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Cover photo: Maligne lake, Jasper National Park, Alberta, Canada.
After years of research, the Colas Campus for Science and Techniques, in a partnership with the French National Solar Energy Institute (INES), has designed Wattway, the world’s first ever photovoltaic road surface.

As of today, a road can be paved with solar panels, thus allowing the pavement to serve two purposes: first, ensuring mobility, and second - a true revolution - producing electricity by harvesting solar energy.

The applications are endless in towns and cities of course, but also in isolated, off-grid zones. Wattway will help supply electricity for street lights, urban furniture, signs, tramways, even housing, public buildings and offices.

By producing clean, renewable energy, instantly and locally, the Colas Solar Road plays a role in improving the global energy mix. As such, it will be presented to heads of state from around the world during the COP 21 Climate Conference in Paris in December.

I would like to personally thank our Research & Development teams for this major innovation, a brilliant illustration of two of our longstanding, deep-rooted Colas corporate values: being Innovative and Responsible.

Responsible innovation is a strategic lever to foster development and enhance our competitive edge. It must permeate into every part of our business.

As we mobilize our full capacity to innovate in each sector and each company, we at Colas can provide the most relevant answers to today’s and tomorrow’s challenges regarding mobility and the energy transition.

Today more than ever, the Wattway Solar Road is taking us all on the Road Forward! Together, paving the way to tomorrow’s energy.
From India to Ivory Coast via Thailand, the United States, Switzerland and France...
A rapid trip around the world to see the Group’s jobsites, work in progress and finished projects.

Down memory lane

A web of silver roots on a black box: the ACTe Memorial building, the Caribbean Center for Expressions and Memory of the Slave Trade and Slavery, now greets everyone arriving at Pointe-à-Pitre by boat. The 240-meter long complex overlooking the water on the site of the former Darboussier sugar plant – where forced labor was still practiced in the 19th century – was officially opened by the French President in May, marking the culmination of two years of construction. Sogetra, a Colas subsidiary in Guadeloupe, helped build the access roads to the Memorial. The project consisted in creating a 1-km section of road, a roundabout and two parking lots, with 500 and 350 spaces respectively. Some fifteen employees spent seven months on the various aspects of the project: earthworks, cut and fill, a hydraulic structure beneath the roundabout, drainage, application of asphalt mix and the construction of concrete sidewalks. When designing the new road, the teams had to take into account the path of the island’s future dedicated public transport route.
In anticipation of the arrival of the TGV East Europe high-speed railway, infrastructure modernization work has been underway at Luxembourg station for the last 10 years, overseen by the Luxembourg National Railroad company, Chemins de fer luxembourgeois (CFL). Over the years, Colas Rail has secured a number of contracts. The first one, back in 2009, involved planning the modification of fixed installations and the design of the beam and pylon infrastructure. Today, its teams are working on removing the overhead lines from the old beams and attaching them to the new ones. Timing is of the essence in this project, with the work taking place at night. The completed project will be delivered next April.
In July 2014, Eurotunnel launched the vast “Terminal 2015” extension project at its Coquelles freight terminal, in the Pas-de-Calais region. The objectives were to increase the site’s truck reception capacity and improve traffic flow, in order to cope with the demands of a booming cross-Channel freight market. Colas Nord-Picardie’s Côte d’Opale profit center was responsible for the roads and main services and civil engineering aspects of this large-scale project. Safety equipment (steel and concrete guardrails) was handled by teams from Aximum’s Ostricourt profit center. As required by Eurotunnel, Colas Côte d’Opale completed work on the new facility in less than a year, quite a feat. Colas Nord-Picardie is now in the process of constructing a new truck parking lot, with 370 spaces, expected to be up and running at the end of 2015. Eurotunnel’s goal is to increase the site’s handling capacity to 2 million trucks per year by 2020. Meanwhile, a 200-space parking lot is currently being built on the other side of the Channel, in Folkestone.

Colas Centre-Ouest in pole position

Following Silverstone (United Kingdom) and Leipzig (Germany), German car manufacturer Porsche headed to the famous Le Mans racing circuit in France to establish its third European testing center. Inaugurated at the 83rd 24 hours of Le Mans race, the new facilities give customers the chance to test-drive the brand’s models. Work began in January 2015, with teams from Colas Centre-Ouest’s Champagne profit center responsible for track construction, supported by employees from Boulard (Colas Centre-Ouest). Aximum handled road safety and signaling.
Thai Slurry Seal (TSS), a Colas subsidiary in Thailand, is currently upgrading the taxiways at Bangkok airport. On the agenda: the planing down of damaged pavement to depths of 17 to 35 cm, followed by the application of modified bitumen asphalt mix supplied by Tipco (Colas). Some fifty or so employees arrived on site back in March, with work due to be completed in October.

In addition to the technical challenges, the teams have to contend with the extremely strict safety rules associated with working within a fully operational airport. Colas’ subsidiaries are particularly well equipped to handle this project due to the quality of their work and technical expertise, as well as the presence of two asphalt plants close to the airport, capable of producing up to 1,500 tons of asphalt mix per day. This work is being carried out as part of a recurrent specific maintenance contract awarded by the Thailand airport authority.
Night synergy on Route 40

Last spring, Colas Ile-de-France Normandie’s Champigny-sur-Marne / Aulnay-sous-Bois profit center carried out upgrading work on Route 40 on behalf of the Seine-Saint-Denis Regional Council, in Le Blanc-Mesnil near Paris. The work involved widening the sidewalks to create some 2.5 km of bush-hammered concrete cycle tracks and applying asphalt mix to the roadway. To keep traffic disruption to a minimum, asphalt mix teams worked at night, alongside their colleagues from Aximum’s Ile-Saint-Denis profit center, responsible for road marking.
Back in May, a team from Aximum’s Marseille site spent three nights escorting a wide load transporting two gigantic hydraulic tanks – each weighing 79 tons – from Berre-l’Etang to the Cadarache nuclear research center in the Bouches-du-Rhône, in southern France, a distance of over 100 km. This was the final leg of a long journey for the load, which had left Philadelphia, on the east coast of the United States, for the port of Conakry in Guinea, western Africa, before traveling onwards to Spain. For Aximum’s 15 or so employees, the job involved dismantling and then replacing vertical road signs as the convoy advanced, and setting up and then removing traffic detours in order to keep other road users moving. Accompanied by a police escort, the team had just 15 minutes before and after the arrival of the convoy to complete these operations. A feat made possible thanks to the use of Patrimonia, a road infrastructure management system developed by Aximum that allows employees on the ground and the customer to monitor the progress of operations in real time. □
The Fourvière tunnel has been given a facelift by Colas Rhône-Alpes Auvergne teams. An average of 110,000 vehicles per day pass through the tunnel, located on the A6 highway, in the heart of Lyon, and regulatory safety work was urgently required. Colas Rhône-Alpes Auvergne secured the contract to repave the road, which had not been renovated since the tunnel was opened in 1971. Some one hundred employees worked round the clock from the evening of Friday, May 29 through to the early hours of Monday, June 1, in time for the road to be reopened to traffic at 5 o’clock in the morning, thereby keeping traffic disruption through the city to a minimum. Teams first of all planed 35,000 m² of road surface before applying 2,650 tons of Rugocompact® asphalt concrete. Finally, Aximum’s Saint-Priest profit center carried out the road marking work. The project posed some major logistical challenges, complicated by the fact the tunnel’s clearance height (4.7 m) made operating machinery difficult at times.
On the rooftops at Lausanne University Hospital

Colas Suisse was responsible for insulation and waterproofing work on the roof and façade, as part of the project to extend the geriatric rehabilitation center at the Lausanne University Hospital. This was a technically challenging project given the specific architectural characteristics of the building. The varied angles of the roof and windows made the operation somewhat complex, with several cut-outs required. Developed by Axter, a Smac subsidiary, the product used – a bitumen membrane covered with a layer of crimped copper – was chosen for its esthetic appeal and resistance. The product was applied to more than 750 m² of roof altogether and 900 m² of façade.

