starting points

by Alain Dupont

Inalienable Principles of the Colas Group

Colas has laid the foundations for growth and durability on no less than seven inalienable principles that every person in the Group must follow:

> Anticipate
Anticipating means foreseeing the future, imagining changes, reflecting on the past, preparing upstream and avoiding risks.

> Satisfy Customers
Satisfying customers means trying to meet all their needs, both spoken and potential.

> Be Enterprising but Cautious
Being enterprising but remaining cautious means taking daring, courageous initiatives within the limits imposed by vigilance.

> Set the Example
Setting an example means that your behavior should serve as a model.

> Meet the Needs of your Team
Meeting the needs of your people means that you must make it possible for each member of the Group to develop as an individual.

> Enhance Profitability
Being profitable means making money and creating resources to bolster Group development.

> Combine Coherence and Autonomy
Combining coherence and autonomy means working together towards a common goal, while maintaining a certain degree of freedom.

Anticipate, Satisfy Customers, Be Enterprising but Cautious, Set the Example, Meet the Needs of your Team, Enhance Profitability, Combine Coherence and Autonomy;

These principles are the cornerstone of our Group’s identity. They are the key to past, present and future success.

These are the guidelines that make up the very fabric of the Group. They reflect the basic, fundamental values from which none can nor shall derogate.

Any breach may endanger the Group as a whole.

Everyone must respect these inalienable principles with constancy and thoroughness, adjusting them to suit each specific line of business and each geographic zone in which we operate.
04 | site-seeing

From the United States to Denmark, around Morocco and throughout France... a rapid trip around the world in words and pictures to see Colas jobsites, work in progress and finished projects.

FRANCE

Seco-Rail on track for Corsica

Corsica has 250 kilometers of railway, 160 of which form the Bastia-Ajaccio rail link. To carry out the renovation of a 105-kilometer stretch, Corsican local authorities chose a consortium of Seco-Rail, TSO and Corse Travaux. The contract is a first for Seco-Rail in more ways than one – financially (it is worth €74 million, 40% of which is for Seco-Rail), contractually (supply and application of materials) and on account of the narrow-gauge railway lines (one meter, in comparison with 1435 meters, the normal French and European standard), a difference that required the acquisition of special equipment. Work started in November 2004. The first 34-kilometer section was completed in June. The second, some 42 kilometers long, will begin in September, and completion of the contract is scheduled for June 2007. Teams averaging between 80 and 100 have been working on the project.

UNITED STATES

Sully-Miller goes seaside

A €14 million refurbishment and improvement contract was carried out in the space of six months by Sully-Miller on the sites of Gateway Plaza and the Harbor Boulevard parking lot in Los Angeles. Work included laying of granite paving stones and cobblestones, installing benches and fountains, new street lighting, planting and construction of a bicycle park. Sully-Miller also laid surfacings, which included application of colored asphalt mix. A total of nearly 13 kilometers of work was completed last December.
**FRANCE**

Végécol among the mimosas

In the medieval city of Bormes-les-Mimosas in the south of France, teams from Colas Midi-Mediterranée’s Ollioules profit center have refurbished the Rue Carnol. This main shopping street packed with tourists is the road that leads to the church of Saint-Trophyme and in the summer, crowds gather to see the French President and his wife attend service when they stay at Fort Brégançon, the Presidential summer residence. Following complete refurbishment of all underground networks, stone gutters and granite paving stones were laid and nearly 500 m² of roadway was surfaced with Végécol asphalt mix. Because it is transparent, Végécol – a 100% plant-based binder developed by the Campus for Science and Techniques of Magny-les-Hameaux – allows the color of the aggregates used in the mix to show through. This was particularly appropriate in Bormes-les-Mimosas, where the road surface now harmonizes with the light ochre of the local stone.

**DENMARK**

Another brick in the wall

A huge wall now rears its flanks around the Ensted electric power plant, run by Elsam and located in the small town of Aabenraa in southern Denmark. The contract, worth €4 million, was won by Colas Danmark following competition with five other companies and represents a technical challenge that is amply illustrated by the dimensions of the structure – 960 meters long, 28 meters high and 20 centimeters thick! Formed out of eight concrete panels, each 70 meters long, the wall now completely protects neighboring residents from noise and coal dust. Built in less than seven months by a team of around forty, this major accomplishment has opened up interesting horizons for Colas Danmark. Elsam, which supplies a major share of domestic power in Denmark, is considering similar installations in other power plants.

**FRANCE**

Smac Acieroid at the Lyon Conference Center

In 2004, the Vénissieux and Vaulx-en-Velin Smac Aciérid agencies won two contracts for the extension of the Cité Internationale conference center from the contracting authority of Greater Lyon. The Sale3000 conference auditorium was designed by the Renzo Piano studio, who are also architects for the center. Work, which began in August 2004, includes waterproofing, facade and roofing work. The first contract, worth €1.8 million, involves waterproofing concrete on the esplanade and the moat, installing plant-covered roofs and terraces. The second contract, worth €6.2 million, includes application of ribbed cladding and aluminum on the facade, noise-reducing roofing, an over-roof, noise-reducing cladding and mounting metal tiles on 900 aluminum frames. Completion of work is scheduled for next August.
The 511-kilometer Mediterranean Freeway now links the Algerian border to the city of Tangiers. Financed by foreign investment (Europe, Japan, Gulf States), the aim of the project is to open up the region and encourage tourism and economic development. GTR, a Colas Morocco subsidiary, which won three contracts on the gigantic project for a total of €398 million, recently completed the work. It took 200 operators two years to construct 92 kilometers of road through the Nador region on the Ras Kebdana-Oued Kert stretch. The site, which is located on the coast in a hilly region, was technically challenging and required major excavation work and fill to a great height, all of which had to be treated as engineering structures. A few figures help to put the scale of the job into context – 4.4 million m³ excavated, more than 1.7 m³ of fill, 556,000 m³ of roadway, 33,000 m³ of concrete and 150,000 metric tons of asphalt mix.

Three years ago, the Sacer Atlantique Avrillé profit center, wishing to find a sustainable solution for improving the strength of a high-traffic bus lane in the town center of Angers, used an innovative technique that combined a concrete base course and the Active Joint® pre-cracking process. The structure was then covered with a wearing course of colored Sacersol. The quality of the finished job convinced the town of Angers to use the same technique in its program to reorganize the Halles quarter, to surround the St Maurice Cathedral and the Angers Castle and, specifically, on two particularly steep streets that are subject to very heavy bus traffic. Because of the large number of underground networks at shallow depth, the Active Joint® pre-cracking process was a logical solution. Sacer Atlantique, the key contractor, used it for some 1,500 m² of roadway. Using the same process, the Place de la République square, which is the site of an underground car park, was covered with slabs over a 2,500 m² surface.
FRANCE

Réspoly Chysor for haute-couture surfaces
Réspoly Chysor, France's number one manufacturer of resin-based in-place surface applications, has added a prestigious name to its customer base with the boutique of the French haute-couture fashion designer Jean-Charles de Castelbajac, located in the heart of Paris. The resin supplied by Réspoly Chysor for the floor and walls delivers flexibility, comfort and strength. The company played a very active part in selecting and applying the colors chosen.

The Monts Tunnel reaches new heights

The Monts Tunnel in Chambéry is well-known to holiday-makers traveling through the Maurienne and Tarentaise valleys. The roof was heavily damaged, so the French authorities decided to refurbish the tunnel and upgrade it to meet current standards. The contract for both the main services and roadway of this major project was awarded to Strøng Sud-Est's d'Annecy profit center. Work on the €4.5 million contract began in April and is being carried out in phases. The 900 meter tunnel consists of two separate tubes, with 6 lanes in all. The company has four months to carry out excavation work, roadway demolition, pipeworks and infrastructure repair on the first of them. The schedule is tight as it cannot interfere with further work scheduled for waterproofing, lighting and ventilation contractors who will follow on. Having stripped the roadway to a depth of 95 cm, then raised it 55 cm to help reinforce the roof, teams will apply asphalt mix designed for heavy traffic. Work is taking place at night (six days a week) to meet scheduling and traffic requirements. Somaro is responsible for signs and signals.
Refurbishment of the Helen Fairchild Bridge

Originally built in 1937 and 329 meters in length, the Helen Fairchild Bridge in Northumberland County, Pennsylvania, bears the name of a local benefactor who became famous for organizing the dispatch of medical teams to France during the First World War. The structure’s historical interest led the Pennsylvania Highways Authority to the decision that the bridge should be renovated rather than replaced with a new structure. The contract, worth in excess of €6 million, was awarded to HRI Inc., a subsidiary of Colas Inc. Work on the project began in February 2004. The bridge is scheduled to open to traffic in November. A program of local celebrations worthy of such an event is already well in the planning stage.

