



2016

FACTS &
FIGURES



TABLE OF CONTENTS

// Who we are		3
	Profile	3
	Management team	4
	Essentials	6
// Where we operate		8
// What we do		10
	Transport infrastructures	10
	Energies and oil & gas	19
	Buildings and functional structures	23
	Hydraulic infrastructures	27
// What drives us		34
	Human resources	34
	Safety	36
	Engineering	38
	R&D and innovation	40

PROFILE

VINCI Construction Grands Projets is a subsidiary of VINCI, a global player in concessions and construction.

We are part of a lineage of companies that have been operating for over 100 years and whose names are associated with landmarks in France and around the world.

We design and build major civil engineering structures and buildings:

- > transport infrastructures – bridges and viaducts, underground works, linear surface works, marine works;
- > mining infrastructures – access tunnels, earthworks, underground and open-pit work, civil engineering;
- > energies and oil & gas – LNG tanks, thermal and nuclear power plants;
- > buildings – office and residential towers, car parks, airports, administrative and cultural facilities;
- > hydraulic infrastructures – dams, pumping and wastewater treatment stations, water distribution and evacuation;
- > environment – drinking water supply and sanitation systems, technical landfill centres.

To carry out these major projects and fulfil our vocation, our teams make use of specialized expertise in project management, construction and engineering, relying on a network of shared experience that allows them to address quickly project risks. Whenever possible, we work in close partnership with local companies to find solutions that are comprehensive yet specifically tailored to the needs of each client, in both the private and public sectors.



We put our teams' knowledge and skills, experience, and capacity for innovation in the service of our clients to create together major structures for the sustainable development of territories. The safety of worksite personnel, people living near the site, and future users is our top priority in delivering projects of the highest standard.

Alain Bonnot, Chairman and CEO



MANAGEMENT COMMITTEE

FROM THE TOP DOWN AND LEFT TO RIGHT

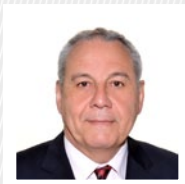
- // **Philippe Masselot**, Chief Financial Officer
- // **Arnaud Breil**, Quality, Safety, Health, Environment and Information Systems Director
- // **Philippe Tavernier** (February 2017), CEO QDVC
- // **Gilles Dumoulin**, Projects' Director
- // **Jean-Luc Toris**, Engineering & Technical Capabilities Director
- // **Yanick Garillon**, Director Asia, Building and Water works
- // **Guillaume Feld**, Legal Counsel
- // **Stéphanie Malek**, Communications Director
- // **Patrick Kadri**, Deputy Chief Executive Officer (January 2017), and Director France, Mediterranean Europe, Africa, Near East & LNG tanks
- // **Alain Bonnot**, Chairman and Chief Executive Officer
- // **Éric Chambraud**, Director British Isles, Northern Europe, Americas, Russia & underground works
- // **Patrick Béchaux**, Human Resources Director



