En route

The L2 bypass:
linking neighborhoods in Marseille
“As Routes celebrates twenty years in print, I’d like to pay tribute to the quality of our news magazine renowned both internally and externally. Linking together Colas’ employees all around the world, Routes is an effective vehicle for the Group’s global influence. I extend my heartfelt thanks to all those involved in its production, either directly or indirectly.”

Hervé Le Bouc

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Cover photo: view of Notre-Dame-de-la-Garde basilica from the Old Port, Marseille, France.
Safety is Colas’ number one corporate value. For a responsible company, life and health take precedence over all else, in all circumstances and at all times.

The supremacy of this priority and this value, shared by all Colas’ employees, are reflected in an ambitious objective, underpinned by our total collective commitment and absolute intransigence.

Zero accidents: the bar has been set high but it’s an achievable target, as dozens of the Group’s entities across the five continents prove each year. I now invite every single one of our companies to join them on the podium.

One hundred percent commitment: safety is all about teamwork, with individual members acting in such a way as to ensure their own safety and that of their coworkers. And I reiterate that managers need to lead by example and be fully committed.

Zero tolerance: nothing can be allowed to compromise the Safety Attitude, no breaches of safety rules are tolerated. I repeat, there can be no exceptions when it comes to safety.

Safety begins with a set of rules that must be followed, one of the most important being the mandatory use of personal protective equipment (PPE).

Just as firefighters, soldiers and doctors don their uniforms to go to work, so too should every Colas employee wear the appropriate gear before they enter a jobsite, a plant, a workshop, etc. Protective gear is the first line of defense. It is also a mark of professionalism. It’s a commitment, a visible sign of pride in belonging to a Group that defines safety as its number one value.

This fundamental rule, which applies to both managers and workers, is just one among many: compliance with all safety rules is an absolute must.

The daily battle for safety will be won thanks to the men and women who represent Colas: professional, responsible people committed to upholding the Group’s values, starting with the first. I have full confidence in you all.
Unveiled in October 2015, Wattway photovoltaic road surfacing technology has now entered the usage assessment phase, with the launch of a first trial site in June on the parking lot at the Vendéspase sports complex, located in La Roche-sur-Yon, in the Vendée region of western France. Over the next two years, around one hundred sites of this type will be rolled out across France and elsewhere to test Wattway’s usages in situ. About 5,000 m² of Wattway panels will be made by SNA, in the Orne area of Normandy, in Tourouvre to provide the designated sites. The fabrication of Wattway panels has indeed entered the pre-industrialization phase. The panels were previously made by CEA Tech (the FabLab operated by the French National Solar Energy Institute). SNA has the capacity to step up production to meet the full-scale industrialization needs for Wattway’s commercial launch from 2018.

1 42 Wattway panels representing a surface area of 50 m² were laid on the parking lot at the Vendéspase sports and cultural complex, in La Roche-sur-Yon.
2 Inauguration on June 2, 2016, at a ceremony attended by Alain Lebœuf (center), French Member of Parliament for the Vendée region and President of the SyDEV (Energy and Infrastructures Federation for the Vendée region), Yves Auvinet (right), President of Vendée Department Council, and Jean-Charles Broizat (left), Director of Wattway.
3 This pilot site will produce 6,300 kWh/year to recharge electric vehicles.

To find out more:
• http://www.wattwaybycolas.com
• contact@wattwaybycolas.com

WATTWAY AT THE ELYSEE PALACE

At the end of July, at a ceremony marking the anniversary of the French Energy Transition Law organized at the Élysée Palace in Paris, a Wattway demonstrator was presented to French President François Hollande and Ségolène Royal, Minister of the Environment, Energy and Marine Affairs, responsible for international climate relations.
From Benin to Australia via Djibouti, Canada and France... a rapid trip around the world to see the Group’s jobsites, work in progress and finished projects.

The Žďákov bridge, 90 kilometers south of Prague, spans the river Vltava, rising 50 meters above its calm waters. The 543-meter structure, which boasts the largest steel arch in Europe, was built back in the 1960s and had been closed to traffic on two occasions due to cracking. Urgent renovation work was thus required. Colas’ Czech subsidiary, Colas CZ, was awarded the contract in May 2015. Over the course of the three-year project, teams will resurface the concrete deck, renovate the guardrails and steel girders and carry out painting and sanding operations. One of the specific aspects of this project is its environmentally-sensitive nature given its location in a Natura 2000* area. The project is an excellent reference for Colas’ civil engineering expertise in the Czech Republic.

* A network of natural or semi-natural habitats within the European Union that have to be protected due to their significant value in terms of heritage (fauna and flora).
In July 2015, teams from Colas Environnement began operations to clean up 4,500 m² of diesel-polluted land belonging to the SNCF national railway company in Paris. Over the course of the two and half-year project, the teams will be employing a variety of techniques, showcasing the company’s expertise. One of these techniques, known as bioventing, involves oxygenating the soil to allow the bacteria naturally present to degrade the hydrocarbon contaminants. The free phase hydrocarbons on the water table are recovered via E2S (Sequenced Supernatant Extraction), a technique patented by Colas Environnement designed to recover the product while minimizing recourse to water pumping. This is a flagship project for the company and for students from the University of Marne-la-Vallée learning the tricks of the trade as part of their vocational training qualification in polluted site and ground clean-up programs. Students from the École des Mines engineering school and the Ademe (French Environment and Energy Management Agency) have also visited the site.

Colas IDFN back on the runway at Roissy

Colas Île-de-France Normandie’s (IDFN) Gennevières Nord and Île-Saint-Denis profit centers found themselves back in familiar surroundings at the start of June as they hit the runways once again at Roissy-Charles-de-Gaulle airport. Working as joint contractors alongside Colas Grands Travaux, teams set about rehabilitating taxiway Roméo, which had previously been partly upgraded by Colas IDFN back in 2015. They then carried out resurfacing work on runway 2. The project, which was launched at the end of the Euro soccer tournament to avoid disruption to air traffic, was delivered at the end of September.
8.5 million m³ of earthworks, 140,000 tons of asphalt mix, 80 km of tracks, 188 engineering structures, two new stations…

The Nîmes-Montpellier high-speed rail bypass project is colossal in every sense of the word! Employees from Colas Rail and Colas Midi-Méditerranée are working together on the project as part of the Oc’Via Construction consortium. Commissioned by SNCF Réseau, the consortium is responsible for the design and construction of the first mixed-traffic (passenger and freight transport) high-speed line. It will offer more frequent regional links and reduce journey times on national and international routes.

The novelty with this rail project is the application of road base asphalt concrete surfacing beneath the ballast by Colas Midi-Méditerranée’s teams. Tested on the LGV East Europe high-speed railroad, this innovative technique saves thousands of cubic meters of materials compared to the traditional method. It also delivers technical comfort when trains travel over the tracks at high speed. The 500,000 tons of ballast come from the Group’s Trapp quarry, in Raon-l’Étape, in eastern France.

In terms of railroad equipment, Colas Rail’s teams adopted an innovative method for laying continuous rails using a gantry. Servant, a subsidiary of Colas Midi-Méditerranée, supplied 25% of the concrete required for the project. All in all, a fine demonstration of the Group’s expertise on one of the biggest construction projects in France.
A key step in track laying operations consists in welding together long rails to obtain a continuous track.

Colas Rail’s teams managed to lay more than 2,000 meters of track per day thanks to the use of a gantry system. Work on the catenary systems was conducted using mixed road and rail methods enabling the early launch of operations.

Colas Midi-Méditerranée constructed numerous connecting tracks.
**Primal Surfacing in the Macedon regional park**

The Macedon regional park in Victoria is an hour’s drive from Melbourne. Shaded by the park’s eucalyptus trees, teams from Primal Surfacing, a subsidiary of VSA (a Colas Australia 50/50 joint venture), resurfaced a road using the chip seal technique. The process involves applying a thin surface treatment, made up of a layer of asphalt binders and chippings. In Australia, more resistant polymer-enriched binders are used for surface dressings on heavily trafficked roads. In Europe, these products are generally reserved for use on sections that carry smaller volumes of traffic.

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**ICELAND**

**Hitting the runway in Reykjavík!**

Teams from Malbikunarstöðin Hlaðbær, an Icelandic subsidiary of Colas, will apply 105,000 tons of asphalt mix to the two main runways and two new taxiways at Keflavík international airport, near the country’s capital, Reykjavík, over a two-year period.
This summer saw the opening of the new CMCIA medical facility for French Forces stationed in Djibouti (FFDJ), on air base 188. Named Médecin capitaine Dominique Mattéï, in memory of the French soldier killed in action in Djibouti in 1984, the CMCIA assembles the various French medical services for the city of Djibouti on a single site: preventive medicine, accident and emergency, intensive care and surgery. Launched at the end of 2014, the construction work was carried out by teams from Colas Djibouti. On the agenda: earthworks, structural works, electrical and plumbing networks, roads and main networks. Teams applied the 3,100 m³ of concrete – produced by the subsidiary's concrete mixing plant – and installed the 100 tons of framework. Fitted out with the very latest cutting-edge equipment, the new facility has sixteen beds and two operating theaters.

