

# COMPANY PROFILE

FY2023

webuild 



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**FY2023**

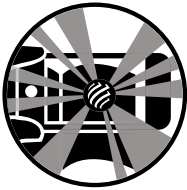
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webuild

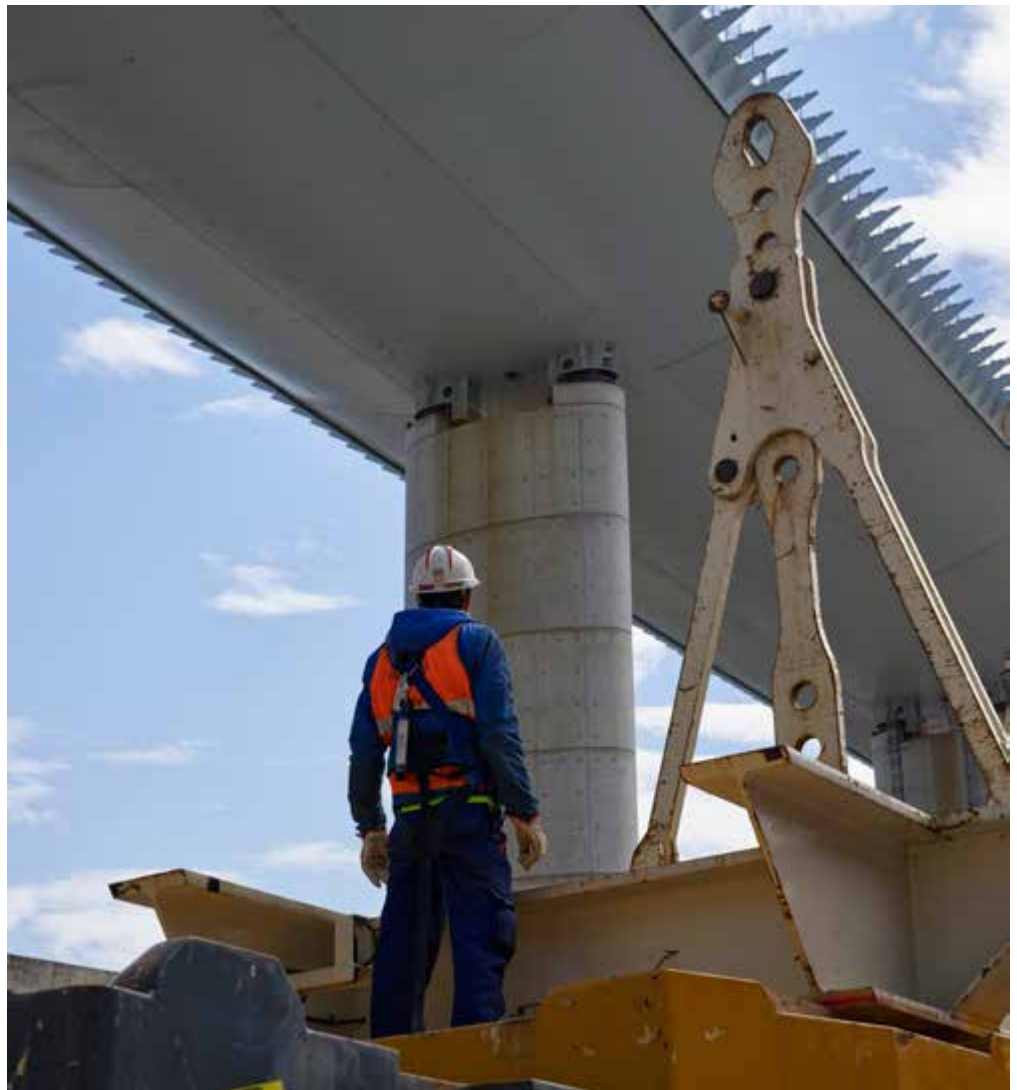
# 01

## GROUP



**GROUP**

# WHO WE ARE





## Global player in the construction of large complex infrastructures, leader in the water sector, leading Italian contractor, among the 10 international top players in Australia, United States, Europe\*.

For about 120 years we have contributed to the growth of the communities where we work, supporting clients in reaching their goals, with a “stay lean and go fast” approach, adopting flexible and safe solutions to satisfy our clients, **pursuing efficiency and sustainable solutions to protect and enhance the environment**, continuously delivering results in an uncertain world.

Webuild has a privileged position in the infrastructure sector as it is one of the few global operators with a strongly SDG-oriented core business directed towards the development and building of infrastructure that directly contributes to the achievement of the SDGs and transition to a low-carbon economy.

The company has a dynamic, constantly changing structure to underpin business growth in line with international best practices.

Listed on the Borsa Italiana stock exchange in Milan, the group has a qualified shareholders base, with CDP Equity and other Italian financial institutions to provide support to its development. Webuild is committed to creating value for its stakeholders, maintaining a close rapport with them through regularly meetings and communications about its activities.

Our recent integration with companies like Clough, Astaldi, Seli Overseas, Cossi and Lane gives us a sharper competitive edge on international markets as a result of the new skills they bring to the group thereby enabling it to achieve more ambitious goals. Webuild intends to cultivate its role as partner to its clients in their climate and energy transition, taking on the challenges posed by the ongoing global megatrends, such as climate change, demographic growth, urbanisation and water scarcity.

# Sustainable Mobility

- Metros
- High Speed Railways
- Railways
- Roads & Motorways
- Bridges & Viaducts
- Ports & Sea works



# Clean Hydro Energy

- Hydroelectric Dams & Plants
- Pumped Storage



# Clean Water

- Desalination & Water Treatment
- Wastewater Management Plants
- Hydraulic works
- Irrigation Dams



# Green Buildings & Other

- Civil & industrial buildings
- Airports
- Stadiums
- Hospitals







02

KEY FIGURES

## Key Figures\*

# €10 bn

revenues in 2023

---

# ≈120

years of engineering and construction

---

# 87,000

average direct and indirect global workforce in 2023

---

# +110

nationalities

---

---

# €64 bn

total backlog\*

---

# €54.9 bn

construction backlog\*

---

# > 85%

construction backlog related to projects in low-risk countries\*

---

# > 90%

of projects in construction backlog contribute to SDGs advancement\*

---



Build







03

COMMITMENT

**COMMITMENT**

# OUR PLEDGE TO BUILD A MORE SUSTAINABLE FUTURE



Our rail, metro and light rail transit lines move millions of people every year, eliminating the need for cars and buses that increase pollution as well as congestion on roads and highways.

Webuild's Sustainability Strategy is embedded in the Group's business model and strategy and is underpinned by two key pillars: its contribution to global challenges and its unceasing commitment to act responsibly.

As signatory of the Global Compact, Webuild strives to play its part in supporting the global effort to reach by 2030 the Sustainable Development Goals (SDGs) set by the United Nations.

The group's pledge to work towards a more sustainable, low carbon future is reflected in its business divisions: Sustainable Mobility, Clean Water, Clean Hydro Energy, and Green Buildings & Other.

Our rail, metro and light rail transit lines move millions of people every year, eliminating the need for polluting cars and buses that increase congestion on roads and highways. Our hydroelectric dams produce energy without emitting harmful emissions. Our desalination and treatment plants can provide potable water where it is in scarce supply, and sustainable waste water treatment plants for environmental protection and pollution decrease.

The bridges and buildings we erect house the latest in sustainable technology, promoting a strong Health & Safety culture worldwide.

In 2023, over 90% of our construction backlog came from projects that contribute to the achievement of some of the most prominent UN SDGs.

# Our contribution to the UN SDGs\*

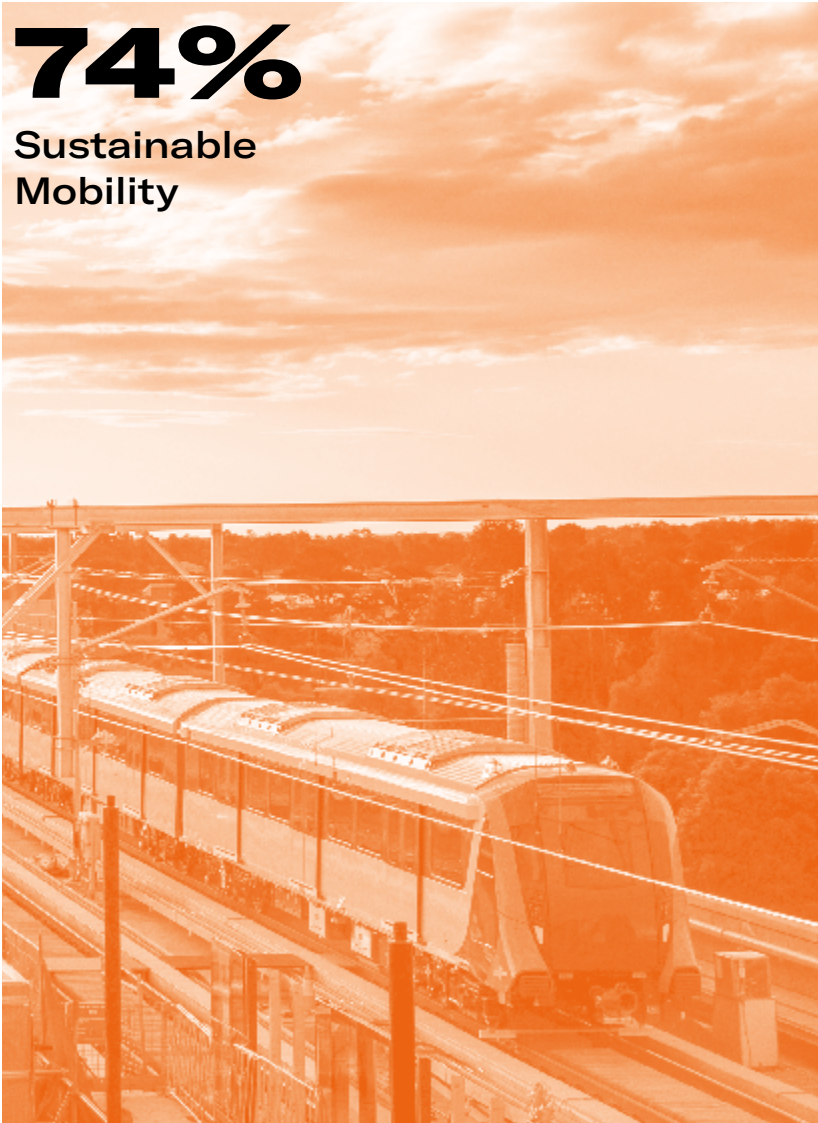
(UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS)

# >90%

Construction backlog from projects that contribute to the achievement of the SDGs

# 74%

Sustainable  
Mobility



# 16%

Clean  
Hydro  
Energy



# 9%

Green Buildings  
& Other



# 2%

Clean Water

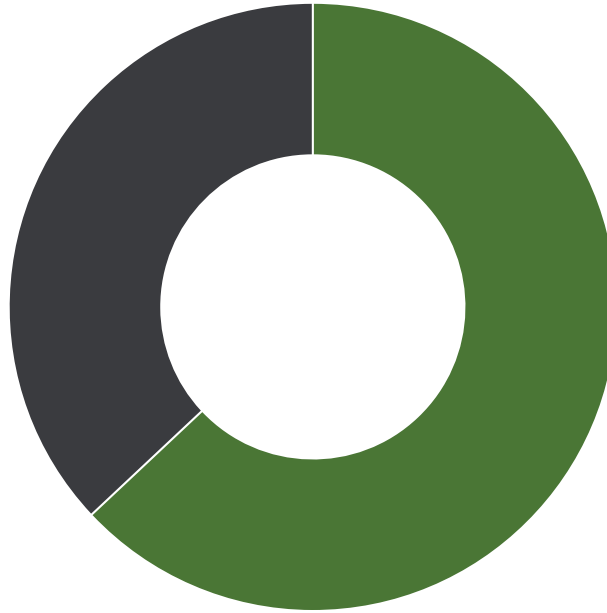


\* FY2023 unless otherwise indicated

# Our contribution to the fight against climate change

**63%**

Revenue eligible to the EU “green” Taxonomy



**≈93 million people worldwide** with the best access to water, energy, mobility and public utility infrastructures thanks to the Group’s projects currently being built



**-67% GHG emissions**

Greenhouse gas emission intensity scope 1&2 (2023 vs 2017) \*

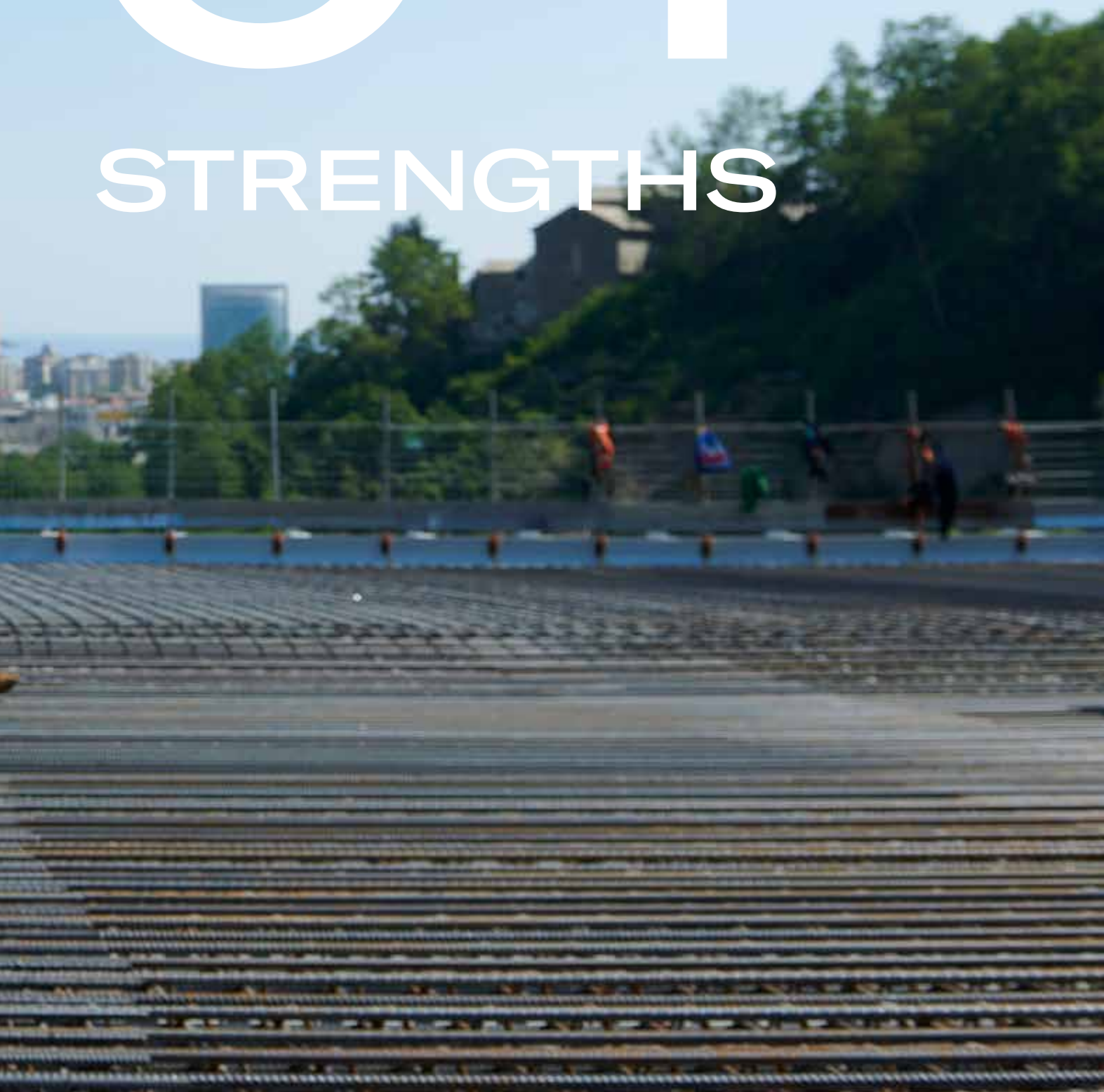


\* Scope 1&2 indicate CO<sub>2</sub> emissions coming from the consumption of fuels (scope 1) and electricity (scope 2)



# 04

## STRENGTHS



## STRENGTHS

# OUR WAY OF DOING BETTER

### Operational excellence

- Global Group focused on large-scale civil engineering projects;
- Outstanding skills and qualifications in key segments and key iconic projects worldwide;
- Long and successful track record dating back about 120 years;
- Proven ability to generate shared value in local markets, working closely with all the involved stakeholders.

### Effective commercial strategy

- Innovative Commercial Plan based on Reliability & Capability assessment;
- Strong focus on market opportunities while managing risk;
- Ability to compete selectively, focusing on projects with the best balance between available resources and risk/reward profile;



- Strict selection of partners/suppliers of high quality;
- Rigorous commercial strategy and target projects selection: re-engineered bidding strategy with a 360° analysis for each selected project.

## Solid financial structure

- Highly liquid balance sheet, with great attention to operating profitability and cash generation;
- Low net debt/equity ratio, efficient use of capital;
- Focus on maintaining adequate financial leverage for Group strategy for organic and acquisition-led growth.

## Responsible behaviour: robust ESG standards

- Strong set of ethical principles: integrity, correctness, transparency, sustainability;
- Framework of policies and governance systems compliant with the highest standards;
- Rules and procedures to safeguards people, environment and society at large;
- Clear and transparent communication towards different stakeholders;
- Climate action and circular economy: robust framework for reducing greenhouse gas emissions and supporting circular economy
- Labour rights protection and promotion of safe and secure working environments for all workers.

## Significant geographical diversification

- Large and long-term backlog of orders;
- Significant presence in high-growth markets: Italy, Australia, North America, and Europe;
- Unique track record of large size projects performed in more than 100 countries;
- Proven ability to penetrate new markets.

## Efficient organization, change management, innovation

- Proven M&A execution with skills integration and rationalization;
- High level of expertise and optimized industrial processes, from the selection of potential projects to the preparation of bids, from supply chain management to contracts execution;
- Some best in class innovation processes and products for design, planning and construction;
- Innovative processes to increase competitiveness (cost, safety, quality, time of execution and environmental footprint).

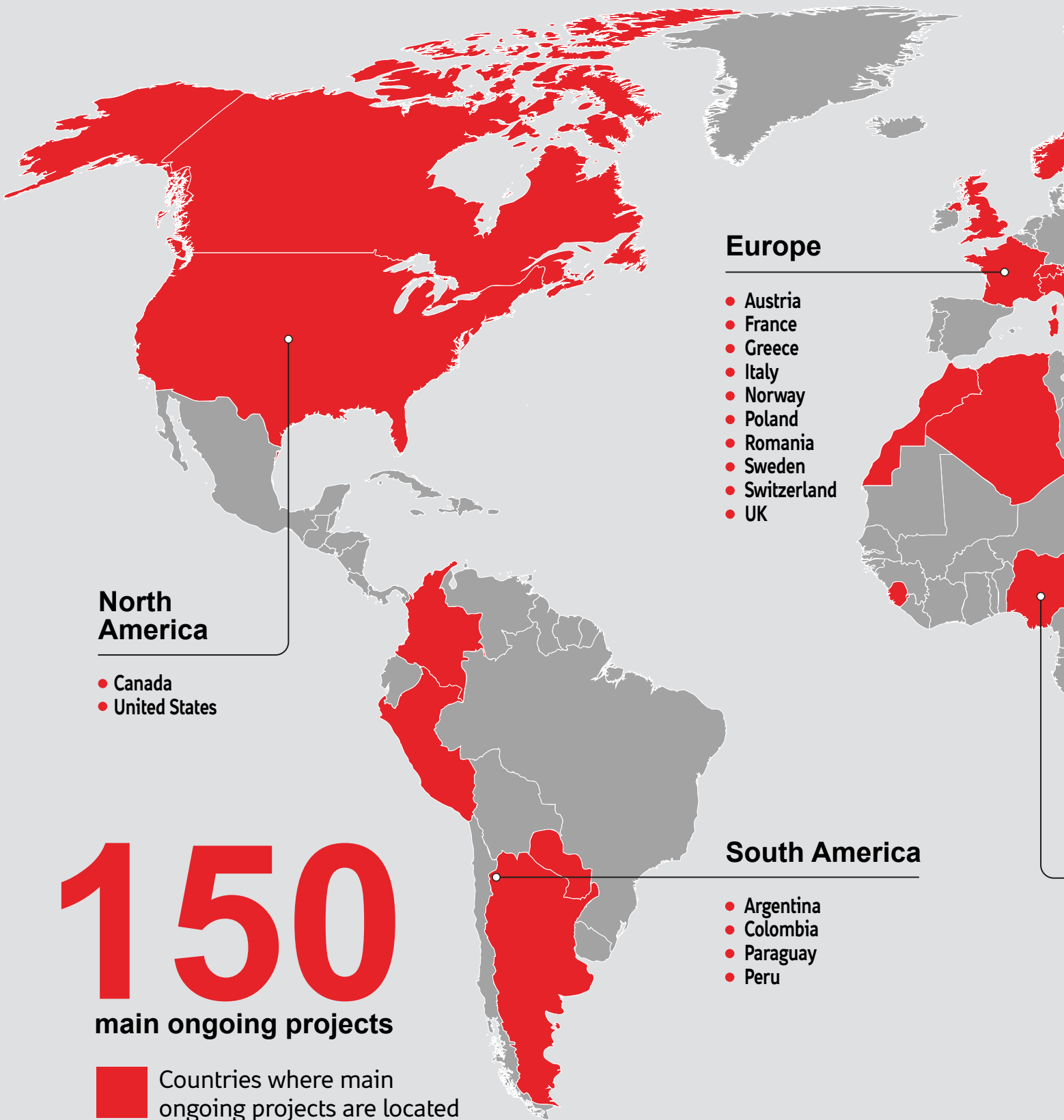




# 05

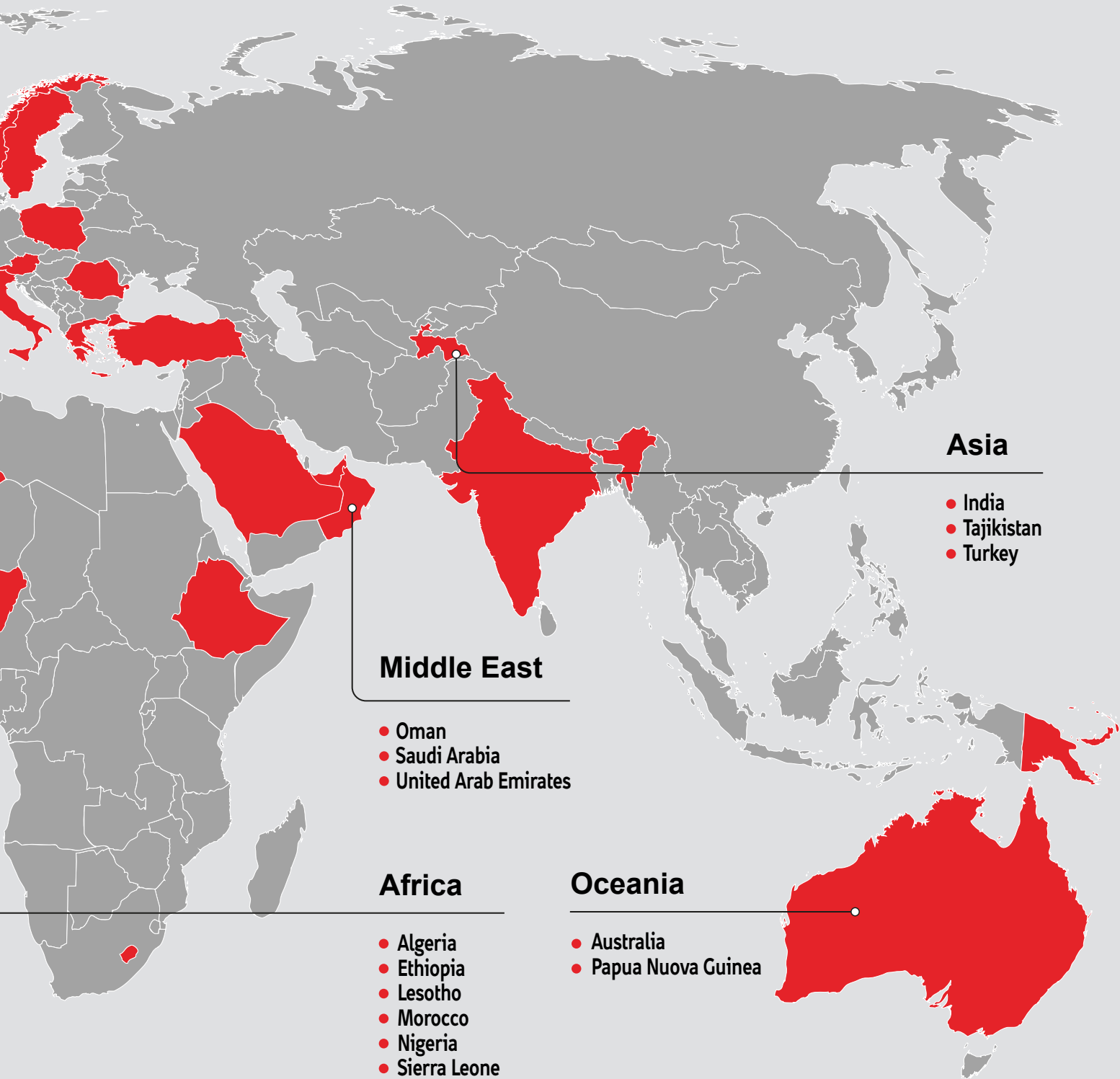
## FOOTPRINT

# Global footprint

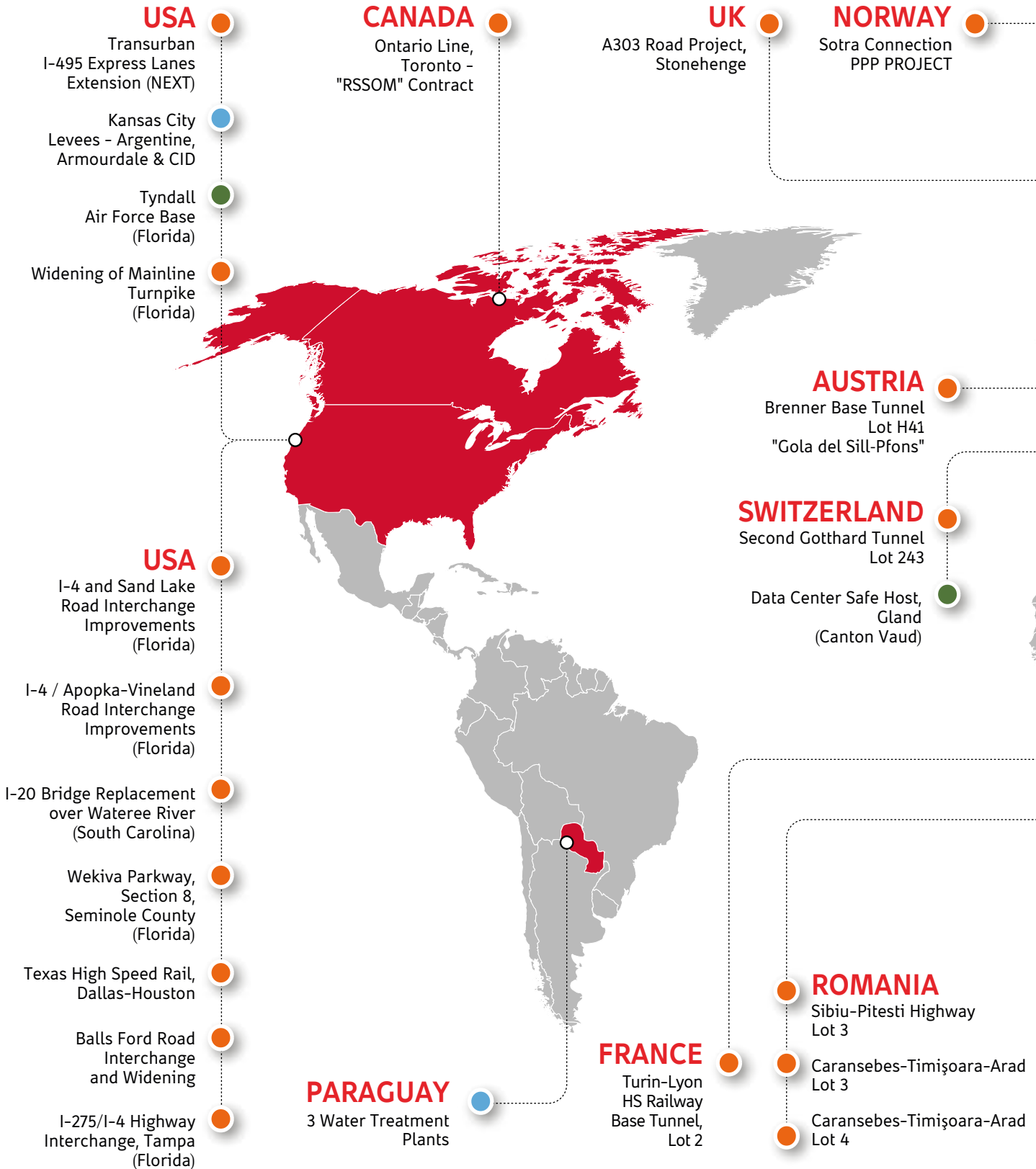


# 150

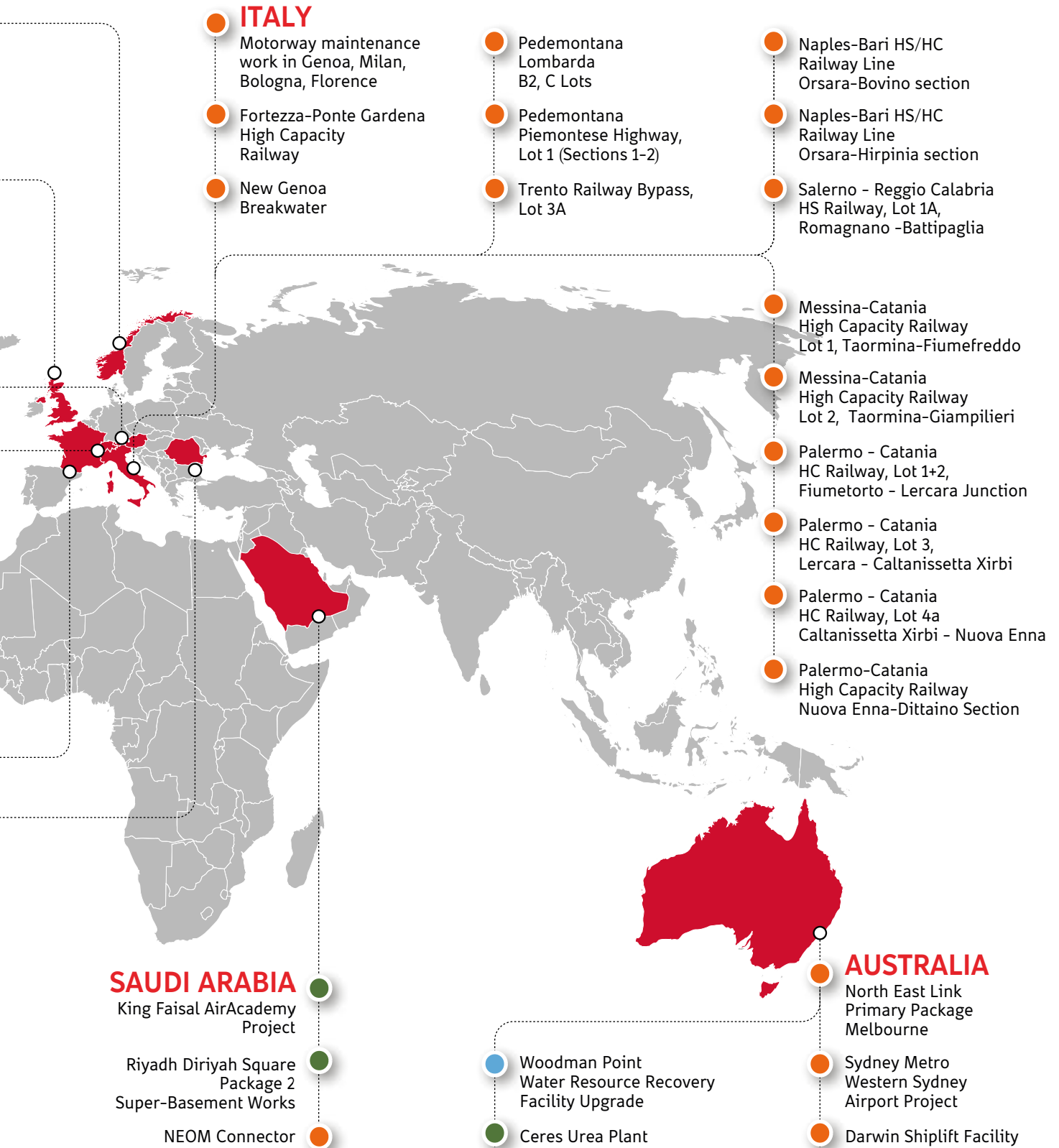
main ongoing projects



# Main new contracts 2021 - 2023



- Sustainable Mobility
- Clean Hydro Energy
- Clean Water
- Green Buildings & Other









