



**NEW  
GENERATIONS OF  
ENTREPRENEURS**  
2021 ANNUAL REPORT



**Working together to build  
engineered structures that are  
changing the world and which  
we can be proud of.**

**We believe in the strength  
of the team, we thrive with  
and for our customers, we move  
forward continuously and push back  
our own boundaries, we look  
to the future with confidence  
and optimism, we apply our  
expertise with passion and never  
compromise on standards,  
we focus our energies for  
the benefit of all new generations,  
and we build structures that  
make the world a better place.**

# 2021 in numbers

## ORDER BANK

€4.4  
billion



## OUR ORGANISATION

### THIRTEEN MULTI-EXPERTISE REGIONS ACROSS FRANCE

provide a local presence for public and private sector contracting authorities, and are structured into six operations departments and more than 100 regional locations.

### A MAJOR PROJECTS AND INTERNATIONAL DIVISION

enables expertise to be pooled to create major engineered structures around the world, forge links to share resources, and have the ability to rely on domestic and international bases to leverage growth outside France.

### NATIONAL SPECIALIST SUBSIDIARIES

which have the ability to mobilise their expertise throughout France and work in close synergy with the Group's Regions and Major Projects divisions.

### A DEDICATED PROJECT FUNDING ENTITY

serving every part of the Group.

 **7%**  
EBITDA/REVENUE

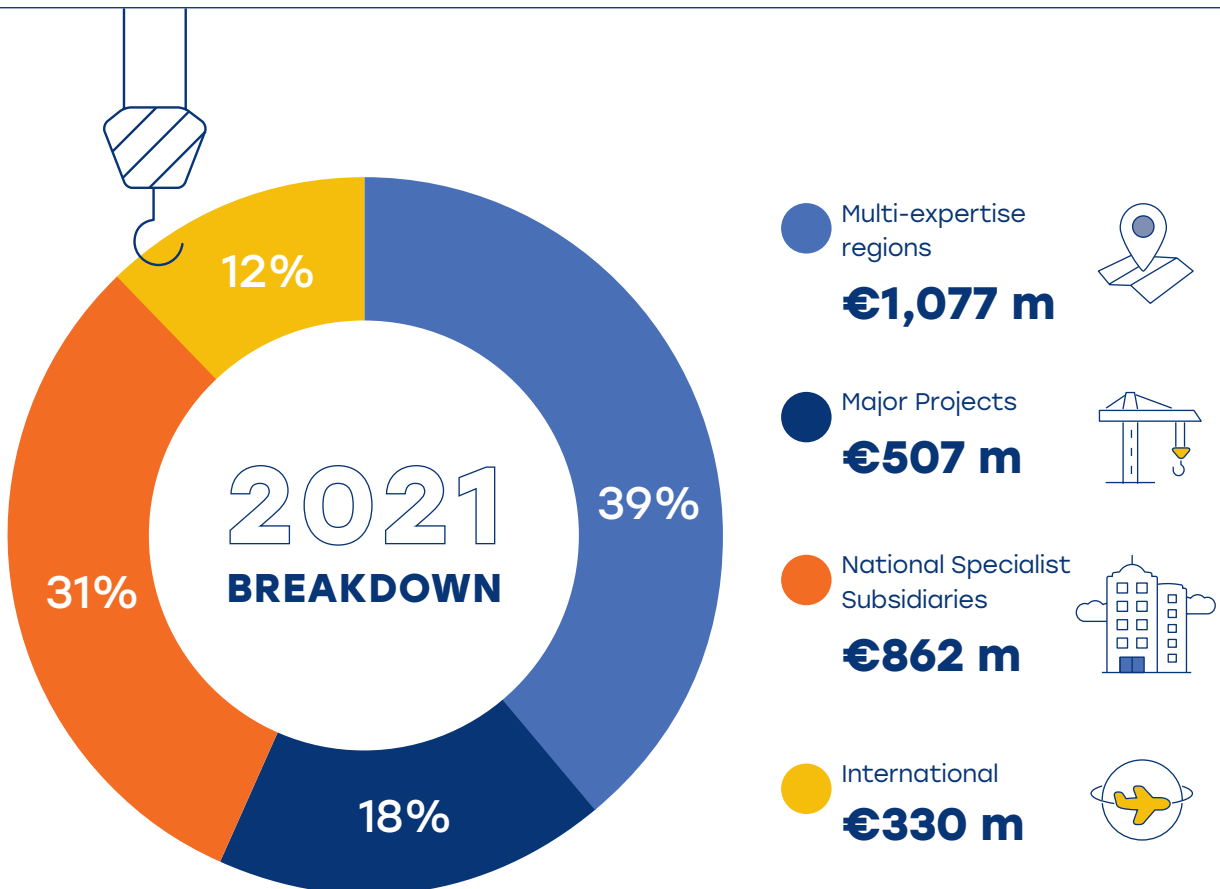
 **€103  
m**

### INVESTED IN PLANT & MACHINERY

with the highest increases in **international** (rail equipment for projects in Egypt and Uruguay, and machinery for Cameroon and Côte d'Ivoire) and **France**, with the introduction of high-speed catenary sequencing and the upgrading of our fleet to the latest generation of plant and machinery to maximise safety and cut greenhouse gas emissions.

## ANNUAL REVENUE

# €2.776 bn



# NGE around the world

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 **500+ EMPLOYEES**

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 **101 TO 500 EMPLOYEES**

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 **1 TO 100 EMPLOYEES**

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WORKFORCE  
AT THE END  
OF 2021



**+8.9%**  
GROUP WORKFORCE

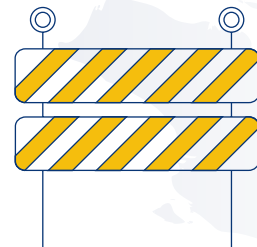
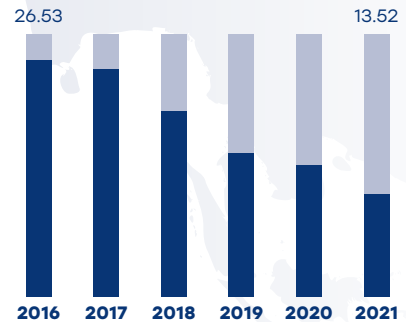
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### OCCUPATIONAL ACCIDENT FREQUENCY RATE

# 13.52

2021



**14,746**  
**EMPLOYEES**  
 including 11,483  
 in France

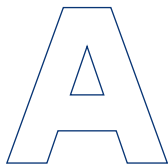
**4,825**  
**NEW RECRUITS**

**8,000**  
**EMPLOYEE  
 SHAREHOLDERS**

# Embracing new horizons



Joël Rousseau, Chairman of the Strategy Board



After a year that put our growth dynamic on hold, NGE resumed its forward momentum in 2021. Even faster and even stronger. So now, it's green lights all the way. The contracts are in place in France and internationally, more and more synergies are coming into play, and the results speak for themselves.

Better still, other new growth and development opportunities are emerging as we position ourselves to take advantage of more business sectors.

Our ability to move forward at a very early stage into expanding markets and initiate new models of collaborative working with customers opens up some very promising prospects for the future.

**The culture of Montefiore Investment aligns perfectly with our own, which puts people at the heart of our corporate purpose**

The fact that the NGE business model works so well is thanks primarily to its core values of collective solidarity, mutual trust and adventurous spirit. These are the values that guide our daily actions and which make us the people we are today. In 2021, we welcomed Montefiore Investment as a financial partner with a substantial equity investment in the Group. This choice of investor is fully consistent with our historical values. The culture of Montefiore Investment aligns perfectly with our own, which puts people at the heart of our corporate purpose, commits to the long term and supports our growth ambitions.

The global economy is not a tranquil flowing river: a health crisis, sharp rises in the prices of raw materials and inflation against a backdrop of geopolitical crisis... As in the past, our responsiveness and agility will always enable us to find new ways to grow and strengthen our business portfolio.

The capital structure we now have following the arrival of Montefiore Investment gives us the strengths and clear support we need to put our entrepreneurial plans into action. NGE is stronger today than at any time in its history. Our culture will be the powerhouse that drives our development.

## JOINT INTERVIEW

# Strong and very healthy growth



Antoine Metzger, Chairman Jean Bernadet, Chief Executive Officer

**In 2021, NGE bounced back perfectly to deliver a sustained level of robust growth driven by teams who are highly committed and closely involved with the future of their company. This growth is now also supported by a new long-term financial partner. We look back over the intense year of 2021 with Chairman Antoine Metzger and CEO Jean Bernadet.**

## **What should we take away from 2021 in terms of business activity and results?**

ANTOINE METZGER: After an unprecedented year in 2020, when NGE held up very well given the circumstances, 2021 was a year of recovery for the Group. We are now back on our growth track, and able to report a 16% increase in business activity. In very real terms, this is the result of the massive commitment shown by our people, which reveals and highlights the full potential of our collective strength. Our operating context is also very positive, with new sectors now in development, sustained levels of business activity in our Regions and major projects of structural significance in France and internationally, which give us excellent forward visibility. Take the Grand Paris Express infrastructure project, for example, where we have a strong presence in several work packages, and there are many other major international infrastructure projects of a similar scale. Our optimism is justified and supported by our order bank of €4.4 billion.

JEAN BERNADET: Our 2021 recovery is reflected not only in the figures, but also in the overall dynamic impetus of the company and in the energy that is so clear to see throughout NGE and its teams. Our status as a challenger in our markets is confirmed on a daily basis by our speed of response, fresh ideas and adven-

turous spirit, which set us apart very distinctively from our competitors.

This SME mindset is also reflected in the way we win contracts, conduct business, manage project worksites, and attract and train our people. We are primarily entrepreneurs who stand out from the crowd for our local presence, operational excellence and high-quality teams. This pleasure in working together as a team gives us a quality of energy that changes everything, especially when it comes to identifying and opening up new markets.

**“By 2025, we expect NGE to be employing 20,000 people, and reporting annual revenue of €3.5 billion”.**

JEAN BERNADET, Chief Executive Officer

## **How do you go about attracting and training new employees?**

J.B. Given today's labour market where demand outstrips supply, recruitment is a major challenge. But we are succeeding in attracting new people on the basis of our reputation as an employer, our local identity and working closely with all stakeholders in local employment markets. Attracting new generations is a painstaking process that involves all our employees, because they are our most effective ambassadors. With our in-house training centre - which is also a government-approved apprenticeship training centre, training remains one of our greatest strengths as an employer. Our expertise in educational engineering



allows us to award a range of professional qualifications, while our network of in-house tutors are involved on a daily basis in passing on the Group's expertise and culture; both these strengths are helping us to prepare the next generation today.

A. M. Combined with the high level of employee turnover across our core businesses, our dynamic growth is driving a very significant level of recruitment demand. Our forecasts show that we will need to recruit around 4,000 new people every year for the next 5 years; a level we have successfully met for the past 3 years. We do this by going out to meet young people with initiatives like our Job-Tour travelling show-room that visits schools all over France, and by reaching out to jobseekers through every available channel. We then do everything we can to retain our employees by perpetuating our characteristic people-centric HR management model, making career progression a reality and encouraging people to own shares in the company they work for. As a result of these efforts, 21% of our employees are now NGE shareholders. That's the highest rate of employee share ownership in our industry, and something we're particularly proud of!

#### **How is NGE progressing with its 2021-2025 roadmap?**

J. B. In 2021, we made good progress on all five of the central priorities set out in our business plan. Our accelerated pace of development in concessions is firmly underway in France, with projects such as the section of the A69 motorway between Toulouse and Castres, for which we will also be supplying construction services. Our ambition now is to repeat this rate of growth in international markets, through projects like the full fibre broadband rollouts in England and Germany, and our rail project in Uruguay. We have also consolidated our leading position in the market for major projects in France and abroad. At the same time, we are intensifying synergies between all our entities, and developing the Multi-expertise Regions that contribute more than €1 billion in annual revenue. And, of course, since we are primarily entrepreneurs, we are establishing strong positions in new markets like smart grids, low-carbon hydrogen and all the businesses and services that contribute to the creation of a better living environment. By 2025, we expect NGE to be employing

20,000 people, and reporting annual revenue of €3.5 billion. These figures are based on a projected average year-on-year growth rate of 8%. To achieve them, we plan to invest €1 billion over the next 5 years in concessions, equipment and external growth. We will achieve this growth without ever compromising the values central to our DNA.

#### **How is NGE responding to the challenges posed by CSR?**

A. M. Corporate social responsibility is at the absolute heart of NGE strategy, and we are determined to make it a daily reality on every one of our worksites.