AREAS MANAGERS



Alexandre Ambrosini
Building & International
QDVC



Philippe Athuyt
France and overseas
French territories



Jean-Luc Audureau
Latin America, Carribean &
underground works



Sébastien Bliaut
Northern Europe



Pierre Bourgeois
Hong Kong



Hosni Bouzid
Mediterranean Europe &
LNG tanks



Éric Coppi
Arabian Gulf



Jean-Pierre Dauban
Africa, Near East &
Chernobyl



Guenther Hailmayer
Infrastructure, QDVC



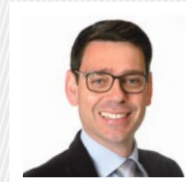
Hakim Naceur
Russia



Michel Oliveres
Southeast Asia



Thierry Portafaix
North America



Lionel Ravix
British Isles



**Jean-Philippe
Raymond-Bertrand**
Buildings



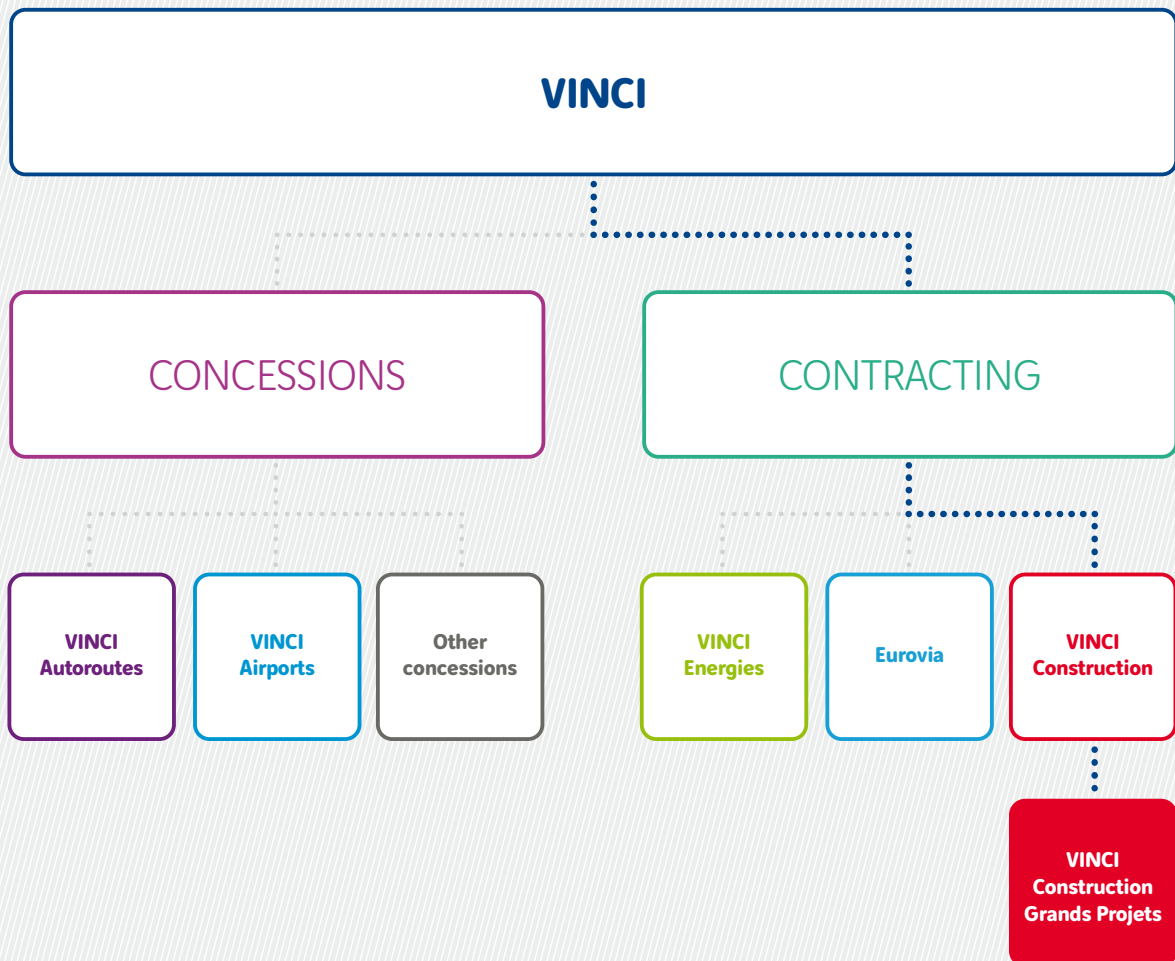
Julien Rayssiguier
Water works

At December 31, 2016 (including joint ventures)

ESSENTIALS

VINCI is a global player in concessions and construction, employing more than 183,000 people in some 100 countries.

Its mission is to design, finance, build and operate infrastructure and facilities that help improve daily life and mobility for all.



