

#### **CONTENTS**



#### **PANORAMA**

Colas' mission is to design,
build and maintain sustainable
transport infrastructure
from our local roots,
around the world. Connecting
communities and fostering
exchanges is the
Group's action.

Canada, the first stop on our Colas world tour, unveils the specific characteristics of projects in this country.
We move on to the Czech Republic, Morocco, Germany, French Guiana and Australia to meet the Group's teams who have won new contracts, are carrying out projects or have just delivered them.



#### **FOCUS**

Providing a competitive edge to our operations thanks to efficient equipment and facilities is the ambition of Colas' Equipment Performance Divison (EPD).

Here we turn the spotlight on a department underpinned by the efficiency and expertise of a global network. The EPD is the driving force revolutionizing equipment, behavior and processes as part of an approach centered on continuous improvement and innovation. This performance culture is designed to support Colas, its activities and its commitments.



#### **WIDE ANGLE**

Caring, Sharing
and Daring: these three values
symbolize the unique way
in which Colas' women and
men go about their jobs.
These values come to life every
day on our projects and sites.

Each day, the mindset, engagement and motivation of employees drive Colas' success. Wherever they operate in the world, it is they who make the Colas Group what it is and open the way. They embody the pioneering spirit, know-how and diversity that characterize Colas. Through twelve profiles, discover the people who connect us by stepping up, developing their potential and that of their colleagues and taking action for a more sustainable world.



## "WE WILL DO GREAT THINGS, TOGETHER!"

"Since my appointment on September 17, I've been meeting many Colas teams around the world.

Everywhere I've gone, from Morocco and France to the United States and Asia, I've been impressed by the warm welcome, the quality of the interactions

I have also been able to observe the professionalism of the teams, their commitment and their passion for what they do. Moreover,

and the open-mindedness of everyone I've met.

I've been struck by the great diversity of our locations and expertise. The Colas entities share common values and work in the same main business sectors. But at the same time, they are deeply rooted in their communities and they embrace their local specificities. All this contributes to a vast reservoir of skills, experiences and cultural richness.

I am therefore delighted to have joined Colas. It's a great company that is doing well. Third-quarter results illustrate the resilience of its business model, and 2023 should finish out a strong year.

Together, we're going to do great things, continuing the work that has been undertaken in recent years.

We will keep moving forward, transforming ourselves. We will pursue our development strategy, further improve our performance and continue to make progress, especially in the area of CSR, a priority for Colas, and we will do so with the support of our ACT corporate project that mobilizes us all."









#### 2023 DIALOGUE SURVEY

The third Dialogue internal perception survey closed in October with a participation rate of around 80%. The internal survey is a chance for employees to express their opinions on different themes: well-being at work, health and safety, ownership of Group values, understanding corporate strategy, etc. Appropriate action plans will be put in place following an analysis of the results. The engagement rate (83%), which reflects employees' attachment to the Group, is up a point from last year. This percentage represents a high score for a company.

"All the indicators, both global and themed, are very positive.

The most important aspect of this type of survey is what you actually do with the information afterwards.

The idea now is to take stock of the progress made, continue to improve in areas where there is room for progress and measure the positive impact our actions have on our employees' day-to-day."

#### CHRISTOPHE MANSUY,

Group Vice President, Human Resources





CHRISTOPHE MANSUY
SHARES THE SURVEY
RESULTS







# CONTROL OF STREET, CASE STREET,

#### COMPLIANCE CULTURE

Consolidating an exemplary culture of ethics and compliance is one of Colas' eight CSR commitments. This fall, the Group launched an awareness-raising campaign focusing on conflicts of interest to coincide with its first Compliance Day event. The event included the Let's Talk Compliance webinar, hosted by Pierre Vanstoflegatte This was an ideal opportunity for management and employees to discuss issues surrounding compliance ethics.





## ROUTES LATER...

You are holding in your hands the 50<sup>th</sup> issue of Routes, the Colas magazine. Fifty issues also means: 50 travel-inducing covers, more than 3,000 pages to leaf through and 26 years of recounting the rich experiences of Colas' women and men, their daily lives and their memorable moments. Routes is your rendezvous with the history of Colas. Thanks to those who, by sharing about their jobs, fill its pages.