High-quality redevelopment in Mattaincourt

Colas Est’s Vosges profit center was selected to redevelop the Mattaincourt Basilica Square along with one of the town’s main streets, in northeastern France. In addition to applying the asphalt mix, the teams laid local Vosges granite paving stones, as well as permeable paving for parking spaces.
On July 2, in the la Duchère neighborhood of Lyon, the “barre 230” building disappeared from the landscape in a matter of seconds! The 15-floor structure with its 342 apartments was demolished using explosives. The spectacular operation, carried out by Perrier Déconstruction (Colas Île-de-France Normandie), formed part of a wide-sweeping rehabilitation project in the district. On that day, 3,000 local residents were temporarily evacuated beyond the defined 300-meter safety perimeter. Teams had spent the previous ten months carrying out preparatory work in the building – clean up and asbestos removal – prior to the ultimate stage: the explosive demolition of the structure.

Beneath the paving stones of Bordeaux

In Bordeaux, teams from Colas Sud-Ouest completed high-quality redevelopment work on the place Saint-Michel. A new paving process, using hydraulic mortar bound to an asphalt base, was used for this experimental project.
A new access road will soon be open to traffic, linking Interstate 95 to the port of Savannah, Georgia (United States). The contract to build the 5.6-km, 4-lane Jimmy DeLoach Parkway connector was awarded to R.B. Baker, a Reeves Construction Company subsidiary. The project covers earthworks, the installation of drainage networks to evacuate rainwater in a region subject to heavy rainfall, as well as road building. In all, the work represents 900,000 m³ of excavated materials, 150,000 tons of aggregates and 43,000 tons of hot mix. The port of Savannah, with its Garden City terminal, is the fourth largest in the USA. This new road represents a new boost for the development of its commercial activities.
Smac is currently waterproofing the “Cité du vin” center in Bordeaux, the wine capital of the world. This huge cultural facility, located in the city’s Bacalan district, will take visitors on a tour of wine-making and its related history around the globe. The building has even been designed to conjure up twisted vines and wine swirling around in a glass. Having made the building’s glued laminated timber structure watertight, teams from Smac’s Bordeaux profit center set about creating a custom solution for the external envelope. The building’s unusual shape means that more than 2,300 composite panels have to be applied, each one with different angles and shapes. These individually designed panels are being manufactured and then delivered to the site for assembly in the order required. A barcode on each one means that stocks can be monitored and identified in real time. Launched in June 2013, the entire project is set to be completed in March 2016, following fourteen months of structural work and a year and half dedicated to covering the building.

Colas Belgium renovates the E34 Highway

Between March and July, Colas Belgium carried out work to rehabilitate an 8-km section of the E34 highway, between Zoersel and Lille. The project involved the demolition, crushing and subsequent recycling of the existing concrete pavement. The teams also applied 90,000 tons of asphalt mix.
Constructed in the 18th century on the orders of King Louis XVI, the buildings of the former royal hospital in Versailles, known as the Richaud hospital, were on the verge of collapse following years of neglect, deterioration and a succession of fires. For the conversion project to transform the site into a real estate complex, Colas Île-de-France Normandie was responsible for road works and main networks. It also had the joint contract for the green spaces. In addition to the drainage and sewerage work, teams carried out the surfacing on the gardens and pathways designed by the landscape gardeners: 4,500 m² of deactivated concrete (leaving the aggregates visible), 1,000 m² of stabilized sand and 1,700 m² of paving stones were processed and laid.

The project’s main challenges, linked to the simultaneous presence of companies handling the structural work and the interior work, included the complex timing of operations and limited working areas. Since the old buildings are listed as historic monuments, the project was overseen by the guardians of France’s architectural heritage, les Architectes des bâtiments de France.
In the mountains of the massif des Ecrins

Teams from Colas Midi-Méditerranée’s Gap profit center renovated Route 480 between La Chapelle-en-Valgaudemar and Le Casset, in the Hautes-Alpes region of southeastern France. The only road through this steep-sided valley, Route 480 provides access to the Gioberney mountain refuge. Valorcol® and Easycold® techniques offering significant environmental benefits were used.
Hincol, Colas’ subsidiary in India specializing in high added-value bitumen products, has played a key part in introducing micro-surfacing techniques in this vast country. The use of micro-surfacing offers a whole range of advantages for road maintenance. Back in 2004, Hincol joined forces with the Central Road Research Institute (CRRI) and the Assam Province Regional Department of Infrastructure to carry out the first trials. The results were positive but micro-surfacing was slow to take off in India due to a lack of equipment. So, in 2011, Hincol decided to buy a paver that it then used to demonstrate the technique to local authorities. The initiative helped secure numerous contracts. In 2013 and 2014, 5.5 million square meters of roadway were treated using the technique, with a further 30 million square meters set to be treated by 2019.

Lons-le-Saunier bypass

It took thirty years for the Lons-le-Saunier western bypass project to see the light of day. In 2014, teams from Colas Est constructed a 3.8-km section of road, along with a traffic circle, between Montmorot and L’Etoile. In 2015, they moved onto the next 3-km section, between Montmorot and Gevingey.
Several Spac teams worked on the project to extend line 14 of the Paris metro system in Saint-Ouen (Seine-Saint-Denis). The Aulnaysous-Bois thermal division carried out the work to connect the urban heating pipes, once they had been re-routed. Due to the weight of the pipes, a 60-ton mobile crane was used, something that was far from straightforward when working just a meter away from the façade of buildings lining an extremely busy boulevard! Teams were supported by employees from the Arras Metalwork sector. In total, more than thirty pipefitters, welding operators and layers worked together on-site for 48 hours non-stop. The job was completed 10 hours ahead of schedule, much to the delight of CPCU, the Paris urban heating company.

For a quiet road

Last summer, Colas Denmark carried out renovation work on the M10 Highway, 15 km south of Copenhagen. Colas Denmark teams applied a noise-reducing surfacing solution, SRS®. One of the project’s biggest challenges was the need to keep four lanes open to traffic on the approaches to Copenhagen throughout the work.
Colas Environnement is working with GTOI, a Colas subsidiary operating in Reunion Island, on its first project outside mainland France. The project concerns the in-situ clean-up (without excavation) of a former industrial site in Le Port, on the northwest coast of Reunion Island. To remove the perchloroethylene (chlorinated solvent) present in the soil, the treatment technique known as “venting” was used. This involves drilling extraction wells in order to remove polluted gases from the soil, which are then treated above ground using activated carbon filters. For this project, Colas Environnement had to overcome the major logistical hurdles associated with transporting the treatment unit from France to the Indian Ocean. A container was designed specifically for the purpose, with a further two containers required for spare parts. The entire shipping operation lasted a month and half. Colas Environnement is playing a supporting role from France, managing the unit remotely. Launched in April 2015, the soil treatment operation is due to be completed mid-2016.
Colas Ltd successfully secured a second two-phase contract with the UK Ministry of Defence to improve facilities at the Royal Air Force military airfield in the Falkland Islands.* The first phase, which was completed last April, included the repairing of a defect in a runway, which rendered it non-compliant. The project was successfully delivered ahead of schedule without any lost time incidents or compromises to airfield safety. As winter approached in the southern Atlantic Islands, the 36 site-specific associates of Colas Ltd present headed back to England. The second phase of the contract was launched in September and is slated for completion next April. The work involves the widening of taxiways at the airfield, along with concrete repairs, joint sealing and surface treatment. For this part of the project, the teams of Colas Ltd are working closely alongside the NGO Falklands Conservation to preserve the environment and the endemic animal species of these islands. ■

*Overseas British Territory located off the coast of Argentina.
RER rapid transit line A, the busiest in Europe with more than 300 million passengers per year, took advantage of the summer break to catch its breath. It was the first time the line had been closed since it was inaugurated, back in 1970. It was all part of a vast long-term RER track renewal program between Nanterre Préfecture and Vincennes. The contract, awarded to Colas Rail in February 2014, concerns the replacement of 24 km of ballasted track and 27 switches and crossings each year for the next seven years, with work taking place between July 25 and August 25. The objective is to cope with the constantly increasing traffic and improve passenger comfort. 230 Colas Rail employees spent 18 days working shifts round the clock to renew 2.3 km of ballasted track on double platforms, between Charles-de-Gaulle-Étoile and La Défense. All traffic was suspended between La Défense and Auber while the work was taking place. The new track was then tested before being brought back into service. Cosson (Colas Ile-de-France Normandie) also took part in the project, its teams transporting the ballast to the Louvres platform (Val-d’Oise) for clean-up and treatment and then returning it to the site to be used again. ■
10,000 pylons erected along 200 km of rail track, 400 km of catenary cables... the Brittany Pays de la Loire (BPL) high-speed railroad project between Le Mans and Rennes, carried out by Eiffage, is mobilizing a number of Colas Group teams. Colas Rail, responsible for the catenary systems, called in Colas Centre-Ouest’s Champagné profit center for the civil engineering aspects of the work. Further support is provided by some of Colas Centre-Ouest’s other profit centers (Spay, Avrillé, Tours and Chartres). On the agenda: earthworks, pylon installation (supplied and assembled by Colas Rail at its Vaiges site), concrete and waterproofing work, all of which is subject to rigorous quality control. Once the catenary pylons are in place and the concrete has set, teams from Colas Rail take over to erect the overhead lines along the track. A fine example of teamwork! The project is scheduled for completion in July 2016.
Burning the midnight oil in Abidjan