Colmar: Colas Est fosters art

Founded in 1853 and housed within the walls of a former Dominican convent, Colmar's Unterlinden museum, in the Alsace region of northeastern France, has been given a makeover. Colas Est’s Haut-Rhin profit center was responsible for the external aspects of the site’s redevelopment: preparatory work for the laying of 7,500 m² of sandstone paving stones, the installation of underground networks and the installation of ground ventilation grids. The project was completed last December.
Built by Vauban between 1668 and 1672, the citadel of Arras was meant to protect the town from enemy invasions. However, since its position was far from strategic, it earned the nickname “Belle inutile” or “Useless Beauty”. Demilitarized for a number of years now, in 2016, the citadel has been renovated as part of a redevelopment and upgrade project. Teams from Colas Nord-Picardie’s Artois Lens profit center were responsible for creating the stabilized sand footpaths, the paved sidewalks and 4 kilometers of trenches for the street lighting. 5,000 m² of access ways were also created or renovated. On the ramparts, teams set about work on 5,000 m³ of embankment walls and 550 m of trench drains. The citadel of Arras is a UNESCO world heritage site, demanding every ounce of Colas’ expertise. With a single imperative in mind: to deliver the project in time for the Mainsquare music festival, held at the start of July within the confines of the citadel itself. ■
**FRANCE**

**Road widening project**

Route 30, in the Greater Paris region, links the town of Plaisir, in the Yvelines area, to the busy Route 12. It is a strategically important road, used by 30,000 vehicles every day. To relieve congestion and improve safety, work was launched in January 2015 to widen the infrastructure to 4 lanes. Colas Île-de-France Normandie’s Villepreux profit center is responsible for the roadworks and redevelopment work: 20,000m² of planing, 60,000 tons of warm mix, 5,000m² of exposed aggregate concrete for the sidewalks and traffic islands and 42 km of curbs and gutters. Aximum is responsible for the temporary signs and the installation of road safety equipment. Cosson, a subsidiary of Colas IDF, is processing the cut materials for their subsequent re-use in the project. Delivery is scheduled for mid-2018.

**MOROCCO**

**GTR by the sea**

At the gateway to the Strait of Gibraltar, the city of Tangier is constantly reinventing itself: Tanger-Med port, the high-speed railroad… and now the redevelopment of the coastal promenade. In just under two months, teams from GTR, a Moroccan subsidiary of Colas, applied 30,000 m² of beige-colored mastic asphalt.
In early 2016, overlooked by the Louis XV-style façade of Trans-en-Provence’s 18th century City Hall, which is listed as a historic monument, teams from Colas Midi-Méditerranée’s Fréjus profit center carried out work to turn the square into a pedestrian area: earthworks, re-routing of networks and services and Portuguese stone paving.
May 2016 saw the very first Ecofast® project carried out in the Gers region of south-western France. Developed by Colas Sud-Ouest, this surface maintenance technique is suitable for pavement preservation and renovation operations. The secret? The simultaneous application of a bitumen emulsion-based waterproof sub-layer and a controlled-dose uniform asphalt layer. Applicable on all supports, this technique is extremely efficient (15 to 30 meters covered per minute) and allows the road to be reopened to traffic quickly (as soon as a section is completed), making it an ideal solution for stealth projects. Ecofast® addresses the concerns of contracting clients seeking environmentally-friendly, cost-effective solutions for road maintenance purposes. There is also an option to use Ecofast® Colclair® colors to differentiate zones reserved for different categories of users or to ensure the road fits seamlessly into its environment.

Brasseries de Bourbon, Reunion Island’s only major beer producer, called in TP Nord, one of the centers run by the Colas company GTOI on the island, to renovate the road network on its industrial site, on the edge of Saint-Denis. The contract also covered the various wet and dry utilities networks, urban furniture, road signs and street lighting, as well as the widening of access roads to the production units.

"GTOI is here" (a reference to the creole slogan accompanying the beer produced on Reunion Island by Brasseries de Bourbon: "La dodo lé la", meaning "The Dodo is here").
Sully-Miller in Death Valley

Death Valley National Park is one of the driest and hottest spots in North America. At the end of 2015, teams from Sully-Miller, an American subsidiary of Colas, carried out resurfacing work on Route 127, the main highway linking the town of Baker, California to the national park.
Betoflex® proves its worth in Calgary

With more than 15 million passengers per year, Calgary is the third busiest Canadian airport in terms of passenger numbers, just behind Toronto and Vancouver. To solve the problem of constant surface damage on the waiting areas of taxiways Charlie and Alpha, the Calgary airport authorities called in Standard General Inc. Calgary, a subsidiary of Colas Canada in Alberta. The objective was to improve the resistance of the surface to rutting, completing the work as fast as possible in order to minimize disruption to airport operations. Already used on a number of infrastructure projects, Betoflex® was quickly selected as the ideal solution. Formulated by Colas’ Campus for Science and Techniques, the asphalt mix was then modified by the subsidiary’s laboratory in Acheson, to adapt it to local standards, especially the temperature ranges involved when using bitumen (from +64°C to -28°C).

Together on Highway A6

Paris-Rhin-Rhône Highways Agency (APRR) called in Colas Major Projects and Colas Est to resurface a section of the A6 highway, near the Nitry interchange, in Yonne, north-west Burgundy. Around 20 kilometers to the south, near Avallon, Aximum’s teams worked on another section of the highway, installing road signs.
The construction of the Polygone Riviera shopping center in Cagnes-sur-Mer - the first outdoor facility of its type in France - was fraught with natural obstacles. Working on protected marshland, teams from Smac’s Marseille and Aix-en-Provence profit centers were responsible for waterproofing and façades. Serin Constructions Métalliques and Giraud, both Smac subsidiaries, erected the 1,800-ton framework. Eurosyntec, another subsidiary, specializing in synthetic resin in-situ techniques, carried out resin application operations on the flooring, paintwork and signs in the underground parking lot. Teams were hampered by extreme weather conditions in October but pulled out all the stops to ensure the 88,000 m² of parking spaces were available to customers from day 1.

In March 2015, Colas Afrique began renovation work on 59 kilometers of dirt track in central Benin. Two sections of road are concerned: a 42-km section between the towns of Tchetti and Savalou, and a 17-km section between Glazoué and Logozouhoué. The 500 people working on the site are being accommodated at a compound set up in the heart of the bush. In addition to earthworks and road construction, teams will also be building five reinforced concrete girder bridges. The project is set to last two years.
Six short weeks: such was the extremely tight deadline set by SNCF Réseau for a consortium led by Colas Rail and including Colas Sud-Ouest, Colas Centre-Ouest, Fondasol and Systra (integrated general contracting) to carry out refurbishment work on the Niort to La Rochelle rail route. Preparations for the project took five months, during which time teams installed some 20 storage platforms and living quarters, as well as 3 railroad support bases, with the creation of service tracks. 850 employees, mainly from Colas Rail Major Projects, Colas Sud-Ouest Charentes-Limousin and Colas Centre-Ouest Pays de Loire Nord-Poitou, were then mobilized to organize the removal and re-laying of 12 km of track, lay 10 km of pre-cast concrete trenches and replace 80,000 m³ of platform materials and ballast. The project was a complete success, with the first test trains starting type approval procedures on June 13.
Every year, the French Alps plays host to one of the most eagerly anticipated stages of the Tour de France cycle race. Dizzying mountain passes, epic climbs, twisting descents, spectacular finishes... The 103rd race kept up the tradition, with three mountain stages in the Alpine range, incorporating a 17-km against-the-clock stage between Sallanches and Megève, via Combloux.

To ensure the best possible conditions for the competitors, teams from Colas Rhône-Alpes Auvergne Passy profit center refurbished and repaved sections along the race route, applying 1,250 tons of semi-coarse asphalt concrete combined with Colflex® elastomer modified binder. This binder provides solid structural rigidity and makes the surface resistant to high traffic volumes. The work was carried out between May and June to make sure the route was ready to receive the riders.
Between land and sea

It was against the magnificent backdrop of Mont-Saint-Michel that teams from Colas Centre-Ouest's Côte d'Émeraude, Baie d'Armor and Loudéac profit centers carried out resurfacing work on a 1,500-meter section of road through Cherrueix. They used Easycold®, a bitumen emulsion-based asphalt concrete for the wearing course. Manufactured using RAP, undried local materials and a plant-based fluxing agent, this cold mix is environmentally friendly and delivers performances on par with those of a hot mix with identical design. It took the dozen or so skilled workers mobilized for the project a mere 48 hours to complete work on the road, which played host to the Mont-Saint-Michel marathon just one month later.

Rehabilitation of Route 1

Colas Gabon and Spac are part of a consortium rehabilitating a 7-km section of Route 1. One of the biggest challenges with this project is urban traffic management since Route 1 provides the only access to the country’s capital, Libreville, home to 60% of the entire population. A communications center has thus been set up right in the middle of the site to present the project and facilitate dialogue with residents.
To serve La Broye's new 40-hectare industrial and technological park dedicated to the aviation industry – the base and departure site for Bertrand Piccard's solar-powered aircraft, Solar Impulse –, the neighboring Payerne aerodrome has undergone major upgrading work. Teams from Swiss subsidiary Colas Mittelland, supported by Ertec, Colas Est and Colas Vaud, repaved an 18,000 m² section of tarmac, and extended the existing taxiway. They applied 6,500 metric tons of Colbase®, an ultra-high-performance hot mix, and 3,500 tons of Multicol®, a composite and compact mix designed to resist deformations caused by significant static loads and heavy traffic use. Inaugurated in June 2016, the upgraded facility is now capable of handling A340-type aircraft.