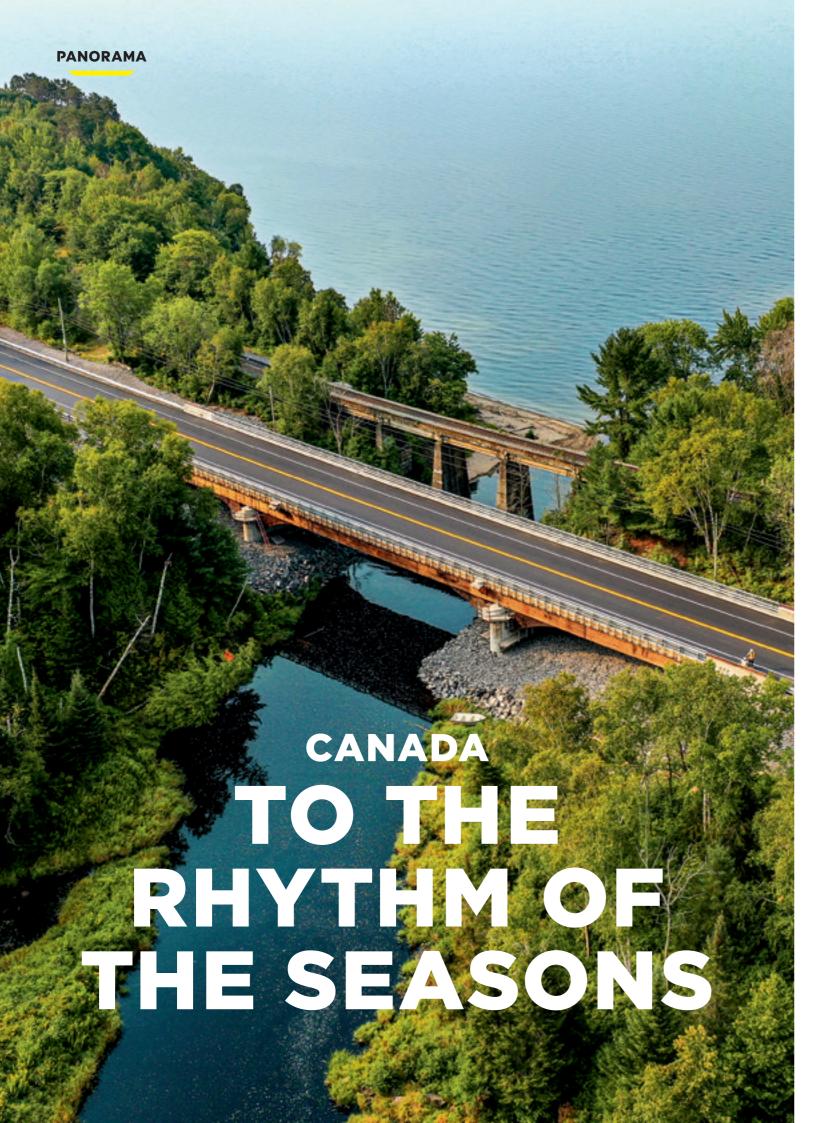
#### SEPTEMBER 1996, ROUTES N°1

The very first issue had an article about the Central Research Laboratory, Côte d'Ivoire was featured in a report on the construction of the Bondoukou to Bouna road, the deployment of Colas in Central Europe since the fall of the Berlin Wall was adressed... and 49 issues later, francs became euros, the Central Research Laboratory is now called the Core Center and the graphic style has been freshened up a bit!









In Canada, Colas works to the rhythm of the changing seasons. The size of a continent, this vast country experiences extremes of weather that test its transport infrastructure to the limit. Ensuring its reliability is a priority for Colas and its teams as they go about building and maintaining roads, airport runways and railways, and producing the materials they need to do so. For nearly sixty years, and as many harsh winters, Colas has been a key player in the Canadian landscape.

eptember sees the emergence of the fall colors in Canada. The leaves on the trees gradually change hues, and the landscapes

don their mantles of reds, yellows and oranges. The summer is drawing to a close after an extremely busy period for Colas' Canadian companies, as the Ionger days and warmer weather represent an ideal opportunity to step things up and complete numerous projects. But it's not quite time to take it easy yet. "To be honest, the final push of the season starts now," explains Corey Andolina, Assistant General Manager, Heavy Civil Construction at Brennan Paving, part of The Miller Group. "Winter's just around the corner and we need to finish all outstanding work before the bad weather stops us in our tracks." Colas' teams will then shift gears: winter maintenance, snow clearance, equipment servicing, etc. This is a colossal undertaking in a country with an extremely dense road network (over 1,400,000 kilometers of roads), and where some highways have up to 18 lanes.

#### A major commercial route

It is exactly this type of gigantic infrastructure that Miller's teams are regularly mobilized to work on before winter arrives. In Toronto, a six-year contract has been signed with the Ontario Ministry of Transportation for the refurbishment of Highway 401. The Colas subsidiary is responsible for completely resurfacing a 10-km section of pavement on this busy and important freeway north of the city center. "We're lucky to be able to use our own concrete, aggregates and mixes. Logistically and economically, it's a win-win arrangement," points out site

"The weather is both our enemy and our friend: it's part of our everyday life."

#### **ALEXANDRE AUDY,**Operations Manager

PEB (Sintra).

supervisor Vinh Dang. It's a major operation, with teams on the go almost round the clock, but mostly at night to minimize traffic disruption. Highway 401 is one of the busiest in North America; it is also the main commercial route between Montreal, Toronto and the USA. The cumulative effects of the thousands of cars and trucks that use it each day, along with weather-related damage (snow, freezing and thawing, salt, etc.) cause the pavement



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#### IN ALL WEATHERS

In winter, snowplows and spreaders take turns to keep Canadian roads safe.



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to wear quickly. Throughout most provinces and territories in the country, Colas maintains thousands of kilometers of roads damaged by the harsh winters. Take Quebec, for example, where Sintra, Colas Group's first acquisition in Canada back in the 1960s, is responsible for the entire province and the Saint Lawrence River basin. Back in the spring, the acquisition of PEB further reinforced Colas' network in the Quebec City region. The family-run company is well known for its road building and maintenance expertise, as well as the production of construction materials. Alexandre Audy, who started out as a pipe-layer 25 years ago, has risen through the ranks to become Operations Manager. The integration phase began in May 2023, as he explains: "PEB and Sintra's businesses are comparable and we share the same values. Six months later, the synergy between Sintra's different divisions is already clear: we lend each other machinery, our teams work well together... we really do bring out the very best in each other." Sintra's development in the region will help it meet the growth in demand for road construction and maintenance, at the same time reinforcing its presence across the province.

#### The search for talent

Colas' Canadian companies not only carry out similar activities, but also they face the same challenges: peak summer season, night work, harsh winters (in some areas, the annual snowfall is up to 5 meters), huge temperature variations...



#### SHARING AND TEAM SPIRIT

LEARN ABOUT

WHAT CHRIS DOES

At Miller Central Shop, sharing tools and know-how is part of team spirit.

V



not forgetting a significant labor crisis. "For many years, Canada strongly encouraged people to go to university, to the detriment of vocational training. As a result, there is now a shortage of the qualified tradespeople we need for our jobsites," explains Maryanne Vien, Human Resources Manager at Sintra. With seasonal employment commonplace in Canada's construction sector, attracting and retaining talent is a major challenge. Better communication, training plans... Maryanne and her teams do everything they can to provide the best possible support for employees: "Dialogue internal perception survey is key in my job! The results help us prioritize. After the 2022 campaign, we drew up an action plan. For example, the survey revealed that women had lower engagement scores. So, we decided to conduct a specific survey to evaluate job satisfaction among female employees and get a clearer understanding of their expectations."

The labor crisis is country-wide. At Miller's newly renovated Central Shop, on Comstock Road in Scarborough, a district in Toronto, Equipment Manager Chris Ladouceur focuses his attention on young recruits and the passing on of know-how between teams. "I believe that personal development is crucial," he explains. I have moved up through the ranks because I was encouraged to push my limits. Today, I try to do the same with

#### TERRITORIAL COVERAGE

The acquisition of PEB bolsters Colas' presence around Quebec City.

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LAND MANAGEMENT

When their operation life ends, Colas' Canadian extraction sites are rehabilitated, such as the Saint-Jean quarry (Sintra), which now receives excavated soil.

Trust is key
in the
partnership
agreements
between Miller
and the First
Nations.

Canada's Indigenous communities. Jean-Pierre Breton, Vice President of Miller Northern, explains: "We operate in Northern Ontario, where there are a lot of Indigenous communities. On their lands, working with these communities and getting them involved is a matter of course. We've forged active partnerships and delivered some flagship projects through which we hire and train employees from the First Nations. Supporting communities and sharing our know-how is one thing, but we also learn a lot from them. Colas' teams are given training in Indigenous cultures and practices." For Pierre Berté, responsible for Indigenous Affairs for Colas Canada, this mutual understanding is essential. "The relationship we have with First Nations communities and their participation is absolutely crucial for us." The Group makes acceptability and social

dialogue the cornerstones of its local operations. Colas is present in ten of the thirteen provinces and territories across Canada through its road subsidiaries Standard General, N.P.A., Canadian Road Builders, Sintra, Miller, Terus and its bitumen distribution subsidiary, McAsphalt. Its network of locally present companies is one of its strengths.