As part of Ivory Coast’s infrastructure renewal project (PRICI), Colas Afrique has carried out pavement rehabilitation work on Abidjan’s lagoon boulevard. It has also been carrying out waterproofing and wearing course resurfacing work on the De Gaulle Bridge. For this project, teams have used the cheaper and more environmentally-friendly Novacol® recycling technique, a first in West Africa. Launched in August 2014, the project is taking place at night – the road remains open to traffic – and is set to be completed at the end of 2015.
Highway 63, in Alberta, represents one of Colas’ flagship projects in Canada. Since 2014, five subsidiaries have been working on the construction, widening and upgrading of several sections. The aim is to improve motorists’ safety and facilitate traffic flow on a route that is absolutely vital for the province’s economy. Report below.
ON THE SHORES OF MARIANA LAKE
On this 29-km section, the teams are carrying out work to upgrade Highway 63 to a four-lane route.
In Alberta, a province in Western Canada, the road is king. The huge distances to be covered mean roads play a crucial role. Highway 63 is 443 km long. It runs between Alberta’s oil sands production region and the main through routes serving the south of the province. It is also the only road entering and leaving Fort McMurray that remains passable throughout the year. From a lowly gravel track in the 1960s, Highway 63 was gradually widened before being transformed into a two-lane road. The region’s economic development, linked to oil sand production, makes this route a vital link for the community. The volume of traffic using the highway is constantly increasing and safety problems are a growing issue. In particular, numerous heavy trucks use Highway 63, slowing down traffic considerably. Other accident risk factors include the extreme weather conditions in this boreal forest region – snow and sub-zero temperatures are common – and an abundance of wildlife, which can be seen crossing the road at any time, both day and night. With traffic so dense, upgrading the route to a genuine four-lane highway had become essential in order to improve safety for motorists and traffic flow overall.

In February 2006, following years of pressure from users and politicians, the government of Alberta announced plans to upgrade the highway linking Atmore to Fort McMurray to four lanes. In 2014, Colas Canada subsidiaries were awarded six of the calls for bids issued, representing a total length of 159 kilometers.

**Six sections, five subsidiaries**

Earthworks, supply of aggregates, application of asphalt...
To accompany the development of Fort McMurray, linked to oil sand production, an interchange is under construction (section 3).
mixes, road markings, road signs and safety features… five Colas Canada subsidiaries are taking part in the work to upgrade Highway 63: E Construction Ltd (paving contractors), Wapiti Gravel Suppliers (production of materials and paving contractors), Lafrentz (road marking), Alberta Highway Services Ltd (road signs) and ACP Applied Products (specializing in road maintenance techniques and geomembrane application). These companies are working together as a consortium on six different contracts. A fine example of teamwork! The six sections (see map p.30) represent a total of more than 7 million m³ of earthworks, 1.8 million tons of aggregates and almost 800,000 tons of hot mix. Between 35 and 85 employees have been mobilized to carry out the work.

Multiple challenges
On the shores of Mariana Lake, E Construction Ltd and Wapiti Gravel Suppliers are carrying out work to double the width of a 30-km section of Highway 63. With more than 7 million m³ of earthworks and more than 500,000 tons of aggregates required to build the two additional lanes, the project is not without its challenges. In addition to the considerable quantities involved, the teams have had to cope with tight deadlines and restricted time slots to carry out the work. On the technical side of things, the marshy nature of the land has posed quite a challenge: teams have been unable to reuse materials for road construction purposes and have therefore been forced to bring in significant volumes of materials from outside. A well-planned logistics organization is crucial to deal with difficult weather conditions as well as the site’s specific geological characteristics, but also to facilitate employees’ living and working conditions. In remote sectors, living quarters have been established close to the jobsites. Finally, due to the multitude of activities taking place, the subsidiaries are having to coordinate...
Since 2014, five Colas Canada subsidiaries have been taking part in the project to construct, widen and renovate the pavement on several sections of Highway 63. The completed project is due to be delivered in the second half of 2016.

**SECTION 1**
- Length: 29 km • Earthworks: 7 million m³ • Aggregates: 508,000 tons • Asphalt mixes: 117,000 tons • Subsidiaries: E Construction Ltd (leader), Wapiti Gravel Suppliers, Lafrentz, ACP Applied Products • Delivery: August 2016

**SECTION 2**
- Length: 32 km • Earthworks: 15,000 m³ • Aggregates: 582,000 tons • Asphalt mixes: 155,000 tons • Subsidiaries: Wapiti Gravel Suppliers (leader), E Construction Ltd, Lafrentz • Delivery: August 2015

**SECTION 3**
- Length: 6 km • Aggregates: 443,000 tons • Asphalt mixes: 211,000 tons • Subsidiaries: E Construction Ltd (leader), Wapiti Gravel Suppliers, ACP Applied Products • Delivery: July 2016

**SECTION 4**
- Length: 17 km • Earthworks: 47,000 m³ • Aggregates: 268,000 tons • Asphalt mixes: 87,000 tons • Subsidiaries: E Construction Ltd (leader), Wapiti Gravel Suppliers, Lafrentz, Alberta Highway Services Ltd • Delivery: August 2014

**SECTION 5**
- Length: 37 km • Asphalt mixes: 132,000 tons • Subsidiaries: E Construction Ltd (leader), Lafrentz, Alberta Highway Services Ltd • Delivery: August 2015

**SECTION 6**
- Length: 38 km • Asphalt mixes: 87,000 tons • Subsidiaries: E Construction Ltd (leader), Alberta Highway Services Ltd • Delivery: October 2015

**KEY FIGURES**

5 subsidiaries:
- E Construction Ltd, Wapiti Gravel Suppliers, Lafrentz, Alberta Highway Services Ltd, ACP Applied Products

159 km

35 to 85 employees

7.1 million m³ of earthworks

1.8 million tons of aggregates

789,000 tons of asphalt mixes
their work with companies responsible for the service networks (water and electricity) in order to incorporate their needs into the schedule and deliver the project on time.

With several sections already delivered (see map opposite), the construction, widening and upgrading work on Highway 63 should be completed in 2016.

Greg Wakefield, Granular base operations manager at Wapiti Gravel Suppliers

The highway specialist

"It would be a tedious task to draw up a list of all the projects I’ve ever worked on", begins Greg Wakefield, “but to give you an idea of the volume, a season of work represents around one million tons of aggregates! And that has been the case for the past twelve years." During his career, Greg has taken part in numerous highway projects in Canada: Highway 43, Highway 88 and 2,000 kilometers of other projects. He started out as a machine operator, at the wheel of his own grader, and has been superintendent for Wapiti Gravel Suppliers for the past twenty years. From his broad range of experience, Greg has acquired considerable knowledge of the impact of the northern climate on road projects and developed the appropriate techniques to deal with it. Expertise that he and his team are now applying to the Highway 63 project.

