following the integration of Screg has given the Order of ‘Compagnons de la Route’ a new dimension. It now consists of the Colas and Somaro Losange d’Or, the Sacer Top Niveau and, this year, the Screg Green Riband. There were 80 new nominations honoring the best workers, selected by heads of French work centers and ratified by the chief executives of the subsidiaries. 38 of the 80 recipients work for Colas and Somaro, 5 for Sacer and 37 for Screg.

This year’s intake brings the total number of ‘Compagnons de la Route’ rewarded since the Order was created in 1993 to 450. There are 17 regional orders, under the aegis of each subsidiary’s chief executive.

Before presenting the awards, Group Chairman Alain Dupont spoke about the primary purpose fulfilled by the Order: promoting an elite group of workers united by essential values, without which there can be no durable success. “Because you are witnesses to our highest standard and to our effort, because you are hard workers, because for you the need to excel is stronger than ever, and because you go from success to success, it right for us to come together; to meet, and to celebrate success founded on such simple and selfless values as exemplariness, pleasure in a job well done, friendship, consideration, and quality. You prove that there are still winners around whose triumphs are based on unselfish values.”

Alain Dupont went on to speak of “the fulfillment and vitality experienced by each regional order, so necessary to develop a solid and genuine brotherhood of ‘Compagnons’ at the heart of each company in the Group.” He also touched on the role of the ‘Compagnons’ on their return to their units: “The force of man is a deeply buried desire to continue in adversity to believe in his dreams and to fight for the victory of what he believes in.”

Alain Dupont explained the structure of the Order: he himself is president of the national council of ‘Compagnons de la Route’, which consists of all the vice-presidents. The council is responsible for ensuring that the Order’s regulations are respected and furthering the development of the Orders within the Group.
In the next few months, the Compagnons will have the opportunity to attend a series of training programs specially tailored to their profile. In particular, they will cover such topics as business economics, to improve their understanding of the functioning of the Group, the subsidiary and the local unit. They will also study skills in human relations and transmission of know-how, to aid them in working newcomers into the team, and in offering support to the youngest workers. In addition, a training program on safety procedures and accident prevention is to be developed in the coming months.

After the ceremony, the celebrations continued aboard a pleasure boat sailing along the Seine. The next day, there was a guided tour of the brand new Stade de France, the centerpiece stadium for the 1998 Soccer World Cup.

These were two days of camaraderie, relaxation and enthusiasm, and for some of those present, a first chance to see Paris and the Group’s head office. Of course, there were many moments of laughter, but most importantly, the 80 men present discovered the new role they will be expected to play as ‘Compagnons de la Route’ in their subsidiaries. They were two days-none of them will forget.

> INTERVIEW
Alain Cochet, Top Niveau 1990
Alain Cochet, a road worker with Sacer Paris Nord-Est, is currently serving as a vice president of the Order of ‘Compagnons de la Route’.

What are the values that inspire you most in your everyday work?
Commitment at all times to my colleagues and my direct supervisors, which is important for the development of team spirit and a sense of responsibility.

Is the honor of being a ‘Compagnon’ a heavy burden to bear, or does it serve to encourage your colleagues?
Of course, I wouldn’t deny that it can sometimes be difficult to be ‘Compagnon’, because it can create envy, if not jealousy.
But the most important thing for me is to try to perform my work duties in as exemplary a way as possible, so that those who work with me will do the same.

THE ‘COMPAGNONS DE LA ROUTE’ FOR 1997

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ROUTES number 4
The acquisition of Strada strengthens the Group’s position in Poland

Colas and the Polish government have combined to create a new entity, Strada Sp.z.o.o, as part of the government program to privatize the state-owned Strada company.

The Polish government is contributing the company’s assets and goodwill, which leaves Colas with a 51% share in the capital of the new company.

Strada, which has current annual sales in the order of 50 million French francs, is a road construction and road products manufacturing company based near the city of Poznan, a strong growth region located in the west of the country. The Group will upgrade the company’s production plant, and through technology transfer encourage its development on a rapidly expanding market.

The Group first entered Poland, a country with 2,500 kilometers of motorway and 4,000 kilometers of highway, in 1996, through Bauma-Novejfa, a subsidiary of Novejfa (Colas Danmark).
PRODUCTION

A new emulsifier plant for Colas Teoranta

During 1997, Chemoran, a subsidiary of the Irish company, Colas Teoranta, built an emulsifier production plant. For the last forty years, the company has been producing emulsifiers solely to meet the needs of plants located within Ireland. Following Colas Teoranta's entry into the Group in 1996, tests carried out by the R&D department on products manufactured on site and their suitability for adaptation to different specifications yielded positive results. A new manufacturing reactor was therefore constructed to supply all of the companies within the Group. This new unit, totally designed and engineered by Chemoran, has been operational since December 1997.

APPOINTMENTS

- Xavier Lepeçq, CEO of Sacer
  On December 19, 1997, the Board of Directors of Sacer appointed Xavier Lepeçq Chairman and Chief Executive of Sacer, following the retirement of Emile Richaud. Xavier Lepeçq, who graduated as an engineer from the French Institute of Applied Chemistry and Physics, joined the Colas Group in 1975. He began his career in France, serving as site engineer on major jobsites first in Perpignan and then in Béziers, before becoming sector and work center manager in Ajaccio, Marseille, Montceau-les-Mines and Bonneville. He then moved to North America, joining the Group's Canadian subsidiary, Sintra, in 1988. He was appointed President of Sintra in 1991. The following year, he crossed over into the United States to become president of Barrett Paving, which has its head office in Roseland, New Jersey. In 1995, he was appointed Chairman of IA Construction, headquartered in Concordville, Pennsylvania. He has been replaced at the helm of Barrett Paving by George Aussell.