Retaining the spirit of a family-run company while meeting the challenges of an international group, the Canadian companies demonstrate resilience as, year after year, they constantly adapt to weather conditions and the day-to-day and future challenges of mobility, recruitment, sustainable development and more. Championing the Group's ambitions, Colas' teams in Canada also embody its values, while promoting a rich history and heritage, which they help to protect. •

OPEN THE WAY

Attracting and retaining young talent is crucial.



my colleagues. My priority is to make sure we don't lose precious team members and to maintain a friendly, family atmosphere." Liam, Sierra and Nick represent this new generation of enthusiastic mechanics determined to learn. Ranging in age from 21 to 23, they have either completed or are in the middle of an apprenticeship contract at the workshop alongside their studies. "Here I can apply what I learn at school," says Sierra. "I've got the support I need around me but I'm also given a lot of autonomy and responsibility. I'm the last person a truck sees before going back on the road! It's great to know people have confidence in me."

#### Mentors, apprentices and a toolbox

As for Nick, he started out on jobsites. He seems to have found his calling at the shop: "I learn something new every day. Everyone works hard, we help each other out, and I get training from my colleagues. I'm given every opportunity to be the best I can be. Being supported and

encouraged is essential." Lead Hand Joe Di Maria, who has been with the company for ten years, agrees. Sharing is his motto: "I always leave my toolbox open; what's mine is theirs too! People look out for each other in the workshop. That's how we progress. Even the more experienced among us continue to learn!" For many, the Central Shop is a kind of boot camp. "Knowledge-sharing is part of our DNA here," continues Chris Ladouceur. "So we're always looking for new recruits because we encourage all our employees to learn from different teams in the other shops!" In this early fall period, it's all hands on deck to service the equipment that will be used for winter road maintenance. Miller's snow-clearing vehicles must be ready to go before the first snows fall.

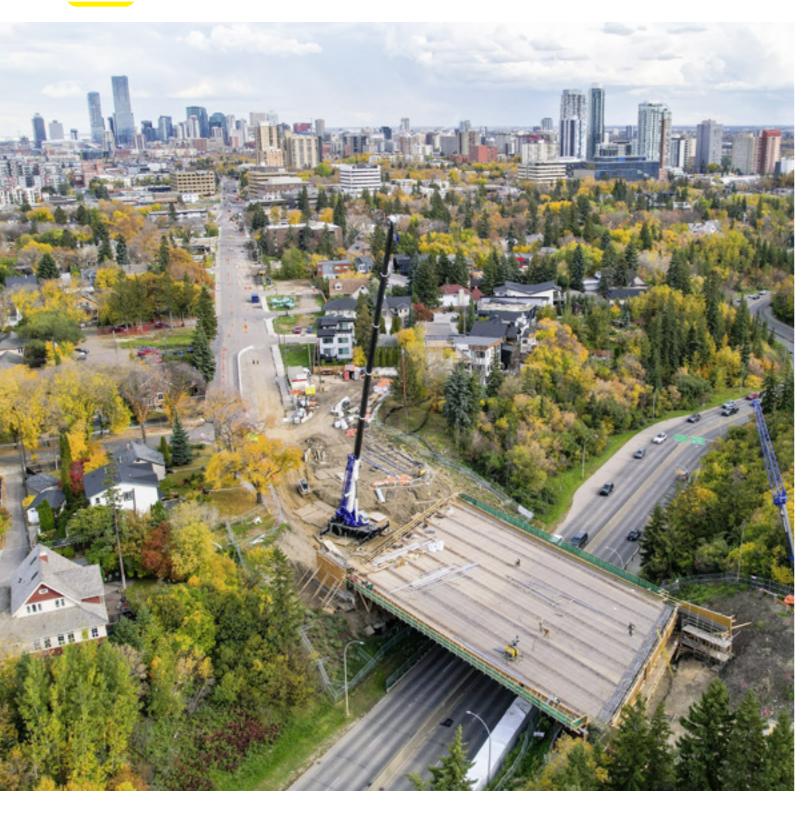
#### Respecting ancestral territories

At Colas, Sharing is a core value. This is reflected in its over twenty-year cooperation with the First Nations,









**A MAJOR PROJECT FOR** THE CITY OF **EDMONTON** 

In addition to road construction and maintenance operations, Colas teams are responsible for several other flagship transport infrastructure projects in Canada. One example is the Valley Line LRT project in Edmonton, Alberta. The project involves the construction of a 14-km line extension between downtown Edmonton and the western suburbs. The route will include 2.1 km of elevated tracks and two maintenance and storage facilities. The extended line will improve mobility and contribute to the city's economic growth. This complex project demonstrates the range of Colas' expertise. Above, work is ongoing to expand the Stony Plain Road bridge which, once completed, will be used by the LRT system, cars, cyclists and pedestrians.



EDMONTON: A LOOK BACK ON 2023

#### "Our teams are absolutely involved and determined."

#### WHAT ARE YOUR MISSIONS, AS A SUSTAINABILITY AND INNOVATION

**C. I.** I see my responsibilities as multifaceted. I work closely with teams across every division in our organization and I am responsible for our carbon reduction roadmap and action plans to meet our 2030 objectives: reducing direct greenhouse gas (GHG) emissions by 30%, from 2019 baseline, and reducing indirect upstream GHG emissions by 30% as well. Sustainability and innovation not only support our objectives, but also increase safety, performance, stakeholders' expectations and business growth.

#### **HOW DOES THIS TRANSLATE IN CONCRETE TERMS?**

**C. I.** The Miller Group took tangible steps to reduce our carbon footprint and with the help of a dedicated team, we have achieved an important milestone by quantifying our own detailed 2019 GHG emissions baseline, analyzed reduction opportunities and developed our emission reduction roadmap. This was done in parallel to methodology and tools put in place by the Colas Group. We developed a carbon calculator based on our operations that will help us quantify and measure the yearly progress of all scopes. We also identify and apply for government funds and we invest in research





CRISTINA IORDACHE, Sustainability and Innovation Specialist - The Miller Group

#### MINI-BIO

Cristina previously worked for 8 years at McAsphalt, Colas' Canadian subsidiary. She first worked in operations, then in supply and logistics of bitumen and raw materials. In 2021, with the launch of the ACT corporate project, Cristina upgraded her degree at the University of Toronto specializing in Sustainability, before joining Miller in 2023.

and development of new technologies and solutions for decarbonization. And we promote the circular economy and collaborate with suppliers to reduce emissions within the supply chain.