Fort Mackay

On this 37-km section, teams from E Construction Ltd carried out work to reinforce the pavement.
The sun is shining at last in the skies above Vichy, on this fine March morning, after several weeks of poor weather. Work on the town’s southwestern bypass can resume. The constant coming and going of trucks and excavators is testimony to the sheer scale of the earthworks required to create this new 18.6-km section of road between Bellerive-sur-Allier and Saint-Yorre, due to be completed at the end of 2015. On the viaduct over the river Allier the new road is emerging, a somewhat bumpy route that typifies the project so far. The Vichy southwestern bypass project is being carried out as part of a public-private partnership (PPP) contract, signed in 2011, between the Allier local council and Allicso, a consortium made up of Colas Rhône-Alpes Auvergne, DTP Terrassement, Bouygues Travaux Publics Régions France, SEIEF/EPI2 and CSO Investissement. On the agenda: the financing, design, construction and maintenance of the road for a period of fifteen years. The project forms part of the overall Vichy bypass program, in line with the recent extension of the A 719 Highway and the town’s northwestern bypass (at the design stage). “Launched at the end of 2011, work was interrupted two years in succession following legal action by the Auvergne Nature and Environment Federation (France),” explains Alain Desvaux, project manager. “We were forced to renegotiate the contract with our public partner, the Allier local council. The negotiations were handled by Colas’ PPP and >
VICHY, SPA TOWN
Located in Allier, in the Auvergne region of central France, Vichy has been well known as a spa town since Roman times. Its spring waters are world-famous (Vichy Célestins, Vichy Saint-Yorre springs).
IN CENTRAL FRANCE
The Vichy southwestern bypass crosses seven municipalities in the Allier and Puy-de-Dôme areas, as well as two forests, and lies within the Vichy and Saint-Yorre mineral water protection area.
The project includes the construction of a new 18.6-km section of road and some thirty or so civil engineering structures, requiring numerous detours.

major projects development department (see box p.37) as well as the Group’s financial and legal departments. Work finally resumed in March 2014 and is set to be completed at the end of 2015.

A well-crafted project

The design and implementation of the project were awarded to the construction consortium comprising Colas Rhône-Alpes Auvergne – the consortium leader – (roads, drainage and signing and safety equipment: guardrails, restraint systems and permanent road signs), DTP Terrassement (earthworks) and Bouygues Travaux Publics Régions France (civil engineering). “The project is particularly well crafted and involves the removal of significant volumes of earth”, explains Alain Desvaux. “The earthworks, carried out during the summer of 2014, proved complicated due to the nature of the materials, which were highly water sensitive.” With 1.5 million m³ of cut and 1.3 million m³ of fill, only small volumes of materials had to be brought in from outside. Instead, materials taken from the site itself were recovered and treated with lime and/or hydraulic binder for subsequent reuse.

“With two viaducts, fourteen civil engineering structures, thirteen hydraulic structures, nine water treatment basins and five traffic circles”, continues Alain Desvaux, “the project is divided between the construction of numerous bridges, hydraulic structures and culverts designed to cross rivers and plains, some of which are prone to flooding.”

Alain Desvaux, project manager
> With one absolute imperative: not to disrupt the natural flow of water, essential in this region.” Hence the Vichy southwestern bypass project is actually made up of around forty smaller projects, approximately one every 500 meters. Timing is therefore crucial in terms of managing the simultaneous activities of the various companies present on site, and the implementation of numerous detours.

Environmental challenges

“Vichy is located at the heart of a Natura 2000 zone and a water catchment area and as such is protected”, specifies Alain Desvaux. “The environment is therefore a major factor to be taken into account throughout the project.” The route lies within the Vichy mineral water protection area, intercepts the Saint-Yorre drinking water protection area and crosses two areas of forest. So a number of adaptations have been made to protect biodiversity and ensure wildlife can cross the road safely: three crossing places for large fauna, six bat corridors, four ponds for yellow-bellied toads, eight hibernacula for reptiles and twelve insect shelters. The Vichy southwestern bypass project has...
Colas has recognized expertise and a multitude of references in the field of complex projects. For these projects, the Group mobilizes all of its skills, enabling it to intervene at every phase: bid, implementation, management. Working closely with Colas’ legal and financial departments, the PPP and major projects development department helps subsidiaries bid for contracts, both in France and elsewhere. For the Vichy PPP, these three departments guided teams from Colas Rhône-Alpes Auvergne through the project development process as well as the contract renegotiation.

**Colas and Complex Projects**

Colas’ teams (management, PPP and major projects development department, strategic foresight, sales and marketing department, and subsidiaries) identify a project. Once the notice of competitive public tender has been published by the local authority concerned or the Government, the Colas subsidiary interested submits its bid.

**The Three Phases of a Complex Project**

1. **Commercial Intelligence**
   - Colas’ teams (management, PPP and major projects development department, strategic foresight, sales and marketing department, and subsidiaries) identify a project. Once the notice of competitive public tender has been published by the local authority concerned or the Government, the Colas subsidiary interested submits its bid.

2. **Managing the Bid**
   - Working closely with management, the major projects legal department, the financial department and the subsidiary concerned, the PPP and major projects development department seeks financial and technical partners, constructs the bid and sets up the consortium responsible for carrying out the project. This phase includes the bid phase and the financial closing process through to signing of the contract.

3. **Project Implementation and Monitoring**
   - The consortium led by the subsidiary manages the contract and carries out the work. Sometimes it is also responsible for operations and maintenance. The PPP and major projects development department, working closely with management, the major projects legal department, the financial department and the subsidiary concerned, may also be called upon to intervene in a supporting capacity, such as, for example, in the event of litigation or refinancing.

Over the last few months and weeks, the 200 or so employees on site have stepped up a gear. The viaducts were completed at the end of June and 100,000 tons of asphalt mix applied throughout the summer. The completed Vichy southwestern bypass will be delivered at the end of 2015. Allicso Maintenance, a dedicated company led by Colas Rhône-Alpes Auvergne will then be responsible for maintenance for the next fifteen years. 

> The Three Phases of a Complex Project*

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* Excluding the standard call for bids

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**Major References:**

- A63 Highway concession in the Landes (France)
- M6-M60 Highway PPP (Hungary)
- Nîmes-Montpellier high-speed rail bypass PPP (France)
- Iqaluit Airport PPP in Nunavut (Canada)
- Troisserieux Bypass PPP in the Oise (France)
- The L2 Bypass PPP in Marseille (France)
- PPP for roads and street lighting in Le Plessis-Robinson (France)
- Long-term road renovation and maintenance contract in Central London (UK)
Construction engineers, assistants, real estate prospecting executives, profit center managers… They all do their jobs with enthusiasm and have decided to share their daily routines and projects with us.

“Seeking Technical Manager to monitor the quality of work, materials and application of asphalt mixes at a container terminal. Good knowledge of English required. Place: Port of Busan, South Korea.” Sébastien, a laboratory technician with Colas Nord-Picardie, didn’t hesitate for even a second when he heard about this opportunity. He’d already carried out some occasional assignments outside France for Colas, and when Bouygues Travaux Publics advertised for skills in 2014 he jumped at the chance. A telephone interview later and he was on the plane to Busan, on a secondment contract. “Having studied English and with business school behind me, I first joined the Colas Group in 1997. I learned the role of laboratory technician on the job.” In 2001, Sébastien, a former DJ, decided to set off on a quite different adventure to indulge in one of his favorite pastimes: he bought a record shop! In 2004, he returned to Colas Nord-Picardie, in Lille, as a lab technician. “I have really appreciated the opportunities I’ve had to travel for my work in the 11 years of my career so far.”
A broad and diverse role

VIRGINIE PRUDENT
ASSISTANT
COLAS SA
FRANCE

It’s just a small step from a law office to a construction site and Virginie Prudent took it ten years ago. A paralegal specializing in tax and corporate law, she decided she wanted a complete change of direction and joined Aximum as a project assistant for the A86 highway tunnel project in the Paris region. In 2010, with the work nearing completion, she joined the subsidiary’s legal department. However, when Aximum relocated from Chatou to Magny-les-Hameaux (Yvelines), it was too far from home and Virginie put in a request for a transfer. “The HR department considered my request and I was lucky to see a position come up at Colas’ head office as a replacement for someone who had retired”, explains Virginie. Assistant in the Risk and Insurance department since the beginning of March, she is responsible for monitoring insurance contracts around the world. “From managing premiums to reporting employees’ motor insurance claims and supporting subsidiaries, the role is extremely broad. I’m still in the discovery phase, even now! Insurance is a complex field that, like law, demands rigor and discretion. I’m completely at home in the environment and I’m learning every day with the help of my colleagues. Together, we try to make the world of insurance more accessible to all of the Group’s employees.”
We want to go further still