Novacol used on five projects

Five road surface regeneration contracts have been carried out by Colas Martinique, over more than 110,000 m², for a total value of €4.1 million. The equipment required for the Novacol application process arrived on the island in March and was scheduled to ship out two months later. This put pressure on the schedule managers, who had taken particular care with the upstream preparatory phase of work. With an average daily output of 4,500 m³ of in-place regeneration and 400 metric tons of asphalt mix applied, the Lamentin, Sainte-Luce, Vaucin, Gros-Morne and Marigot projects were all carried out rapidly. To ensure levels of quality and safety, while keeping the nuisance level for users low, major human resources (a team of thirty operators) were deployed and thorough inspections were regularly carried out.
FRANCE  The A28 motorway is a major contract for Screg

The Alençon-Rouen stretch of the A28 motorway is one of the biggest highway construction projects in France. It involves 125 kilometers of new roadway, over 100 feeders, six interchanges and flyovers, a link with the A88 motorway and six service areas. Screg Grands Travaux and Screg IDF/N are responsible for carrying out 50% of the contract. The first phase of work started in March 2003 with excavation and engineering structures. The second phase involves hooking up the highway to existing roads, building the road base on the main section of road and completing the structures. The third phase involves construction of the roadways and equipment. Screg Grands Travaux is responsible for managing the project and work on the main section. Screg IDF/N is in charge of the main services. In all, over 150 people (to rise to 300 at the project’s peak) are working on the €104 million contract, scheduled for completion in January 2006.

FRANCE  A second tramline for Montpellier

The Montpellier tram system is being extended with a second line between the SNCF railroad station and Notre-Dame-de-Sablas. Seco-Rail has been awarded four contracts: nine kilometers of double platform, five sidings and six links including a connection with line number 1 at Corum. The teams are welding the rails using an aluminothermic process, before cladding them with foam, installing drainage, adjusting tracks and track equipment and then pouring concrete up to the top level of the sleepers. Excavation work and the compacted concrete platform were contracted to a consortium of Colas Midi-Méditerranée, Sacer Sud-Est and Screg Sud-Est. The teams are also responsible for laying grass, paving, application of asphalt mix and surface-retarded concrete. To ensure that disturbance on tramline 1 is kept to a minimum, specific scheduling was put in place for work on the connections. The site is due to be completed at the end of 2006.

FRANCE  Bringing down the house

A 10-story high public housing apartment building, 175 meters long and 10 meters wide, proved to be no match for the teams from Colas Ile-de-France/Normandie subsidiary Genier-Deforge, whose job was to demolish it. It took six months to carry out the carefully defined phases of the job. First was a dismantling phase in which the building was completely stripped. Next came asbestos removal, led by teams specially trained and equipped for this type of work, which is subject to stringent health and safety regulations. Then came the demolition phase, using three bulldozers, in which the largest, an 8D-metric ton machine, knocked out the upper stories, a second, smaller one, worked on the lower levels, and a third bulldozer dug out the basement of the building. After demolition, the rubble was removed. The vacant site has been sold by the owners, the Seine-et-Marne public housing authority, to the town of Dammartin-en-Goële, which has a project to turn it into an extension of a nearby park.
Belgium: Belgium's largest square renovated by Wegebo

The town of Saint Nicolas in eastern Flanders boasts the largest square in Belgium. It has successfully redeveloped the square, getting rid of all on-street parking and constructing an underground parking lot. The huge 12,000 m² area is now used for street markets and as a venue for events of all kinds. Wegebo, a Scerg Belgium subsidiary, assigned a fifteen-strong team to the project to carry out all the external infrastructure work – the square itself, the entrances to the parking lot, roadway and drainage. Natural materials were used such as blue Belgian stone for the sidewalks, and terracotta cobblestones for paving the square. A formal inauguration ceremony was held in March and for the occasion the local shopkeepers had a giant Easter egg made, so large in fact that its dimensions have been considered worthy of an entry in the Guinness Book of Records. A true accolade for a major contract!

France: Smac Acieroid will be on show at the Quai Branly museum

In the very heart of Paris, not far from the Eiffel Tower, the new Quai Branly museum is nearing completion. Designed by architect Jean Nouvel, the museum devoted to the arts and civilizations of Africa, Asia, Oceania and the Americas will open in 2006. The Smac Acieroid profit center of Châteaufort won the contract to waterproof this flagship example of modern architecture. The contract, worth over €1.5 million, involves 15,000 m² of flat roofing to waterproof, mainly using Baryphalte. Work began as far back as January 2004, with a team of 30. Specific aspects of the site include the variety of materials, both steel and concrete, numerous areas involving over 150 flat roofs, not all accessible, to be tiled or planted, along with a number of ponds. Teams had to be particularly careful about safety issues because of the large number of tourists who visit the area and the dense neighborhood housing. Managing stock was also difficult. Work is scheduled for completion by the summer. The Quai Branly museum will unquestionably rate as one of the most architecturally beautiful contracts Smac Acieroid has worked on.
Cosson at La Défense

The La Défense business quarter, set outside Paris in Courbevoie, is still expanding, and Sogide/De France/Normandie subsidiary Cosson continues to play a role. It is carrying out excavation work prior to the construction of the 39-story high-rise built over eight levels of parking lot as well as excavation of six levels for the Renaissance public parking lot.

Real-world test for the TGV Est platform

The quality of the platform on which the TGV Est high-speed railroad will be built represents a major challenge. For this reason, a new sub-base, designed by a Colas Est/Scem Est joint venture, assisted by the Colas central laboratory for the asphalt concrete mix design, has been subjected to testing over a three-kilometer stretch near the new Champagne-Argonne train station. The tests form part of the approval process for the technical solution that was chosen. If they prove conclusive, the process will form part of the reference standards for construction of high-speed rail lines. Other tests will also take place; using sensors placed under the rails, it will be possible to verify their mechanical strength, durability and behavior under traffic. Ultimately, use of the lines will show how easy it is to carry out maintenance operations. All these tests form part of a monitoring protocol and a report will be produced that will allow the French Railway Network to give its approval to the application technique.
MADAGASCAR

**Bring on the boulevard!**

Colas Madagascar has achieved a major accomplishment building a boulevard in the Malagasy capital of Antananarivo. Work was completed six months ahead of schedule. Initially, 18 months were slated for the construction of this 2x2 ring road, intended to open up the center of town. Over 600 people worked on the site, which was 12.9 kilometers long, 9.8 kilometers of which involved new roadway through rice paddies. For the contract, 150,000 m² were excavated and 22,000 metric tons of asphalt concrete along with 13,000 metric tons of road base asphalt mix were applied. Five reinforced-concrete structures were built on sunken piles. Sacer’s Toulouse profit center seconded one of its site supervisors for a period of seven months to lead the teams and train a number of local site supervisors. Worth a total amount of €10.5 million, the project, including the structural work and deep foundations, was performed entirely by Colas Madagascar teams, with no recourse to subcontracting. The thermoplastic road markings and vertical signs were produced in partnership with Somaro and its subsidiary, Indasco.

FRANCE

**The Saint-Etienne tram is on the rails**

The Saint-Etienne tram system project began in November 2004. Worth €102 million, the contract was awarded to a consortium of seven companies, including five Group subsidiaries, Colas Rhône-Alpes, main contractor for the operation, is using teams from its Saint-Etienne profit center. The Sacer Lyon agency and the Sarem Saint-Etienne center are partners for the main services work. Pipeworks are being carried out by TPCF, a local subsidiary of Colas Rhône-Alpes. In addition, Smac Acieroid is surfacing sidewalks and roads in asphalt. The main challenge of the contract has been to keep the site operational. Tram traffic will only be stopped during the three summer months, which has meant that scheduling is a particularly tricky exercise. Roughly 35 people, rising to 80 at peak periods, are working on the contract, which should be completed in 2006 and the tram brought into service at the start of September next year.
A Powerful Weapon

To bore into the very hard ground of the Laurentian region, Sintra Energie uses an extremely efficient hydraulic drill capable of reaching depths of up to two meters in barely half an hour.

Autoroute 73 is one of Quebec’s main north-south highways. It links the capital, Quebec City, to Beauce, a rapidly expanding region that is close to the border with the United States. BML, a division of Sintra, is currently working on this highway, which is one of its largest projects ever, building a 5.5 km section for a contract worth almost €5.5 million. “We are due to hand over this section on September 30, and although the work had to be interrupted for the winter, which is very long in these parts, we are expecting to deliver it on schedule,” project manager Jacques Gagnon confidently asserts. Apart from coping with climate constraints, the teams were also required to contend with demands imposed by pro-environmental legislation. Blasting is not permitted during the period of winter herding* of deer, for instance, which lasts three months. Another pro-environmental feature of the project is the construction of a deer passage under the highway. Such obligations have been warmly welcomed by the 25-strong team working on Autoroute 73. They attach a lot of importance to nature conservation, a value that they are proud to uphold. “This is a very interesting project for us, because of how many areas it enables us to deal with,” explains Jacques Gagnon. “Beyond the construction of the road itself, we are creating the underground networks, widening the concrete structures and installing the lighting, as well as protecting flora and fauna, which is something that counts for a lot in these parts.”