○ 183,487

○ 67,000

● **7,328**

**EMPLOYEES
WORLDWIDE**

○ € 38.1 bn

○ € 13.7 bn

● **€ 1.4 bn**

OF REVENUE

○ € 4,174 M

○ € 330 M

● **€ 42.5 M**

**OF OPERATING INCOME
FROM ORDINARY ACTIVITIES**

○ € 27.4 bn (Contracting)

○ € 15.9 bn

● **€ 2.6 bn**

ORDER BOOK

○ 270,000

○ 24,343

● **71**

PROJECTS

● **€ 486.2 M**

CASH

○ figures VINCI

○ figures VINCI Construction

● figures VINCI Construction Grands Projets

CURRENT WORKSITES

TRANSPORT INFRASTRUCTURES

Bridges and viaducts

- 1 // Atlantic bridge, **Panama**
- 2 // Viaduct of the New Coastal Road, Reunion Island, **France**

Underground works

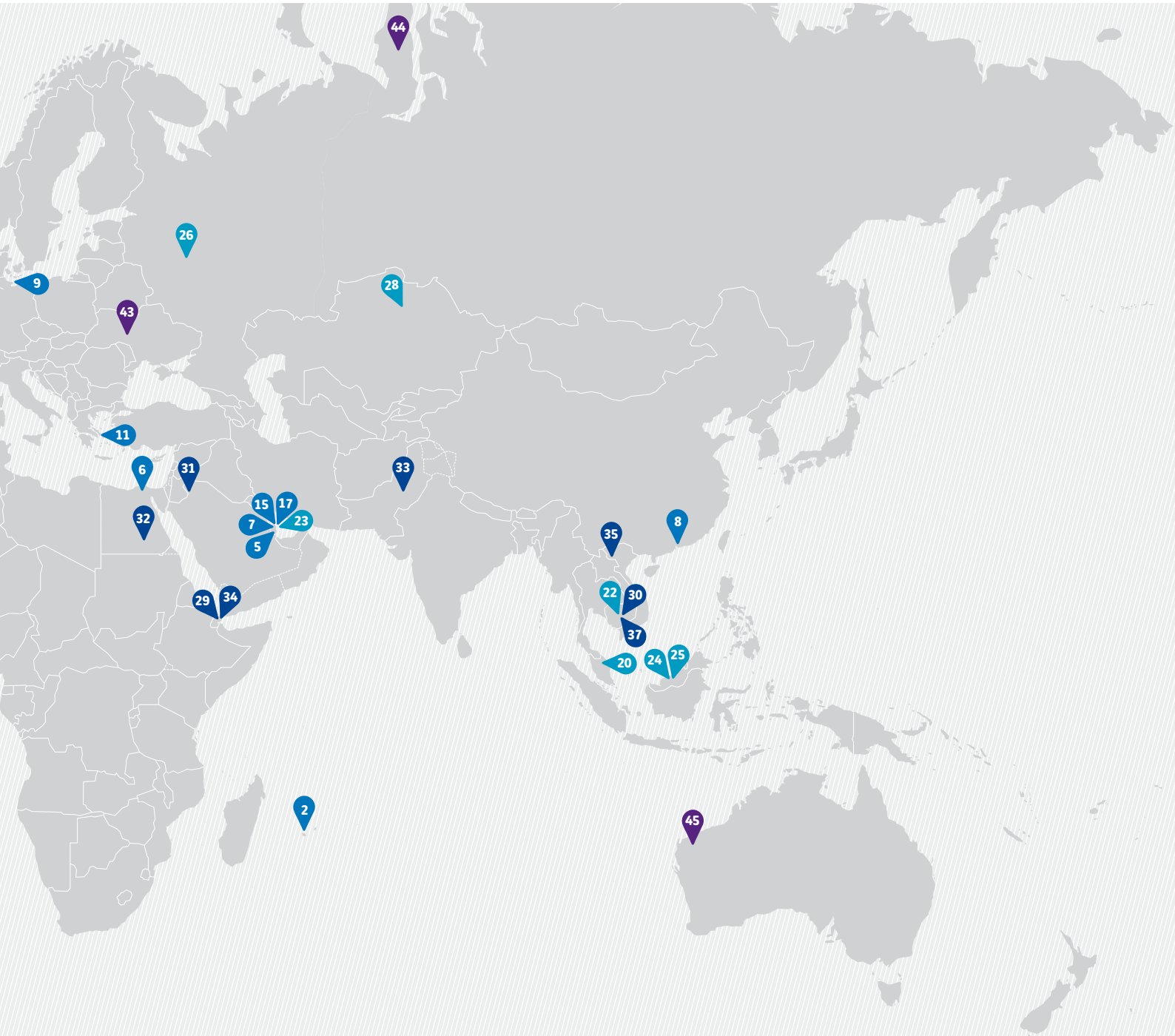
- 3 // Crossrail C510, Liverpool Street and Whitechapel station tunnels, London, **United Kingdom**
- 4 // Crossrail C512, Whitechapel station, London, **United Kingdom**
- 5 // Doha metro, Red Line South, **Qatar**
- 6 // Cairo metro, line 3, phases 3 & 4B, **Egypt**
- 7 // Lusail, Light Rail Transit phases 2C, **Qatar**
- 8 // New metro line, Shatin to Central Link, packages 1103 & 1122, **Hong Kong**
- 9 // Fehmarnbelt Tunnel, **Denmark-Germany**
- 10 // EOLE - CNIT station, Paris - La Défense, **France**