# 06

**BUSINESS**

**BUSINESS**

# WHAT WE DO

Track record

---

**14,140 km**

of railways and metros

---

**1,020 km**

of bridges and viaducts

---

**313**

dams and hydroelectric plants



---

**3,408 km**

of tunnels

---

**82,533 km**

of roads and motorways

---

**52,900 MW**

of installed capacity

**BUSINESS**

# SUSTAINABLE MOBILITY



- Metros
- High Speed Railways
- Railways
- Roads & Motorways
- Bridges & Viaducts
- Ports & Sea works

The sustainable mobility sector is one of the most promising business areas. It is expected that passenger traffic alone will grow by 50% within 2030, to then double by 2050, while only 16% of global urban travel currently takes place using public means of transport.

Rail transport is pivotal to government plans to counter climate change. The role played by the metro systems in urban centres is equally important. Metro systems exist in around 180 cities, transporting more than 50 billion people a year and keeping the equivalent of 133 million vehicles off the roads each day.

The metro projects under construction alone will allow the fast, efficient and sustainable transportation of roughly 5.3 million people a day on state-of-the-art infrastructure, avoiding emissions of around 3 million tonnes of CO<sub>2</sub> a year. The high-speed railway projects will shorten travel times by an average of

50%, providing around 37 million people with safe, rapid and low-carbon services one ninth of the most efficient aircraft. The ongoing railway projects will lead to an annual reduction in emissions of about 9.3 million tonnes of CO<sub>2</sub>.

Road infrastructure works will continue to be fundamental to move goods and people both in the developed economies (where the focus is mainly on modernisation and traffic decongestion) and low-income countries (where around one billion people still lack access to an all-weather road).

# Main Metros

## Canada

- Montreal Line 1  
1975
- Hurontario Light Rail Transit Project

## France

- Paris Subway • Eole and Meteor Line  
1998
- Grand Paris Metro, Line 16 Lot 2

## United States

- San Francisco Central Subway  
2015
- New York Subway  
1984
- LYNX Blue Line Extension, North Carolina  
2017
- Metromover Extension Project Miami, Florida  
1993

## Portugal

- Porto Light Subway  
2006

## Venezuela

- Metro De Caracas, Line 3 Plaza Venezuela el Valle Section  
1995

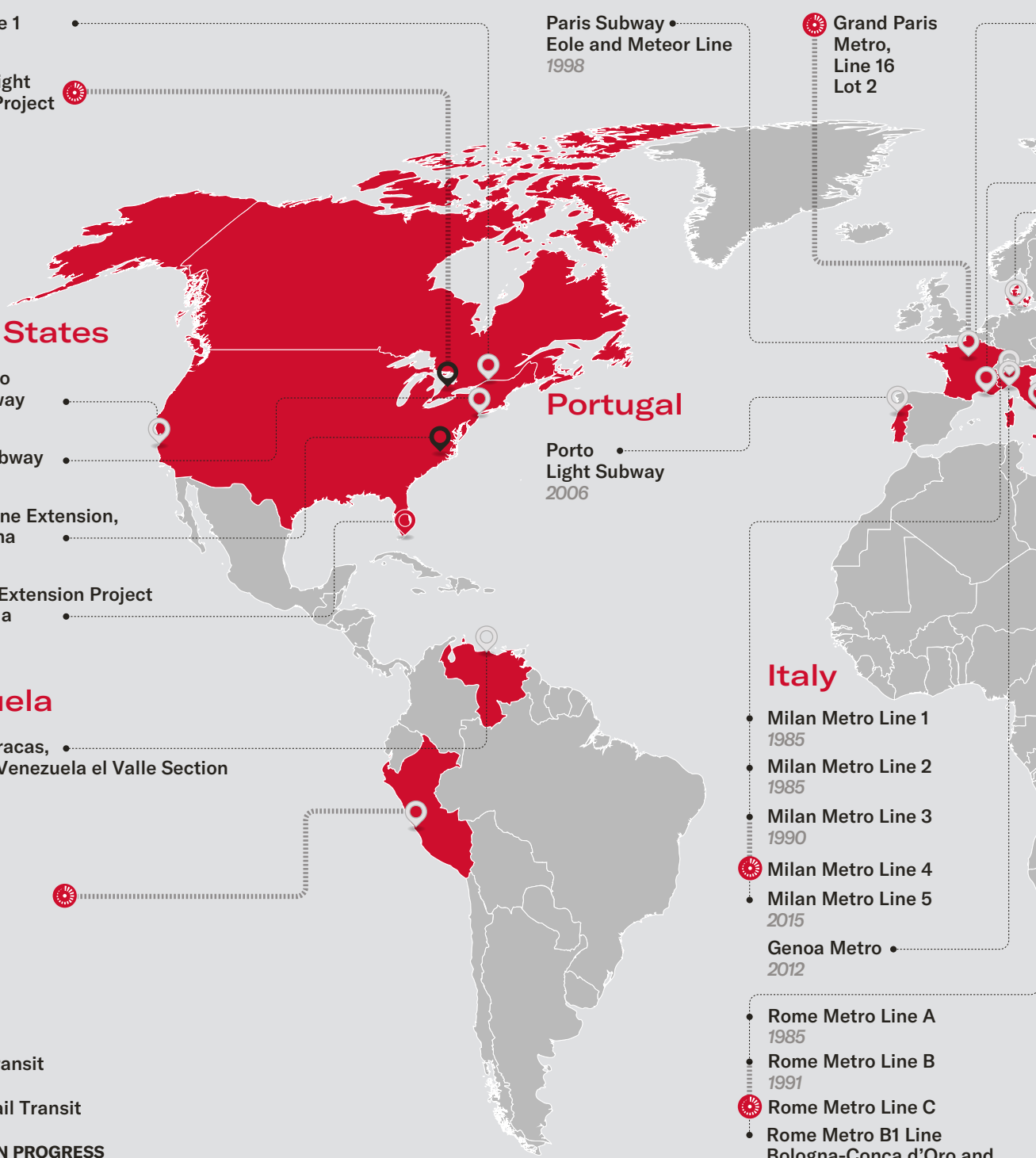
## Peru

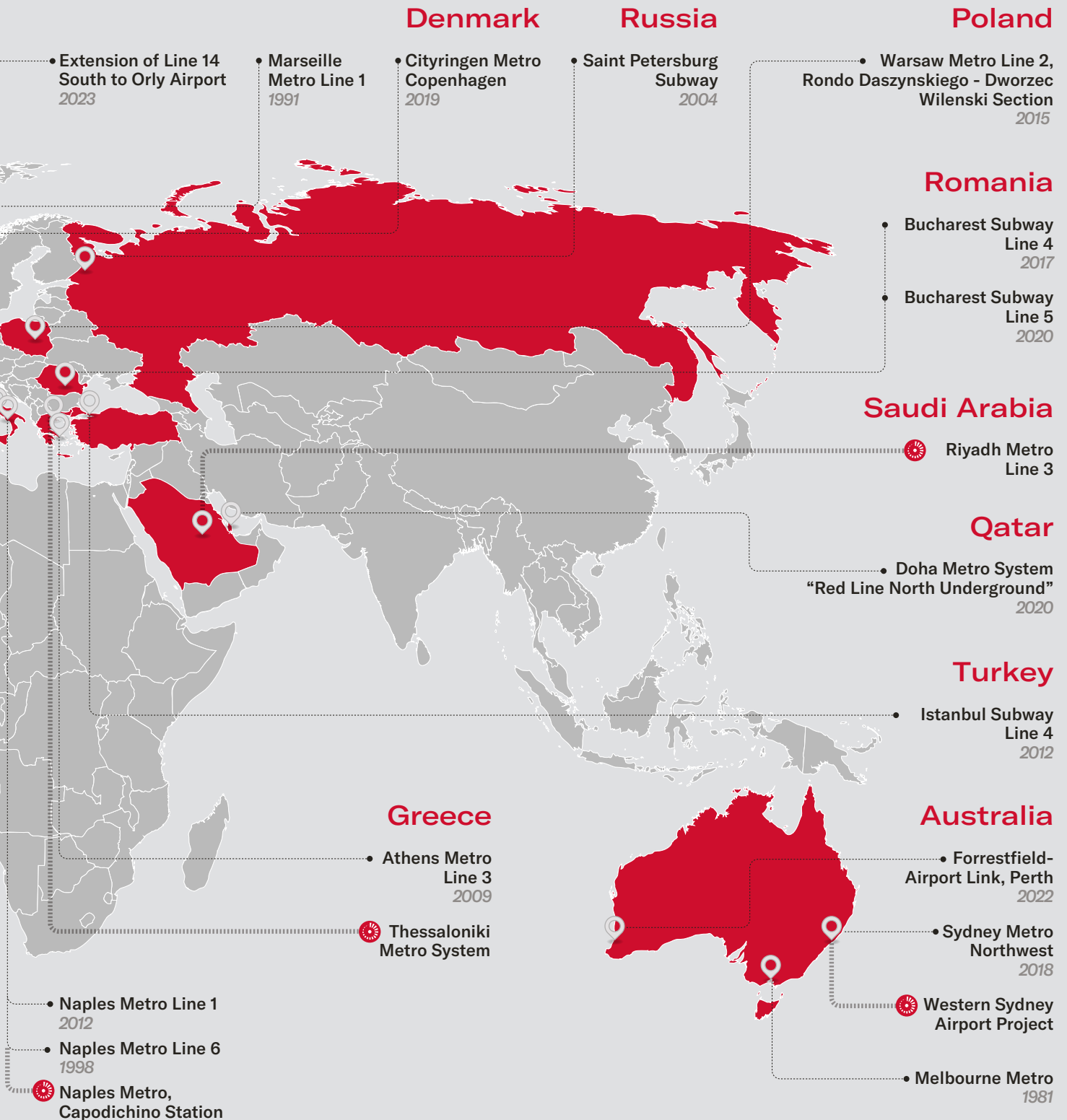
- Lima Metro

## Italy

- Milan Metro Line 1  
1985
- Milan Metro Line 2  
1985
- Milan Metro Line 3  
1990
- Milan Metro Line 4  
2015
- Milan Metro Line 5  
2015
- Genoa Metro  
2012
- Rome Metro Line A  
1985
- Rome Metro Line B  
1991
- Rome Metro Line C
- Rome Metro B1 Line Bologna-Conca d'Oro and Conca d'Oro-Jonio Sections  
2015

- Metros
- Mass Transit
- Light Rail Transit
- IN PROGRESS
- XXXX COMPLETION DATE







## Milan Metro System, Line 4

ITALY

The world's fastest connection between an airport and a city centre (12mins)

Line 4 has a total length of approximately 15 km, with 21 stations, 30 auxiliary structures and 1 depot/workshop, two single tracked tunnels, excavation diameter of 6.50 m in the external sections, excavation diameter of 9.15 m in the central section ("Rome method"). It will create a high-speed public transport link along the east/southwest axis, crossing the historic city centre. It is a driverless, fully-automated light metro with automatic platform doors and a CBTC signaling system (Communication – Based Train Control).

### TECHNICAL/PRODUCTION KPI

**770,000 m<sup>3</sup>**

concrete

**67,800 tons**

steel for reinforced concrete

**1,230,000 m<sup>3</sup>**

open excavations

### SUSTAINABILITY KPI

**86,000,000**

passengers per year

**-180,000**

trips by car per day

**-75,000 tons**

CO<sub>2</sub> emissions estimated per year





## Rome Underground, Line C

ITALY

The archeological subway of Rome: a project with a soul in the past, heading to the future

The archeological subway of Rome: a project with a soul in the past, heading to the future. The new subway line C in Rome is the first large public transport infrastructure in Italy with a fully automated system. A 25.6 km-long line including 29 stations (of which 19 km and 22 stations in operation) which crosses the city running under Rome's historic center, a UNESCO world heritage site, linking the eastern suburbs of the city to its center.

### TECHNICAL/PRODUCTION KPI

**900,000 m<sup>3</sup>**

concrete

**70,000 tons**

steel

**3,000,000 m<sup>3</sup>**

underground excavations

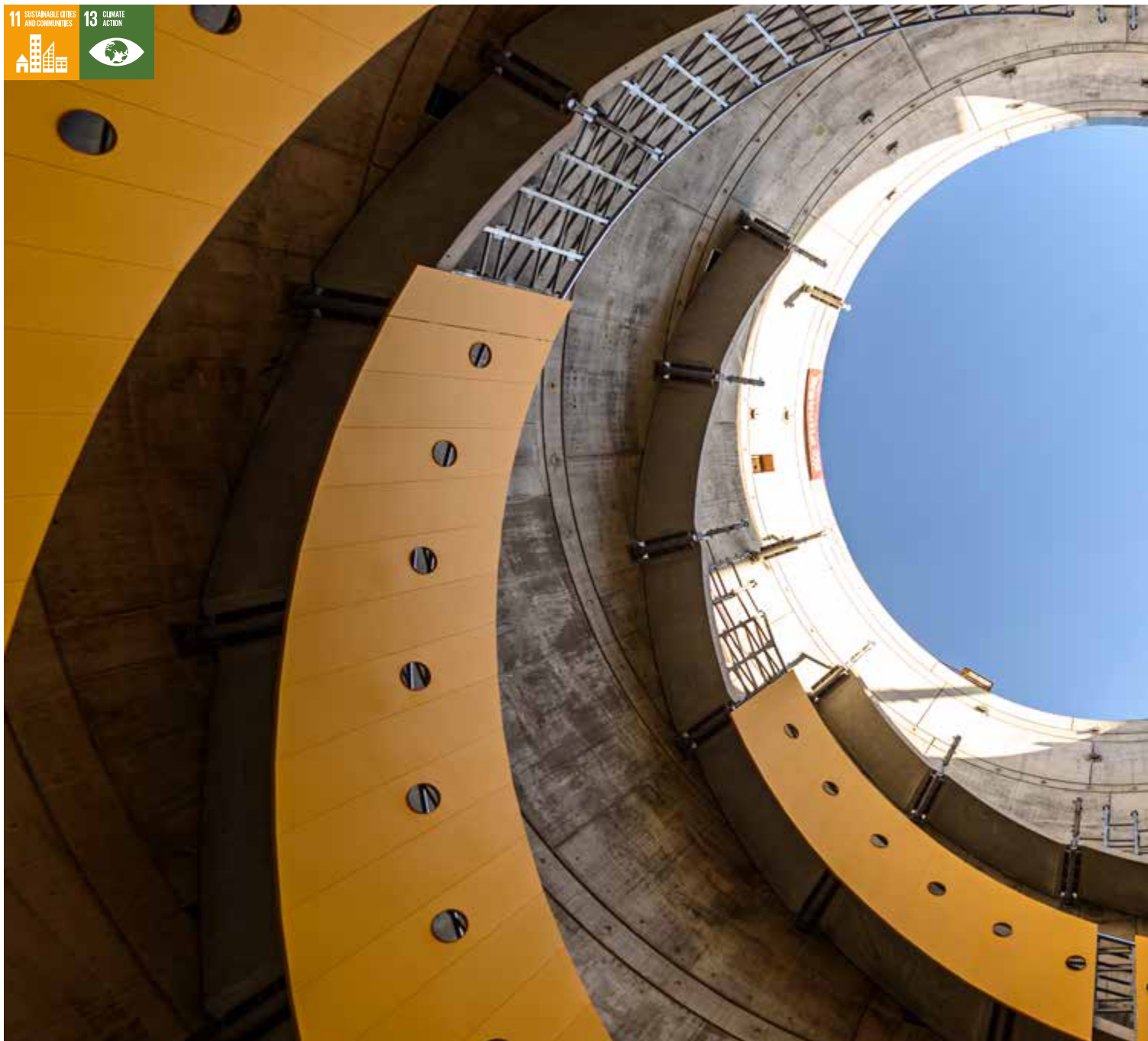
### SUSTAINABILITY KPI

**585,000 m<sup>3</sup>**

archeological investigations

**30,000**

people/year involved in events, conferences, open days



## Capodichino Station (Naples Metro Line 1)

ITALY

The station that will provide Naples with a direct metro link connecting the port, airport and rail network, including high-speed lines

The project entails the construction of Capodichino Station as the planned terminus for Line 1 of the Naples Metro at Capodichino Airport. For its creation, Studio RSHP designers were inspired by St. Patrick's Well, the astonishing 54-meter-deep excavation made in Orvieto, Italy, in the 16th century. The totally underground station, when viewed from below, is shaped like a large propeller running skyward. It reaches a depth of about 50 meters, with an open atrium at road level, topped by a hangar-like building made of steel, glass and concrete. The project includes the construction of the structures, facilities and finishes, as well as three service shafts for the TBMs (Tunnel Boring Machines), two of which shall excavate the Capodichino-Poggioreale sub-section of the line and one will be used for the connection with the Di Vittorio Station of the EAV line.



TECHNICAL/PRODUCTION KPI

---

**250,000 m<sup>3</sup>**

excavations

**70,000 m<sup>3</sup>**

concrete poured

**8,000 tons**

steel used

SUSTAINABILITY KPI

---

**≈ 100**

people employed, including direct  
and third-party staff (november 2023)



## Riyadh Metro, Line 3

SAUDI ARABIA

The longest line of the giant sustainable project of the Saudi Arabian capital

Line 3 runs from West to East for approximately 42 km and a total of 22 metro stations, including 2 iconic stations. The new metro will reduce traffic congestion and lower pollution in a city with a population that is expected to increase from its current 6 million inhabitants to 8 million by 2030. The project adopts the LEED – Leadership in Energy and Environmental Design - standard for two stations. About 21 km of viaduct are built with prefabricated blocks erected using a total of 7 launching girders to minimize the possible impact on the city's roads. One TBM and Cut & Cover method are used for the underground section. The trains travelling line 3 will have a capacity of 267 passengers and a maximum speed of 100 km/h.

### TECHNICAL/PRODUCTION KPI

**1,900,000 m<sup>3</sup>**

concrete

**240,000 tons**

steel for reinforced concrete

**35,000,000**

man/hours without LTI

### SUSTAINABILITY KPI

**5,000**

passengers per hour in each direction

**-80,000**

trips by car per day

**-100,000 tons**

CO<sub>2</sub> emissions per year



## Hurontario Light Rail Transit

### Sustainable Urban Mobility for Growing Cities

CANADA

The HuLRT is an 18 km-long light rail transit system with 19 stops that runs along Hurontario Street from Port Credit in Mississauga to the Brampton Gateway Terminal. The HuLRT will operate in a separated guideway with traffic priority throughout most of the corridor, accommodating a double cycle path and becoming a people-oriented corridor connecting communities and accommodating growth anticipated over the next 30 years. The project also comprises upgrade and commissioning of third party infrastructure, road resurfacing and widening, construction, modifications and rehabilitations of bridges, traffic management and detours, road signing and lighting, parking areas and one Building for the Operations and Maintenance for the LRT vehicles.

#### TECHNICAL/PRODUCTION KPI

**49,866 m<sup>3</sup>**

concrete

**253,285 tons**

asphalt

**531,143 m<sup>3</sup>**

excavations

#### SUSTAINABILITY KPI

**14,000,000**

passengers per year

**-8,573 tons/yr**

greenhouse gases (CO<sub>2</sub> equivalent)

**-30,000**

trips by car per day



## Grand Paris Metro, Line 16 Lot 2

FRANCE

Webuild bolsters its contribution to the Grand Paris Express, the biggest project of sustainable mobility in Europe

The future Line 16 of Grand Paris Express will serve a number of communes in the northern and eastern part of metropolitan Paris. The contract, known as Lot 2, will involve the excavation of 11.1 kilometres of tunnel and the construction of four stations at Aulnay, Sevrans-Beaudottes, Sevrans-Livry and Clichy Montfermeil, along with 11 related works.

Webuild will assign 20% of the value of the contract to local subcontractors and employ disadvantaged workers for 5% of the total number of hours estimated to be needed to complete its section of the metro line that will expand citizens' public transport network to reach the suburbs by 2030.

### TECHNICAL/PRODUCTION KPI

**810,000 m<sup>3</sup>**

TBM excavation

**2,481 m<sup>3</sup>**

traditional excavations

**48,988 kg**

steel ribs

### SUSTAINABILITY KPI

**200,000**

passengers per day

**-25,000**

vehicle movements a day

**-25,000 tons**

CO<sub>2</sub> emissions per year



## Extension of Line 14 South to Orly Airport within Grand Paris Express Project Lot 4

FRANCE

Improving connections between Paris and Orly airport, France's second busiest airport

The project concerns one of four sections that will make up the 14-kilometre extension of Line 14 South to the airport. Lot GC04 included the excavation of a 4.1-kilometre tunnel from Pont de Rungis station to the site of a new station at Orly. The extended line will improve connections and travel times between Orly and the city by linking the airport to Line 18 of the Paris metro and a new one to be called Line 15. The contract marks not only the Group's return to France 20 years since it worked on the city's Est-Ouest Liaison Express (EOLE), but also its entry into the Grand Paris Express, a massive project that will expand the city's public transport network to the periphery by 2030.

### TECHNICAL / PRODUCTION KPI

**10,940 m<sup>3</sup>**

structural concrete

**2,207 tons**

steel rebar

**4,026 m**

tunnel excavated

### SUSTAINABILITY KPI

**300,000**

passenger trips per day

**-230,000**

trips by car per day

**-15,000 tons**

CO<sub>2</sub> emissions per year



## Forrestfield-Airport Link (Airport Line)

AUSTRALIA

The rail line is potentially taking 15,000 vehicles off the roads every day, reducing up to 2,000 tonnes of CO<sub>2</sub> emissions a year.

The project comprised the design, construction and maintenance for 10 years of the Forrestfield Airport Link, to connect the eastern suburbs of Perth with the existing suburban rail network as well as the airport. Completed in October 2022, the line generates 20,000 passenger trips on the network every day. It will also reduce road traffic and travelling times: travel times to reach the centre is reduced by over 50%, going from 45 to 20 minutes. Each tunnel is 8 km long for which two TBMs have been specifically designed. In 2019, Webuild received the Concrete Institute of Australia (WA) Award, in the “Excellence in the Technology and Innovation” category, for having designed and produced concrete prefabricated segments used for the Forrestfield Airport Link tunnels. In 2023 the Airport Central Station received the Award for Public Architecture (Chapter Western Australia) that recognises excellence in design and architecture and is promoted by the Australian Institute of Architects.





TECHNICAL/PRODUCTION KPI

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**7 m**

excavation diameter

**3**

stations

SUSTAINABILITY KPI

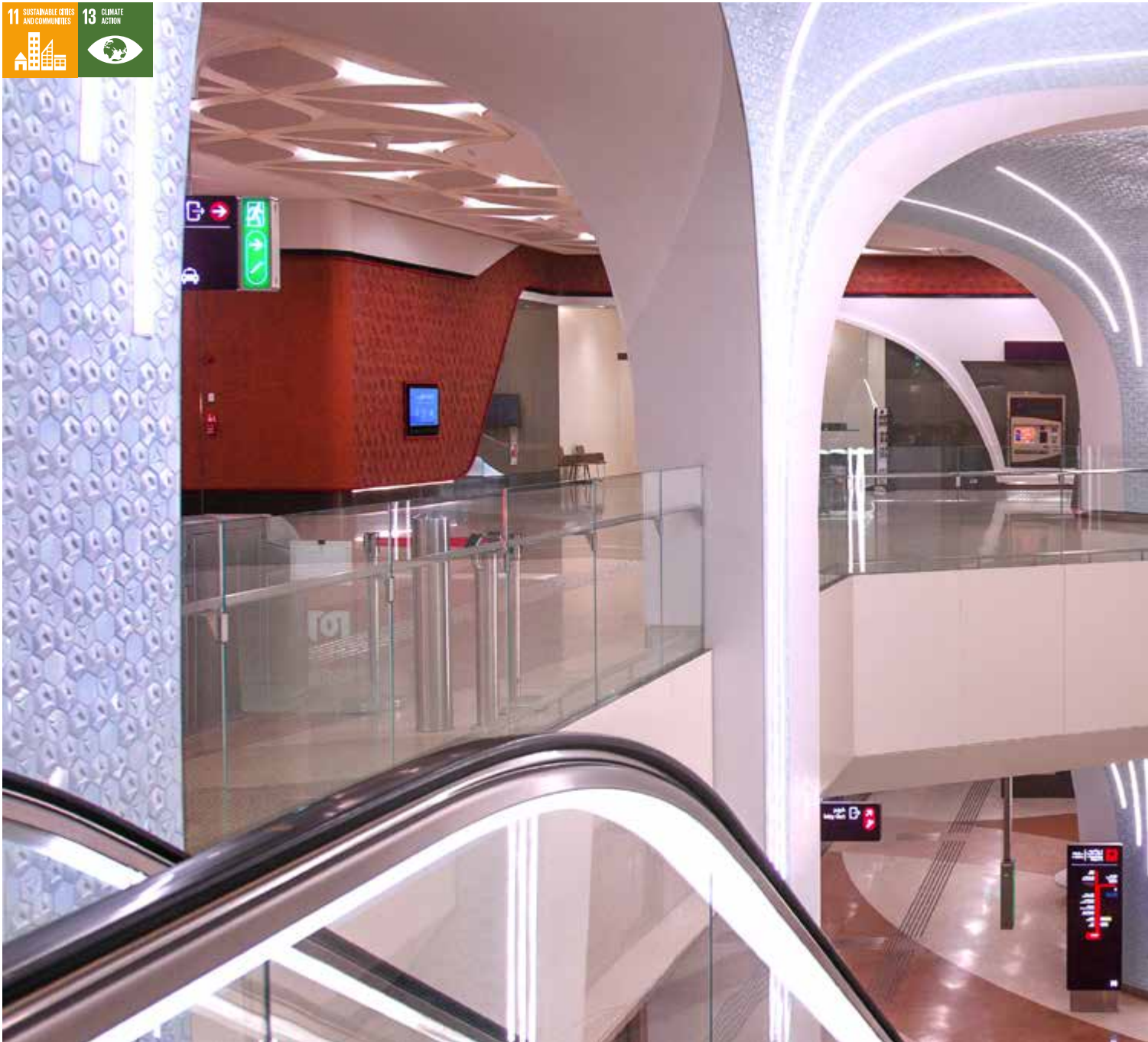
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**-2,000 tons**

CO<sub>2</sub> emissions per year

**20,000**

passengers per day



## Doha Metro, Red Line North Underground

The first underground metro system of Qatar to revolutionize the mobility of its capital

QATAR

The Red Line North Underground forms part of the overall project to build the new infrastructural mobility system promoted by Qatar. The overall route develops entirely in an urban environment and crosses the Financial District of Doha West Bay featuring a total length of 13 km through 7 new stations. The project involved the excavation of two parallel tunnels, one in each direction, approximately 11.6 km long with an internal diameter of 6.17 m lined with reinforced fiber prefabricated segments. To build it, 4 EPB (Earth Pressure Balance Type) TBMs were used to excavate the tunnels. The project won the Qatar Sustainability Award in 2017 and in 2018 it won the RoSPA (Royal Society for the Prevention of Accidents) Silver Award for its strong health and safety performance, qualifying as one of the projects with the best practices in its sector.