FRANCE
3-in-1 project in Mulhouse
Colas Est's Haut-Rhin profit center is carrying out three projects simultaneously on the new PSA Mulhouse site: the creation of a truck parking lot, the resurfacing of a light vehicle storage and loading lot and, lastly, the upgrading of the main entrance.

SWITZERLAND
Payerne Aerodrome: new tarmac
To serve La Broye's new 40-hectare industrial and technological park dedicated to the aviation industry – the base and departure site for Bertrand Piccard's solar-powered aircraft, Solar Impulse –, the neighboring Payerne aerodrome has undergone major upgrading work. Teams from Swiss subsidiary Colas Mittelland, supported by Ertec, Colas Est and Colas Vaud, repaved an 18,000 m² section of tarmac, and extended the existing taxiway. They applied 6,500 metric tons of Colbase®, an ultra-high-performance hot mix, and 3,500 tons of Multicol®, a composite and compact mix designed to resist deformations caused by significant static loads and heavy traffic use. Inaugurated in June 2016, the upgraded facility is now capable of handling A340-type aircraft.
In the port of Antwerp

A glass boat suspended above a former fire station: the new Port Authority headquarters have become the figurehead of the port of Antwerp, a symbol of vitality and innovation. Colas Belgium’s Centrum profit center built the paved esplanade and installed mooring bollards, marking studs and period-style rails.
Colas is a member of the consortium working on Marseille’s L2 bypass project. By 2017, this 10-km urban expressway will link neighborhoods in the east and north of the city. Objective: to relieve traffic congestion in the downtown area.

The L2 bypass: linking neighborhoods in Marseille
NOISE REDUCING MIX
On two sections of the L2 bypass, Rugosoft® was used for the wearing course, thanks to its high skid resistance and remarkable noise reducing properties.
Marseille, its basilica (known to locals as the “Bonne Mère”\(^1\) or good mother, protector of the city), its old port... and its traffic! “Marseille is grid-locked all day long”, explains Inouk Moncorgé, CEO of the company in charge of the project, the Société de la Rocade L2 de Marseille. The construction of the L2 bypass (Link No. 2), a toll-free 10-km section of urban expressway linking the east-bound highway A50 to the north-bound highway A7, will take traffic away from the downtown area and reduce traffic noise. The new route will also make it possible to develop public transport services and encourage the urban regeneration of neighborhoods served by the road (landscaped parks, promenades and bike paths).

### Thirty-year PPP contract

The infrastructure is being built as part of a public private partnership (PPP) contract between the French Ministry of the Environment, Energy and Marine Affairs and the L2 bypass consortium, of which Colas Midi-Méditerranée\(^2\) is a member. Awarded back in 2013, the €620-million contract covers the financing, design, construction, maintenance, upkeep and renewal of engineering structures and equipment for a period of thirty years. For the design and build the project company called on L2 Construction consortium, >

**VINCENT JACQUEMAIN, Roads Manager on the L2 project**

**Team satisfaction above all**

Having graduated from the ESTP engineering school, Vincent carried out several internships at Colas. In 2002, he was offered a permanent contract and spent a year traveling around France before heading back to the east of the country to become project manager. “I worked on the Besançon and Dijon tram projects, experiences that were invaluable, helping me to develop the essential skills required to manage major projects. The L2 project is very exciting. Between the simultaneous activities (civil engineering, earthworks, road works, equipment) and the co-existence of various corporate cultures, this project is extremely rewarding professionally speaking. Motivating the teams and making sure they are happy with everything are two crucial factors to the success of this type of project.”

\(^1\) The Notre-Dame-de-la-Garde basilica is built on a limestone outcrop overlooking Marseille.

\(^2\) The L2 Bypass consortium comprises Meridiam (35%), the Caisse des dépôts et consignations group (35%), Bouygues Construction (13%), Spee (7%), Colas Midi-Méditerranée (5%) and Egis (5%).
A project steeped in history

Residents of Marseille have been eagerly awaiting this bypass for decades! “The first declaration of public utility dates back to 1983, but work on the Tilleuls cut and cover tunnel didn’t begin until 1989 and was only completed in 1993,” recalls Inouk Moncorgé. “Between 1995 and 2000, the project progressed in fits and starts. The issue of the PPP was first brought to the table at the beginning of 2000 and finally rubber-stamped in 2007. The contract was awarded in 2013. It was high time to complete this long drawn-out project, in partnership with all of the stakeholders.” The bypass is being built in an area that represents another challenge.” To oversee the spending commitments and ensure the accuracy of the accounts, François, who is more used to working in a profit center, has had to really embrace this extraordinary project and all that comes with it in terms of human and material resources.

François Barthez,
Financial Controller (roads and earthworks)

A new challenge to be met

“I joined Colas in 2007, after graduating from business school and spending a year working in a management audit job in New Caledonia. Over the next seven years, I gained useful experience in accounting and profit center administrative management for Colas Rhône-Alpes Auvergne and then Colas Midi-Méditerranée.” François joined the LP2 project in February 2014 as financial controller. “This is my first experience on a project of this size and it represents another challenge.” To oversee the spending commitments and ensure the accuracy of the accounts, François, who is more used to working in a profit center, has had to really embrace this extraordinary project and all that comes with it in terms of human and material resources.

> in which Colas Midi Méditerranée has a 13.5% stake. There are two parts to the project: the completion of the East section (5.5 km), launched some twenty years ago, and the construction, from scratch, of the North section (4.1 km). Several Colas subsidiaries are participating in this major project: mainly Colas Midi-Méditerranée (paving and networks); Aximum (temporary markings, dynamic road signs); Aximum and Colas Grands Travaux (extruded concrete).
Street art murals will be located at each slip road along the expressway.

Urban art

“When out and about on the site, we realized that the L2 bypass had, over the years, become an experimental playground for Marseille’s urban art scene. Instead of turning our noses up at it, we decided to draw inspiration from it.” In partnership with the Planètes Émergences association, the L2 bypass company invited artists to express themselves on these gigantic open-air walls. The graffiti is inspired by local history, geography, architecture and the social and urban environment. At each interchange there will be a large-scale mural. To ensure motorists are not distracted, the tagged walls will only be on slip roads and the artistic stance favors large figurative works, with little detail.

At the heart of the city

Construction is performed within an extremely confined environment, with multiple activities taking place within a limited area. While the East section is currently being opened to traffic, the next phase concerns the earthworks and civil engineering works along the length of the North section. Before the civil engineering work can take place, Colas’ teams are responsible for re-routing the various service networks (water, electricity, gas, etc.) and diverting traffic, creating the drains, slot gutters (work carried out by Aximum and Colas Grands Travaux), dry utilities networks. “We’re determined to make sure that the L2 bypass project causes no disruption to water or electricity supplies and that traffic does not come to a grinding halt”, explains Vincent Jacquemain, the consortium’s Roads Manager. The next jobs are the capping layers, before Colas Midi-Méditerranée can apply the asphalt mix — a total of 200,000 tons along the two sections and 50,000 tons for renovation and temporary roads. “We’ve opted to use Rugosoft® for the wearing course, for its outstanding skid-resistance and noise-reducing properties”, continues Vincent Jacquemain. >

Extruded concrete is compacted concrete, applied using the slip form technique.
en route

> Work under live traffic conditions
During the road works phase of the project, teams from Colas’ road safety and signaling subsidiary, Aximum Marseille, are providing support services (lane closures and switching, installation of temporary signs, site barriers). Most of the work is being carried out at night due to traffic conditions in Marseille. “The project is an opportunity to pass on knowledge and hone expertise, particularly with respect to signaling”, underlines Yves Bounéou, profit center manager. “This type of long-term project is ideal for training young employees in the art of site signaling. These operations, carried out in live traffic conditions, demand skill and rigorous attention to safety.”

Strong mobilization
“The L2 bypass project involves lots of cooperation between various subsidiaries and is mobilizing a considerable amount of the Group's industrial capacity”, observe Vincent Jacquemain and Yves Bounéou. In fact, Bronzo Perasso, a partly-owned (50%) subsidiary of Colas Midi-Méditerranée, is supplying aggregates for the project, as well as almost all of the concrete used for the major engineering structures. And the twelve sliding service access ways are manufactured by Aximum Produits de Sécurité. These median barrier access ways, which can be used quickly and easily, allow the customer to carry out work on the infrastructure in complete safety. “The teams are proud to be working on the L2 bypass, a defining and emblematic project for the city of Marseille and the region”, they continue. Although the road works on the North section begin in October 2016, a number of challenges lie ahead for employees before the completed road is delivered at the end of 2017. It’s all hands on deck!

KEY FIGURES

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<tr>
<th>9.6 km</th>
<th>250,000</th>
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<td>of freeway including asphalt mix of concrete safety barriers</td>
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<td>(North section) of modular lane separators</td>
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SLIP FORM
Aximum and Colas Grands Travaux are responsible for the slot gutters.

FROM HIGHWAY A50 TO HIGHWAY A7
The east section of the L2 bypass is currently being opened to traffic.
Simon Contractors consolidates its positions

Cheyenne, which lies at the foot of the Rocky Mountains, in central USA, is the capital of the state of Wyoming. As well as being home to 63,000 people, it also plays host to the head office of Simon Contractors, one of Colas’ American companies. Road works, civil engineering, aggregate production, bitumen storage, manufacture of bitumen emulsions as well as asphalt mix and ready-mix concrete: the company is the result of a diversification strategy dating back more than sixty years. Simon Contractors now operate regularly in several States, primarily Wyoming, Colorado, South Dakota and Nebraska. Twenty years after joining Colas Group, the company is grasping new development opportunities to reinforce its market coverage.