- Alain Clotte, Group Director of Legal Affairs
  Following the retirement of Pierre Mousseau, Alain Clotte has been appointed Director of Legal Affairs for the Colas Group. Alain Clotte, age 40, holds a Masters Degree in Economic Science from the University of Toulouse and a postgraduate diploma in Higher Accounting Studies from the French Institute of Corporate Administration. He has also earned diplomas from New York’s Yeshiva University and the University of Harvard. He joined the Group in 1981 as assistant to the Regional Administrative Director in Bordeaux. He subsequently served as Administrative Manager of Perasso between 1984 and 1986 and Head of the Audit Department from 1986 to 1989. In 1989, he was appointed Head of Legal Affairs at Colas Méditerranée. Since 1995, he has been Deputy Director of Legal Affairs for the Colas Group.

TECHNICAL CONVENTION

Lyon hosts the Group’s technical convention

On February 2 and 3, 1998, technicians from every company in the Group – close to 300 people in all – gathered together for a technical convention at which they had the opportunity to share their experiences. The first day was devoted to a poster display, where people from all companies could meet, talk and get to know each other before the open discussions began. On the second day, there were public discussions, company by company in the morning and in plenary session after lunch.
The Antibes toll barrier: making for faster payment
Dealing with the traffic from Sophia Antipolis

The A8 motorway is the only infrastructure on the French Riviera to provide a fast road link between the towns lying on the stretch of coast between Cannes and Menton. With the economic expansion of the Alpes-Maritime department, largely linked to the growth of the Sophia Antipolis Technology Park, motorway traffic has risen by 80% between 1984 and 1994. The city of Cannes is home to nearly a quarter of the personnel who go to work every day in the Sophia Antipolis district. To deal with this increase in traffic and find a solution to the traffic jams, the Highways Department, together with the Departmental Equipment Division and Escota, carried out the redevelopment of the Antibes toll complex.

An 18-month jobsite

The redevelopment work on the Antibes complex was carried out over an eighteen month period by a construction group headed by the Cannes office of Sacer Sud-Est. Work included the creation of new toll booths on the Antibes East lane and the widening of the booths on the Antibes West lane, along with the construction of a toll barrier giving direct access to Sophia Antipolis and the widening of the Antibes Voie DirecTe Italy-Spain transit thruway from twenty-two to thirty-four lanes. The Sophia Antipolis and Antibes East toll booths were opened to traffic in their fully-finished state last September. The South and South-West toll barriers were handed over in October.

Time saved, money earned

The Antibes motorway toll barrier has now become one of the largest toll complexes in Europe. Improvements, including an increase in the number of fast lanes with remote toll collection facilities, better early streaming of vehicles into specific toll lanes and a greater number of toll booths, have all resulted in considerable improvement to traffic flow. “What a time-saver!” exclaims a regular Sophia Antipolis commuter. “Drive-through payment is a terrific improvement – now there is almost no slow-down before the barrier.” The new infrastructure has made life much easier for local residents. As one traveler, a doctor, explained, “Before it was impossible to be certain that we would get through to an appointment on time. But now, thanks to the reorganized facilities, going through the toll is no problem at all.”
Why the Group needs to keep on the rails
Clean, quiet and fast, public transport that runs in reserved lanes is looking an increasingly attractive prospect to many towns and cities. For nearly twenty years, the Group’s companies have been working on a number of projects in and around France.

Buses running in reserved lanes, subways, train-trams, short-distance rapid transit... just some of the different types of transport that occupy their own reserved routes. Before looking at the various strengths and weaknesses of some of these, a definition may be useful. Reserved-lane transport is a mode of transport that operates with no interference from normal road traffic. It runs on a reserved road or track, with automatic traffic lights and at an average service speed of 20 kph, including stopping. Between public transport integrated into the normal traffic flow and a reserved-lane transportation system, average speeds vary in a proportion of one to three.

The 1920s - the golden age of the tramway
The beginning of the 1920s saw the tram attain its height of popularity as a means of transport. The noise was deafening and the overhead cables hideous, but all major cities had extensive tram networks which city dwellers made massive use of. Thirty years later, the post-war years saw the rise of a new mode of transport - the automobile. The noisy trams were now shunned by users, who preferred the car, a new symbol of individual freedom and affluence. Small passenger cars started to carve out a space for themselves amid the interlacing tram tracks, and they had soon won the day. Several decades went by, then new phenomena appeared: traffic congestion and the rise of the environmental lobby on the one hand and the development of built-up areas at the edge of towns on the other. The density of traffic had an adverse effect on the length of journey times, already made longer by the steady increase in the size of towns. So, with the wheel coming full circle, it has now become necessary to develop forms of public transport that are quiet and fast and do not interfere with traffic in towns... in a word, reserved-lane public transport. The new public transport vehicles have little in common with their ancestors. Giant strides have been made in engine, suspension and equipment technology. The rattle-trap conveyances of the 1920s are a thing of the past and new solutions for urban regeneration are emerging. At least, this is how the history of public transport in France can be summed up. Other European countries became concerned earlier over the environmental issues, enjoyed a less flourishing economy, or quite simply had different cultural values. They did not give in to the post-war boom in automobiles and continued to assign a large part of their investment budgets to public transport systems. But in making up the ground lost over several decades, France can turn matters to its advantage. The new generation of public transport that will actively be
Installed around the millennium will certainly have a technological edge on neighboring countries’ older systems.