TAM LE
DEPUTY MANAGING DIRECTOR
ADCO
VIETNAM

After studying petrochemical engineering, Tam Lê held a number of jobs in the sector before joining Asphalt Distribution Company (ADCo) in 2007. “Joining ADCo was a real challenge for me, as well as a great opportunity to work at Colas on innovative solutions in a growth market,” he underlines. A subsidiary of the Group since 2005, ADCo specializes in the manufacture and distribution of bitumen products and currently operates four bitumen storage plants. The company employs around 200 people and has doubled its turnover in the space of five years. “ADCo has become established as a pioneering company, developing innovative products such as polymer modified bitumen (PMB), modified bitumen emulsions for airport runways and road surfacing solutions for expressways. I’m proud of the work we’ve accomplished at the company, but we want to go further still”, explains Tam Lê. His goal? “To provide our customers with high-quality bitumen, capable of standing up to the country’s unique weather conditions. Extreme heat, for example, can cause significant damage to road surfaces.” This commitment to quality and innovation is recognized by Vietnam’s ministry of transport, with ADCo now established as a favored commercial partner.
BERNADO GASPARD
VOCATIONAL HIGH SCHOOL
APPRENTICE IN CONSTRUCTION
COLAS MIDI-MEDITERRANEE
FRANCE

Born in Haiti, Bernado spent part of his childhood in his native country before moving to French Guiana. When he was 20, he decided to travel to France to “see what else is out there.” Much to his delight it turned out to be the right decision because after arriving in Montpellier and signing up for a training course in the pipeline sector, he secured a two-week internship with Colas Midi-Méditerranée. He went on to get a roads and services vocational training certificate as an apprentice at the subsidiary, followed by a vocational high school diploma in construction. “The course meant alternating two weeks in the classroom then two weeks on sites, giving me the chance to discover all the various aspects of the business,” explains Bernado. He’s absolutely sure now that the construction sector is the industry for him. “I love being outdoors and doing something different every day. And the atmosphere with my colleagues is great” Every project is a new adventure: “To begin with, a road isn’t very pretty… But when you see the end result, you’re proud of what you’ve achieved.” Bernado hasn’t finished with his studies: with his high school diploma in the bag, he’s now going on to study for a technical training certificate with Colas Midi-Méditerranée’s support. His goal: to become site foreman. “When you want to get ahead, you don’t let anything stand in your way!”
In 2005, Sylvain Clément had the travel bug. He’d recently graduated from the French Institute of Advanced Mechanics in Clermont-Ferrand and had spent the last year of school studying in Germany and Canada. His objective? To practice and perfect his English. PhD or Masters? He finally opted for an international work experience voluntary program in Melbourne, Australia. The experience, which lasted a year and a half, convinced him that Australia, with the positive mentality of the Australian people, was a vast land of opportunities. In 2007, he was hired by Primal Surfacing, an Australian construction company based in the State of Victoria specializing in surface dressings. The company joined Colas Australia in 2009. As manager, he organizes the activities of project teams during the surfacing season – teams set off on Monday and only return home again on the following Friday since jobsites can be located up to 300 km away – responds to calls for bids, goes out to sites, and much more. “Customer relations are a vital part of our work due to the sheer distances involved.”
Having studied Human and Social Sciences in Bordeaux, Vanessa Garcia decided to specialize in human resources. A number of positions with Bouygues Telecom took her from Bordeaux to Tours, and then Paris, where she joined the Disability mission and discovered diversity. In October 2014, she was hired by Colas Rail to handle diversity, focusing on the themes of disability, workplace equality, social integration and the generation contract, an initiative designed to facilitate the integration of young people into the labor market. Vanessa thrives on the demands of her wide-ranging role. On the agenda: monitoring indicators and social integration clauses, supporting the disability agreement with Agefiph (fund management association for the professional integration of people with disabilities) to expand use of the protected sector, keeping people in employment, etc. “Explaining diversity issues, providing meaning but also establishing needs. Much of the job is about internal and external communication involving close liaison between HR managers, business-line operators and employee representatives. This human contact is what I love in my job.”
People are central to our business

SYLVIAN DAVID
CONSTRUCTION ENGINEER
SMAC
FRANCE

Determined and independent, Sylvian David is self-taught. With a keen interest in mechanics, he held a number of summer jobs in the civil engineering and construction sector. Impressed by the solidarity between employees, he decided this was the sector for him. He joined Smac’s Vaulx-en-Velin profit center at the age of just 20, as a design draftsman. He then moved into the company’s sales department, responsible among other things for pricing as part of calls for bids. After four years in the company, Sylvian wanted to discover some of the other trades in the civil engineering and construction sector and resumed his studies. “My managers supported me all the way. They even tried to set up an apprenticeship arrangement with my chosen engineering school. Unfortunately it wasn’t to be. So I left Smac in 2010.” Sylvian went on to gain experience in structural works via a number of internships with several companies, the last of which was… Smac! “A subsidiary of a major group, Smac provides opportunities to work on large-scale projects while preserving the human dimension associated with smaller companies.” Today, Sylvian is back with his old profit center, working on the construction side. “I have a global vision of the business, which is extremely useful when you’re responsible for a project’s success!”
François-Xavier Cerniac first began writing while he was at school. Screenplays for short films and full-length feature films, then short stories… he tried his hand at a range of genres, including comedy, burlesque and surrealism, before homing in on crime fiction. In 2008, he stepped it up a gear and set about writing his very first novel*. "At the time I had no idea about the adventure I was embarking on, but I had to see it through." He decided to incorporate his day-to-day life into the book, setting it around his own region, Poitou-Charentes, and his job (the plot takes place in a quarry). After studying science (a technical diploma in mechanical and production engineering in Poitiers) and following a two-year contract assembling missile loader heads for the army, François-Xavier secured a job at a quarry as a lab assistant and then a lab technician. In 2008, he became laboratory manager at the La Peyratte quarry (CMGO since 2013). He now works as laboratory manager for Colas Centre-Ouest’s Poitiers and Châtellerault profit centers. He is continuing his writing career alongside his day job and is currently putting the finishing touches to his fourth novel. Does he manage to juggle his passion and his job? François-Xavier seems to have found the right balance. 

* Le Tombeau du Phénix (The Tomb of the Phoenix) won the VSD book award – the favorite of the president of the jury, Didier van Cauwelaert (Goncourt 1994). More than 10,000 copies of the book have been sold.
In her day-to-day work, Marielle Lammens has persuasion down to a fine art. Business acumen is in her blood. It was back in 2008, when coming to the end of a fixed-term contract with a garden center company, that she first came into contact with Colas. Hired as a sales rep for the Burgundy region, eighteen months later she requested a transfer to the Paris area, where her partner lived. So she joined Picheta, a subsidiary of Colas Ile-de-France Normandie specializing in demolition and materials recycling. “A real estate prospecting manager’s role was created for the Ile-de-France area and I jumped at the chance,” she underlines. “While the ‘rep’ side of the business continues to lie at the heart of what I do, my targets have changed: I’m now negotiating land deals with a view to establishing quarries, fill sites and waste facilities.” Trained in urban development and regulations by the profit center’s environment engineer, she provides her team with a wealth of sales and marketing expertise. “What do I love most about the job? Going out to meet farmers and elected officials. Persuading them is a real challenge because preconceptions about our projects abound. Being a woman, especially one from an agricultural background, is an asset. I understand where they’re coming from.”
Cross-functionality supporting innovation

**JACQUES SENANT**

**PROFIT CENTER MANAGER**

**COLAS SUD-OUEST**

**FRANCE**

Holder of a post-graduate degree in oceanology obtained in Brest in 1985, did Jacques Sénant think for one minute that thirty years later he would be running a Colas profit center in Limoges, with 75 people under him? Almost certainly not. After starting a PhD in Marseille, at the CNRS (French National Center for Scientific Research), in 1990 he joined Sgreg (now Colas) and went on to spend the next ten years as a site supervisor, based in Nantes. In 2000, he became operations assistant at Arnaud TP, then center and quarry manager in the Corrèze area of southwestern France. He arrived in Limoges in 2010, where he discovered a profit center with a broad-based “business”, with, in particular, the manufacture of Compomac® cold mix and Ecomac® warm mix, as well as a 5-hectare recycling platform. A godsend for this circular economy enthusiast! Concrete, planed materials, porcelain, etc. Jacques has constantly encouraged the development of recycling, seeing these activities as an asset that will set the company apart from its competitors in the eyes of customers. Jacques also initiated a partnership with the University of Limoges to work on a new generation of binders. “I love research and discovering new solutions, but I don’t do it by myself. I try to bring everything together, to favor communication and promote cross-functionality.”

