MISSION: GROWTH IN CENTRAL EUROPE

EN ROUTE
A GUIDED TOUR OF THE CENTRAL RESEARCH LABORATORY

INTERSECTIONS
WITH THÉODORE MONOD
LATITUDE / LONGITUDE
From Morocco to Mauritius, from Africa to the Alps... snapshots of Colas expertise around the world.

EN ROUTE

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You are holding a copy of *Routes*, the new Colas Group magazine that replaces *l'Échangeur*. Launched in June 1984 as a two-color 12-page news-sheet, *l'Échangeur* underwent a major transformation in January 1988, when it went 4-color and expanded to 32 pages. Later, in 1994, it went international, with a complete English-language edition. *Routes* represents a new step — a bi-annual publication in a new, 60-page format, about Colas business and Colas people. This issue, numbered one, is in fact Colas group magazine number 40.

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"We require a national base that is credible in worldwide terms if we want to be recognized as the pre-eminent international road construction group."
L’Echangeur has given way to Routes.
It is my belief that our company magazine must adapt to the changes taking place both within Colas and, on a different scale, throughout the world.

The name has changed to reflect a more international stance and the format is now that of a standard magazine. The content has evolved as well, reflecting the editorial policy of Routes. Its aims are multiple:
• to hold up a mirror to our achievements;
• to become a reference standard for exploring the major social issues that stem from the concept, and the environment, of the road;
• to look ahead to future market trends within our profession;
• to function as a communications medium and strengthen our pride in belonging to the Colas Group.

We are currently evolving within a framework of continuity. Our strategic policy is to develop the dynamic network that already links our companies, thus reinforcing our ability to serve customers but still keeping the identity and independence of each business unit. The Board of Director’s decision, taken on July 11, to acquire the Scrg Group is the concrete manifestation of the driving strategic imperative felt at all levels. We require a national base that is credible in worldwide terms if our ambition to be recognized as the pre-eminent international road construction group is to succeed.

There are 40,000 of us, all professionals, spread over 500 human-scale operating units. This is the secret that makes us believe in the success of our business, and it is a belief that must become a widely-held desire so that, in an uncertain world, we may advance along a route that is sure and innovative.
From Morocco to Mauritius, from Africa to the Alps... visits to job-sites, snapshots of works in progress, reports on completed projects. Colas expertise around the world.

**CABON**

**The Central African country**

Gabon is developing its trunk road networks.

- The Ebora/Bitam/Oyem trunk road in Gabon will be completed at the end of summer. The new road, which is 63 miles (102 kilometers) long, represents a major step in the development of the whole region. Concrete bridges and box-culverts replace damp planks and tree trunks. The project has been designed with the overriding aim of allowing traffic to use the road, in all seasons.
- Modernization of a road between Nkolmengoua and Minvoul is under way. Works began early this year, and are slated for completion February 1997. The 58 mile (93 km) road, which links the districts of Ntem and Ekoreté, is intended to facilitate access to the capital of the Woleu-Ntem province and should boost economic activity in the region. Wooden bridges are being replaced by box-culverts and pipes and an abundant local supply of laterite is being heavily used.

**The Oise viaduct gets a facelift**

A French motorway operator, the Sanef, has commissioned the Amiens office to resurface the 400 meter Oise viaduct. The structure's wearing course was rutting badly, and resurfacing works inevitably involved waterproofing. After planning the existing asphalt concrete and the waterproofing course, the works consisted in reprofiling the deformed structure with Colflex asphalt concrete, laying a new waterproofing course composed of Saflex sand, asphalt, and, finally, covering the entire structure with a course of asphalt concrete. This site was a challenge on technical grounds, and in terms of rapidity. Sanef specifically asked the Amiens office to use MHC-type waterproofing so that the duration of works on this heavily used route could be kept to a minimum.
Spac lays a 112 mile long pipeline

After a European tendering operation involving German, Italian and Spanish contractors, Spac has been awarded a contract to lay 112 miles (180 kilometers) of pipeline in the south-east of France. The project aims to reinforce gas supply in south-eastern France in such a way as to compensate for production drops in the Lacq gas deposit. The contract, signed with Gaz du Sud-Ouest, is Spac’s largest site since 1980. Works began this May, and are scheduled to end in May 1997. They are currently progressing at a rate of 1,200 meters per day. The steel pipes, which are manufactured in Germany, are 80 cm (31.5 inches) in diameter, 16 meters (52 feet) long on average, and 11.3 millimeters (0.44 inch) thick. Nearly 300 people will take part in the operation, including 28 specialist arc welders. As far as site equipment is concerned, apart from conventional earthworks machines (140 bhp hydraulic shovels and bulldozers), the site requires two items of heavy plant specific to pipeline laying: a Twin-Arc, a caterpillar-track D6 type tractor equipped with generators to supply the welders with electric current (overall weight: 15 metric tons); and a Pipelayer, a caterpillar-track D8 type tractor fitted with a side jib used for laying the pipeline itself (overall weight: 40 metric tons).
Colas crosses the Alps

In March, Colas Rhône-Alpes launched works on the new 2x2 lane A 43 motorway, which, when completed, will link Chambéry to Italy via the Fréjus Tunnel. This is the largest site handled by Colas’ Alps-based subsidiary since the major works that accompanied the Albertville Winter Olympics in 1992. It forms part of a Franco-Italian economic development plan, and is being carried out by a 50/50 joint venture with Jean Lefebvre. Project management responsibilities are shared between the two companies, but Colas Rhône-Alpes engineer Gérard Doucet is in overall control. “The men are managed by their respective companies, but they are all bound by the same rules concerning safety, quality and organization in the context of the joint venture so as to ensure the success of this common project,” he stresses.

The first stretch of road, a 19 mile (30 kilometers) section between Aiton and Sainte Marie de Cuines, is due for completion at the end of October, while a conditional deadline early next year has been set for the next 4 mile (7 kilometers) stretch. The biggest management problem is the sectioning of the site, which calls for frequent transfers of men and equipment. When the project is completed, Colas will have played its part in the production of 350,000 metric tons of pit-run gravel and 600,000 metric tons of asphalt concrete on nine stretches, varying in length from 900 meters (half a mile) to 6 kilometers (4 miles), three interchanges and two tunnels requiring the necessary equipment (ventilation, plant supplies on small trucks, lighting, catalytic converters, etc.).

To enable the site to be completed as rapidly as possible, the local labor inspection service has issued a special authorization allowing crews to work six days a week, each team working a twelve-hour shift three days a week. The joint venture has also hired fifteen local youngsters for the duration of the project, who will receive training. The site owner, the Fréjus Road Tunnel operating company, is investing heavily in environmental protection. In particular, a sum of almost 1.5 million francs per kilometer is being allocated to landscaping with trees and flowers.
IA Construction on Route 78
IA Construction has launched work on the renovation of Route 78, in Berks county. The $8.7 million project, contracted with the State of Pennsylvania, includes planing and laying asphalt concrete over 19 miles (30 kilometers) of four-lane highway, along with repairs to structures and the installation of metal and concrete safety fences. This project calls for particularly rigorous observation of a works schedule: all four lanes have to be in operation during all American public holidays and throughout the winter months, from November 28 through March 24. IA Construction is cooperating closely with the Pennsylvania Department of Transportation to anticipate any difficulties that might make deadline targets harder to achieve.

A new container port for Mauritius
The Mauritius Marine Authority, responsible for managing the island’s port activities, has signed a contract with Colas Mauritius for the construction of a new container port. The new terminal, to be used for import and export transshipments, will increase Mauritius’ transit capacity from 100,000 to 250,000 containers per year. The program of works includes the construction of a 32 acre (13 hectare) storage platform and a 4.2 acre (1.7 hectare) quay for loading and unloading, consisting of a concrete slab supported by 300 four-foot diameter metal piles, sunk in the ground to a depth of 160 feet. This operation will be performed by vibratory driving with the help of two 150 metric ton cranes. A sheet piling set will close off the sea-facing side of the quay along its entire length.

500,000 m2 of Colnet on the A 11
Colas Centre-Ouest’s Le Mans office laid 500,000 m² of elastomer Colnet, a layer of Ruflex and a strip of Colsoft in spring 1996 as part of a maintenance program on the A 11 motorway between the Sablé and Angers interchanges, an overall length of 28 miles (45 kilometers). This is the longest stretch that has so far been laid with Colnet. Traffic was switched between traffic lanes during the day, but both roadways were in service every evening. Nearly fifty operatives from neighboring offices worked on the project, which was managed with a stringent quality assurance plan.
New motorway in Jutland
Colas Danmark and its subsidiary, Novejfa, are collaborating on the construction work for a 12 km (8 mile) stretch of motorway situated at the northern tip of the Jutland peninsula. Linking the towns of Aalborg (home to Novejfa) and Frederikshavn, the motorway will improve access to a ferry service across the Kattegat to Gothenburg, Sweden. Novejfa is responsible for earthworks and laying the base course, consisting of a 15 cm thick layer of gravel. The asphalt concrete paving works are being carried out by both companies jointly. The top layers are produced from a polymer-modified bitumen developed and produced by Colas Danmark. Because mineral aggregate resources are scarce in the region, some of the aggregates required have had to be shipped from Norway. The motorway layout necessitated the construction of seven small tunnels intended to enable cattle to be herded from pastures on one side of the road to the other! This part of the contract is being handled by Norvin & Larsen, a local contracting company which was recently acquired by Novejfa. The eleven-month project, which is worth 62 million Danish kroner, is scheduled for completion on October 1, 1996.

Danish development agency finances two Colas Danmark sites
Last year, the Danish government’s international development agency, Danida, awarded a contract for a 61 km (38 mile) road rehabilitation project in Bangladesh, between Dacca and Aricha, to a Danish consortium, including Colas Danmark. The contract is worth some 160 million Danish kroner. Upgrading the road will call for 65,000 metric tons of asphalt concrete and 100,000 m² of surface dressing. In addition, a number of bridges and culverts are being renovated. The project got underway last fall and will last 32 months. Danida, which finances works in a number of underdeveloped countries, has chosen Colas Danmark for several projects in the past in such countries as Tanzania and Uganda where, after renovating Entebbe airport, Colas Danmark is currently building a new main road between Entebbe and the Ugandan capital, Kampala.

Colgrave “S” in the Gers
Early in August, Sotraso, a subsidiary of Colas Sud-Ouest, carried out a site in the Gers (south-west France) which will become an industry standard at the technical level. The work carried out was the rehabilitation, using grave bitumen emulsion, of the RD 931 on a 6 km stretch between Condom and Agen. This product totally coats silicate limestone aggregate. It is a cold-applied product with mechanical properties close to those of a hot material and the laying of which requires no special plant. Colgrave S grave bitumen emulsion can be laid with a grader or finisher. The French department of the Gers does not have a hot mixing plant of its own, so the local council chose this innovative technique… what’s more, supplied by a local company.
Colas U.K. wages war on the Falklands

The Falkland Islands consist of 4,700 square miles of barren, windswept land inhabited by 2,000 residents, 2,000 British military personnel and 200,000 sheep. For a few long weeks earlier this year, they also accommodated an intrepid 24-man team sent out by Colas U.K. Their task: applying slurry to the islands’ two airfields, a vast site of 322,000 m².