Questions of cost
The first criterion that determines the choice of a mode of transport is the size of the city in question (chiefly concerned are cities of between 200,000 and 300,000 inhabitants). The second criterion is the type of transport that already exists, and the third, by no means the least, is the cost of the infrastructure. Subways top off the list as the most expensive systems. A conventional tramway, such as is found in the cities of Grenoble or Nantes represents a 50% lower outlay, with rolling stock only accounting for 20% of the total. Most of the expense comes from infrastructure modifications (rails, catenaries, electric power, signals, relaying underground mains services, etc.). The cost of such equipment must be amortized over a lengthy period — generally around thirty years, a long time in economics, with its turbulent ups and downs.

Rethinking the townscape
Reserved-lane public transportation systems cannot be self-financing, because the proportion of the cost paid by the user remains low — approximately 30% of the running costs. The overall financing of this type of operation in France is about 16% government funded, the remainder coming from local taxes and bank loans. A transport system has to be integrated into a city, where construction on urban land is at a premium, sometimes involving demolition of existing buildings, therefore preference must go to the means of transport that occupies the least land possible. Despite this drawback, there are still many positive aspects — reserved-lane public transport is an opportunity to rethink the urban landscape through rehabilitation of roadways, redevelopment of entire quarters and above all, reorganization of all the surface transport networks. Ultimately, this approach brings undeniable long-term benefits.

The tram on tires — a new generation of urban public transport

Unlike its cousin, the tram that runs on rails, the construction of a tram running on tires does not require underground networks to be moved — something that provides a cost saving in the order of 10% to 15%. Vehicles mounted on tires are guided with a central rail which they can dispense with. When no rail is available, the electrically-driven tram is powered by a diesel engine.

The city of Caen was the first to put this type of infrastructure out to tender. The tram on tires is limited in application because it requires the reserved lane that is totally flat, needing laser setting to lay the profile both longitudinally and transversely. As the tram’s tires always go along the same part of the track, very resistant surfacing must be used to prevent rutting.

The main benefits of tires are reduced rolling noise and better ride comfort for passengers. The tram on tires is an innovative solution that constitutes a good method of transport for cities where the traffic load is intermediate.
ancillary lanes in the town of Saint Denis and a tram terminal in Aubervilliers. At the same period, Sacer Atlantique collaborated with Colas Centre-Ouest on integrating tram line number 2 into the urban fabric of the city of Nantes. In Rouen in 1991, a development company for the Métrobus was set up, based around a group of civil engineering and public works companies, for the purposes of a Europe-wide tender. When Devaux, a subsidiary of Colas IDF, and member of the group, was awarded part of the civil engineering work, principally the ancillary lanes, the Devaux Métro office was set up. The office is responsible for managing the contract. It prepares the working drawings, finalizes the project, has executive responsibility for the site and is in charge of bringing in Group or sub-contractor teams to carry it out. Supplementary work was carried out in 1996 and 1997. Between 1992 and 1994 the Schubel TP center (Colas Est) took part in constructing the Strasbourg tramway network. The first line to be laid was 10 kilometers long and linked the Hautepierrre quarter in the west to the suburban town of Illkirch-Graffenstaden in the south, via the train station and the town center. Schubel worked on the western branch as a member of a six-company group that won roads and drainage contract allocations. Last year Sacer Sud-Est carried out part of the Lyon metro surface track and Sacer Paris Nord-Est built a bus terminal in Saint Denis. In Toulouse, Colas Midi-Méditerranée constructed an ancillary car park where metro users can leave their cars. Colas Rhône-Alpes has been involved since 1983 in the transfer of the Saint Etienne tram system to reserved lanes and this year will work on equipping the platform and the lanes. After performing extensive work in Grenoble at the end of the 1980s, Sercog engineers were able to take their expertise with them to other towns, where they embarked on two major tram-line construction operations from Saint Denis to Bobigny and in the city of Strasbourg. The same expertise cropped up again in the construction of the Montpellier tramway – a first allocation worth 85 million French francs has just been awarded to a group that Sercog both heads and represents.

"Tramway projects are fast increasing in the French provinces. No fewer than six new networks will make their appearance within the next five years in Bordeaux, Lyon, Orleans, Montpellier, Valenciennes and Clermont-Ferrand."
Résipoly resins, special products with a special purpose

Through its subsidiary, Résipoly, Screg is the leading supplier of resins and mastics for filling the joints between rails and the roadway and for sealing paving stones. The principal use of these resins is to provide good cohesion between rails and concrete, asphalt surfacing or paving stones. Following Nantes and Grenoble, Résipoly supplied Saint Denis with Resimat 200, a cold-poured product, Compjoint, a hot-poured product, and Resithane Tram.