""
Launched by the Executive General Management in 2013, Copernic is the name given to the project aimed at radically overhauling Colas’ processes and management methods. The Group will also be introducing new administration and IT systems as part of the project. With a full-time dedicated team in place, 2014 was spent establishing specific targets, organization methods and processes. 2015 is the year of initial roll-outs and choices.

New administration principles and new tools
To promote efficiency, coherence and competitiveness, new administration and management principles – economic reality and transparency – and new tools have been put in place. These principles have been trialed at pilot business units in the French Road sector as part of a short-term action plan (PACTE). “To allow them to manage and optimize their projects as effectively as possible, operators need to know their global business costs,” explains Olivier Grévoz, project manager. “The decision was thus taken to adopt personnel costs that are as close as possible to actual costs and internal equipment costs that reflect those of the market. This is the principle of economic reality. In terms of transparency, field results are passed up to head office without modification.” Anticipation, cost rationalization, improved jobsite planning and risk management lie at the heart of Copernic. Information systems are also being modernized to make them easier to use and to eliminate the need to key in information twice. The central software is currently being designed. Business tools aimed at operatives are currently being selected and configured. “These principles and new tools will allow site supervisors to focus on their core business. The objective is for all entities to be 100% ‘Copernic compatible’ by the end of 2015.” The processes will be rolled out progressively in the international units.

All managers mobilized
“Copernic Meetings” were organized for road companies in France, specialized subsidiaries and then business units outside France. “At every level, each manager must be an active player and a driving force behind the change process,” underlines Philippe Malot, Change Manager for the project. Olivier Grévoz concludes: “Copernic’s success will be everyone’s success.”
Designed as a tool for collective improvement, the Colas in-house opinion survey of 41,000 employees in France and elsewhere was conducted between September and October 2015.

In the middle of September, the Group conducted a survey aimed at establishing how the company was perceived. Called COLAS & YOU, 41,000 employees around the world (skilled workers, foremen, technicians, supervisors and managers in France, managers outside France) took part in the survey. “Colas has undergone some major changes over the past few years and is preparing to meet new challenges, hence our decision to launch an internal initiative to gather feedback. The survey represents a tool for collective improvement, aimed at underpinning the changes taking place within the company and its evolving managerial culture”, explains Philippe Tournier, the Group’s Human Resources Manager. “Following this large-scale consultation process, concrete initiatives will be put in place in each business unit.” Available in two languages, French and English, the questionnaire gave the employees surveyed the opportunity to have their say, so that management could analyze the way the company was perceived, identify factors underlying attachment to the Group, commitment levers, etc. “The feedback provided by employees will also help better define the specific characteristics of Colas, both in terms of strengths and paths for improvement”, explains Philippe Tournier. The survey results will be published at the start of 2016.
In 2015, Colas has introduced several initiatives to promote gender equality within the company.

Gender equality within the company is one of the priority areas of focus of Colas’ diversity policy. A dedicated working group was set up in France in 2014 with the aim of making Colas even more attractive to women and guaranteeing the same career development opportunities as men. For Antoine Cristau, head of HR innovation and social responsibility in Colas’ Human Resources department, “this means that we have to tackle a number of stereotypes and prejudices, and, in some instances, rethink the way our work is organized and our management methods”. Some ten action plans have been launched: the creation of a network of ambassadors with equal numbers of men and women responsible for schools relations, gender equality management training, internal and external communication operations, etc. Subsidiaries outside France are also taking steps to attract more women to the company. “Beyond the actual principle of equality, improving the male/female mix represents a driving force for progress and economic performance for the company”, concludes Antoine Cristau.
The health and well-being at work initiative is currently being rolled out in all Colas’ subsidiaries.

**Health and well-being at work**

The Group’s health and well-being at work initiative stems from a determination to be more aware of stress prevention, health and improved well-being in the workplace. It is underpinned by the introduction of a tool specifically designed to assess employees’ health and well-being. The results of these regular assessments are then used to identify the corrective measures required and potential improvements. The method, known as SATIN, was developed by the INRS (French National Research and Safety Institute) and the University of Lorraine. Individually, before employees go for their medical check-up, they fill in an anonymous questionnaire that will be used by the occupational health officer. It is then sent out to an external service provider who will build up a database and analyze the results. Collectively, the results will feed into an Observatory that will be set up over time in each of the Group’s subsidiaries. Following a test phase conducted in the northern Picardy region from March 2012 to January 2013, the SATIN initiative is currently being rolled out to all subsidiaries.
Colas showed off its expertise at the first Pavement Preservation and Recycling World Summit (PPRS), held in Paris back in February.

TECHNIQUES

Solutions to **preserve road assets**

At the end of February, Paris played host to the first Pavement Preservation and Recycling World Summit (PPRS). The three-day event, organized around discussions and the presentation of good practices in terms of emulsion, recycling, road infrastructure management, contracts, etc., was an opportunity for the sector’s professionals to consider a responsible future and a new vision of the road. The Colas Group, aware of the importance of road maintenance and its impact on economic activity and improved mobility, presented its solutions in areas such as investment, innovation, maintenance and diagnosis. Several Colas employees spoke at the conference: François Chaignon, Technical Manager at Colas Roads France (Industrial interactions, a success story); André Clarac, Development Manager at Colas Sud-Ouest (Bitumen emulsions, 100% RAP); Henri Molleron, Group Environment Manager (Responsible Companies); Graziella Durand, Colas’ Campus for Science and Techniques Chemistry Laboratory Manager (Green Chemistry). Colas also used the event as an opportunity to unveil its new communication campaign: “Colas, the new way” (see In the picture, p. 56).
Launched back in May, Colas’ internal television station allows employees to watch videos focusing on a range of themes, including innovation, corporate responsibility and human resources.

Colas Inside, Colas television

Colas Inside is the name given to the Colas Group’s in-house television station. Available exclusively via the Group’s IT network, in French and English, Colas Inside allows employees to access a rich and varied selection of videos across five themed channels: Group Life (e.g. “Copernic” clip), innovation (e.g. “The Innovation Program”, the first of its type focusing on innovation at Colas), corporate responsibility (e.g. “On the Road to School” films), subsidiary life (e.g. “Light at the end of the pipeline…” documentary), human resources (e.g. “Safety Attitude” video)… and last but not least, the “cult movies” (e.g. “The Life and Times of a Rock”). Designed by the Group’s Communication Department, Colas Inside was launched in May 2015 to increase the number of information dissemination vectors within the company and at the same time reinforce its appeal. The program schedule changes every quarter and viewers are informed by email about “must-see” films. Subsidiaries can submit their own videos via a dedicated email: colas-inside@colas.com. To discover the Group from every angle, go to www.colasinside.com.
Located in Magny-les-Hameaux, near Paris, on the site of Colas’ Campus for Science and Techniques, “Echangeur Magny” has been the head office base for employees of Colas Ile-de-France Normandie and Aximum since the start of 2015.

At the start of 2015, employees at the head offices of Colas Ile-de-France Normandie and Aximum moved into new premises in Magny-les-Hameaux, in the Les Yvelines area south of Paris, on the site of the Colas’ Campus for Science and Techniques (CST). Known as “Echangeur Magny”, the new head office was built by Colas Bâtiment (Colas Ile-de-France Normandie), with Smac contributing its waterproofing expertise. Begun in 2013, the work was completed at the end of 2014. The buildings boast cutting-edge energy and environment performance (above that required by French thermal regulations RT 2012).

Welcome to “Echangeur Magny”

For example, the building is equipped with smart lighting, incorporating a presence detection system with time-out function. This lighting is graduated on the basis of ambient light. All of the site’s buildings are linked into a smart grid. The system, based on geothermal energy, allows each building to act as a heat emitter or receiver, prior to any outside energy provision. To optimize energy consumption, the building’s shutters are automatically lowered depending on the amount of sunshine.
In Sons-et-Ronchères, in the Aisne region of northern France, Skydôme’s skylight production plant has recently been renovated.