**“CSR must be a daily reality on all our worksites, and become an integral part of our culture. Infusing it into all strata of the company can only be achieved at operational level, because CSR is not something that can be decreed from the top down; it has to be part of daily life”.**

ANTOINE METZGER, Chairman

We have set ourselves a series of ambitious - but achievable - targets, such as reducing our greenhouse gas emissions by 4% per year. We are continually reviewing and improving our operating procedures to reduce our environmental footprint and spread our CSR culture throughout the company. Our commitment to meeting the challenges of the future was strongly underlined by the fact that NGE raised up to €500 million in additional funding at the end of 2021, which is dependent on achieving three key CSR indicators: gender equality, occupational safety and reductions in greenhouse gas emissions. As a result, almost one third of our debt is now directly linked to achieving our CSR ambitions. If those targets are not met, NGE will not only be subject to financial penalties, but will also make donations to non-profit organisations working on the same issues as those addressed by our CSR indicators.

# EXECUTIVE



Antoine Metzger



Jean Bernadet



Stéphane Pérez



Orso Vesperini



Laurent Amar

Jean-Sébastien  
Leoni

# COMMITTEE



Thierry Bodard



Michel Lavédrine



Bruno Pavie



Joël Pérelle



Thierry Robert

## Executive Management Team

**Antoine Metzger**  
Chairman

**Jean Bernadet**  
Chief Executive Officer

**Stéphane Pérez**  
Deputy Chief Executive Officer

**Orso Vesperini**  
Deputy Chief Executive Officer

**Laurent Amar**  
Executive Vice President

**Jean-Sébastien Leoni**  
Executive Vice President

## Strategy Board

**Joël Rousseau**, Chairman of the Strategy Board  
**Emmanuèle Perron**, Vice-Chairman, **Gilbert Roux**, Vice-Chairman  
**Jean Bernadet**, **Eric Bismuth**, **Gautier Devignes**,  
**Geneviève Féron-Creuzet**, **Emeric Fossorier**, **Michel Lavédrine**,  
**Jean-Sébastien Leoni**, **Antoine Metzger**, **Michel Pavoine**,  
**Stéphane Pérez**, **Jacques Potdevin**, **Henri Topiol**, **Orso Vesperini**

# Business model

## RESOURCES

### HUMAN CAPITAL

- ↗ **68%** of employees trained
- ↗ **7 years'** average service
- ↗ Attentive, autonomous, hands-on senior managers
- ↗ Plate Forme: our in-house Apprenticeship Training Centre (ATC)
- ↗ **195** risk prevention officers
- ↗ **2.72%** of payroll dedicated to training

**14,746** EMPLOYEES  
(11% REPRESENTATION OF WOMEN)

### INDUSTRIAL AND INTELLECTUAL CAPITAL

- ↗ **50** workshops in France
- ↗ **20** asphalt plants and **15** quarries
- ↗ **LC2** in-house asphalt research laboratory
- ↗ **€103 m** investment in Plant & Machinery
- ↗ **52** innovations under development
- ↗ **€6 m** R&D budget
- ↗ **233** Scientific & Technical Department employees

**10,164**  
SITE PLANT & MACHINES,  
VEHICLES & HEAVY  
GOODS VEHICLES (HGVS)

### REGIONAL ROOTS

- ↗ **10,900+** project worksites
- ↗ **158** branches
- ↗ An operating presence in **17** countries
- ↗ **18** structures managed under concessions

### ENVIRONMENTAL POLICY

- ↗ **2022 ENVIRONMENT PLAN**
  - **4%** reduction in GHG emissions every year from now until 2030
  - At least one materials recovery and recycling centre per region, monitoring of water consumption and 80% of waste recovered and recycled
  - **1/3** of the R&D budget devoted to environmental issues and the targeting of new business in environmental contracting
- ↗ Onboarding of all employees
- ↗ **68%** of annual revenue generated from ISO 14001 certified operations
- ↗ **92%** of regions have at least one materials recovery and recycling centre
- ↗ The New Generations Fund: an environmentally-focused corporate patronage structure

### FINANCIAL CAPITAL

- ↗ **€145 m** in shareholder equity
- ↗ **€4.4 billion** order book
- ↗ Net leverage ratio: **2.06**
- ↗ **8,000** employee shareholders

## WORKING TOGETHER TO BUILD ENGINEERED STRUCTURES THAT

### MULTI-EXPERTISE

Our global construction and contracting offer delivers a seamless and comprehensive platform of expertise which gives us the self-sufficient capability to undertake every type of project.

Urban Infrastructures & Earthworks



Pipelines & Other Underground Networks



Road Building & Road Equipment



Civil Engineering



Geotechnical Solutions



Rail Contracting



Building Construction



Project Funding



## ARE CHANGING THE WORLD AND WHICH WE CAN BE PROUD OF

### LOCAL PRESENCE

Our decentralised organisational structure keeps us close to our customers, so that we can build high-quality relationships for the long term.

### EXPERTISE

From funding, through design and construction to ongoing maintenance, our teams put the full range of their expertise to work for our customers.

### RESPONSIBILITY

- Putting people first
- Ecological transition
- Regional roots
- Strong culture of corporate social responsibility

## VALUE CREATED

### HUMAN CAPITAL

- €702 m paid annually in wages and personnel costs
- 94% employed under permanent contracts
- 613 work/study contracts in place
- Occupational accident frequency rate: 13.52
- Workplace gender equality index: 85/100
- 21% of equity capital owned by employees (exc. senior executives)
- €14.5 m paid under compulsory and voluntary profit-sharing schemes

### REGIONAL ROOTS

- €1.9 bn in purchases
- €138 m in capital investment
- 22,002 suppliers  
54% of which are SMEs
- 43% of expenditure paid to SMEs
- 93% of purchases for French activities are made in France
- €39 m paid in taxes
- 828,172 € in corporate patronage donations

### ENVIRONMENT

- Development of the ESTAY and REVAM'APP carpooling and waste management apps
- 76% of materials recovered for reuse
- 53% of innovation investment devoted to environmental issues. System to prevent self-seeded Invasive Alien Plants
- 7 employee-driven non-profit environmental projects supported by the New Generations Fund

## 4,825 NEW RECRUITS

### INDUSTRIAL AND INTELLECTUAL CAPITAL

- 100% of new plant and machinery fitted with automated engine shutdown timer systems since 2017
- 78% of trucks comply with the latest Euro6\* emission standards

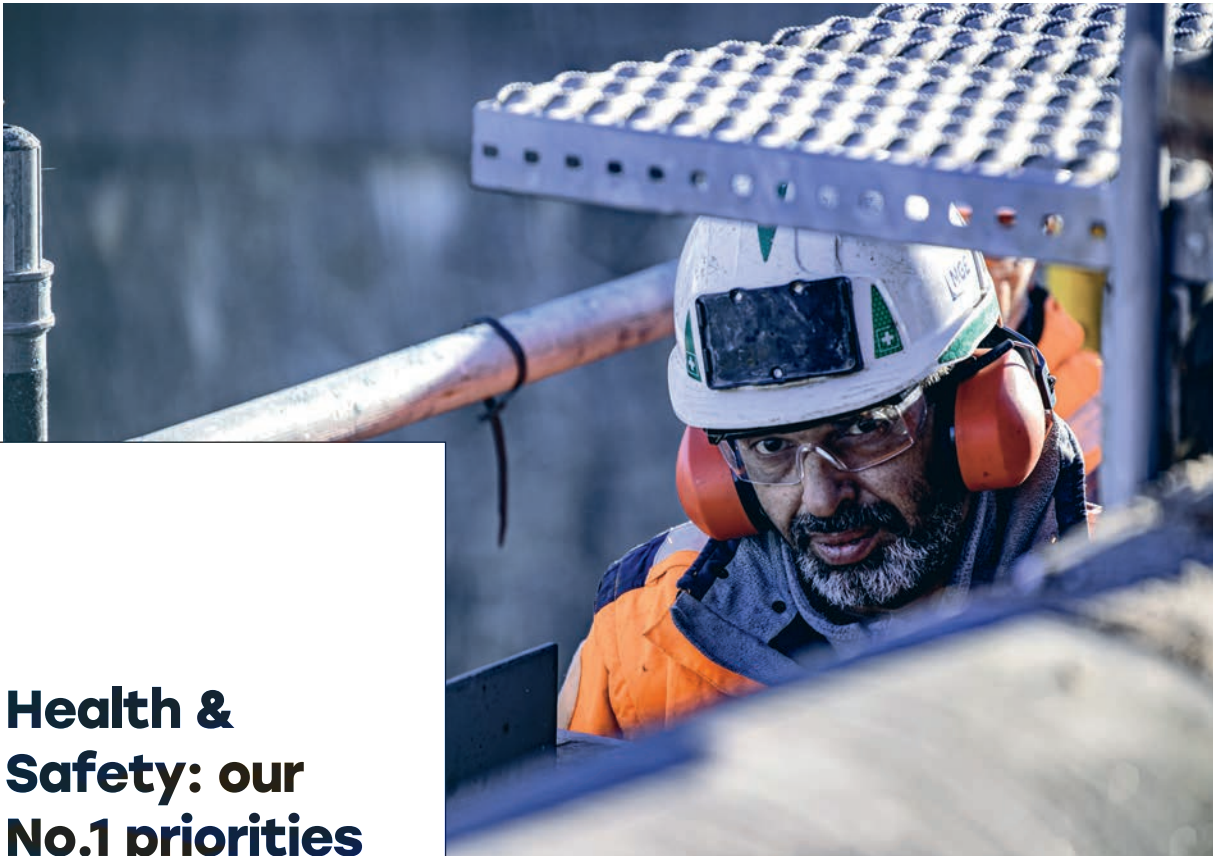
### FINANCIAL RESULTS

- Annual revenue: €2.776 bn
- €29 m paid in dividends  
Cash: €455 m

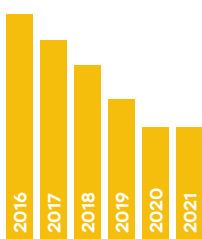




**PEOPLE,  
OUR MOST  
PRECIOUS  
ASSET**



# Health & Safety: our No.1 priorities



In 2021, our occupational accident frequency\* rate was

**13.52**

\*the number of lost-time injury accidents per million hours worked

### LOCKING IN THE SAFETY CULTURE

Although slightly lower than in 2020, continuing the consistent downward trend of the last decade, the Group is not comfortable with its occupational accident frequency rate.

The situation is better internationally, where the frequency rate is only half the Group-wide average. NGE is responding to this situation by stepping up its efforts to continue and accelerate the adoption of its safety culture, and to lock in the vital rules throughout the Group.

In delivering its primary goal of developing a universally adopted safety culture, our Health & Safety strategy focuses primarily on the provision of training for temporary and subcontractor personnel. Our ambition is to continue promoting the close involvement of management and boosting collective awareness of health and safety issues.

### PRIORITISING TEMPORARY PERSONNEL

Given that the occupational accident rate among temporary personnel remains stubbornly higher than that for our own employees, NGE has introduced the ‘Temporary Personnel Safety’ action plan in conjunction with a number of Temporary Employment Agencies, and is limiting the use it makes of this type of employee. Temporary personnel now receive an updated level of induction, with some also completing PASI (Temporary Safety Passport) training before starting work.

### LOCKING IN THE VITAL RULES

NGE has implemented these rules at multiple levels, including safety briefings and the First 5 Minutes system of pre-shift briefings. Regular checks and inspections are conducted on all our worksites to ensure that these crucial briefings take place. NGE relies on its local managers to provide the cornerstones of its safety culture by ensuring that worksites are properly prepared, and that particular attention is paid to regular worksite inspections by management. The frequency of these inspections is monitored by a monthly indicator, with results reported directly to the Executive Management Team. As part of this process of raising awareness of health and safety issues, every Group entity in all operating countries holds its own annual Safety Day.

### MEASURING ACCIDENT PREVENTION

In addition to the use of accident trend indicators, NGE also uses a range of metrics to analyse the progress of its accident prevention initiatives. These measure the progress made by the 15 Occupational Health & Safety Plan actions rolled out each year. Prevention also means dealing effectively





The Prime Contractor Zero Accident Awards

On 27 October 2021, Vinci Autoroutes awarded its Prime Contractor Zero Accident award to the Agilis/Eurovia consortium. This award recognises the commitment and high standards of the teams working on this 5-month project to protect the supporting structures of the footbridge at the Lançon-Provence services on the A7 motorway.

with unexpected events. The exceptional work done by the Group's 195 accident risk prevention officers and the vigilance shown by all employees meant that Group activities were largely protected from the effects of the Covid-19 pandemic.

**€3.5 m**

invested in Personal Protective Equipment in 2021

**PPE**

A full range of PPE designed specifically for women is now available

**10**

The occupational accident frequency rate target for 2022



Each entity organises its own Safety Day. At the Gerland stadium in Lyon, teams from the Auvergne-Rhône-Saône region attended 9 workshops on quality, safety and environmental issues.