Not only does Résipoly enjoy a leading share of this segment of the French market, it now also markets abroad. Its products are to be found in the Portuguese city of Porto’s tramway and are undergoing tests in Geneva. Screg is also positioned as a major player in local government contracts, thanks to its road construction expertise. Some of its products, such as Métalfix and Plastiflex, which are applied on truck toll-booth lanes on motorways to counter the risk of rutting and subsidence caused by wear from tires, are particularly suitable for the roadways that trams on tires run on. Similarly, Screg, in collaboration with Matra and Renault Véhicules Industriels, is constructing a 1.2 kilometer test track in the Lyon area to test the suitability of Plastiflex, particularly those in reserved lanes, are able to offer an alternative. The implementation of the city of Strasbourg’s urban transport plan has produced a 30% rise in available public transport facilities, an increase in which the tram plays a major role. The city of Lyon recently gave approval to an urban transportation plan and the creation of 11 new reserved-lane surface transport lines. Its current target is to increase today’s 20% share of public transport in all urban journeys to 28% by 2008.

Tramway projects are on the increase

Tramway projects are fast increasing in the French provinces. No fewer than six new networks will make their appearance within the next five years in Bordeaux, Lyon, Orleans, Montpellier, Valenciennes and Clermont-Ferrand, and other existing networks will be extended. At the end of 1997, there were 131 kilometers of tramline under operation in France, 107 of which were laid less than three years previously. The total length of lines is scheduled to reach nearly 200 km by the end of 2000 and over 320 km by 2005.

At the same time, the number of trams running on them will increase from 300 to over 750. In all, there are nearly a hundred projects for the creation or extension of reserved-lane public transport lines, involving 34 towns and cities for a global amount estimated at 85 billion French francs. 1998 has seen a 10% budget allocation increase in French government subsidies for provincial public transport systems – a boost that is expected to be even greater next year.

One reason for this is that it will be far easier to reduce the amount of in-town traffic if public transport systems, particularly those in reserved lanes, are able to offer an alternative. The implementation of the city of Strasbourg’s urban transport plan has produced a 30% rise in available public transport facilities, an increase in which the tram plays a major role. The city of Lyon recently gave approval to an urban transportation plan and the creation of 11 new reserved-lane surface transport lines. Its current target is to increase today’s 20% share of public transport in all urban journeys to 28% by 2008.

Road builders and towns in partnership

Whether the company is called Colas, Sacer or Screg, all of them are fully capable of managing complex urban jobsites and their various components – transfer of networks, reconstitution of roadways and reconstruction of sidewalks. In anticipation of the technical problems that may arise from the
test strips to assess the innovative processes that it will develop, such as the laying of tram tracks simultaneously with construction of the roadway. The Group’s road building companies have already set their laboratories and site teams to work on the behavior of surfaces when subjected to possible shearing and the effect of the heat from vehicle braking systems or engines on asphalt mix surface.

Over the last few years, the steps taken by Group companies to work more closely with prime contractors and industrial partners have given them an excellent grasp of the requirements of these sites of the future. Their experience has allowed them to take part in the experimentation of new materials and helped them prepare and adapt innovative techniques and products to provide solutions for the technical restrictions of tomorrow’s modes of transportation.

Group companies are able to participate in the decision-making processes of local authorities, concerned to choose the form of reserved-lane public transport that is best suited to the context of their particular city.

INTERVIEW

Henri Robert, a rural engineering, forestry and water engineer, was the deputy director of the French Association of Mayors before joining Screg in 1989 as Development Manager for public sector markets. His knowledge of local authorities led him to set up a company called Vega in 1990. He is currently Sales Manager of Screg.

Road-builders working in partnership

Will the budgets that the French are allocating to public transport spending over the next few years be enough to make up for lost time?

By 2005, 85 billion French francs will be needed to finance the 72 projects listed in 1996, half of which were already either approved or under way. The funding of the projects not yet either launched or adopted is a question of the choices and political options of the French government and, above all, of local governments. We are sure of two things: on the one hand, if the development of tire-mounted systems continues, the road infrastructure share of projects will increase and on the other hand, public money allocated to reserved-lane spending will be deducted from the amounts available for traditional roadway construction. Apart from this state of affairs, there is always the possibility of funding that involves private capital, in the form of operating concessions.

Does this mean that the role of road construction companies must evolve in this type of project?

It does indeed. In the case of a classic tramway running on iron rails, the role of the road builder is marginal. On the other hand, when it comes to a project for a system of trams on tires, the relative weight of the roadway budget, the innovative aspect of the techniques to be implemented and the need to build in the cost of maintenance mean that the road construction company is positioned as a partner of the rolling stock manufacturer. The community’s choice is a comprehensive vehicle-guidance-roadway system. This is why, in the case of concessionary operations such as Clermont-Ferrand, the techniques of a road-building company form part of each offer.

Can our expertise be exported to international projects? How could we go about it?

Colas, Screg and Sacer all have mastery of appropriate techniques that can be sold throughout the world. It is by developing a close partnership with materials manufacturers, where we offer turnkey solutions to foreign cities, that the Group can reinvest the expertise it has acquired in France. A major component of this expertise is our ability to manage large urban job-sites, where coordination of different contractors is of prime importance.
A worldwide fleet of over 37,000 machines

The Group possesses more than 37,000 site machines, located around the world. Excluding vans and trucks, the replacement value of the fleet is estimated at 11.7 billion French francs.
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* excl. light vehicles

Figures as of 15.11.1997.
One is a construction engineer in Gabon, another works as a technical assistant in Ireland, a third is a chip spreader with Sarrazy, yet another is a quality auditor at Screg Sud-Ouest... Every day, all of these people give it all they’ve got to make Colas succeed.
By land, sea and air