Master Blasters

Dynamiting is an inevitable process in carving out the route of the new section. It is a highly intricate task. After the ground has had its vegetation removed and the rocks have been stripped and their volume assessed, surveying and checking are performed, followed by drilling with a remote-controlled hydraulic drill. The hole is then covered with a plastic cone to prevent the intrusion of materials. Blasting is only carried out late in the day. Air mattresses are placed over the drill-holes in order to prevent projections into the neighboring forest, which would result in fines being imposed. In all, 90,000 m³ of rock were blasted over the 5-kilometer stretch. The operation took seven months to complete.

*Winter herding to escape the rigors of the Quebec winters, deer gather in herds. Forested areas retain traces of their passage.

BML

A SOLIDLY ESTABLISHED SUBSIDIARY

A division of Sintra, BML has been solidly established for several years in the Quebec region, where it has been responsible for building numerous roads and highways, as well as constructing underground networks. The company operates ten quarries and ten asphalt plants in the vicinity of the capital city and Rivière-du-Loup. It is one of the region’s leading suppliers of asphalt mix and crushed rocks, and also sells cement concrete. BML’s largest customer is the government of Quebec, but it also works for municipal authorities.

Quebec
• Land area: 1,668,000 km² (3 times larger than France)
• Population: 7 million inhabitants
• Density: 4 inhabitants per km²
• Capital city: Quebec
• Status: province of the Canadian Confederation
• Official language: French

Routes No. 17—July 2005
Acquisitions to keep down costs

Construction of this major section of highway has led BML to acquire quarries and concrete plants in the vicinity of Chaudière-Appalaches, in Beauce. "This enables us to reduce the cost of transporting materials, which can prove to be very expensive," says Serge Ouellet, Managing Director of BML.

One of these recent acquisitions is the Saint-Georges concrete plant, which has annual production of about 15,000 m³. It supplies more than seventy customers in a 40-kilometer radius, and even receives orders from an American contractor in the state of Maine. The facility is operational all year round, unlike the Saint-Joseph quarry, purchased in March 2005, which only operates six months a year.

BML has also purchased the Saint-Joseph concrete plant. Although its business undergoes a slowdown during the winter months, the plant produces an average of 12,000 m³ of concrete annually. In the immediate, it will make it possible to supply the Autoroute 73 site. "All these acquisitions are a sign that the company is in sound health and is embarking on a new phase of expansion," remarks Concrete Product Manager Marc Grenier.

In the Laurentides

Traveling to another part of Quebec, we come across another of the Group’s activities. Sintra Energie, a division founded by Sintra Inc. in 1997, specializes in installing poles for power and telephone distribution. Its customers include the public-sector utility Hydro-Québec and Bell Canada, the original telephone operator. As Daniel Pelletier, regional director of Sintra Inc., explains, "Sintra Energie was set up by specialists. The key to its success lies in the quality of its personnel." Adds Operational Manager Bernard Marchand, one of the pioneers of this business sector: "The two things that really make Sintra Energie stand out from its competitors are its specialist skills in rock-drilling and the training of its people."

The company started out in 1997 with three contracts, on the south bank of Montreal, in Abitibi and in Gaspésie. In 1998, it was presented with an opportunity to demonstrate its know-how when thousands of homes in Montreal and the region were deprived of electricity as a result of a catastrophic ice storm. 30,000 poles were reinstalled in the space of three months. "We worked around the clock for thirty days and nights," Bernard Marchand recalls with pride. The experience was enriching for the teams, and it enabled the company to boost its expertise under extreme conditions.

Light up the sky

In all the Quebec region’s wide range of weather conditions, Sintra Energie’s employees are at work twelve months a year. Pole installers are capable of working in temperatures of -30°C on surfaces under two meters of snow, at a rate of five poles per day. The Laurentides have a reputation for having hard, rocky ground but Sintra Energie...
is able to cope with this difficulty thanks to its hydraulic drill, which is capable of boring to a depth of two meters in little less than half an hour. Apart from installing electricity and telephone poles, Sintra Energie is also active in such other areas as developing electric generators, powering campsites and installing underground electric mains.

A fine opening

“Sintra Energie is the proof that a company can expand by investing in new sectors,” remarks Louis Gabanna, President of ColasCanada. “This is a fine opening for the Group. We are not moving away from our vocation, which is to create links between people. Just like roads or airport runways, the lines that carry electrical power or telecommunication signals serve to open up isolated parts of the country.”
Colas is now established as part of the scenery in Portsmouth. The 25-year PFI contract signed by the Group and the City Council in July 2004 came into effect in January 2005. 160 people are permanently assigned to this vast network upgrading and maintenance project.

Colas and Portsmouth set up a lasting partnership

February 1, 2005 saw a minor revolution occur in Portsmouth, home port of the British Royal Navy, situated on the south coast of England, when a fleet of 70 vehicles bearing the livery of Colas began fanning out through the streets of the city, leaving many local residents and road users baffled. The huge project of maintaining and upgrading the networks of Portsmouth was underway.

Ongoing dialogue and transparency

Three years of uninterrupted feasibility studies and efforts were needed to ensure that the contract was won when the results of the bidding process were announced in July 2004. The hard-fought battle ended in victory thanks to the application of two principles: dialogue and transparency.

“Throughout the negotiation process, we maintained a very open but very constructive attitude with the municipal authority,” comments Brian Hicks, Managing Director of Ensign Highways, the special-purpose subsidiary set up by Colas SA and Colas Ltd to negotiate and implement the contract. “You aren’t awarded a contract on this scale and of this duration on the basis of commercial and financial arguments alone. It was absolutely vital for us to create a win-win partnership with the city council, our common aim being to find ways of offering road users and local residents a service matching their expectations as closely as possible.”

What made the strategy of openness all the
Let there be light!

Within five years, 70% of street lights will have been changed and upgraded to meet European standards.

in Colours

with hope
too

A colossal project

On a technical level, Colas also managed to meet the expectations of the authorities and local residents by developing tools and mobilizing resources on the scale of the tasks to be undertaken. Since February 1, when the first pneumatic drills were wielded on Farlington Avenue and Burdffields Road, some 160 people have been working in teams throughout Portsmouth every day on upgrading the 480 kilometers of road network and 84 engineering structures and maintaining the sidewalks and 150,000 street lights, as well as tending 40 hectares of parks and gardens and more than 10,000 trees! The project is huge, the network having suffered from a chronic lack of maintenance combined with the chaotic nature of past works.

"There will be a progressive build-up in the work our teams carry out," explains Eric Branger, Highway Manager at Ensign Highways. "One of the main challenges in the bidding procedure was scheduling the phase of refurbishing the network over the next five years and the maintenance program that would be capable of guaranteeing that the roads retain the same level of quality for the next twenty years. To be able to do this, we have developed a technical model taking account of hypotheses of traffic levels, the initial state of the network and the life expectancy of the materials. 80% composed of mixed pavement structure, with asphalt concrete layers of between 110 mm and 210 mm, the network has suffered deterioration along 40% of its length. After performing computerized simulations, we decided on a structural treatment of the base courses and one or two surface treatments for visual appearance and grip, as well as the replacement of 70% of street lights over the next five years," relates Eric Branger. "This will be followed by a second phase of maintenance, scheduled over the long term."
visious system under good conditions. It is based on the permanent mobilization of crews and the implementation of a coordinated twelve-month program covering roads, street lighting, sidewalks and parks and gardens. In order to prevent nuisance caused by road works from being concentrated in one district and to ensure that as many road users as possible benefit from the progressive improvement of the network, projects are spread out over numerous neighborhoods. In the first two months of the contract, 15,000 m² of sidewalks and 2,000 m² of roads were relaid, as were 260 street lights... practically as many as were upgraded in the whole of 2004!

In parallel to these programmed operations, Colas also performs a service of neighborhood patrol,

with 6 two-man teams permanently combing the entire city in vehicles and on foot, on the lookout for any damage requiring repair. Alongside this role of surveillance is one of information, which will prove essential as the road works progress.

“Portsmouth is an old naval base with a road network that is both very dense and highly congested,” adds Brian Hobbs. “The works are therefore in-evitably going to create major difficulties for local residents, particularly with regard to traffic disruption and noise. So we have to be very diplomatic, and explain to people as often as necessary that the temporary inconvenience is the price to be paid for having a top-quality network.”