Motorways and railways

- 11 // Motorways, **Greece**
- 12 // M4 Relief Road motorway, **United Kingdom**
- 13 // M5 (Smart Motorway), **United Kingdom**
- 14 // South Europe Atlantic high-speed rail line, Tours-Bordeaux, **France**
- 15 // New Orbital Highway, Doha, **Qatar**
- 16 // Ohio East End Crossing, **United States**
- 17 // A12 road, CP01, Lusail, **Qatar**
- 18 // Bogota Girardot Highway, **Colombia**
- 19 // Linea Amarilla (Parque Rimac), Lima, **Peru**

BUILDINGS AND FUNCTIONAL BUILDINGS

- 20 // Berjaya Central Park, Kuala Lumpur, **Malaysia**
- 21 // Extension of Santiago airport, **Chile**
- 22 // Extension of Phnom Penh airport, **Cambodia**
- 23 // Lusail car parks, **Qatar**
- 24 // Alila Resort, Kota Kinabalu, **Malaysia**
- 25 // Jesselton Towers, Kota Kinabalu, **Malaysia**
- 26 // Joukovka villa, **Russia**
- 27 // Mandarin Oriental hotel, London, **United Kingdom**
- 28 // Astana Oncology Hospital, **Kazakhstan**



HYDRAULIC INFRASTRUCTURES

- 29 // Improvement of drinking water and sewer networks, **Djibouti**
- 30 // Extension of Niroth water treatment plant, **Cambodia**
- 31 // Yarmouk water-network modernization, **Jordan**
- 32 // New Assiut dam, **Egypt**
- 33 // Improvement of water supply in Faisalabad, **Pakistan**
- 34 // Upgrading drinking water supply network, phase II, **Djibouti**
- 35 // Wastewater drainage and treatment, Thai Nguyen, **Vietnam**
- 36 // Boscobel-Elletson wastewater treatment plants, **Jamaica**
- 37 // Wastewater treatment plants for the Phnom Penh and Siem Reap international airports, **Cambodia**
- 38 // Sewer systems in five cities, **Dominican Republic**
- 39 // Tideway, package East, C415, London, **United Kingdom**
- 40 // Shieldhall tunnel, Glasgow, **United Kingdom**
- 41 // Extension of Kingston container terminal, **Jamaica**



ENERGIES AND OIL & GAS

Nuclear

- 42 // Tokamak reactor building, ITER project, Caradache, **France**
- 43 // Chernobyl New Safe Confinement, **Ukraine**

Liquefied natural gas (LNG) tanks

- 44 // Yamal LNG, **Russia**
- 45 // Wheatstone project, **Australia**

SOUTH EUROPE ATLANTIQUE HIGH-SPEED RAIL LINE TOURS-POITIERS, FRANCE

PUTTING BORDEAUX A MERE TWO HOURS BY TRAIN FROM PARIS: STARTING IN 2017!

« Only superlatives come to mind when
you consider the LGV SEA project. »

François Hollande
at the inauguration ceremony held
on February 28, 2017

Europe's largest rail project is under way. The 300 km high-speed link between Tours and Bordeaux encompasses 500 standard and non-standard engineering structures, including 24 viaducts and six covered trenches. The rail line crosses three regions, six departments, and 113 communes as well as 14 "Natura 2000" sites that provide habitats to 220 protected wildlife and plant species. At peak activity in summer 2013, the project employed more than 8,500 people. The first commercial train travelling at 320 km/hr will enter into service on July 2, 2017!