War damage from the 1982 conflict had been repaired rapidly rather than painstakingly. The islanders are heavily dependent on air transport. The RAF runs regular air bridges, and small planes ferry the locals between far-flung settlements and the capital, Port Stanley. The one day of the week that air traffic is at a standstill, Sunday, was the only opportunity for undisturbed site work. “Once, we only just got everybody out of the way of an oncoming plane in time,” laughs project manager Walter Hamilton. The project was timed to take advantage of summer in the Falkland Islands. But all things are relative: there were severe freezing southerly gales for much of the time the team was on the island. “My division’s normal territory includes the Shetland Isles in the north of Scotland, where the weather conditions are comparable,” says Walter Hamilton. “But after 11 weeks in the Falklands, I can’t honestly say I’d want to repeat the experience!” In spite of the abysmal weather and austere living quarters, the team put in a massive effort to work as rapidly and efficiently as possible. “We completed works on Mount Pleasant on schedule in six weeks and managed to deal with Stanley in one week instead of two,” reports Walter Hamilton, with a tremble in his voice, betraying not so much emotion, as the haunting memory of the searing winds.
Afer reconstructing the Fanambana bridge in 1992, Colas Madagascar has won a contract to renovate two highways, one between Sambava and Vohémar and another between Sambava and Andapa, in the province of Diégo-Suarez in the north-east of Madagascar. This region, which is situated 870 miles (1,400 km) from the capital, Antananarivo, is inaccessible by land for five months during the rainy season. Consequently, the 150 site machines and trucks required for the projects were transported by sea and unloaded directly on the Sambava beach.

The works, which are financed by the European Development Fund, are expected to last until the end of 1997. Five hundred men will work on the site. It will be necessary to open up four quarries and install two mobile crushers and a mobile mixing plant.
Sacer Paris Nord-Est paves the runways at Beauvais airport

The runways of the modest provincial airport of Beauvais, north of Paris, had never been properly refurbished since they were constructed during the last War. Sacer’s Paris Nord-Est office has now put things right, laying 52,000 metric tons of asphalt concrete on a surface of more than 300,000 m², the equivalent of 40 kilometers (25 miles) of roads, completed in two and a half months.

An unusual feature of the site was the use of automatic laser-guided pavers and planing machines for leveling the main runway, the longitudinal section and cross section varying meter by meter. Asphalt concrete formulations were subjected to lengthy analyses with transport authorities: eight studies were carried out in less than two months in an endeavor to find the right trade-off between aviation standards and anti-rutting mix designs. Just a few days after works ended, the Concorde took off from the main runway, testifying to the high quality of Sacer’s performance.

A new roundabout outside Melun

The Champigny agency of Sacer Paris Nord-Est had transformed an intersection of the RN 105 and the future A5 motorway, the major route from the town of Melun to Paris. The aim of the exercise was building a traffic circle with access roads in conditions of very dense traffic that could not be interrupted, requiring five distinct phases of work, with access roads opened up progressively. The project, completed for a total budget of nearly 5 million francs ($1 million), involved particularly close coordination on signs and signals with the local roads authority.

Thermocol used on the A4 motorway

Colas Est has carried out a hot recycling project for a motorway operator, the Sanef, between Reims and Sainte Menehould in north-eastern France, on the Paris-Strasbourg A4, a motorway which is heavily used by commercial vehicles traveling to northern and eastern Europe. More than 350,000 m² of roadway was processed to an average depth of 6.5 centimeters. The Thermocol process is rarely used, as it requires heating the original asphalt concrete to unstick it; crush it, mix it and relay it, with the addition of an emulsion. Special equipment being needed for this technique, Colas Est turned to Colas Midi Méditerranée. Thermocol is fast to apply (5,000 m² per day of pavement can be transformed), and ensures a very even surface with excellent resistance to rutting. Recycling of materials in situ means heavy savings in transport costs and helps protect the environment. The technique also avoids the need to replace such road equipment as safety fences, gutters, and signposts after the pavement has been laid. The operation caused little disruption to traffic, since the process allows vehicles back on the surface rapidly.
Benin forces at work for Colas

The company's center in the West African country of Benin is currently undertaking the renovation of 170 kilometers (105 miles) of a two-lane highway running from Berehouay to Kandi and Malanville. 100% financed by the European Development Fund, the works consist in upgrading the country's major north-south highway, improving access to neighboring Niger. The scale of this laterite site requires the use of recycling equipment and a grader. These machines enable vast quantities of materials to be produced in record times, and in addition ensure higher quality end results. This is the first time they have been used in Benin. The works are being carried out under traffic, calling for the preparation of detour tracks along with the appropriate signs. As long as the weather conditions do not dictate otherwise, the 105 miles of highway should be completed in May 1997.

A two-year site on the Francilienne

Colas Paris-Nord is collaborating with Picheta on an interchange on the RN 184 (alias the Francilienne, or the greater Paris Beltway) on the stretch between Cergy and Roissy. Picheta is responsible for the earthworks (consisting of the removal of 24,000 m³ of topsoil, 140,000 m³ of cutting and 60,000 m³ of filling), while Colas Paris-Nord is handling the roads and drainage. The site kicked off in April, and is slated to last two years.

Le Havre bypass completed

The Group's Dieppedalle branch at Le Havre recently completed work on the northern bypass of Le Havre, including earthworks, drainage and the laying of 20,000 metric tons of asphalt concrete on a one mile (1.8 km) stretch of road.
90,000 metric tons in 90 days

The Group's office in Rabat, Morocco, has completed works to overlay the Oued-Cherrat/Rabat motorway on behalf of the Moroccan National Motorways Company. The site consisted in adding structures and bringing the motorway up to current safety standards (rugosity of texture and eveness of profile) in function of the heavy degree of rainfall in the Rabat region and a particularly high accident rate on this stretch (39 fatal accidents in 1995).

The operation required considerable work upstream to organize the production of materials in the center's crushing plants and obtain the necessary authorizations from the public laboratories and the site owner. To obtain a rougher finish than a traditional surface, a formula for 0/10 semi-coarse bituminous concrete with fine gravel quartzite (MDW < 15) was selected. This was the first time in Morocco that such a formula has been used.

All told, the Rabat office overlayed a 15 km (9 mile) two-lane stretch and a 27 km (17 mile) four-lane stretch. The 50-strong team (including the sites, crushing plants and mixing plants) had to complete the project in record time owing to particularly constraining conditions: the works were carried out with detours every three kilometers under heavy traffic, necessitating extremely complex management of temporary signs. In addition, the emergency lanes required processing, and central reservations, which had been non-existent, had to be constructed.
A bold architectural statement, the Group's new 43,000 square foot Central Research Laboratory.
A guided tour of the Central Research Laboratory

Less than a year after its official opening, the Group’s new Central Research Laboratory in Magny already fulfills its purpose of combining innovation with a service to the subsidiaries.
Tucked between forest and road, immense white buildings attract the view of passing motorists. You can’t miss it. Just a few hundred yards from the Saint-Quentin-en-Yvelines golf course stands a bold architectural statement, the Colas Group’s new 43,000 square foot (4,000 square meter) Central Research Laboratory.

To the left, when you’re facing the forest, is the head office of the Ile-de-France Normandie subsidiary, arranged in a semi-circle. To the right, in a series of squared-off buildings, are located the testing and manipulation halls. Since February of this year, all the processes and products that make Colas famous worldwide are invented and tested here. “At the present time, it’s the most advanced and best equipped private research center in the world,” announces Michel Chappat, the Group’s director of Research and Development. Before we step through the doors of this nec plus ultra of labs, we should perhaps first look at how it came into being and grew to become what it is today.

Over 1,200 samples are processed each year in the Central Research Lab.

THE START OF IT ALL: 1955

Back in 1955, Colas only ran a single lab, at Bonneuil-sur-Marne in the suburbs of Paris. In those days, it was responsible for both carrying out site tests and inspections and developing new products. When the company’s operations grew in scale, the 200 m² premises eventually proved too cramped. In 1971, a much larger new lab of nearly 1,800 m² opened at Trappes, to the west of Paris. Its main duty was formulating new products, but it also provided technical support for sites. It housed sophisticated equipment and in 1994; won ISO 9002 accreditation for all of its activities.

But the teams of researchers who worked there gradually found that the space they needed to organize tests and to store materials was in short supply, while maintaining the lab and upgrading to the necessary standards was increasingly costly. A move was again on the agenda. And with the growing international dimension of Colas, the new lab would also need to serve as a showcase. The Group commissioned architect Pierre Riboulet to take a six hectare (15 acre) site and design
Studies on emulsions, a central part of the lab's work, are carried out in a state-of-the-art test center.

**PORTRAIT**

Self-service testing... custom-made research

Jean-Eric Poirier is 42 and has been running the laboratory for four years. Trained as a research geologist, he first worked for the French National Council for Scientific Research before joining Colas in 1990 in charge of the “binder” unit in the Trappes laboratory.

What is the role of the central laboratory in terms of the subsidiaries? The Colas Group has diversified enormously. Today we are road-builders in the four corners of the earth... and that ranges from Normandy to Nepal. Controlling the entire production chain – choice of material, basic ingredients, method of application, jobsite conditions and customer relations – requires an excellent knowledge of local parameters. The technical departments of the subsidiaries have an increasingly important role to play. We work alongside them.

Take us through the procedure step-by-step. Depending on the type of problem and the degree of difficulty, the technical manager of a subsidiary contacts the manager of one of our units. He may also send someone from his staff to the lab to carry out tests. We run the lab on a self-service basis. There are no workstations attributed. Each engineer can initiate a procedure and ask for help if he needs it. There is plenty of room for everyone to move around and the test machines are always ready to use. For basic research, we block out the program for an eighteen-month period, but if a subsidiary requires assistance, sometimes they need us to come up with a solution to their problem by the end of the day!

How do you go about recruiting your people? We need technicians who are all-rounders here. It’s absolutely vital for everyone to be able to move from one unit to another and to cover the entire production chain. Work habits must be transferable from one post to another. More and more, we are looking for young people with not just the basics – studies in quantity surveying or civil engineering – but who are also fully trained in site work. This is the balance which we find provides the most appropriate response to the problems set by product development.
terms, the asphalt concrete and aggregates team is housed in the south wing, and the binder team in the north. Information from the methods and measurements team circulates, logically enough, between the two wings.

**FIRST, WE VISIT THE ASPHALT CONCRETE AND AGGREGATES UNIT**

Jean-François Gal’s team is hard at work. Their role consists in designing new materials, within the framework of a program drawn up by the R&D Department. This unit is also responsible for measuring the mechanical characteristics of materials obtained from a mix of binders and aggregates. As part of the process of acquiring the Colas/Shell subsidiaries in western Europe, for instance, studies were carried out to develop Colrug (ultra-thin asphaltic overlay) in the United Kingdom while research on cold materials is currently being conducted on behalf of Colas Ireland. International contacts such as these enable the central lab to gain a better knowledge of local standards and conditions.

**Quite apart from research assignments,** depending on needs, Jean-François Gal’s team also monitors the characteristics of materials applied on sites. Besides the traditional tests (rutting: 3 LPC rutters; fatigue: 3 LPC fatigue machines; creep; reaction to traction and flexion: 60 metric ton press), the team checks the behavior of the product during and after laying. It is analytical and conceptual work.

**NOW, LET'S MEET THE BINDER TEAM**

Graziella Durand is head of the research team. Her specialist area is the development of new binders, both anhydrides and emulsions.

The best product is selected from the range of the Group’s processes, and adapted in function of specific requirements or standards.