TREVOR WARD
IT’S OUR JOB TO BE THERE WITHIN THE HOUR

Trevor Ward knows Portsmouth like the back of his hand. He spent fifteen years working for the municipal road maintenance department before being hired by Colas in the context of the partnership agreement signed in 2004. The 38-year-old is now a member of the 16-strong rapid response team, which is on call 24 hours a day, 365 days a year. This unit was already there before the arrival of Colas, but it has now greatly improved its response capability: “Come rain, hail or shine, we are required to be on the scene within an hour of any report of damage to the road surface so that we can make the site safe, carry out repairs if the damage is superficial and, most of all, perform the initial diagnostic which is then passed on to the engineering team.” This chain of information works very effectively, much to the satisfaction of local residents. “In the past, when people saw us arrive, they’d be saying, ‘About time! Now it’s rather What, are you here already?’” laughs Trevor.

PAUL TAYLOR
WE ARE NOW MUCH MORE EFFICIENT

Paul Taylor joined Colas in 1993 when the company was brought in by Portsmouth City Council to maintain the city’s street lighting. He heads a team of six. His duties have taken on a new dimension since the new contract came into effect. “The work we do is now much more efficient thanks to the coordination between the teams of electricians and the road works teams,” he explains. “It means, for example, that we can avoid having to wait for the end of a project before beginning to upgrade the lighting. Such synergy is particularly useful bearing in mind the vast amount of work that will be carried out: “We are going to change 70% of the street lights within the next five years, bringing them into compliance with European standards, replacing the old orange-colored bulbs by white high pressure sodium bulbs,” says Paul. “This is a huge technical challenge. What helps motivate us is the fact that we feel we are helping improve living conditions in Portsmouth.”
FRANCE

With so much at stake, work on the Central Europe-Atlantic Road (the “RCEA”) is required to advance at a rapid rate. In Burgundy, Perrier TP is performing the earthworks for a new 4-lane section of the road. The project is marked by very tight deadlines and the diversity of materials found onsite.

The RCEA link provides a strategic east-west connection

The French road network is not known for being particularly well-endowed when it comes to major east-west highways. The new highway, called the “RCEA” (Central Europe-Atlantic Road), which will link the town of Saintes, in western France, with Mâcon and Chalon-sur-Saône in Burgundy, is a cornerstone of the project intended to provide a bridge between certain regions of western and central France with other parts of Europe. When it is completed, this strategic highway will provide a direct connection between France’s Atlantic coast and the motorway network in eastern France, and therefore with Germany, Switzerland, Italy and central Europe.

Designed as a highway with no crossroads or traffic lights, the RCEA is made up of alternating sections of motorway and four-lane expressway. Spreading across the country, works are being carried out in six French départements: Charente-Maritime, Charente, Haute-Vienne, Creuse, Allier and Saône-et-Loire.

Up to 50% of heavy trucks

In December 2003, France’s Intermunicipal Committee for Regional Development confirmed the need for works on the RCEA to be completed with urgency, earmarking €128 million of additional credits intended to accelerate the construction process, particularly the section between the A20 and A71 motorways, in Burgundy. The stakes are...
high, in terms not only of restoring the balance between different parts of the country, but also of road safety. Traffic on the RN 79, in the vicinity of the new road, stands at 10,000 vehicles per day, with heavy trucks constituting an average of 35%, proportion reaching 50% on Thursday and Friday, the busiest days of the week. “These figures are constantly rising,” states the Saint-Etienne authority. “Every time a new section of the RCEA is opened, there is a distinct increase in the number of heavy trucks on the road.”

With the aim of reducing the number of accidents on a particularly stretch of the RN 79, which is straight but has poor visibility, it was decided to build a new 75-kilometer four-lane expressway between Charolles and La Fourche, northwest of Mâcon.

A “major project” structure
In December 2004, Perrier TP, bidding jointly with BEC, was awarded the contract for the earthworks, which got underway in March 2005. In total, construction of this section is worth €20 million. Colas Rhône-Alpes, Axima Centre, Sacer Sud-Est and Scmeg Sud-Est are co-contractors.

“At 1 million cubic meters, this is only an average-size project for us,” says senior site manager Jean Kessler, “but we have decided to organize it in a ‘major project’ structure, which we normally only use for much bigger operations. This is justified by the schedule we are required to work to.” The project involves manpower of roughly 100 people on site, the use of some 70 site machines, and work organization on the basis of two eight-hour shifts per day. The whole job has to be completed by August 2006, including the asphalt surfacing. As far as the earthworks are concerned, though, progress of the work is strongly governed by meteorological factors, particularly the uncertainties of winter weather conditions.

Very damp conditions
Over a section that is approximately 60 meters wide, work on the site began at each end, moving towards the center at a rate of 15,000 m³ per day. The earthworks are of a conventional nature: excavation of materials and screening for reutilization, storage of non-reused materials and construction of embankments. But this region is very damp. By early May, the Perrier TP teams had already experienced a month of bad weather and had lost twenty working days. It is impossible to work in the rain, and even after that, it is necessary to wait a further day or two, at the judgement of the site manager, before the site machines can start up again. What’s more, the nature of the materials makes the job complex. According to GTR classifications, the materials excavated are B4, B5, A1, A2, A3 and A4: “As a matter of fact, there’s practically the entire range of existing materials, with the exception of builders,” states Sandra Bonnardel, head of geo-technical quality control. “Materials with high clay content are very sensitive to moisture, which is quite problematic.”

The vital role played by the laboratory
On this project, the laboratory, which has been set up in a nearby building, has a key role to play, as the following overheard telephone conversation shows:

“Where are you waiting? We only have a few hours left before the deadline.”

“Look you can’t risk it. We’ll have to call it a day and finish the work tomorrow.”

“When are you going to do that?”

“Tomorrow. But you’ve got to let us know by 7 p.m. or we’ll have to warn everybody.”
Ion would suggest: “Do you have any sufficiently dry BS today? We’re doing the top few centimeters so we need good materials – we can’t use damp materials for the top layer!” Before works got under way, the laboratory carried out a geotechnical survey, thereby validating the findings of the regional Ponts et Chaussées Laboratory. Now, samples are taken every day. “We keep track of what has been excavated on a daily basis so that we can assess what can be reused and how,” says a lab technician as he looks up from a blue methylene test to determine the clay content of materials sampled that morning. Several factors come into play in the reuse of excavated earth, such as the thickness of the layer, the speed and number of compactor runs, and so on. “The whole economy of this project is based on reusing materials,” remarks Sandra Bonnardel. “The lab has to be able to guide the site manager.”

A good working atmosphere

On site, employees of Perrier TP and Bec are working in harmony on alternate shifts. “The atmosphere is good,” reports Jean Kessler. Each company’s personnel has to organize their own accommodation. This region is popular with tourists, and...
as such, hotels and holiday homes are plentiful, but in July and August most have already been reserved by vacationers! Bec employees, mostly housed in caravans, do not have this problem to contend with!

Early in May, some stretches were still being stripped, while others were at the cut-and-fill phase. Some of the drainage works and hydraulic structures had already been carried out by Axima, but most of them can only be performed when the earthworks are complete. In August, the lime and cement processing plant will be set up on-site to complete the top layer and the base course. Working at full speed, it will generate 800 metric tons per hour. There will then be an interval of roughly three or four months, coinciding with the winter period, but teams at Perrier TP are counting on beginning the surfacing phase in March 2006.

RESOURCES

SUBSTANTIAL MEANS

- Manpower:
  Approximately 100 people on average.
  Two eight-hour shifts (one from 5:30 am to 1:00 pm, the other from 1:30 pm to 9:30 pm).

- Equipment:
  Roughly 70 site machines, including two 80-tonne excavators with capacity of 500 m³/hour.
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RESOURCES

SUBSTANTIAL MEANS

> Manpower:
Approximately 100 people on average. Two eight-hour shifts (one from 5:30 am to 1:00 pm, the other from 1:30 pm to 9:30 pm).

> Equipment:
Roughly 70 site machines, including two 80-ton excavators with capacity of 500 m³/hour.
They are site supervisors, project assistants, site foremen, skilled workers... They all do their jobs with enthusiasm and have decided to share their daily routine and their projects with us.

“Enthusiasm helps team spirit prevail!”

FRANK KEOHANE
GRAVEL PIT GENERAL MANAGER
UNITED STATES

Frank Keohane (on the right in the photo) gives it to you straight-from-the-shoulder, emphasizing his enthusiasm for work and dislike of formality. He is rightly proud of his attitude, which has seen this self-made man rise from salesman to contractor and then general manager of United Rock Products. The company operates a 200-hectare gravel pit in Irwindale, California, which produces several million metric tons of aggregates per year. “My experience as an employee, then as a manager convinced me that performance, and therefore success in business, are based on interpersonal contact,” says Frank. His strong relational skills helped earn him the title of Irwindale Businessman of the Year. Frank has responsibility for management of all the site which he finds “an extraordinary professional challenge because business is so good.” He likens it to “a well-bonded organization in which a team spirit prevails and people like to pass on knowledge to the next generation.”