**37 MILLION
WORK HOURS**

without a severe accident including more than 26 million hours on infrastructure works, a performance praised by VINCI CEO Xavier Huillard during the inauguration ceremony.



THE NEW COASTAL ROAD VIADUCT

LA RÉUNION, FRANCE

A ROADWAY IN THE OPEN SEA TO SECURE A VITAL TRADE ROUTE

A 5,400 m viaduct in the open sea – a record in France – will connect Saint-Denis to La Grande Chaloupe. This new 2 x 3 lanes carriageway will enable the more than 50,000 motorists who use the coastal road to travel in complete safety despite the cyclonic swells that sweep across the island on a regular basis. 95% of the viaduct is precast onshore, a construction solution that helps to reduce the effect of weather conditions on work schedules and minimize the impact on wildlife.

5^{OF} 48
HITTING OUR
STRIDE

In late February 2017, five piers out of a total of 48 were installed using the Zourite giant barge. Installing the first end span has allowed teams to connect the bridge deck to the mainland and move the launcher ahead to the next pier.



6x20

Six viaduct piers will each be equipped with 20 artificial reef modules, made from fibreglass-reinforced cement, to foster the development of marine wildlife.

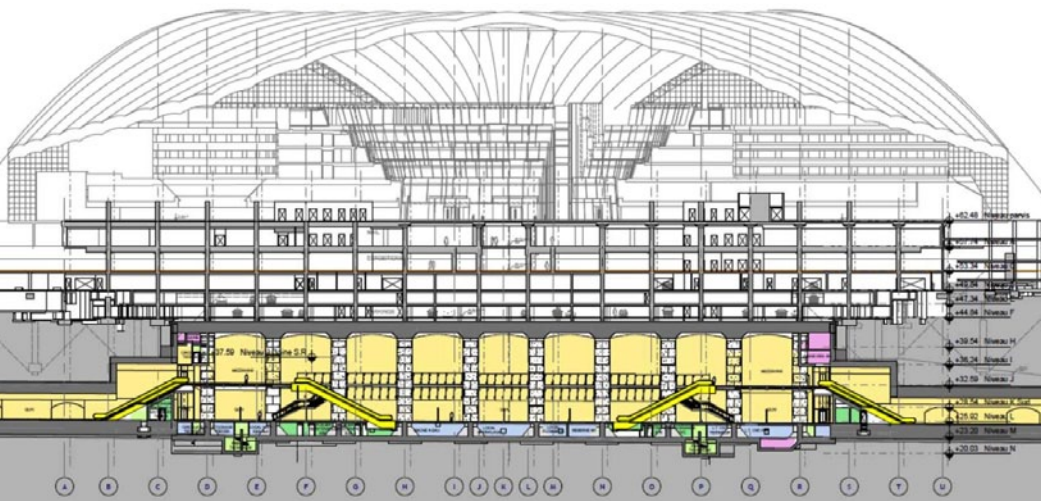




**RAIL STATION BELOW CNIT AND
ADJACENT TUNNELS – EOLE PROJECT**
PARIS - LA DÉFENSE, FRANCE
NEW CONTRACT IN 2016

"SUSPENDING" A SHOPPING CENTRE WITHOUT STOPPING ITS OPERATIONS

To build the new RER E rail station at La Défense, along with a kilometre-long set of tunnels, a shaft 40 m deep and 15 m in diameter, and several underground pedestrian passageways, many challenges have to be overcome. One of the major achievements of the projects was to underpin the 125 piles in the CNIT car park in efforts to "suspend" the site and carry out excavation for the underground rail station. Minimising works-related nuisances is another key issue in this project since the shopping centre – including a four-star hotel – had to continue to operate.



350,000M³

That's the volume of excavation material that must be removed from this project site located in the middle of France's largest business district with more than 200,000 users a day and more than 8 million tourists a year.