Dominique Moins, workshop manager with Sacer Sud-Est

Following spells in Fréjus – where he ran the asphalt plant – then Toulon and Cannes, Dominique Moins was transferred to Carpentras less than a year ago, where he is now workshop manager. He is in charge of five ready-mix concrete trucks, seven haulage trucks, a bulldozer, a grader and spray tankers, crew vans and backhoes. “Everything has to be kept in perfect working order on a limited budget,” he says. When he takes his overalls off, he puts on a flying suit. “It used to be a wetsuit when I lived on the coast,” he explains. “I did a lot of scuba-diving, but now I spend more time in the air.” He started flying at the age of 17 and is now a skilled pilot. When not at the controls of a plane, he is behind the wheel of a car “getting ready for the Friendship Rally Raid next April, which is going to be in Morocco.” Dominique likes being on the move and wants to pursue his career through foreign assignments.

Science and sport

Miriam Walsh, technical assistant at Chemoran, Ireland

Miriam Walsh is 26 and brimming with energy. After post-graduate studies in chemistry and a year as a college instructor, in 1996 she joined Chemoran in Galway, on Ireland’s west coast. “I had started on my career, but hadn’t finished my thesis,” she admits. So following a day at work in the lab or having meetings with customers, and playing badminton (she is good enough to have played at international level) or soccer (she plays in the midfield in a local women’s team), she burns the midnight oil, working on her thesis until late at night. The nature of her job changes continually. “In the beginning I divided my time between product development and sales. As we consider customer relations very important and do everything possible to adapt our product range to customer demand, I now travel more and more to the Continent. Actually, one of the reasons I was hired is that I speak French,” she explains. Miriam studied at the Toulouse school of chemistry for a year and then spent three months in a research lab in Montpellier. “I loved France,” she says. “I had to work really hard because the program there is much more intensive than it is in Ireland. But I managed to pass my exams without too much difficulty.”

How does she find the world of work compared to life at college? “Here you get tangible results, there is more feedback,” she asserts. “And you learn just as much as you do while studying. Everything that I know today about emulsions and emulsifiers I have learned here in this company.”
A man for all seasons

Hervé Charvin, roads and mains mason at Colas Albertville and ski instructor

Each summer at the Albertville work center of Colas Rhône-Alpes, Hervé picks up his trowel and sets about laying curbstones and paving and connecting up drainage pipes. But with the first signs of winter, he wraps up warmly, dons his skis, swaps his masonry tools for a pair of ski poles and hurtles down the snowy Alpine slopes. 28-year-old Hervé Charvin is a man with two professions. Like both his father, a self-employed mason and ski instructor, and his father-in-law, a site manager and ski instructor in the same center, Hervé has learned to structure his life around the seasons. He is lucky enough to be one of those people who set themselves goals and then do everything they can to attain them. A native of the Savoie, Hervé was trained as a ski instructor in parallel to his training as a mason, and he has worked professionally in both fields for four years. “I appreciate the variety of my work with Colas as much as I like to see the progress in skiing made by the children I have worked with for the last few years. I don’t have the routine of doing the same work all year round, and each year it is a real pleasure to get back to the other job.” The other advantage of this double existence is the free time that Hervé enjoys at the end of the fall and the spring, which he is using to build his dream chalet. His only problem is that he has never been able to devote time during the winter to training programs that could see him become a team leader.

“(...)”

From theory to practice

Peter Sebesteny, design office engineer

Unlike most of his high school friends, who went into Hungary’s fashionable tertiary sector, Peter Sebesteny decided to become a civil engineer. After graduating from Budapest University, he came to France to study at the prestigious Ponts et Chaussées engineering school, where he wrote a thesis on the A 75 motorway and the Millau viaduct. Returning to Hungary in 1992, Peter took a job with the Hungarian number one in pipeworks, Alterra, mainly because it was a subsidiary of a group he had heard a lot about during his stay in France. Besides having a pronounced love of mathematics, physics and mechanics, Peter is also a great enthusiast for the French mountains and coastal regions. Frequent holidays in France have helped him to master the language, enabling him to work in his own country in greater synergy with the Group. He is proud of Alterra’s achievements over the last five years, but he knows perfectly well that the company can increase its market share in Hungary. Prospects of European integration, especially with regard to the environment, have forced city councils to step up their spending programs. “In Budapest, only 20% of the water consumed is treated. Therefore there is high potential for development, and we are ready to fight hard to win contracts!”

“(...)”
At home on the road

Dominique Gendron, site manager with Somaro Midi-Méditerranée/Pyrénées

One man who never gets lost on the South of France’s motorway network is Dominique Gendron. For the past 31 years, he has seldom been off them, working for Somaro, first as a laborer, then a truck driver, a labor foreman, a general foreman, and now a multi-skilled site manager. Over the years, Dominique has traveled from site to site – from Lyon to Grenoble, from Angers to Bordeaux, from Narbonne to Montpellier, from Orange to Avignon... At the moment, he is to be found in the Toulouse region. “I have grown used to living away from home for five days out of seven, like some sort of traveling salesman,” he laughs. “I honestly couldn’t imagine any other way of life.”

Dominique appreciates the career development he has benefited from, just as he appreciates the development of Somaro. He knows he has made a contribution through his know-how and his rigor. “When I joined the company at the age of 16,” he recollects, “there were about fifteen of us at that time specialized in erecting safety barriers. Today, there are nearly 300 people specialized in the same thing!”