#### **DO EMPLOYEES HAVE A ROLE TO PLAY?**

**C. I.** We are committed to staying at the forefront of industry trends and encourage our teams to join us on this journey of continuous learning. Our teams are absolutely involved and determined. They want to find solutions, they question their own habits. One employee said to me: "I've worked here for nearly 35 years, and I had never thought of it like that until you spoke to me about it." The need to incorporate sustainable business practices in our operations is acknowledged and we continue to promote acceptance of the new approach of doing business. I think we all want to be pioneers in the sector. We live in a world of constant change. The future belongs to companies like the Miller Group that best understand these aspects of CSR.







#### A ROYAL PROJECT!

This summer, Colas' teams carried out upgrading work to improve accessibility on the Fer à Cheval or "Horseshoe" ramps in the Tuileries Gardens in Paris. As part of a skills-sharing patronage initiative, the project improved accessibility to this part of the historic gardens, belonging to the Louvre national estate. A Colstab aesthetic surfacing solution, integrating recycled materials from the deconstruction of Paris' Orly airport runways, was specifically designed for this project. This solution was put in place, delivering the mechanical performance required for the site, used by many pedestrians and heavy vehicles. Through this partnership, Colas is supporting the Louvre museum in its missions to preserve and promote world heritage. Following Versailles, Chambord and Villers-Cotterêts, the Group is renewing its ambition to create links between the worlds of business and culture.





A VIDEO OF THE PROJECT



#### ROAD LIFE

In Baker County, in the state of Georgia, crews from Reeves Construction, a US-based Colas company, carried out maintenance work on Route 37. They reinforced almost 25 km of wearing course to extend its lifespan.

#### LIÈGE TRAMWAY'S WORKSITE - BELGIUM

#### THE TRAM IS COMING

In October, a rolling test was conducted for the Liège tramway. The test, the first in a long series, represents another, eagerly awaited step towards the completion of the Liège tramway project, which has mobilized up to 700 employees from Colas France, Colas Belgium, Colas Projects and Colas Rail. The project comprises 11.7 km of track crossing the city from east to west, serving 23 stations, including nine transfer hubs, a maintenance and storage center and two car lots with a total capacity of 1,400 spaces. The infrastructure will relieve traffic congestion on the city's main roads as people switch to sustainable mobility options.



#### RESPONSIBLE ALL ALONG THE LINE

Back in the summer, the Císařský quarry celebrated the commissioning of a new tertiary line of production. The main goal of this facility is to replace the obsolete building built for screening more than 60 years ago. In addition to the guarantee of a more efficient and quality industrial tool, this investment contributes to a lower noise level, reduction of dust emissions in the air and increased operator safety.



#### LANÇON-PROVENCE EXPERTISE AND CO-DESIGN CENTER — FRANCE



#### ADAPTING TOWNS AND CITIES TO THE EFFECTS OF CLIMATE CHANGE

Transport infrastructure occupies up to 25% of city surface area. One of the pillars of Colas' R&D strategy is to help evolve these infrastructures to make them more resilient facing recurrent heat waves, heavy rain or drought. To this end, in south-east France, the Group has created an expertise and co-design center where Colas Core Center teams can characterize natural phenomena and carry out full-scale tests of the effectiveness of new solutions. The center also makes it possible to organize workshops during which Colas marketing teams listen to stakeholders (customers, design offices, local residents, etc.) to understand their needs.



ABOUT THE
EXPERTISE
CENTER



#### EASIER TRAVEL



Welcome to Dover Fastrack, a project currently being carried out by Colas' teams in Dover, south-east England. It aims to create better travel options for the local community to connect with the town center and the transport network into London. The work has included the construction of a bridge spanning 31.5 meters, exclusively accessible to a new all-electric bus fleet, cyclists and pedestrians. Fastrack teams are also planting thousands of trees, bushes and hedges, the goal being to improve the region's flora and fauna. Launched in February 2022, this project is one of a number of initiatives aimed at helping Dover District Council achieve its ambition of being carbon neutral by 2050.





That's the amount of mixes, in metric tons, saved on the Cayenne Bus Rapid Transit (BRT) project, thanks to the application of Colgrill on the 10-km route. The reinforced asphalt solution greatly increases the road's lifespan while its solidity significantly reduces the thickness of the pavement. Launched in 2020, the work will culminate in the opening of two BRT lines and 21 stations in French Guiana's capital city at the end of 2024.



#### **HISTORICAL PARTNERS**

Present in Egypt for over 40 years, Colas Rail has secured, as part of a consortium, the contract to build the new Alexandria metro. This line will connect the center of the ancient city to Aboukir, located north-east of the agglomeration. There will be 20 stations along the 22-km route. Work is scheduled to begin in 2024.

**PANORAMA** 

MICRO SURFACING IN NARRABEEN — AUSTRALIA

#### **MAINTAINING** AND PRESERVING **ROADS**

Colas crews employed a micro surfacing technique using special equipment on a road in the north Sydney suburb of Narrabeen. The technique delivers a lower life cycle cost and a lower carbon footprint than traditional asphalt mixes by applying a thinner wearing course. It extends the life of road pavements, reduces costs and saves on materials.





CAYENNE BRT'S CONSTRUCTION — FRENCH GUIANA



#### **MARRAKECH'S MAIN AVENUES REDESIGNED**

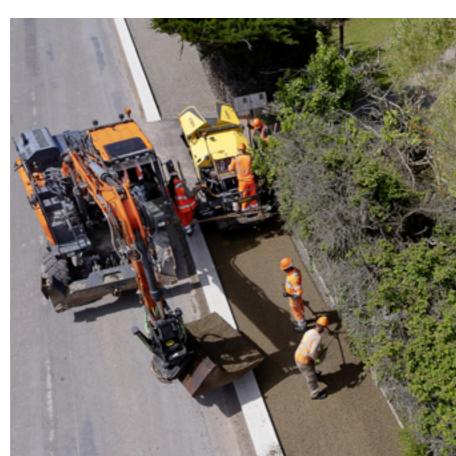
GTR, Colas' Morocco-based road construction subsidiary, redeveloped five boulevards and avenues in Marrakech in just over two months. This large-scale project, which mobilized some one hundred employees, included the laying of over 70,000 metric tons of asphalt mix (including 10,000 metric tons of red mix), in addition to the installation of 66 km of curbs and around 4 km of duct bank.