ROUTES No. 17 – July 2005
“What I like best is being where the action is!”

ORSOLYA FOLDI, PROJECT ASSISTANT HUNGARY

As soon as she graduated with a diploma in economics, Orsolya Foldi only had one thing in mind – being where the action is! Her wish soon came true, since just one month after graduation in July 2003, she joined Colas Hungária to take part in the extraordinary challenge of developing the Hungarian road network. “I couldn’t have wished for a better first job, as I arrived at the start of the M6 motorway contract, a project that is very important both for the company and my country,” explains 26-year-old Orsolya. “I was therefore able to follow every step and I dealt with everything we are involved in.” Her feeling of usefulness is strengthened by the team spirit. “We form a tightly-knit team within which we are all highly supportive of each other. I have learned a great deal from my more experienced colleagues,” she reflects, adding: “but I have also taken many initiatives that it would have been harder to implement in a larger structure.”

“Colas University is a tool for training and discussion”

LUDOVIC BRINGOLD, SITE FOREMAN FRANCE

Hired by the Vesoul profit centre of Sacer Paris Nord-Est after graduating with a diploma in civil engineering, 25-year-old site foreman Ludovic Bringuol is delighted with the training he received at Colas University. “My supervisors recommended me to take part in a four-week Colas University session in the outskirts of Paris. The trainers were both highly competent technically and very pragmatic. They never hesitated to throw out the set program in order to deal with case studies based on participants’ own experience,” he explains. The course also gave him information about complex issues he knew little about, but which will help him as he climbs the corporate ladder. “My goal is to make site supervisor. So, Colas University gave me some very valuable information in terms of team management and human resources. I’m certain that all of the things I learned will prove highly useful.” Currently, Ludovic is working on a contract in Bilbao. “Colas gave me a wonderful opportunity to celebrate my birthday in sunny Spain!” he laughs.
"Skill and determination are the keys to success"

FRÉDÉRIQUE CURNILLO, SITE SUPERVISOR, FRANCE

The word "monotony" simply does not exist in the vocabulary of 31-year-old Frédérique Curnillon, site supervisor with Perrier TP. "Very early on, I knew that office life was not for me," explains this determined young woman. "As soon as I left high school, I went to a technical school to study civil engineering and graduated with a qualification that allowed me to join Perrier TP as a site foreman. I love the unexpected, and I wasn’t disappointed! For four years, she built up major experience working on highly varied contracts, and succeeded in carving herself a place in what is still a strongly male-dominated universe. Next she studied for a civil engineering diploma. When she returned to Perrier TP, it was as a civil engineer in the casting departments, becoming a site supervisor in 2004. Frédérique is entrusted with key contracts, including those whose budgets often go over the €1 million mark. She sees her career as proof that "no career path is closed to women, as long as they are competent and truly determined to succeed".

"Hungary is at a turning-point in its history"

PETER OLAH, SITE SUPERVISOR, HUNGARY

Playing a part in the extraordinary Hungarian economic boom is the ambition of Peter Olah, site supervisor at Alterra since 2003. "For Hungary, joining the European Union in May 2004 was a fundamental step, opening up highly interesting economic horizons, particularly in terms of road infrastructure. The country has an extremely inadequate network which is in a very poor state of repair," comments the 29-year-old civil engineer. He is fully committed to this challenge, since he is in charge of the construction of seven motorway bridges over the strategic M5 motorway link between Budapest and Szeged, heading to the border with Serbia. Peter’s job requires excellent professional and interpersonal skills. "To see that all the various phases of the project are carried out correctly, you need expert knowledge of foundations, structural reinforcement, architecture and electricity – all of which makes the job extremely rich from a technical viewpoint," he explains. "My role also consists of finding the right person to assist when we encounter problems that we can’t resolve internally. This means that I have to be in constant contact with numerous partners."
Colas offered me a real career!

JEROME MILLET, SKILLED ROADWORKER, FRANCE

At age 26, Jérôme Millet is a happy man. A highly skilled main services operator at the Colas profit center in Bourges, he claims to have found not only a vocation through the company, but a career in line with his aspirations. "I went to a technical school and graduated with a specialist landscaping high-school diploma, then did a number of temporary assignments and short jobs," he recalls. "In the course of these I discovered Colas, which I joined as a temporary operator in October 1999. I immediately realized I was made for this type of work, so I did everything possible to ensure that the temporary assignment became a permanent one." A few months later he succeeded in getting hired permanently as a machine operator. "It gave me confidence," he explains enthusiastically. "It was the proof that by working hard at something you can achieve it! His evident will to win came to the attention of his superiors who offered him training in urban road work and main networks, completed by professional certification, something that opened up new horizons for him. "I took this as a sign of trust, although I was very aware that it was a real professional challenge. I hope that I can get to be a site foreman five years from now."

I'm grateful the Group trusted me

GREGORY FITCHEN, SKILLED ROADWORKER, FRANCE

Grégory Fichten has a smile on his face. He joined Sceg Nord-Picardie five years ago as a laborer, and today he is a skilled roadworker at the Dunkerque agency, having recently been awarded a professional qualification certificate. His new diploma is testament to a faultless career path so far, which has seen him rapidly promoted through the ranks. "I dedicate the success I have had to the site foremen I have worked for," said Grégory at the presentation ceremony. "Over all these years, they have managed to pass their know-how on to me, patiently and pedagogically." He could not hide his emotions at what he has achieved. "I joined the company because of my father, who has worked here for twenty-five years laying curbs. The least I could do was to make him proud of me. And as far as my supervisors who chose me for this training program are concerned, it was important to show them they were right to trust me." Their confidence was clearly justified, because of the eleven trainees who followed the arduous program, only six emerged with the priceless diploma in their hands. So Grégory has every reason to smile!
Asia
Colas bets on bitumen

Colas’ Asian business is based on two strong focal points, both pillars of its development strategy in the zone: the distribution and sales of bitumen coupled with a business-centered approach in the form of associations with powerful local industrial partners.

Colas’ first steps in Asia date back to the early 1980s, when the Group took part in the construction of the Jakarta airport, serving the Indonesian capital. The successful experience then led, in 1990, to the setting up of the first Colas joint venture in this region of the world – the Indonesian-based company Wasco.

“Since that time, partnerships with local players have become one of the characteristic features of our Asian business strategy,” explains Jacques Pastor, Manager of Colas Asia. “In the six Asian countries where the Group is currently established, we have set up joint-ventures with both local private sector and governmental partners, to whom we delegate responsibility for operational affairs as a general rule. This method of doing business has proved successful since Colas Asia now represents sales of €200 million. This has made it possible for us to expand gradually, without taking any undue risks, given our partners’ solid business network.”

Business based on production

The establishment of an Asia department in the Group’s organization chart in 1993, with a regional office based in Bangkok, Thailand, gave impetus to this partnership-acquisition policy. For the past ten years, the Group has multiplied its partnerships, and today boasts approximately twenty businesses (offices or plants) spread through six Asian countries – Thailand, India, Indonesia, China, Vietnam and Malaysia.

“Another strong point of Colas in Asia is that almost all of our activities are based on manufacturing (production of aggregates, bitumen emulsions and modified bitumen) or sales (bitumen),” continues Jacques Pastor. “Road works only account for some 10% of our business, which is in inverse proportion to the figures that characterize Group business as a whole.”

Colas Asia has nonetheless been involved in several important contracts, such as in Thailand with the construction of the northern access to the new Bangkok international airport and the Bangkok...
Tipco's Tasco Amata site produces 6,200 million metric tons of bitumen.

> Plattaya highway contract. In Indonesia, the Group was involved in work on the airport at Bali Kupang and the contract that is currently under way for the Surabaya airport. Bitumen sales, Colas Asia's main business activity, nonetheless represent almost 1 million metric tons over the entire zone. The Group itself consumes some 3.5 million metric tons of bitumen yearly, the equivalent of the entire French market. For the sake of comparison, the world market itself is an estimated 85 million metric tons.

**Control the bitumen chain**

Colas' strategy in Asia consists of working as far upstream in the bitumen production and distribution chain as possible. The strategy is supported by the various partnerships set up with local producers, whether family-run companies or listed corporations, state-owned entities, such as in India, or partnerships with municipal authorities, as in China, and also through ownership of resources. The Group currently owns nine bitumen depots and six bitumen tankers.

In Vietnam, Colas has floating depots, constructed on transportation barges that shuttle between their moorings and ships anchored in the mouths of estuaries to get supplies. "We want to promote win-win partnerships in which local players display genuine industrial expertise," says Vincent Roubinet, head of Group business in Indonesia. "Until now, with the exception of Vietnam, we have maintained our
original partnerships, which are based on true synergies. The thing that takes longest with our approaches finding the right partners, in the form of manufacturers who are solidly established in their zone."