TECHNICAL/PRODUCTION KPI

**2,700,000 m<sup>3</sup>**

excavations

**530,000 m<sup>3</sup>**

recovered excavation materials

**725,000 m<sup>3</sup>**

conventional concrete

SUSTAINABILITY KPI

**-215,000**

trips by car per day

**-45,000 tons**

CO<sub>2</sub> emissions per year



## Bucharest Subway, Line 5

ROMANIA

A project to increase sustainable mobility in Bucharest

Lot 1 (Raul Doamnei Station-PS Opera shaft) is part of the new Line 5 of the Bucharest Subway: 12.2 kilometres (2 lines of 6.09km/each) of new line running completely underground built using a EPB TBM, along the Drumul Taberei-Pantelimon section, featuring 9 stations to guarantee a new sustainable mobility to the citizens of the Capital.

### TECHNICAL / PRODUCTION KPI

**383,000 m<sup>3</sup>**

concrete

**34,500 tons**

steel

**385,000 m<sup>3</sup>**

underground excavations

### SUSTAINABILITY KPI

**-5,400 kg/day**

CO<sub>2</sub> emissions

**-293 kg/day**

nox emissions

**-541 kg/day**

volatile organic compounds emissions



## Copenhagen Cityringen Metro

DENMARK

Helping Copenhagen become one of the first carbon-neutral capitals by 2025

Cityringen encircles the heart of Copenhagen with two parallel 15.5-kilometre-long tunnels. It passes under highly urbanised areas where historic buildings are located. The line has 17 underground stations situated at an average of 30 metres below street level, excavated using 4 TBMs (EPB). The TBMs – tunnel boring machines - excavated 31 kilometres under the streets through different and sometimes difficult geology. The excavation was carried out using innovative techniques. Driverless and completely automatic trains pass every 100 seconds and as little as 80 seconds at rush hour.

### TECHNICAL / PRODUCTION KPI

**428,000 m<sup>3</sup>**

concrete

**115,000 tons**

steel

**862,000 m<sup>3</sup>**

underground excavations

### SUSTAINABILITY KPI

**240,000**

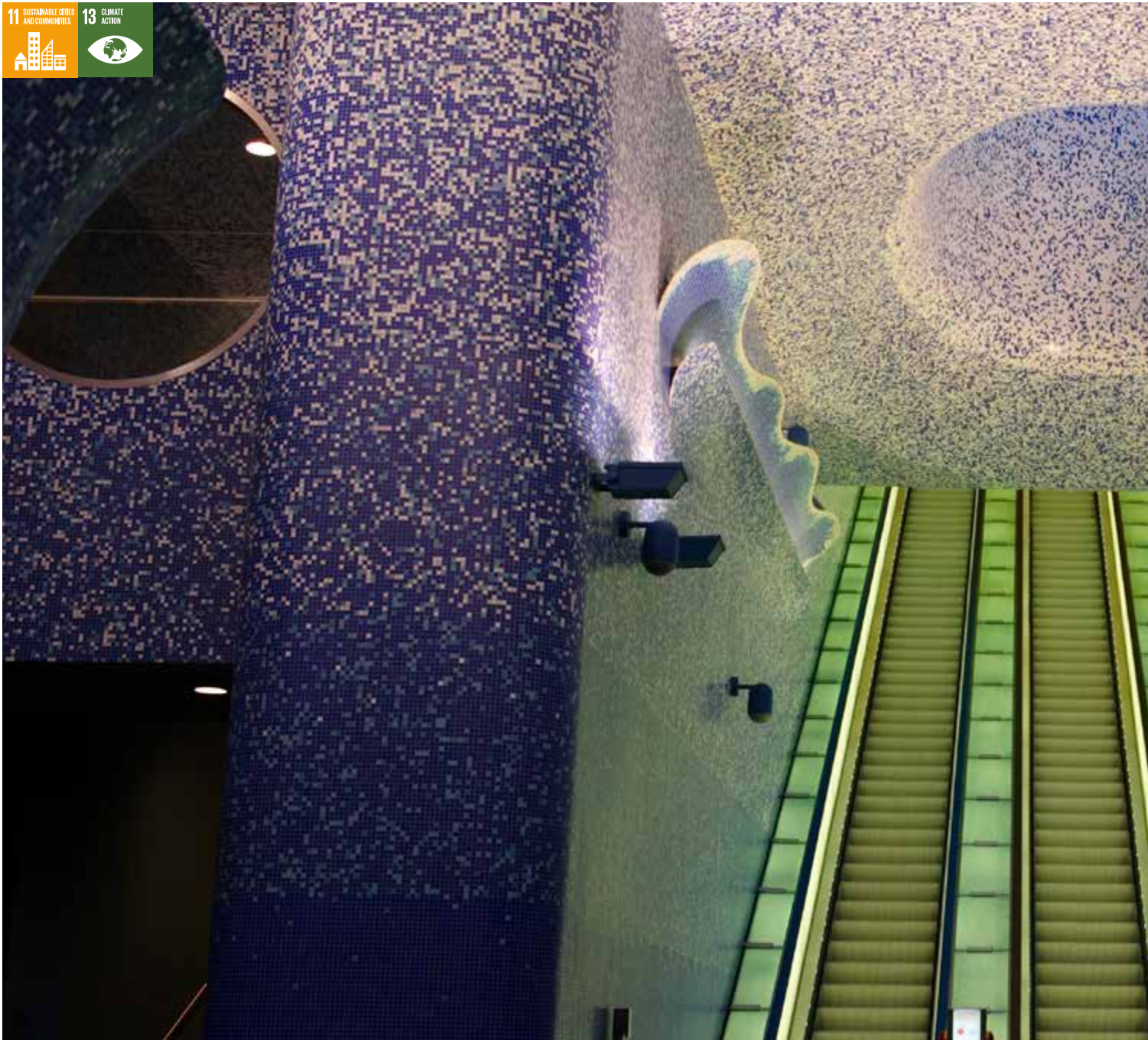
passengers/day

**-96,000**

trips by car per day

**-50,000 tons**

CO<sub>2</sub> emissions per year

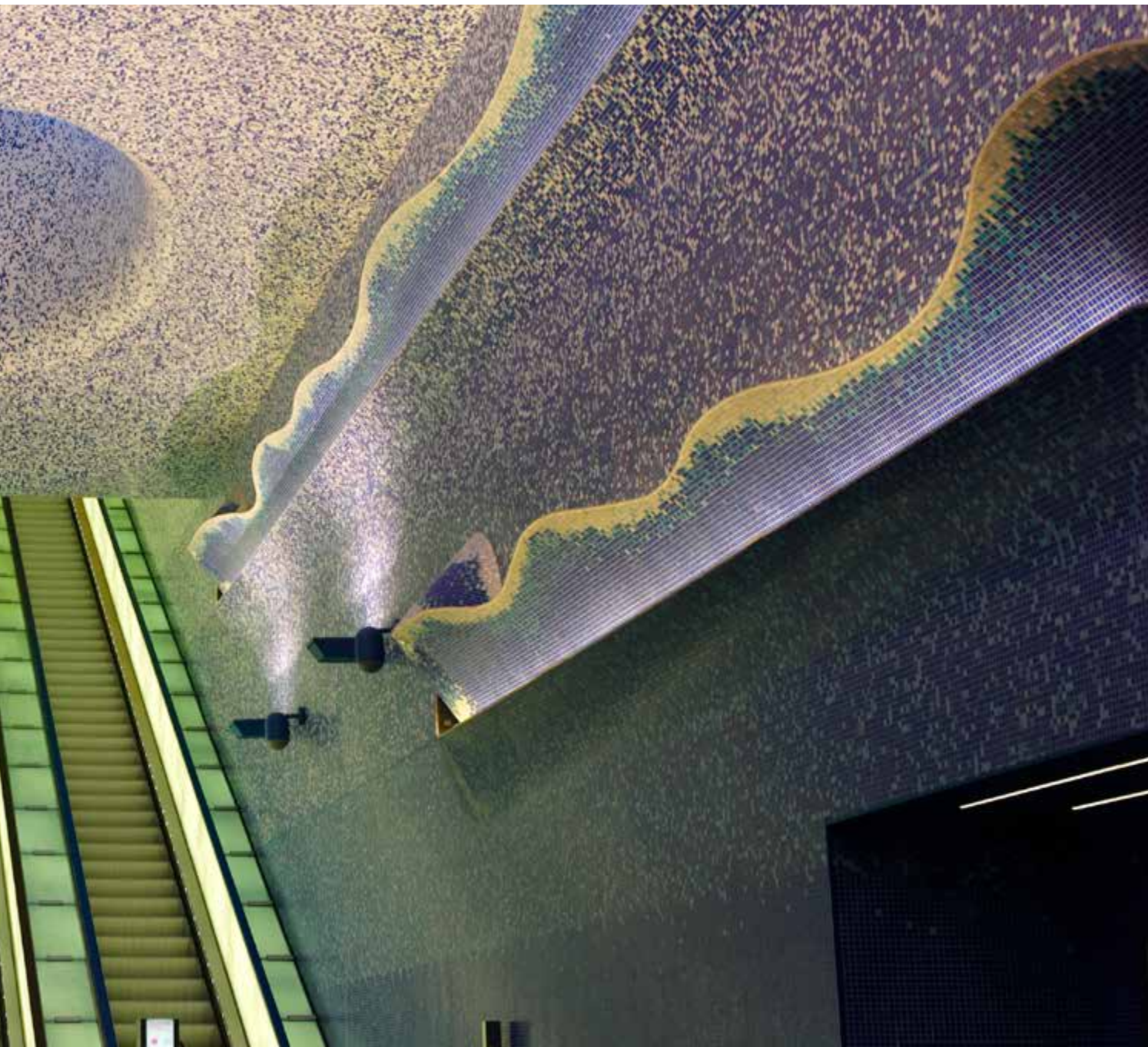


## Naples Metro Line 1

### Naples' Artistic Stations, an underground museum

ITALY

Line 1 of the Naples Metro, built in several stages, is part of the project to improve the underground transport system of the Municipality of Naples. The works executed by the Webuild Group include the construction of 6 stations (Toledo, Università, Materdei, Museo, Policlinico, Colli Aminei), as well as the railway line from Piscinola station to Piazza Garibaldi station. In addition, Capodichino station is currently under construction. Internationally-renowned architects and artists were involved in this project. Their creativity and rationality have transformed a drab, frenetic location, such as an underground station, into an art gallery which people willingly “descend and enter”. The Naples metro also represented a challenge as regards its construction: it, in fact, stretches across a geologically and archaeologically complex area. Toledo station, opened in 2012, was designed by the Spanish architect, Óscar Tusquets Blanca. A unique project that has been on the receiving end of various prestigious awards over the years including the CNN Award acknowledging it as the most beautiful and breath-taking metro station in Europe.



TECHNICAL/PRODUCTION KPI

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**49 m**

Toledo Station depth

**7,000 m<sup>2</sup>**

Toledo Station area

**18 km**

metro line in operation

SUSTAINABILITY KPI

---

**135,000**

passengers/day

# Main High Speed Railways

## Switzerland


San Gotthard Tunnel, Bodio and Faido Lots - 2014

## France

TGV Nord Aronde (Lot 19-16) • 1992


TGV Lille and A5 Viaduct • 1992

TGV Line Rhone-Alps, "Rhone" Viaduct • 1992


Turin – Lyon HS Railway Base Tunnel - Lot 2 

Turin – Lyon HS Railway Modane safety site, Lot 5A 

## Italy

 Milan-Genoa "Terzo Valico dei Giovi" - HS/HC Railway

• Turin – Milan High Speed Railway System 2009

 Turin – Lyon HS Railway Base Tunnel - Lot 2

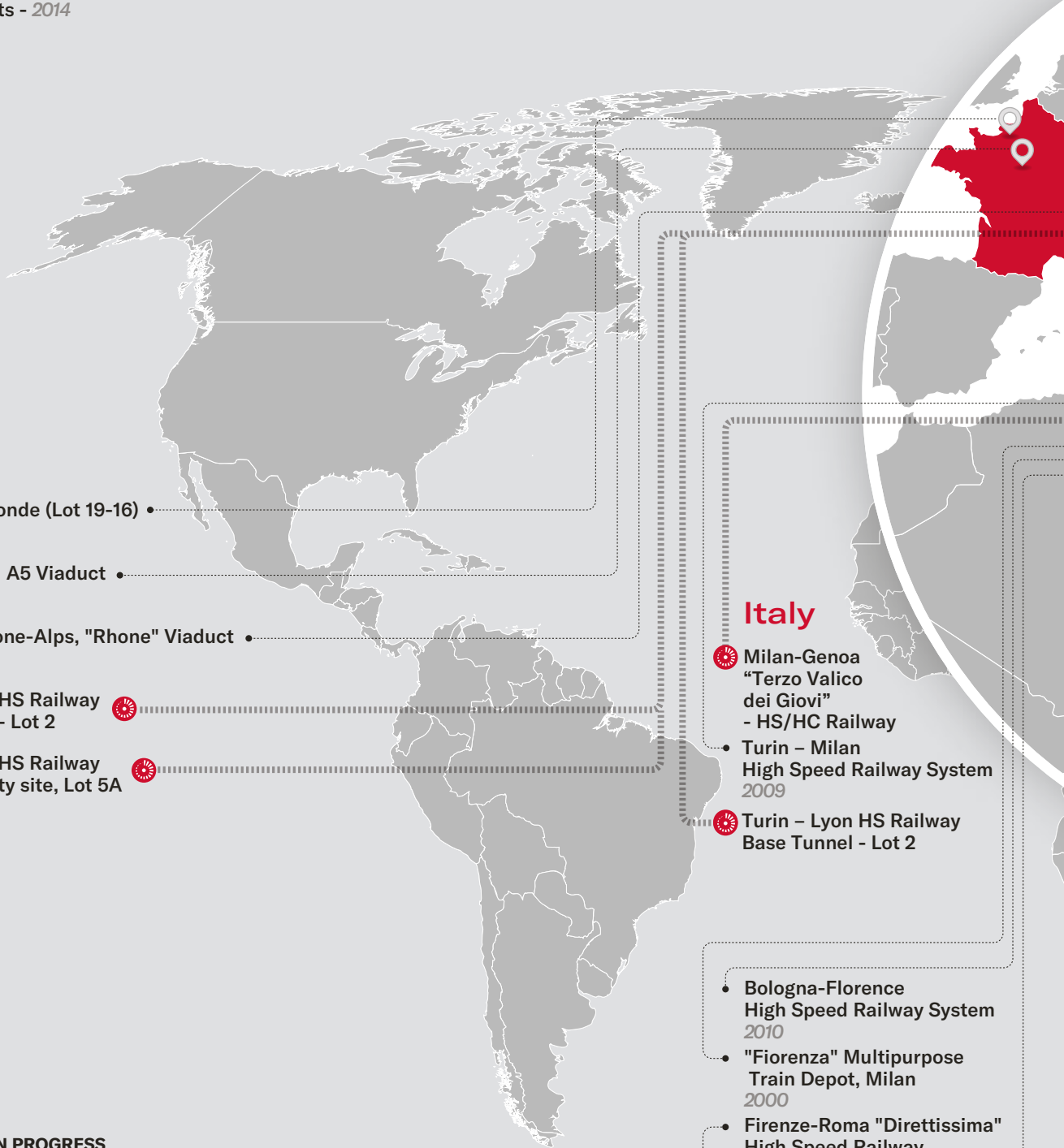
• Bologna-Florence High Speed Railway System 2010

• "Fiorenza" Multipurpose Train Depot, Milan 2000

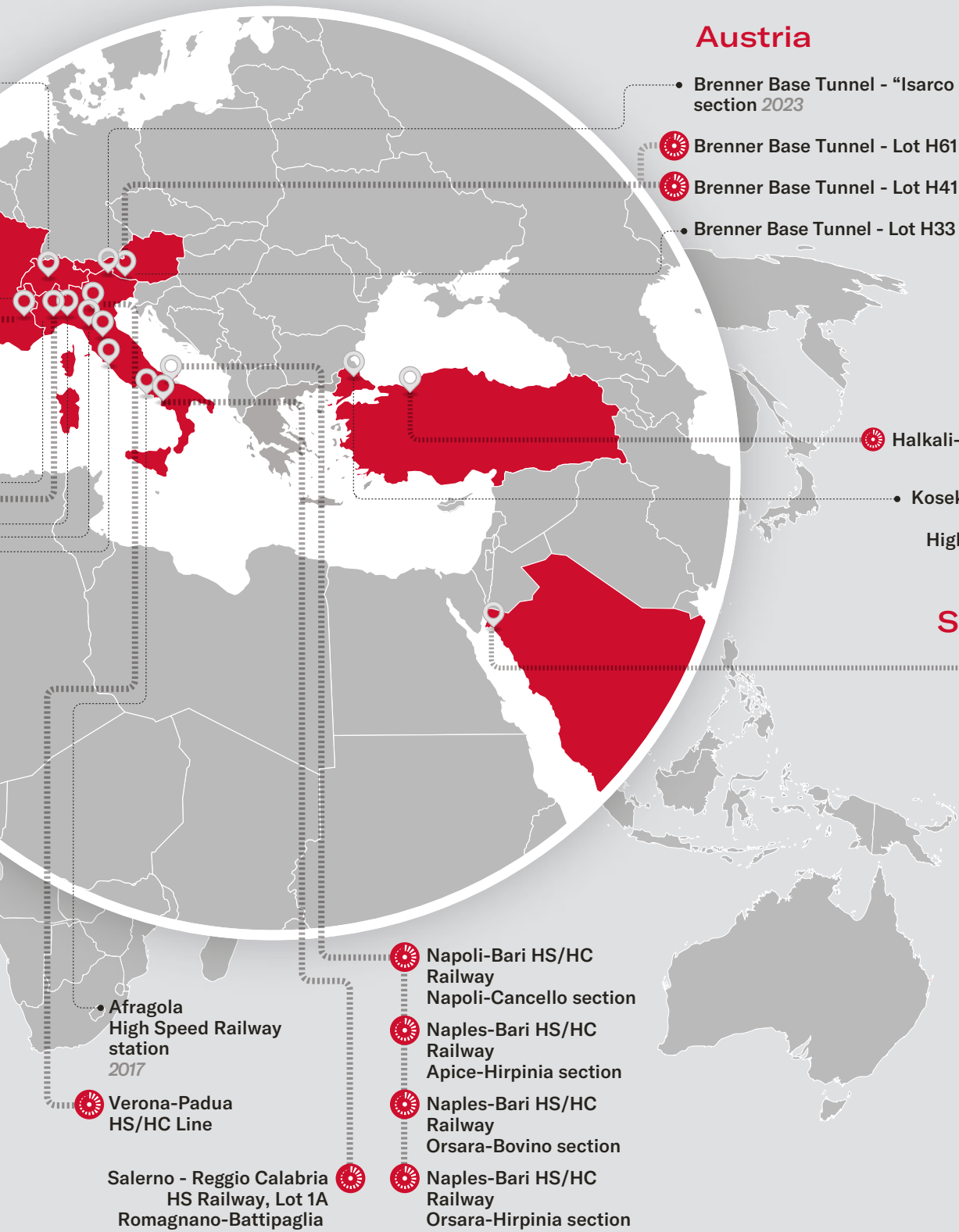
• Firenze-Roma "Direttissima" High Speed Railway 1983

 ..... IN PROGRESS



XXXX COMPLETION DATE








## Austria

- Brenner Base Tunnel - “Isarco River Underpass” section 2023
-  Brenner Base Tunnel - Lot H61 Mules 2-3
-  Brenner Base Tunnel - Lot H41 Gola del Sill-Pfons
- Brenner Base Tunnel - Lot H33 Tulfes-Pfons 2021


## Turkey

-  Halkali-Kapikule High Speed Railway Line
- Kosekoy-Gebze, section of the Ankara-Istanbul High Speed Train Project 2016


## Saudi Arabia


-  NEOM Connector


• Afragola High Speed Railway station 2017


•  Verona-Padua HS/HC Line

• Salerno - Reggio Calabria HS Railway, Lot 1A Romagnano-Battipaglia

•  Napoli-Bari HS/HC Railway Napoli-Cancello section

•  Naples-Bari HS/HC Railway Apice-Hirpinia section

•  Naples-Bari HS/HC Railway Orsara-Bovino section

•  Naples-Bari HS/HC Railway Orsara-Hirpinia section



## Terzo Valico dei Giovi HS/HC Railway line – Genoa Junction

ITALY

A connection between the Liguria port system with the main railway lines of Northern Italy and the rest of Europe

The high-speed, high-capacity railway line will have a speed of 250 km/h and a centre-to-centre track distance of 4.50 m. The section is 53 km long, with 37 km in tunnels. The route connects with the Genoa hub railway network at the Fegino hub, before entering, in succession, the Campasso tunnel (700 m), the Valico tunnel (27 km approx.), the Serravalle tunnel (about 7 km), and finally the Pozzolo artificial tunnel (2 km approx.). The new infrastructure will make it possible to significantly increase the transport offering, improving railway links with the ports in the region of Liguria, the northern Tyrrhenian Sea ports and the north of Italy and central and northern Europe. It will also shorten travelling times between the two cities, Milan and Genoa, by 33% and will reduce pollution.

### TECHNICAL / PRODUCTION KPI

**3,500,000 m<sup>3</sup>**

concrete

**160,000 tons**

rebar steel

**136,000 tons**

steel ribs

### SUSTAINABILITY KPI

**-33%**

time of travel

**-400,000 tons**

CO<sub>2</sub> emissions per year



## Brenner Base Tunnel

ITALY

A high-priority EU infrastructure project to improve mobility and reduce pollution in a crucial connection in Europe

A high-priority EU infrastructure project to improve mobility and reduce pollution in a crucial connection between northern and southern Europe. The Brenner Base Tunnel is at the heart of the new Brenner railway line that links Munich to Verona. 64 km long (including Innsbruck junction), it will be the longest underground rail connection in the world, once completed. The “Isarco River Underpass” Section is the southern segment of the Brenner Base Tunnel. This section included civil works for the two main tunnels for a total length of roughly 4.5 km, as well as two interconnecting tunnels for a total length of 1.7 km. Webuild is working on two lots of the Brenner Base Tunnel. On the Italian side, it completed Isarco and is working on Mules 2-3. On the Austrian side, it completed Tulfes-Pfons and is working on Gola del Sill-Pfons.

### TECHNICAL/PRODUCTION KPI ISARCO

**1,150,000 m<sup>3</sup>**

excavated material

**280,000 m<sup>3</sup>**

concrete

**434,000 m<sup>3</sup>**

soil treated with Jet Grouting

### SUSTAINABILITY KPI

**+50%**

network capacity

**+80%**

weight capacity

**-69%**

time reduction of passenger trains compared with current track



## Verona-Padua HS/HC Line

ITALY

### Italy in the strategic network of the Mediterranean Corridor

The Verona - Padua HS / HC Line, with a total route of 76.5 km (crossing through the provinces of Verona, Vicenza and Padua), is divided into 3 functional lots.

The first functional lot, the Verona - Bivio di Vicenza section, the longest, is 44.2 kilometres long crossing 13 municipalities. By quadrupling the existing railway, it will improve the quality of the train service and strengthen its links to a European network, helping reduce the impact on the environment as well as the number of road accidents.

The second functional lot is related to the crossing at Vicenza. This lot will run for about 6.2 km from the town of Altavilla Vicentina to the Vicenza station. It also includes the renewal of 4.8 km of the existing line.

The third lot is related to the Vicenza-Padua section (more than 26 km). This section is in the final design phase.

#### TECHNICAL / PRODUCTION KPI

**33 km**

elevations

**6.8 km**

viaducts

**2.1 km**

tunnels

#### SUSTAINABILITY KPI

**-298,200 tons**

CO<sub>2</sub> emissions/year

**-50%**

travel time

**3,015,000**

passengers expected/year



## Naples-Bari High speed high capacity railway line Naples-Cancello, Apice-Hirpinia, Orsara-Bovino, and Orsara-Hirpinia sections

ITALY

Fast and sustainable transport between two of the largest cities in Southern Italy

Webuild is currently working on 4 sections of the Naples-Bari high speed / high capacity railway. The Naples-Cancello section covers about 15.5 km whilst the Apice-Hirpinia section covers some 18.7 km. The Apice-Hirpinia section will run between the towns of Avellino and Benevento and includes the construction of a station at Hirpinia and a stop at Apice, three tunnels and four viaducts. The Orsara-Hirpinia section of the Naples-Bari axis. This section will run for about 28 km, almost entirely in tunnels, while the Orsara-Bovino section will run for 11.8 km. These interventions are a fundamental element for the development of Southern Italy, as they will improve its economic and social integration, both in Italy as a whole and in Europe.

### TECHNICAL / PRODUCTION KPI

**1,436,918 m<sup>3</sup>**

concrete

**174,710 tons**

rebar

**2,206,579 m<sup>3</sup>**

underground excavations

### SUSTAINABILITY KPI

**2 hours vs. about 4**

time travel reduction



## Texas High Speed Rail Project

USA

The first high-speed train project in the United States to promote sustainable mobility in Texas

The high-speed train will link Dallas and Houston in 90 minutes with a train every 30 minutes at peak times. The scope of work includes the design and build of:

- a double railway track 235.36 miles (379 km) long, with ballasted and slab track, through earth movement on the existing ground and the construction of viaducts;
- 3 stations: Dallas, Brazos Valley and Houston;
- system facilities along the route, used for operation and maintenance.

It is estimated that 6+ million passengers will use the high-speed train annually.

### TECHNICAL/PRODUCTION KPI

**2,700,000 m<sup>3</sup>**

concrete

**400,000 tons**

rebar

**18,200,000 m<sup>3</sup>**

excavations

### SUSTAINABILITY KPI

**-63%**

time of travel than by car

**-14,630**

cars per day

**-700,000 tons**

CO<sub>2</sub> emissions per year



## Naples-Afragola High speed railway station

ITALY

Sinuous and futuristic bridge like station for people to connect

The contract for the completion of the HSR station in Naples-Afragola was completed in 2 years, without interrupting the operation of the existing line. The new station building (400x40 m), has a smooth bridge shape to bypass the tracks serving as connection for the territory divided by the Rome-Naples railway line. The station was designed by Zaha Hadid Architects.

### TECHNICAL / PRODUCTION KPI

**34,000 m<sup>3</sup>**

concrete

**8,800 tons**

steel

**6,400 m<sup>2</sup>**

glass walls

### SUSTAINABILITY KPI

**32,700**

passengers/day

**3,000,000**

people the catchment area

**20,000 m<sup>2</sup>**

roofing panels for solar energy production



## Turin-Milan High speed, high-capacity railway line Turin-Novara section and Novara-Milan section

ITALY

A fast connection to match growing traffic and mobility requirements

The Turin-Milan section is 125 km long. The planning and construction met the need to make the project fit a strongly anthropized environment, characterized by the presence of some protected natural areas. The new railway line, connected to the existing line through three interconnections, runs along the infrastructural corridor beside the existing highway.