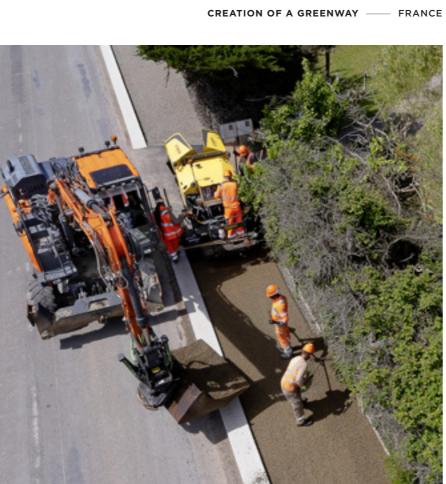
#### **TACKLING SOIL SEALING**

Colas teams have completed an environmentally friendly project in Saint-Hilaire-de-Riez in the Vendée region of western France, building a greenway with a reduced carbon footprint and no impact on the natural water cycle. How? Firstly, by incorporating recycled aggregates in the sub-base layer. And secondly, by applying a permeable version of the Vegecol surfacing solution. This light-colored mix, using a primarily bio-based binder, is associated with a lower carbon footprint compared to its traditional equivalent and allows rainwater to filter through. This aesthetically pleasing greenway offers a safe route for both cyclists and pedestrians, encouraging sustainable active mobility.



DISCOVER COLAS' SOLUTIONS







#### **KEY PROJECT IN ALASKA**

Colas has secured a major contract on the Kenai Peninsula, in southern Alaska, as part of the Sterling Highway upgrade program. Since it was first built in the 1940s, the highway has become increasingly congested, particularly in the summertime, resulting in safety concerns for users. Colas' teams are working as part of a consortium to renovate the existing pavement, create overtaking lanes and wildlife crossings and build a 15-km extension to the road. The new section should be open to traffic by the end of 2028.

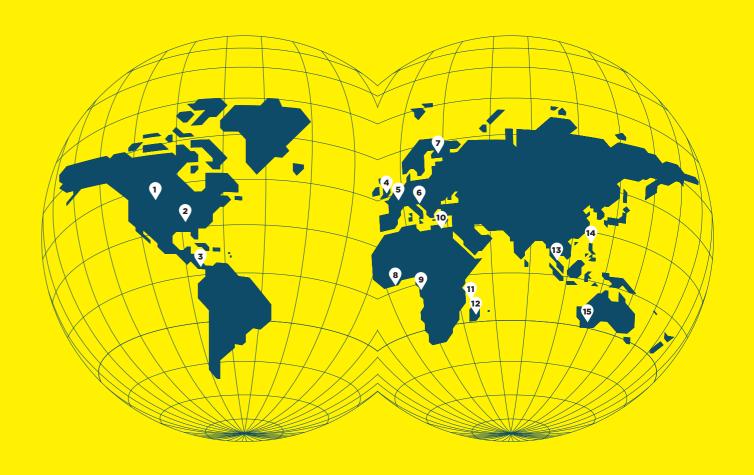


### WATTWAY PAVES THE WAY IN EUROPE

The photovoltaic road surfacing solution developed by Colas is now paving the way in Germany too: 33 m<sup>2</sup> of Wattway panels have been installed at the car lot of the Leonhard Weiss construction company (see the picture above) to supply solar energy to one of its buildings. Based in Göppingen, near Stuttgart, the company is now Colas' partner for the roll-out of Wattway technology in Germany. Meanwhile, in the Netherlands (see picture on the right), Wattway is continuing to expand: two cycle paths 1,000 m² each, were commissioned by the provinces of North Brabant and North Holland.



## **Snapshot of Colas projects around the world**



1 CANADA

Rehabilitation of Highway 40 in Alberta.

2 USA
Repaving Highway 181
in Arkansas.

3 PANAMA
Construction of line 3 of the Panama City metro.

4 UNITED KINGDOM
Eight-year road

Eight-year road and motorway maintenance and response contract for Area 9, in the Midlands. 5 FRANCE

Contract for line 15 South-East sector of the Grand Paris metro project.

6 CROATIA
Construction

of a section of the A11 motorway.

Five-year railway maintenance contract in the south-east

of the country.

8 CÔTE D'IVOIRE

Construction of line 1 of the Abidjan metro.

9 GABON

Rehabilitation of roads in Greater Libreville.

Construction of line 4 of the

MAYOTTE

Mamoudzou Caribus
Bus Rapid Transit

network construction.

Cairo metro.

12 MADAGASCAR
Rehabilitation
of Route 13.

13 THAILAND

Construction of runway 3 at Bangkok international airport.

PHILIPPINES

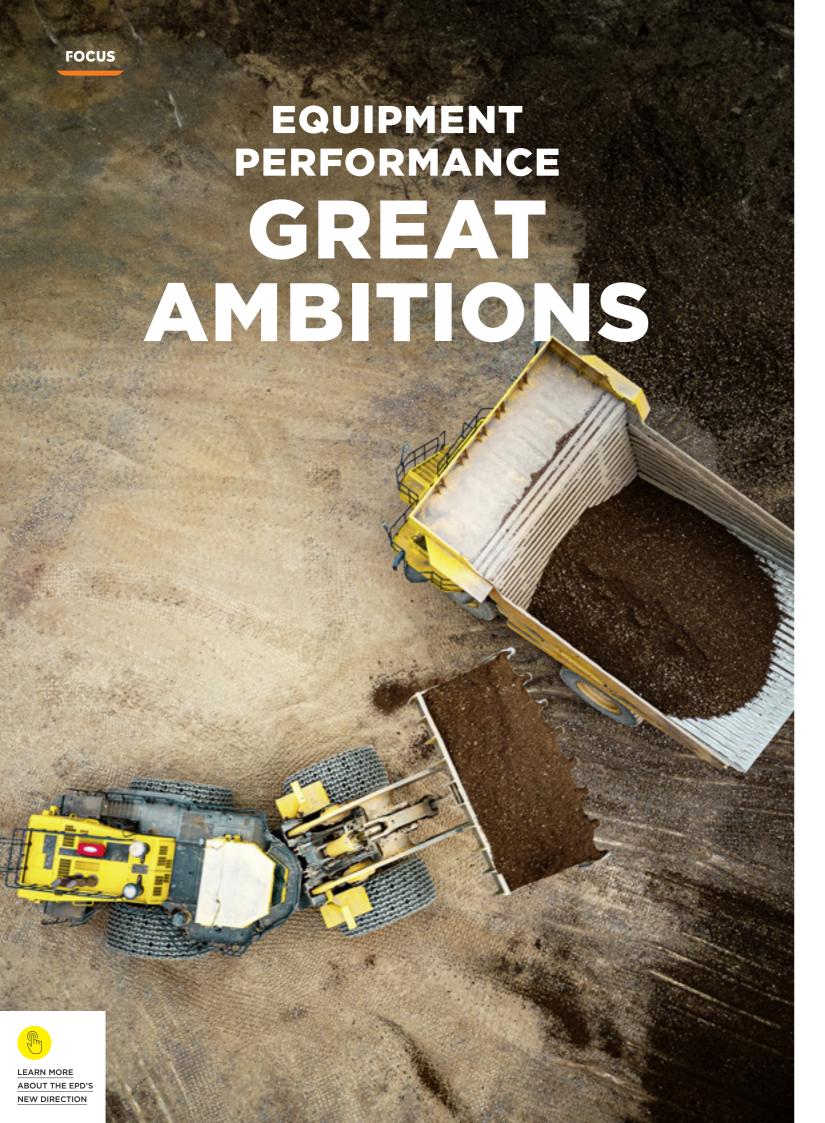
NSCR extension in Manilla.