A key market player

Colas Asia is fully mobilized around these development prospects and is constantly on the lookout for opportunities that may arise in other countries in the zone, such as Cambodia, the Philippines, Burma, South Korea and even Australia, which would supplement the existing distribution and transport network for bitumen products.

The latest development to occur is the 2004 agreement for a joint-venture contract with Tasco (a Thai company specialized in emulsions and asphalt sales in partnership with Colas) for the construction of a refinery in the port area of Kemaman, on the east coast of Malaysia. "For the first time, the Colas Group will become a bitumen producer," states Jacques Pastor. "The plant is scheduled to be operational as of mid-2006, and it will have the capacity to produce over 800,000 metric tons of bitumen from Venezuelan crude. We are transporters, distributors to asphalt and emulsion plants and now producers, which makes us a major player on the bitumen market in Asia. We are preparing to play an ever-greater role both by making our regional bitumen distribution network denser and by developing our own production through the future Malaysian plant. This has positioned us very far upstream on the bitumen chain."

KEY 2005 FIGURES

Colas in Asia

- 1,500 employees
- €200 million of sales
- 800,000 metric tons of bitumen sold
- 9 bitumen depots in four countries
- 6 bitumen tankers
- 1,000,000 metric tons of aggregates
- 400,000 metric tons of asphalt mix
The Group pursues its external growth strategy

In 2004, the Group strengthened its presence in France and in other countries through the acquisition of new production units and construction companies.

In Europe

In mainland France, Colas acquired Jouen (located at Ally in northern France), Pignato (located at Puget-Théniers in southern France), materials producer Macovi (at Casseneuil in the south-west) and the Alexas quarries in south-central France. In Slovakia, public works contractor IS Kosíce, which was awarded a construction contract for a 76-kilometer section of the Presov-Svinty motorway, joined the Group. The company has two quarries that produce 900,000 metric tons annually, five asphalt mix plants and four concrete plants. In Poland, Colas acquired a quarry with a 150,000-metric ton annual capacity in Wimna Gora, near the Czech border. In Romania, two construction companies, ADP Constanta and ADP Timisoara, joined the Group.

In North America

In the Province of Quebec, ColasCanada acquired the Saint-Joseph and Saint-Georges quarries and concrete plants. In Alaska, the Group strengthened its position as the state’s number one road construction company through the acquisition of the assets of Exclusive Landscaping, which owns three gravel pits (250,000 metric tons annually) and an asphalt mix plant (100,000 metric tons annually). Other acquisitions took place in the United States, including a public works contractor and bitumen production plants in Cincinnati and Dayton, Ohio; a quarry and a construction company in Arkansas; and a construction and surfacing contractor in Norfolk, Virginia.

From the Indian Ocean to Asia

On Reunion Island, GTDI, a Group subsidiary, has broadened its scope of business with the acquisition of materials producer SCPR (five aggregate production sites and six prefabricated cinder-block production plants) and SIR, a company specialized in asphalt mix production. In Vietnam, ADCO, which is specialized in the sale of bitumen, joined the Group.

All in all, the companies acquired by Colas in 2004 represent production of 2.7 million metric tons of aggregates, 118 million metric tons of reserves, plus 1 million metric tons of asphalt mix and 144,000 cubic meters of ready-mix concrete.

In 2005, the Group is continuing its policy of growth through acquisition. This includes the acquisition from the British group Jarvis of two road paint production and application companies, Prosig in France and Veluxine in the Netherlands, which together represent total sales of €85 million.
**The Mions facility – an industrial tool for the future**

At the end of the first half of 2005, through its subsidiary FERA 69, the Colas Group brought into service a new hot-mix asphalt production unit on the site of Mions, located in the outskirts of Lyon. With annual production of 170,000 metric tons and output of 360 metric tons per hour, storage capacity of 480 metric tons and four hoppers, the new facility forms an addition to the resources already on-site. Since 2004, these have included an off-loading zone for construction debris with a capacity of 400,000 metric tons per year, a materials recycling platform with capacity of 250,000 metric tons per year and a natural aggregates installation with capacity of 500,000 metric tons per year. Located just fifteen minutes from the center of the city with direct access to the east Lyon bypass, Mions is now a major industrial facility.

**Industry synergies**

For Jean-Marc Conut, head of operations for Colas Rhône-Alpes, “the platform is a perfect illustration of Group policy in terms of industry synergies, as the site has made it possible to group together a number of shared facilities such as administrative buildings, all the weigh-bridges and other company workshops and laboratories.” Mions also wants to cultivate a flagship reputation for environmental protection, quality of finished products and working conditions. In addition to cladding of buildings, fully covered screens and silo storage, the site also has automated loading of transportation vehicles, sprinklers and a dust-scraping system. In terms of logistics, loading and tracking of transport by each company in the Group have been facilitated by deployment of a GPS localization system and e-Routes software, giving operators excellent responsiveness.

Today, Mions has become an industrial tool of the future, which Jean-Marc Conut emphasizes: “Along with productivity increases, the existence of a facility of this type at the entrance to Lyon gives the Group the resources necessary to develop in a sustainable manner. We are the best placed on the market because of the number of quarries located in the greater Lyon area.”
Going, going... **gone in less than a minute!**

Auctioned off in 45 seconds! That is all it takes to sell a piece of construction equipment. Every year, the Ritchie Bros company handles 140 construction equipment sales worldwide, with a total of some 200,000 vehicles sold. There are nine auctions held in Europe every year, four of them in Moerdijk, in the Netherlands. In December, Colas decided to sell off its ageing plant from its West African subsidiaries by way of offering it at auction. 85 machines, mainly bulldozers and graders, were taken to the Netherlands and freshened up – which chiefly consisted of repainting them and putting on new tires. This operation was necessary to ensure both that the equipment reached a better price and to remove the Group livery colors and logos from the equipment so that it is not taken advantage of by other companies. Colas had managed to liquidate most of its plant by the end of the sale.

**Good organization**

So how is an auction of this type organized? Sales are held continuously between 8:30 a.m. and 8:00 p.m. Purchasers have a chance to inspect the plant, which is set out on a 28-hectare parking lot and arranged by category, brand, type and age. Sellers are not required to guarantee that plant is in working order. Each piece of equipment is evaluated by five Ritchie Bros assessors and an opening price based on current market rates and the price bracket is set. Bids rise in increments of €250 for a price estimated at between €1,000 and €5,000, €500 between €5,000 and €10,000, €1,000 between €10,000 and €50,000, and €5,000 over €50,000.

The bidders are seated in stands in the “open-air” auction house. The equipment drives by on a ramp, and everything happens very quickly. The auctioneer guides the bids, which fall thick and fast. If some 15 seconds elapse with no bid, the machine is considered sold. In the case of immobile or hard-to-move equipment, the sale takes place in the parking lot.

**Auction sales for France?**

Who buys equipment at auction? Construction and public works companies from the Middle East, South-East Asia, Eastern Europe, Russia and North Africa. Contractors in the United States and Canada buy heavy equipment, in particular. Sellers include construction industry players, rental companies, leasing organizations and dealerships. Licenses are currently being sought for auctions of this type to take place in France. Colas is working closely with Ritchie Bros to find a site where the first auction can take place. Auctions are also now held on the Internet, and Colas has sold 17% of its used units in this manner, which particularly attracts American purchasers.
The Fibredec success story

Fibredec is a road-surfacing material composed of fiber-glass that prevents cracks from rising to the surface. It was developed in Scotland in 1989 by Colas Ltd under the European Roadex project, which was intended to promote the exchange of expertise in road surfacing throughout northern European countries. Ten years later, a report concluded that this new technology had proved successful. In 1992, Pioneer Road Services, an Australian company, concluded a contract for the application under license of 700,000 m² of Fibredec a year. The United States also showed interest in the technique, and negotiations began with contractors in Kansas and North Carolina. The next stage was development of machines to apply the product. This gave rise to a partnership with the French equipment manufacturer Secmair. Colas took delivery of the first of these new-generation machines in 2003. The same year in the United States, a Colas Inc. subsidiary, Midland, decided to make Fibredec part of its development strategy and acquire machines from Colas Ltd. In November, tests were successfully carried out in New York State, and Midland went ahead with the purchase of a Secmair machine.

Currently, Fibredec represents an annual market of 800,000 m² in the United Kingdom and United States.