FEMERN TUNNEL
GERMANY-DENMARK
NEW CONTRACT IN 2016

THE WORLD'S LONGEST IMMERSED TUNNEL

At 17.6 km in length, the Femern will be the world's longest immersed tunnel. It is both a road and rail link that will connect coastlines in Germany and Denmark, enabling vehicles to make the crossing in ten minutes and trains in seven minutes – much quicker than the current hour-long ferry or 160 km detour through Denmark's Jutland region. Sixteen years after the delivery of the Øresund immersed tunnel that connects Denmark and Sweden, Danish authorities have once again entrusted us with a major mandate – six times the scope of the first project. The project contracts, which were signed in May 30, 2016 in Copenhagen, are conditional: work can begin only when the required construction permits have been issued in Germany.



89

This is a reference to the 89 waterproof precast concrete components manufactured in Denmark by a dedicated prefabrication unit. The components are each 200 m long on average. They will be transported to and immersed in the tunnel trench under the Baltic seabed.



OHIO RIVER BRIDGES
EAST END CROSSING
 LOUISVILLE, UNITED STATES
DELIVERED IN 2016

UPGRADING THE HIGHWAY NETWORK IN THE UNITED STATES

Connecting Indiana to Kentucky while bypassing the city of Louisville – that is the objective of the East End Crossing, a 12.6 km 2 x 2 lanes highway. To that end, we designed and built a 762 m cable-stayed bridge, named "Lewis and Clark Bridge", to span the fickle Ohio River as well as a 512 m twin-tube tunnel and 19 standard engineering structures. The new highway will be managed for 35 years by a concession-holding consortium that includes VINCI Concessions.

This is the first 3P contract for VINCI in the United States.

1,100

DAYS WITHOUT
 ACCIDENTS
 REQUIRING
 WORK
 STOPPAGE



December
 2016

This was the service entry date for this new motorway. The inauguration ceremony was attended by Eric Holcomb, the Governor of Indiana, and Greg Fischer, the Mayor of Louisville.