AUSTRALIA

Road resurfacing
with Spray Seal
surface dressing in
Western Australia.

LEARN MORE
ABOUT THESE
PROJECTS





From Colas' road and rail projects to various jobsites, quarries and emulsion and asphalt plants, Colas teams around the world need access to reliable equipment and facilities for operations to run smoothly. The Equipment Performance Division (EPD) is responsible for making sure that happens, a pivotal role reinforced by targeted investments, optimized safety and an ambitious strategy aimed at protecting the environment. By providing an approach to Colas' activities based on expertise, support and innovation, the women and men of the EPD aim to give operators a real competitive edge. Let's take a closer look.

t's 5.30 a.m. when on-call mechanic Patrice Jezequel is woken by his phone ringing: on the European Route 60 jobsite near Quimper, in northwestern France, a paver has broken down. After getting a

few more details from his colleague, the superintendent on site, he hits the road. Patrice must head out to the site to repair the equipment in question. Time is of the essence, with trucks laden with mixes due to arrive in just a few hours. Once there, he diagnoses the problem, carries out the necessary repairs and gets the paver going again. Work can resume. "It's at times like these, with a lot of people depending on us, that we have to be ready to act, and fast," sums up Patrice. It's a fair analysis of the EPD's role at Colas: to provide support and expertise to industries and road and rail jobsites, while anticipating tomorrow's challenges. Working closely with operators, the Group's 3,100 equipment experts around the world guarantee the continuity of activities, working together to make sure equipment and facilities are maintained to the highest operating standards. "Luckily, phone calls like this are rare, because our core business is to prevent such incidents upstream," explains Patrice after completing the emergency repair. "We're all about action rather than reaction." (see annex page 33).

With around 30,000 pieces of heavy equipment, 28,000 trucks and vehicles and more than 1,350 industrial facilities to keep up and running, anticipation is key. As Deputy Equipment Performance Director, Éric Plouzennec, reminds us:

"Optimizing equipment performance gives our teams on the ground a competitive edge."

#### CHRISTOPHE DA-POÏAN,

Group Vice President, Equipment, Procurement and Materials "Our teams work constantly behind the scenes to prevent projects from falling behind schedule or even grinding to a halt. Working at the crossroads of all Colas' businesses, from asphalt to quarries, from roads to railways, they provide daily support to construction sites, industrial sites and their machinery."

#### **Maintenance and anticipation**

In Zambia, equipment engineer Michèle Kenmoe is starting a new assignment. She began her career at Colas as an apprentice and has spent time in Benin, South Africa and Senegal. Her experience includes the







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lock-out procedure in an emulsion plant, onboard telematics and 6S, preventive maintenance management in a workshop, the relocation of a bitumen storage plant and more. "Our equipment performance work is vital. And it's only by working in harmony with operational staff that the symphony comes to life," she explains. Today, Michèle thrives on the variety of tasks that come her way, drawing on her vast experience to help the manager of the Zambian profit center optimize industrial activities. "Optimization" is one of the EPD's key words. "The decision to change the name of our department from Equipment Division to Equipment

deployment of an electrical and fluid

Performance Division in 2021 was a strategic one," recalls Éric Plouzennec. "It symbolizes our global and long-term ambition, demonstrating that ensuring operational performance drives everything we do."

#### Data, an essential tool

For Colas to get the maximum performance out of its equipment, it needs to have a thorough understanding of the way it is operating. Accordingly, the Group closely monitors its fleets, systematically gathering data from the field. Onboard telematics systems automatically generate and collect data in real time. Industrial site management is also gradually going digital. Benjamin Gaillard, an Industries



EFFICIENT MACHINERY

The EPD guarantees compliant, safe and energy-efficient equipment.

"The aim is to root our equipment in a performance culture, while maintaining control over our business: managing our equipment fleet, managing risks, managing our carbon footprint and so on."

#### ÉRIC PLOUZENNEC,

Deputy Equipment Performance Director



manager in France, contributes to the roll-out of MyMix, an asphalt plant performance monitoring tool. "The dashboard collects a range of real-time data, such as temperature and production volumes, energy consumption, bitumen dosing, etc., which are then compared to sales software data. Once compiled, the data allows us to precisely analyze each site's performance." Developed in-house, with the support of Colas Digital Solutions, MyMix can also be used to detect faults and breakdowns. Moreover, the tool is a plus for sales because the production reports it generates for industrial operational teams are of great interest to customers. The next step is to more accurately qualify and analyze the equipment data on a Group level. At the EPD, the team responsible for digital transformation endeavors to introduce the technology in the right place and at the right time, to get the very best out of processes and employees. "Every day, we gather millions of data points for analysis," reveals Mathilde Bouzon, data analyst. This analysis work has only just begun. The year 2023 will be a benchmark. As time goes on, we will gather even more data, which will be more reliable and more precise. New techniques, such as artificial intelligence, should also help us gain a better understanding of our equipment."

#### A controlled investment cycle

Baudouin de Valicourt, the EPD's Digital Transformation Director, adds: "Digitalization is a decision-making aid. It enables us to take an informed view on a

"Meeting the challenges raised by increasingly complex projects requires innovative and effective equipment management.

Equipment performance is one of the ways we ensure our construction sites are profitable."

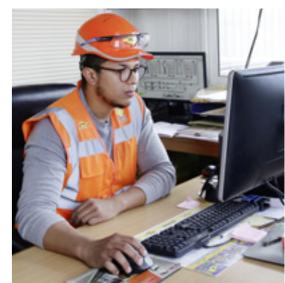
#### HOUSSAM AIDI,

Profit center Manager in Agadir, Morocco (GTR)

#### DATA TO SERVE THE EPD

A detailed analysis of the data supplied by the various pieces of equipment is a useful tool to monitor performance.