From September 2013 to April 2015, Skydôme, a subsidiary of Axter (Smac) specializing in the manufacture and marketing of skylights, overhead aeration and natural ventilation solutions, carried out renovation and modernization work at its Sons-et-Ronchères plant in northern France. Having fallen into a state of disrepair, the buildings had to be rehabilitated and extended in order to optimize and develop the manufacturing process. The project consisted in demolishing 4,000 m² of existing premises, renovating and extending the main production facility and constructing new offices. The result? Improved fluidity in the assembly chain, more light and better working conditions for the 110 people working at the site. In terms of equipment, the machine pool was modernized. Notably, a zero-waste water-based lacquer line was installed, incorporating the filtration and recycling of degreasing water. The work was carried out on an occupied site — with no disruption to production — by several of the Group’s companies: Smac (waterproofing and cladding), Giraud (structural framework) and Colas Nord-Picardie (roads and services). The new plant was officially opened at the end of June.
Communication campaign, awards, trade shows, sports...

Some images of the Group's events, in France and around the world.

COLAS, THE NEW WAY
Colas unveiled its new Group communication campaign - “Colas, the new way” - at the PPRS (read p.52) conference. Based on simple and allegorical visuals, the focus is very much on issues relating to maintenance, investment, innovation and diagnosis, along with solutions developed by Colas.
Each year, the Special Olympics association organizes an inter-company relay race in Lyon to raise money for people with mental disabilities. For the 2015 event, Colas Rhône-Alpes Auvergne, which has been supporting the association since 2009, mobilized 32 employees from various profit centers in the Rhône valley.

COLAS AT THE FRENCH FOREIGN MINISTRY

At a ceremony held on June 30 at the French Foreign Ministry building in Paris, Colas received the 2014 Janus Industry label for its new work clothing. The label, awarded in the presence of Matthias Fekl, Secretary of State to the Minister of Foreign Affairs and International Development, recognizes companies and local authorities that demonstrate an ongoing commitment to the needs of users, industry and their surroundings.
As part of a partnership between the L2 Bypass Company in Marseille and the city’s Planète Emergences association, graffiti artist Mégot worked his artistic magic on rip-rap extracted from the Perasso quarry (Colas Midi-Méditerranée). These decorated rocks will soon adorn the route of the future L2 bypass.
SPAC EXHIBITS AT THE 2015 WORLD GAS CONFERENCE

At the 26th World Gas Conference (WGC), held in June in Paris, Spac showed off its technical expertise in the field of gas transport and distribution. Exhibiting alongside were Colas, who is supporting Spac’s international development, and HiBot, a Japanese start-up specializing in the design of robots for extreme environments and a partner of the company.

CHAMPAGNE!

The avenue de Champagne, in Epernay, has been listed as a UNESCO world heritage site since July 2015. The avenue, which hosts some of the most prestigious champagne houses overlooking miles of cellars containing millions of ageing bottles, was renovated between 2007 and 2009 by Colas Est’s Epernay profit center. The work had involved laying natural stone curbs, parquet stone for the sidewalks and Indian sandstone paving.
IN THE CARIBBEAN SEA WITH SOGETRA

Built in Les Saintes by artist and shipwright Alain Foy, the new Sogetra (a Guadeloupe-based subsidiary of Colas) boat competed in the Tour de Guadeloupe classic yacht race (TGVT 2015) held between July 10 and July 19.
COLAS RUGBY CUP
Five teams, 60 participants, four graduate schools.
The 5th Colas rugby cup, organized by Colas Rhône-Alpes Auvergne as one of its higher education relations initiatives, was held in Ecully back in April. Victory went to the Ecole centrale Lyon engineering school.

WORLD SAILING CHAMPION!
Emeric Michel (second from left), a young materials engineer with Colas Midi-Méditerranée, won the 2015 SB20 world championships (international one design category) held in Italy.
MAT2020 EQUIPMENT CONFERENCE
The Group’s equipment executives and managers came together in Paris on June 18 and 19 for the MAT2020 equipment conference. A number of themes were discussed: equipment use, operating costs, knowledge management, asphalt mixes of the future and jobsite computerization.

COLAS INDUCTION DAY
Each year, Colas organizes induction days – with the emphasis on having fun – for young management recruits starting out on their careers. The events are aimed at communicating the Group’s values and developing participants’ sense of belonging.
PRESIDENTIAL WALK ON THE SOLAR ROAD

On August 20, during a visit by the French President to the French National Solar Energy Institute (INES), in the French Alps, Hervé Le Bouc presented the first solar road demonstrator developed by Colas’ Campus for Science and Techniques, in partnership with CEA Tech. François Hollande was accompanied by Ségolène Royal, the Minister for Ecology, Sustainable Development and Energy. The Solar Road will be promoted at the United Nations climate change conference, COP 21, to be held in Paris in December.
**PRESS REVIEW**

Excerpts of the Group’s news from media.

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**COLAS AFRICA OUT ON THE ROAD IN BENIN**

[...] Colas Africa is completely renovating two sections of road in the center of Benin. The contract, worth €47 million, comprises the resurfacing of a 42-km section of road between Tchetti, on the border with Togo, and Savalou; and a 17-km section between Logozohoué and Glazoué. [...]“

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**THE 72-HOUR CHALLENGE**

[...] “I’m not in the slightest bit concerned!” exclaimed Nicolas Le Borgne, site supervisor for Colas Guingamp, yesterday. Just 24 hours before work begins in Binigou, Saint-Martin-des-Champs in northwestern France, and following two years of preparation, everyone is gearing up for three days and three nights of work to replace grade crossing 273 with a rail bridge beneath the railroad. [...]”

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**French companies awarded Cairo subway extension project**

[...] Six French companies have signed contracts to carry out extension work on one of Cairo’s subway lines, worth a total of €440 million, announced the French Ministry of Foreign Affairs. Vinci, Bouygues, Alstom, Thales, Colas and Eurovia will form a consortium with a number of Egyptian companies. [...]”

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**OSCAR, THE HARDHAT OF THE 21ST CENTURY**

[...] What’s plastic, orange, is the same shape as a baseball helmet, detects nearby electric cables, lights up to 5 meters ahead, has integrated microphone and headphones, protects the head and the eyes and has ten hours of battery life? Answer: Oscar, the cutting edge hardhat developed by Bouygues E-Lab’s high-tech laboratory for Colas Rail. [...]”

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**And the bitumen of the future, what will it be like? It’ll be cooler! Even 4 or 5 years ago, when you mixed sand, bitumen and gravel to make asphalt concrete, you had to heat the mixture to a temperature of 180°C. We’ve managed to reduce these temperatures so that we can now produce mixes at between 120 and 130°C, without bitumen fumes and with the same technical characteristics as warmer mixes. We’ve even succeeded in designing a prototype that can be spread at 50°C, it can almost be handled.”

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DIFFERENT AND COMPETENT

[...]

Antoine Cristau, the Group’s Diversity Manager reiterates: “The aim is to raise awareness of the fact that people can be different yet just as competent as anyone else. Our employees tell us that it is the first time they have heard disability described in such a way. The feedback is extremely positive.” [...]

ALL ABOUT POTHOLES

[...]

On a far more light-hearted note, another “Operation Pothole” has just been launched with Logiroad and the support of Colas, by Transway, a company whose main goal is to promote “eco-mobility”. This mobile phone app, linked to a web platform, allows users to flag up and geolocate potholes they come across on their travels. In doing so, they earn points that can be swapped for gifts. [...]

COLAS RECYCLES PAVEMENTS

[...]

Colas’ strength in Condat-sur-Vienne, central France, is the recovery and recycling of waste and construction materials from the construction sector and other industries in order to turn them into gravel and aggregates. Colas Haute-Vienne has signed a number of agreements: with the University of Limoges and the Ensil (Limoges Engineering School) to carry out joint research on organic mineral binders; with the SEHV (Haute-Vienne Energy Association) to recycle unsightly reinforced concrete posts for power lines; with Allia, a manufacturer of bathroom ceramics in Limoges, to recover their waste (wash-hand basins, etc.). The company, with its instantly recognizable yellow and black diamond logo, is also working with Émaux Soyer-Cristallerie Saint-Paul, in Condat-sur-Vienne, with a view to using photoluminescent microcrystals.

Stabilized ballast profiles

[...]

Colas Rail recently unveiled its Aqua-Rail solution [...] designed to prevent ballast projections and ricochets from blocks of ice falling from rolling stock. [...]

COLAS PAVES THE WAY FOR SAFETY OFFICERS

[...]