The twin rail line includes bridges and viaducts for a total length of 22 km, 95.3 km of embankments, 4.3 km of trenches and 3.4 km of man-made tunnels. Works included motorway diversions, adjustments to the existing road system, worksite tracks; over 100 bypasses and overpasses for the railway, roads and motorway interchanges; approximately 40 kilometres of service tracks for civil protection; more than 200,000 m<sup>2</sup> of anti-noise barriers.

### TECHNICAL / PRODUCTION KPI

**3,239,000 m<sup>3</sup>**

concrete

**289,000 tons**

steel

**14,866,000 m<sup>3</sup>**

open excavations

### SUSTAINABILITY KPI

**-47%**

time of travel





## Bologna-Florence High speed, high-capacity railway line

ITALY

From Bologna to Florence in just 35 minutes

Owing to the dimensions of the work, the engineering-related challenges, the sheer amount of manpower involved, the importance of the financial commitment, and the orographical and hydrogeological features of the Tuscan-Emilian Apennines, the Bologna – Florence High Speed Railway line represented a major engineering challenge for Italy and was at the time of completion one of the most important projects in Europe.

To cross the Apennine range, the 79-km route required the construction of 72 km of natural tunnels and 5.2 km of open-air works, including 4 km of embankments and 6 viaducts for an overall length of 1.2 km.

### TECHNICAL / PRODUCTION KPI

**3,640,000 m<sup>3</sup>**

concrete

**30,000 tons**

steel

**9,920,000 m<sup>3</sup>**

underground excavations

### SUSTAINABILITY KPI

**-49%**

time of travel

# Main Railways

## Canada

Canadian Pacific Railroad-Roger Pass Tunnel  
1988

Canadian Pacific, Limited, CP Railroad  
1983

## France

Simplon Railway Line  
1910

Marsiglia-Ventimiglia Railway Line  
1991

## Norway

Nykirke-Barkaker Rail Line

## Switzerland

Rorschach- San Gallo Railway Line and Galgetobel Bridge  
1981

## Algeria

El Gourzi-El Khroub and Ramdane-Djamel Constantine Railway Line  
1985

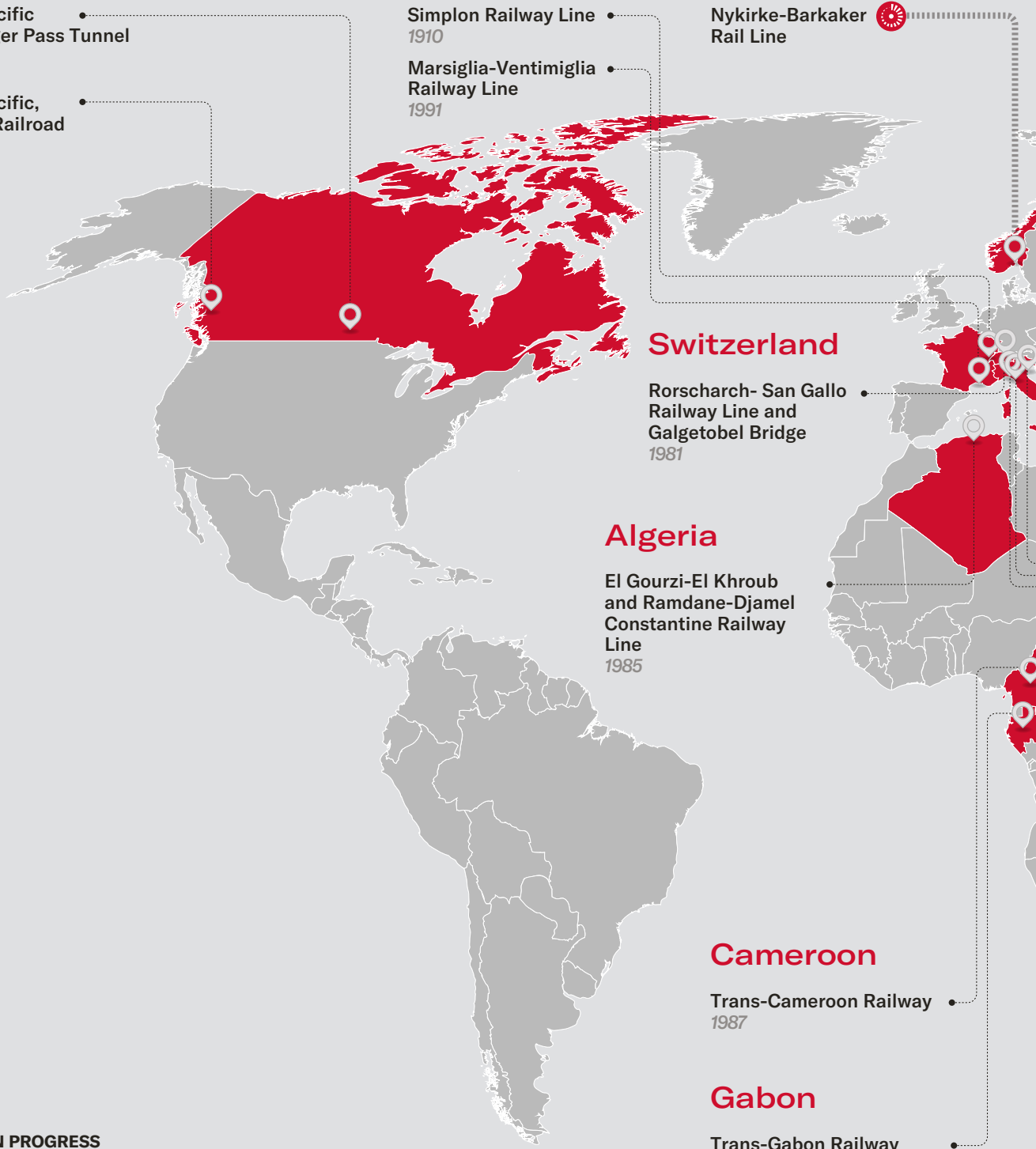
## Cameroon

Trans-Cameroon Railway  
1987

## Gabon

Trans-Gabon Railway  
1986

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## Poland

- Łódź-fabryczna Station  
Warsaw-Łódź Railway Line  
2016

## Greece

- Greater Athens Tramway Project  
2004

## Iran

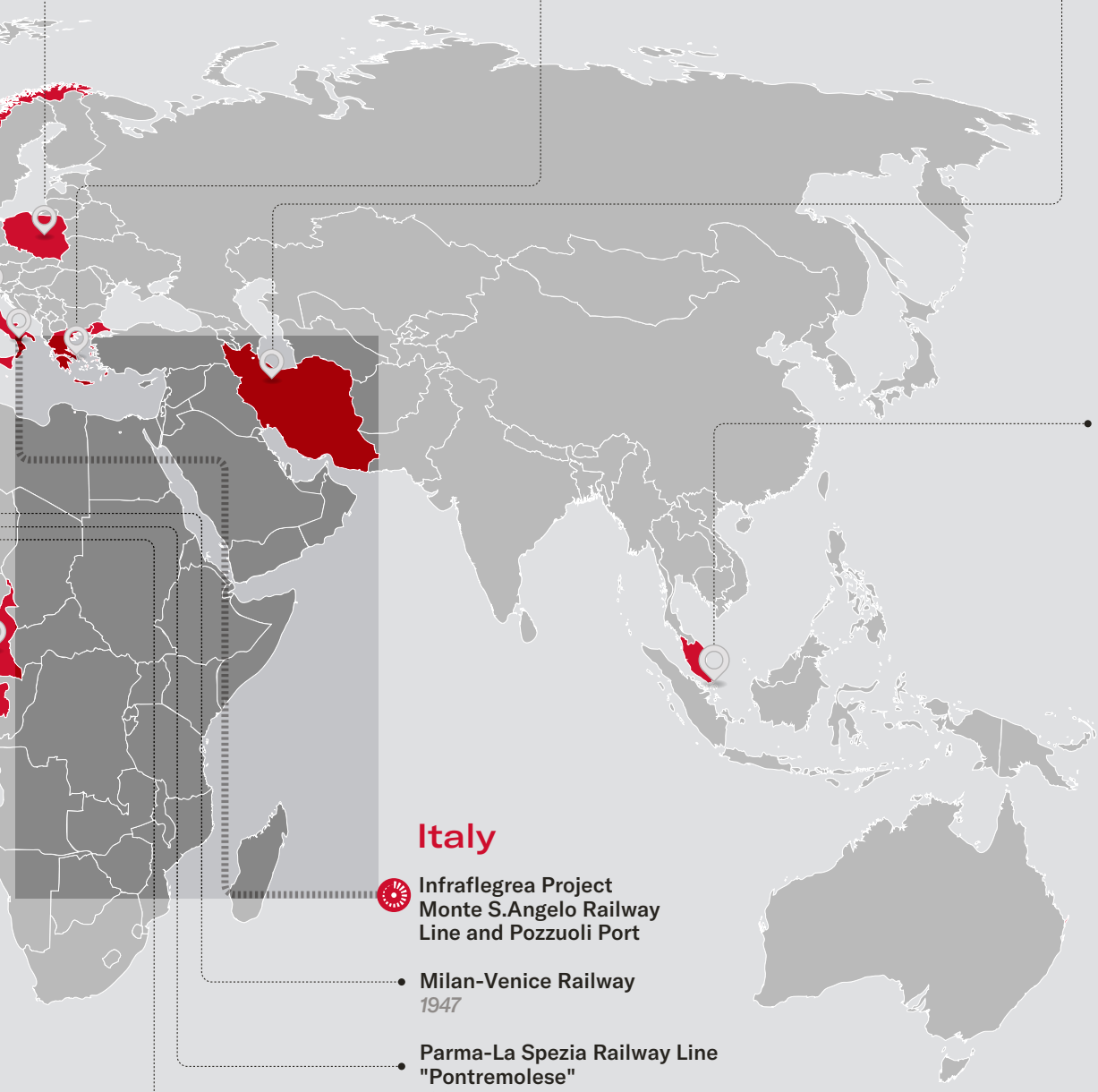
- Trans-Iranian Railway  
1936

## Singapore

- The Singapore MRT  
1987

## Italy

-  Infraclegrea Project  
Monte S. Angelo Railway  
Line and Pozzuoli Port
- Milan-Venice Railway  
1947
- Parma-La Spezia Railway Line  
"Pontremolese"  
1997
- Genoa-La Spezia Railway Line  
and Viaduct of Recco  
1922





## **Messina-Catania High Capacity railway line Fiumefreddo-Taormina/Letojanni and Taormina-Giampilieri sections**

ITALY

Project that supports the development of sustainable mobility and provide work for the local supply chain

On the Messina-Catania railway line, Webuild is building Lot 1 Fiumefreddo-Taormina/Letojanni and Lot 2 Taormina-Giampilieri. The Fiumefreddo-Taormina/Letojanni section will run for 15.4 km, including the connection to Letojanni station. The route includes about 11 km of tunnels (excavated partly by using TBM), the Taormina station (totally underground), two stops, and new viaducts, 928 m long and has a 120-meter arch span. The Taormina-Giampilieri section will run for about 28.3 m and the route is developed almost entirely in tunnels.



TECHNICAL/PRODUCTION KPI

---

**28.3 km**

new double-track line

**7**

viaducts

**6**

double-bore tunnels

SUSTAINABILITY KPI

---

**30' less than current travel times**

between Messina and Catania



## Nykirke-Barkaker Rail Line

NORWAY

A new line to facilitate fast and sustainable transport along the east coast of Scandinavian country

The project consists in the upgrade of 13.6-kilometer section of a rail line between the towns of Nykirke and Barkaker, south of Oslo. A double-track line, including two bridges, three tunnels (two in drill&blast, one in cut&cover) and a station near the town of Skoppum. The project concerns a section of the so-called Vestfold Line, which is being modernized to reduce travel times and increase railway passenger capacity. Norway has as one of its priorities the establishment of a continuous double-track rail line between Oslo and Tønsberg by 2024. Once it is upgraded, travel time between the two cities will be about an hour, with a frequency of up to four trains an hour in either direction. The project will also favour economic development beyond the Norwegian capital.

### TECHNICAL / PRODUCTION KPI

**87,719 m<sup>3</sup>**

concrete

**39,314 tons**

steel reinforcement

**1,482,354 m<sup>3</sup>**

open air excavation

### SUSTAINABILITY KPI

**-20%**

time of travel between Oslo and Tønsberg

**-35%**

time of travel between Skien and Oslo



## Palermo-Catania High Capacity railway line Bicocca-Catenanuova, Fiumetorto-Lercara junction, Lercara-Caltanissetta Xirbi, Nuova Enna-Dittaino, and Caltanissetta Xirbi-Nuova Enna sections

ITALY

A new line to facilitate sustainable mobility in Sicily

Webuild is building five sections of the Palermo-Catania high capacity railway line: Bicocca-Catenanuova, Fiumetorto-Lercara junction, Lercara-Caltanissetta Xirbi, Nuova Enna-Dittaino, and Caltanissetta Xirbi-Nuova Enna. The Bicocca-Catenanuova section will run for about 38 km. It is an important building block for enhancing rail connections to the ports of Catania, Augusta, and Palermo, and to the airports of Palermo and Catania. The Fiumetorto-Lercara junction section will run for 30 km including 20 km of tunnels, more than 2 km of viaducts, 7 km of connecting roads, 3 stations. The Lercara-Caltanissetta Xirbi section involves 47 km of new line, including 22 km of tunnels (including interconnections). The Caltanissetta Xirbi-Nuova Enna section will run for 27 km.

### TECHNICAL / PRODUCTION KPI

**214,800 m<sup>3</sup>**

concrete

**1,450,000 m<sup>3</sup>**

excavations

**24,000 tons**

steel



### SUSTAINABILITY KPI

**60' less than current travel times**

between Catania and Palermo

# Main Roads & Motorways

## United States

- I-95 Express Lanes, Virginia 2014
- I-495 Capital Beltway Express Lanes, Virginia 2013
- I-405 Motorway, California 
- I-10 Corridor Express Lanes, California 

## France

- Frejus Highway Tunnel 1980

## Brazil

- Anchieta - Imigrantes Motorway System 2002

## Chile

- East - West highway in Santiago - Chile 2005

## Argentina

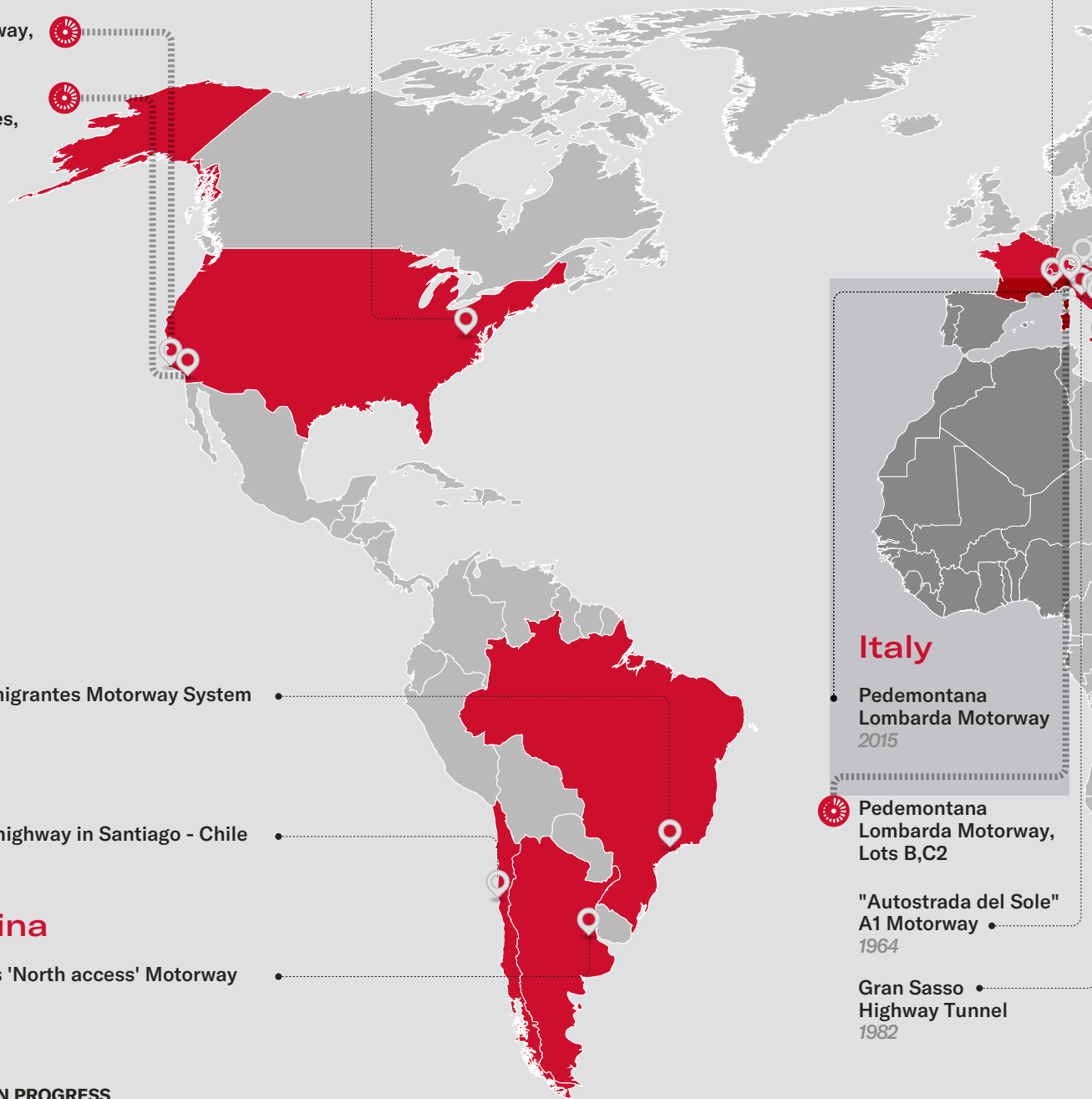
- Buenos Aires 'North access' Motorway 2001

## Italy

- Pedemontana Lombarda Motorway 2015
-  Pedemontana Lombarda Motorway, Lots B,C2
- "Autostrada del Sole" A1 Motorway 1964
- Gran Sasso Highway Tunnel 1982

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## Poland

- S-7 Expressway, Naprawa-Skomielna Biała Section and Zakopianka Tunnel

## Turkey

- Northern Marmara Motorway 2018
- Anatolian Motorway 2010

## United Arab Emirates

- Umm Lafina Link Road
- Dubai Parallel Roads 2013
- Ras Al Khor Interchange - Dubai 2012

- Brennero A22 Highway 1974

- Marche-Umbria Quadrilateral Highway Network (Maxi Lot 2)

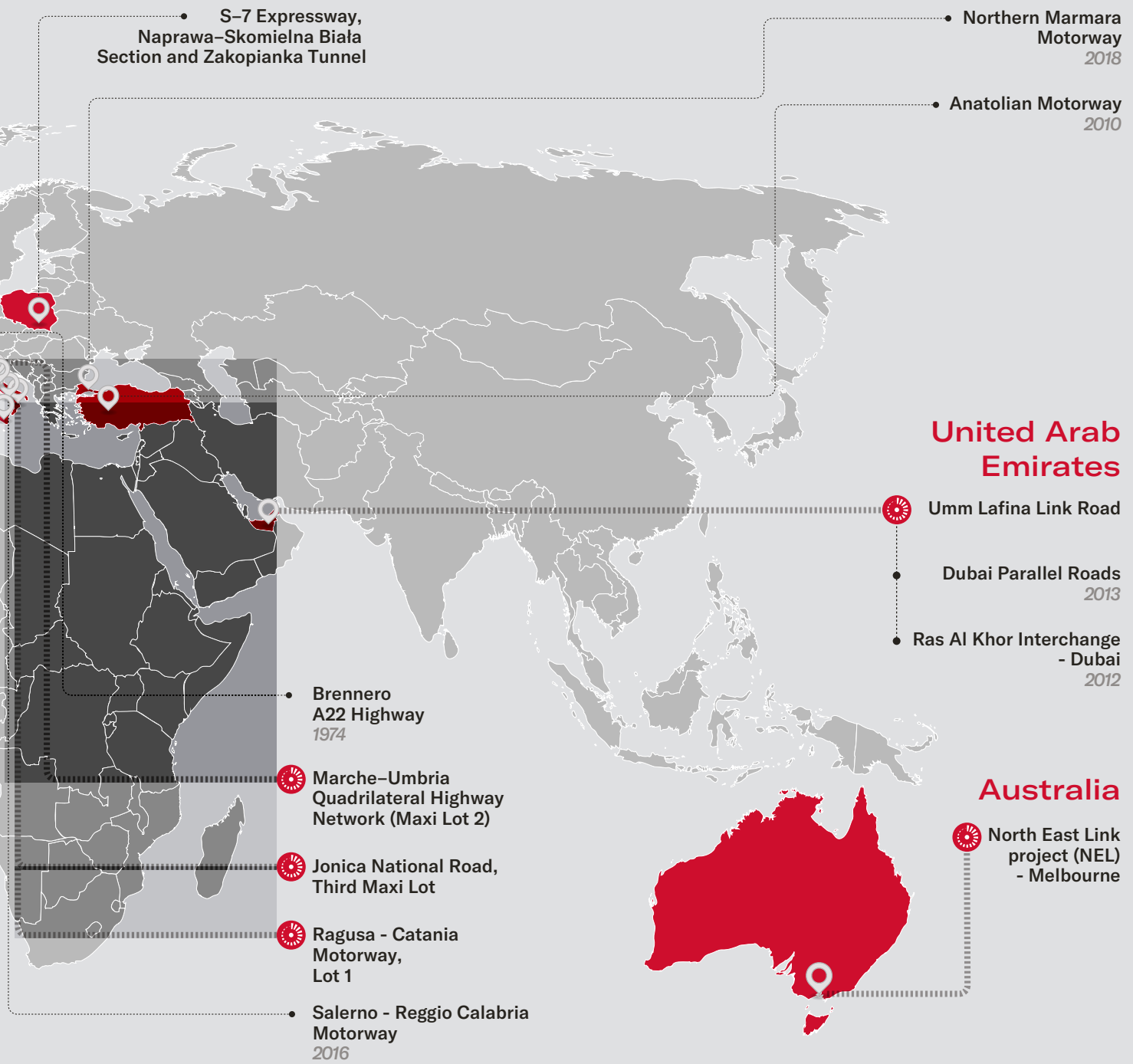
- Jonica National Road, Third Maxi Lot

- Ragusa - Catania Motorway, Lot 1

- Salerno - Reggio Calabria Motorway 2016

## Australia

- North East Link project (NEL) - Melbourne





## I-10 Corridor Express Lanes, Contract 1, CA

USA

A new infrastructure to respond to population growth in San Bernardino County

The I-10 Corridor serves on average 265,000 daily local, commuter, and interstate travelers, and is a critical link within the Inland Empire. It also serves as a major trucking route between Southern California and the rest of the country.

The project includes the design and construction of 11 miles of two express lanes in each direction of I-10 from the Los Angeles/San Bernardino County line to east of the I-10/I-15 interchange.

The project includes the widening of the existing highway, partial pavement rehab, bridge and drainage works, utilities.

### TECHNICAL/PRODUCTION KPI

**570,000 tons**

PCCP concrete

**200,000 tons**

structural concrete

**2,177,450 tons**

earthmoving

### SUSTAINABILITY KPI

**50%**

time of travel during peak hours

Improved speed and reliability for drivers

Meeting the expected growth in population and employment through 2040



## Marche-Umbria Quadrilateral Highway Network (Maxi Lot 2)

ITALY

One of the major road infrastructure projects in Italy

The contract covers the upgrading and extension works of the Perugia-Ancona section route (approximately 31 kilometers in total, on dual carriageways, of which 22 kilometers of tunnels), as well as the construction of the new Pedemontana delle Marche road (approximately 36 total kilometers, single lane, including 5 kilometers of tunnels).

### TECHNICAL/PRODUCTION KPI

**1,016,201 m<sup>3</sup>**

concrete

**9,124,809 m<sup>3</sup>**

earthworks

**89,985 tons**

steel

### SUSTAINABILITY KPI

**+20%**

time savings on the Perugia-Ancona route (Freeway)

**-4,000**

traffic reduction of vehicles/day on existing ordinary road

**-30/80%**

reduction of pollution in inhabited areas



## Pedemontana Lombarda Highway, B2 and C sections

ITALY

A smart road to ease traffic flow in Varese-Como-Bergamo-Milan quadrant

The project entails the executive design and construction of approximately 30 kilometres of highway and related routes to improve improve east-west axis along TEN-T Corridor 5: Section B2 between Lentate sul Seveso and Cesano Maderno, and Section C between Cesano Maderno and Milan's A51 eastern beltway. Webuild leads the consortium with a 70% stake, with Pizzarotti as partner.

The sections will deploy smart technology that will help with the maintenance of the infrastructure, among other features. The solutions developed by Webuild will have installed Cooperative Intelligent Transport Systems (C-ITS) that will make the highway ready to receive self-driving vehicles. They will have installed a diagnostic system to monitor potential weaknesses, weight loads, vibrations and temperatures.

### TECHNICAL/PRODUCTION KPI

**1,100,000 m<sup>3</sup>**

concrete

**90,000 tons**

steel for concrete

**9,100,000 m<sup>3</sup>**

excavations

### SUSTAINABILITY KPI

Innovative solutions to install road applications to reduce air and noise pollution



## Ionian motorway (Mega Lot 3)

ITALY

### A strategic Express Road for Southern Italy

The project, part of the Trans-European Transport Network (TEN-T) involves the construction of the section of the SS-106 road in a new location, which from Sibari reaches Roseto Capo Spulico (Km 400 + 000), in Calabria. This section, 38 kilometres long, will run about one kilometre from the historic route, connecting the Ionian coasts of Calabria, Basilicata, and Puglia, while also providing a link with the A2 motorway and Puglia.

Once completed, it will take only 20 minutes to cover the route between Sibari and Capo Spulico as opposed to the 36 minutes required today.

The first 18 kilometres of the route runs along the Sibari plain, while the remaining 20 must cross the Apennines and requires the excavation of 11 kilometres of tunnels and the construction of 6 kilometres of viaducts with piers over 40 metres high and spans up to 120 metres long.

#### TECHNICAL / PRODUCTION KPI

**13,536,670 m<sup>3</sup>**

excavations

**11,429,033 m<sup>3</sup>**

embankments

**1,533,462 m<sup>3</sup>**

concrete

#### SUSTAINABILITY KPI

**99%**

waste recovery index in 2022



## North East Link project (NEL)

AUSTRALIA

It is the largest private–public partnership (PPP) for an infrastructure project in Australia

Part of the State of Victoria's Big Build infrastructure investment programme, it is the state's biggest road project. In addition to the tunnels, the project will include interchanges at the M80 Ring Road, Grimshaw Street, Lower Plenty Road, Manningham Road and Bulleen Road. There will be Melbourne's first dedicated bus lane with express lanes along the Eastern Freeway. Up to 135,000 vehicles will use the North East Link every day, reducing congestion in the city's north-east while maintaining local roads for local trips and the environmental impact.

### TECHNICAL/PRODUCTION KPI

**6.5 km**

twin tunnels

### SUSTAINABILITY KPI

**+25 km**

walking and cycling path

**15,000**

trucks off roads per day



## Dubai Parallel Roads

UAE

The project has made heavy traffic to the central area smoother, and is a vital artery to the financial heart of Dubai

The project involved the construction of two road sections in Dubai: the first near the World Trade Center connecting Second Zabeel Road to Sheikh Rashid Road; the second consisting of a series of roads and bridges to improve traffic flow in the "Jumeirah Lake Towers" area.

The construction of the 24 bridges stipulated by the two contractual lots required special solutions, including the use of launching gantries with an innovative "Combo" methodology for the first lot in order to finish the work quickly, and reduce traffic disruption.

The project also included the construction of new roads, the expansion of existing ones, the construction of access ramps and installation of vertical and horizontal signs, street lighting and the repositioning of a high number of sub-services.

### TECHNICAL / PRODUCTION KPI

**100,000 m<sup>3</sup>**

concrete for Parallel Roads

**250,000 m<sup>2</sup>**

paving

# Main Bridges & Viaducts

## United States

Unionport Bridge, New York



Max Brewer Bridge Replacement  
2013

Halls River Bridge Replacement  
2017

Long Beach International  
Gateway  
2020

## Colombia

Barranquilla Bridge  
1974

## Argentina

Posadas-Encarnacion  
Bridge  
1990

Chaco Corrientes Bridge  
1973

Brazo Largo Bridges  
1976

Rosario-Victoria  
Motorway Bridge  
2003

## Italy

Recco Viaduct  
1922

Genoa San Giorgio Bridge  
2020

Bridge on the Trebbia River,  
Travo  
1925

Bridge on the Taro River,  
Fornovo  
1911

Favazzina Viaduct  
2014



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## Russia

- Petrovski Bridges, WHSD Project  
2016
- Korabelny Bridges, WHSD Project  
2016

## Romania

- Bridge over the Danube  
river in Braila  
2023

## Turkey

- Second Bosphorus Bridge  
1994
- Haliç Metro Crossing Bridge  
2014
- Yavuz Sultan Selim Bridge  
Third Bosphorus Bridge  
2016
- Osman Gazi Bridge  
2016

## Australia

- Skytrain Viaduct,  
Sydney Metro Northwest  
2018

## Lybia

- Wadi-El Kuf Bridge  
1971





## Genoa "San Giorgio" Bridge

ITALY

A smart and sustainable bridge for connections and transport in Liguria and Italy

The bridge has a continuous steel deck 1,067 metres in length with 19 spans supported by 18 elliptical piers made of reinforced concrete, the majority of which positioned 50 metres from each other. The collection of sunlight through its photovoltaic solar panels will allow the structure to produce the energy required for the night and day operation of all its systems, such as lighting, sensors and plants. The high quality of the structure of steel and cement will guarantee its longevity while maintaining the highest levels of safety thanks to a special system that will dehumidify the inside of the structure to avoid condensation and corrosion.