A family-run company

Founded in 1954 by James E. Simon, the company initially specialized in building, concrete production, networks and, from time to time, road works. At the end of the 1960s, Simon Contractors opened an asphalt plant in North Platte, Nebraska with a view to increasing its road works market share. In the 1970s, the company opened a further two operations, in Scottsbluff, Nebraska and Rapid City, South Dakota. In 1983, James E. Simon acquired Read Ready Mix in Cheyenne, thereby allowing the company to...

For the past two years, US Colas company Simon Contractors has been reinforcing its positions in Wyoming and South Dakota. Illustration of an integration strategy covering each stage of the value chain, in three chapters.
manufacture ready-mix concrete off-site and deliver the material in bulk to construction sites. Ten years later, Simon Contractors’ strategy, its market coverage and the quality of its work caught the eye of Colas Inc. which bought the family-owned company in 1994.

**Development opportunities**

“Simon Contractors required vertical integration in northern Wyoming and South Dakota. Although present at each stage of the value chain, the subsidiary had only limited production capacities and the quality of its materials was inadequate. Two significant handicaps when it came to bidding for contracts”, analyzes Buddy League, Chairman of Simon Contractors. “Our objectives were to target new locations in order to provide our customers with a better service, access new markets, reinforce our vertical integration, develop synergies between the regions in which Simon Contractors is present and achieve economies of scale. An ambitious program!”

In 2014, the first chapter in the subsidiary’s new development saw the acquisition of Laramie-based Osborne Ready-Mix Services, thereby reinforcing its presence in the Cheyenne region.

**Conquering the North-West**

The second chapter began a year later, in March 2015, when Simon Contractors entered
SPEARFISH CANYON
In South Dakota, teams from Simon Contractors repaved Route 14A between Spearfish and Savoy.
INTERSTATE 80
This summer, Simon Contractors repaved a section of Interstate I-80 - the E Lincolnway Highway, in Cheyenne, Wyoming.

DAM ON LOUP RIVER
Teams from Simon Contractors performed civil engineering work on the Ord dam in Nebraska.
> into an asset swap deal with another construction company, relating to two companies: Intermountain Construction and Materials (ICM) and Hills Materials Company. “The deal concerned both tangible and intangible assets and the take-over of all employees, ongoing contracts and production facilities”, explains Arnaud Chabenat, Vice-Chairman and Administrative and Financial Manager of Simon Contractors. Nearly 300 employees thus joined the workforce and the subsidiary now has some fifteen new production sites in northeast Wyoming, southwest Dakota and Nebraska. “Communication is absolutely vital with deals like this. We assembled the 300 employees concerned by the move to explain to them the reasons behind the decision and to present the company, emphasizing its firmly established local roots.” The employees also had the working conditions and social and medical benefits of being on the payroll at Simon Contractors spelled out to them. Objective: to encourage the new employees to really embrace the project in order to ensure a smooth and effective transition. The other highlight of the period came in May 2015, when the bitumen terminal, the emulsion plant and the polymer modified bitumen production facility owned by Mountain States Materials were sold to Western States Asphalt, thereby allowing the subsidiary to refocus on its core business: road construction, aggregate production and the manufacture of asphalt mixes and ready-mix concrete.

The quest for quality materials

June 2016. Third and final chapter. “In southern Wyoming, we were having problems sourcing adequate supplies of aggregates. The materials are plentiful enough in this prehistoric alluvial basin but the high sand content is detrimental to quality. Only 25 tons out of every 100 tons extracted can be used. The only granite quarry, located between the cities of Laramie and Cheyenne, was already operated by two competitors. One of them contacted us to offer it for sale as he wanted to retire.” The acquisition came with three benefits: a ready supply of high-quality aggregates, a large private customer base and the potential to develop Group synergies.

Vertical integration and reinforcement of positions: a winning combination for Simon Contractors!
Paver operators, technical managers, buyers, financial managers... They all do their jobs with enthusiasm and have decided to share their daily routine and projects with us.

Narcisse Azor arrived in France from Reunion Island at the age of 13. In 1971, armed with a vocational training certificate in mechanics, he was hired by a Parisian electricity company. A year later, he returned to his native island where he became electrical maintenance manager at Segefom, which was subsequently bought by GTOI, Colas’ Reunion Island subsidiary. Since 2012, he has been head of industry at GTOI. “I’m responsible for managing the production activities at our asphalt and binder plants”, he explains. With 18 people under him, he travels all over the island and also makes regular trips to Mauritius, Mayotte and Madagascar. “I’m lucky because I’m just as passionate about my job today as I’ve always been. The technical aspects fascinate me, particularly production unit automation.” As he approaches retirement, Narcisse Azor has no regrets. “The cultural diversity of the people I’ve met has made me who I am!”
WILFRIED BIRHUS
PROJECT MANAGER
COLAS NORD-PICARDIE
FRANCE

It all started with a passion. In Wilfried’s case, a passion for machines. At the age of 16 he qualified as a machine operator and entered the world of construction, joining the Rongère profit center (Colas Est). While studying for a vocational high-school diploma and vocational training certificate to qualify as a project manager, he stayed with the company for his work placements. In 2003, Wilfried was hired as a site foreman, before moving onto the Lille profit center. While there, he worked on logistics platform projects. He spent a year following an internal training program that took him to three profit centers, a lab and a design office, enabling him to qualify as a project manager. “It was a great opportunity for me to get back to basics but also hone various skills, such as testing and putting together quotes, before becoming a fully-fledged project manager.” His first project in his new role?

The Arras citadel, an esthetically challenging project demanding the utmost rigor. “With each new project, you have to draw up a strategy, prepare the technical and human aspects, work closely with the foreman, and, of course, handle the administrative and customer relations side. When it comes down to it, you have to be a manager at heart.” None of which prevents Wilfried from making a point of keeping his machine operator permits!
Luc Bally's background is pretty unusual. Armed with an electrician's vocational training certificate obtained in Colmar, the 49-year old from Alsace, northeastern France, completed his military service in the marines, before spending a year with EDF, the French electricity provider. He joined Colas in 1989 on the advice of his uncle, who was already employed by the Group as a driver. “I was interested in the construction sector and I wanted to operate machines”, he explains. He started off on compactors before becoming a paver operator. “I’ve been doing this job for 25 years now and I still enjoy it as much as ever, despite the sometimes difficult working conditions and long hours.” When not doing his day job, Luc Bally works as a photographer for a number of magazines, including National Geographic, documenting animal and landscape stories from all over the world. “It gives me the chance to highlight the extraordinary biodiversity of our planet and to travel. I’ve been to Costa Rica, Japan, Botswana, Bolivia and the Arctic Circle.” And what do these two passions have in common? A routine that is never boring. “I could never spend my days cooped up in an office or a factory. As soon as I leave work, the camera comes out!”
“A passion for the job”

EUGÈNE KOFFI N’GOUAN
TECHNICAL MANAGER
COLAS AFRIQUE
IVORY COAST

Born in Abengourou, Ivory Coast, Eugène Koffi N’Gouan studied at the École nationale supérieure des travaux publics engineering school in Yamoussoukro, driven by a love of all things scientific. “I always dreamt of being an engineer”, explains Eugène. He began his career at the National Laboratory of Ivory Coast, working as a design engineer. He gradually climbed up through the ranks to become an assistant department manager. In 2001, he joined Colas Afrique as Works Quality Manager in Benin. Since 2011, he has been Technical Manager for the ECOWAS* region. His job involves overseeing the effective management of the labs and providing technical support to the various departments (design office, industries, etc.). Eugène also intervenes during the construction phase, ensuring compliance with the technical requirements of contracts and quality assurance plans. The tasks are far from repetitive, which is precisely what appeals to him! “I’m proud to be part of Colas Afrique’s construction projects across the region despite the fact that the job sometimes takes me a long way from my family. It’s important to find the right balance between your private life and work life, especially if you’re passionate about your job, as I am!”