Improvements have come not only in the number of people, but also in technical quality. From an average output of 400 meters per day, productivity rates can now reach 1 kilometer per day on motorway sites. “We have played our part in the development of new methods and new site machines. A whole stream of innovations have kept Somaro on top for driving technology,” the specialist proudly boasts.

After three decades in the company, Dominique has not lost any of his appetite for work. Although he is concerned about the prospects for completing the French motorway system, he remains upbeat: “If there aren’t enough sites available in France, opportunities on foreign sites might give me the chance to travel in other countries!”

A man of method

William Sagnier, quality auditor at Snerg Sud-Ouest

William joined Snerg Sud-Ouest twenty years ago. After filling a number of posts in the head office accounts department, he transferred to the company’s materials and quarries subsidiary, Fabrimaco, for a three-year spell. After his return to Mérignac, he is today in charge of administrative and accounting follow-up at the Gironde Est and Périgord office, part of the Nord-Aquitaine regional department. In parallel to his duties, William volunteered a year ago to follow an internal audit training program. A great enthusiast for statistics and organizational methods, he is now just starting out on the road to auditing. He can already go on forever, talking about subject! “In my line of work, I am used to audits, and although the exercise isn’t very easy for the person being audited, I’ve now discovered it’s no easier for the auditor!” Pragmatic and rigorous, William is pleased about his new challenge. “Auditing helps me develop my knowledge and review my working methods. Listening to other people and observing them, I gain in objectivity.”

By the year 2000, Snerg units and subsidiaries will have quality labels, which will mean more work for auditors. But the goal of certification is only the first step, for “a quality plan is not just procedures: it must also be put into practice, analyzed and regularly updated.”
Taking it day by day

Christian Dal-Degan, multi-skilled laborer at Sreg Est

You only have to hear the friendly tone of his voice and infectious laugh to know that Christian is one of those people who are happy to be alive. He has been at the Metz office (Sreg Est) for five years. Although he earned the accolade of the Sreg Green Riband in 1997, he did not intend to be a high flyer. Christian joined the company as a multi-skilled laborer. He was looking for diversity, after ten years spent in a small local company. "In the same week, I can weld in the shop, fill in for an absent truck driver or, best of all, take over the controls of a grader!" he grins. "The work changes day by day, with no two days alike." He is also fond of working outdoors with teams that are constantly changing. "It is one of the main differences between a large construction group and a small local builder," he says. What does he think of the new working hours based on a yearly quota now in force in the Metz office? "Maybe the system needs working on a little more, but it's a good thing to have some free time in the winter for my hobbies or to spend with my family."

On the fast track

Francis Grass, construction engineer at Mounana, Gabon

With Colas, Francis Grass tasted the expatriate working life straight from engineering school. He was assigned to Gabon as an army volunteer working as a site supervisor for a year on all the country's jobsites. He was hired directly by the Group in January 1996. Today he is managing the first allocation of the major Haut Ogooué road construction site contract - a 95 km stretch out of the 190 km total that will link Franceville to La Leyou by the end of 1998. "It's an interesting experience which has helped me develop fast, both professionally and personally," he says. Fast, but tough. "We have very little free time here. We work six days a week and the days are often very long." Unfortunately, Africa is not the place for him to enjoy his favorite pastime, motor racing. "Formula One seems a very long way away," says Francis ruefully, "and I had to leave my motorbike in France as the local trails are not at all safe." During his vacations, Francis travels and dreams of new frontiers. "When this site is finished, I want to go to the Indian Ocean. Until I'm ready to start a family, this job suits me fine!"

"This international experience has helped me develop fast, both professionally and personally."
North-South dialogue

Pierre Ottonelli, site supervisor in Madagascar

Pierre Ottonelli has followed an unusual career path. He enrolled in the Arts et Métiers engineering school, but ill health prevented him from completing the long course of study, so instead he gained an industry qualification as a mason. For five years he worked as a skilled laborer before becoming foreman. "That was a very worthwhile experience," he says. "It allowed me to work through all the phases of a jobsite." After becoming site foreman, he worked for a number of companies in the Grenoble area, started up his own company, then in 1975, decided to go abroad to work for a major public works contractor. It was his first contact with Africa. He built everything from airports to presidential palaces. "The company that employed me worked in partnership with Colas and that is how I came to work for the Group," he explains. He went from Madagascar to Mayotte, then back to Madagascar. "Since last June we have been working on the French High School jobsite in Madagascar, a 45 million French franc contract that has to be completed for the start of next school year." The fifteen-month site employs 800 operatives plus the supervisors. "There are five of us sharing responsibility for the site," explains Pierre. "I think of the site as being a child that I have seen born and am now watching grow up. What makes this job so interesting is having the satisfaction of seeing a job through from A to Z."

For someone so enthusiastic about his job, at the age of 58, Pierre finds it hard coming to terms with the notion of retirement. He hopes that he will continue to experience site work for a good few years yet. Would he go abroad again? "It wouldn't bother me at all if I were asked to work in a new country," he confirms. "But I think there's still a lot left to do in this one!"