## Attracting and recruiting



Leaving from Marseille on the 2021 Job-Tour ▼

### REACHING OUT TO YOUNG PEOPLE

As a result either of misunderstanding or prejudice the construction and civil engineering industry does not spontaneously attract younger people as an attractive career option. So to make contact with this generation, NGE runs targeted communication campaigns, and reaches out to jobseekers or those otherwise secluded from the world of work. Following on from the initiative run in Arles during 2021, the Group continues to invest in providing basic training for young people from priority urban communities. As a result, the scheme will soon be rolled out in the Aquitaine, Hauts-de-France and Brittany regions. In 2021, NGE formed a partnership with the French Voluntary Military Service (SMV) scheme, under the terms of which 30 young people will receive training in the Group's Plate Forme training centre over the next three years. The scheme will also be further extended in 2022. To boost its recruitment, NGE is running Job-Tours using a mobile showroom showcasing innovation. Its first stop was on campus at the ESTP specialist public contracting college in September 2021.

### SPARKING INTEREST BY OPENING WORKSITES TO THE PUBLIC

NGE strives to attract young people by giving them a real feel for the careers it offers. The Grand Paris Express infrastructure project, to which the Group is a major contributor, was used to showcase the range of career opportunities open to young people in the

Ile-de-France region via the 'Let's work together to build our jobs' campaign and open days hosted last autumn by the Société du Grand Paris infrastructure development agency. The Group also took part in the 19<sup>th</sup> edition of 'The Construction Industry Behind the Scenes' initiative.

### SUCCESSING IN THE HUGE CHALLENGE POSED BY RECRUITMENT

NGE has set itself the ambitious target of recruiting 4,000 new people every year. Despite fierce competition in labour markets and the persistent shortage of qualified workers, the target was partially met in 2021 with 3,140 new recruits, the majority of which were operations personnel. Because they are often a springboard for helping young people to enter the world of work, NGE cooperates closely with local employment agencies to ensure that young people who have not previously identified construction and civil engineering as a promising career opportunity for them are enthused to join the teams at NGE.

### CONSTRUCTION X COMIC STRIP: AN UNPRECEDENTED ALLIANCE

NGE has innovatively used the medium of the graphic novel to reveal the exciting reality of what happens on a real-life project worksite. The book went on sale in bookshops all over France on 19 January 2022, supported by a pop-up exhibition in Marseille's Saint-Charles rail station.



**4,000**

new recruits per year is the target set by the Group to support its ongoing growth

Un jour dans le nuit (One Day in the Night), the graphic novel published by Autrement with illustrations by Virgile Dureuil ▼



IN 2021,  
the NGE in-house  
training centre  
trained:

**5,300**

trainees,  
and delivered

**127,500**

hours of training

### INTENSIFIED TRAINING FOR TOMORROW'S EXPERTS

NGE opened its Plate Forme Apprenticeship Training Centre (ATC) in 2019, giving the Group a unique facility for passing on its working methods and culture in the form of qualification-based courses recognised and approved by the French Ministry of Education. NGE has 4 training centres, including one in Morocco, which acts as its bridgehead for sub-Saharan Africa. Despite the restrictions imposed as a result of Covid-19, the range of training opportunities on offer has continued to grow. NGE has demonstrated its expertise in educational engineering through its development and delivery of professional qualification-based training via its ATC, which runs programmes for formworkers, urban infrastructure block layers and pipelayers. A fourth qualification for site

managers, who play a pivotal role operationally, is now in preparation, following its formal approval by the Regional Directorate for the Economy, Employment, Labour and Solidarity. A total of 5,300 employees received training in 2021: 30 of them graduated with a professional qualification, and the pass rate of 95% ensured that many of them were recruited to join the teams of NGE. The dynamic energy generated by Plate Forme is also accelerating at the building construction training centre at Mernel in Brittany, where a new professional qualification course for formworkers will be introduced with a building construction option in 2022.

### RAIL INDUSTRY TRAINING TAKES OFF

The combination of the French government's announcement of an upgrade programme for the country's branch lines, and the installation of track points and crossovers for the Grand Paris Express project means that qualified rail industry operators are going to be in very short supply. NGE is accelerating its own training programme and focusing it on its branch in the Aisne region, which specialises in rail contracting. Here, trainees have the opportunity to learn and perfect their skills on full-scale, real-life track layouts. The Group is intensifying its range of in-service training opportunities, with particular emphasis on rail safety, signalling, electrical protection and track laying.

Plate Forme has an ongoing commitment to identifying new projects for NGE, and following its validation of its train driver training programme by the *Etablissement Public de la Sécurité Ferroviaire* (the French rail safety agency) will welcome the first trainees to this programme in 2022 at new premises in Chelles, home to the headquarters of the Group's rail subsidiary. ■



**Integrating  
and  
training**



**Living and working together**

**72%**

The share of equity capital held by NGE employees and managers (up 3 percentage points on 2020 following the equity investment made by Montefiore Investment in 2021).

**68%**

of respondents to the Quality of Life at Work survey agreed with the statement “All in all, NGE is a really good company to work for”.

**TAKING CARE OF OUR PEOPLE AND THEIR QUALITY OF LIFE AT WORK**

The 3rd Quality of Life at Work survey carried out by pollsters Great Place to Work collected the views of around 6,000 employees who responded to the questionnaire (65% increase in respondents since the previous survey). 68% of respondents agreed with the statement “All in all, NGE is a really good company to work for”, reflecting a 3 percentage point increase on the previous survey.

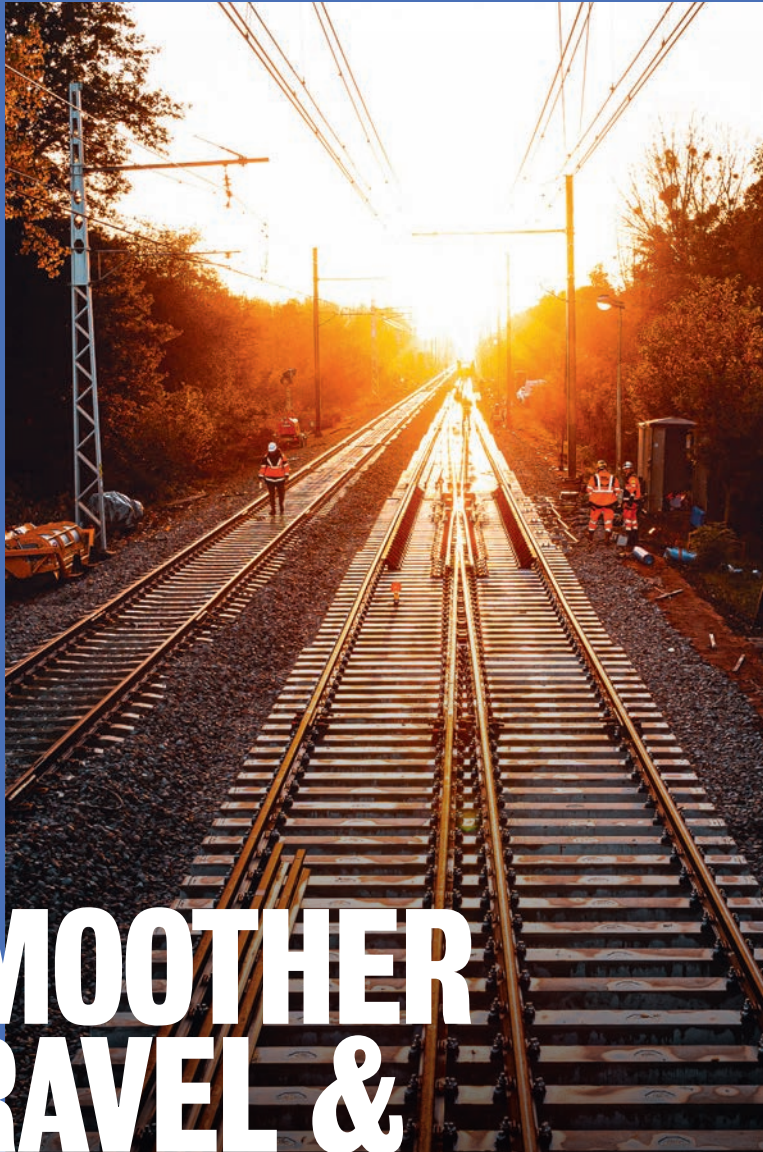
**GENDER DIVERSITY**

Aware that it still operates in a very male-dominated environment, NGE is committed to breaking down all cultural barriers. Equally aware that its performance also depends on women, the Group has signed a patronage partnership with SouterReines, a non-profit organisation

that works to promote the feminisation of construction industry teams. The goal of the new partnership is to promote construction industry careers to young women. A Group-wide day of discussion and awareness-raising around the issues of leadership and gender diversity was also offered to Group employees during the year. One of the findings to emerge from the Quality of Life at Work survey is that general perceptions of the company and professional fulfilment do not vary on the basis of gender. ■



Publication of the NGE Parenting Guide is helping all employees with children to reconcile their role as parents with their professional lives.



# SMOOTHER TRAVEL & LOWER CARBON EMISSIONS

# The Grand Paris Express adventure

## KEY INFORMATION - LINE 16

**10**

stations

**16**

communities

**200,000**

journeys per day  
forecast

**17 km**

of twin-track  
tunnel

➤ **NGE has achieved multiple milestones on its Grand Paris Express worksites during 2021, and completed work on 3 major work packages. It also won a number of new contracts.**

### ON SCHEDULE WITH LINE 16

When complete, Line 16 will serve 10 stations, from Saint-Denis Pleyel to Noisy-Champs with a journey time of just 26 minutes.

NGE is already a major contributor to this key Grand Paris Express rail link, in terms of the rail contracting aspects of Work Package 1, and on Work Package 2, with the startup of the Mireille and Houda tunnel boring machines in 2021. In November 2021, the Group was awarded the contract for Work Package 2.3. This contract covers the installation of tracks, points, crossovers and catenaries. With a scheduled start in 2023, this Work Package will see NGE carry out all the rail contracting work for this line.

NGE has also been contracted to carry out an identical programme of works for the first 2 km section of Line 17 North, between the Le Bourget Airport and Le Bourget RER stations.

### DESIGN & BUILD PROJECTS FOR LINE 15

During the contract tendering phase, NGE submitted its first Design & Build tender for a section of Line 15, with a contract value of several billion euros. A task force dedicated to working on this type of comprehensive tender was brought together and allocated the largest body of design resources ever provided for a project at NGE, because this is the largest project the Group has ever tendered for as consortium leader. It is also a demonstration of how engineering is becoming increasingly important to the Major Projects and International activities of the Group.



► Grand Paris Express: Clichy-Montfermeil station

**COMPLETION OF THE FIRST PROJECT WORKSITES**

2021 saw completion of three major work packages, with the delivery of Line 14 Work Package 4 at Orly, and Line 15 South Work Package T2C. In July, the Sofia tunnel boring machine completed the 3.2 km Line 11 tunnel it had begun work on the previous September. The teams also completed the Haussmann-Saint-Lazare station tunnel intersection project, and the RER E (Éole) work package for the rail contracting aspects of the line between Haussmann-Saint-Lazare station and Nanterre. On the Aulnay-sous-Bois tram storage and maintenance centre project, operations during the year focused on asbestos removal and the construction of all those areas that could be completed given the level of parallel working with other contractors, and on the creation of a complex new work phasing schedule. ■

**18**

that's the number of Grand Paris Express work packages that NGE is involved in



The Sofia tunnel boring machine reaches the end of the line at Serge Gainsbourg station on Line 11

PROGRESS ON THE 8 MAJOR WORK PACKAGES	AT END 2019	AT END 2020	AT END 2021
Line 15 – T2C South	60%	85%	99%
Haussmann-Saint-Lazare tunnel intersection project	40%	75%	98%
Aulnay-sous-Bois tram storage/maintenance centre	35%	65%	72%
Line 14, Work Package GC04	60%	94%	99%
Line 11, Work Package GC01	52%	60%	94%
Line 16, Work Package 2	10%	30%	55%
Line 16, Work Package 1 (rail)	0%	6%	21%
Line 16, Work Package 2-3			1%



# Lyon-Turin: a project like no other

Preparatory work underway for Work Package 3 of the Lyon-Turin tunnel ▼

## THE LYON-TURIN EUROALPINE TUNNEL

**57.5 km**

long

**2**

parallel tunnels

**204**

safety access  
tunnels

**4**

worksite access  
shafts

➤ **After two years of design work, NGE was awarded Work Package 3 of the project to create a new rail tunnel beneath the Alps to link France with Italy. The award of this contract makes the Group a key contributor to a major European passenger and rail freight projects.**

In July 2021, NGE was awarded the contract for Work Package 3 of the project to create a new rail tunnel beneath the Alps to link France with Italy. At 57.5 km, it is one of the longest tunnels in the world, and makes NGE the latest member of the exclusive club of major contractors with the capability to commit its teams 24/7 for a project duration of 6 years.