Félix Nstama Enyegue, known as “Yaya”, grader operator with Colas Gabon: “The training we received with the OPPBTP (French construction industry and civil engineering safety organization) encouraged us to question ourselves, understand that prevention is also about showing concern for others, opening up to them and ensuring management is made aware of difficulties so that corrective measures can be implemented. So we learned how to approach our colleagues and identify problems with a view to helping them adopt a safer approach to work rather than reprimand them or issue orders.”
COLAS ON STAGE
Colas supports Jonathan Fournel (pianist) and Mohamed Hiber (violinist), two young talents in classical music. Here, a trio with cellist, Gautier Capuçon, at a concert at the Théâtre des Abbesses in Paris.
The road through the eyes of
Loïck Peyron
“Getting far away from it all brings you closer to what’s important”

Colas Foundation
Cathy Jardon
“The road is a concrete reality that includes a philosophical dimension”
Loïck Peyron

“Getting far away from it all brings you closer to what’s important”

When you think of “roads” and “routes”, what springs to mind?

Loïck Peyron: I straight away think of the great sea routes such as the Route du Rhum transatlantic yacht race. I never think about land roads… I have a strange relationship with them. In fact, I don’t even drive myself, someone drives me around. I’m in too much of a hurry on the road to enjoy them. I spend as little time on them as possible. On water, I’m in a hurry but I appreciate every moment.

You’re a Peyron, a well-known sailing dynasty. Was your career all mapped out beforehand, a natural heritage, or is it the result of a challenge thrown down to the rest of your family?

L. P.: Almost certainly a bit of both. First of all I was lucky enough to be steeped in this environment: everyone sailed in my family. So heritage clearly plays a role and a competitive spirit undoubtedly came into it, but it wasn’t my primary motivation. It’s quite rare to find yourself in competition with members of your own

Famous French yachtsman Loïck Peyron was born in 1959. The son of a merchant navy captain, he is the middle brother of Bruno and Stéphane, themselves successful sailors.

He has won the Transat Jacques Vabre yacht race twice, the Barcelona World Race once and the Clairefontaine Trophy eight times. In 2011, he prepared for the 2013 America’s Cup with Energy team and then with Artemis Racing. He is the holder of the Jules Verne Trophy, which he won in January 2012 onboard the Banque Populaire V Maxi trimaran.

On November 10, 2014, he won the Route du Rhum race, on the Banque Populaire VII trimaran in record time: 7 days, 15 hours, 8 minutes and 32 seconds.

Loïck Peyron was named Sailor of the Year in 2014 by the French Sailing Federation.

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family. During my first Route du Rhum, we brothers were up against each other, and my uncle was also involved in the race. I've sailed a lot with my older brother and I've competed against him a lot too. I've always had great respect for my fellow competitors. You accept it when you are beaten by someone who is better than you on water due to a common denominator, the sea. It's not everyone who necessarily thinks like that but I have a profound respect for anyone who can tame the sea.

Do you remember how you felt during your first transatlantic crossing at the age of just 18? Was there a precise moment that made you decide or was it a series of moments in time that made you what you are today?
L. P.: A series of moments. There are no certainties in this business, either in terms of the route you take, finishing the race or even starting the race. It's all in the lap of the gods but the motivation is immense. Paradoxically, I wasn't sure about anything but convinced this would be what I'd do with my life. In actual fact, I very soon realized that certainty was a dangerous thing, but I was happy to live day to day, to go out on the boats. The sensations I had during my first crossing remain with me to this day, especially since, back then, the conditions were technically very different. We navigated using a sextant, with little or no means of communication. I've lived through some incredible adventures. A crossing littered with adventures for a kid of 18… it was awesome, and made even better by the fact that it was a personal dream come true.

Is there a specific ritual you go through for each race?
L. P.: I listen to music a lot at sea. I remember each bit perfectly, but I always finish with Handel's Messiah.

You won the Route du Rhum in 2014 at a time when you were planning something quite different, to sail in a monohull navigating by sextant. Why did you agree to take Armel Le Cléac'h's place? How did you switch from a parallel personal project to an ultra-competitive one?
L. P.: The question I asked myself straightaway was: am I still physically capable of this? I had to get back into shape, but that wasn't all. My main concern was that I may have lost my reflexes in terms of racing singlehanded. I hadn't raced singlehanded for twelve years, and the multihull is reserved for an "elite", in the sense that few people are capable of doing it. Had I forgotten the core basics, the very specific reflexes required for singlehanded racing in a multihull? Your mental attitude is crucial. I went out alone straight away to test the boat and test myself with respect to these various aspects. I felt good. I exaggerated certain phenomena for fear of having lost the knack. At sea, you must always be afraid. Being alone at the age of 54 on a machine that isn't designed for just one person is a dangerous challenge.

When sailing these big boats solo, everything is important for the performance and safety of both boat and man. You have to think through every piece of choreography, every gesture, every maneuver, the sequence of everything you're going to do. There is no room for mistakes. Everything is immense and dangerous, the slightest error is catastrophic. When you start, you need to have a very precise idea of the deck layout, you have to visualize where you'll be in a given situation, night and day. In the month and a half before the race, I work, I dissect and visualize every situation, every movement on board. You have to imagine one person doing the jobs usually done by eight people at the same time, visualize how you're going to be positioned at a given place… Every potential problem has to be anticipated virtually — you can't do it for real —, which is where your experience of singlehanded racing comes in to its own because you intuitively remember all the situations you have ever encountered during your career and capitalize upon them. That's the great advantage of having navigated solo as much as I have.

I do all these exercises alone and share them with others but I don't put them down on paper. I run through all the scenarios in my head, on land, before going to sleep. I arrive at the race with all that in my head, the mental preparation is just as important as the physical preparation.

A few years ago you wrote “getting far away from it all brings you closer to what’s important”. How do you feel today?
L. P.: It was something I thought about during a round-the-world trip back in 1981. It's true you leave people far behind you, you leave determined to finish. In these businesses, you never say, half way through, "I'm throwing in the towel", but there is always the joy in coming home again.
How did you approach the commission from the Colas Foundation?

Cathy Jardon: The theme of the Road appealed to me due to the subject’s dual significance. Roads are a concrete reality: the place where we are, the association with scale and body, the practical, political and social aspects. But roads also encompass philosophical reflection. For example, questions of choices, the possible, as well as the absolute, in the sense of being detached, separated, held back by nothing... hence the sphere of thinking. I've never accepted a painting commission before but saw this as a challenge.

Your work brings to mind stones placed on the ground, tracing out a road. Was that your intention?

C. J.: Although I love figurative painting, I didn't set out to represent the real. The geometric shapes, their colors, the composition of the whole don't recreate reality. There are no stones, there is no ground, there is no road, but instead shapes that inhabit and evolve in a setting detached from the real. The colors bring the painting to life. The geometric dimension – very simple due to the arrangement and color – creates an infinite universe, one that is constantly renewed. The effect I was after was to take people beyond what they think they recognize.

What is the meaning behind your chosen title?

C. J.: Originally the term “geodesic” – “Geodäsie” in German – referred to the science of mapping. It was then associated with the study of the dimensions and shape of the Earth. The term relates to the way the surface of the globe is divided – ideal for a Colas commission!
Julien Marcy, Marc-Olivier Lesage,
Jérôme Petit, Christophe Morin,
Yoann Bouhalassa, Florian Gourden,
Cédric Le Gouil, Yves Bounou,
Vincent Bergeaot, Sébastien Brunet,
Nils-Erik Strube, Britt Hanger Jørgensen,
François Hendrickx, Didier Charles,
Fabien Gil, Philippe Commarmond,
Quentin Retoux, Alexandre L'hôte,
Stéphane Knebel, Arnaud Denis,
Kristen Driscoll, Pascal Di Lena,
Emeric Michel, Cédric Begin,
Peter Bamfield, Thierry Badet,
Antoine Cristau, François Chaignon,
Sébastien Gattet, Jérôme Desemeret,
Isabelle Tanière, Loïc Rougemont,
Thierry Delaunay, Arnaud Borie,
John Cooper, Bill Turner, Doug Ellett,
Béatrice Abeille-Robin, Christophe Voy,
Cathy Jardon, Alain Desvaux, Rémi Colin.
Cathy Jardon
"Geodäsie"
2014