The team uses the most sophisticated analysis equipment available, which can measure the elasticity of a binder and the viscosity of an emulsion or analyse the breakdown of matter. The lab also has a laser granulometer, which measures the particle size of emulsions, and an atomic spectrometer, which gives an accurate breakdown of the atomic composition of a substance. With state-of-the-art emulsion production equipment, “ready-to-use” emulsions are formulated; they can be transposed and used in site conditions without further testing.

Graziella Durand's team works not only for technically advanced countries, but also for countries where certain products are still unknown. In such cases as this, they select from the entire range of the Group’s processes those which are most likely to attract interest and supply the means necessary for them to be applied locally. Like this, they adapt them in function of the specific requirements or standards of a given country while maintaining their characteristics. Conversely, Colas often comes across products in other countries with formulations and methods of use that are different from French practice; the binder team then investigates how they can be adapted for French use. For Jean-Eric Poirier, these permanent exchanges reflect how important it is to pay attention to the innovations of both French and foreign subsidiaries: "The local people have ideas, they have materials available, and they are capable of innovating with a given product, perhaps better than us, because they can interact more rapidly with the site."

**QUALITY**

The Central Research Laboratory is the research unit of the R&D department.

It is strongly committed to the department's quality drive and by the very nature of its laboratory status is a driving force of the quality movement within R&D. To fulfill this mission, the Magny site combines competent people, equipment that is adapted to the tests carried out and a method of working that is designed to obtain reliable data on identified materials using pre-defined testing procedures.
LASTLY, A LOOK AT THE METHODS AND MEASUREMENT UNIT

This team, which is directed by Jean Carroget, played a central part in the process of obtaining ISO 9002 accreditation for the laboratory in 1994, and on a day-to-day basis they are responsible for monitoring the application and the efficiency of the quality assurance procedures. In addition, the unit manages the laboratory's specific standards information and the related computer system, so that the people concerned are assured that the standards of the materials and equipment used comply with standards.

Jean Carroget's team also performs the tasks of designing new materials for water-tightness, control of materials and testing procedures and the supervision of methods and equipment used. As part of this function, the team also contributes to equipment design.

To carry out its assignments, the central laboratory relies on the services of the Research and Development department's archive. The resource is the memory bank of the company, with 1,500 books and 5,000 subject files held on its computer archive. All of them can be sent across the network to subsidiaries in France or abroad. Engineers conducting research can find out at any moment the availability of equipment and the characteristics and calibrations of tests on frequently used materials.

A PRELIMINARY ASSESSMENT

The laboratory was only officially inaugurated in February of this year by Bernard Pons, French Minister of Tourism, Roads and Transport, but the lab engineering and research teams were already constituted on the previous site, working in close collaboration with other research and development teams.

The work carried out played a vital part in the design of the latest products devised by the Research and Development Department, such as Colnet (see article page 33), a coating emulsion for use in tack coats that does not adhere to the wheels of site vehicles where it might "migrate" to neighboring sites. Colsoft, a product which has earned the Golden Decibel award from the Ministry of the Environment, is another recent development. This is a wearing course containing rubber from recycled car tires, which has the effect of reducing road noise from traffic by more than 60 percent.

In addition to the long-term benefits derived from the services and training the lab provides to subsidiaries, it has now defined for itself a number of performance objectives. The laboratory aims to process over 1,200 samples per year, representing 15 metric tons of material and 250 complete tests, which represents an average of one per day. And, as Michel Chappat points out, "the way the lab is now organized, we have the capacity to take on twice as much."
The 114 kilometer road through the forest between Bondoukou and Bouna, is the biggest earthworks site Colas is currently running anywhere in the world.

IVORY COAST

From the bush road to the "sacred highway"

Up by the north-east frontier of the Ivory Coast, Colas teams are linking Bondoukou with Bouna, some 114 km of road through the bush. Tropical rains, snakes and witchcraft are all on site.

ROUTES number 1
Men and machines toil to pull out the truck, with its cargo of millet and shea butter. It must be at least the tenth of the day to sink into the clay mud. The truck set out from Bouna, some 100 km away, the previous day only to spend the night bogged down in mud for the umpteenth time, a few kilometers upstream from the ripped up road made all the more perilous by the tropical downpour. Even on a good day, in dry weather, the 160 kilometer distance from Bouna to Bondoukou takes an average of six hours to cover. During the rainy season, journey time is a matter of pure conjecture. The current job-site has not made matters easier, even though Colas has undertaken to keep the road open to traffic. However well organized they are, diversions are often washed away by the torrential rains faster than they can be put in place.

In spite of its highly unreliable state, the road remains the only form of access for Bouna, isolated in the north-east of the Ivory Coast.

Every day trucks brave the poor condition of the road in all weathers, to bring vital supplies and take away agricultural produce. The track is also used by "gbakas," 22-seater bone-shakers, which are a form of local public transport. Whenever a gbaka approaches a mud-filled hole or encounters a steep climb, passengers disembark and only climb aboard again once the vehicle has cleared the obstacle. It was therefore with considerable relief that the inhabitants of Bouna and the other villages on the road to Bondoukou saw Colas set up camp last January, halfway down the stretch of roadway it is working on. At last the long-held promise was to be fulfilled – Bouna would get its "hardtop".

Of the 160 kilometers (100 miles) of the Bondoukou...
Bouna road to be driven through the forest, 114 kilometers (70 miles) have been awarded to Colas and the remainder to a Chinese contractor. Bouna is a major earthworks site, the biggest Colas is currently running anywhere in the world, with 2.5 million m³ (3.25 million cubic yards) to be moved – an average of 13,000 m³ (17,000 cubic yards) per day. The earthworks commenced in March and are scheduled to last fifteen months, of which two at least will fall during the rainy season, which slows progress considerably.

A FULL-SCALE TURNKEY OPERATION

Colas is providing everything from earthworks to after-sales (the road is under warranty for a two year period). This type of situation is frequent in Africa, where major jobsites represent between 80 and 90 percent of the business of Colas agencies. The human and material resources implemented are appropriate to the scale of the task – ten bulldozers, twelve scrapers, twelve graders and thirty trucks, with a workforce of 200 workers and 100 occasional laborers recruited locally. It is, in fact, the low cost of labor in countries such as these which makes such labor-intensive jobsites viable. This constitutes an economic windfall for the surrounding villages. The workers occupy huts along the stretch they are working on, for which they pay 2,000 Ivory Coast Francs a month (around 4 U.S. dollars). Each group chooses a woman to prepare their meals each day and bring food to them on site. The 14 site supervisors are housed at a base camp at Gbanhui, 50 kilometers to the north of Bondoukou. Installed in a clearing near the village are a workshop, lab, sick-bay and housing. Each of the occupants has laid

PORTRAIT

Gérard Kouassi, in the field

The career path of Gérard Kouassi, a former international handball player, places him among the select ranks of Ivory Coast engineers who have chosen to make their living in the private sector. As in most African countries, becoming a public servant in the Ivory Coast still constitutes the most widespread ambition. Gérard was trained at the National Higher Institute of Public Works in Yamoussoukro, the small village in the center of the country that became its capital at the wish of former president Félix Houphouët-Boigny. From such a beginning, it was perhaps inevitable that Gérard Kouassi would, in his turn, swell the ranks of public servants, but this phase in his career was short-lived. Recruited straight from college in 1983, he entered government service as a manager within the Highways Department, but resigned after barely a year, much to the disappointment of his family. “I hadn’t done all that studying to sit in an air-conditioned office,” he explains. “What I wanted to do was work in the field.” The determined twenty-four-year-old schoolteacher’s son had already shown considerable determination, refusing to allow either numerous family moves, following his father from post to post, or the noisy presence of his 14 siblings to distract him from his studies. A stable job and the security of a government post were not how Gérard was to find job satisfaction. Within a few months he had found his place within the private sector. Colas offered him a chance as part of its overall policy to “Ivorize” its management. Another local management recruit had already entered the company, and both men were very aware that they would have to prove that locally trained engineers were well up to the level required by an international company like Colas. “We had to settle into a European milieu, and above all show what we were made of,” says Gérard. On joining the company, he went to work at the Abidjan regional laboratory, eventually rising to construction executive seven years later. Despite his success, Gérard has not lost sight of his ambitions, nor of the fact that, as he says, “for a local boy, having responsibility for running a seventy million franc jobsite is a form of trust that must be earned every day that dawns.”
out a small garden in front of the barracks-style housing, laid out in a circle around a patch of red earth, planted with huge, shady mangoes. The camp rises before dawn and the site supervisors rarely end their working day before seven o'clock in the evening, if not later. Meals are eaten together in the commissary, where conversation is of the site. The old hands talk of their African experiences to some of the still "green" newcomers. The newcomers are greatly in the minority and generally in their early thirties. Sandrine has come to Gbanhui with Frédéric Breuil and is the only person on the base to have chosen to accompany a partner. She takes care of the housekeeping and plans the menus more to have something to do than because she feels it to be her role. Time can hang heavily when you are in Gbanhui. A satellite dish provides the team with a TV station that beams French language programs to Africa under a cooperation agreement, but which is scrambled for much of the day.

A SHOPPING ESCAPADE
At the end of the month comes the trip to Abidjan, “the pearl of the lagoon,” to buy anything not to be found on the Bondoukou market. Those who cannot wait for the monthly “leave” in the Ivory Coast capital make trips to Bondoukou, an hour by car from the base. Outside of these escapades, there is not a lot of leisure activity. Sport takes the form of ping-pong or football matches, the last of which resulted in a victory for the “works” team over the “shop” team. In the evening the team celebrated at the “Trois Colatiers,” where Colas people can enjoy a warm beer under the trees. As establishments go, the “Trois Colatiers” could be described as “primitive”, consisting of a mud-hut thatched with straw, where Adèle, wife of site manager Gérard Kouassi (see portrait opposite), presides over a “maquis” half drinks stand and half diner.

Malaria, yellow fever, cholera and chest infections can strike with fearful severity in these climes. An army doctor visits the site twice a week and a nurse is on permanent duty at the camp. Gérard is waiting impatiently for the day he will be allocated an ambulance. Even though he has a firm target of completing the jobsite with no accidents, he knows the dangers of working in the bush only too well. Through a vaccination drive, all the workers were successfully immunized against meningitis and typhoid. But even though safety at work in Africa has improved greatly, many hazards lie in wait throughout the great continent.

NO CROSSING THE SACRED WOOD
A green mamba slowly wriggles across the road. These highly poisonous, fluorescent green snakes abound in this region, where savanna meets forest. Killing the creature presents another problem – it might be sacred. Impossible to find out with any degree of accuracy, as the jobsite runs straight through a number of sacred places, undetectable to the foreigner. A similar problem arose with Laoudy-Ba forest on the PK 36 site. The head of the village, which is inhabited by the Abron people, was adamant. He was prepared for all the village huts to be destroyed, if necessary, but there was no question of the road crossing his sacred wood. Many long discussions took place before a compromise was struck: the road would go through the village's only water pump and the cemetery! A solution which involved a minimal curve from the straight. Incidents such as these are as numerous along the Bouna road as the stakes. Gérard had been particularly relieved to find a quarry to provide gravel for the site located in scrub, far from any habitation. Notwithstanding, within a few days some men showed up and claimed the place as sacred. Two oxen, a sheep a kid goat and a black dog all had to be sacrificed to appease the god of the sacred stone.