Keeping his feet on the ground

Alain Mau, chip spreader with Sarrazy

When he joined Colas Sud-Ouest in 1976, Alain Mau was an unskilled laborer. More than twenty years later, without leaving his native region of the Gironde, he has acquired many skills. Mason, raker and chip spreader, his knowledge of roads is now extensive, expertise which earned him the Lorsange d'Or distinction in 1996, an achievement of which the 46-year-old is very proud. "Over the years I have learned a lot. We are specialized in small, local jobsites, which means that you take a turn at every job and can really build up your skills," he says. Alain has his knowledge of roads at the tips of his fingers, and his toes, as well! An experienced marathon runner, he spends two nights a week working out at his favorite sport. He runs an average of 18 km to keep in training. "It's a lot," he acknowledges, "but you have to be disciplined and not let up. Every year I run in the Châteaux marathon, which is the regulation 42.195 km long. It takes place in Pauillac in September."

He has a running-mate, his oldest son, age 22. His two younger offspring prefer soccer. "Can't think why," laughs Alain Mau in his warm southern French accent.
André Daguin,
on the gastronomic high road
A son and grandson of restaurant owners, André Daguin is the celebrated chef of the four-star Hotel de France at Auch, in southwestern France. When he took over the family business in 1970, André Daguin made a commitment to community affairs. His aim is to use the image and contacts his restaurant has brought him to further the local economy of his native region, the Gers. He visited the Group’s head office last October, where his participation in the Cercle Colas aroused a number of appetites for the gastronomic high road.

In the kitchen you are called Chef, but in the dining room your staff call you Chairman. The American press refers to you as “D’Artagnan”. Do you attribute your fame to your talents as a cook, as a mover in local politics, or to your ability as a communicator?

A Chef is a sort of Chairman. I was lucky enough to understand before everyone else that to succeed in your plans you must always go beyond your personal limitations.

Travelling the roads of France, Itinerant visitors discover local cooking. Does increasing the local infrastructure bring you new customers?

Well one thing is certain, when a new road is built somewhere else, it takes trade away from us. Roads are like advertisements - nobody knows if they are really useful but we do know that if we don’t produce new ones, we lose business. It’s clear that roads play a key part in the development of our region.

You travel all over the world to further the cause of French cooking. Do you believe that, on the brink of the third millennium, gastronomic food is still a key heritage value for France?

Yes, and increasingly so, because of climate, geography, diversity and the skill of French farmers.

The younger generation are addicted to hamburgers. Women work and are increasingly out of the kitchen and ready meals are specifically designed for current lifestyles. Do you believe that your type of cuisine will still be around in fifty years’ time?

I very much hope that in fifty years’ time, cooking will not be the same. I am quite proud to be among those who are responsible for making Cuisine Nouvelle a different trend in food from that of pre-war French cuisine. But half a century from now, no doubt some maniac or other will have been responsible for a new trend emerging. As a result of this, cuisine will be different and hamburgers, having been declared medically unfit for consumption, will disappear. A number of factors point in this direction today – a concern with purity, taste, essence - and a rejection of both the superfluous and of calories.

French cuisine, such as you practice it, is part of a movement that combines dishes from the past with the creation of new flavors. Given these conditions, how do you go about training your successors and organizing them and delegating to them?

Immersion, total participation and the absence of any teaching constraints have always been the key values of our profession. It is a craft that must not be inculcated but rather be aimed at people who wish to take absolutely all of what they are proffered. “You can lead a horse to water but you can’t make it drink” is the saying that sums it up best. It is a skill that cannot be taught to those who do not wish to learn. But I am not particularly worried about it - more and more people are attracted to the craft.
Professor Bothorel gives his first impressions of the World Congress on Emulsion

**Physicist Pierre Bothorel** is a professor at Bordeaux University and a Director of Research at the CNRS (the French national scientific research council). An internationally renowned expert in his field, Professor Bothorel has headed leading-edge research into emulsions. He is a co-founder of Bordeaux Unitec, an organization dedicated to furthering technology transfer from Bordeaux university research laboratories to industry worldwide. He also serves on the town council of Pessac in addition to being a city father in the Bordeaux urban community.

*When you agreed to chair the second World Congress on Emulsion what motivated you principally?*

Based on what came out of the first congress, I was quite convinced that in the area of emulsions, there exists strong partnership between basic and applied research, so I wanted the experience to be repeated. Science has made a great deal of progress in the last few years and the interaction between the populations of academic researchers and R&D engineers working in industry has increased more and more, particularly given how sophisticated commercially available products have become.

*At the closing session of the congress, you made the following point: “We now form a mixed scientific community drawn from different areas and I am impressed by the findings of researchers.” Even though the Scientific Commission has not yet officially met to review and analyze the congress, what conclusions have you drawn from the event?*

The second congress focused on emulsion specialists and furnished proof that the two populations indeed communicate with each other, and some of them are practically interchangeable. The domain of emulsions has shown it is rich in basic research, which has produced substantial results, and in the very concrete treatment of industrial emulsions.

“In the field of emulsions, there exists strong partnership between basic and applied research.”
What contribution does an event such as the World Congress on Emulsion bring? What directions do you think it should take in the future?

A congress such as this will bring contributions for so long as progress in emulsions continues to be made. This may be a very long time. Since the first congress, which took place at the initiative of Colas, the science of emulsions has come a very long way. This year it was far clearer to see that engineers and academic researchers do want to collaborate; it has even become apparent that both populations can speak exactly the same language. In the future, to ensure the sustainability of this interchange, periodic gatherings will be necessary. The World Congress on Emulsion seems to me to have its future clearly mapped out.

At Bordeaux University, the teams who work with you are performing cutting-edge research into emulsion both in basic research and in conjunction with companies whether at the local, national or international level. What form does this collaboration take?