### A MOBILITY PROJECT THAT HELPS TO SLOW CLIMATE CHANGE

NGE is contributing to the process of creating a major new infrastructure

for moving goods and people around Europe. As the missing link in the Mediterranean Corridor that links the Iberian Peninsula with Eastern Europe, the tunnel will carry passengers beneath the Alps at speeds of up to 220 kph (120 kph for freight services). Estimates suggest that the new rail link will take a million trucks per year off the transalpine motorways. The project is part of the European Green Deal roadmap to achieve carbon neutrality by 2050.

### UNDERGROUND WORK IS UNDERWAY

The NGE consortium has responsibility for the section between the tunnel opening on the French side at Saint-Julien-Mont-Denis and Saint-Martin-la-Porte. From Villard-Clément in Savoie onwards, the tunnel will be excavated using explosives rather than a tunnel boring machine. NGE will blast a 1,810-metre twin-tube tunnel, as well as creating 7 safety tunnels between the rail tunnels at 400-metre intervals and building a 140-metre cut-and-cover section of tunnel. Project duration: 72 months. ■

## Alternatives to road transport

➤ NGE is closely involved in the construction and maintenance of urban public transport networks in France and abroad. In terms of rail network projects, the Group typically has responsibility for significant aspects of major contracts.

### CATENARIES: THE INNOVATION THAT SPEEDS UP EVERYTHING

Upgrading 200 km of overhead lines per year? Our high-speed catenary sequencing expertise and technology mean that this hugely challenging target can be met. This factory train of simultaneously operating mobile workshops effectively industrialises the process of regenerating the catenary components vital for rail traffic. Developed jointly by NGE and COLAS RAIL, this innovation will make it possible to upgrade a large proportion of France's national rail network within 7 years, and do so in complete safety with no interruption to services. This unique train has been operating on the Paris-Strasbourg line since 2021.

**200 km**

upgraded per year

Upgrading catenaries using a factory train ◀

### RER C UPGRADING

Over a period of between 5 and 6 weeks in summer 2021, the rail contracting subsidiary of NGE carried out a high-impact operation during which traffic was suspended in order to replace the tracks of the RER C regional express line. Two sets of points and 260 metres of track were replaced in tunnels during the year. A further 73 metres of non-ballasted track were replaced in stations. 1,600 metres of track were renewed on viaducts.



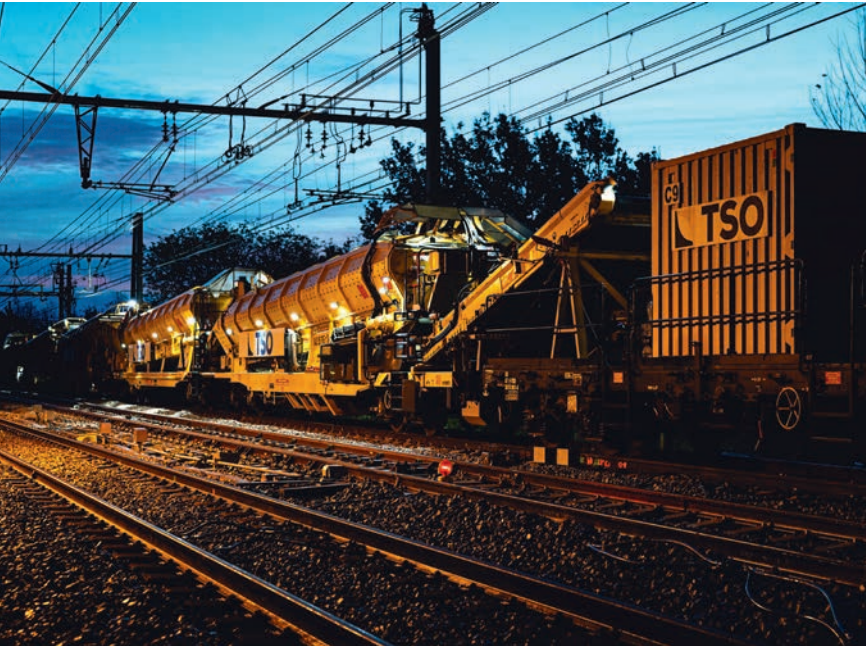
High-Impact Operation to upgrade the RER C line ▶

### COMPLETION OF THE FIRST SECTION OF THE ANGERS TRAMWAY

NGE has delivered the first section of the Angers tramway. This project worksite is in the very centre of the city, where space is particularly restricted, and the teams have to contend with utility networks, shops, residents and traffic. The 26-month project includes laying 3,500 metres of track and building 7 stations. It is due to be officially opened at the end of 2022.



Replacing points and crossovers at Connerré ▲



## REPLACEMENT OF POINTS AND CROSSOVERS

As part of the SNCF Réseau Vigirail programme, our TSO rail subsidiary has carried track replacement and upgrading work at locations including Château-Thierry, Connerré and Levallois-Perret. This national network safety plan has set the target of upgrading or replacing 500 points every year.

## RAIL REPLACEMENT

The TSO BOA rail replacement factory train celebrated its 10th anniversary this year, having replaced 1,400 km of track since its first project in 2011. Its crew continued replacing rails in 2021, with major projects including the LGV Nord Est Européen high-speed rail link between Paris and Lille, and on standard lines in the Île-de-France region.

Model of the future storage and maintenance centre  
▲ for the Marseille-Toulon-Nice rail line



## A RAILWAY STORAGE & MAINTENANCE CENTRE IN NICE

This storage and maintenance centre for the Marseille-Toulon-Nice line is being built for our customer Transdev, the first company in France to be awarded the contract to operate a branch line since the industry was deregulated. Certified as compliant with the Sustainable Mediterranean Building standard, its construction will call on NGE's multi-expertise capability, from property development to civil engineering, rail contracting, catenaries, foundations, and more... ■



**“Our job is all about replacing catenary arms on a massive scale. The factory train designed**

**by NGE and Colas is a brilliant response to our need for fast and efficient catenary regeneration. This solution is a world first and proving to be a great success. SNCF Réseau will capitalise on this operation for its industrial project worksites”.**

[PIERRE DABURON,](#)  
[Regeneration Project Industrial Director](#)  
[at SNCF Réseau](#)





Track replacement in the UK

### A 10-YEAR RAIL CONTRACT IN THE UK

Central Rail Systems Alliance (CRSA) is a multi-year track renewal contract covering the London North West, London North East and East Midland routes. Signed in May 2019, this 10-year contract was awarded to NGE's rail contracting subsidiary TSO, Balfour Beatty, Atkins and Network Rail. It includes all types of work on the track and around points, as well as major projects to upgrade the network capacity, especially station remodelling, which calls on other areas of expertise within the Group, such as civil engineering, catenaries, energy and signalling.

**70 km**

of tracks replaced  
in 2021

### NGE HELPS TO UPGRADE RAIL TRANSPORT IN EGYPT



#### The Cairo - 10th of Ramadan City line

With an operational presence on a number of major infrastructure sites, NGE is working with Orascom Construction on the rail link that will connect Cairo with 10th of Ramadan City, the country's new administrative capital, with line speeds of up to 120 kph. This project involves the construction of 66 km of double track, 10 km of single track in depots, and 11 stations. By the end of 2021, the teams had laid 115 km of track.

#### The Bahria - Port Said Line

NGE is also contracted to upgrade 40 km of track on the line between Bahria, north of Cairo, and Port Said, and replace all its points and crossovers.



The rail link between Cairo and 10th of Ramadan City

### DEVELOPING RAIL FREIGHT IN URUGUAY



As the concession holder and rail contractor for the Ferrocarril Central project, NGE is responsible for laying new tracks on an old track bed to link the Port of Montevideo to a giant paper pulp mill inland. The 273 km future line will run through the city of Paso de los Toros, taking trucks off what are already very busy roads, and providing rail connectivity for other logistics facilities.

In 2021, the focus was on earthworks and the start of work on the aggregate base and sub-ballast layers.

Around 2,500 employees are working to progress this project as quickly as possible. A number of key milestones were achieved during the year, with 60% of the earthworks completed. 2022 will see the start of work on track laying and signalling systems, as well as the construction of large-scale steel bridges.

**273 km**

of new rail line

**50%**

of ballast produced and delivered

**55%**

of sleepers produced



► Installing rail bridge girders and unloading machinery

### A RAIL REGENERATION PROJECT IN MEXICO

The Group is currently upgrading the tracks operated by the Kansas Southern Mexico rail company in the north of the country. The teams have begun the regeneration project with track ballast undercutting.

► Rail upgrading in Mexico



### A KEY PLAYER IN PANAMA'S SUBWAY INFRASTRUCTURES

NGE has had an operating presence in Panama City for several years, and has already contributed to the construction and maintenance of Lines 1 and 2 of its subway system. In 2021, it was awarded the contract to extend Line 2 to Tocumen Airport as part of a project to reduce road traffic and facilitate student access to the Specialist Technical Institute. ■





# LINKING PEOPLE AND MAKING CONNECTIONS

# Facilitating interaction



**KEY INFORMATION**  
**- A69 MOTORWAY**

**54 km**

**40**  
months  
of on-site work

**1,000**  
local jobs created

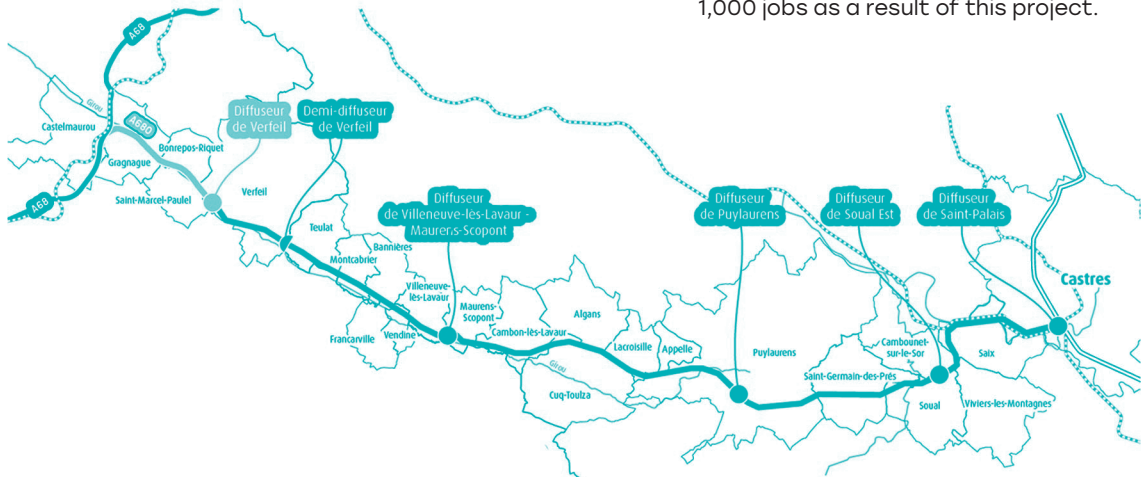
**A69... A NEW KEY MOBILITY LINK**

In autumn 2021, NGE was named by the French government as prospective concessionaire for the Castres-Toulouse motorway link (54 km). This public amenity infrastructure will be built by the Group’s Major Projects teams.

NGE is the leader of the concession consortium, and sole contractor working collaboratively with local subcontractors. NGE Concessions and its partners (the ‘free-flow’ toll operator ASCENDI, and infrastructure investment funds Quaero Capital and TIIC) have together formed a new company - ATOSCA - to manage the concession. The central mission for ATOSCA is to build a resilient, innovative and

environmentally friendly infrastructure. On the basis of its understanding of the local geology and expertise in materials recovery, NGE recommended to the government that the project should be carried out by reusing materials reclaimed from the worksite, with no external input from temporary quarries. This new motorway will be distinctive for its active encouragement and promotion of the use of electric vehicles by installing charging terminals in service and carpooling areas, and its attractively priced flat-rate tolls.

NGE is also committed to making its contribution to the dynamic local economy by involving businesses based in the Occitanie region, and especially the department of Tarn, and will create around 1,000 jobs as a result of this project.



### NGE, MOTORWAY CONCESSION HOLDER

It was in 2010 that NGE gained its first motorway concession: the A88 in Normandy. Since then, the Group's concession portfolio has expanded to include the A63 and A150, but the A69 concession will be its first as sole constructor and lead concession holder.

NGE is now one of Europe's Top 10 leaders in concessionary asset deals, with a portfolio of assets created and funded valued at more than €5 billion (motorways, rail networks, optical fibre networks, bypasses, etc.) in which NGE has always taken a medium- to long-term equity investment, with the added benefit of future repeat contracting operations.

### A57... IMPROVING TRAFFIC FLOW AND SAFETY

With 110,000 vehicles using it everyday day, the A57 motorway is often congested. To free up the traffic, reduce pollution and inconvenience for local residents, and optimise the development potential of the Toulon urban community, NGE is building a new third lane on both sides of the motorway, as well as introducing another lane dedicated to public transport. Work on this 100% NGE project began in April 2021, and will involve multiple areas of Group expertise, earthworks and urban infrastructures, pipelines and other underground networks, civil engineering, roads and road equipment. The central challenge of this project is keeping traffic flowing during the period of on-site working, and the restricted surroundings of the worksite. A diversion including a temporary bridge was set up 2021, and underground storage tanks and acoustic screens were installed to limit inconvenience to local residents.