With such tribulations in the past, the first kilometers of roadway now stretch as far as the Gbanhui camp, going southwards to Bondoukou. Another ten months of work will be necessary to bring Bouna and its inhabitants out of their isolation. Ten months during which the Colas team will continue to cut itself off from the rest of the world, so that others may, in their turn, have access to it.
Well clad in protective overalls and safety mask, the spray bar operator performs an arduous though vital task.
Road works ahead... a scenic tour of the English countryside

In the north, west and east of Great Britain, Colas mobile site teams are at work on small country roads, laying surface dressings. Five teams of between 14 and 19 men travel from site to site, often working far from home. We spent a day with one of them in the south-east.

It's a Wednesday in July, and the Tonbridge crew has spent the entire morning scanning the heavens. The rain has been falling steadily since daybreak in this part of the south of England, making it impossible to work until the road dries. No laughing matter when you've been up since five o'clock in the morning...

On a good day, members of Colas mobile teams begin their day at 5.30 a.m. On a bad day, it can be at 3 a.m., when the work has fallen behind schedule or the site is too big to complete in a normal working day. At half-past five, a van sporting the Colas colors goes from house to house collecting the men. At the wheel is the team's foreman, Paul. First port of call: an early morning café. By six o'clock, everyone has gathered for a cup of coffee to analyze the previous night's soccer match and to run through the day's work schedule. The program is generally long and busy. The men wolf down a plate of fried eggs and baked beans – they are never sure when they will fit in the next meal – and they are ready to hit the road. They have no time to lose.

SIX MONTHS OF WORK
Surface dressing sites can only be planned for six months of the year. Never before mid-April, and never after the end of September...
old-timers and new recruits alike, follow a compulsory week-long training program, chiefly devoted to safety procedures.

Over the years, everyone develops a specialty. Each team has a spray tank driver, a spray bar operator, a chippings spread driver, a roller driver, a traffic control man, etc. Although everybody plays in a specialist posi-

“IF THE SPRAY TANK DRIVER MAKES THE SLIGHTEST MISTAKE, THE SURFACING SIMPLY DOES NOT ADOHERE.”

tion, everyone has to be capable of filling in on another task if someone is unexpectedly absent. Some jobs can only be performed by specialists, though. The two emulsion spray bar operators are a case in point. “If the spray tank driver makes the slightest mistake, the surfacing simply does not adhere,” explains Ian Bott, director of the south-east region. With the passing years, the men often pick up new skills. “Sometimes, a worker might ask to have a go with the roller. We sit him at the controls and see how he gets on,” adds Ian Bott.

CONDITIONS CAN BE DIFFICULT

On a sticky July morning, Bob wipes the sweat off his brow. Muffled up in protective overalls, he removes his safety mask long enough to agree that he is the member of the team with the most thankless task.

Subjected to emulsion fumes all day long, to say nothing of being splattered at 180° C, the spray bar operator’s lot might not at first sight appear a happy one! Even so, Bob has been there for 10 years, waiting for winter to come, when he takes up his work as a builder again. He likes doing road repairs, but more than anything else, he does it for the money. Positions of responsibility are the best paid, of course, and mobile teams are paid according to their productivity. In addition to a fixed weekly wage, each man receives a bonus according to the progress made on the sites. “We determine a target, making sure that it’s attainable,” explains Ian Bott. "It’s in everybody’s interest.” A rainy day amounts to a day without a bonus. Little wonder that Paul phones for weather forecast updates at least once a day on his cellular phone, a precious tool for a mobile site team.

Martin: in charge of traffic control

What I like most about this job is being outdoors.” Forty nine-year-old Martin is in charge of traffic control for all of the team’s sites. He is the first to arrive. He starts by putting up panels and traffic signs. It is then his responsibility to ensure that no vehicles interfere with the surfacing work. “If necessary, I have a little chat with motorists, and ask them politely if they wouldn’t mind taking a different route,” he says as he flips over his panel from red to green. Most of his day is spent with his ear glued to his walkie-talkie as he coordinates with his colleague at the other end of the road to let the cars through. A father of two, Martin previously spent 34 years working in a garage. He is now perfectly happy with his work, guiding the traffic. “You get to see a lot of the country, and its always different.”
THE SUN BRINGS OUT THE SMILES

At 2 p.m., the Tonbridge team allows itself a short break before starting the second site of the day, surfacing a one-and-a-quarter mile stretch of road. Gathering around the van, with a sandwich in hand, the team is soon in good spirits once again, especially when the sun breaks through. Paul reckons he has done well to foster such a good team spirit in his men, who over the years have got to know each other well. They try to work out which of them has the most roads to his credit. The foreman, Paul, has been around the longest with 15 years. Richard, the most recent recruit, has been in the team for three years. He describes how he can live off the money he makes with Colas for eight months of the year, but has to find another occupation to tide him over the other months. He manages to work as a greengrocer. “Having more than one job stops you taking things for granted,” says one of his colleagues. It is the lack of routine that is most appreciated by others: teams change sites each day. Some of the men have had jobs as permanent employees of Colas for some years. During the winter months, they repair vehicles or help out on minor road works.

The afternoon is the hardest. The heat on the emulsion is powerful. “You have to work fast and keep moving around,” testifies Richard, whose role is first of all to mark the area to be surfaced, and then to clean up afterwards. The day’s work ends at about 5 p.m. When the sites are a long way from their homes, they stay away, sleeping either in caravans or in bed & breakfasts. Sharing two to a room, they sometimes have to spend weeks away from home before the company van is able to take them back for the weekend. So it is during the annual season. The men work 7 days a week: they have to cover as much ground as possible. “There’s no time to get bored,” says Martin. “Early to rise and early to bed.” Evenings are spent at the pub or in front of the TV. They realize that they’re only separated from their families for a short period. But as soon as work stops and they can take a vacation, they all say that they won’t budge from home!

Paul: Mr. Motivator

The foreman is an essential link in the organization of mobile teams. He is the interface between management and the site; he remains close to his men. It’s his responsibility to motivate them, and ensure that there is a perfect understanding between everyone. Harmony is essential if the work is to go smoothly. “It is a lot more comfortable to have the same guys back every year.” From the crack of dawn, when he collects everyone, until the evening, it is up to him to make sure that everything is going well. He is the first into the van and the last to use the phone, checking up on the next day’s weather forecast. The foreman’s duties range from setting up the next day’s schedule to appeasing disgruntled motorists. Occasionally, he has to stand in for a worker who is unexpectedly absent. Sitting on board the chippings spread tank, Paul’s past flashes into mind. Fifteen years ago, he started with Colas as a spreader, before being taken on full-time as a foreman.
Creating new products, honing new methods, responding to new markets, organizing people, breaking new ground... What’s changing at Colas around the world.

ANNIVERSARIES

Half a century of activity in the Caribbean

Special events were held by the Group’s Guadeloupe and Martinique subsidiaries on February 26 and 28 to celebrate their combined one hundred and tenth anniversaries, attended by Alain Dupont and numerous distinguished guests. The focus was on the perfect integration of the two companies in the social and economic life of the two islands, and the high level of local decision-making, enabling managers to remain close to their customers and to respond rapidly to their demands.

On a technical level, the accent has been on technology transfers, made possible by membership of a large, high-performance group. As a result, local partners have been able to benefit from the most recent technological innovations. But at the heart of the units’ success story are the people who give constant proof of their motivation for international projects. They are the life blood of the Group, and due tribute was paid to them. Colas respects them, trains them and motivates them, and in return they show staunch loyalty to their company.

The programs on both islands were similar, with morning events intended for prominent outside personalities, customers and local politicians, and evenings intended for staff members. Both days featured a photo exhibition, tracing the history of the companies from their creation, a new corporate film, and presentations of long-service medals.

One of the highlights of the celebrations came when Alain Dupont laid the foundation stone for new offices in Martinique. Proof, if it were needed, that the passing years have not aged the Group’s Caribbean subsidiaries. On the contrary, these two days will have given the two companies a new lease of life to go forward into the next fifty or sixty years.
Sacer strengthens its hand
In January of this year, Sacer SA purchased the remaining shares in SES, which specializes in designing and manufacturing road signs and signals, and which now becomes a wholly owned subsidiary. More recently, in July 1996, Sacer PNE acquired Lacoste, a company based in eastern France, with the objective of extending its network of quarries and improving its control of its provisions in materials. This 55-strong company operates seven quarrying sites and a concrete plant, and also carries out roads, drains and pipe works. On the same date, Latexasfalt, a specialist in producing industrial floors using a specific process, came on board Sacer. The company is located in the northern outskirts of Paris, and employs 11 people.

Each entity free to choose its own approach
All Group entities want to attain a Quality label, but there are nearly as many ways to go about it as there are entities. Colas IDFN has opted to seek comprehensive accreditation, a path previously chosen by subsidiaries Porte (ISO 9002 in 1994), SES (ISO 9001 in 1994) and Sylvain Joyeux (ISO 9002 in 1996). Other companies prefer a progressive strategy, applying for accreditations for an emulsion plant, an asphalt concrete plant or an operational branch office. Others have chosen to concentrate on mobile mixing plants: examples include a mobile Colmat team at Colas Sud-Ouest and an Impercol team at Colas Suisse (ISO 9002 in 1995).

Les Carrières Foréziennes joins Colas Rhône-Alpes
Earlier this year, Colas Rhône-Alpes bought out Les Carrières Foréziennes, a contractor based in Saint Etienne, near Lyons in south-eastern France. The company, managed by Georges Riocreux, has a 46-strong workforce. Its principal activities are earthworks, sewerage, mains and roads. Its quarries division, which operates a pozzolana reserve at Bizac, not far from Saint Etienne, has now been merged with Colas subsidiary SHCL, along with all its personnel.
Colas invests in the Emerald Isle

The Colas Group's recent acquisition of companies in the Republic of Ireland and Northern Ireland from the Shell Group came as no surprise to John Killeen, chief executive of the newly created umbrella structure, Colas Ireland, its constituents being Colas Teoranta (in Eire), itself a holding company with several subsidiaries, and ICB Ltd. (in Ulster, managed as a U.K. company).

"Belonging to the Colas Group has the advantage of working within a group whose activity resembles our own," recounts Killeen. "It also opens up possibilities of diversifying into road construction work.

Each of the companies trade under different names, reflecting strong local identities. "In Ireland, it is helpful if the general public does not identify you as being from one side or other of the border," explains Killeen. "But we have always applied a scrupulously fair employment policy in all of our companies, respecting the social and religious make-up of each region."

Colas Ireland is the leading supplier of emulsion on the domestic market, with a good geographical spread. Its largest single operation is a plant in Galway, western Ireland, which manufactures 40,000 metric tons of emulsion per year. The production of emulsifiers has always allowed a certain level of export sales, which John Killeen now expects to be boosted as a result of joining the Colas Group. "We've already exported to Canada and France," he reports.

The management structure in Ireland is very flat: the only central management functions are those of the chief executive and the head accountant. Otherwise, although there is a high degree of synergy between the companies, each subsidiary is run independently.