#### A DIVERSIFIED FLEET

From machines on wheels to industrial facilities to railway equipment, the women and men of the EPD maintain and repair very diverse equipment.

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#### "Tablets and phones are the tools of our trade, just like a wrench or a screwdriver."

PATRICE JEZEQUEL,
Mechanic



#### Λ

#### **BIO-BASED FUEL**

In France, converting trucks to Oleo100 biofuel can reduce greenhouse gas emissions by 60% compared to diesel, and fine particles emissions by up to 80%.

A CLOSER LOOK: BIO-BASED FUEL OLEO100

#### >>>>

range of issues, particularly safety, investments and the environment." Analyzed on a Group level, the data gathered on the ground provides invaluable information that is then used by other departments such as Health, Prevention and Safety, finance, etc. There are many opportunities for collaboration. "Equipment plays a central role in our decarbonization objectives," explains Anne-Laure Levent, Colas' Environment Director. "We work alongside the EPD to support this transition towards low carbon. The department is focused on ensuring equipment fulfils our ambitions in this domain." Data and performance measurement also guide the Group's capital expenditure (CAPEX) to know where, when and how to invest. In French Guiana, the Maringouins quarry is undergoing major investments to renew

the crushing plant. Properly sized according to market studies, the new equipment will guarantee consistency of production and high-quality aggregates.

#### A division supporting the Group's CSR commitments

All equipment uses energy. Therefore, CO<sub>2</sub> emissions are inherent in its operation. "Asphalt plants, with their burners, are one of the biggest consumers of energy at Colas," points out Francois-Xavier Brossard, Industries Director for Colas France (West Territories). "Being able to monitor our energy or fuel consumption is vital if we want to improve our carbon footprint." Alongside this monitoring, every avenue is being explored to reduce the impact of equipment. In Canada, business

#### >>>

## Preventive maintenance: prevention is better than cure!

Colas Rail has a team responsible for engineering and maintenance. Its role is to optimize the management of railway equipment in terms of maintenance, reliability and availability. The activity is based on the analysis of data, the identification of failure types and the implementation of preventive and corrective maintenance strategies.

The aim is to ensure maximum equipment availability while minimizing maintenance costs. The team has set up computerized maintenance management systems (CMMS) for access to real-time indicators relating to detected breakdowns, repair times and preventive maintenance compliance.

#### MAKING SURE THINGS RUN SMOOTHLY

Allan Béchon, manager of Colas Rail's Grenay and Nîmes maintenance sites, explains: "While it's difficult to actually quantify the benefits of preventive maintenance, we know only too well what the losses are in the event of a breakdown. Preventive maintenance minimizes these direct costs and gives us a degree of control over our equipment. By having efficient, available and reliable machinery, we reduce the costs

associated with a construction project."
Christophe Bellon, Deputy Equipment Director at Colas Rail, shares his view: "By analyzing our equipment and how it behaves and by working with our suppliers, we're able to eradicate some breakdowns altogether and act quickly for others. Well-maintained and reliable equipment is essential to guarantee the safety of our teams, optimize our fleets, limit the ancillary costs associated with downtime and unforeseen events and thus improve our image in terms of quality and punctuality for customers."



### REGULARLY SCHEDULED UPKEEP

Rail road excavators, elevating rail road platforms, tamping-ballast spreader machines, works trains, ballast clearing machines and more. Colas Rail workshops perform maintenance on as many worksite machines as railroad wagons and locomotives.



#### Let's talk about...

Equipment performance is a global drive based on innovations, behavior and precise knowledge of the business. Spotlight on three of the multiple initiatives enabling the division to optimize its efficiency.

#### ... the EUR

#### #DATA

EUR stands for Equipment Utilization Rate. It is a measure of the percentage of time during which a piece of equipment is used in relation to its overall availability. It's a good performance indicator, which helps steer equipment fleet optimization management and guides investments.



#### #INNOVATION

Known in the car sector as Start & Stop, this railway technology developed by Colas Rail makes it possible to shut down a locomotive's main diesel engine while parking or during waiting periods, at the same time ensuring safety. This system enables significant fuel savings to be made.



#### ... rituals

#### #SHARING

EUR Days, CAPEX Days, 10-year plan Days, CO<sub>2</sub> Days... there are a whole host of events dedicated to the division's strategic challenges for EPD employees to put in their calendars. They are an opportunity to share good practices and hear everyone's ideas. Rituals also refer to the discussions site managers and workshop supervisors have with their teams every month, to deal with issues of topical importance for the divison, such as safety, the carbon roadmap and investments.



In Cayenne (French Guiana), start of production of the new crushing facility at Maringouins' quarry is scheduled for 2024.



Every avenue is being explored to reduce the impact of equipment.

>>>

analyst Tedi Wiegand and her teams are well aware that their future investments have to take these factors into account. "Our decarbonization efforts are heavily influenced by our investment process. Suppliers propose cleaner equipment and our fleet is becoming more efficient as old machines are replaced." Throughout the Group, momentum is building: vehicle and heavy truck fleets are gradually being converted to electric; hybrid trucks and electric pick-ups have joined Australian and North American fleets. With manufacturers, Colas is starting to trial electric compact excavators and trucks. Biofuels, such as Oleo100 in France and HVO in the UK, are in increasingly widespread use. In quarries, such as Sintra's Rivière-Verte site in Canada, crushers are being converted to reduce their fossil fuel consumption. And the EPD isn't just investing in equipment.

#### Continuous improvement at the heart of performance

More and more training courses are being delivered to help the EPD's women and men familiarize themselves with the objectives set. In Hungary, for example, machine operators are trained to drive more efficiently and safely. István Dudas, Equipment Director at Colas Hungary, is enthusiastic: "Thanks to simulators, developed by our suppliers, our employees discover new functionalities and learn new skills. We even measure areas where improvements can be made, leading to a 5% reduction in machine consumption per hour and a 20% increase in productivity." A spearhead of continuous improvement, the 6S approach is revolutionizing workshops and industrial sites. Inspired by a Japanese method broken down into five steps (translated as sort, straighten, sweep, standardize, sustain), it is aimed at optimizing the workplace





FOCUS





#### INVESTING IN TALENT

Graduate programs, apprentices, interns: onboarding and training new generations is also one of the ambitions of the EPD.