#### KEY INFORMATION - A57 MOTORWAY

**7 km**

of urban motorway

**5**

interchanges

**1**

motorway interchange hub (A57/A570)

“This project will significantly improve on the existing situation. It's a complex project to bring off, but will deliver real benefits for the region and those who live here. We're trying to set an example by implementing a series of initiatives, including an on-site communication system by siting an information truck in an area of the worksite set aside for the purpose. Over and above the widening project itself, we're also working on an ambitious environmental and acoustic screening programme, which includes external wall insulation, and are currently auditing more than 3,300 homes. This programme marks a new departure for Vinci Autoroutes”.



SALVADOR NUNEZ,  
director de la red ESCOTA/  
VINCI/Autoroutes



## THE MAYENNE AND COURTINEAU VIADUCTS

The Mayenne viaduct project is being funded by the Departmental Council to provide a bypass for the community of Château-Gontier. Built to accommodate motorists, cyclists and pedestrians, the structure is distinctive for its elegant 125-metre span metal arch. Having completed the earthworks (during which 150,000 m<sup>3</sup> of materials were mixed) and concreted the bridge deck, NGE is now working on the superstructures and arch cladding. The teams are also building another highly technical structure between Veiné and Saint-Maure-de-Touraine to the east of the Courtineau viaduct. This corbelled, pre-stressed concrete viaduct uses no steel beams.



► The Courtineau viaduct

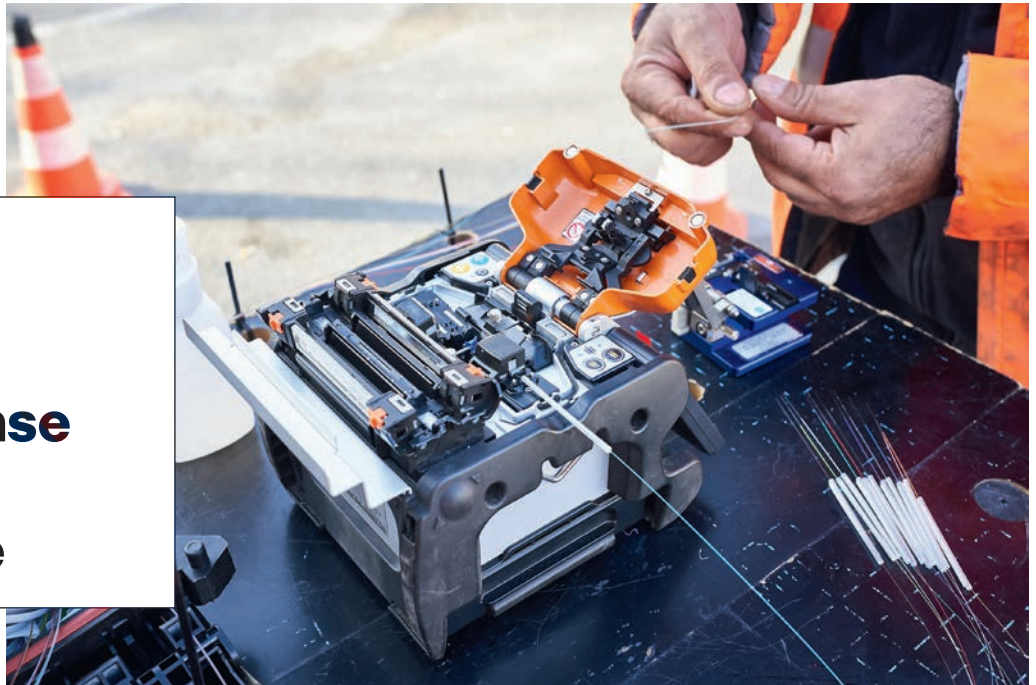


Installing acoustic screening alongside  
 ▲ the A57

## A10-A71: A MOTORWAY SPLIT THAT SOLVES A NOTORIOUS BOTTLENECK

It was in March 2020 that NGE began work on the A10/A71 motorway split to remove the notorious 'Orléans Bottleneck' used by more than 60,000 vehicles on average every day; a figure that rises to above 100,000 at peak times. This level of traffic and the fact that the worksite is in a suburban setting make this a highly complex project, both technically and organisationally. By the end of 2021, 90% of the earthworks were complete, and the project in its entirety was 75% complete. More specifically, the teams had completed the A10 flyover and a feeder road designed to carry traffic between the two motorways. ■

## An intense year for fibre



### 1.5 MILLION

full fibre connections installed by NGE in 2021.

### 400,000 CONNECTIONS

March 2022 saw completion of the rollout to provide more than 400,000 fibre connections for the ROSACE public initiative network in the Haut-Rhin and Bas-Rhin regions of France, for which NGE is the concession holder.

➤ **NGE optical fibre operations delivered an impressive performance in 2021, with production exceeding the target set for the year.**

Since work began on the project, 1.5 million connections of the 2 million ordered had been installed by the end of the year. The high production figures achieved during the year are largely the result of activity in the Grand Est region of France.

#### ROLLOUT COMPLETION FOR THE EARLIEST CONTRACTS

2021 was the year in which the fibre network rollouts for the three departments of Corrèze, Alsace and Essonne - the earliest fibre rollout contracts won by NGE - were virtually completed.

#### PEAK ACTIVITY AND COMPLETION CONTRACTS

The French fibre connectivity market has peaked. Large-scale rollouts are now being succeeded by completion contracts to provide full network coverage at regional and/or departmental level. The majority of these contracts cover low-density urban areas, such as the Dordogne, where NGE is installing 38,000 connections, and Seine-Maritime; another contract awarded to the Group in 2021.

Lastly, a number of contracts previously awarded to NGE have increased in volume since the initial order was placed: these include the Var region, where an additional 20,000 connections are now required, and Alsace, which requires twice as many.

#### IN FRANCE, NGE IS NOW FOCUSING ON REPEAT CONTRACTS

NGE is now working for network go-live, with a programme that includes customer connections, network extensions and maintenance, which are now the main drivers of growth in the French national market. As concession holder for public initiative networks (Rosace and Losange in the Grand Est region, and Hérault Numérique), NGE is now involved in several operations of this type, and is also working on behalf of telecoms service providers. The second most important driver for growth is the rollout of mobile networks in general, and 5G connectivity in particular. NGE is contracted by service providers or companies that own elevated sites suitable for telecoms masts to develop and maintain these facilities, and make them available to service providers. A third growth driver is the construction of smart infrastructures in partnership with NGE Connect.

## TAKING OUR FIBRE EXPERTISE INTERNATIONAL

Building on its successes in France, the NGE ambition going forward is to export its optical fibre expertise to other countries, with particular emphasis on the UK, Germany and Morocco.

Since their level of maturity is lower than that of France, these markets offer NGE a very significant opportunity for extending its fibre rollout capability, which is currently confined essentially to its national market.

→ **Alemania:** NGE has formed a subsidiary company in the German town of Ettlingen as the base from which to tender for ultrafast fibre network rollout contracts, and plans to begin work on its first projects in 2022. The experience gained in France and the geographical proximity of its new base to the Grand Est region will give this new business a head-start in the market. The Group has set the target of connecting 26 million German households to ultrafast fibre networks by 2026. A first contract with digitalisation infrastructure specialist Deutsche GigaNetz will see the beginning of a rollout in 2022 to connect private, commercial and service provider customers in rural areas of Germany.



Work begins on the first German fibre connectivity contract in Abstatt (Baden-Württemberg)



The first trenches are dug for the Liverpool optical fibre rollout



→ **UK:** Across the English Channel: NGE's first international fibre project went live in early 2021 as work began on rolling out a 212 km ultrafast broadband network in Liverpool to connect 23 priority public service buildings, 29 business parks, more than 6,000 companies and data centres. The rollout is being undertaken by a joint venture between LCRCA (Liverpool City Region Combined Authority), local service provider ITS Technology Group and NGE. The JV is funding all the work, and NGE will build and operate the completed network for an unlimited period of time.

**“Our region was central to the first industrial revolution. This new network will soon propel us into the fourth industrial revolution, creating thousands of jobs and benefiting the local economy to the tune of an estimated £1 billion. It will establish us as leaders in the industries of the future, and help us attract world-class talent and investors interested in our skills, infrastructure and expertise”.**



STEVE ROTHERAM, Metro Mayor of the Liverpool City Region

→ **Morocco:** Morocco now has a dedicated NGE fibre network design office carrying out feasibility studies and producing network designs and plans in liaison with France. The future ambition set by NGE is to design, install and even fund fibre rollout operations in the Kingdom. ■





The Sidi Ali coast  
road development  
in Nador

## Facilitating mobility and boosting local economies



The Nador bypass



### TWO MAJOR PROJECTS IN NADOR

NGE has completed two large-scale multi-expertise projects in the Moroccan city of Nador. The first was the construction of new roads to bypass the city and relieve congestion in its busy main arterial routes. The result has been a very real improvement in traffic conditions for local residents. More than 200 people worked on this project between 2019 and its completion in April 2021. The teams in Morocco have also completed work on developing the Sidi Ali coast road visited by tens of thousands of tourists and local people every year.

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#### KEY INFORMATION - THE NADOR BYPASS

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**91,000 tonnes**

of surfacing

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**1.5 million m<sup>3</sup>**

of spoil

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The Agadir Bus Rapid Transit route: a major urban development project

**AGADIR GETS ITS FIRST BUS RAPID TRANSIT ROUTE**

NGE is building the infrastructure for Work Package 1 of the first Bus Rapid Transit route in Agadir.

This 4.5 km line is a major part of the Agadir 2020-2024 urban development programme, and will provide a more seamless mobility solution on a route essential to the economic life of the city. ■



**CONSTRUCTION OF A PIER IN THE PORT OF LA REUNION**

The Port of La Réunion is restructuring its container terminal as part of a wider and much larger upgrade programme.

NGE is applying its expertise in civil engineering and river and maritime contracting to rebuilding a 120-metre pier, beginning with piling operations using 1-metre diameter, 15-metre-long metal piles.

The finished project is due to be handed over to the Port Authority in 2022.



# SUPPORTING REGIONAL DEVELOPMENT



Improving access to public parks and open spaces for people with reduced mobility is just one aspect of the purchase order contract NGE has with the City of Bordeaux authority

# Acting local

**20%**

of Multi-expertise Region revenue is contributed by purchase order contracts

With its 13 Multi-expertise regions and 100+ locations in France, NGE has its finger firmly on the pulse of regional realities and development challenges. 2021 was a year of excellent progress and annual revenue in excess of €1 billion.

### CORE BUSINESS DIVERSIFICATION

Historically, our regions cover four main core businesses: earthworks and urban infrastructures, pipelines & other underground networks, civil engineering and roads. This Multi-expertise structure draws together all these specialist skills into a single management structure that benefits customer projects and the public interest. In 2021, our Regions continued to build stronger and closer synergies with the National Specialist Subsidiaries in terms of building construction, foundations, rail infrastructures and road equipment.



Plant engineering techniques at work in Nantes

### GE LAUNCHES A NEW LANDSCAPE CONTRACTING BUSINESS

“The new Landscape Contracting business was created in 2021 as part of the Group strategy of diversifying its activities, particularly in terms of quality of life and environmental risks. Its contribution to addressing these issues includes tackling the problem of heat islands, controlling soil erosion, and recycling topsoil not used in earthworks projects. The ultimate aim is to develop effective synergies with other NGE businesses (55% of landscaping projects are carried out by our Multi-expertise regions).






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**THE FUTUROSCOPE ARENA, A TURNKEY PROJECT THAT SHOWCASES THE COMPREHENSIVE PACKAGE OFFERED BY NGE**

Delivered two months ahead of schedule in April 2022, the Futuroscope Arena near Poitiers combines multiple areas of Group expertise: funding under a public-private partnership structure, design, build and operation. For this impressive project, NGE used local companies for 72% of subcontracted work.

For several years now, our Multi-expertise Regions have been investing in developing a new area of expertise: electrical engineering, the rollout of which is now accelerating to ensure that it become fully integrated into all 13 NGE Regions. Like sectors such as roads, pipelines and the development of public spaces, this sector is often associated with the purchase order contracts that offer the Group excellent visibility and stability. In 2021, 20% of regional revenue was generated by this type of contract.