### TECHNICAL / PRODUCTION KPI

**67,000 m<sup>3</sup>**

concrete

**24,000 tons**

steel

**80,000 m<sup>3</sup>**

open excavations

### SUSTAINABILITY KPI

**100%**

reused excavation waste

**95%**

the energy needed for the functioning of the bridge's system is produced by photovoltaic solar panels



## Long Beach International Gateway, CA

USA

An icon for the City of Long Beach, it will improve traffic flow, reduce traffic delays and decrease safety hazards

The new Long Beach International Gateway cable-stayed bridge is a strategic hub for links to the city and the port that redefines the Long Beach skyline. The project involved:

- 352 foundation piles with a diameter of 2.5 m, 1.6 m and 1.5 m, up to 50 m deep and cast on site;
- a 2,700 m (8,800 feet) cable-stayed bridge with two main octagonal hollow towers, about 160 m high, with a central span of 330 m, and two side spans about 150 m long.

The project was particularly complex from a technical and organizational point of view because it involved keeping road and shipping traffic to and from the port open throughout the duration of the project.

### TECHNICAL / PRODUCTION KPI

**7,650 tons**

structural steel

**23,500 tons**

reinforcing steel

**190,000 m<sup>3</sup>**

reinforced concrete

### SUSTAINABILITY KPI

**1,200**

vehicles per hour

**100 yrs**

life span

Access to the Port area for the newest generation of cargo ships



## Northern Marmara Motorway and Yavuz Sultan Selim Bridge – Third Bosphorus Bridge

TURKEY

Europe and Asia getting closer thanks to the bridge of records

The construction of 150 km of the Northern Marmara Motorway stretch included the Third Bosphorus Bridge (now named Yavuz Sultan Selim Bridge) which is:

- the world's longest and widest hybrid bridge (width of 59 m and main span of 1,408 m);
- the first bridge designed to host an 8-lane highway and a double-track railway all at same level;
- the bridge with the highest tower in the world, above 320 m.

### TECHNICAL / PRODUCTION KPI

**241,000 m<sup>3</sup>**

concrete

**65,000 tons**

steel

**897,000 m<sup>3</sup>**

open excavations

### SUSTAINABILITY KPI

**39,000,000**

people in the catchment area

**3.5%**

energy consumption driven from renewable energy sources (during operation phase)



## Bridge over the Danube river in Braila

ROMANIA

A spectacular suspension bridge over the Danube river, the second longest suspension bridge in mainland Europe

A four-lane suspension bridge totalling 1,975 m in length, with a main span of 1,120 m and two side spans of 490 m and 365 m long, respectively, with two access viaducts of 90 m in length each. Construction works also include 23 km of connecting roads.

### TECHNICAL/PRODUCTION KPI

**297,000 m<sup>3</sup>**

concrete

**52,360 tons**

steel

**19,000 m<sup>2</sup>**

diaphragm walls, 1m thick

### SUSTAINABILITY KPI

**120 yrs**

life span

**7,000**

vehicles/day

# Main Ports & Sea works

## Italy

Pozzuoli Port •  
2006

New Genoa Breakwater 

Olbia Industrial Port and Isola Bianca Dock •  
1999

Porto Torres Port •  
Technical Upgrading  
2007

Santa Teresa di Gallura Harbour (Sassari) •  
1999

Palermo Port •  
1948

Gioia Tauro Port •  
1987

Naples Port •  
1996

Civitavecchia Port •  
Cruise Ships Quay  
2000

## Honduras

San Lorenzo Port •  
1979

## Panama

The New Panama Canal •  
2016

## Morocco

Mohammedia Port •  
extention works  
1985

## Guinea

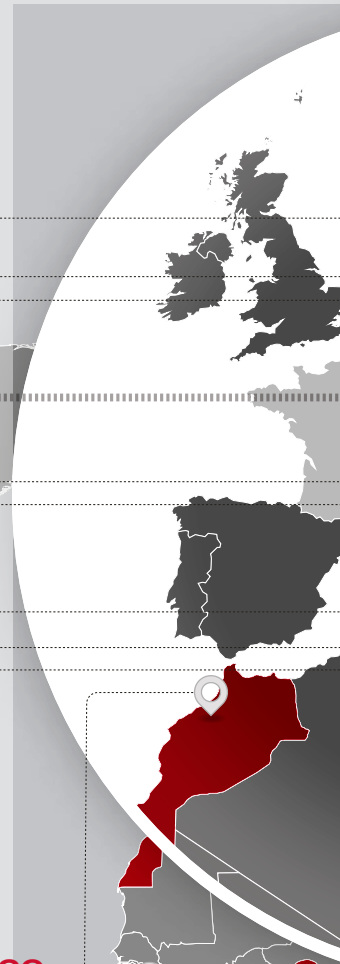
Kamsar Port •  
1973

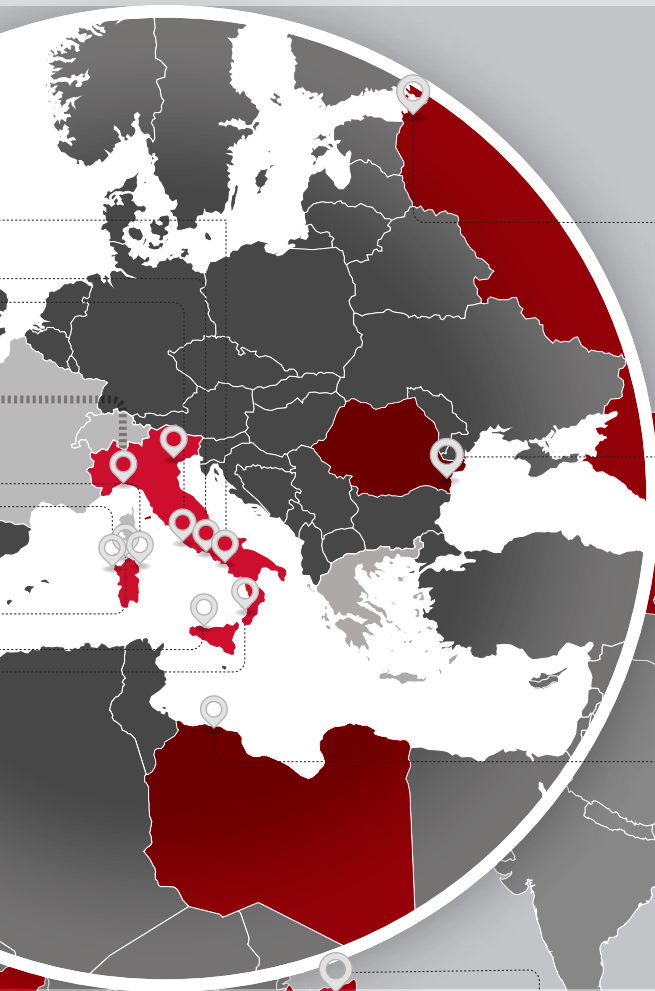
## Nigeria

Apapa Port - Second Wharf extension •  
1966

 IN PROGRESS

XXXX COMPLETION DATE





## Russia

- Seaworks for Western High-Speed Diameter (WHSD)  
2015

## Romania

- Costantza Port  
2001

## Lybia

- Homs Port  
1987

## Papua New Guinea

- Lombrum Naval Base

## Australia

- Darwin Ship Lift

## Somalia

- Ras Sif Deep Water Harbour (Mogadishu)  
1977
- Bosaso Harbour  
1990

## Republic of the Congo

- New Quay of Pointe Noire Port  
2001



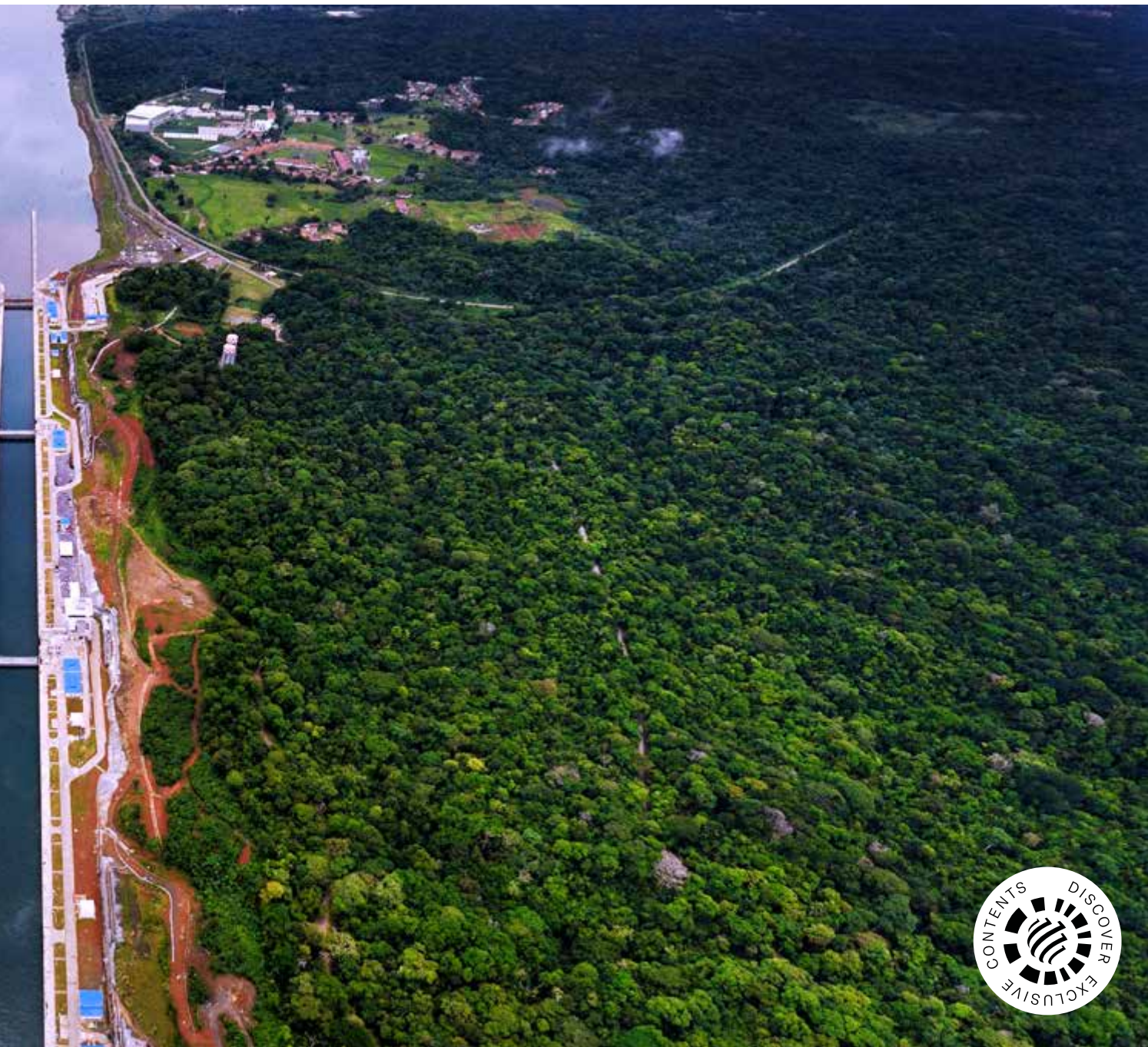
## The New Panama Canal

Redrawing global shipping routes saving and reusing water

PANAMA

With 74 million cubic metres of excavations, 5 million cubic metres of concrete, 1.6 million tons of cement and 7.1 million cubic meters of dredging, the Third Set of Locks Project is the biggest feat of engineering to take place in several decades. A complex system of interconnected basins guarantees minimum impact on the environment, reducing the dispersion of fresh water flowing in the artificial basins, to the minimum. The New Panama Canal is a revolution for global trade. The approximately 12 thousand ships that currently cross it each year, will be connected to 1,700 ports belonging to 150 countries and to 144 maritime routes.





TECHNICAL/PRODUCTION KPI

**290,000 tons**

reinforced steel

**3,300 tons/hr**

concrete aggregates production

**1,240 m<sup>3</sup>/hr**

concrete production

SUSTAINABILITY KPI

**60%**

water saving thanks to the innovative Water Saving Basins system

**hundreds**

species typical of the tropical habitat were rescued during the construction

**-16,000,000 tons**

CO<sub>2</sub> emissions per year by enabling Post-Panamax ships to cross America instead of sailing round the continent



## New Genoa Breakwater

ITALY

One of the deepest breakwaters worldwide to enable large cargo ships to dock at Ligurian port

The Genoa Breakwater is a barrier to protect the port from rough seas. It will be longer and larger than the existing one and is designed to improve access to the port of Genoa and to allow access to the port for the latest generation of container ships with lengths reaching 400 metres.

The breakwater will be a unique project due to its scale and engineering complexity.

It will be built offshore, leaving port activities uninterrupted. It will rest on an underwater foundation, whose varying depth will be up to 50 metres sitting on a structure of 100 prefabricated caissons of reinforced concrete.



TECHNICAL/PRODUCTION KPI

---

**50 m**

depth

**6,200 m**

total length (Phase A + Phase B)

SUSTAINABILITY KPI

---

Excavated material will  
be recovered, reused and  
transformed

**BUSINESS**

# CLEAN HYDRO ENERGY



## — Hydroelectric Dams & Plants

### — Pumped Storage

Hydropower's great reliability and flexibility are key to the global energy transition as it can balance and stabilise the energy injected into the grid by other intermittent renewable sources like wind and solar power. Hydropower is one of the renewable sources with the lowest unit cost, which makes it particularly suitable for those areas of the world where most of the population still does not have electricity, like some of the emerging economies.

The ongoing hydropower projects will have capacity of more than 14,000 MW and will provide low-cost clean energy to the equivalent of over 23 million residents around the world, especially in the Horn of Africa (Ethiopia and surrounding

countries), Central Asia (Tajikistan and adjacent countries) and Australia. This should avoid emissions of roughly 13 million tonnes of CO<sub>2</sub> a year.

Webuild has strong experience in the various construction methods and environmental contexts as it has carried out projects in Europe, North and South America, Africa, Asia and Oceania.

By operating in full compliance with international social and environmental standards our works are a global benchmark.

# Main Hydroelectric Dams & Plants

## Canada

James Bay Hydroelectric Power Project  
1982

## Iceland

Karahnjúkar Hydroelectric Plant  
2008

## Switzerland

Val di Lei Dam  
1960

## Italy

Valdo Hydroelectric Plant  
1922

Morasco Dam  
1940

Toggia Dam  
1932

Mignano Dam  
1933

## Ghana

Akosombo Hydroelectric Plant  
1966

## Uganda

Bujagali Hydropower Plant  
2013

## Zambia

Kariba Hydroelectric Plant  
1960

## Zimbabwe

Osborne Dam  
1994

## Chile

Chacayes Hydroelectric Power Plant  
2012

## Colombia

Sogamoso Hydroelectric Project  
2015

## Peru

Huanza Hydroelectric Project  
2013

Mantaro Hydroelectric Project  
1968

## Paraguay

Yacyretà Hydroelectric Project  
1998

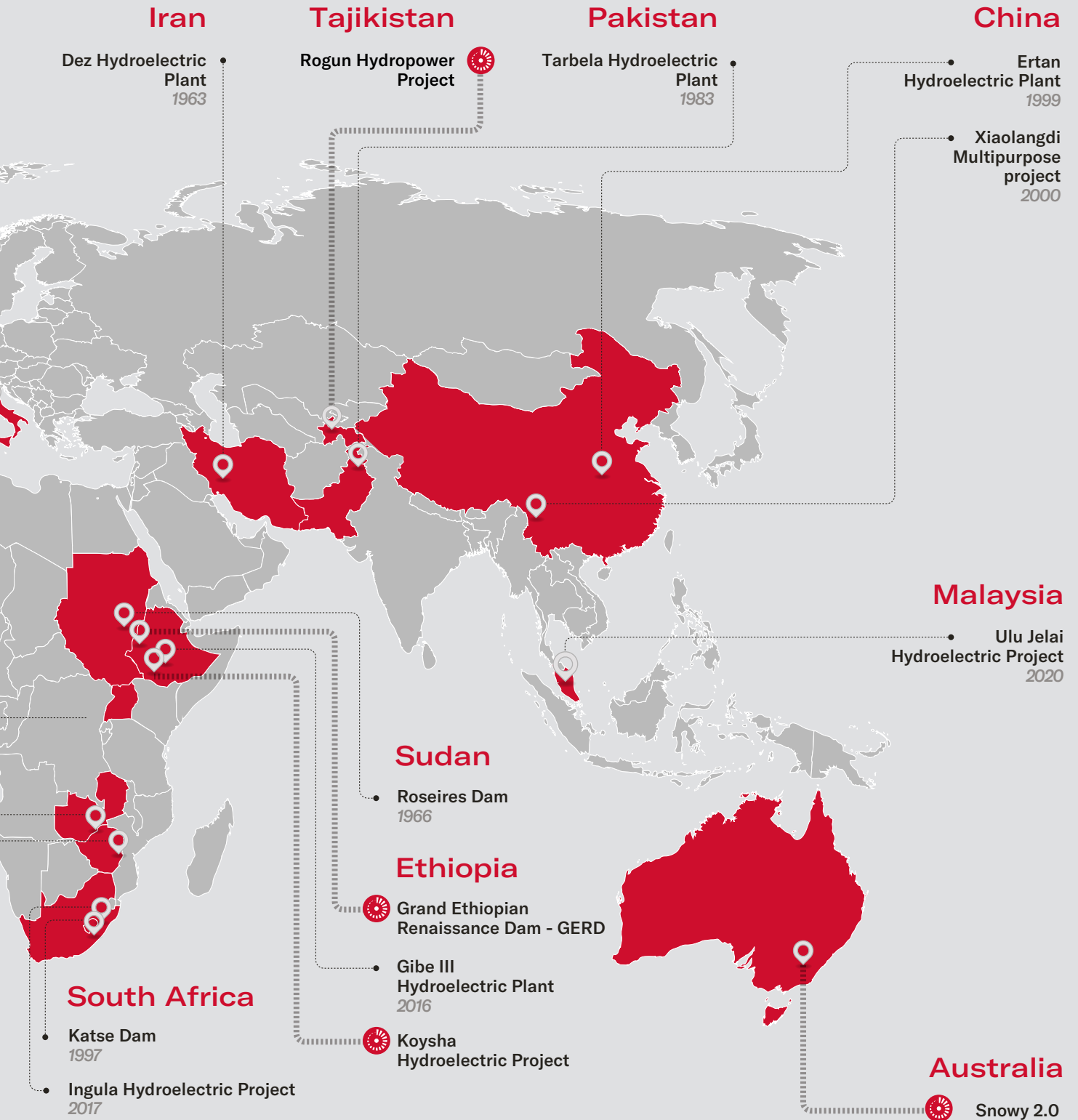
Yaciretá Hydroelectric Power Plant (Brazo Aña Cuá Project)



IN PROGRESS

XXXX COMPLETION DATE







## Snowy 2.0

AUSTRALIA

A project to stream water through 29 km of tunnels working as a giant battery to produce and store hydro energy

Snowy 2.0 is a Pumped Storage Scheme. It is the largest committed renewable energy project in Australia. Snowy 2.0 will underpin the nation's secure and stable transition to a low-carbon emissions future at the lowest cost for consumers.

The project involves linking two existing dams, Tantangara and Talbingo, through 29 km of tunnels and building a new underground power station with pumping facilities.

Snowy 2.0 will increase by 2,200 megawatts (MW) the generating capacity of the Snowy Mountains Hydro-electric Scheme currently producing more than 4,000MW.

### TECHNICAL/PRODUCTION KPI

**29 km**

TBM Tunnel excavation

**485,000 m<sup>3</sup>**

Power House Complex excavation

**3,000,000 m<sup>3</sup>**

earthworks

### SUSTAINABILITY KPI

**500,000**

houses served by the energy produced by the plant

**-10,000,000 tons**

CO<sub>2</sub> emissions per year





## Rogun Hydropower Project

TAJIKISTAN

The tallest dam in the world to double the Tajikistan's energy production

The project consists of the construction of a 335-metre-high rockfill dam, the tallest in the world, on the Vakhsh River. The dam will be located in Pamir, one of Central Asia's main mountain ranges. Once completed, the plant will have 6 turbines of 600 MW each with a total installed capacity of 3,600 MW (the equivalent of three nuclear power plants).

The Project foresees an early generation stage, today already concluded, with the activation of the first two turbines and the putting into operation of the following four within 2026.

### TECHNICAL / PRODUCTION KPI

**74,000,000 m<sup>3</sup>**

dam embankment

**2,600,000 m<sup>3</sup>**

open excavations

**100,000 m<sup>3</sup>**

underground excavations

### SUSTAINABILITY KPI

**-1,200,000 tons**

CO<sub>2</sub> emissions per year



## Ulu Jelai Hydroelectric Project

MALAYSIA

A sustainable hydro-project to improve the energy production of the country

The Ulu Jelai plant is part of a programme that was promoted to develop hydroelectric energy in five sites, so that Malaysia can increase its hydroelectric capacity from its current 1,900 MW to more than 3,000 MW by 2020.

Solutions to optimize the project’s environmental impact were developed, and energy production efficiency also greatly improved: according to a UN report, Ulu Jelai generates a great quantity of energy with a reservoir with limited dimensions.

### TECHNICAL / PRODUCTION KPI

**4,037,000 m<sup>3</sup>**

excavation and earth moving

**729,000 m<sup>3</sup>**

volume of RCC dam

**950,000 m<sup>3</sup>**

underground rock excavations

### SUSTAINABILITY KPI

**-250,000 tons**

CO<sub>2</sub> emissions per year



## Sogamoso Hydroelectric Project

COLOMBIA

Improving the quality of life of the residents with an important role in generating the annual average of energy requirement

The Sogamoso hydroelectric dam rises far above the eponymous river, using its waters to turn its massive turbines to produce about 10% of the country's electricity. Inaugurated in 2015, it is the fourth largest dam in Colombia with 820 megawatts of installed capacity. The operation involved the construction of a dam, 190 m high and 300 m long, of an underground power station that houses three turbines, of two diversion tunnels approximately 870 metres long, and the building of the system of access roads and tunnels for the underground power station.

### TECHNICAL/PRODUCTION KPI

**493,000 m<sup>3</sup>**

concrete

**20,200 tons**

steel

**8,350,000 m<sup>3</sup>**

dam embankment

### SUSTAINABILITY KPI

**10%**

total production of Colombia's electricity



## Gibe III Hydroelectric Plant

ETHIOPIA

A project to boost the national energy production by 85%, meeting the growing demand for energy

The works involved the design and construction of the tallest RCC dam in the world at the time of completion, and an open-air power plant with 10 Francis turbines, which have a total installed power of 1,870 MW and an expected energy output of 6,500 GWh per year. The project also involved three diversion tunnels and two twin adduction tunnels, two intake structures, two horizontal tunnels, four vertical shafts and two distributors. The project is the natural extension of the biggest complex along the Gilgel Gibe River with the two other hydroelectric dams Gibe I (completed and operational since 2004) and Gibe II (operational since 2010).

### TECHNICAL/PRODUCTION KPI

**6,214,000 m<sup>3</sup>**

Roller Compacted Concrete (RCC)

**1,270,000 m<sup>3</sup>**

excavation of river diversion tunnel (x3)

**1,500,000 m<sup>3</sup>**

tunnel excavation twin adduction tunnels

### SUSTAINABILITY KPI

**-2,500,000 tons**

CO<sub>2</sub> emissions per year



## Kárahnjúkar Hydroelectric Plant

ICELAND

Clean hydro energy from the glacial waters

Located less than 200 km from the Arctic Circle, the Kárahnjúkar concrete-faced rockfill dam, with its 193 m in height, is the tallest dam in the Nordic region and the first of its kind in Europe. It receives the glacial waters of the Jokulsa a Dal River and transfers them to a 690 MW underground powerhouse. The headrace tunnel system, with a total length of around 50 km, was excavated with three TBM's.

### TECHNICAL/PRODUCTION KPI

**254,000 m<sup>3</sup>**

concrete

**8,870,000 m<sup>3</sup>**

dam's rockfill embankment

**396,000 m<sup>3</sup>**

open excavations

### SUSTAINABILITY KPI

Iceland's major hydro plant, contributing to maintain the country a world leader in renewable energy



## Yaciretá Hydroelectric Project and Power Plant

PARAGUAY

Upgrading the existing plant on the Río Paraná

The existing dam, completed in 1998, measures nearly 70 km in length and stretches for 18.7 km across the Argentinian and Paraguayan sides of the Paraná river. The dam's reservoir of this bi-national project has a surface area of 1,600 km<sup>2</sup>, and a total volume of water of 21 billion m<sup>3</sup>. The powerhouse currently houses 20 Kaplan turbines for a total installed capacity of 3,200 MW capable of providing approximately 60% of Argentina's hydroelectric energy, and 22% of the national energy demand. The new ongoing contract includes all civil works and some electromechanical works for the installation of three additional Kaplan Turbines. Once completed, the plant will register an increase in installed power of 270MW and will have an average energy production of 1,700GWh per year. The works for this upgrade will be mainly carried out in Paraguay.

### TECHNICAL / PRODUCTION KPI

**265,000 m<sup>3</sup>**

concrete

**11,500 tons**

steel

**1,386,000 m<sup>3</sup>**

open excavations

### SUSTAINABILITY KPI

**9%**

increased installed capacity

**-265,000 tons**

CO<sub>2</sub> emissions per year



## James Bay Hydroelectric Power Project

CANADA

An extremely challenge construction site for the major hydro project in Canada

The James Bay is a complex project to exploit the water resources of the rivers to the east of James Bay to produce electrical power. The system produces around 83 billion kWh electricity each year. The most critical element in the overall project was having to deal with the extreme climatic conditions during the long winters. Along with China and Brazil, today Canada is one of the world's leading producers of hydroelectric power (with an export quota of as much as 30%). The James Bay system is the largest hydroelectric complex in the country with a combined generation capacity of 16,021 MW.

### TECHNICAL / PRODUCTION KPI

**160 m**

height

**25,000,000 m<sup>3</sup>**

dam volume

**2,896 m**

spillway channel length

### SUSTAINABILITY KPI

**50%**

total consumption of Quebec satisfied by the clean energy produced by the plant

**BUSINESS**

# CLEAN WATER





- Desalination & Water Treatment
- Wastewater Management Plants
- Hydraulic works
- Irrigation Dams

The Group is a global leader in the water infrastructure sector and active in the entire water cycle, from supply to drinking water to irrigation and the final treatment of wastewater.

Thanks to the group company Fisia Italmimpianti, which leads the desalination, drinking water and water treatment sector, the Group is a strategic partner for public and private sector customers in areas subject to water stress like the Middle East where it builds essential water infrastructure for millions of people.

Webuild also has immense experience in building water storage for drinking water and/or irrigation, environmental recovery

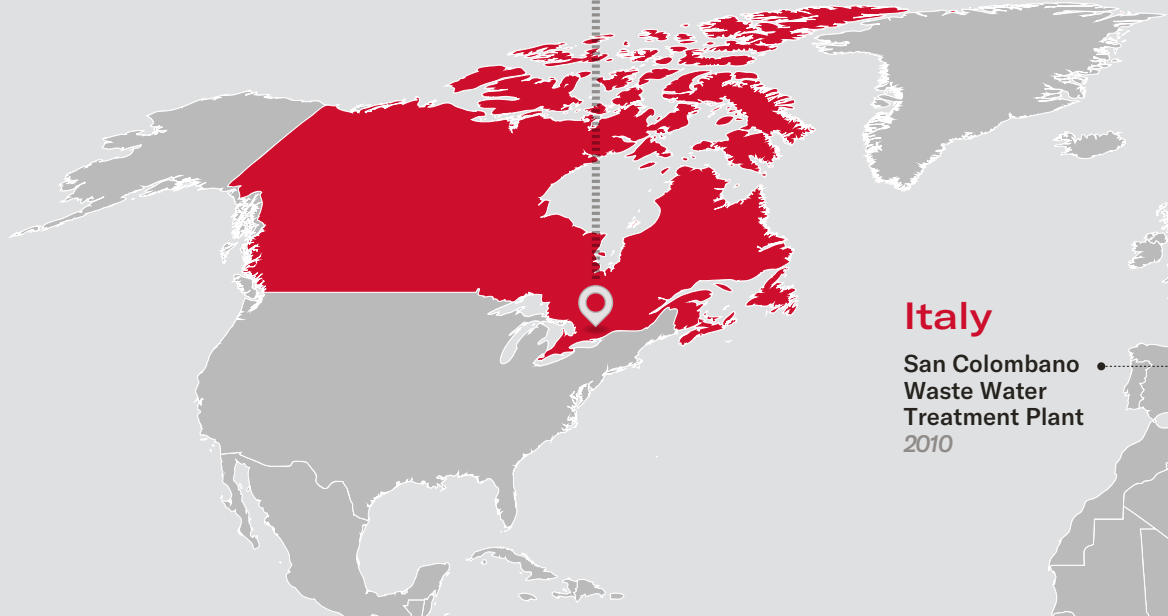
projects and works to upgrade urban wastewater management infrastructure to make it more resilient to the increasingly frequent extreme weather events, protecting areas affected by flooding and preventing the pollution of the receiving water bodies.