ATLANTIC BRIDGE COLON, PANAMA

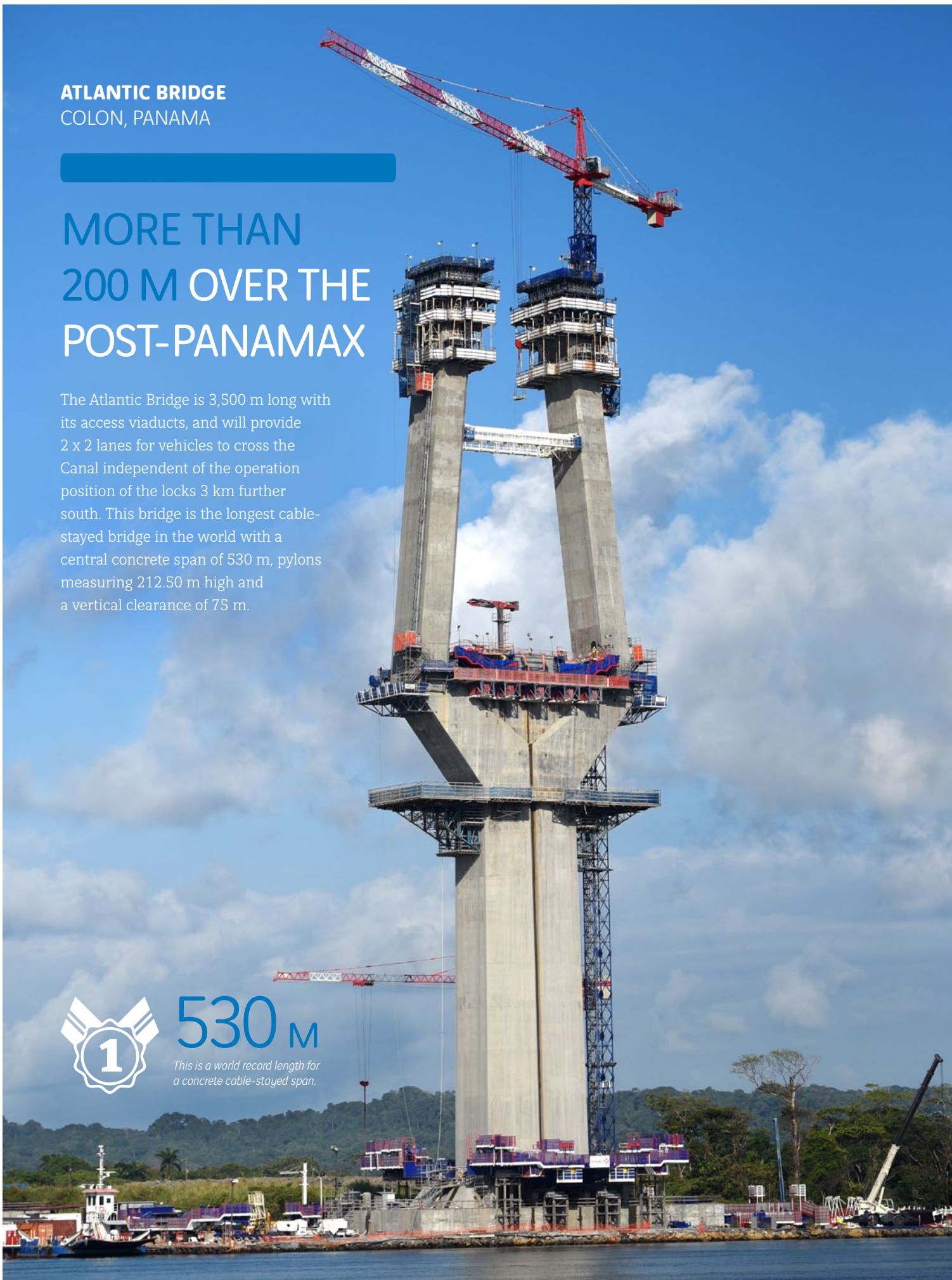
MORE THAN 200 M OVER THE POST-PANAMAX

The Atlantic Bridge is 3,500 m long with its access viaducts, and will provide 2 x 2 lanes for vehicles to cross the Canal independent of the operation position of the locks 3 km further south. This bridge is the longest cable-stayed bridge in the world with a central concrete span of 530 m, pylons measuring 212.50 m high and a vertical clearance of 75 m.



530 M

This is a world record length for a concrete cable-stayed span.



LIGHT RAIL TRANSIT SYSTEM

LUSAIL, QATAR

TURNKEY URBAN TRANSPORT FOR A NEW CITY

Through our subsidiary QDVC (51% Qatari Diar, 49% VINCI Construction Grands Projets), we are assisting our client on an Early Contractor Involvement project to design and build a 30 km light-rail transit (LRT) system in the new city of Lusail, located north of the capital of Qatar. Civil engineering operations for the system's underground portion (including 10 km of track and seven stations) have been completed. Construction of the Pearl intermodal station, which will connect the Doha metro system and Lusail's tramway network, is under way. In June 2014, Alstom joined the project to form, in conjunction with QDVC, the consortium that will deliver the final and most important phase of the mandate, which includes - for QDVC - technical and architectural work packages, the depot, the ventilation, communication, and control systems, - and for Alstom - tracks, power-generation, and, of course, rolling stock. The first line will be delivered in 2019 and the three following lines in 2020.



100% FORECASTING

Urban mobility challenges are usually the reason for launching transport projects in cities. In this case, we had to forecast all potential problems since the city didn't even exist at the start of the project.

ZERO CATENARIES



The Lusail LRT network is a leading-edge transport system that uses catenary-free technology for optimal visual appeal. As a result, power will be delivered at grade to the system by a third track on the ground.

RED LINE SOUTH

DOHA, QATAR

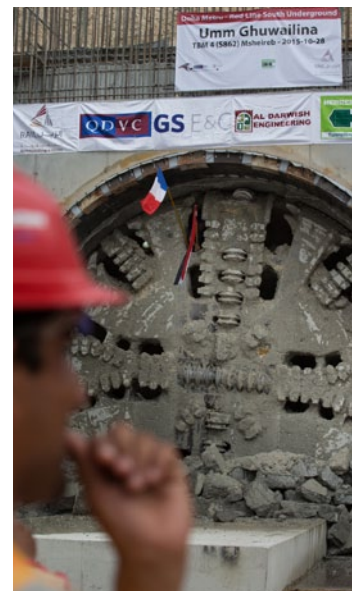
FERRYING VISITORS TO QATAR FROM THE AIRPORT TO THE CITY'S HISTORIC CENTRE

Football fans on their way to Doha for the FIFA World Cup in 2022 will use the metro network we are building. Our consortium is in charge of designing and building a 13.8 km twin-tube tunnel to ferry visitors to Qatar from the airport to the city's historic centre. The contract also calls for the construction of six underground stations, 51 safety connections between the tubes, and three emergency evacuation shafts.