New challenges for emulsion

The 4th World Congress on Emulsion will take place in the city of Lyon, from October 3 to 6, 2006. It will bring together industry players and academics specializing in the process. For this 4th Congress, Colas has chosen to share the sponsoring and organization of the event with other partners. The science of emulsions is changing rapidly. Industries using the process face new challenges, first among which is that of sustainable development. One aim of the Congress is to review the current state of these new issues. For Colas, the Congress will be an opportunity to give the results of its latest innovations. In this context, information will be published about Somanol’s most recent work, with alternative solutions to solvents for its road-marking products, as well as a new breaking agent making it possible to apply road markings in poor weather conditions. The Emulfix process, which is designed to adjust bitumen emulsion properties by modifying the manufacturing conditions, will also be presented. Colas will present the bitumen “additive” technique, which improves the behavior of bitumens that were previously considered unsuitable for emulsion. Finally, there will also be information on a bitumen emulsion stabilized by solids. Even though it has yet to find a market, this latest development makes it easier to understand what happens when droplets of bitumen come into contact with aggregates.
Going for the gold at the WorldSkills Competition

Colas performed remarkably well at the 38th French National WorldSkills Competition, held in Nantes in January. The competition, open to 650 young people aged between 18 and 23, from all parts of France, is regarded as a sort of professional “Olympics” in which apprentices, skilled workers and technical high school students pit their skills against each other in some fifty disciplines. The competition allowed the Colas teams to distinguish themselves with an excellent performance. Thanks to perfect synchronization and strong teamwork, the winning duo of Samuel Robert and Gwénaël Tartu, from Colas Rhône-Alpes, came away with a gold medal in the “Road Construction” category. Cédric Taffo, from Heliary (Colas Centre-Ouest), also got the gold in the “PIPEworks” event. More than just a competition, the National WorldSkills Competition constitutes, for the road industry in particular, a unique occasion to present its professions. This year, 92,000 visitors came to support the candidates during the two-day event.

An extremely gratifying experience...

Samuel and Gwénaël agree that the gold medal gave them the most enormous satisfaction both individually and also for all of those in the company who believed in them. “The WorldSkills competition was a very emotional moment for us because we won, and because we were able to show the public, and above all the large numbers of other young people who were present, what our profession truly consists of,” adds Gwénaël.

... that is highly beneficial to a career

Cédric will also be remembering the WorldSkills competition for many years to come. “I spent an unforgettable weekend, both on account of the gold medal and this great atmosphere, and my supervisors gave me the news that I had been promoted to site supervisor level. I really wasn’t expecting that!” A well-deserved reward, as Cédric spared no effort.

But that is not the end of the competition for our Group’s three winners. They have been invited to join the other members of the France team to represent “Road Construction” at the international finals to be held in Helsinki.
More safety news

The past months, a number of events have served as reminders that Safety is a Group priority. These include ceremonies to present French safety awards, the French Crystal Woodpecker (Colas Est), the International Crystal Woodpecker (Brancombe, United States), a distinction from the French Federation of Public Works Companies for two Group companies earned in the contest of its safety competition, renewal of the Group Road Safety Charter and signature of a European Road Safety Charter.

2004 safety awards for 14 winners

Among the profit centers that recorded no lost-time accidents in 2004, fourteen received awards for their excellent results. Category I winners (less than 60,000 hours worked): Resins unit (Screg Est), Carcassonne sector (Screg Sud-Ouest), Mersch (Screg Sud-Est), Nantes Acier (Smac Aci-eroid), Perasso Alpes (Colas Midi-Méditerranée), Ramon (Screg Nord-Picardie) and the La Rochelle, Senhay and Tarbes (Colas Sud-Ouest) profit centers. Category II winners (between 60,000 and 100,000 hours worked): Narbonne profit center (Colas Midi-Méditerranée) and Novello and Sottrazio (Colas Sud-Ouest). Category III winners (between 100,000 and 160,000 hours worked): Sarrebourg profit center (Colas Est). Category IV (over 160,000 hours worked): Oise profit center (Colas Nord-Picardie).

Awards given by the French Federation of Public Works Companies

Group performance in terms of safety is also recognized by external organizations, as is demonstrated by the results of the French Federation of Public Works Companies’ safety competition. Among the four categories of 2004 award-winners, the Group features twice with the Screg Nord-Picardie Ramon profit center, which received first prize in the category of companies with less than fifty employees that recorded no accidents during the year, and the Colas Sud-Ouest profit center, which won third prize in the category for companies with over fifty employees.

New road safety charters

The partnership charter between the French inter-ministry delegation on road safety, the department for highway and traffic safety, the French workers’ health insurance fund and the Group was renewed in 2004 in France. Set up in 1997, the Charter was previously renewed in 2001. In addition, a European Charter was signed at the beginning of July. It is expected that the new Charter will have the same positive impact in the other European countries as it has had in France, where between 1997 and 2004 the rate of road accidents in the Group fell 51% even though the number of vehicles rose 56%.
Regional headquarters are springing up

Joint headquarters for regional road construction subsidiaries are starting to take shape. On some projects, work is already very far advanced. The concept emerged from the Group’s need to put coherent regional organizations in place which involves grouping functional departments. All regional headquarters will be called “Echangeur” – a reference to Group corporate headquarters in Boulogne-Billancourt. Construction operations began in late 2002. The Lyon building, the work of architects Pierre Riboulet and Albert Constantin, will shortly be handed over and staff will move in at the end of August. In Bordeaux, Michel Pitsouad-Léglise is heading the project and work is scheduled for completion in October 2005. The Nantes regional headquarters, designed by architect Bruno Huerr, will be ready in March 2006. The Lille building, with handover slated for summer 2006, is designed by Paul Chemetov, the architect of the French Quai de Bercy Finance Ministry. All the Echangeurs have landscaping designed by renowned landscaping architect Bernard Lassus, who won the Grand Prix for architectural landscaping in 1986. The functionality and architectural quality of these new office complexes will encourage synergies between subsidiaries and will symbolize the vitality of the Group.
TECHNICAL CONVENTION
IN PARIS
More than 200 of the Group’s technical specialists congregated at the Grands Arènes in Paris in March for a presentation of Group projects in the areas of research and innovation.

PRESENTATION OF DIPLOMAS
In Neuilly-sur-Seine, USIRF officially presented several of the Group’s employees with professional affiliations certificates.

CANADA
COLAS CUP 2005
The 4th Colas Cup ice hockey tournament was held in Calgary, Alberta in January. Six teams took part in the event, which was won by Wepli Gravel Suppliers, cup winners back in 2002.

IN THE PICTURE
A CONVENTION FOR NORTH AMERICAN WO RISHOP MANAGERS IN LAS VEGAS
The key topic at the March convention was the importance of teamwork.
SAFETY TROPHY FOR SPAC
The Major Projects agency of Spac won a safety trophy for 2004 jointly sponsored by French gas utility GDF and an organization promoting accident prevention in the French construction and public works sector.

TROPHY PRESENTATION
A safety trophy was won by NICOLAS, Secretary of Smac-Astelier.
The twenty vice presidents of the Orders of Compagnons de la Route pose together on the occasion of the National Council in April.

1 - Pierre Calliet (Colas Rhône-Alpes)
2 - Bernard Maurel (Colas Sud-Ouest)
3 - Jean-Charles Desmoulins (Colas Centre-Ouest-Méditerranée)
4 - Emmanuel Lévy (Soreg Ouest)
5 - Josi Combe (Soreg Sud-Est)
6 - Dominique Dauz (Colas Ille-de-France/Normandie)
7 - Didier Gérald (Colas Est)
8 - Gérard Clap (Soreg Ille-de-France/Normandie)
9 - Jorge Lopez (Soreg Sud-Est)
10 - Guy Bouéz (Soreg Nord-Parisien)
11 - François Galland (Soreg Est)
12 - Manuel ferrère (Soreg Atlantique)
13 - Jean-Charles Desmoulins (Colas Nord-Picardie)
14 - René Gélati (Soreg Est)
15 - Pierre Coffinier (Soreg Paris-Nord-Est)
16 - Eric Porcheron (Somaro)
17 - Gérard Pena (Ouest)
18 - Franck Pigolot (Soreg Sud-Ouest)
19 - Jean-Pierre Desmoulins (Soreg Sud-Est)
20 - Christian Arlot (Colas Centre-Ouest)
Gérard Mortier: “The art of the opera is a mirror of Europe”

Directo of the Paris National Opera, Gérard Mortier was the guest of the Cercle Colas last December. Totally passionate about opera, he believes it is both the theater of strong emotions and a reflection of European identity.

Does opera still have a meaning at the dawn of the 21st century?

Gérard Mortier: The art of the opera is alive and well. In Paris and New York, it attracts over a million people a year. True, new operas are rare and a lot of people think that it is a form of art that is too artificial, verging on the ridiculous. It is also true that Hollywood films have taken away the function of a spectacular form of entertainment that made it such a success in the 19th century. Nonetheless, opera clearly still holds a fascination.

How do you explain this fascination with opera?

G.M.: I believe that the success of opera comes first of all from the emotional power of song. Singing is an expression of the soul; it reaches the depths of the unconscious. Another specificity of sung drama is the existential nature of the themes that it deals with, such as death, love, exits, reunions – all of which act as catalysts for powerful feelings. In particular, opera is where you find grace, clemency and Utopia. In their operatic works, Mozart, Verdi and Beethoven magnificently express the hope that can arise at the heart of the most tragic moment. The opera is the sacred place where emotions are re-lived.