Every day, more than 20 million people are served by just the desalination plants built by Fisia Italmimpianti while another approximate 16 million people will benefit from the hydraulic infrastructures currently being built by the Group.

# Main Desalination & Wastewater

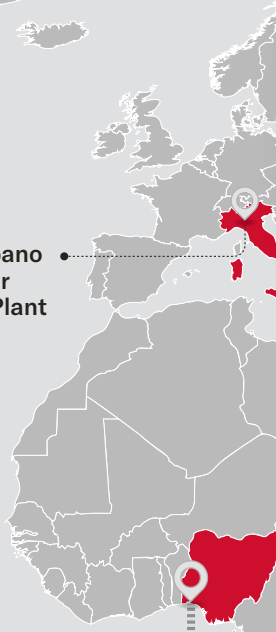
## Canada

Ashbridges Bay Treatment Plant Outfall



## Italy

San Colombano Waste Water Treatment Plant  
2010



## Argentina

Riachuelo environmental restoration system – Lot 2



## Nigeria

Adiyan - Waterworks Phase II



 IN PROGRESS

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## Turkey

Atakoy Water Treatment Plant  
2018



Yenikapi Waste Water Treatment Plant

## United Arab Emirates

Jebel Ali M1,M2,M3  
2012

Jebel Ali L2  
2008

Jebel Ali L1  
2006

Taweelah B Ext  
2007

Takreer Desalination Plant for CBDC Project, Abu Dhabi  
2017

## Saudi Arabia

Shoaiba 3 Expansion II  
2019

## Qatar

Ras Abu Fontas B2  
2018

Ras Abu Fontas A1  
2010

## Oman

Salah Independent Water Project



## Jebel Ali M Desalination Plant

UAE

A great project to produce water for drinking and other domestic uses for Dubai's population

Jebel Ali M is an icon among the desalination sector: the project was the largest desalination plant in the UAE at the time of its completion. Built by Fisia Italmimpianti, part of Webuild Group, it produces 636,400 m<sup>3</sup> of water every day thanks to its eight desalination units.



TECHNICAL/PRODUCTION KPI

---

**8x17.5 MIGD**

unit

**9**

perf. ratio

**112°C**

top brine temperature

SUSTAINABILITY KPI

---

**636,000 m<sup>3</sup>**

water per day produced

**2,500,000**

people served



TURKEY

## Atakoy Wastewater Treatment Plant

A plant which can process a total of 20,000 cubic meters of water a day, serving a district of some one million people

Located in the south western part of Istanbul, on the European side, the plant uses advanced biological methods to treat the wastewater before discharging it into the Marmara Sea. Fisia Italimpianti, of the Webuild Group, completed in 2018 the extensive revamping works for the first phase and the construction of the additional second phase. Additionally a new section of 20,000 cubic meters per day based on Membrane Bio Reactor (MBR) technology – an innovative solution for Turkey – was added to allow for the reuse of the treated water for street cleaning and garden irrigation.

### TECHNICAL / PRODUCTION KPI

**100,000 m<sup>2</sup>**

total area

**240,000 m<sup>3</sup>/d**

capacity biological stage of the Activated Sludge Plant

### SUSTAINABILITY KPI

**20,000 m<sup>3</sup>**

wastewater treated / day

**1,000,000**

people served by the plant



## Ashbridges Bay Treatment Plant Outfall

CANADA

The largest and most significant water quality improvement plant undertaking in Toronto

Ashbridges Bay Treatment Plant (ABTP), in Toronto, calls for construction of a new discharge line for treated water in Ontario Lake. ABTP is one of the largest and oldest wastewater treatment plants in Canada. The contract includes an onshore well 85 m deep and 16 m of internal diameter, next to the coast line; a 3.5 km-long tunnel (internal diameter of 7 m), built by the bottom of the well and through the rock, beneath Lake Ontario's lakebed using a Tunnel Boring Machine; 50 risers, installed in line with the tunnel, for water discharge into the lake; a new canal that will transport treated water from the ABTP to the well.

Once complete, the improved outfall will be able to handle up to 3,923 megaliters per day.

### TECHNICAL/PRODUCTION KPI

**~49,465 m<sup>3</sup>**

total concrete to be poured

**212,480 m<sup>3</sup>**

open excavations

**538,510 m<sup>3</sup>**

underground excavations

### SUSTAINABILITY KPI

**+23%**

improved outfall capacity

**1,400,000**

people served by the plant

# Main Hydraulic works

## United States

Three Rivers Protection & Overflow Reduction Tunnel, Fort Wayne (Indiana)

West Side CSO Tunnel Project  
Portland  
2006

Lake Mead Intake Hydraulic Tunnel, Las Vegas  
2016

Kansas City's Levees Flood Protection Project

Cleveland, OH Dugway Storage Tunnel  
2020

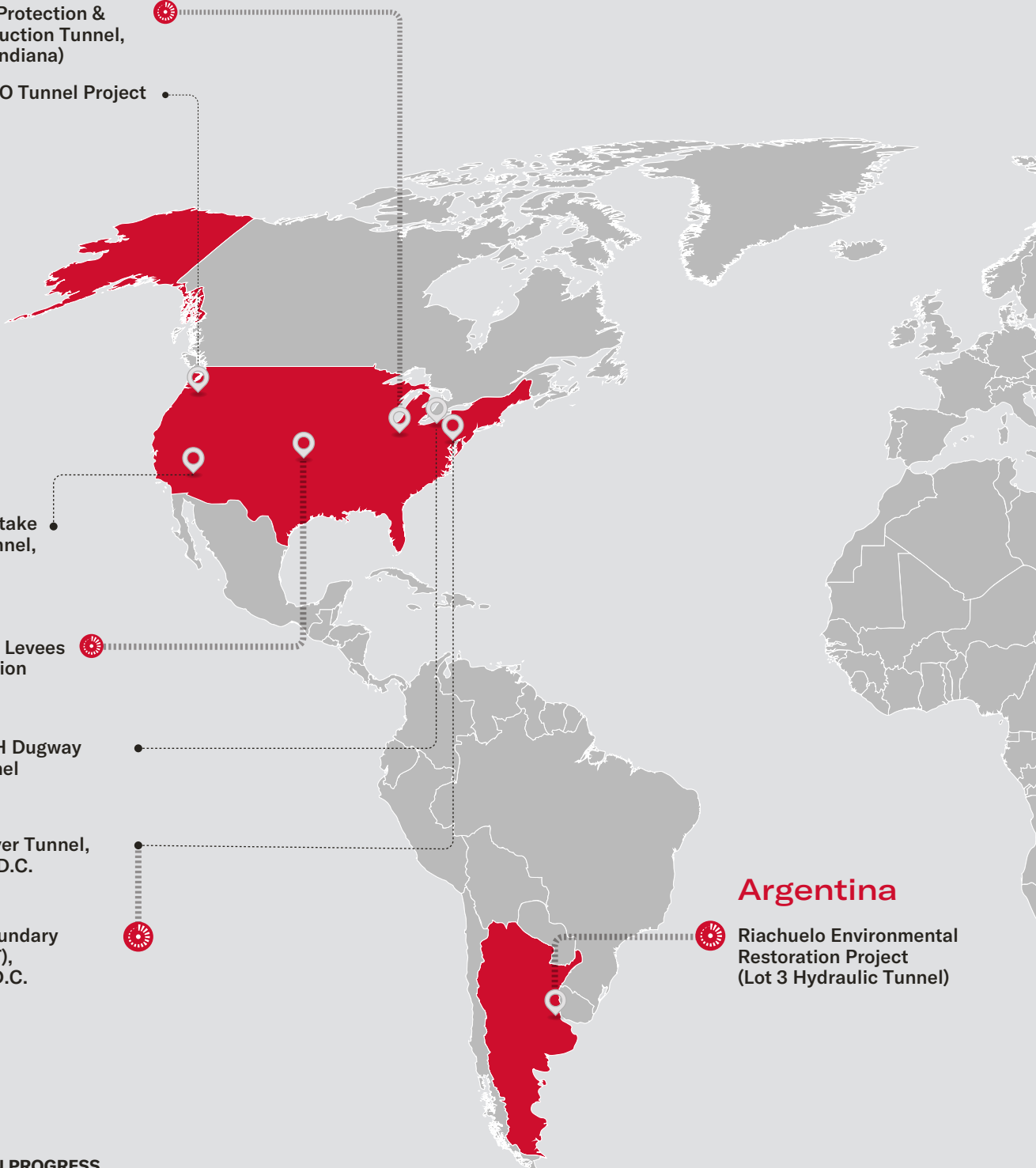
Anacostia River Tunnel, Washington, D.C.  
2018

Northeast Boundary Tunnel (NEBT), Washington D.C.

## Argentina

Riachuelo Environmental Restoration Project (Lot 3 Hydraulic Tunnel)

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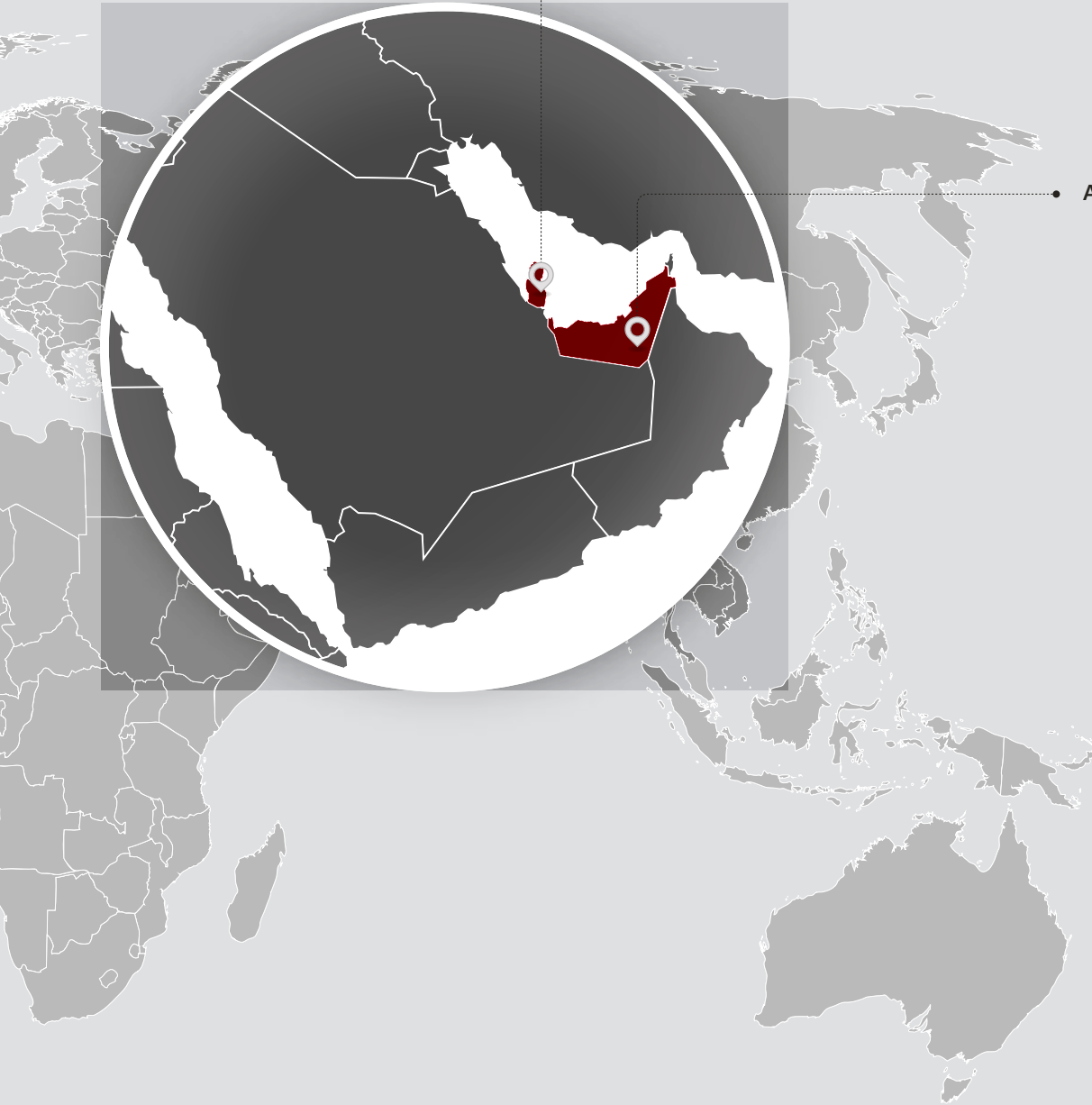


## Qatar

- Abu Hamour Hydraulic Project  
2018

## United Arab Emirates

- Abu Dhabi Deep Sewer Tunnel  
2014





USA

## Northeast Boundary Tunnel (NEBT)

The biggest component of DC Water’s Clean Rivers Project in Washington, D.C.

NEBT - the biggest component of DC Water’s Clean Rivers Project in Washington, D.C. - is a sewer tunnel that will increase the capacity of the District’s sewer system, significantly mitigating the frequency, magnitude and duration of sewer flooding and improving the water quality of the Anacostia River.

The NEBT will run 26,700 feet (8.2 km). It also includes the construction of ventilation control facilities, stormwater inlets, and green infrastructure.

### TECHNICAL/PRODUCTION KPI

**8.2 km**

tunnel length

**27-54 (15-48) m**

depth

### SUSTAINABILITY KPI

**-86%**

chance of flooding in the areas it serves per year

**-98%**

untreated sewage and stormwater runoff (combined sewage) discharged to the Anacostia River per year



## Anacostia River Tunnel

USA

A multi-awarded project to clean Washington, D.C. rivers

The Anacostia River Tunnel project, part of the “Clean Rivers” project of DC Water Authority, involved the construction of a 3.8 km-long hydraulic tunnel which, connected to the district’s network, contributes to reducing the volume of wastewater and runoff that flows into the Anacostia River by 98%. The TBM was fully assembled on the surface and then lowered to the bottom of the shaft by means of an overhead travelling crane and hydraulic jacks, for a total of about 650 tonnes. This solution allowed the machine assembly work to be carried out while other critical processes are under way, thus saving time and resources. In 2017, the project received the Award for Sustainability Initiative of the Year from the “International Tunneling and Underground Space Association”. The use of concrete segments only reinforced with fibres is an innovation for the US, as are several solutions used for the TBM (the vacuum erector system) and the spoils (the overhead travelling crane and electro hydraulic bucket). Innovative gaskets for the precast tunnel lining segments, directly anchoring to the precast segment during casting, therefore saving materials and labour usually needed for post-casting installation.

### TECHNICAL/PRODUCTION KPI

**3.8 km**

tunnel length

**6**

shafts from 9 to 22m in diameter and approximately 30m deep

**1**

soft ground tunnel with a minimum internal diameter of 7m

### SUSTAINABILITY KPI

**-86%**

chance of flooding in the areas it serves per year

**-98%**

untreated sewage and stormwater runoff (combined sewage) discharged to the Anacostia River per year



## Riachuelo Environmental Restoration Project, Lots 2 and 3

ARGENTINA

A sanitation project to ensure a sewer network for more than 4 million people

The Riachuelo system in Buenos Aires is a mega infrastructure and engineering project for the reduction of organic pollution in the Rio de la Plata, where the most contaminated river in Argentina, the Riachuelo river, flows. At 12 kilometres, the project ranks among the 10 longest sub-fluvial tunnels worldwide. The sub-fluvial tunnel will allow for the diffusion of wastewater treated at a new plant and will serve to improve the quality of the water. The tunnel will be connected hydraulically to the river by means of 34 vertical risers to be executed by means of an innovative technology named "Riser Concept". In correspondence of each diffuser, or "Riser", a pair of special rings have been installed to allow in a second phase the vertical jacking of the Riser itself from inside the tunnel. In 2021, the Riser Concept won a prestigious ITA Tunnelling Award as the Technical Innovation of the Year.

### TECHNICAL/PRODUCTION KPI

**314,000 m<sup>3</sup>**

concrete

**19,000 tons**

steel

**900**

employees

### SUSTAINABILITY KPI

**4,300,000**

people in the area

**2,300,000 m<sup>3</sup>/day**

wastewater treated



## Lake Mead Intake Hydraulic Tunnel

USA

The tunnel beneath the lake that provides Las Vegas with fresh water

The project represents one of the greatest challenges in underground works: to quench the thirst of Las Vegas with 4,500,000 m<sup>3</sup> of drinking water and water for domestic use to the urban area of Las Vegas. Water supply is guaranteed even in the case of severe drought.

The work comprised an access shaft, excavated out of the rock on the shore of the lake, about 200 m deep and with an internal diameter of 9.15 m. A tunnel has been constructed at the bottom of the shaft, under the lake bed, approximately 4,600 m long and with an excavation diameter of 7.22 m. The intake structure is located at the end of the tunnel, approximately 100 metres below the surface of the lake, made from a structure in reinforced concrete with a pipe-shaped tubular steel structure on top, with a diameter of 6 m, 30 m high and weighing about 1,250 tonnes.

### TECHNICAL/PRODUCTION KPI

**4.6 km**

tunnel length

**30,000 m<sup>3</sup>**

underwater excavations

**7.22 m**

tunnel excavation diameter

### SUSTAINABILITY KPI

**90%**

Southern Nevada's water comes from Lake Mead

**25,000,000**

people in Nevada, Arizona, and California supplied by Lake Mead water

# Main Irrigation dams

## Italy

Gela Dam,  
Caltanissetta  
1948

Ancipa Dam,  
Enna  
1952

Ridracoli Dam  
1989

Mignano Dam  
1933

## United States

Merriman Dam •  
for Water Supply  
Lackawack, NY  
1950

Neversink Dam •  
for Water Supply, NY  
1950

Manasquan Dam •  
1990

## Morocco

Asfalou Dam •  
2000

## Algeria

Kramis Dam •  
2005

## Spain

Alcantara Dam •  
1968

## Nigeria

Gurara Dam

## Cameroon

Mape Dam •  
1987

## Namibia

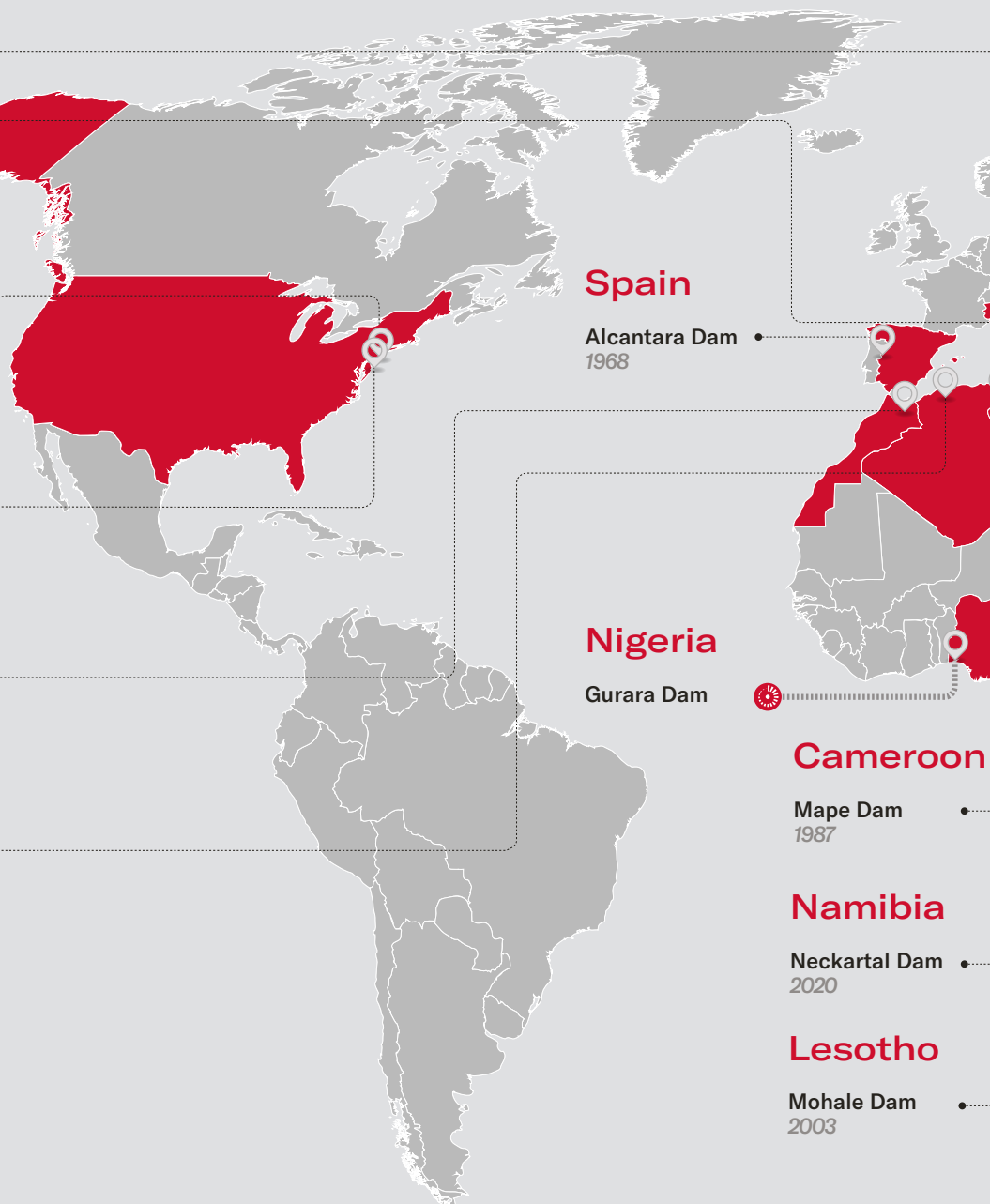
Neckartal Dam •  
2020

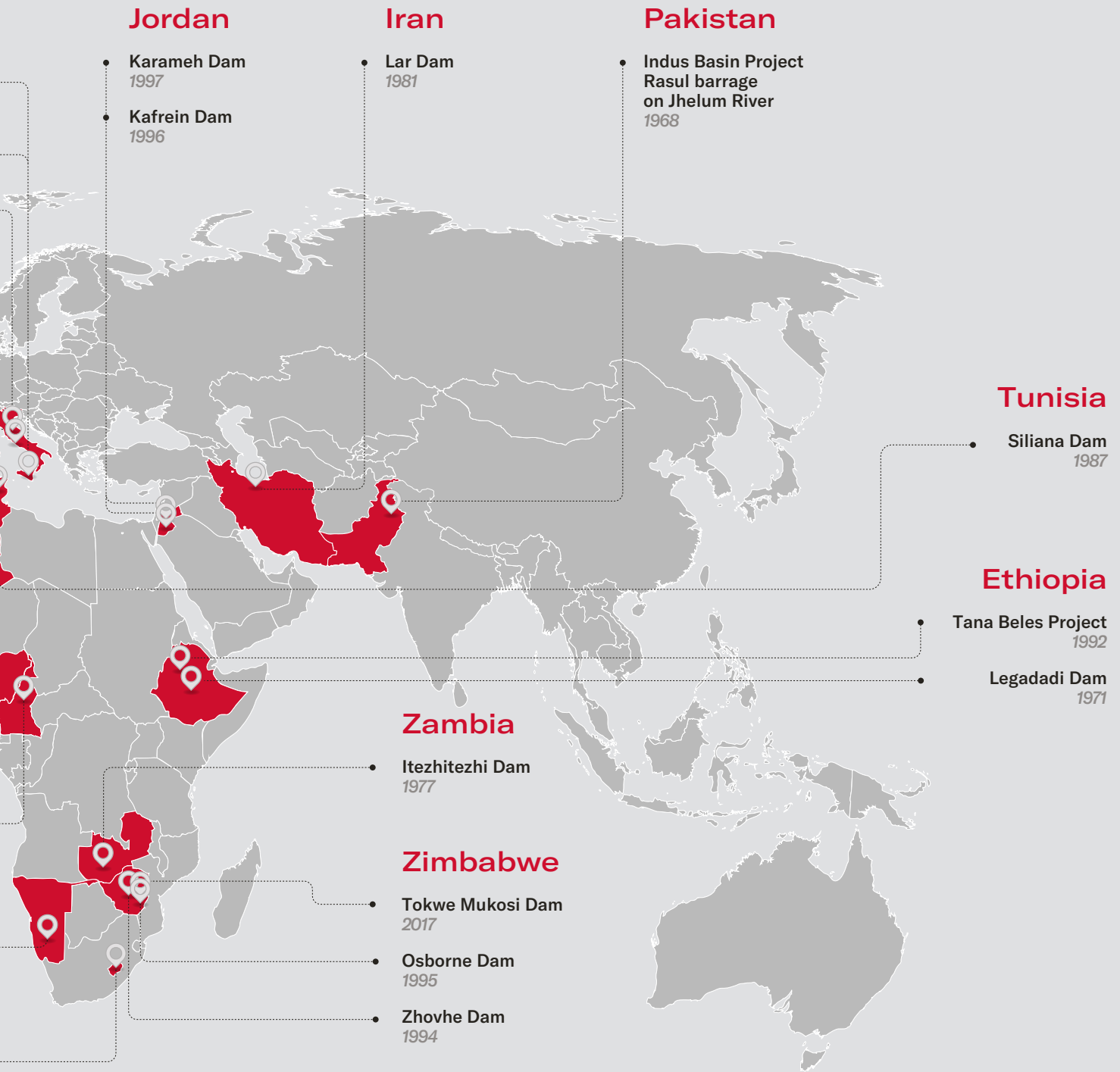
## Lesotho

Mohale Dam •  
2003

 IN PROGRESS

XXXX COMPLETION DATE







## Neckartal Dam

NAMIBIA

Namibia's largest dam to irrigate land for agricultural development

Located in the Karas region along the Fish River in the south of the country, the project is the first phase of the Neckartal Irrigation Scheme. Made from roller-compacted concrete (RCC), 78.5 metres high, 518 metres long and with a volume of 850,000 cubic metres, the Neckartal dam is aimed to harness water from the Fish River to produce energy and create a reservoir with a capacity of 857 million cubic metres, which will irrigate 5,000 hectares of land for the agricultural development of the area.

The project included a crossing 13 km downstream of the dam, 360 metres long and 9 metres high, as well as a pumping station with corresponding intake structures. The water will flow through an 8.7 km steel pipe with a diameter of 1,100 mm to reach a reservoir with a capacity of 90,000 cubic metres, also part of the project.

### TECHNICAL/PRODUCTION KPI

**78.5 m**

dam height

**850,000 m<sup>3</sup>**

dam volume

**857,000,000 m<sup>3</sup>**

reservoir storage capacity

### SUSTAINABILITY KPI

**5,000 hectares**

land irrigated for the agricultural development of the area





## Tokwe Mukosi Dam

ZIMBABWE

### The tallest dam in Zimbabwe

The dam, rising 90 m above its foundation, is the tallest in the country and it creates the largest artificial lake in Zimbabwe. It has a capacity of 1.8 billion cubic meters and the artificial basin is over 40 km in length. The dam, which will be mainly used for irrigation purposes, will irrigate approximately 25,000 hectares of farmland, in the downstream areas, contributing to agricultural development and to the agro-food industry in one of the poorest areas of the country. The project involved the construction of a Concrete Face Rockfill Dam (CFRD). The intake structure comprises a 35-m tower fitted with grilles that directs the water to a 6 m diameter concrete lined tunnel excavated along the left abutment (350 m long) equipped with a regulating tower and two service gates. The water is released into the riverbed throughout two 2 m diameter steel pipelines. There are two morning glory spillways, near the left and right abutments, with a concrete lined outlet tunnel, 6 m in diameter and about 200 m long. Webuild introduced a dedicated Plunge Pool with the aim to increase and guarantee the safety and stability of the dam toe.

#### TECHNICAL / PRODUCTION KPI

**1,800,000,000 m<sup>3</sup>**

reservoir storage capacity

**1,390,505 m<sup>3</sup>**

main dam excavation

**95,000 m<sup>3</sup>**

concrete

#### SUSTAINABILITY KPI

**~25,000 hectares**

farmland irrigated contributing to agricultural development and to the agro-food industry

**BUSINESS**

# GREEN BUILDINGS & OTHER



- Civil & Industrial buildings
- Airports
- Stadiums
- Hospitals

The Group has built all kinds of buildings: civil, institutional, commercial, industrial, cultural, public health, sporting and religious buildings. It has extensive experience in Eco-design & Construction systems, which allow a reduction in the works' environmental footprint over their life cycle.