But our Regions also have many other levers for growth, from smart infrastructures to the development of funded projects, and the creation of waste recovery centres, with the aim of doubling the number of them in the coming years. Many projects also involve making improvements to community quality of life, addressing environmental issues, decontaminating soils, controlled demolition of buildings and structures, and increasing the permeability of ground surfaces, which often involves new planting and the renaturing of urban spaces. ■

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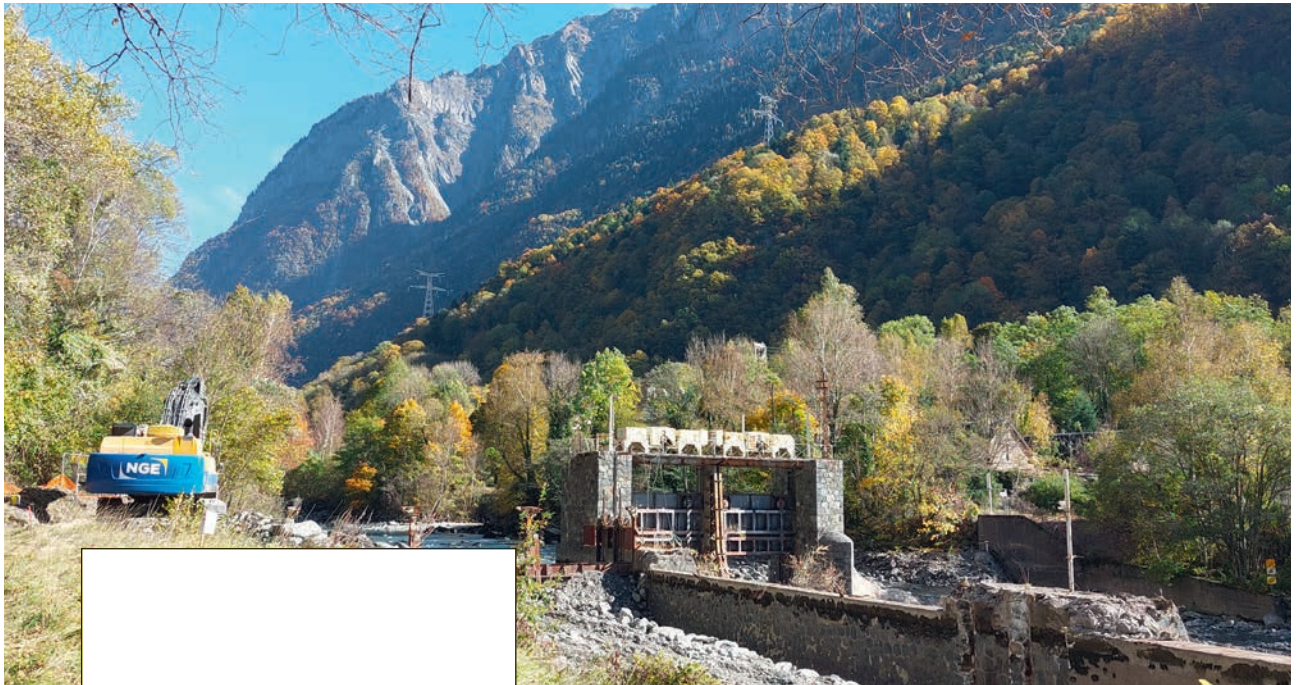
**ELECTRICAL ENGINEERING GAINS GROUND IN OUR REGIONS**

The NGE electrical engineering business covers low- and high-voltage overhead and underground supply lines, street lighting, traffic lights, fibre networks and electric vehicle charging points: the very definition of a local business delivering local services. It also has the advantage of complementing the range of rail signalling and catenary installation and maintenance services.

NGE won and renewed many electrical engineering contracts during 2021, including the external lighting for Strasbourg Cathedral and the City of Metz, and half of the electrification project in the Aude region. This expertise will soon be extended to all NGE Regions.



► Lighting for the bell tower in the town of Lexy



## Restoring, safeguarding and maintaining

A renaturing project in the Romanche river valley ▼

➤ Channelling rivers, decontaminating stormwater, preventing landslides and coastal flooding, as well as making emergency repairs and working with local communities to restore infrastructures. NGE applies all its expertise to containing risks and responding effectively to emergencies.

“The Romanche river valley project will deliver long-term benefits in terms of biodiversity and the physical appearance of the valley, and open up the possibility of new uses following the replacement of the six old hydroelectric stations by the new Gavet hydropower plant, which came on stream at the end of 2020”.



[BASTIEN BOURDON](#),  
Project Manager at EDF Hydro

### RENATURATING A FORMER HYDROELECTRIC STATION SITE

→ GAVET (38)

Following the shutdown of the old facilities and the startup of the new Moyenne Romanche hydropower scheme, NGE is helping to restore the ecological continuity of the Romanche river valley by renaturing the sites on behalf of EDF.

This project involves the managed demolition of the old hydroelectric stations, followed by the remediation of 4 hectares of land and 1 hectare of river. All the materials that emerge from the deconstruction process are sorted for recycling. NGE is reusing inert materials directly on site for backfilling the old power station foundations and cooling water intakes.

January 2023 is the target date for completion of all on-site work by NGE.

The dual-lobe tank that will treat stormwater runoff at the Champigny-sur-Marne wastewater treatment plant



### OPTIMISING EFFLUENT COLLECTION AND TREATING STORMWATER

→ ÉPERNAY (51)

In 2021, NGE completed the holding tank at the La Faiencerie pottery in Epernay, which will collect stormwater and limit its overflow. The tank is engineered to cope with a 1-in-10-year extreme rainfall event. At 15 metres deep, the tank will capture and temporarily store stormwater to prevent drainage system overflow, and ensure that it is properly treated in the water treatment plant. Earthworks, civil engineering, hydraulic engineering... An operation involving multiple areas of NGE expertise.

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**3,200 m<sup>3</sup>** storage capacity

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### SAFE SWIMMING IN THE MARNE AND SEINE IN TIME FOR 2024

→ CHAMPIGNY-SUR-MARNE (94)

The department of Val-de-Marne has launched its Swimming Action Plan to ensure safe swimming in the rivers Marne and Seine in time for the 2024 Olympics and Paralympics in Paris. NGE is making its contribution with the construction of a stormwater treatment plant at Champigny-sur-Marne. This environmentally essential facility involves a series of specialist techniques, including diaphragm walling, microtunnelling, civil engineering and water treatment. It will prevent flooding by collecting stormwater and protect the environment by removing all pollutants before discharging the treated water into the natural environment.

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**8,000 m<sup>3</sup>** of stormwater storage

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### DAM UPGRADING

→ LE REVEST-LES-EAUX (83)

The Dardennes dam plays a key role in supplying the city of Toulon with drinking water. The work being carried out by NGE on behalf of the Toulon Provence Méditerranée urban community involves reinforcing its structure, increasing its outflow capacity and upgrading its mechanical facilities. The spillway is being widened to increase the dam outflow rate from 110 m<sup>3</sup>/sec. to 240 m<sup>3</sup>/sec.

This phase was completed during 2021. The project has now moved on to phase 2: the installation of a micro-hydropower plant and reinforcement works to the base of the dam. All the materials used in the first phase are being reused for the remainder of the project.

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**240 m<sup>3</sup>/sec.** new spillway flow rate

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The Dardennes dam, a crucial infrastructure for the supply of drinking water to the city of Toulon



**ERASING ALL TRACES OF STORM ALEX AND PREVENTING FUTURE RISK**

→ THE ROYA VALLEY (06)

After being devastated by storm Alex at the end of 2020, the Roya valley was cut off from the world. Despite the challenging conditions, the teams of NGE have been working flat out on several fronts since the beginning of the emergency to restore vital road and rail links and ensure their future safety. 2021 marked the end of some aspects of the work, while others remain ongoing. At the end of the year, the teams also began work on restoring the road at Casterino in the Merveilles valley.



**Above ▼**  
a spider excavator conducts the first exploratory surveys in Casterino

**Below ▲**  
8,000 linear metres of consolidation anchors were used to build a 70-metre long, 15-metre-high soil nailed wall to protect an SNCF blind arched wall carrying the Breil-Tende rail line



**SAFETY WORKS FOR A CUTTING ON THE LGV EST LINE**

→ LUPFLEMATT (67)

NGE carried out remedial works on behalf of SNCF Réseau following a landslide in a cutting on the LGV Est high-speed rail line. The work to reinforce and stabilise the cutting over a 400-metre stretch of track was carried out without interrupting rail services, but with trains operating at reduced speed. The 150,000 m<sup>3</sup> of material excavated will be partially treated with lime and binder, and backfilled onto a drainage blanket. ■



# Harnessing the energy of water



Temporary sluiceways allow water from the Sanaga River to flow through the site during construction of the Nachtigal hydropower plant in Cameroon

**KEY INFORMATION  
- THE NACHTIGAL  
HYDROPOWER  
PLANT**

**7**

60 MW turbines

**60%**

complete by the end of 2021

➤ In Cameroon and Côte d'Ivoire, NGE is building and upgrading dams that play an essential role in the national economies and everyday life of both countries.

**NACHTIGAL, A DAM IN THE MAKING**

Once complete, this hydropower plant on the Sanaga River will accelerate the process of bringing electricity to all 27 million residents of Cameroon, and help to accelerate its economic development. At full power, it will generate 420 MW of electricity, or 30% of Cameroon's total power demand. It will also provide consumers with green and competitively priced energy. The project includes a main dam, an upstream intake, an inflow channel, a downstream intake, 7 penstocks and a power generating plant.



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Parc d'activité de Laurade  
Saint-Étienne-du-Grès  
BP22 – 13156 Tarascon Cedex  
Tel.: +33 (4) 90 91 60 00

The consortium led by NGE as lead civil engineering contractor for the Nachtigal upstream development project has now completed a series of key stages, including the installation of the asphalt production plants, the earthworks for the power channel and the installation of the five plant suction pumps, and begun work on the embankments for the power channel. Here, the teams are using a huge 35-metre-long beam paver to apply the asphalt surfacing that will seal the embankments of the power channel that will carry feed water from the Sanaga River to the hydropower plant. The decision to use asphalt as the surfacing material was based on the significant time saving compared with traditional concrete-based methods, and the fact that this solution would make the dam more watertight. Developed by NGE and used for the Curbans canal in France, the beam paver was extended by Allcons Maschinenbau in Germany before being shipped to Nachtigal. This XXL beam paver sets a new world record for application table length.



The 35-metre beam paver applies waterproof surfacing to the Nachtigal Dam power channel



### A SECOND LIFE FOR THE SOLOMOUGOU DAM

More than 600 km north of the Côte d'Ivoire capital of Abidjan, and 20 km south-west of Korhogo, the Solomougou dam is being fully regenerated. Built in the 1970s, the dilapidated state of the structure was making it difficult to operate. NGE is responsible for repairing and upgrading the dam and its surrounding 400-hectare area, which will be extended by a further 410 hectares to provide land for farmers. This regeneration and expansion project is giving new impetus to the local economy. ■

**400** hectares regenerated

**410** hectares of extension land



# ACTING NOW TO DELIVER THE ECOLOGICAL TRANSITION

# Innovating for the environment

Using UHPFC (Ultra High Performance Fibre Concrete) to upgrade the Soulages holding tank in Saint-Chamond



**4%**

reduction in greenhouse gas emissions

**80%**

waste worksite materials recovered for reuse

**30%**

of the R&D budget devoted to environmental issues

➤ **Shrinking and controlling its environmental footprint is an integral part of NGE strategy alongside equally important issues, such as occupational safety, social cohesion and employee personal and professional fulfilment.**

NGE has been a signatory to the United Nations Global Compact for several years; the Group supports and applies the ten principles of the Global Compact according to four fundamental themes, which include environmental protection. Environmental performance is now integral to the roadmaps of all its entities, and the most important aspect of that performance today is to own and operate an increasingly fuel-efficient and clean machinery fleet. Other initiatives include recovering and recycling construction site waste for reuse, protecting biodiversity and using ‘responsible’ worksite facilities. 2021 saw practical implementation of

the three-year plan introduced by NGE to achieve the three goals of reducing greenhouse gas emissions, conserving natural resources and water, and protecting biodiversity.

**MORE THAN ONE METRIC OF PERFORMANCE**

In today’s world, environmental performance and financial performance are two sides of the same coin. This new reality is confirmed in the fact that the Group consolidated its investment capacity during the year with new bank lending and a green bond issue dependent on a series of criteria that include reductions in greenhouse gas emissions.



**26**

fixed materials recovery centres (exc. asphalt recycling)

**22**

new centres planned

**more than 450,000**

tonnes of materials recovered in 2021

**80%**

site spoil recovery rate in 2021

**FROM WASTE TO RESOURCE**

Committed to recovering materials and reusing worksite waste, NGE is investing in the development of a network of recycling centres across France. By 2021, 12 of our 13 Multi-expertise Regions had one. Some of these centres are open to other companies, making them profit centres in their own right. 2021 also saw the introduction of the REVAMA brand to raise the profile of the materials recovery business, which further expands NGE's regional presence, and strengthens its presence at every link in the value chain.

**10°C**

cooler in hot weather

**CLIMAT'ROAD: THE HEAT-REPELLENT PAINT**

→ LYON (69)

In the 7<sup>th</sup> *arrondissement* of Lyon, NGE is testing a paint coating that can lower road surface temperatures by at least 10°C in hot weather.