The current political situation in Northern Ireland has resulted in restricted public spending in the province, but road markets in the Republic are buoyant at the present time, benefiting from a number of European Union packages. Overall prospects for Colas Ireland look good.
TECHNIQUES

New prospects for the active joint

One year after Sacer purchased the patent and developed a new laying machine, the active joint technique has continued to prove its effectiveness. Conceived to solve the problem of systematic shrinkage cracking, this technique enables the cracking process to be kept under control, by creating cracks at pre-determined points. Its originality lies in its ability to transfer mobile loads from one slab to another. It works by inserting corrugated PVC panels in the sub-base layer of the pavement during construction. These panels are positioned vertically across the road, one per lane. In order to create shortmeshed slabs, the panels are placed 6 feet (2 meters) apart. The purpose of the system is to link up the slabs to make them simultaneously independent and interdependent, rather like the tracks of a tank. The most recent application is a bypass of the villages of Pusey and Charmoille in the east of France, a four-lane stretch of highway of three-and-a-half miles (nearly six kilometers) that will come into service at the end of the year, when it will receive approximately 14,000 vehicles per day, including 1,800 heavy trucks.

AT THE HELM OF COLAS IRELAND

John Killeen, chief executive of Colas Ireland, has just completed a year as president of the Irish Institution of Engineers, an organization representing over 13,000 members from all branches of engineering. He has previously served stints as chairman of the Irish Institute of Asphalt Technology (1990-1992) and director of the Irish Management Institute (1993-1995).

You might think that he has a lot of spare time on his hands. Not so! From the time when he became General Manager of Cold Chon – one of the companies that now makes up Colas Ireland – in 1981, he has progressively added further responsibilities to his list of duties. Naturally, when Colas took over the companies he was running in Ireland as part of the Shell Group, he was invited to remain at the head of the new umbrella organization, Colas Ireland. John also finds time for yachting, and has distinguished himself in numerous sailing competitions around the British Isles. Full speed ahead, skipper!

JOINT VENTURE

Colas takes on Vietnam...

Colas Cong Chanh means Colas Construction in Vietnamese, but you can just call it CCC. It is a new Group’s Joint Venture in Ho Chi Minh City, formed with our Vietnamese partner CPWP. Its offices were inaugurated by Alain Dupont on June 3, visiting the country for an International Roads Federation seminar. CCC will operate a 4 T/II emulsion plant in order to market and promote bitumen emulsions; up to now, this technique is not widespread in Vietnam. CCC should start shortly in hot and cold bitumen mix production.
Colnet sticks to the task but leaves no trace

Colnet is a process which can be used for laying tack coats without leaving traces on neighboring roads.

Looking back...
On the initiative of the Research and Development department, a series of meetings were organized early in 1994 based on a value analysis technique. Attending them were laboratory representatives and site managers. Their aim: attempting to define a new emulsion process, by the name of Colnet, a process with which non-sticky tack coats can be laid.

The emulsion
Colnet is constituted by two elements:
- a red colored interfacial additive agent which is used to complete adhesion between the binder and the surface,
- a breaking agent, used the same way as in the Emulcol process (a process in which the breaking of the emulsion is precipitated by the introduction of a breaking agent).

Utilization and development
The first sites to make use of Colnet were carried out in the fall of 1994. The process was pioneered by the Bonneuil office in the Paris region, and it was subsequently employed in the Caribbean by the Martinique agency so that it could be validated in extremely hot weather conditions. Today, the product is in widespread use in France. Two factors that are promoting its use are technical networking between subsidiaries and the fact that instructions for use have been written in both French and English.

A site to prove the feasibility of the process was carried out before the summer in the United States, thus validating its use in New York State. Similarly, Colnet has been validated in Quebec (where it has been used by Sintra) and Reunion Island. These developments prove how adaptable the process is not only to varying climatic conditions, but also to different bitumens. Each bitumen/breaking agent pair has been tested before use and validated by the Central Research Lab.

Most often used...
In the majority of cases, Colnet is used in an urban environment, when truck and plant access is difficult and vehicle or pedestrian traffic is heavy. It is also used on motorways, when trucks have to cover long distances. In this case, the use of Colnet avoids damage to horizontal road markings.

Why do we need a tack coat?
A badly applied tack coat between two 12 cm (5 inch) layers of grave bitumen can reduce the service life of the structure from 20 years to 10 years.

Cost of the process
Colnet requires an outlay for the distributor truck (tank plus spray-bar) of approximately 50,000 French francs. The additional cost expressed per square meter is derisory by comparison with the increased life of the road and the intrinsic cleanliness of the technique.

TEN KEY PROPERTIES
The Colnet process features a number of characteristics corresponding to a highly detailed specification. It must:
- break rapidly,
- not stick to tires,
- not soften the asphalt concrete,
- wet the base,
- use a modified binder if necessary,
- be storable,
- be produced in the Group's plants,
- be applied with traditional equipment,
- allow for proportioning checks,
- be compatible with other Group emulsions.
INAUGURATION

A new emulsion plant for India

Iain Dupont and other directors of Hincare, a joint sub-
sidiary of Colas and Hindustan Petroleum Corp. Ltd.,
were present on April 18 when Hincare Chairman Mr H.L.
Zutshi inaugurated a new emulsion plant in Navi
Mumbai, near Bombay, in the state of Maharashtra. Representing an
investment of 52.5 million rupees, the plant will have annual capacity
of 20,000 million tons when fully operational, and projected revenue
of 150 million rupees. In all, 16 people will be employed at the plant,
in both production and marketing.

MARKETS

Siat remains the leader

Siat has confirmed its position as market leader in data
collection, having recently installed 120 new induction
loops over the entire motorway system in the South
of France. Thanks to these induction loops, it is possible to know the flow of
vehicles moment by moment for each lane of traffic. The detail of the data
furnished includes the proportion of heavy vehicles to passenger cars, the speeds
of vehicles, and the proportion of roadway occupied. Data collection is performed
on the basis of an analysis of the electric signals triggered by vehicle passing
over the induction loops buried in the road surface. The information furnished
by the system is fed back to motorists. It provides source material for both the
Bison Futé traffic monitoring service and variable message panels.

MOVE

New premises for Paris-Nord

The Paris-Nord office and Asphalt Concrete center,
previously in Gennevilliers, have moved to a new address
on the Ile Saint-Denis, near Paris. The premises were
renovated by the Sylvain Joyeux building division.

PERFORMANCE

Plain sailing for SNPR

A yacht entered by the Ile Saint-Denis office of
SNPR in the 14th Bouygues Group sailing challenge
performed very honorably, finishing the regatta in
4th place out of 51 entrants.
BEFORE
a tangle of pedestrians
and vehicles

The Champs
Elysées a year
down the road:
a stroller’s paradise

AFTER
an avenue
made
attractive for
pedestrians
Plane trees and sidewalks

The City of Paris decided that it was high time to make the Champs Elysées more accessible to pedestrians. It launched a program to renovate the sidewalks and frontage roads, and invited Colas subsidiary SNPR to carry out the works on this prestigious site. The project consisted of eliminating frontage roads, replacing on-street parking spaces with underground parking lots, building wide sidewalks bordered by two rows of thirty-year-old plane trees, and, finally, surfacing the avenue with 148,000 paving stones of blue granite from the Tarn, gray granite from Brittany, and light blue granite from Sardinia. The project had to be carried out as a safe and quiet job-site with observation of environmental standards.

Satisfied local shop owners

Local residents and traders tolerated months of disruption during the works, often with a sense of humor. Today, one year on, they are unanimous in their praise of the project. Monsieur Grillot, who runs the Flora Danica restaurant, is highly satisfied: “We reviewed our marketing policy after the rehabilitation of the Champs Elysées. We used to have a select clientele, who knew us by reputation. Since the works ended, we have opened up a terrace on the avenue which can offer passers-by the chance to eat with a wider range of prices, which makes us much more accessible for everyone. Certain customers complain that it’s difficult to park. It’s never easy to get people to change their habits, but one day they’ll agree to use underground parking lots!” The manager of confectionery and chocolate boutique Maifret echoes these views: “We have at last been able to open up a tea-room and have a corresponding terrace space. Our customers can enjoy their ice-creams separated from the avenue by two rows of trees...”

“The works on the Champs Elysées didn’t interfere at all with any of the events that take place there, on either a Parisian or a national level.”

Regaining lost prestige

Staff in the tourist information office are thrilled because the Paris City Hall took advantage of the works to renovate the premises and double the reception space. “The works didn’t interfere at all with any of the events that take place there on either a Parisian or a national level. The prestige of the avenue adds to the prestige of the businesses that line it. The Champs Elysées has once again become a pedestrian paradise. We have taken advantage of the opportunity to broaden our product offer and the tourists appear to be satisfied.”
The Bridge of Chains in Budapest, the city chosen by Colas as the location for its Central European department.

Mission: growth in Central Europe
Ever since the fall of the Berlin Wall in 1989, Colas has been actively prospecting for business in Central Europe. This has meant seizing opportunities which have occurred with the opening up of new European markets, as well as directing the Group’s international growth strategy at Central European countries.

Rather than target projects on an ad hoc basis, the Group preferred to set up permanent operations in the ex-Communist countries, in conjunction with local companies. Numerous contacts were established with leading economic players, commercial services in embassies, and road and transport ministries. In some cases, Colas purchased an existing company, in others created a new operational entity. Wherever possible, the first of these two solutions was favored, because it meant “inheriting” not only a ready-made customer list and ongoing contracts, but also, a management team already in place.

Starting with an industrial operation
Risk limitation remained a priority, so it was preferable in the first instance to concentrate on industrial activities or fixed installations, which would be less sensitive to the ups and downs of the economy. The first move came in July 1991, with the acquisition from the State of Hungary of 53% of the capital of Északkő, the leader of four groups active in the production of crushed aggregates, with a one-third market share and sales of one million metric tons, destined for road construction and ballast.

Technology transfer
In the same year, in partnership with the Romanian National Roads Administration, the Group created a new company, Sorocam (the Romanian Quarries and Materials Company). As soon as it was established, Sorocam began operating near Bucharest, with a mixing plant and an emulsion plant. It also runs an emulsion plant in Transylvania, in the center of the country. The starting-point for the agreement between Colas and the Roads Administration was a technology transfer package with Novacol. The cold pavement renovation process allowed them to repave roads at peak efficiency. “Our roads were in dreadful condition and our country was experiencing serious economic difficulties, so the Colas technology corresponded perfectly to both our needs and our constraints,” relates Viorel Pau, formerly technical director of the Bucharest regional roads department, who played a large part in setting up Sorocam and is now managing director. “Sorocam now does business with the Roads Administration and autonomous regional roads authorities, and we are also a major supplier of emulsion to Italian road building companies.”

A Central Europe department
With companies operating in Hungary and Romania, Colas took the step of opening a Central Europe department, managed by Alain Benquet. At the end of 1992, as one of the first moves in the policy of acquiring Colas subsidiaries from Shell, the Austrian subsidiary, Colas GmbH, became part of the Group. This company is very advanced on a technological level in bitumen emulsion production. It also manufactures polymer bitumen and carries out surface dressing works utilizing modified bitumen. Herbert Buchta, managing director of Colas GmbH, is delighted that his...
"Colas is a worldwide group on a human scale, and the right technological reply to our everyday problems." *Joseph Eder, Colas Czech Republic*

A company is integrated in the Colas Group. “Joining an innovative French group was quite a challenge for us in Austria. The Central Europe department is made up of people who are all very different, but who are all going in the same direction. Management structures are flexible, and decisions are taken rapidly and efficiently.” Through the following months, Colas continued its scouting of the region, before acquiring the number one pipe-laying company in Hungary, Alterna. “The presence of Colas in Central Europe is of capital importance,” maintains Szabolcs Sido, managing director of Alterna. “It means that companies can count on the support of a worldwide group and benefit from its knowledge of the rules governing international markets, but at the same time, they retain their autonomous local management.”