*Economic Community of West African States.
KOBUS LOUW
REGIONAL TECHNICAL MANAGER
COLAS SOUTH AFRICA
SOUTH AFRICA

When Colas bought Vialit back in 2000, Kobus Louw’s career changed overnight. “It’s the best thing that ever happened to me”, he declares enthusiastically. “Sharing of information and expertise, new equipment, especially in our lab… I entered a completely different world!” Kobus joined Vialit in 1977 as a chemist. Since becoming Regional Technical Manager in 1992, his job has taken him to a number of different countries, including South Africa, Namibia, Zambia and Kenya, to name but a few. His responsibilities range from product development to technical support and training. His colleagues see him as an emulsion and road maintenance expert and he is regularly asked to speak at conferences by the South African government. But Kobus remains modest: “I’m lucky to have been in the job for 38 years and to have had a mentor who taught me so much.” Now 67, he is still as enthusiastic as ever. “As soon as I started, I knew I could never do anything else.” Although he now only works three days a week, spending most of his time on his favorite hobby, woodwork, as well as enjoying quality time with his family, he has no clear intentions of retiring just yet. “I’m still enjoying it as much as ever!”, he ends.
Interesting challenges

JIM SAUCHUK
ADVISOR TO THE CEO
COLAS CANADA
CANADA

In 1977, armed with his engineering degree, Jim Sawchuk joined the Ministry of Transport in the Canadian province of Alberta. While there, he held a variety of posts – including project manager and regional manager – before joining the Minister’s office. In 1998, he moved to Colas and, a year later, he became Vice-President and General Manager of the subsidiary Wapiti Gravel Suppliers. Since 2005, Jim has been advisor to the CEO of Colas Canada. “I report directly to the CEO, carrying out the various missions he assigns to me. For example, in 2012 and 2013, I led the civil works team that secured the P3 Iqaluit International Airport modernization and extension project (Territory of Nunavut).” Since September 2016, he has been responsible for the project aimed at rolling out a new ERP (management tool) across all of Colas Canada’s subsidiaries in 2017. What Jim likes most about his job? “I’m lucky to be set some interesting challenges and to have the opportunity to work alongside talented people. I never get bored! The last 18 years have gone by in the blink of an eye. It’s extremely gratifying to work for a company that just keeps growing,” he enthuses.
Margaux Hérault, 25, from Clermont-Ferrand, is a buyer at Colas Sud-Ouest for the Midi-Pyrénées region. A new job that the young woman sums up in a single word: fascinating. A management sciences graduate from EM Lyon Business School, Margaux began her career at Colas as an intern in the Purchasing Department at the Boulogne head office. She then moved to Wattway, created to oversee the development of the Solar Road. In January 2016, Margaux, now a permanent employee, joined the Toulouse Sud profit center as a buyer. Her main role is to negotiate and establish framework contracts for a range of activities, including transport, equipment rentals, sourced products, materials, etc. Margaux sums up the objectives of her role as follows: “to make savings while taking into account feedback from operators and keeping in mind market realities.” Attentiveness, availability and reactivity are the three essential qualities needed for this job as far as Margaux is concerned. Despite the fact that the purchasing division is relatively new, Margaux is keen to point out that it is already promoting cross-functionality within the company.
Sharing experience across the Group

NHU DINH LAM
DIRECTOR OF FINANCE
ADCO AND COLAS VIETNAM
VIETNAM

After graduating with a Master’s degree in Finance and Banking from Paris Dauphine University / ESCP Europe, and having worked for various MNCs including Procter and Gamble and Shell Vietnam, Nhu Dinh Lam joined Asphalt Distribution Company Ltd (ADCo) in Vietnam as a Finance Controller when the monetary and foreign exchange (FX) crisis broke out in the country in 2008. With his work experience, he helped the company to overcome its difficulties and strengthen its financial performance. The following year he was promoted to the position of Finance Manager of ADCo and became the Finance Director of Colas Companies in Vietnam in 2014 helping the company to grow significantly and sustainably. “Cash is King, I'm proud to be able to make my own contribution to improving the Group’s financial performance.” What does he like most at Colas? The way employees share their experience and expertise with one another. “Vietnam is an emerging country where the demand for road construction is increasing all the time. Colas’ experience in the sector will have a crucial role to play.”
Born in Romania, Stefan Ciufu-Hayward moved to England at the age of 13. Having studied European Law, he spent three years working in a law firm specializing in construction law. In 2012, he moved in-house to work for Colas Rail Ltd as legal counsel handling a broad spread of their legal work (contract preparation, negotiation, litigation, acquisitions, property, insurance, etc.). “Multi-tasking is key,” sums up Stefan. “In my job, you have to be a jack-of-all-trades. You have to be well organized and have a good working relationship with the commercial and operational staff.” In order to gain a better understanding of the risks associated with construction projects and to help him define responsibilities and obligations, he enjoys going out on jobsites and meeting the operational staff. In June 2015, he was offered the post of Legal Manager for Northern Europe within the International General Division (DGI), based in France. This was a great opportunity for the 32-year old as amongst others it enabled him to improve his existing French language skills. “I spent a year studying in Orléans on the European Erasmus program,” he recalls. “That experience helped me settle in Paris very quickly. My British culture is also an asset as I am primarily dealing with English-speaking countries.”
THIERRY BADET
INDUSTRIAL MANAGER
SKYDÔME
FRANCE

Thierry Badet, 51, is a motor sports enthusiast, although he prefers to spend most of his free time with his family. As Industrial Manager, he divides his time between Ouges, in Burgundy, and Sons-et-Ronchères, in Picardy, the locations of the two production sites operated by Skydôme/Axter, a subsidiary of Smac specializing in the manufacture and marketing of overhead ventilation and natural lighting solutions. It’s a sector that Thierry knows like the back of his hand, having worked within it for almost 20 years. He joined the Group back in 2006. Five years later, he was put in charge of both production sites. The job involves regularly liaising with personnel and social partners to optimize working conditions. Also on his list of priorities are low factory cost prices, product quality and delivery times and, of course, safety.

His secret? Transparency and teamwork. “Nothing can be achieved alone. A factory is like a symphony orchestra, made up of musicians and a conductor. Together, they interpret the composer’s work.”
Innovation
From ideas to reality

Photovoltaic road surfacing, Big data, green chemistry…
Created in 2014, the Colas Innovation Board (CIB) is the Group’s governance body responsible for innovation. Below, we examine the committee’s modus operandi and latest developments with Christophe Liénard, the Group’s Equipment and Innovation Manager. We also take a closer look at Building Information Modeling (BIM), the use of drones and Smart Mobility.
Why was the CIB set up and what is its role?
Christophe Liénard: It was necessary to create a governance body responsible for innovation to help support Colas’ transformation. We began by mapping our most innovative projects. We then launched an internal competition on the digital transformation and identified the first promising project, the connected job site, now established as one of our major themes. The CIB has also defined five more areas of considerable interest: the solar road, employee and third-party safety around job sites, big data, green chemistry and cost-wise roads. For each theme, a project manager is designated to liaise with the CIB and determine a methodology in order to ensure practices are as homogeneous as possible.

In terms of the connected job site, can you tell us about the developments so far?
C. L.: We’re developing ambitious projects, including one centered around Building Information Modeling (BIM). With tools such as 3D Scanning and BIM, the job site of the future will bear little resemblance to what we encounter today. These innovations have a direct impact on our professions. They simplify tasks and represent an invaluable asset in terms of anticipating needs and optimizing resources.

What about the other themes identified?
C. L.: Concerning employee and third-party safety around job sites, we’re focusing on new technologies such as the internet of things. We’re also developing further partnerships with university research centers and manufacturers. In the field of green chemistry, our priority is to find replacements for non-renewable raw materials, turning instead to resources drawn from bio-based chemistry or the recycling sector. As for the solar road project, we’ve launched Wattway photovoltaic road surfacing technology, which can be used to generate electricity from dedicated road traffic. We’re also working on “cost-wise” road construction and maintenance techniques. These roads meet the same quality standards but are better adapted to customers’ needs and the economic context. Finally, as part of Big Data, a challenge open to start-up companies and SMEs has been launched to invent solutions aimed at improving employee safety and optimizing the fuel consumption associated with transport.

The CIB has now been given an investment fund. Can you tell us more about this?
C. L.: In order to speed up the application of innovative solutions, the CIB has launched a start-up investment fund, known as CIB Development. More than just a simple minority stakeholding, CIB Development represents an opportunity to participate directly in the start-ups, speed up their development and consolidate their business. The tool creates a link between the digital world, innovation and actual reality out in the field. Through this fund, Colas has recently taken a stake in RB3D, a French start-up company specializing in collaborative robotics, or “cobotics”.

What will be the key to the success of the Innovation initiative?
C. L.: In addition to the open-minded approach that underpins innovation, we need to focus on new methodologies that upset traditional ways of operating. For example, we are a founding member of Paris & Co, a start-up incubator specializing in sustainable urban logistics and mobility, which will give us a better understanding of how things work with start-ups.
TECHNOLOGIES THAT REVOLUTIONIZE PROJECTS AND BUSINESS

BIM: “Building before building”

“Building Information Modeling (BIM) is a modeling tool that incorporates the full range of construction project data management technologies and processes and allows teams to collaborate around an intelligent digital model”, explains Maud Guizol, BIM project manager. “By intelligence, we’re referring to the body of information and characteristics associated with each object, as well as the dynamic link existing between each object or view. This multi-dimensional model – a virtual replica of the construction – makes it possible to anticipate and optimize the project, both with respect to the design and preparation phase and throughout the building phase to completion.” BIM is a commercial asset for the Group. “It represents a competitive advantage for Colas”, continues Maud Guizol. “Not embracing it would have meant missing out on some major projects for which BIM was a stipulation in calls for bids. By using it, we’re demonstrating our pioneering capacity.”
Drones take to the skies

Symbolizing Colas’ determination to embrace new technologies to support its activities, drones are now widely used by the Group. “They are primarily used to determine quickly and precisely how much material is present in a quarry. So, for example, we can determine how many cubic meters of aggregates we have in stock”, explains Marc Maranzana, digital job site project manager. “It saves us a great deal of time and avoids the need to bring in surveyors and expose them to potential risks. What’s more, they are extremely easy to use: it’s simply a matter of defining the area you want to survey and the flight plan is determined by a program. We also use them to obtain topographic readings for earthwork operations, for highway projects, for example. So, by using this technology, we are able to more accurately and quickly determine the volume of fill.”