Baptised Climat'Road, this water-based paint contains partially hollow ceramic beads. These tiny voids mean that the beads cannot store calories, and therefore help to reduce surface temperatures. Developed as a solution for dissipating urban heat islands, Climat'Road creates an effective thermal barrier. A series of tests have already demonstrated that this paint can reduce heat transfer by 25%. The next step is full-scale commercial marketing in 2022.

**“Heat islands are usually mitigated using vegetation, and we'll never find a solution as effective as tree shade; nevertheless, paint is a potential solution for spaces where planting is impossible.”**

SONIA TURMEL,  
Head of Roadworks for the Greater Lyon metropolitan area



## PROMOTING GREEN MOBILITY WITH LOW-CARBON HYDROGENO

→ TARN (81)

Low-carbon hydrogen is an integral part of the Group's diversification strategy. The HYDRO'TARN project, in which NGE is a stakeholder, was selected during the year as part of the 'H2 Corridor' call for projects in the Occitanie region of France. The project aims to develop a system that will facilitate the production, supply and consumption of hydrogen at departmental level. The project partners are investing a total of €19 million in two renewable hydrogen production units that will supply two distribution stations. NGE will contribute its expertise in project funding and build the green hydrogen production infrastructure. As well as being an investor in the entity that will sponsor the various project companies, the Group will also be responsible for producing green hydrogen using three electrolyzers with a total production capacity of 600 kg of H<sub>2</sub> per day.



“The department of Tarn has long provided fertile ground for research into green hydrogen and its future applications. At a time when European, national and regional politicians are showing increasing interest in this subject, we are positioning ourselves to bring together a group of local stakeholders to promote the development of a renewable hydrogen ecosystem integral to the European Corridor H2 project. What makes our Hydro'Tarn project particularly special is its status as an integral component of a circular economy built around local production for local application. The project is currently focused on producing fuel for Heavy Goods Vehicles (HGVs), but in the longer term, we could adapt it to fixed infrastructures.”



CHRISTOPHE RAMOND,  
President of the Tarn Departmental Council.

**Thanks to its specialist water industry subsidiary and French leader in vacuum wastewater systems, NGE is developing processes that enable drinking water to be abstracted, treated, distributed and supplied, and wastewater to be collected, treated and returned to the natural environment with less impact on the environment.**

### USING WATER SYSTEMS TO GENERATE ENERGY

**Hydroforce** transforms pumping stations into hydropower conversion plants, with the advantage that their operating range is greater than that of conventional turbines. For water system operators, this means lower electricity consumption and reduced CO<sub>2</sub> emissions. This innovative technology will be implemented in the Mexican city of San Miguel de Allende to generate green electricity from the water supply system.

**Thermowatt** applies the thermal recovery principle to use the residual heat in wastewater. The thermal energy recovered in this way is transferred via a water source heat pump. This patented solution reduces building energy bills, lowers GHG emissions and stabilises the cost of water treatment.



► NGE will connect nearly 500 power and water distribution points in the Port Cogolin Marina

**489**

distribution points connected

**20 - 30%**

reduction in fluid consumption thanks to connected distribution points

**REDUCING CONSUMPTION FOR BOATS MOORED IN THE PORT COGOLIN MARINA**

→ COGOLIN (83)

NGE Connect designs and implements integrated telecoms networks, connected hardware and software solutions for use by operators and users. Particularly strong in the ports and marinas market, the Group provides connected solutions for the convenience of leisure sailors, port security and service management.

At the Port Cogolin Marina on the Mediterranean coast of the Var region, NGE is installing its 'R-marina' solution as part of a project that includes the connection of 489 power and water distribution points. Fluid consumption and distribution data are uploaded and managed by the R-Card telemetry unit which transmits these data in real time

via LoRa\* wireless networking technology to the R-Smart hypervisor used by the port or marina operator to monitor and manage the port remotely. This system is financially and environmentally exemplary, reduces electricity and water consumption, detects water leaks in the system, and improves understanding of leisure user consumption patterns.

**“We wanted to go down the road of remote consumption management so that every boat owner pays for the electricity and water they actually use. So we’re moving away from the ‘all-inclusive’ formula by making end users responsible for their own consumption”.**

JULIEN HARRAN, Technical Manager at Port Cogolin Marina

\* LoRA: abbreviation of 'Long Range', a technology that allows connected objects to exchange low data volumes at low bit rate.





**“Together with NGE, we took the decision to carry out tests using a specially formulated asphalt surfacing mix to provide better resistance to thermal and mechanical aggression, at the same time as extending the working life of the wearing course. This approach is fully consistent with our commitment to minimising the environmental footprint of our worksites and to making the roadbuilding industry cleaner and more sustainable”.**



**JULIEN MASCIOTRA,**  
Head of Maintenance Projects at Autoroutes et Tunnel du Mont Blanc

### RESEARCHING WAYS TO SAVE MATERIALS

For half of its development of an HGV parking area in Bardonnex in the Savoie region on behalf of ATMB (Autoroutes et Tunnel du Mont Blanc), NGE used 600 tonnes of asphalt mix containing 40% asphalt aggregate reclaimed from old wearing courses, and an experimental binder containing regenerant additives.

The other half of the car park was surfaced using a more traditional formulation.

Both areas will now be tested over the next 5 years to see how the formulation containing recycled materials performs relative to the standard solution.

For its Chambéry-Annecy-Lyon interchange project, NGE used UHPC (Ultra High Performance Fibre Concrete) to re-anchor cables, instead of using metal components. The decision in favour of UHPC was based on its fluidity and compression resistance properties. NGE also used UHPC produced on site for its project to upgrade the Soulages storage tank in Saint-Chamond.

### USING TREES FOR PROTECTION AND PRESERVING THEM BETTER

NGE has developed an innovative rock retention system for use in forests to protect engineered structures, infrastructures and buildings against the risks of falling rocks. This new innovation received a ‘low energy’ award at the second Innov’DAY TP event in May 2021. The unique feature of this solution developed in conjunction with IRSTEA\* and IFSTTAR\*\* is the fact that it uses the forest trees themselves as structural elements, avoiding any need for drilled anchors and/or support posts. This new solution is also more respectful of the natural environment and biodiversity, since it limits the amount of felling required. ■



\* The French National Environmental & Agricultural Science & Technology Research Institute, which in 2020 became INRAE, the National Research Institute for Agriculture, Food and the Environment

\*\* The French Institute of Science and Technology for Transport, Development and Networks, which changed its name in 2021 to Gustave Eiffel University (UGE)

## Adapting the way we work



### ECO-RESPONSIBLE SITE FACILITIES AND TRAILERS

For the Cyber Place worksite in Cesson-Sévigné, where NGE is both developer and construction contractor, the Group's teams have developed a new standard for 'responsible' site facilities. The facilities at Cesson-Sévigné will be used as a pilot project which can later be duplicated on other worksites. The Savoie - Vercors - Vivarais Region has worked closely with the Plant & Machinery department and a French manufacturer of mobile site facilities to develop an eco-responsible trailer. Four of these trailers are now being tested in preparation to assess whether this concept could be extended to other worksites.

### EVERYTHING YOU NEED TO KNOW ABOUT WORKSITE PLANT, MACHINERY & VEHICLES

14,500: that's the total number of units owned and operated by NGE in France and abroad. This fleet of cars, vans, HGVs and worksite plant and machinery is a major source of greenhouse gases, accounting for 92% of total Group Scope 1 and Scope 2 CO<sub>2</sub> emissions.

It therefore represents a very powerful lever for achieving our target to reduce our GHG emissions by 4% every year. Much of 2021 was devoted to developing an action plan designed to achieve this goal.

The programme includes accelerating the renewal of vehicles, plant and machinery, introducing a Mobility Guide to help reduce employee carbon footprints through training in eco-driving and investment in a fleet of electric vehicles, work on alternative fuels and the recruitment of an environmental engineer.

### USING DATA FOR MORE ECO-FRIENDLY MANAGEMENT OF PLANT & MACHINERY

Initiatives implemented in 2021 included reducing machinery engine idling rates to reduce GHG emissions and fuel consumption, at the same time as extending the working life of plant and machinery.

Some NGE plant and machinery are now monitored using a system developed by startup company Hiboo. By connecting each item of plant and machinery to its network, Hiboo precisely geolocates each vehicle, and collects data that can then be used to manage the plant and machinery fleet more accurately in ways that benefit the environment. In 2021, Hiboo developed a standalone solution that can be used even for vehicles with no on-board power source. The next step is to extend conductivity to include all plant and machinery operated by the Group's rail contracting subsidiary TSO. ■

#### CONNECTED PLANT, MACHINERY & VEHICLES IN 2021

## 2,460

including 820 cars, vans and utility vehicles

## 2%

decrease in engine idling rates\* in 2021

\* periods when the engine is running even though the vehicle is stationary and non-operational



# EXTRACT FROM THE CONSOLIDATED FINANCIAL STATEMENTS AND NON-FINANCIAL INDICATORS

# Dynamic and profitable growth



Jean-Sébastien Leoni, Executive Vice President



After a year of standing still, NGE returned to strong growth in 2021, continuing the level of performance it has delivered for the past 20 years, and ending the year 11% up on 2019. All our core businesses delivered growth, and nowhere more strongly than in our pipelines and networks business, where the optical fibre rollout helped to deliver growth in excess of 30%.

Operating income from ordinary activities exceeded €70 million for the first time in our history, and profitability returned to pre-2019 levels in terms both of Operating Income from Ordinary Activities and EBITDA. This impressive performance was achieved despite the high levels of investment demanded by this level of growth. This growth and these excellent results have been achieved at the same time as reducing greenhouse gas emissions by more than 9% compared with 2019, demonstrating the ability of our Group to pull together in achieving its ambitious targets.

**Operating income from ordinary activities exceeded €70 million for the first time in 2021, as profitability returned to pre-2019 levels.**

The entry of a new capital investor as a shareholder provided us with the opportunity to fund future growth by refinancing the Group's main sources of borrowing. This was achieved with a new €150 million NGE EuroPP 7- and 8-year bond issue on the regulated Euronext market and a new bank loan agreement that raised borrowing capacity to €350 million. As part of further strengthening the NGE commitment to CSR, both sources of funding are subject to interest rates that are variable on the basis of CSR metrics. Our net debt to EBITDA ratio remains at a very strong level of 2.0, and Group liquidity is excellent.

Our order bank ended the year at a record €4.4 billion; a level that gives the New Generation of Entrepreneurs every confidence in the Group's ability to deliver further growth going forward.

# Consolidated statement of comprehensive income

In thousands of euros	12/31/2021	12/31/2020
<b>Income from operating activities</b>	<b>2,776,027</b>	<b>2,401,525</b>
Other income from activities	45,243	54,349
Purchases consumed	(613,009)	(448,240)
Personnel costs	(702,401)	(617,679)
External expenses	(1,295,605)	(1,195,887)
Taxes and levies	(24,325)	(28,492)
Amortization expenses	(115,325)	(109,274)
Provisions	518	(1,034)
Change in work-in-progress and finished products inventories	1,127	1,056
Other revenue and expense from current operating activities	(1,428)	(625)
<b>OPERATING INCOME FROM ORDINARY ACTIVITIES</b>	<b>70,822</b>	<b>55,701</b>
% of revenue	2.6%	2.3%
Other operating income and expense	27,020	(11,496)
<b>OPERATING INCOME</b>	<b>97,842</b>	<b>44,205</b>
Income from cash and cash equivalents	55	39
Gross borrowing cost	(11,567)	(11,455)
<b>Cost of net financial debt</b>	<b>(11,512)</b>	<b>(11,416)</b>
Other financial income and expenses	(5,825)	(294)
Share in net income of associates	372	175
Tax expense	(17,565)	(9,984)
<b>NET INCOME</b>	<b>63,312</b>	<b>22,686</b>
- Attributable to owners of the parent	58,258	19,760
- Non-controlling interests	5,054	2,926
<b>EARNING PER SHARE ATTRIBUTABLE TO COMPANY SHAREHOLDERS</b>		
Earnings per share - Basic	9.96	3.32
Earnings per share - Diluted	9.93	3.32
<b>CONSOLIDATED NET INCOME</b>	<b>63,312</b>	<b>22,686</b>
<b>Other comprehensive income that may not be recycled subsequently to net income</b>		
Actuarial adjustments	(512)	(1,709)
Fixed assets revaluation	-	7,678
Tax on items that will not be subsequently reclassified to profit or loss	106	(3,359)
<b>Other comprehensive income that may be recycled subsequently to net income</b>		
Fair value change on hedging instruments	1,445	(599)
Translation adjustment	580	(698)
Tax on items that will not be subsequently reclassified to profit or loss	(473)	164
<b>NET INCOME AND GAINS AND LOSSES RECOGNIZED DIRECTLY IN EQUITY</b>	<b>64,458</b>	<b>24,163</b>
Comprehensive income attributable to owners of the parent	59,269	21,262
Comprehensive income attributable to non-controlling interests	5,189	2,901