Its projects include iconic works such as the Stravos Niarchos Foundation Cultural Centre in Athens, the Al Bayt Stadium in Doha, the new ENI offices recently completed in San Donato Milanese (Milan) many of which obtained LEED certification as well as many hospitals built according to the most advanced environmental and sustainability criteria.

The construction of green buildings, i.e., buildings with certifiable sustainability valuation systems (e.g., Leadership in Energy and Environmental Design - LEED) allows both a reduction in the environmental footprint during construction, thanks to

the use of low-environmental impact raw materials and optimisation of production and logistics processes, and maximisation of the building's environmental performance during its lifetime as a result of lower energy and water consumption and less emissions.

The environmental advantages of using Eco-design & Construction systems are measured by comparing them to environmental performances obtained using standard design and construction methods. The Group has found that green buildings generate lower environmental impacts of between 30% and 50%, which can increase if on-site energy generation systems using renewable sources are used. This is one of the reasons why the Group's projects have garnered important accolades at international level for their innovative and environmental sustainability characteristics.

# Main Green Buildings & other

## Italy

Milan Metro  
Line 4 - Stations (n.7 stations and n.1 depot)

New Eni's Headquarters,  
Milan  
2023

Palazzo Lombardia,  
Milan  
2006

Milan Expo  
Fair Centre  
in Rho-Pero  
2005

New Hospital  
in Venezia-Mestre  
("Ospedale dell'Angelo")  
2008

New Auditorium,  
Rome  
2002

New Hospital in Naples  
("Ospedale Del Mare")  
2015

Afragola High-Speed  
Railway Station  
2017

Monopoli-Fasano  
Hospital

Amendola (Foggia)  
Air Base Hangars  
2015

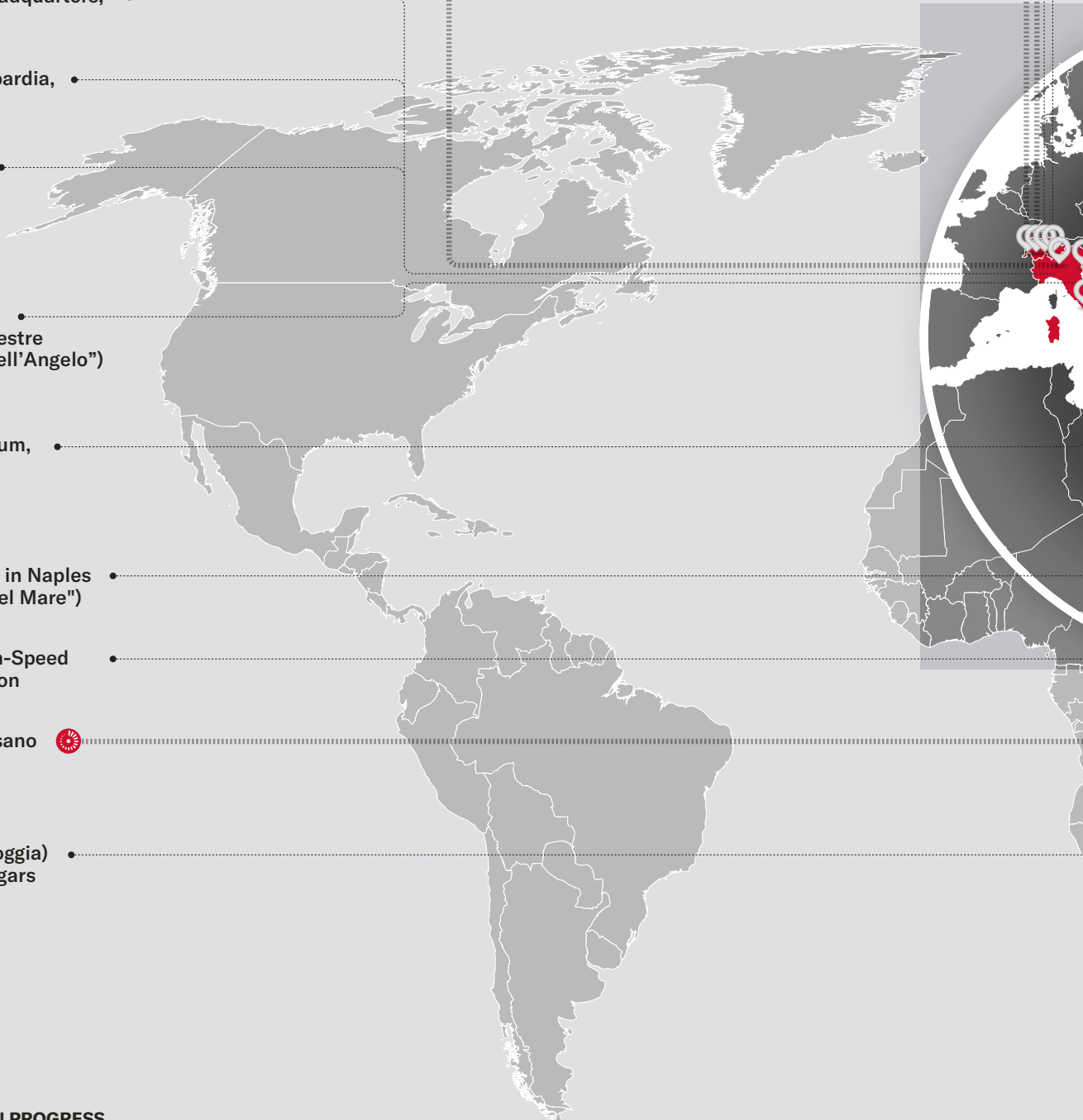
## Switzerland

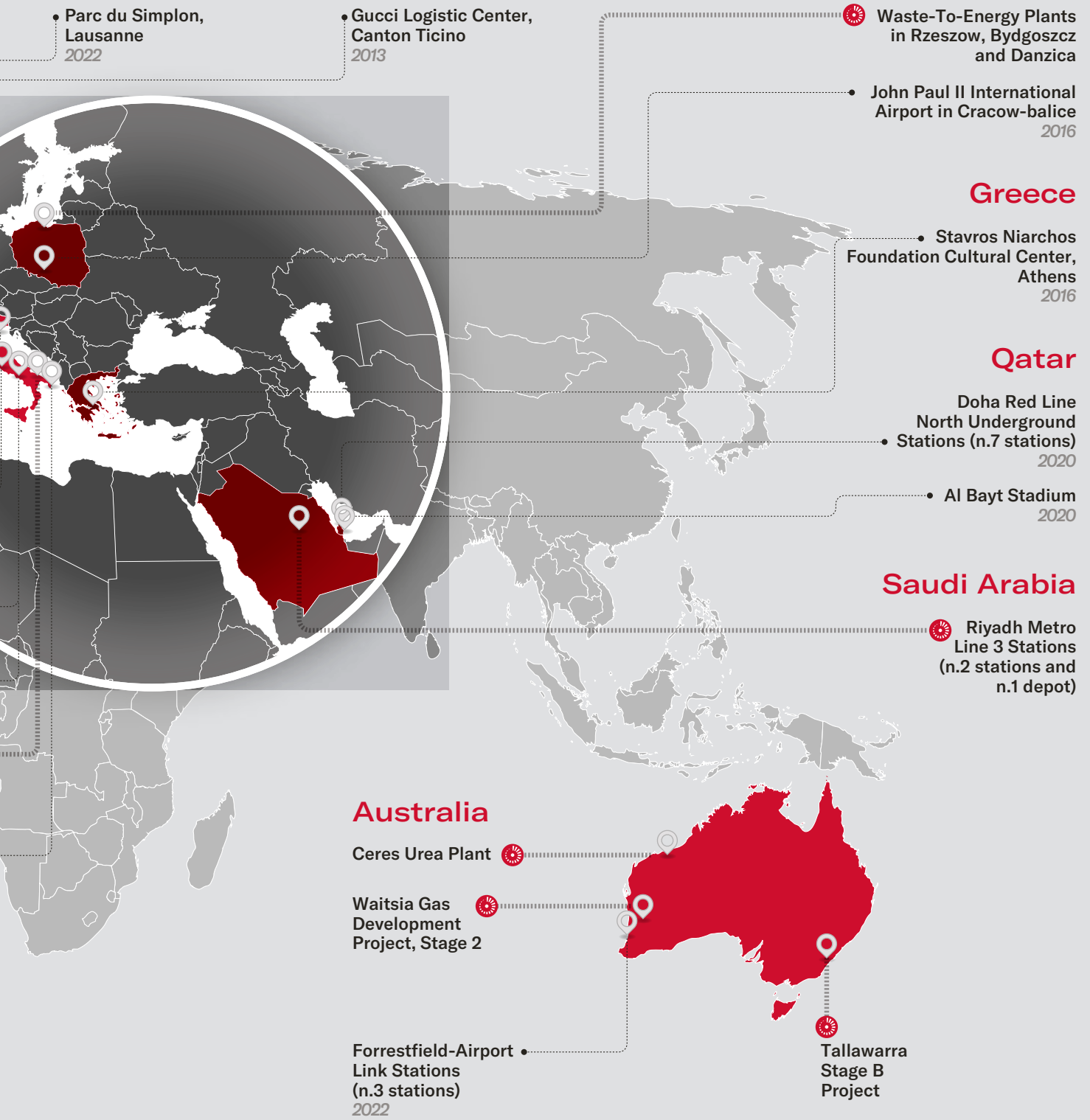
United Nations  
Offices, Geneva

Le Bolle Residence,  
Agno

 IN PROGRESS

XXXX COMPLETION DATE







## Al Bayt Stadium

**QATAR**

A hyper-technological and sustainable “tent” in the desert

A tent in the desert, capable of seating 60,000 spectators. This is the great vision behind the construction of Qatar’s Al Bayt Stadium: one of the most innovative structures, from an architectural and technical point of view, to host the 2022 FIFA Football World Cup matches.

The stadium, located in Al Khor, 40 km north of Doha, just a few kilometres off the coast, is currently considered to be one of the largest sports projects in the world.

It is constructed to have both commercial and recreational activities, making its development sustainable in “non-event” mode. The stadium’s shape, with its almost completely encasing roof, avoids sound being dispersed into the air. Sound is held within the stadium, amplifying fans’ chants.



TECHNICAL/PRODUCTION KPI

---

**286,000 m<sup>3</sup>**

total concrete volume

**52,000 tons**

total steel for reinforced concrete

**30,000 tons**

total steel for covering

SUSTAINABILITY KPI

---

Low-impact construction materials used

Low energy consumption due to tent-shape design

The project received a Class A\* rating from GSAS, Global Sustainability Assessment System



## Stavros Niarchos Foundation Cultural Center

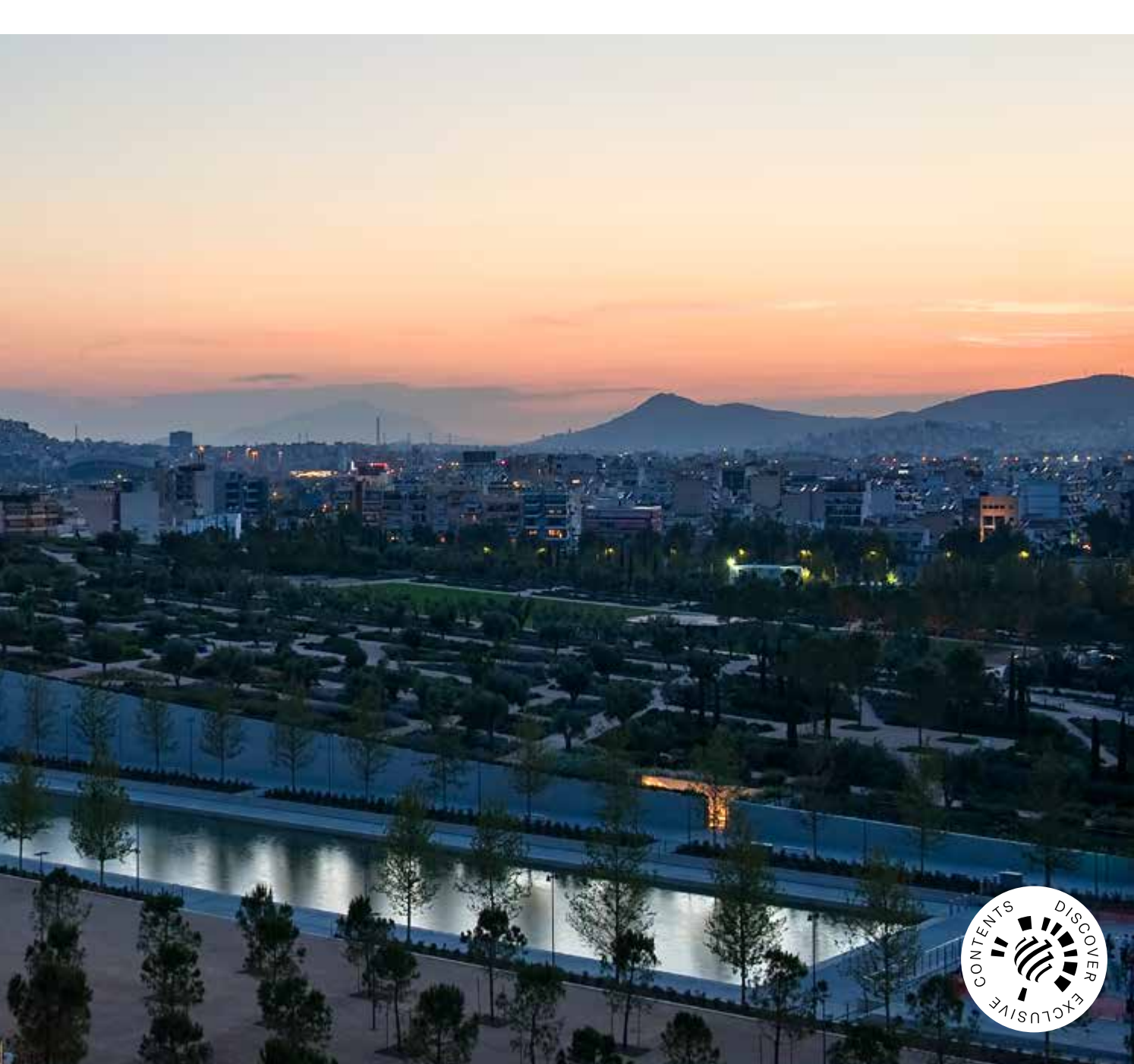
GREECE

An environmentally sustainable cultural center

Designed by the Renzo Piano Building Workshop (RPBW), the Stavros Niarchos Foundation Cultural Center is an ecologically sustainable multifunctional centre over a total area of 210.000 m<sup>2</sup>, largely devoted to a public park.

The Center's roof is without any doubt a key element of the project: an architectural, engineering masterpiece but also so, for the building techniques used. The structure consists of two ferro-cement slabs, which are just a few centimetres thick and that form a kind of shell. It extends over a 10,000 m<sup>2</sup> area. It weighs 3,500 tons and is supported by 30 steel columns with a maximum diameter of 30 cm. The project ambitiously aims at becoming a cultural and artistic reference point in the Greek scenario, but also at a global level.





TECHNICAL/PRODUCTION KPI

---

**230,000 m<sup>2</sup>**

total area

**10,000 m<sup>2</sup>**

energy canopy surface

SUSTAINABILITY KPI

---

**-1,500 tons**

tons of CO<sub>2</sub> emissions per year

**-40%**

energy saving compared to similar buildings

**5,560**

photovoltaic panels



## New ENI Headquarters, Milan

ITALY

An efficient, innovative and environmentally friendly building

The complex consists of three interconnected buildings for a total gross leasable land of 65,000 square metres or a net 57,000 square metres. Three buildings are connected to one another by so-called sky-bridges, 85-metre-long structure weighing a total of 600 tonnes. The project applied standards of energy efficiency and environmental sustainability to meet Gold Leadership in Energy and Environmental Design (LEED), one of the most popular green building certification programs in the world.



#### TECHNICAL/PRODUCTION KPI

---

**65,000 m<sup>2</sup>**

gross leaseable land

#### SUSTAINABILITY KPI

---

Designed to reach LEED Gold certification

High energy efficiency performance



## Monopoli-Fasano Hospital

ITALY

Integration with Italian landscape to give value to a new human dimension hospital

The construction contract of the New Hospital in Monopoli-Fasano (Nuovo Ospedale del Sud-Est Barese), includes all the civil works and all the systems in a new healthcare facility in the Region of Puglia, with 299 beds, 9 surgery rooms and 743 parking places over a total floor space covering 178,000 m<sup>2</sup>. The new hospital area is surrounded by historical dry stone walls and 956 trees creating a wide "filter" strip of agricultural landscape designed to merge the new building in its environment.

### TECHNICAL / PRODUCTION KPI

**55,000 m<sup>3</sup>**

concrete

**157,000 m<sup>3</sup>**

open excavations

**6,500 tons**

steel

### SUSTAINABILITY KPI

**236,000**

people in the catchment area

**299**

hospital beds

**199**

centuries-old trees re-planted in the project Area



ITALY

### Palazzo Lombardia, Milan

A project whose guiding principles are quality, aesthetic appeal and energy saving

Palazzo Lombardia, the new seat of the Lombardy Regional Authority, is a large complex of curvilinear, nine-storey buildings and a 161m, 39-storey central tower. The project, which successfully combined design, innovation and environmental sustainability, was recognized by the Council of Tall Buildings and Urban Habitat of Chicago as the Best European Skyscraper for 2012.

TECHNICAL / PRODUCTION KPI

**94,000 m<sup>3</sup>**  
concrete

**19,000 tons**  
steel

**272,000 m<sup>3</sup>**  
open excavations

SUSTAINABILITY KPI

**6,000 m<sup>2</sup>**  
green areas

**100%**  
heating with ground water

Reduction of emissions thanks to photovoltaic systems on facades and roofs



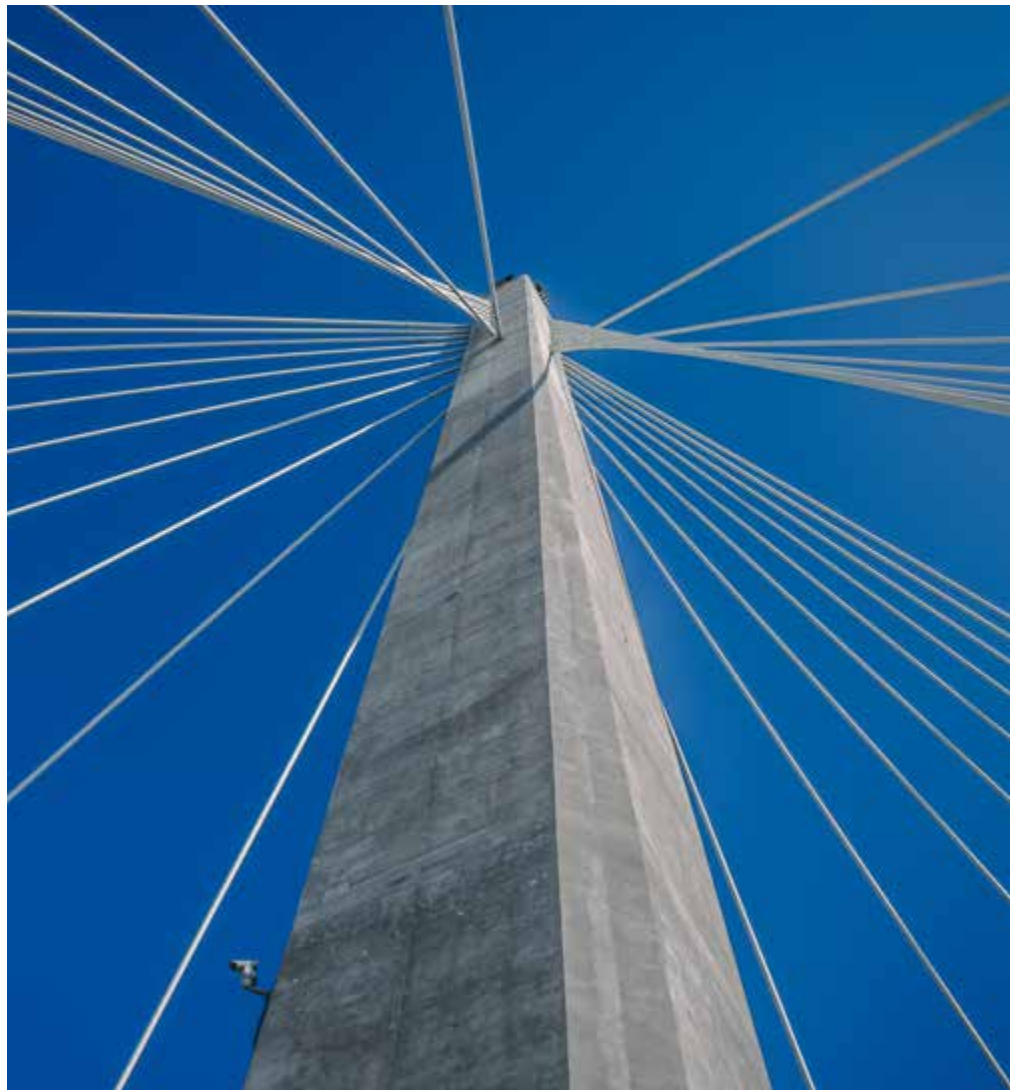
# 07

## INNOVATION



**INNOVATION**

# OUR DRIVERS





- Construction efficiency improvement
- Project-specific challenges overcoming
- Construction risks reduction
- Environmental and safety improvement
- Open innovation through supply chain
- Core processes efficiency boosting

Innovation is the key we use to face global challenges in a sustainable way. Webuild develops technological, contractual and managerial innovations in order to be able to offer high added value services, meeting the global environmental challenges and help its customers move towards sustainable solutions. In 2022, Webuild designed the first Innovation Centre in Lecce (Puglia), aimed at researching and developing multiple complex solutions based on "disruptive" technologies, with the main objective of improving efficiency, sustainability and safety.

### Supply chain

Webuild is investing resources in Open Innovation, to promote the innovation strategy through interaction with external innovation environment, like start-ups, universities and the most innovative companies. Our supply chain, managed through a dedicated Platform, consists of:

- **+19,400 suppliers** from 80 countries,
- **High quality supply base** with average vendor rating index 80/100
- **High innovative suppliers involved in Supplier Meetings** to boost potential innovative proposals within the Group's projects.

### Construction techniques

The Group applies the Lean Construction principles to re-engineer its processes, with a continuous focus on planning and monitoring to improve performance. In recent years the Group worked on some best in class innovative processes/products, from tunnelling to special works. While contributing to improve the Tunnel Boring Machines technique around the world with high-pressures/high-grades/highly-connected TBMs, Webuild is continuing to innovate the tunneling industry developing, for example, innovative methods to install vertical pipes underwater such as the so-called Riser Concept applied in the Matanza – Riachuelo catchment basin in Argentina, or a robotised factory to design, manufacture and position tunnel segments using highly efficient robotic technology that integrates solutions for innovation, efficiency, circular economy, currently serving the railway lines being built in Sicily.

### Digitalization

As a key component of the Group's innovation strategy, digitalization processes entail the development of innovative tools using artificial intelligence (AI) and the

Internet of Things (IoT) to facilitate the processing of big data and making summarized and detailed outputs available in real time throughout the organization. Starting from 2022, the Tunnel WeView system, to assist management, monitor a project's production, safety and environmental aspects and its impact by the real-time collecting, processing, and viewing of operating, energy and environmental data, has been applied in the Snowy 2.0 project.

## **BIM & VDC**

The development of Building Information Modeling (BIM) and Virtual Design and Construction (VDC) approaches, processes and tools allowed the company to implement innovative ways to foresee and optimize construction processes, relying on collaborative, multi-dimensional models shared across the different disciplines involved. In this scope, recent Research & Development activities include AI application to project data, construction *Big Data*, advanced construction simulations, and on-site virtual and Augmented Reality.

## **Innovative materials**

Research on materials is aimed at improving structures' performance, operational efficiency while reducing costs and environmental impacts. In recent years such studies entailed the development of optimized concrete mixes, the development of advanced admixtures and the substitution of high emission cement with equivalent low-carbon materials. Main environmental improvements associated with such innovations include:

→ more than 220,000 tons of cement saved;

→ lower transport costs and associated environmental impacts;  
→ more than 320,000 tons of CO<sub>2</sub> avoided.

## **Energy efficiency**

The Group is investing increasing resources in innovating its energy-intensive processes both through specific projects such as the "Construction 4.0" electrical systems that allows to monitor work sites' electrical parameters and improve energy performances, and by replacing high-consumption processes with more eco-friendly ones. An example is the innovative high capacity conveyer belts developed in Tajikistan for the automated transportation of construction materials, that allows to increase transportation rates while avoiding the use of trucks, so reducing safety risks, fuel consumptions and emissions.

## **HSE innovation**

Webuild, with the aim of continuously improving its safety performance, is also investing in Health and Safety innovation. New technologies and devices, currently already present in other sectors, are also being applied in the construction sector, allowing an increase in security levels, also through a greater perception and awareness of risks. In Genoa, for example, new technologies and devices, currently already present in other sectors, are also being applied in the construction sector, allowing an increase in security levels, also through a greater perception and awareness of risks. On the "San Giorgio" Bridge construction site as well as the Genoa – Milan HS/HC site, integrated Smart Safety systems were tried out and tested in the human-machine interaction, hazardous area perimeter, and suspended load fields.

## Our key numbers for innovation

# €165 mln

investments in innovation 2019–2023

---

# >4,000

engineers worldwide committed to ideating, designing and implementing innovative solutions

---

# ≈480

average annual employees involved in innovation and R&D activities in 2023

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# 08

## PEOPLE



**PEOPLE**

# OUR MAIN ASSET



- Leadership and Development
- Health and Safety
- Diversity and Inclusion
- New Recruits and Professional Training

## Leadership and Development

The Group promotes a culture of leadership with the aim of imbibing a sense of responsibility in every employee and cultivating the next generation of managers. By enabling people to grow, it fosters the necessary skills for the Group to meet its goals. The managerial skills and behaviors required to meet effectively the Group strategical targets are stated in the Group Leadership Framework, which represents a concrete guideline to refer to during daily work and a benchmark for Recruiting and Developing people, according to Company values. Besides, the Group promotes its people's growth through specific development instruments, such as assessment activities, coaching and mentoring and training programs on leadership and managerial skills, such as its internal Global Managerial Academy, a training path, aiming at sustaining and promoting the development of resources in key roles or in growing positions in the whole Group also to build up a strong and consistent Succession Plan to guarantee the business continuity.

## Health and Safety

Focus on occupational health and safety is one of Webuild's core values and part of our DNA.

Starting from a clear commitment, the Group has implemented effective management and cultural change programmes to ensure the protection and well-being of its employees, both office staff and workers on site.

The Employer and downstream (in line with the Organization Chart and the related proxy system) the managers, supervisors and workers ensure that the health and safety management measures are in place.

Specialist teams supports and oversee the implementation of the measures in each operating unit.

Particular attention is given to employee training on specific duties and operating controls over work processes, performed either directly by the Group's employees or subcontractors' staff.

### **Valyou Our Health and Safety Way**

The roll-out of the Safety Builders Program, launched in December 2017, and continuously implemented in all new Projects, aims to encourage a strong corporate safety culture, based on

strengthening leadership abilities at all management levels. A Safety Culture where everyone has the right and the responsibility to intervene, where there is no fear in speaking up. Speaking up is expected, both to correct unsafe behavior and to provide positive feedback on safe behaviour.

It is part of Webuild’s more wide-reaching communication strategy, the “Valyou - Our Health and Safety Way” project, recognised in 2020 with Gold Award by RoSPA (Royal Society for the Prevention of Accidents).

As an integral part of the Valyou - Our Health and Safety Way, Webuild continues to promote its “Lifesaving Rules” a set of operating and management rules devised to integrate the cultural change process commenced with the Safety Builders Program and to encourage active involvement.

From 2020 to 2023, over 2 million training hours on occupational safety were provided.

The Company’s main workplaces celebrate the World Day for Safety and Health at Work (“WSD”) on 28 th of April, starting from 2016 and in line with the International Labour Organisation (ILO).