COLAS AND THE SMART MOBILITY

Against the background of growing urban development, society has high expectations in terms of traffic flow, air quality and improved living conditions. Smart Mobility is designed to optimize users’ mobility within a constantly evolving environment. Colas is a stakeholder in this technological revolution, particularly via its Smart Road connected road sensors and the So Mobility project.

OPTIMIZING TRAFFIC FLOW WITH THE SMART ROAD SENSORS

“In large cities, 30% of all cars on the road are generally trying to find somewhere to park”, comments Elisabeth Gaillard, Colas’ Marketing Manager. “Keeping traffic flowing freely is absolutely essential.” Developed by Aximum and the CST, in partnership with the Technological Research Division of the CEA (French Alternative Energies and Atomic Energy Commission), the Smart Road connected road sensor is designed to detect vehicles. “By defining the number of spaces available in a parking lot or on a given road, these sensors make it possible to manage parking by directing traffic to the right place. The associated benefits are considerable in terms of reduced atmospheric pollution, fuel and time and economic benefits more generally for companies and businesses.”

REINVENTING TRANSPORT

So Mobility is a project aimed at developing new usages in the field of mobility. “Smartphones, geolocation and real-time data sharing provide new opportunities for improving citizens’ mobility day to day. What we’re doing is identifying and testing mobility solutions for town and city environments”, indicates Elisabeth Gaillard. “We’re working in partnership with the town of Issy-les-Moulineaux, the Caisse des Dépôts, Cisco, Bouygues Immobilier, ENGIE, Transdev, etc. as part of the So Mobility consortium. We’re using companies based in Issy-les-Moulineaux – particularly start-ups – as guinea pigs to test solutions promoting things like carpooling, parking optimization, anticipating new modes of transport and facilitating inter-company mobility.” The first concrete developments are set to emerge in the near future.
What exactly is compliance?

Ronan Raffray: Compliance can be defined as all actions taken by companies aimed at ensuring decisions and employee behavior – both within the company and with respect to third parties – comply with the external and/or internal standards applicable in their particular field of activity. Compliance hinges not only around measures designed to create a culture geared up towards knowledge of and respect for rules (information, training, awareness), but also around the range of alert, advice, audit and individual responsibility mechanisms that are essential to ensuring appropriate actions and responses are adopted within a company or group (prevention, detection and handling of possible breaches). In addition, compliance is about meeting legitimate requirements with respect to business ethics, shareholders, the market, customers, suppliers and various other company stakeholders.

And what form does it take at Colas?

R. R.: Compliance is built on a foundation of four programs (“Anti-corruption”, “Competition”, “Conflicts of Interest”, “Financial Information and Stock Market Operations”), which were defined by Bouygues Group to sit alongside the Code of Ethics. These compliance programs enact measures, which have to be put in place in our companies. They are a very synthetic reminder of the applicable laws and set out precisely and in concrete terms those practices that are deemed to be non-compliant and hence prohibited by the Group. They provide managers and employees dealing with potential non-compliances with the information and first responses they need to help them address and respond to often complex situations. And rather than trying to deal with the risks of unethical practices alone, these programs encourage employees to seek the support of their immediate...
managers, and their particular Compliance officer. Finally, the programs are designed to make managers aware of their individual responsibilities when it comes to preventing and controlling non-compliant practices.

**What were the reasons behind the decision to draw up these formal compliance programs?**

R. R.: Firstly, compliance with business ethics has been one of Colas’ intangible principles for many years. The risks associated with non-compliant practices are considerable, ranging from fines through to profit losses, bans of access to government contracts and prison terms. Moreover, intangible assets, such as reputation, image and identity, are becoming increasingly important. Reputation constitutes a key factor in a customer’s decision-making process and also has a direct impact on financial results. Employees are also extremely sensitive to the image portrayed by their company, as are job applicants. Our Compliance programs and codes of conduct represent a visible reference, and are concrete tools designed to help each one of us take the right decisions with respect to the Group’s ethical requirements as well as the legitimate expectations of all, particularly our customers.

**Is it also a legal requirement?**

R. R.: Yes, in many countries, companies are now encouraged – indeed obliged – to have formal Compliance structure in place. In France, for example, the Competition Authority encourages companies to have a specific program to ensure compliance with competition rules. Moreover, following the examples of countries such as the USA, the UK and Spain, France is preparing to adopt “compliance” legislation via the so-called Sapin II law, requiring companies and groups of companies generating revenue of at least €100 million and employing at least 500 people to actively manage corruption risks. The bill stipulates that these companies must have a code of conduct, an internal alert mechanism, a risk mapping mechanism, third-party evaluation procedures, training provision and a range of disciplinary sanctions. By rolling out its compliance programs, Colas Group will be a step ahead of the field.

**How will these programs be rolled out?**

R. R.: We’ve already started rolling out these compliance programs in France (France General Management and Specialized Activities) and the process will gradually be extended to other countries. A specific training program has been developed. In particular, we’re working with the Group’s training department to design an e-learning program aimed at helping employees gain a better understanding of our compliance programs. This e-learning initiative, called “Fair-Play”, will be in the form of a serious game focusing on the practice of business ethics. Subsidiaries also have prevention and reporting tools for potentially risky practices related to our activities. Finally, we’re in the process of creating a professional alert mechanism for Colas employees, which we hope to have up and running at the start of 2017.

**What’s the key to the success of Compliance at Colas?**

R. R.: It’s up to us all to make it work. Clearly, managers have to lead the Compliance roll-out process. They are assisted in this task by Compliance officers who have been appointed at all major Colas entities. These officers are the point of contact for employees seeking compliance expertise and advice. But it doesn’t stop there. As is the case with safety, we need to ensure our decisions and behavior are embedded within a genuine ethical culture across the company. Everyone must think “ethics” before they act. It’s a mindset that directs behavior, an “attitude” that governs daily relations, via, among other things, Colas’ managerial and human values: sense of initiative, responsibility, trust, respect, exemplarity, humility. Ethics can be likened to safety in the workplace. It is up to employees themselves to take responsibility for it, adopting a rigorous approach to their day-to-day work to make sure the culture is successfully entrenched across the company.
“Safety is at the top of our list of values. It is something that concerns everybody, at all times. It comes down to teamwork, with committed managers leading by example (…). At Colas, safety starts with rules that need to be followed. The first rule, when entering a jobsite, is to wear personal protective equipment (…).” This is the message that was delivered by Hervé Le Bouc as he launched the fourth Colas Safety Week, held at all Group sites around the world from June 20 to 24, 2016, on the theme: “I’m a pro. I wear my gear.”

Group safety policy
“The wearing of PPE is one of the key principles of our safety policy (see box p.55). There is nothing new about these rules”, underlines Philippe Simarik, Colas’ Prevention, Health and Safety manager. “But they have been highlighted again to make sure they are properly taken on board by all employees and to serve as a standard. Safety policy is a minimum requirement for the Group. It is a long-term commitment and each year it will be associated with a specific action plan.”

Pride and professionalism
During Safety Week 2016, the focus was on the mandatory wearing of personal protective equipment (PPE) by employees. The poster campaign launched for the event links the wearing of PPEs with professionalism. For Philippe Simarik: “We are in a particular business that requires specific expertise. The fact is that job sites carry risks and so it is important for employees to be protected and to follow safety procedures. Wearing the gear is a sign of our professionalism. Sometimes PPE is seen as a restriction, but firefighters, doctors and soldiers don’t see it that way; for them it demonstrates their commitment. The men and women who work at Colas are professionals and need to wear their safety equipment to protect themselves. It’s also a sign of pride in belonging to their profession.”
Pursuing efforts
Colas has been implementing an active risk and accident prevention policy for nearly 20 years now. In 2013, this safety culture was re-galvanized with the introduction of the “Safety Attitude” initiative, aimed at making Colas the industry reference in the field. And the results speak for themselves with Colas recording its best ever safety results in 2015. “But let’s not forget that our objective is zero accidents”, recalls Hervé Le Bouc. “Safety is the absolute priority in this respect. There can be no exceptions.”

> GROUP SAFETY POLICY

1 **Compliance with safety rules:**
   - the wearing of PPE is compulsory for all employees at all job sites, industrial sites and quarries (hard hats, ear protectors, high-visibility protective clothing, gloves appropriate for the task at hand, safety shoes, etc.) and in workshops (shelled cap, ear protectors, protective clothing, gloves appropriate for the task at hand, safety glasses, safety shoes).

2 **Training and information:**
   - all new employees will be given safety training from the start of 2017; weekly jobsite “starter” sessions are designed to be an opportunity for site supervisors and their teams to discuss various issues, focusing on safety in particular.

3 **Designing for safety:**
   - risks must be systematically analyzed when preparing job sites and when introducing any new production or maintenance process.

4 **Verification of actions carried out by the Group:**
   - the effectiveness of actions carried out is measured on the basis of areas for improvement and via safety audits.
MOBILITY: YOU WANT TO MOVE, HOW DO YOU GO ABOUT IT?

The manager takes note of geographic and/or professional mobility requests and passes them on to the Human Resources (HR) department.

When an employee applies for a position, the HR manager of the subsidiary who posted the offer oversees the application, inviting the employee in for a meeting and informing him/her of the outcome.

The HR department examines potential openings of interest to the employee, either within the subsidiary, or at Group level.

The employee expresses his/her aspirations during the annual performance review with his/her manager and/or can apply for a position advertised on Nomades (accessible via e-colas).