# Consolidated statement of financial position

## Assets

In thousands of euros	12/31/2021	12/31/2020
Goodwill	257,850	257,726
Concession intangible assets	5,415	4,741
Other intangible assets	9,391	9,271
Property, plant and equipment	342,150	324,655
Right-of-use of leased assets	158,426	165,702
Investments in associates	18,286	15,526
Available-for-sales financial assets	51,574	26,448
Other financial assets	96,230	75,732
Other non-current assets	2,319	2,227
Deferred tax assets	1,622	1,829
<b>NON-CURRENT ASSETS</b>	<b>943,263</b>	<b>883,857</b>
Inventories	61,253	56,768
Trades	1,022,361	866,184
Advance payments	17,974	21,957
Other current assets	260,035	245,578
Current tax assets	3,633	4,312
Cash and cash equivalents	452,554	716,830
<b>CURRENT ASSETS</b>	<b>1,817,810</b>	<b>1,911,629</b>
<b>TOTAL ASSETS</b>	<b>2,761,073</b>	<b>2,795,486</b>



Rail contracting in Mexico

## Equity and liabilities

In thousands of euros	12/31/2021	12/31/2020
Issued share capital	37,380	47,761
Reserves	66,438	213,808
Net income for the period	58,258	19,760
<b>SHAREHOLDER'S EQUITY</b>	<b>162,076</b>	<b>281,329</b>
Non-controlling interests	9,796	7,690
<b>TOTAL EQUITY</b>	<b>171,872</b>	<b>289,019</b>
Non-current debts	377,899	241,230
Non-current lease debts	66,389	63,229
Non-current provisions	81,923	87,513
Deferred tax liabilities	16,294	11,387
<b>NON-CURRENT LIABILITIES</b>	<b>542,505</b>	<b>403,359</b>
Current debts	114,468	346,372
Current lease debts	34,358	40,381
Bank overdrafts	257,059	253,947
Current Provisions	9,602	8,681
Advances and payments on account received	164,097	179,521
Trade payables	943,623	849,868
Other current liabilities	517,959	420,866
Current tax liabilities	5,530	3,472
<b>CURRENT LIABILITIES</b>	<b>2,046,696</b>	<b>2,103,108</b>
<b>TOTAL EQUITY AND LIABILITIES</b>	<b>2,761,073</b>	<b>2,795,486</b>

# Consolidated cash flow statement

In thousands of euros	12/31/2021	12/31/2020
<b>CONSOLIDATED NET INCOME</b>	<b>63,312</b>	<b>22,686</b>
Net amortization, depreciation and provisions	115,269	112,160
Other operating income and expenses	(33,397)	(3,355)
Gains and losses on disposals	(1,493)	3,296
Share in net income of associates	(372)	(175)
Dividends collected (Unconsolidated companies and investments under Equity method)	(286)	(100)
<b>NET CASH PROVIDED BY OPERATING ACTIVITIES AFTER TAX</b>	<b>143,033</b>	<b>134,512</b>
Tax expense (included deferred taxes)	17,565	9,984
<b>NET CASH PROVIDED BY OPERATING ACTIVITIES BEFORE TAX</b>	<b>160,598</b>	<b>144,496</b>
Change of tax payable	(12,064)	(7,019)
Change in WCR from operations	1,562	111,640
<b>NET CASH FLOW FROM OPERATING ACTIVITIES</b>	<b>150,096</b>	<b>249,117</b>
Disbursements related to acquisitions of property, plant and equipment and intangible assets	(103,652)	(81,537)
Receipts related to disposals of property, plant and equipment and intangible assets	19,199	15,182
Purchases of concession intangible assets	(1,500)	-
Receipts / Disbursements related to acquisitions of financial assets	(990)	(4,907)
Impact of changes in Group structure	255	(1,874)
Dividends collected (Unconsolidated companies and investments under Equity method)	286	204
Changes in loans and advances granted	(20,474)	(39,026)
Change in amounts due to non-current assets suppliers	(213)	436
<b>NET CASH FLOW FROM INVESTMENT ACTIVITIES</b>	<b>(107,089)</b>	<b>(111,522)</b>
Capital increase, reduction and other equity transactions	(152,075)	(45,505)
Dividends paid to shareholders of the parent	(29,547)	-
Dividends paid to non-controlling interests in consolidated companies	(2,367)	(2,135)
Receipts from new borrowings	393,859	309,816
Repayment of borrowings	(483,590)	(66,956)
Repayments of lease debts	(37,367)	(32,970)
<b>NET CASH FLOW FROM FINANCING ACTIVITIES</b>	<b>(311,087)</b>	<b>162,250</b>
Impact of exchange rate fluctuations	692	(2,099)
<b>CHANGE IN NET CASH</b>	<b>(267,388)</b>	<b>297,746</b>
<b>CASH AND CASH EQUIVALENTS AT THE BEGINNING OF THE PERIOD</b>	<b>462,883</b>	<b>165,137</b>
<b>CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD</b>	<b>195,495</b>	<b>462,883</b>





# Non-financial report

	Unit	2021	2020	Change 2020-2021	GRI
<b>ECONOMY &amp; GOVERNANCE: KEY FIGURES</b>					
Total revenue	€m	2,776	2,402	16%	201-1
Total amount paid to employees under compulsory and voluntary profit-sharing schemes	€m	15	13	15%	201-2
Total investment in hardware, plant, equipment, vans and cars (Exc. IT, buildings and IFRS 16)	€m	103	93	11%	
Innovations under development	No.	52	46	13%	
R&D expenditure	€	6,463,178	4,307,483	50%	
	% of AR	2.3	1.8	30%	
Number of QSE-certified sites	No.	195	175	11%	
Percentage of annual revenue generated from QSE-certified operations	%	68	63	5	
<b>EMPLOYEE SHAREHOLDING</b>					
Number of employee shareholders	No.	8,000	8,000	0%	
Share of equity capital owned by employees (exc. senior executives)	%	21.0	16.5	4.5	
Share of equity capital owned by employees and senior executives	%	72	80	-8	
<b>HUMAN RESOURCES</b>					
Global workforce	No.	14,746	13,547	9%	102-7
French workforce	No.	11,483	11,043	4%	102-7
Percentage employed under permanent contracts (F)	%	94	95	-1	102-8
Percentage employed under Fixed-Term Project-Specific Contracts - F	%	4	5	-1	102-8
Number of recruitments (exc. transfers between subsidiaries)	No.	4,825	3,763	28%	401-1
Number of employees leaving the Group (exc. transfers between subsidiaries)	No.	3,916	2,776	41%	401-1
Number of employees promoted during the year (F)	No.	1,383	1,184	17%	
Employee turnover	%	32	26	6	401-1
Average length of service	No. of years	7	7	0%	
Percentage of annual appraisals conducted	%	84	n.a.	n.a.	404-3

n.a.: not available

**F: in France**

	Unit	2021	2020	Change 2020-2021	GRI
<b>EMPLOYEE &amp; GENDER DIVERSITY</b>					
Women as a percentage of the global workforce	%	10.55	10.10	0.45	102-8
Women as a percentage of the French workforce	%	11.27	10.74	0.53	102-8
Number of women in worksite supervisory roles	No.	137	105	30%	
Part de femmes cadres	%	17.70	16.91	0.79	
Percentage representation of women in management roles	%	6.7	6.7	0	405-1
Percentage representation of women on boards of directors	%	12.5	12.5	0	405-1
Workplace gender equality index - F	%	85	84	1	
Percentage representation of disabled employees in the workforce (F)	%	1.26	1.48	-0.22	
<b>TRAINING - F</b>					
Work/study contracts (apprenticeship + vocational training contracts) - F	No.	613	561	9%	102-8
Number of tutors	No.	267	291	-8%	
Total number of training hours (inc. work/study)	No.	463,956	427,171	9%	
Percentage represented by work/study	%	64	73	-9	
Number of employees receiving training during the year (exc. work/study trainees)	No.	7,819	5,088	54%	
Percentage of employees receiving at least 1 training course	%	68	46	22	
Average number of training hours per employee trained	No.	20	24	-15%	404-1
Training budget	€	10,400,938	6,780,175	53.4%	
Percentage of payroll dedicated to training	%	2.72	1.94	0.78	
<b>OCCUPATIONAL HEALTH &amp; SAFETY</b>					
Frequency rate for lost-time occupational accidents Rate	Rate	13.52	13.65	-0.13	403-2
Overall accident frequency rate (inc. temporary employees)	Rate	21.47	17.50	3.97	403-2
Occupational accident severity rate	Rate	0.8	1.0	-0.2	403-2
Number of lost-time occupational accidents	No.	344	294	17%	403-2
Number of non-lost-time occupational accidents	No.	361	284	27%	403-2
Number of days lost	No.	21,406	21,942	-2%	403-2
Number of travel-related accidents	No.	105	71	48%	403-2
Number of near misses and hazardous situations reported	No.	2,134	2,508	-15%	403-2
Number of absences for occupational illnesses	No.	41	23	78%	403-2
Percentage of worksite supervisory staff trained in accident risk prevention	%	56	n.a.	n.a.	
Percentage of entities holding a safety day dedicated to accident risk prevention	%	90	n.a.	n.a.	
Volume of PPE purchased for first issue to new employees and replacements for existing employees	€m	4.1	n.a.	n.a.	

	Unit	2021	2020	Change 2020-2021	GRI
<b>ENVIRONMENT</b>					
GHG emissions (scopes 1 and 2)	TeCO <sub>2</sub>	167,024	164,416	1.6%	305-1 305-2
Carbon intensity	TeCO <sub>2</sub> /€m AR	60	87	-31%	305-4
GHG emission reductions as a result of using rail transport for employee travel - F	TeCO <sub>2</sub>	615	507	21%	305-5
Average CO <sub>2</sub> emissions from the NGE vehicles fleet - F	g/km	155	142	9%	305-1
Idling rate of production machinery**	%	29	31***	-2	
Electricity consumption (F)	KWh	21,279,003	27,307,872	-22%	302-1
	KWh/k€ AR	7.67	11.37	-33%	302-3
Percentage of employees receiving energy consumption awareness information	%	82	n.a.	n.a.	
Percentage of employees receiving air pollution awareness information	%	82	n.a.	n.a.	
Proportion of NGE Regions with materials recovery and recycling centres - F	%	92	85	7	
Worksite excess materials recovery rate	%	76	51	25	306-2
Waste generated	t	87,723	210,194	-58%	306-2
	t/k€ AR	0.032	0.087	-64%	306-2
Water consumption	L	55,542,012	1,221,208,102	-95%	303-1
	L/k€ AR	20	508	-96%	
Proportion of R&D expenditure devoted to environmental issues	%	53	43	10	
Number of 15-minute environment briefings held	No.	542	360	51%	
Number of feedback submissions (good practices and/or reference cards)	No.	94	44	114%	
<b>QSE</b>					
Number of worksite QSE inspections	No.	10,232	5,184	97%	
Number of 15-minute QSE briefings led by site supervisors and team leaders	No.	12,831	10,932	17%	
Percentage of customers saying they would work with NGE again	%	97.3	100	-2.7	
Percentage of customers satisfied with the quality of work done	%	95.7	99.4	-3.7	
Percentage of customers satisfied with our safety performance	%	95.1	97.0	-1.9	
Percentage of customers satisfied with our environmental performance	%	95.1	95.8	-0.7	

	Unit	2021	2020	Change 2020-2021	GRI
<b>RESPONSIBLE PURCHASING</b>					
Total number of suppliers	No.	22,002	19,849	11%	102-9
Percentage representation of SMEs	%	55	61	-6	
Number of suppliers that have signed the NGE Responsible Purchasing Commitments	No.	1,868	1,331	40%	102-11
Percentage of expenditure with suppliers that have signed the NGE Responsible Purchasing Commitments	%	40	28	12	102-11
Number of post-delivery supplier assessments based on CSR criteria	No.	2,320	1,255	85%	
Percentage of expenditure paid to SMEs	%	43	39	4	102-9
Percentage of purchases made in France for French activities	%	93	91	2	102-9
Number of buyers	No.	71	65	9%	
<b>BUSINESS ETHICS</b>					
Percentage of the most exposed employees and managers receiving classroom training on criminal business risks	%	62	91	-29	205-2
Percentage of the most exposed employees receiving e-learning training on business ethics	%	88	64	24	205-2
Number of whistleblowing reports	No.	0	3	-3	

n.a.: not available

**F: in France**

\* Data updated in accordance with the method agreed with EcoAct

\*\* Idling is defined as the length of time that the engine of a piece of machinery runs at low rpm while stationary and not performing any task

\*\*\* Data updated following a change in the calculation method used by manufacturers



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Parc d'activité de Laurade  
Saint-Étienne-du-Grès  
BP22 – 13156 Tarascon Cedex  
Tel.: +33 (4) 90 91 60 00