### Safety performance

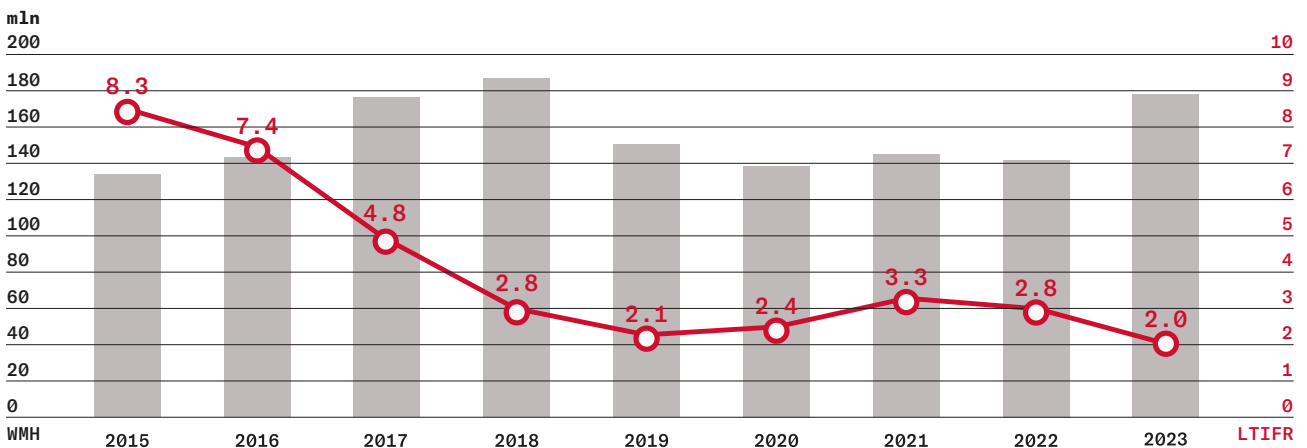
The Group's safety performance trend is continuously improving.

In 2023, the Group achieved the injury reduction target set by the ESG Plan of -40% compared to 2017.

Over 90% of the 2023 construction backlog of the Group contributed to reaching the sustainable development goals (SDGs) set by the United Nations. And among the other results, at the end of 2023, the Group managed to reduce the level of its emissions (Scope 1&2) by 67% compared to the 2017 baseline.

LTIFR Lost time injury frequency rates

PER MILLION WORKED MAN-HOURS





## ValYou Our Health and Safety Way



### Safety Builders Program 2018–2023

- 58 worksites and offices
- 677 workshops and training sections
- 11,800 managers and supervisors involved
- +45,000 training hours

### World Safety Days 2016–2022

- +34,000 participants
- 220 worksites
- +2,000 photos
- ~250 videos



### Internal communication 2018–2023

- 50 countries
- +31,500 employees reached
- 18 released videos
- +16,000 delivered communication materials
- 133 collected stories of Valyou
- 10 languages

**#1**

among European peers based on 2019 LTIFR data

**618,000**

hours of health and safety training in 2022

**-58%**

of the LTIFR index (2023 vs 2017)

**11,800**

employees involved in our Safety Builders programme

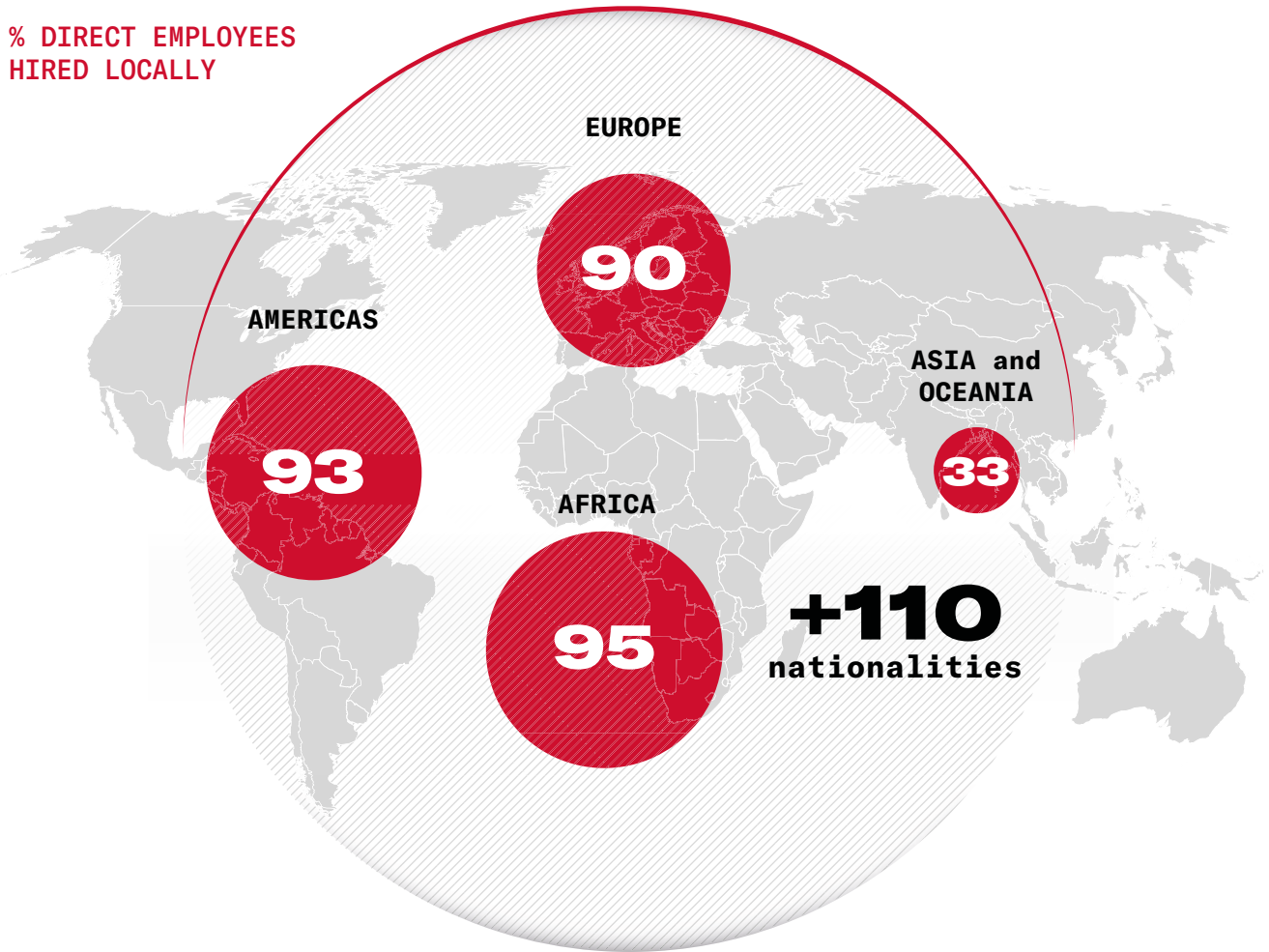


## Diversity and Inclusion

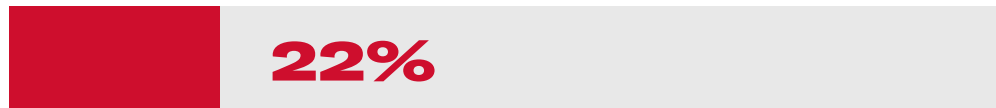
Webuild fosters an inclusive workplace, by promoting a culture which embraces and values all forms of diversity and recognizes diversity as a competitive advantage that enables the Group to grow, create synergies and better adapt to the challenges of the countries and geographies in which it operates.

The Group conducts its business by providing a working environment where all employees feel included, valued and free to bring their different skills, experiences and perspectives. We value and encourage diversity and inclusion of gender, age, culture and background through our *“Equality, Diversity and Inclusion Policy”* and throughout specific training, communication and development programs and initiatives.

**% DIRECT EMPLOYEES HIRED LOCALLY**



**INTERNATIONAL KEY POSITIONS**

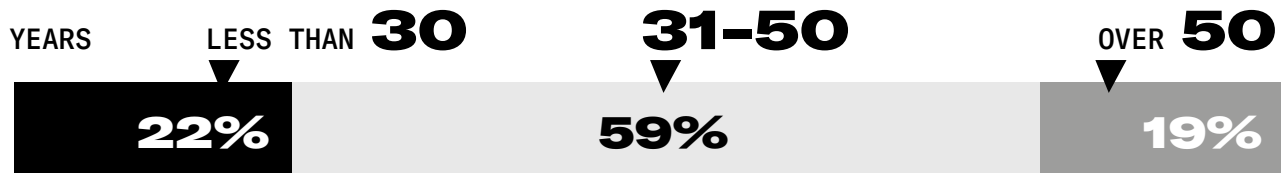


**% LOCAL MANAGERS**



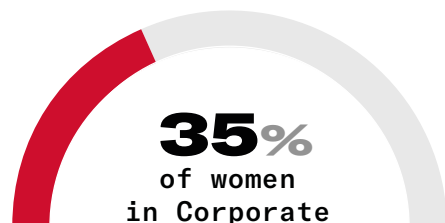
**AGE DIVERSITY**

**39** years **AVERAGE AGE**



**FEMALE REPRESENTATION**

**40%** Women in the Board of Directors Webuild



\*Data up to December 31, 2023

## **New Recruits and Professional Training**

In recent years Webuild has been attracting Executives and Managers coming from international competitors as well as from other industries, to build up a multicultural and cross industry leadership to lead the company through change. Looking for best talents and best practices on a global scale is what inspires the Group recruiting, together with diversity and integrity as core values for assessing candidates.

Early career initiatives are a strategic tool for attracting new talents, but also a very to convey our values and the principles in which we believe.

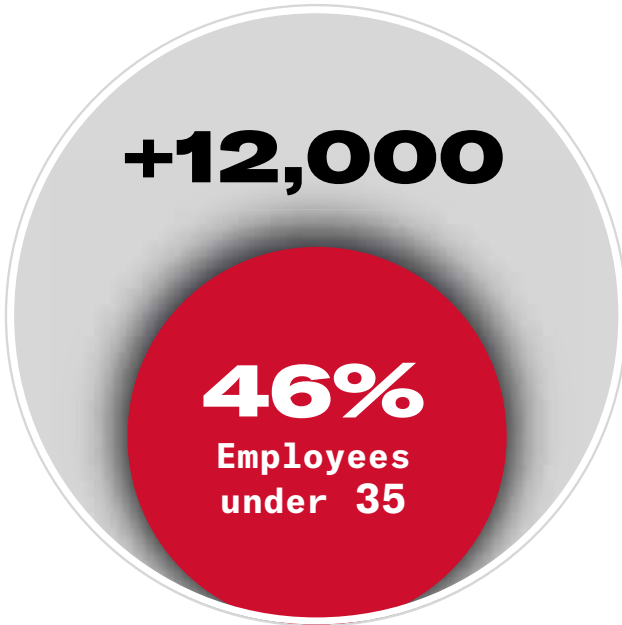
Webuild programmes offer an opportunity to young people for training and guidance. We collaborate with 18 of the best universities in Italy and around the world and we have also activated several scholarship programmes focused on Diversity and Inclusion as well as STEM and Innovation.

Young People initiatives, part of the Webuild Next-Gen Programme, include two new projects: the Alberto Giovannini Award - dedicated to undergraduates, new graduates and Italian universities (within the faculties of Engineering, Economics and Informatics promoting innovation and research in infrastructure and the UniWeLab Hackathon aimed at identifying innovative, creative, and smart proposals for sustainable mobility.

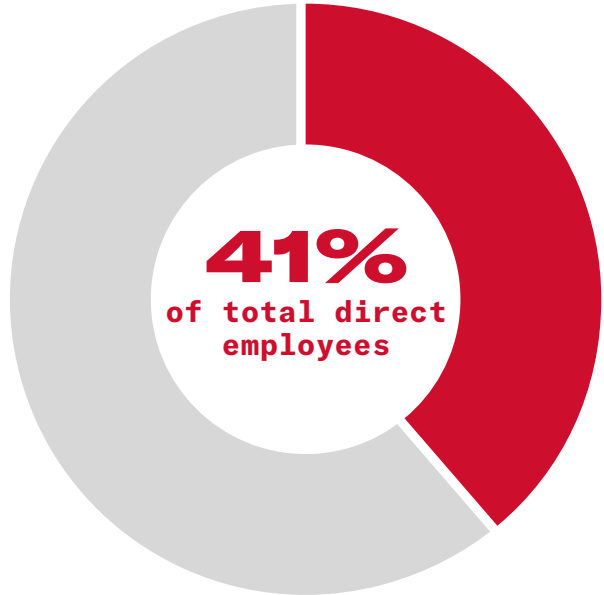
Both programmes are strictly related to the research.

In 2021 Webuild launched the “Scuola dei Mestieri” a Trade School for vocational training in construction, totally dedicated to training specialized personnel. In 2023, it launched “Cantiere Lavoro Italia”, a training programme that foresees the Group hiring 10,000 people and training 3,000 of them, in house, by 2026.

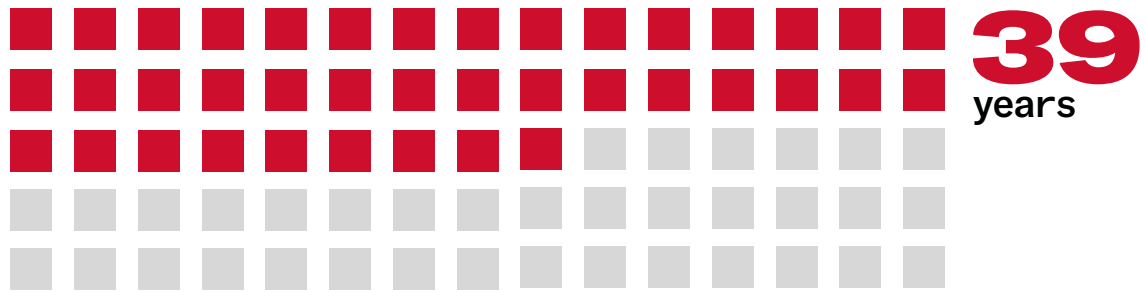
### New hirings 2023



### Employees under **35**



### AVERAGE AGE



\*Data up to December 31,2023





09

HERITAGE

**HERITAGE**

# OUR HISTORY

Webuild's history dates back to 1906 with the establishment of two predecessors in Italy: the Girola and Lodigiani companies. Along with the Salini family 30 years later, they contributed to the development of the country's infrastructure backbone. Subsequent generations would see them join forces to become one of the leading infrastructure groups in the world, culminating in the creation of Salini Impregilo in 2014.

In fact in 2011 Salini Costruttori began purchasing ordinary shares of Impregilo and in 2012, as a result of one of the most notable proxy battles in Europe, with the support of individual and institutional investors and activists, Salini designed 14/15 members of Impregilo Board of Directors. This was

followed by a voluntary public tender offer promoted by Salini and concluded in April 2013, leading to the acquisition of Impregilo in 2014.

The acquisition of Lane Construction later saw the group expand in the United States. More recently, Progetto Italia, the industrial plan aimed to consolidate the construction sector and create an even bigger group, with the entry of Astaldi, Cossi and Seli. The recent acquisition of Clough in Australia has enabled the Group to reach a more ambitious level of scale, skills and technology.





# Our corporate journey

## 1906

Girola and Lodigiani create their respective companies

## 1929

"Impresit"- Imprese italiane all'estero - is established

## 1936

Pietro Salini starts up his own activity, Salini Costruttori

## 1956

Impresit, Girola, Lodigiani and Torno work together to build Kariba Dam

## 1959

Cogefar Costruzioni Generali Farsura S.p.A. is established

## 1960

Impregilo S.p.A. (Impresit - Girola - Lodigiani) is established

## 1982

100% of the American company S.A.Healy is bought

## 1989

Cogefar Impresit S.p.A is born from the merger between Cogefar S.p.A. and Impresit S.p.A

## 1994

Impregilo S.p.A. is born from the merger among Cogefar Impresit, Girola, Lodigiani and Impresit Girola Lodigiani

## 1998

Impregilo S.p.A. acquires Fisia S.p.A. on 14th July



## 2009

Salini Costruttori acquires Todini S.p.A.

## 2011

Salini Costruttori began purchasing ordinary shares of Impregilo

## 2014

Salini Impregilo Group is born from the merger between the two companies

## 2016

Salini Impregilo acquires 100% of Lane Construction

## 2019

Progetto Italia \* is announced to launch one of the largest international construction groups

## 2019

Salini Impregilo starts acquisition of Cossi and Seli

## 2020

Salini Impregilo becomes Webuild

## 2021

Webuild completes the acquisition of Astaldi

## 2023

Webuild completes acquisition of Clough assets

# Main completed projects

**ITALY**

Simplon  
Railway Line



**1911**

**ITALY**

Morasco  
Dam



**1936**

**SWITZERLAND**

Val di Lei  
Dam



**1957**

**COLOMBIA**

Chivor  
Hydroelectric  
Project



**1970**

**LESOTHO**

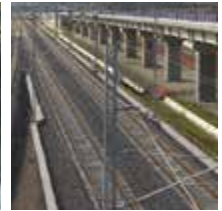
Katse  
Dam



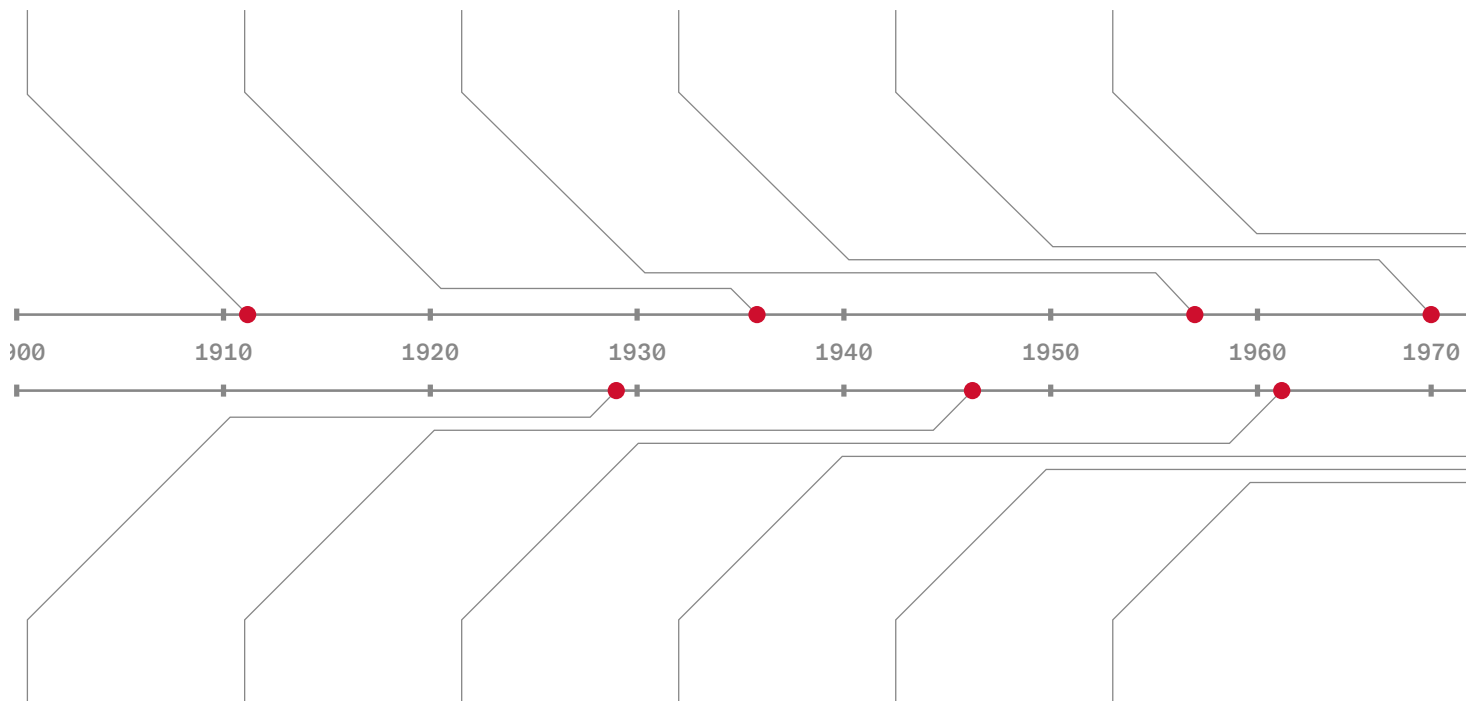
**1991**

**ITALY**

Turin-Milan  
High Speed  
Railway



**2009**



**1926**



**ITALY**

Mignano  
Dam

**1946**



**ITALY**

Viaduct  
of Recco

**1961**



**GHANA**

Akosombo  
Hydroelectric  
Plant

**1982**



**CANADA**

James Bay Project  
La Grande River  
Dam and Plant

**2006**



**U.S.**

Portland West Side  
CSO Tunnel  
Project

**2012**



**UAE**

Jebel Ali M  
Desalination Plant

**ITALY**

Naples Underground Line 1



**2013**

**POLAND**

Warsaw Underground Line 2



**2015**

**U.S.**

Lake Mead Intake 3 Hydraulic Tunnel



**2016**

**AUSTRALIA**

Sydney Metro Northwest



**2018**

**ITALY**

New Genoa Bridge



**2020**

**AUSTRALIA**

Forrestfield Airport Link Perth



**2022**

1980

1990

2000

2010

2020

**2014**

**2016**

**2017**

**2019**

**2021**

**2023**



**UAE**

Abu Dhabi Deep Sewer Tunnel



**PANAMA**

New Panama Canal Expansion



**ZIMBABWE**

Tokwe Mukosi Dam



**DENMARK**

Cityringen Metro Line



**QATAR**

Al Bayt Stadium



**ROMANIA**

Braila Bridge



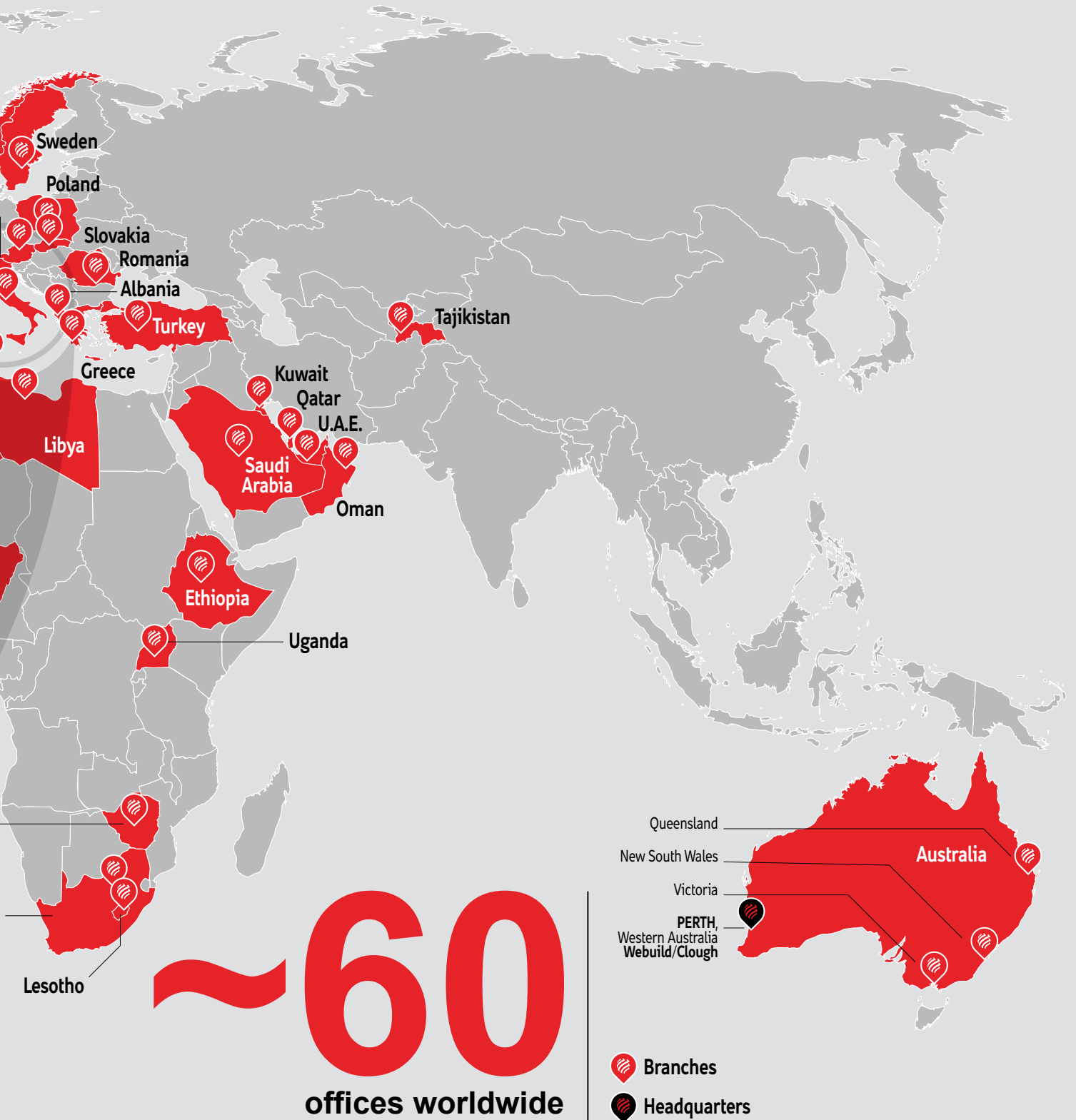


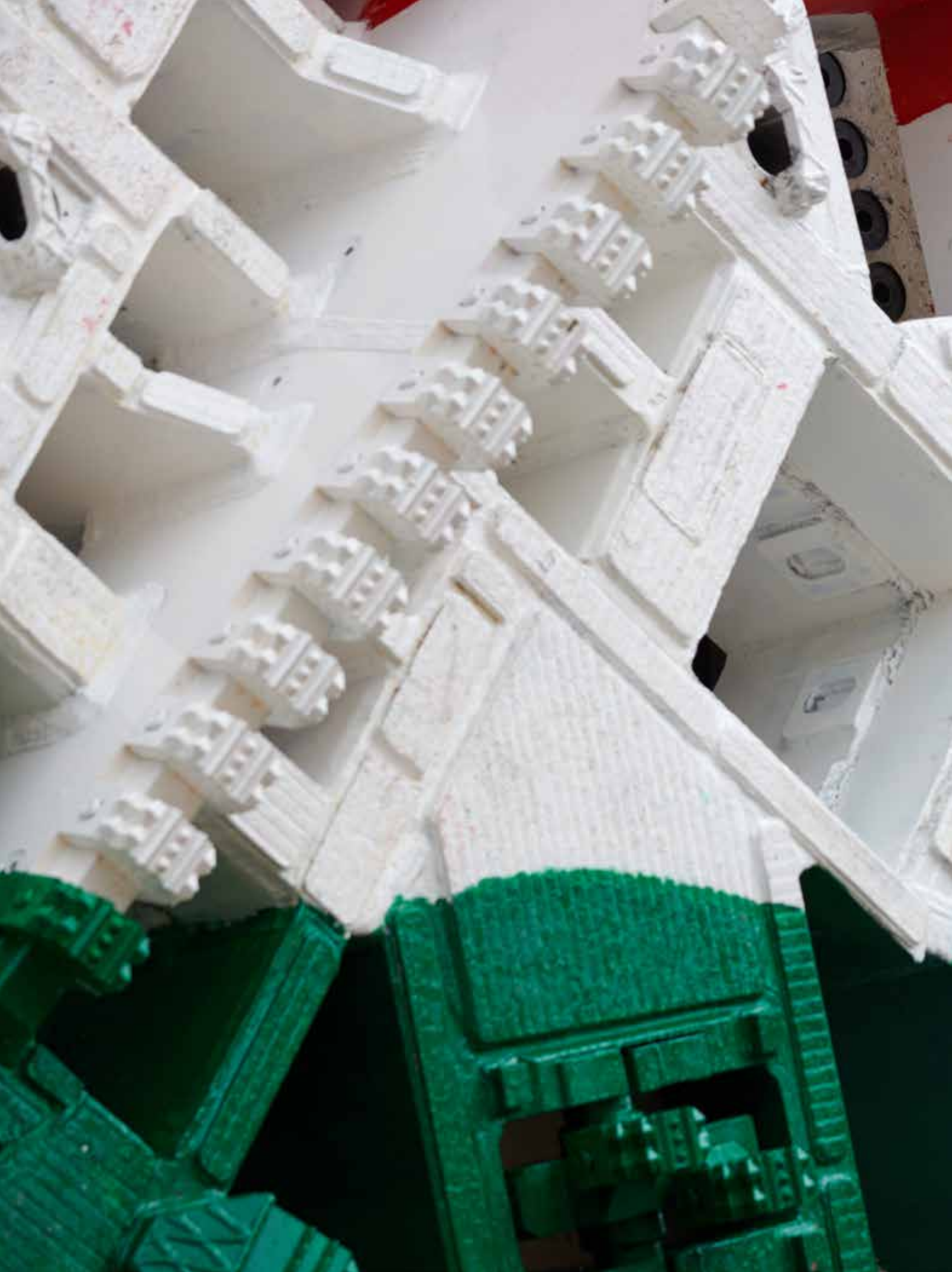
# 10

## LANDSCAPE

# Global footprint











**Webuild S.p.A.**

www.webuildgroup.com

www.webuildvalue.com

**Project coordination**

Webuild Corporate Identity, Communication and Institutional Affairs

**Credits**

Webuild Image Library

**Photos by**

Moreno Maggi for Webuild

Edoardo Montaina for Webuild

Filippo Vinardi for Webuild

**Graphic concept**

Leftloft, Milan

**Data Visualization and Augmented Reality**

Viewtoo, Milan

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