1993 saw a respite in this development policy. The Central Europe department took the opportunity to embark on a period of consolidation, putting in place management and reporting systems that complied with Group standards. Nonetheless, great care was taken to respect the cultural and national identities of the companies. “The way we put it here,” smiles Szabolcs Sido, “is that instead of giving us fish to eat, Colas has taught us how to go fishing.”

**Rapid growth in the Czech Republic**

In 1994, the Group turned its sights on the Czech Republic. Colas became the majority shareholder in a road-building company in Jihlava, in the center of the country. Its range of activities resembles those of most Colas road-building offices in France and it operates eight quarries. In the same year, the Group decided to enlarge its geographical capacity in the Czech Republic, and so took a 67% share in a company.

“Thanks to Colas there now exist solid bases which will allow us to create a proper network of infrastructures once the opportunities present themselves, and the politicians have given us the green light.” *Herbert Buchta, Colas GmbH.*
“Before we joined the Group, we knew of Colas as the number one in road construction around the world. Today, after nine months of collaboration, we can appreciate the speed of decision-making, which is necessary to ensure efficiency and success in our business sector.”

Willy Otten, Colas Bauchemie GmbH

Integration

Interview

Alain Benquet, Director, Central Europe

Guadeloupe, where he remained until 1979, when he began a twelve-year stint in Africa. He first headed the Colas office in Nigeria, then became deputy director in the Ivory Coast and director in Cameroon, Chad and Equatorial Guinea.

He was appointed director of the Central Europe department in 1991. Born and raised in Bordeaux (and a connoisseur of wines of the same name), he appreciates the variety he has experienced in his career with Colas.

With hindsight, he readily acknowledges that his years in Guadeloupe were particularly motivating, because his position managing an operational branch office gave him the opportunity to learn about running a business. But he seems to be no less happy in Budapest, where he finds many points of affinity with the culture of the people of the east.

When you ask this confirmed bachelor about his hobbies, he smiles and says, “The local wines are not quite the same as the clarets I grew up on, but they are well worth a glass or two!”

Tell us about your new experience in Central Europe.

The prospects are particularly interesting, because the companies are undergoing a change process and seeking out new economic models. I am fortunate enough to be able to do my job in a very varied geographical context, in terms of civilisations and cultures, but also of business activities, from quarrying to roadbuilding, and from civil engineering to pipe-laying. All these countries are now at a turning point in their histories, a decisive moment for their futures.

You are at the head of three thousand people. What kind of relations do you have with them?

First and foremost, I am there to represent the shareholder. I work with the local employees in a climate of confidence, with each company’s management team assuming its own responsibilities. By and large, the men are pleased that they can rely on a major group, and aware of the advantages it gives them in their efforts to make their businesses successful. The general interest not being the sum of individual interests, my role consists in harmonizing the companies’ development strategies in the best interests of all concerned. The biggest difficulty is putting simple and efficient organization charts in place, taking maximum account of the effects of synergy.

Just turned fifty, Alain Benquet has spent one half of his life in the Colas Group. Trained as a mining engineer and a graduate in economics, he started out as a site engineer in Bordeaux and in the Paris region. Three years later, he transferred to the Caribbean island of
“Following the wave of privatizations which had opened our eyes to competition, Colas has given us a key to becoming an aggressive player in a fierce international competition.”

Szabolcs Sido, Alterra

A big stride in Germany
The end of 1995 saw negotiations for the acquisition of 50% of the capital of Colas/Shell Deutschland. The agreement took effect on January 1, 1996. The rest of the capital will be acquired on January 1, 1998. Colas Deutschland consists of a group of four companies producing and selling bitumen emulsions (25% of production in Germany), which have merged as Colas Bauchemie. From their four production units located in Hamburg, Bremi, Mannheim and Ingolstadt, the companies produce and market emulsions for road-building and construction industry applications, as well as automobile maintenance products. They also carry out surface treatment works. A development program in

“In third position among road works companies, the Colas Group has irrefutably established itself in Hungary.”

Colas means permanent innovation in terms of the development of products and the methods used. Working in the Group means rigorously demanding that production meets the highest technical standards.”

Zoltan Cseh, Eszakkö

Romania through 1995 and 1996 has resulted in the opening of a mixing plant in the south of the country, near the Bulgarian border, a new emulsion plant 150 km (95 miles) north-east of Bucharest, and a large-scale mixing plant (200 metric tons per hour) in Timisoara, along with the moderniza-

“The spread of Colas activities in Europe and throughout the world is an aggregate of complementary know-how, guaranteeing quality works.”

Jenő Grot, Bitec

LATE NEWS

Hungary

Colas’ road-building subsidiaries in Hungary are currently launching the construction of part of the M5 motorway. Worth approximately 100 million French francs ($20 million), the contract covers 120,000 m3 of subgrade layers, 300,000 metric tons of cement-bound aggregates and 200,000 metric tons of asphalt concrete, as well as surface drainage. Started in August, the site is expected to last fifteen months.

Alterra has been chosen as the pilot company to carry out a full range of works, including waterproofing, on the city of Budapest’s first waste site, in compliance with environmental regulations. This project will involve very major earthworks.
tion of two emulsion plants in Craiova and Timisoara.

Road works in Hungary
In May 1996, Alain Benquet was finally able to seize an opportunity to undertake road works in Hungary, when the Group was able to purchase two road companies from a bankrupt Austrian contractor, Hamberger, forced to dispose of its stakes in its Hungarian subsidiaries. The two companies also brought Colas three new quarries. The road-building operations include two emulsion plants and eight mixing plants, one of them an ultra-modern, American designed installation in Budapest which is linked to the quarry by road, rail and the Danube. This recent acquisition irrefutably establishes the Colas Group as a leading player in Hungary, raising it to third place in the country behind the Austrian groups, Bauholding and Strabag.

Revenues of $150 million
Thanks to these recent developments, Colas Central Europe now posts revenues of around $150 million, and has a combined workforce of 3,000 people. "It is pleasing to note that the Colas Group has successfully taken the necessary risks to become the foremost French investor in the roads industry in this part of the world, which is traditionally reserved for Austrian and German investors," remarks Alain Benquet. Thanks to the potential for synergies created through operations in quarrying, pipe-laying, civil engineering, and road-building, Colas is today a leading figure in the economy of the region. The profits earned through activities in these six countries should permit the capital expenditure that will be necessary to develop the structures in place. "The priority today is to manage and develop the existing units," concludes Alain Benquet. "But at the same time, we will remain open to further growth opportunities and keep an eye on openings in other countries."
Scerg joins the Colas group

On July 11, the Colas Board of Directors voted in favor of the principle of acquiring French roads and public works group Scerg. This merger has brought a leading player in the world road industry into being, with annual revenues of nearly 26 billion FRF (approx. US$ 5 billion) and 40,000 employees.

A strategic merger
In France, as in much of the rest of western Europe, road building companies have for some time been suffering from cutbacks in public sector spending and a freeze in road and motorway investments.
This merger has the triple objective of simplifying holding company structures, strengthening each company's individual identity, and broadening the Group's network of French companies.
Scerg is active in Romania and Hungary through road building companies or through major sites, while Colas maintains a permanent presence in six countries in eastern Europe.
In Belgium, Scerg is market leader through its subsidiary Scerg Belgium. The company's activities in Morocco are relatively recent, but will prove a useful complement to the extensive operations of Colas Morocco, present in the country for over fifty years.

An ambitious industrial policy
Scerg’s production facilities, of crucial importance for future growth, will enhance the Colas Group’s industrial capacities in every area: asphalt, concrete, emulsions, quarries and building materials.

A range of new personal development opportunities
In terms of human resources, a benefit of the merger will be a much broader range of opportunities for professional development and career prospects.

Wide-ranging scientific and technical research
The technical skills that Scerg is bringing to the Group will enable it to intensify its policy of technological innovation and transfer of know-how. RTI, Scerg's technical research center, will open up new avenues in long-term research projects.
Each brand will fully emphasize its own technological expertise and present the range of its own special products.
It was in 1896 that Henri and Louis Humara started a business in Bordeaux for the importation from England of two materials needed for railroad construction: creosote and coal tar.

A year later, the company branched into distilling tar and manufacturing by-products.

In 1917, seeing that the development of road networks called for increased use of tar and bitumen, the Humara brothers created the Société Chimique de la Gironde (SCG), which in 1927 opened new distilleries and bitumen emulsion plants. The company's business began to concentrate increasingly on road building activities.

In 1934, the company produced an innovative product, Compomac, and changed its name to reflect its business profile, becoming the Société Chimique et Routière de la Gironde (SCRG). With the transfer of its head office to Paris in 1945, the company began operating on a national scale.

1964 saw another name-change, as it became Screg, alias the Société Chimique Routière et Entreprise Générale (Chemical, Roads and General Contracting Company), with business diversifying from road works into construction, civil engineering and property development.

In response to growing demand from local authorities and a move to decentralization, four subsidiaries were created, including Screg Routes et Travaux Publics.

In 1979, Screg Routes developed a network of autonomous regional subsidiaries.

Four years later, Screg purchased shares in Colas and Sacer that the Société Parisienne Ravez Cartier held through the SITP.

In 1986, the Bouygues Group acquired a majority stake in Screg.

The 1990s have seen Screg expand into foreign markets.
One runs a joint venture in Thailand, another ensures the road moves forward in Africa, a third gives up a career as a nurseryman to become a raker... Every day each of these people give it all they've got to make Colas succeed. Portraits.
The Colas spirit in Bangkok

Surachit Vansansiri
General Manager of the Thai Slurry Seal Co., Bangkok

Surachit Vansansiri has managed Thai Slurry Seal, a Colas joint venture in Thailand specializing in asphaltic concrete and road surfacing, ever since it was formed, one and a half years ago. In local currency, the company records annual sales of 180 million bahts, the equivalent of about seven million U.S. dollars. With 120 staff members, Surachit Vansansiri’s company is small but fast-growing. “I obtained my civil engineering diploma in 1981 at Kasetsart University in Bangkok, and then went to Chicago to study for my Masters,” he relates.

On his return to Thailand, Surachit worked for the Italian Thai Development Corporation, one of the country’s largest public works companies. “I then moved on to Raycol, a producer of emulsions,” continues Surachit. “Raycol being a Colas joint venture, I was part of the Group. Although here in Bangkok we are a long way from Head Office, we don’t feel cut off. We are permanently in touch with Paris, and when we launch new products we receive help from French technicians. The most delicate thing for us, though, is the French mentality. Asians always speak supportively, but sometimes the French are awfully direct!”

On the road to retirement

Marie-Hélène Bordas, secretary, Bonneuil branch office

Marie-Hélène Bordas, age 58, is contemplating her forthcoming retirement with mixed emotions. She joined the Group in November 1959, as a secretary in the Bonneuil office (Colas Ile de France Normandie), and apart from a two-year stint in the mid-1970s when she worked in the Saint Maur office, she has never left Le Raincy, in the Paris suburbs. She arrived as a young girl and leaves a grandmother, having seen 15 bosses come and go, some of whom criticized her for her strong personality. Others have seen her character as a virtue! As a secretary in the works department, she has been in constant touch with customers, site managers and teams. She has always liked the variety of her daily work routine. Warm-hearted and generous, she enjoyed offering a helping hand to young people coming through the office. “When you love Colas and road building as much as I do,” she says with a lump in her throat, “it’s hard to call it a day.”
It’s never too late to learn!