The keys to successful mobility? Be it instigated by the employee or the company, mobility depends on support provided by the manager and the Human Resources department. Each party has a role to play: the employee is a key player in his/her personal development and the manager should listen to, accept and support the employee’s project as part of a dynamic development approach in relation with HR.

Every year, between 550 and 700 employees in France take advantage of mobility opportunities. Mobility is very much a fact of life at Colas and it should be able to develop further over the coming years. “The aim is to match the company’s development with that of the employee”, explains Valérie Batton, Mobility and Career Development Manager in the Group’s HR department. “In the light of employee feedback generated by the Colas & You internal survey, we wanted to make the mobility process more visible and fluid.” A film has been produced as part of the Group’s efforts to encourage mobility. “The idea is to remind employees of the benefits associated with professional mobility. A change in direction gives an employee renewed momentum. For the company itself, mobility is a virtuous circle, allowing it to anticipate evolving skills, empower employees and establish employee loyalty, within a management approach to jobs based on forward-planning.” At the start of 2017, the entire mobility support mechanism will be refurbished in France. It will attach greater importance to current obstacles, such as the partner’s job and the cost of housing in certain regions. A mobility intranet site will be unveiled containing a wealth of information for employees. A first!
Colas CZ has a new polymer modified binder (PmB) plant, located in the southwestern part of the Czech Republic.

Colas bets on PmB in the Czech Republic

Located in Holubice, a district of Brno, the capital of South Moravia, the new polymer modified bitumen (PmB) plant operated by Czech subsidiary Colas CZ was brought into production at the end of 2015. The site, which has thermally-insulated and electrically-heated tanks, each with a capacity of 80 m³, is certified for the production of twelve PmBs, a number that is set to rise over the coming months. Compact and highly resistant to ageing, polymer modified binders improve the performance of the bitumen used in road construction and maintenance. Supplying PmBs to all Colas’ entities across Central Europe, Colas CZ has tripled its production to 48,000 tons per year and the volume is set to rise still further in the medium term, to 60,000 tons. Polymer modified bitumen accounts for 20% of the total bitumen produced in the Czech Republic, meaning that the Holubice plant has a bright future ahead of it!
The acquisition in July 2013 of Furfari Paving – a company specializing in the production of road construction and maintenance materials – marked the arrival of Colas Canada in Ontario, in the Greater Toronto Area (GTA). “Colas has actually been present in Canada for nearly 60 years but had never previously operated in Ontario. Yet it is a province that accounts for 40% of Canada’s GDP and one that offers extensive industrial development opportunities”, explains François Vachon, Vice-President of Colas Canada Inc. Toronto, the country’s economic capital, has enjoyed significant growth for a number of years, creating additional needs in terms of road infrastructure and public transport. Established in 1962, Furfari Paving carries out work for the city of Toronto (50% of activity) as well as for Mississauga and Brampton, districts in the western part of Greater Toronto. Their operations also extend further north to include the county of Simcoe, via Georgian Paving.
VSA Group: vertical integration in Australia

VSA Group, one of Colas Australia’s six subsidiaries, was created in 2009 via the merger of two surface dressing specialists, Primal Surfacing and Inroads. The resulting 50/50 joint venture thus became the leading road surfacing operator on the State of Victoria, in southeastern Australia. In 2014, the group moved into the next stage in its development with the acquisition of a 100% stake in Centre State Asphalting Pty Ltd, an asphalt production and contracting company, which operates in Victoria’s rural zones. In the following year, VSA Group acquired 100% of the extraction rights at a quarry operated by Western Quarries, whose activities were launched a few months later. Thanks to its activities throughout the entire value chain, from the production of aggregates and asphalt mixes through to road construction, VSA Group is a perfect illustration of Colas’ vertical integration strategy and its development reinforces the Group’s presence in Australia.
In September 2016, Colas Group’s corporate magazine celebrated its 20th anniversary. Its objectives? To provide a window onto Colas’ projects and innovations, promote the diversity and expertise of its employees and reflect on the major issues and challenges associated with its businesses. Illustration.
> KEY FIGURES

40 issues of Routes have been published since 1996, including 4 special issues.

51,000 copies of Routes are printed per issue (46,500 in French and 4,500 in English).

100% Routes is printed on 100% recycled, FSC (Forest Stewardship Council) labeled paper.

1,000 employee portraits.

50 interviews with personalities from the worlds of art, science, the economy, etc.

2 awards in the 1998 UJJE (French Union of Journalists and Corporate News Publications) Awards, Routes won the in-house magazine for companies of more than 2,000 employees award as well as first prize in the corporate magazine category.
Conference, trade shows, initiatives, signing… Some images of the Group’s events in France and around the world.

JOURNEY AROUND NANTES

For the 2016 Voyage à Nantes (Journey around Nantes) event, the boulevard Léon-Bureau, which crosses the île de Nantes, an island in the middle of the city, was redesigned by artist Aurélien Bory. Teams from Colas Centre-Ouest’s Nantes profit center carried out the necessary conversion work to allow cars, bicycles and pedestrians to use the space in harmony together.
Back in April, more than 160 managers from Colas Canada assembled in Banff, Alberta, in the Rocky Mountains. Participants discussed a range of issues, including trends in the Canadian market, strategy, etc.

ON YOUR BIKE
To mark the first stage of the 2016 Tour de France race, Colas Île-de-France Normandie’s Doville quarry, in the Manche region of northern France, created a giant bicycle using 30 tons of chippings extracted from the site. The 60 meters by 30 meters structure was the size of half a soccer field!
ROAD SAFETY
On May 19, Hervé Le Bouc, CEO, put his name to the Group’s new four-year road safety charter alongside that of Emmanuel Barbe (right), French Interministerial Delegate for Road Safety, and Marine Jeantet, Corporate Risk Manager from the French National Health Insurance Fund for Employees (Cnamts), represented by Thierry Fassenot (left).

2016 MAYORS’ CONVENTION: INNOVATION FIRST
At the 2016 Mayors’ and Local Authorities’ Convention, held in June in Paris, the Group presented some of its most innovative products and solutions, including the Wattway solar road, its smart mobility offer and its products and solutions aimed at maintaining and protecting road infrastructure.
PUBLIC TRANSPORT
Colas took part in the 2016 Public Transport – European Mobility Exhibition to present its products and services in the field of transport systems and urban developments, focusing, in particular, on its innovative solution for trams and trains/high speed rail networks: the use of railroad asphalt surfacing. Colas Rail promoted its connected objects, particularly its connected fishplates.

INTEROUTE & VILLE
EXHIBITION: MAINTAINING
AND PROTECTING
THE ROAD NETWORK
At the seventh Interoute & Ville Exhibition dedicated to the road building and maintenance sector, held in Paris in June, the Group promoted its range of products designed for maintaining and protecting the road network (Ecofast®, Colquick®, Compomac®, Neomuls®). Aximum also presented its innovative solutions in the fields of safety, signage, traffic control, etc.
The Group’s biennial environment conference took place in 2016 in Lyon. Environment officers spent two days discussing a range of issues, including chemical risks, biodiversity, energy efficiency, managing the environment, etc. Biologist Laurent Pouyaud attended the event to talk about the 2014 Lengguru scientific expedition aimed at studying biodiversity in the Indonesian province of West Papua, which was supported by Colas.
WATTWAY SHINES AT THE FESTIVAL

The “Solar Road” corporate film stole the show at the US International Film & Video Festival in Los Angeles, winning three awards: the gold award in the Environment category, the best Corporate Film award and the IQ One World Award, presented each year to the production that best promotes understanding and cooperation around global issues.

INAUGURATION OF HINCOLS NEW PREMISES

March 2016 saw the inauguration of the new head office building of Hincol – a 50/50 joint venture between Colas and Hindustan Petroleum Company Limited (HPCL) – in Mumbai, India. From left to right: Nishi Vasudeva, CEO HPCL, Nitin Soni, DHR Hincol, Hervé Le Bouc, Chairman and CEO Colas, and Somchit Sertthin, CEO Tipco Asphalt.
COLAS SECURES A HIGHWAY CONTRACT IN MAURITIUS

Colas has won the contract to extend the M2 Highway on Mauritius to the Sir Seewoosagur Ramgoolam airport, in the south-east of the island. As part of a joint-venture with General Construction, local subsidiary Transinvest Construction will spend 14 months constructing a 4.5-km section of the 4-lane highway. It will be connected to the existing highway via a crossing. The M2 extension project will relieve traffic congestion in the village of Plaine-Magnien and facilitate access to the Holiday Inn hotel from the airport.

WORK AT THE PORT OF CALAIS SET TO GET UNDER WAY

[...] Work on the 2015 Calais Port expansion project, aimed at doubling the facilities at Europe’s busiest passenger port, is set to get under way shortly. A consortium made up of Bouygues Travaux Publics, Colas Nord-Picardie, Spie Batignolles and Jan De Nul is responsible for the design and build aspects of the project.

Algiers subway extension: Colas Rail and KougC secure the private contract agreement.

The National Authority for Tunnels (NAT) has awarded the contract to extend line 1 of the Cairo subway between El-Marg and New El-Marg stations, in the northeast of the capital, to the consortium made up of Colas Rail, Alstom and Alstom Egypt [...] Colas Rail will be responsible for renovating the track, points and crossings, constructing new tracks, replacing the catenary system, widening the platforms at New El-Marg station, installing the electricity supply network (traction power) and constructing related facilities.