You have previously stated that opera is the reflection of a European identity...

G.M.: Opera was born in Italy during the Renaissance. For its sources, the repertoire drew on Greek theaters, itself the basis of major European principles and great topics of debate in European thought, such as democracy, justice, the right to asylum, reason of state, the basic laws of humanity, the myth of the rebel, the banishment of scapegoats, the dangers of imperialism, tensions in the Middle East, and so on. All these themes are extremely current in Europe today. But beyond the repertoire, the history of opera illustrates the changes in European society over 500 years and the diversity of its ideologies.

What examples can you give of this?

G.M.: When Monteverdi composed Orfeo the first opera in the history of music, in 1607, the foundations for a “people’s theater” were being laid. In the 17th century, opera was confronted with two different concepts of cultural policy – that of the northern European countries, which favored private patronage, and that of France, where composers were subsidized by the king.

In the 18th century, Mozart brought one of the major issues of the end of the century of Enlightenment into focus by adopting a position on the institution of marriage in The Marriage of Figaro, Don Giovanni and Cosi Fan Tutte.

With Gluck’s Iphigenia in Tauris and later, in the 19th century, with Bizet’s Carmen, opera provided women with roles of heroines or females fatales, pre-figuring the way the condition of women evolved. The century of colonialism also gave rise to operas with exotic settings such as Verdi’s Aida and Berlioz’s The Trojans.

Then, in 1876, two new public opera houses were opened which, by the very nature of their architecture, showed the diversity of European ideologies. They were the Paris Opera (the “Opéra Garnier”), with its magnificent staircase, the symbol of the triumph of the bourgeoisie in France and, at the other end of the scale, the Wagner Festival Theater (the “Festspielhaus”) in Bayreuth, a model of simplicity in the Greek tradition.

You stress the European dimension of opera. Does that mean that opera is produced in Vienna the same way that it is Paris, for instance?

G.M.: Opera is a thoroughly European art, not only in terms of themes, as I have already said, but also in terms of language. Nobody thinks it odd to sing in German or Italian in a French theater! Similarly, opera fans will travel from one opera destination to another with no problem.

That said, audiences are different, depending on where they are. In Austria and Germany, musical culture is very strong; in France, culture is more literary and visual. So you can “do” the same opera in Paris that you put on in Vienna.

Here in Paris I intend to showcase the orchestra by inviting highly renowned guest musicians. In addition I hope to develop co-productions with Berlin, Milan and London. So, more than ever, opera will be a mirror of European culture!

PARIS NATIONAL OPERA

TWO OPERA HOUSES

TWO STYLES OF ARCHITECTURE

The Paris National Opera has two distinct venues for staging opera. First of all comes the Opéra Garnier. Inaugurated in 1875, the ornate marble-and-gilt Palais Garnier, as the opera house is known, sports an opulent staircase and numerous foyers richly decorated with paintings and sculpture. It is not just a theater, but also a museum of opera and choreography. Built by Charles Garnier, the auditorium ceiling was repainted in 1944 by artist Marc Chagall. A few kilometers away, and some one hundred years on, is the Opéra Bastille. Opened in 1989, it was designed by the Canadian-Uruguayan architect Carlos Ott. The architecture appears transparent with see-through facades and the same materials used both inside and outside. The Opéra Bastille benefits from homogeneous acoustics, state-of-the-art stage equipment, workshops and rehearsal rooms, making it a major modern performance venue.
Roland Geoffrois: “How long will crude oil last?”

We take a look at the question with Roland Geoffrois, an expert in oil issues.

What is the current situation with fuel consumption and crude oil reserves? Roland Geoffrois: It’s a huge topic, and the answers are more complex than the questions. This is because, although figures on oil production and fuel consumption are relatively reliable, those concerning reserves are subject to estimates that vary enormously according to the sources and the authors. But there is no way around some of the data. It is clear to everyone that the world’s fossil fuel reserves (oil, gas and coal) are not inexhaustible – far from it. Today, at the current rate of world fuel consumption (almost 85 million barrels per day as opposed to 75 million just five years ago), proven reserves of conventional crude oil represent some forty years of production.

But doesn’t the notion of reserves depend on a combination of technical and economic elements? R.G.: You have to take account of natural dwindling of all oil fields that are exploited. After a period of initial growth, all fields dry up little by little – inexorably. Take the example of the huge Frigg gas field, in the North Sea. I took part in its development 30 years ago, saw it peak, then decline. It was finally shut down at the end of 2004. The point is that this operation of fields also depends upon an economic relationship between the cost of the production and the expected productivity. When a field becomes too expensive to operate, when the techniques used become too heavy or are over-complex for too low a yield, it is better to abandon the field entirely.

So, can this fall-off take place not just at the level of an oilfield, but also globally, at the level of the planet’s entire fossil fuel reserves? R.G.: Most experts today use what is called the Hubbert model as a reference standard. According to this model, production will mirror the same curve of growth and decline as the discovery of new oil fields, but with a time-lag. In fact, the curves increase then decline with lesser or greater amplitude. The culminating point is called “peak oil” or “peak gas”, but the peak can also be a plateau, as it may last several years. For crude oil, we can expect the peak between 2015 and 2025. After that, a gap is likely to arise between world demand for crude and production, which will no longer be able to keep pace with demand.

How has this evaluation been arrived at? R.G.: Estimating the length of proven reserves must be considered carefully and weighted by different criteria such as expected changes in fuel consumption in the years to come with, on the one hand, the arrival of new consumers led by China and India, and on the other, awareness of the need to limit fuel consumption in the more advanced countries; constantly increasing oil prices; use of alternative energies; world investment capacity and the use of “non-conventional” crude, for example, from the new heavy crude fields in Venezuela and Canada, which is expensive and complicated to produce but vast in quantity, as each field is estimated to be the equivalent of current Saudi Arabian reserves. It is certain that the notion of oil reserves is a variable one, depending on whether the cost of the barrel stands at $10 as it did in 1998 or at $50 as it does today, or even at $100 as it may well do tomorrow.

What conclusions are to be drawn from the situation, and above all, what solutions can be developed? R.G.: There are a number of points to make: oil and gas will be with us for a long time to come, but ultimate reserves cannot be extended for ever. Petroleum production will attain its peak between 2010 and 2030. Its cost will increase because everything that becomes rare becomes expensive. In time, the global share of nuclear energy is going to increase in a significant manner, and coal will remain important. Renewable energies will increase but they will remain a minority in the global energy mix. Finally, crude oil will be difficult to replace for use in transport and as a chemical base.

As far as solutions are concerned, there are almost as many as there are experts! But I think it is vital to call on all possible resources at once, starting with saving energy! Also, we need to use energy streams that are more efficient (supplemental fuels, for example), improve recovery of heavy crude, work on carbon dioxide containment, redevelop nuclear energy and coal for production of electric power by working to reduce the drawbacks of both sources of energy and direct crude oil to the uses for which it is least easily replaced, and develop hybrid vehicles along with all other forms of more fuel-economic system including combined road/rail transport. Whatever happens, we need to react... and much more quickly than a lot of people imagine!
Jean-Paul Chambas: “I set out on the road armed with no more than brushes and canvases...”

Your painting for the Colas Foundation seems to tell your own story...  
Jean-Paul Chambas: Well, yes, you can see a truck from my family’s company, Alex Chambas, which Colas bought out in the 1970s, with its oval logo on the cab door, and, pointing toward it, the yellow-and-black Colas logo. And there are also two writers who have influenced me — a portrait of Jack Kerouac, who wrote On the Road, and the figure of Ernest Hemingway, nobly posing as a road laborer, which is a job I did for a while in my dad’s business. You can also see a footprint on the road, like a souvenir of my own footsteps...

Do your life and your painting overlap?  
J.-P.C.: When I was twenty, I refused to join my dad’s company, and I set out on the road, armed with no more than my brushes and canvases. Ever since then, all my life has been in painting. In my pictures you find a parade of my heroes, whether literary (Blaise Cendrars, Malcolm Lowry, Arthur Rimbaud and James Joyce) or historical (Marx and Robespierre), a statue of a red devil, a souvenir of Mexico... and my native village, Vic, a well-known venue for bullfighting. But when I paint decors for theater and opera, then I am representing other people’s lives — writers or directors.

It is hard to categorize you in a particular artistic genre.  
J.-P.C.: Yes, I try my hand at lots of things... which should put off all those who like to stick labels on things! Multiple sources of inspiration call for varied means of expression! There’s always something happening, characters come into my universe... Quite simply, that’s where my paintings come from.
Jean-Paul Chambas

On the Road

Paris, 2004

Dossier

Asia

Colas bets on bitumen