Mark Pemberthy, site agent, Colas UK

At 42-years of age, Mark Pemberthy is a former world champion in tug-of-war. The end of his sporting days ten years ago also brought a major career change. "In those days, I was a working foreman in drainage and concrete. But I wanted to give up the physical work and move into supervision as a general foreman." Although he was inexperienced in highway construction, he was taken on by Colas Roads, and enrolled for a home study program. "I took to these studies very well, and ended up with a distinction and awards as the best student!"

In the late 1980s, Colas UK expanded these civil works, and Mark soon became a supervisor and then site agent. Since 1990 he has represented the contractor on several major projects. He is now running a £3.5 million link road project, including (unusually for Colas UK) a bridge. He has always been particularly motivated by the integration of quality and safety procedures in site management, and was very gratified the other day when a British Telecom contractor complimented him on a particularly well-run site.

Enjoying the outdoors

Paul Morel, raker, Colas Rhône-Alpes

Since leaving school at 15, Paul Morel has always worked outdoors. So when the nursery where he had worked for thirty years closed down, he did not hesitate over a chance to re-train as a raker. "Don’t think I don’t feel the cold, though!" he admits with a wry smile. But just try to get him indoors! Even at the weekend he’s out shooting or fishing.

Paul Morel likes the small sites on which he normally works, but in the last few months, he has been no less happy working on the A 43 site, where workers from Jean Lefebvre sometimes appear envious of the excellent team spirit of their colleagues from Colas Rhône-Alpes. Age 54, Paul won the Group’s Losange d’Or distinction in 1994. He wears his badge with pride and enthuses about a recent visit with the Rhône-Alpes Compagnons to the Shell refinery at the Etang de Berre, near Marseilles. Paul Morel is a member of the Group’s safety committee for the Rhône-Alpes region. He likes having the chance to give his opinion on campaigns that are led to improve the safety awareness of site teams. As for putting safety recommendations into practice, Paul admits it can be difficult. "But they'll always listen to an old-timer!" he laughs.

ROUTES number 1
Assignment in Asia

Lorne Davies, executive vice-president of Simon Contractors

Lorne Davies will not forget the last two years anytime soon. At age 41, the Group asked him to leave his native Canada and manage Wasco, the Colas joint venture in Indonesia. He set off in April 1994 with his wife and three children, knowing little about Indonesia in advance. But Lorne was soon in the thick of things, finishing off an airport construction site and managing three existing emulsion plants.

“My mandate included finding new shareholders for Colas. And after two years of negotiations, with support from the manager for Asia, we succeeded.” Nothing in Lorne’s early career marked him out for such a mission.

He was born and educated in Alberta, Canada, where he received a diploma in municipal engineering. He joined Colas subsidiary Wapiti Gravel in 1985, where he was successively senior estimator, project coordinator and general manager. Opening up an asphalt operation in the Yukon, close to the Alaska border, in 1990, helped prepare him for his expatriation. Lorne has now returned to North America, where he was appointed executive vice-president of the Group’s recent acquisition, Simon Contractors, in the United States. What has he brought with him from Indonesia?

“My experience of Indonesians has given me a new perspective of patience and understanding in a business world that is ever increasing in technology.”

“A new perspective of patience in a business world that is ever increasing in technology.”

Professionalism and pride

Josiane Stepien, shop foreperson at Somaro

Josiane Stepien is lucky enough to both live and work in Chaudun, a village of 300 inhabitants quite near the town of Soissons (north of Paris), where she was born. She chose not to follow her parents farming vocation, preferring to look for a regular job. When she found one, it was with a small company called Adem which had recently been set up in Chaudun and was recruiting factory workers. That was 23 years ago. Since then, the company has become the sign-writing subsidiary of Somaro; its equipment has been modernized and its products diversified. Josiane has learned enameling and application, and won promotion. “In the early days, the letters and figures that appeared on signposts were outlined and cut out by hand. Today, computers have taken over all of that!” At the age of 48, three years ago, Josiane had the chance to be trained as a shop forewoman. “I chiefly learned to formalize my own know-how so that I could organize the day-to-day work of the women in the shop more effectively.” Today, she performs her new duties with professionalism and considerable pride.
Planning a site the Lego way

Francis Azzolini, site manager, Colas Madagascar

His surname might have a distinctly Italian ring to it, but Francis Azzolini is a Malagasy born and bred. He entered the Colas Group in 1963 as a mechanic, but today he has risen to be a site manager, proud of the numerous major civil engineering projects he has to his credit. Among them are around twenty bridges, ranging from the port of Mayotte (in the Comoros archipelago) to the sea wall at the harbor of Tamatave. “Building structures like these,” he explains modestly, “is like making a construction out of Lego blocks. I have an overall plan and all the stages of the site in my head.”

The first phase of work on a site to build a container terminal on Mauritius has just begun. Francis Azzolini is “lending a hand,” that will last until he has seen the project through its first year or so. One of the site’s main difficulties is training the workers. More than 100 people have arrived from China since the beginning of August. Francis Azzolini speaks fluent Malagasy and Creole, but not yet Mandarin Chinese.

“I’m used to managing up to 700 people with the support of my hierarchy or site management.” In two years’ time one of the largest container terminals in the Indian Ocean will be inaugurated. Francis Azzolini will then move on to plan his next Lego structure.

With a smile on his face

Sébastien Blanc, site engineer at the Rodez works office

After an initial diploma in industrial applications of computer science and studies at the Mines engineering school at Alès, in the South of France, Sébastien Blanc chose a career in civil engineering, and joined Colas two and a half years ago. After stints at Toulouse and Ariège, the 28-year-old site engineer completed a 5-week course at Colas University.

“I was able to add knowledge about market and the legal environment of public works to my practical experience.” Sébastien jumped at an opportunity to return to his home region, the Aveyron, where he divides his time between the Recoules Previnquiére quarry, the Gaeges and Sabar plants, and the Rodez office. He particularly loves contact with local politicians and suppliers, traveling from the plants to the sites and quarries. And always with a smile and twinkle in the eye. Sébastien, who enjoys rugby, skiing and golf, finds laughter comes naturally.
No such word as ‘routine’ in Africa

Marc Vinçotte, site manager with Société Routière Colas in Gabon

Colas ensures that the road moves forward through Africa, and Marc Vinçotte has hundreds of miles of it to his credit. Whether in the Congo, Gabon or the Ivory Coast, he has moved from site to site. “I joined Colas in 1973 as a site foreman,” he recalls. “I did all my work in France until 1977, when I left to spend three years in Guyana.” Nowadays, Marc Vinçotte is in charge of teams of up to 200 people. “In Africa, the technical processes are the same as they are in Europe,” he says. “The difference is that a lot of the operations are still performed manually.” Traditionally, a site manager supervises execution of work and coordinates plant and men. “In Africa” explains Marc, “it’s a bit different. You’re 600 km from your superiors, at the end of a communication link that is unreliable at best, so you have to take initiatives. I have a lot of independence and I don’t know the meaning of the word ‘routine’!” The only dark cloud in his existence is a family one. Marc’s wife and children live in Bergerac in France, where he only sees them once or twice a year. “As soon as the kids started school, it was back to France for them,” he says.

Hurtling through life at full tilt

Christian Train, Colmat site foreman

Few of us could keep pace with Christian Train, a Colmat site foreman at Colas Sud-Ouest’s Saint-Astier office. He is one of life’s enthusiasts. First of all, he enthuses about his work. He has spent 23 years with Colas, which he most admires for its creativity and the excellence of its projects. He is no less keen about go-karting: he races at least every other weekend at a club where he serves as secretary. He also does duty as town councilor and deputy-mayor, a responsibility that he greatly enjoys. And he somehow finds time to cultivate the vineyards he inherited from his parents. Underlying all of these activities is Christian Train’s credo: “I am a man of action who loves freedom.” The freedom to go slowly along the local lanes and roads at the pace of the vine shoots, or to tear around race tracks in a go-kart. But Christian also exudes a love for team-work, whether on the job-site or in the town hall, and an in-born sense of organization. A happy, well-rounded 40-year-old, Christian Train is clearly in full control of his life.

“I am a man of action who loves freedom.”
Théodore Monod, tireless explorer of the sands and dunes
In 1922, at the age of 20, Théodore Monod began a career at the French National Natural History Museum and for the first time encountered the Sahara, which he has never tired of exploring. A noted pacifist and environmentalist, he is an ardent defender of animal rights. One of the last roving naturalists, he defines the desert as “a pure, beautiful and sacred place marked not by the absence of life, but by the exceptional adaptation of the human beings that inhabit it.”

Can you describe the Sahara as it must have been thousands of years ago?
A very long time ago, the Sahara was a savanna where elephants, giraffes and antelopes roamed, and the nomads reared bovids. The Sahara also had many deep lakes which were inhabited by fish, terrapins and even hippopotamuses. Gradually, when the region turned into desert, the elephants and giraffes migrated to the south. In an attempt to survive, the nomads created oases around the major watering places. The nomad needs an oasis like a sailor needs his port of call, to stock up on food.

Was it at this point that the dromedary appeared, making it possible for man to travel across the Sahara?
Yes, quite probably, even though the sources still seem confused today. Some experts claim that the dromedary has always existed in North Africa, but others say it originated in Arabia, and appeared in the Sahara about two thousand years ago. Be that as it may, the dromedary has been the savior of man, enabling him to travel from one oasis to another. Dromedaries possess extraordinary physiological properties: they can lose up to 40% of their weight through evaporation, while if a man reaches the threshold of 10%, he is already in trouble. A dromedary doesn’t drink before setting out, but when it arrives, to reestablish its water content. The first book I published about the Sahara in 1937 bore the following dedication: “To the camels and goats, to the vehicles and containers, to the only two conquerors of the Sahara.”

What qualities do you need to have to travel in the desert?
The big caravans follow traditional routes, from one watering place to another. The routes have not changed very much over the years. Men’s feet and camel’s hooves have ended up actually tracing out paths. Bedouins are capable of memorizing an itinerary and playing it back in their minds as they advance. They might walk for four hours on white flint ground, see a dune with a trace of scrub to the west and then continue for two hours on black flint ground, for instance. These people are always aware of the direction in which they’re traveling, thanks to the stars and to their ability to observe the land. They have wonderful eyesight: they can see with the naked eye things I cannot see with binoculars. They know the four points of the compass better than they know left and right. Orientation for them is a question of life and death.

But how do they manage to identify the cardinal points when they don’t have a compass?
Principally by means of the prevailing wind. The continental trade wind blows from north-west to south-east, creating banks of dunes. When it is blowing at ground level, the slightest obstacle – which may be camel droppings, a pebble or a lump of plants – causes a pointer to be formed in the sand, and normally this is directed from north-west to south-east.


Christian Gérondeau has devoted most of his career to the transport sector. A spirited defender of roads and road safety, he is chairman of the French Roads Union and secretary general of the European Road Safety Federation. He has recently published *Les Transports en Europe* (soon to appear in an English translation).

In your book, you point out that in Europe, 88 percent of passenger transport and 97 percent of freight transport takes place by road, and yet, in spite of these eloquent figures, we are experiencing cut-backs in public spending on roads. How do you explain this phenomenon?