COLAS ACQUIRES SIX COMPANIES IN THE EMIRATES, OMAN AND QATAR

[...] These six companies specialize in the production of construction materials (aggregates, asphalt mixes) and road building. [...] Combined, these companies operate 3 quarries and 10 asphalt plants, producing 7.5 million tons of aggregates and 1.6 million tons of asphalt mix per year. [...]
DEAUVILLE GREEN AWARDS: 2016 WINNERS

The 5th Deauville Green Awards, the international festival for audiovisual communication in the fields of sustainable development, eco-innovations and social responsibility, closed on Thursday evening with the awards ceremony. […] 10 special prizes were handed out including one for the “Best research-innovation film” to Colas Solar Road.

IVORY COAST/CONSTRUCTION: TOWARDS A PARTNERSHIP BETWEEN THE ESTP CIVIL ENGINEERING SCHOOL IN YAMOUSSOUKRO AND COLAS

[…] A delegation from Colas Afrique, led by its Manager, Stéphane Knebel, visited the Houphouët-Boigny National Polytechnic Institute in Yamoussoukro on Saturday where they had talks with the CEO of the École supérieure des travaux publics civil engineering school to discuss a future “win-win” partnership between the two entities. “We want to support this major African training institute so that it can continue to develop and raise its profile”, explains Mr. Knebel, underlining that project excellence in Ivory Coast is inherently dependent on the skills and expertise of ESTP’s graduate engineers. […]

QUARRIES: NEW PLANT INAUGURATED

[…] Friday saw the inauguration of the CMGO (Carrières et Matériaux du Grand Ouest) quarry’s new production plant, marking the end of a four-year construction project. […] The facility has a production capacity of 2 million tons of materials per year and is equipped with the very latest technologies. “Throughout the project, our priorities have been employee safety, protecting the environment and the surrounding ecosystem, and, of course, local residents”, underlines Médéric d’Aubert, Materials Manager at the Poulmarh quarry. […]

SURVEY: COLAS INCLUDED IN THE LIST OF THE TOP 5 MAJOR COMPANIES (MORE THAN 5,000 EMPLOYEES) CONSIDERED TO BE A GOOD PLACE TO START A CAREER.

For the fifth year running, Colas is paying tribute to the creativity of its interns and apprentices via its Golden Roads corporate film festival. A new twist has been introduced in 2016: for the first time, the event is “100% student-led”, from the making of the film through to the organization of the awards ceremony and the jury members.
Colas on stage
Colas Young Talent Grant 2016.

Colas Foundation
Dominique Figarella
“Painting is all about experimenting, without direction, pretext or authority.”
For the second year running, Colas is supporting young musicians embarking on their careers, as part of the Colas on stage sponsorship program. The beneficiaries in 2016 are violinist Mohamed Hiber and cellist Aurélien Pascal. We take a look at their backgrounds.
From a musical gift detected in early childhood, followed by years of study, to an international career, the path taken by talented youngsters can often be something of a marathon. Between taking part in international competitions, studying with the “masters”, traveling all over the world and recording CDs and DVDs fit for the professional stage, the associated financial commitments often require the support of a sponsor. Set up in 2008, the Colas on Stage program supports young talent in the fields of music and dance. In 2015, Colas selected two highly promising young musicians: pianist Jonathan Fournel (born in 1993), and violinist Mohamed Hiber (born in 1995). This year – the second year of the initiative – the Colas Young Talent Grant was awarded to cellist Aurélien Pascal, and, once again, to Mohamed Hiber. In addition to the financial support provided, Colas is also giving these two young musicians the opportunity to take part in a concert with the internationally renowned French master pianist, Alexandre Tharaud. He is the quintessential crossover artist having interpreted the monuments of the classical repertoire with the same aplomb as he has jazz music and French cabaret, sharing the stage with actors and singers, and even playing himself on the big screen. An eclectic artist, throughout his long and varied career to date Alexandre Tharaud has always had the ability to break with tradition thanks to a uniquely innovative approach to his craft.

MOHAMED HIBER 21 YEARS OLD
Born in Pantin, Mohamed Hiber started studying the violin at the age of 7 at his local conservatoire. It was not long before his teachers spotted his innate talent and at the age of 9 he entered the Paris Conservatoire. He began his solo career in 2009, at the Salle Pleyel concert hall in Paris, accompanied by the London Symphony Orchestra. Mohamed won first prize in the international Flame competition as well as the Flaine Music Academy’s grand prix. In July 2009, he played as a soloist with the Czech Philharmonic Orchestra at the Prague International Young Musician Festival. The following year marked a turning point: he attended an audition where he caught the eye of conductor Daniel Barenboim, who subsequently invited him to take part in two world tours with his orchestra. In 2011, Mohamed Hiber received the prestigious diplôme de virtuosité from the École Cantonale de Paris music school. A year later, in 2012, he entered the Paris Conservatoire of music and dance (CNSMDP) to study with Svetlin Roussev. In 2013, he won first prize and three special awards in the Violin of the North competition, in Siberia. Since September 2013, he has been studying at the Queen Sofia College of Music in Madrid with Ana Chumachenko. A recipient of a Colas Young Talent Grant in 2015, Mohamed played with cellist Gautier Capuçon at the Théâtre des Abesses and pianist Frank Braley at the château of Versailles’ Royal Opera. The glowing praise he received following his concert with pianist Ilmar Golan at the Louvre auditorium in Paris on February 12, 2015 earned him a place in several high-profile festivals, including the Aix-en-Provence Festival, directed by Renaud Capuçon, in March 2016.

AURÉLIEN PASCAL 22 YEARS OLD
Born into a family of musicians, Aurélien Pascal was initially taught by his mother, a cellist. He first attracted attention at the age of 19 when he won the Grand Prix Emanuel Feuermann in Berlin, in 2014. The winner of a number of other international awards (first prize in the Junior Rostropovich competition, Most Promising Musician in the 2011 André Navarra international competition), in 2013, he came second in the Paulo cello competition in Helsinki. In addition to his studies at the Paris Conservatoire of music and dance (CNSMDP) with Philippe Muller, Aurélien Pascal has benefitted from regular advice and encouragement from two celebrated cellists: János Starker and Pieter Wispelwey. He is currently studying under Frans Helmerson at the Kronberg Academy, in Germany. He takes part in a number of festivals: the Radio France and Montpellier Festival, the Folle Journée classical music festival in Nantes, the Folle Journée festival in Japan, the La Roque-d’Anthéron, Prades, Colmar, and Orangerie de Sceaux festivals, the Flâneries Musicales de Reims, the Berioz Festival... He has also performed at the Beethovenfest in Bonn, the Russisches Kammermusikfestival in Hamburg, the Kronberg Academy Festival and the Festspiele Mecklenburg-Vorpommern, where he won the People’s Choice award in 2015. In November, Aurélien Pascal will play alongside cellist Edgar Moreau, in a concert at the Musée d’Orsay music auditorium, in Paris. The concert will be broadcast on the France Musique radio station.
How did you tackle the Colas Foundation commission?

**Dominique Figarella:** It was the first time I had accepted a commission but I didn’t perceive it as being restrictive. The road exemplifies an image that is omnipresent in my work, namely paths. Paths trodden by people, ancient paths, never artificial since they have been etched into the landscape by man and animals since time immemorial. Paths in my painting too, byways concealed and transformed, to which I am constantly returning.

**Why did you choose to represent the road via this explosion of lines and contrasting colors?**

**D. F.:** The modern road, particularly the highway, is a very busy space where vision is paramount. A succession of images go by in a fraction of a second, clearly, rapidly and hypnotically, in the form of car indicators, headlights, road signs, etc. I also wanted to convey this contrast that exists between the organic bodies transported within the geometric spaces represented by the roads and the car. At the same time, when out on the road, we’re all linked together by concrete or virtual lines.

**Your painting is called “Driving without a license”. What is the meaning behind the title?**

**D. F.:** I had already used it once before in an essay published in 2009. Using it again for this painting was a way of incorporating this Colas Foundation commission within the approach I have always adopted in my work. I don’t paint from an idea or a concept. Quite the opposite in fact. The idea actually emerges as I work and I adapt to it. Painting is all about experimenting, without direction, pretext or authority.

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**Dominique Figarella**

“Painting is all about experimenting, without direction, pretext or authority”
Tribute to Robert Charial
CEO COLAS FROM 1975 TO 1984

A graduate of the École polytechnique engineering school, Robert Charial, who died in July, joined Colas in 1951 and went on to spend his entire career with the company. In 1955, he was sent out to sub-Saharan Africa, before moving to Algeria in 1957. In 1962, Georges Raveau, then CEO of Colas, asked Robert to establish a bridgehead in North America, targeting Quebec. Robert Charial successfully accomplished his pioneering mission, acquiring Fabi followed by Modern Paving, the merger of which would lead to the creation of the Quebec-based subsidiary Sintra. Having thus established a strategic base in Canada, Colas set its sights on the northeastern USA, and the Group’s first US subsidiary, Barrett Paving, was born in 1979. As well as playing a pivotal role in Colas’ early development in North America, Robert Charial was also one of the promoters and chief protagonists behind the creation, in 1970, of French highway operator Cofiroute, in which Colas had a stake. Robert Charial will be remembered as a warm man of conviction and leadership, who left his mark on the history of Colas.

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