# "Innovating is about anticipating market trends and customer demands."

**OLIVIER GUÉZET,**EPD's Head of Innovation

>>>

(see poster). "When Colas adopted the approach, it incorporated safety as a sixth step," recalls Sébastien Gay, VP Asset Management for Colas in the United States, where the 6S method was launched back in 2011. Based on common sense and professionalism, the objective of 6S is to improve service quality and performance, while ensuring a safe and pleasant work space for teams." The method is applicable everywhere: laboratories, asphalt plants, binder plants, rail workshops, etc. From Toronto to Cairo, over 70% of Colas workshops and sites worldwide are 6S-certified.

#### Innovating to stand out

Equipment performance is driven by this momentum of rationalization, methods and high standards: nothing is left to chance. But the EPD innovates too. The diversity of equipment, machines and

facilities at Colas implies the existence of a multitude of performance levers. At Colas Rail, the Innovation office, headed up by Maxime Dubois, the subsidiary's Deputy Equipment Director, is responsible for tackling these issues. Maxime conducts technological intelligence with a view to identify strategic projects in line with the Group's ambitions. "Decarbonization probably accounts for three-quarters of the projects currently underway," he points out. The Innovation teams, like the Division as a whole, operate within a network structure, hinged around the regions, internal Colas partners such as the Core Center, Colas Digital Solutions and the Group's Innovation Department, as well as its external stakeholders, including suppliers, with whom relationships are built in a spirit of co-construction and partnership.

"These innovative approaches need to correspond with our needs, our deadlines and our costs: we have to find a balance," sums up the EPD's Innovation Director, Olivier Guézet. Innovating is also about anticipating market trends and customer demands. "It's what sets us apart from our competitors," he adds. The joint approach taken by the EPD and the Procurement Department falls within this framework. For more than two years, their ambition has been to establish strong, long-term partnerships in order to guarantee the best performance in terms of safety, service levels and innovation, while optimizing financial performance. "We want to work with manufacturers who are transparent, inclined to test their machines in the field and who experiment... Surrounding ourselves increasingly with partners, rather than suppliers is the current trend," explains Laura Dampeyroux, Purchaser for Equipments.

Driven by Colas' CSR commitments, the Equipment Performance Division can depend on its employees, technologies and the methods implemented across the Group to lead from the front and drive progress. An essential component of operations, the EPD enables Colas to make a difference and address current sustainable development challenges. •

#### STATIONARY EQUIPMENT

Industrial equipment accounts for half of the capital expenditure made by the EPD.











PUSH FORWARD THE ROAD SECTOR

## "We want to change the 'business as usual."











ALAN K. Chemoran, Colas Ireland (Ireland)



READ THE FULL PROFILE HERE

ALAN A.
Colas Bitumen
Emulsions West Ltd
(Ireland)

To import a new asphalt mix technique in Ireland, Irish employees called on Icelandic experience.

INGVAR
Colas Ísland
(Iceland)

VALORCOL: A COLLECTIVE ADVENTURE

## "A rich learning experience."





ACT AND COMMIT, TOGETHER





Aubin is responsible for the carbon methodology at Colas, which is necessary to track and cut our CO<sub>2</sub> emissions by 30% by 2030.



A

SUWANNEE, SUWANNA AND CHANCHIRA

Thai Slurry Seal - Tipco Asphalt Group (Thailand)

On the construction site for the Bangkok airport expansion project, the three sisters operate each at their own station to lay the final layer of asphalt mix.









↑

CÉDRIC, ALAIN AND PATRICE

Colas France (France)

They travel the country rehabilitating roads using the Recycol in situ recycling process.





A GOOD LENGTH AHEAD

## "With BIM, we're opening up the field of possibilities!"

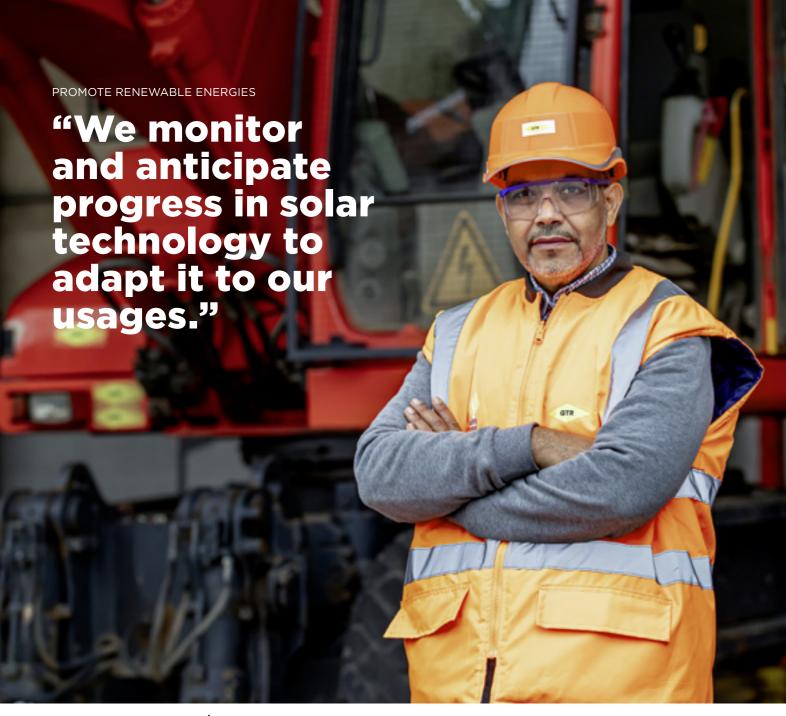


MARIO, CHRISTOPHE, VIOLETTE, ANDO, ÉRIC, BIEN-AIMÉ, ARMAND AND ZO
Colas Madagascar (Madagascar)

Colas Madagascar's BIM unit, created in 2021, brings together a team of experts, who each have their own speciality and are responsible for developing this collaborative approach around a 3D digital model.







ABDELHADI GTR (Morocco)



Workshop manager in Rabat, he is working on replacing all or part of the thermal energy used at the base camps with photovoltaic electricity.

FRÉDÉRIC AND GIL Colas Rail, Spac (France) V The work carried out by the two sales managers and their teams in the hydrogen market has enabled them to move into this sector, an innovative one for Colas.



H<sub>2</sub>: AN OPPORTUNITY NOT TO BE MISSED

"Rising momentum of hydrogen projects at Colas demonstrates its concrete contribution to energy and low-carbon transition."





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#### **A FINAL WORD**

#### **Engagement**

Being engaged is all about wanting to contribute to the success of the company and build a fulfilling career there. It is the common bond that unites the Group's employees, via their attachment to their company, pride at being part of it, motivation and the desire to give the very best of themselves. Creating an inclusive work environment where everyone feels valued for their contribution is one of Colas' key objectives.



## NEAT & TIDY



## &MACHNES

Part one: the most common vehicles & equipment found on Colas road construction sites.