European countries are facing budgetary difficulties, and there is a strong temptation to make savings in investment budgets. This is a mistake, because investments like these are the guarantee of prosperity tomorrow. In my book, I talk about a certain number of misconceptions which reinforce this trend.

**Could you give us some examples?**

Of course. For example, you often hear that the road network functions badly and that there's such an increase in traffic that we're heading for deadlock. In point of fact, these ideas are false. Congestion does occur, of course, but it is localized in time and space, primarily in large urban areas and either at the rush hour or during the heavy traffic that occurs with weekend departures or in the vacation season. Did you know that the average journey length in Europe, including during the rush hour, is less than 20 minutes door-to-door. According to the French statistical agency, the INSEE, this duration has remained constant in France since 1981, while during the same period there has been an average increase of 20% in the distance traveled. It is therefore the very opposite of an increase in congestion.

Another proof of the efficient functioning of the road network is the development of just-in-time delivery procedures in manufacturing industry. Today, a company can have suppliers at the other
end of Europe, but receive deliveries at very short notice. If the road network functioned badly, this would be impossible.

**The idea of relieving the roads with other modes of transport is often raised...**

It’s a very attractive idea. It only has one drawback: it’s unrealis- tic, because not all markets are the same. The trucks we see on the motorway come from a wide variety of places, in general cover very short distances, and are driving to different destinations. They happen to be temporarily sharing the same motorway, but there’s no similarity with a train, which starts out at one station and travels to another. The same thing is true for passengers. High-speed TGV railroads have done nothing to relieve traffic on motorways running parallel to them, no more than subway lines have relieved the traffic on urban infrastructures. Although they are clearly contradicted by the facts, received ideas such as these are at the root of the official policies followed both at the European level and in a large number of countries. They lead to bad choices in terms of investments and taxation.

**What is your view on the role of roads in African countries?**

Africa is only now facing up to a necessary phase of economic development, in which roads, which are a medium of trade, have a vital part to play. Constructing and maintaining quality road networks is a precondition for economic growth in Africa, just like in the rest of the world. Roads allow door-to-door transport without unloading at the lowest cost for individuals and society. What’s more, the World Bank shares this point of view. Its studies have proved that of all forms of public and private investment, investment in roads have the highest return.

**How can a roads lobby be created?**

Contrary to popular opinion, there doesn’t really exist a roads lobby. This is because the roads sector is made up of industries which have fundamentally different interests – road-building, automobile manufacturing, petroleum, and so on.

But these industries are growing more aware of this state of affairs, and are taking steps to improve the situation. In Europe, this has taken the form of the creation this July of the European Union Roads Federation, of which Alain Dupont has been appointed the first chairman. In conjunction with the International Roads Federation, this organization exists to put technical arguments to public administrations and international authorities, with a subsequent aim of convincing policy-makers, influential personalities and the media. The scale of this undertaking should result in roads being accorded the priority which is their due in the interests of society.

**EVENTS**

**A new world Emulsion Congress**

Following the success of the first world Emulsion Congress held in Paris in October 1993, Colas is preparing a second vintage, to be held, appropriately enough, in Bordeaux between September 23 and 26, 1997. The first congress attracted close on 1,200 participants from no fewer than 67 countries, with industrial emulsion applications featuring on the agenda. Co-sponsoring the Congress with Colas, who originally initiated the event, were Shell, CECA, Rhône-Poulenc, L’Oréal and Unilever. Although the Colas Group is world number one in bitumen emulsion, emulsion is currently undergoing major expansion in a number of greatly diversified applications. Examples of new developments are to be found in paints, cosmetics (lipsticks and nail polish), pharmaceuticals and print technology, etc.
December 1995 saw a crisis of confidence in the French rail sector, highlighted by crippling industrial action. The French Ministry of Transport set up a working party, led by Claude Martinand, head of the ministry's international and economic affairs department, to reflect on the future of the rail industry in France. In February of this year, they submitted their report on the issues, challenges and possible options.

**Could you summarize the principal questions posed by the report on the future of rail transport?**

The central question is that of the future of rail transport. The railway was born in the middle of the 19th century and was dominant to the point of being practically monopolistic into the mid-20th century. Today, rail transport trails road transport. It is often low in volume, but touches a sensitive spot in the hearts of Frenchmen. It seems inconceivable that in 20 to 50 years there might be no more railway, particularly in big cities and on major road links, where heavy commercial traffic is already posing physical and environmental problems. But the more attached people are to the railway of the past, the less they encourage the railway of the future to emerge. At the financial level, French railways are facing serious problems. It is impossible to imagine that there will be increased public funding to subsidize less and less traffic. A real growth perspective needs to be opened up, involving winning back market share and enhancing performance, without which in the next 10 to 15 years, French railways will be on its knees and drastic steps will have to be taken.

In my report, I also question the capacity of current railway workers to adapt – because they reason in terms of a monopoly, that is to say in terms of offer but not in terms of response to demand. Getting movement into this situation does not necessarily involve axing jobs; it is more a question of increasing productivity, quality, flexibility, responsiveness and service. You must remember that only 15% of railway workers are in contact with the outside world – that is not many people to be confronted with the general public.

**Not all of the questions you raised were followed up...**

That is correct. For example, I discussed the problem of stations whose ground space could be used for shops or other forms of facility. I also brought up the question of the projected construction of new TGV high-speed train lines, which ought to take account of increasing costs, falling traffic and a lowering of tariffs, in line with the deregulation of airline pricing. In terms of regional services, the right to public transport must be maintained, but at a cost that the community can afford. Buses, coaches or group taxis can often provide an identical...
service at lower cost. I consider that the concept is no longer really a public rail service, but rather a public transport service. In addition, a number of other questions I raised have received no response.

**Has the reform of the SNCF, currently underway, drawn on the conclusions of the working party you chaired?**
The reform is both a subtle and a delicate one, as it is a sensitive operation. The French government is the real decision-maker in terms of development and financing of infrastructures. The state-controlled SNCF is the service provider, acting either alone or in conjunction with local authorities, and manages the infrastructure.

**Do you agree that road and rail are in opposition? Wouldn’t it be better to see them as interoperable?**
The war between road and rail is over, and rail has lost. Today railroads are the challengers, seeking relevant niches and a more selective policy. Interoperability should certainly be developed. Roads dominate, but road transport companies are not doing so well, either. In the medium to long term, it is the quality of service that will win out over price.

**The French have an international reputation as motorway engineering and construction specialists. What steps has the international division of the French transport ministry taken to promote the export of French construction companies in this area?**
I am currently undertaking initiatives in a number of countries, which involve the entire highway infrastructure, including motorways. I have also supervised the publication of a book, translated into seven languages, which describes French experience in this domain. The aim is to promote contract-driven finance and management of service infrastructures, in the form of concessions. Our initiative is directed at a number of newly industrialized countries, such as China, as well as wealthy ones, such as the United States and Canada. We are also hoping to develop contract-driven mechanisms in Germany, Austria and Scandinavia, particularly within large cities.

**You are a defender of the “lowest bidder” policy on public works contracts, both in economic and social terms. How do you react to Alain Dupont’s idea of the “twin envelopes”? The first would contain all the data necessary to verify the soundness of a company’s offer, including financial guarantees, technical and professional capability, environmental and safety records, etc., while the second envelope would contain only prices.**
All solutions are, in fact, only compromises, since the aims pursued are frequently contradictory. The aim here is at one and the same time to make the best possible purchase, provide equal across-the-board access to public tenders and to be transparent. The idea of encouraging a quality approach and using selection criteria other than cost, along the lines that Alain Dupont suggests, is an interesting one. But once a certain level of complexity is reached, it becomes difficult to analyze the technical offer and the price separately. Alain Dupont goes further by introducing such notions as environment and safety, criteria of “responsible” companies. The current economic climate has driven a number of companies to propose absurdly low prices. Wouldn’t it be better to analyze the production capacity that has to be maintained in order to have more realistic prices? Is it really the French Public Tenders Code that is in question, since the situation is the same on private markets? I am not at all sure that it’s possible to align price offers. It is a problem to which there exists no solution, as Vauban famously remarked to Louvois in the days of Louis XIV...

**“I consider that the concept is no longer really a public rail service, but rather a public transport service.”**

**What do you think of the merger between Colas and Screg?**
In the current climate, two parallel networks do not necessarily make it possible to win new market share. Other mergers will certainly occur in the sector, given that it is no longer possible to achieve even the 3 percent growth necessary to maintain jobs.
ORGANIZATION

European Union Road Federation
In July the European Union Road Federation came into existence with Alain Dupont as its founding Chairman. It unites the national Road Associations of 15 countries within the European Union which are members of the International Road Federation. The aim of the newly-founded organization is to promote the Road to local authorities, government agencies, politicians, decision-makers, the media and international organizations.

ENCOUNTERS

Open day for journalists
In the context of the presentation of the 1995 annual figures by Chief Executive Alain Dupont, twenty journalists from the national media and trade press were invited to participate in a press trip to Perpignan on May 20 and 21. The aim of the trip was to familiarize journalists with the reality of the industrial side of the Group’s business through two visits – to the Roussillon asphalt concrete plant and to the Civale quarry – and to give them the opportunity of meeting company senior management.

CULTURE

Sponsorship
As part of its arts patronage policy, in addition to actions undertaken through the Colas Foundation, Colas supports a number of different cultural events each year:
• The Jazz in Marciac festival, which takes place during August in the Gers department, has gained an international reputation and is a favorite venue for renowned jazz musicians such as Michel Petrucciani, Diane Reeves and Guy Laffite.
• The Bourlatier Haltes Musicales, also during the month of August, were established last year with the support of Colas. This year Colas participation once again ensured a high-quality program of music with “Winterreise”, Schubert lieder and a nursery-thyme opera. Situated between Privas and Le Puy, where the river Loire rises, the barn at Bourlatier has become a place where men and their music can meet.
• The Théâtre des Champs Elysées, in Paris, this year saw Colas sponsor the Vienna Philharmonic Orchestra, conducted by Riccardo Muti, with a program of symphonic music – Mozart’s no. 34 and Bruckner’s seventh.

AGENDA

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<tr>
<th>DATE</th>
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<tr>
<td>1/3 Oct.</td>
<td>Villeurbanne</td>
<td>Laboratory Equipment Trade Fair</td>
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<tr>
<td>15/17 Oct.</td>
<td>Paris</td>
<td>1st Film Festival of construction and public works</td>
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<tr>
<td>17/18 Oct.</td>
<td>Ile-de-France</td>
<td>ATR: One day seminars on road techniques</td>
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<tr>
<td>21/24 Oct.</td>
<td>Chambéry</td>
<td>Underground works: technique and manpower</td>
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<tr>
<td>22/25 Oct.</td>
<td>Lyon</td>
<td>Waste Management Trade Fair</td>
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<td>19/21 Nov.</td>
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Daniel Dubois, Stefan Pancrazi
Marie-Stéphane Pefferkorn
Caroline Chardonnet, François Chaignon
Jean-Jacques Grard, Philippe Averseng
Sophie Sadeleer, Patrick Darmetru
Hugues de Champs
In Isabelle Champion-Métadier’s Voie Carrossable (literally, “road suitable for motor vehicles”), the road is a pretext for a still life in which the lines of tension create a route, a journey, a destination. The landscape passes by the window, as the tree, the night, the journey of discovery take shape under the force of an instantly recognizable yellow.