Firstly, there is the classic case. We define the topics to be researched working in collaboration with an industrial partner. Then, once the contract is signed and finance provided, a post-graduate student will often write a doctoral thesis on the same subject, or a research fellow works on the topic for a period of between one or two years. In addition, research workers from my laboratory sometimes act as consultants to industrial companies. One of our scientists has become Scientific Director for a major French industrial group. I hope that this second form of collaboration will undergo greater development in the future.

Does the type of research that a company may entrust you with influence your choice of partner?

Of course it does. We are frequently solicited by industrial companies, but we only agree to work with them if both parties have a real interest in doing so. This, in essence, means that as far as we are concerned the proposed subject must not be too far removed from our basic research areas, but rather be complementary to it, or even give us an opening into a new domain of research.

Speaking more generally, do you think that this type of collaboration between academic research and industry should be intensified? What can we expect from it?

In chemistry, collaboration between researchers in universities or in the CNRS and those in companies has existed for a long time. Nonetheless, we are very careful these days about limiting our collaboration to leading industrial groups which are already fully equipped with major research facilities. We would also like to move in the direction of small- and medium-sized business, with the help of some government funding. In view of this, we organized a one-day refresher course upstream from the World Congress on Emulsion, mainly intended for engineers from small- and medium-sized companies.

The topic of emulsion covers some extremely diverse areas of industry. Is it unique in this respect?

I’m starting to believe that this is the case. So we must take the greatest possible advantage of it. For example, we could envisage a different method of collaboration, such as in the United States where industrial companies that are not competitors form a consortium and then work in partnership with one or more research labs. This would mean that greater sums of money would be available and progress in discovery and innovation would go faster.

> CONGRESS

There was much to be said...

The World Congress on Emulsion took place between September 23 and 26 in Bordeaux under the chairmanship of Professor Bothorel. More than 1,000 delegates from nearly sixty countries attended the second congress, organized at the initiative of Colas. Meetings and exchanges of information took place between research scientists from both industry and the academic world, with backgrounds in fields as varied as pharmaceuticals, cosmetics, pesticides, photography, inks and paints, foods and agriculture, petroleum, lubricants, chemistry and, of course, roads.
SAILING

Colas Guadeloupe and RFO win the Alizés transatlantic yacht race

On November 16, some 22 boats and 200 crew members took up their places on the starting line at Lagos, in Portugal, ready to embark on a 3,200 mile crossing to Pointe-à-Pitre on the Alizés transatlantic yacht race, the world's biggest amateur-only sailing event. Nineteen days later, on December 5, the crew of the Top 50, which included Patrick Guenolé, formerly head of the French Caribbean regional department, along with two journalists from RFO (Radio France Overseas), were the first to cross the finish line. The presence on-board of the journalists kept the media eye on the boat's progress throughout the crossing. Through its involvement in this event alongside RFO, Colas Guadeloupe was once again proving its commitment to the island's economic and sporting life. "Helping associations and clubs and giving young people in Guadeloupe the taste of sailing means a lot to us," said Patrick Guenolé, who has since returned to France -- by more conventional means -- to work with Colas Sud-Ouest.

AWARDS

Routes wins two top prizes for corporate communication

In the annual awards for French company magazines run by the UJJEF (the French corporate press association), with 261 titles in competition, the Colas Group magazine, Routes, won both the prize for in-house magazines for companies with over 2,000 employees and the Grand Prix for company magazines.

INITIATIVES

Terus Construction plays a part in the community

Terus Construction continues to support the development of local initiatives. Vince Arimare, manager of Adventure Paving, a subsidiary of Terus Construction, has played an active part in the life of the region for many years. He recently lent his support to a program entitled VisionQuest, developed by the Royal Canadian Mounted Police and the Canadian Native American artist, Roy Henry Vickers, to raise funds needed to construct a care center for drug abusers. During the months of July and August, 1997, more than 50 young American Indians, ordinary citizens and members of the Mounties took part in a one thousand mile long canoe journey, seeking to promote the VisionQuest project in the region.

ANNIVERSARY

Scieg celebrates its centenary

In spring 1998, Scieg will celebrate its 100th anniversary. To mark the occasion, the company's senior executives and the chief executives of each subsidiary will invite all the employees to events on June 13 and 19. The first date will be for managers and foremen, and will take place at the Palais des Congrès in Paris. On June 19, operatives will attend a dinner after work, where they will learn more about the history of the company. A book currently under preparation will be presented to all the personnel.
Acknowledgements

Patrick Poncet, Sophie Sadeker,
Tracey Hofheinz, François Chaignon,
Caroline Chardonnet, Pierre Evin,
Marie-Stephane Pefferkorn, Pierre-Jean
Gonnard, Alain Triquet, Bruno De Lamerie,
Alain Schettino, Eric Bourgues,
André Pierre, Yves Mortel, Jean-Pierre Guerin,
Eric Godard, Herve Grillot,
Christophe Da Poian, Jean-Marc Eyrolles,
Daniel Petigny, Didier Thouret,
Dominique Birraux, Jean-François Cottel,
Jean-Marc Ledermann, Henri Quintin,
Georges Hainaux, Jean-Paul Darrivere,
Philippe Tournier
À travers le pare-brise ("Through the windshield"), shows successive skies – storm, night, twilight. Each of them has an element of magic, of beauty, and of danger.