5 TUNNEL-BORING MACHINES



This is the first project, since the Chunnel, in which VINCI has had this many TBMs working concurrently. Tunneling works were completed during autumn 2016.



BOGOTA-GIRARDOT HIGHWAY

COLOMBIA

NEW CONTRACT IN 2016

WIDENING COLOMBIA'S BUSIEST HIGHWAY

Since receiving the service order on December 1, 2016, our teams have been working on the design phase of this project to upgrade 141 km of highway running from the capital of Colombia to the country's largest seaside resort. The project calls for widening a 65 km segment to a 2 x 3 lanes configuration, building four tunnels (with a total length of 2 km), building or expanding 28 engineering structures, and erecting 35 footbridges.

Work is set to begin in December 2017 and continue until November 2022.



15.3 MILLION

vehicles used this highway in 2015: ensuring the safety of worksite personnel and motorists - during this road-widening project to be conducted without interrupting traffic - is a top priority on this project.



LINEA AMARILLA URBAN HIGHWAY

LIMA, PERU

NEW CONTRACT IN 2016

ENHANCING TRAFFIC FLOW IN THE CAPITAL OF PERU

Our mission on this urban highway project that is critical for optimising mobility in Lima is two-pronged: first, to provide project management assistance (in December 2016, VINCI Highways, a subsidiary of the VINCI Group, finalised the acquisition of Lamsac, the company in charge of the project); second, to build project structures in a joint venture with our local partner.

This 9 km, 2 x 2 lanes highway in central Lima will help relieve traffic congestion in the city centre. Work will be carried out right in the middle of a densely populated area criss-crossed by utility networks. The project encompasses 12 viaducts, one 1.8 km tunnel, the Bella Union bridge that spans the Rimac river, three toll stations, administrative buildings, safety equipment, and signalling systems.



METRO LINE 3, PHASE 3
CAIRO, EGYPT
NEW CONTRACT IN 2016

more than **35**
years 

This new contract awarded by the National Tunnelling Authority to our consortium means that our collaboration with Egypt on building the Cairo metro system has surpassed the 35 years mark.

A NEW PASSAGEWAY FOR THE METRO UNDER THE NILE

Following the 2015 contract to extend the Cairo metro to the airport, this project calls for extending the metro system from the city's residential and administrative districts, including the famous island of Zamalek, to the working-class and highly urbanised areas north and south of the Egyptian capital. These additional 17.7 km of metro lines require new tunnelling under the Nile using a TBM. The contract also calls for the construction of 15 stations, including eight underground, five elevated, and two above-ground.

Once completed, Line 3 will carry five million passengers a day and extend the Cairo metro to 100 km in total length.

NEW SAFE CONFINEMENT

CHERNOBYL, UKRAINE

THE CHERNOBYL ARCH IN ITS FINAL POSITION

This technical feat has been applauded all over the world. In November 2016, our consortium successfully shifted the 36,000 tonne Chernobyl confinement structure over a distance of 300 m to its final resting place above, and covering, the reactor (damaged in 1986) and its sarcophagus. This is a world first for a mobile metal structure of this size (162 m wide, 108 m high, and a span of 257 m).

A ceremony was held to mark this project milestone; in attendance were Ukrainian president Petro Porochenko and VINCI CEO Xavier Huillard. In November 2017, following tests and the arrival of the required equipment, the work of dismantling the damaged reactor will begin.

100 years

This is the lifespan of the confinement structure. Numerous innovations were needed to achieve this long lifespan in a contaminated nuclear environment.

ZERO 
RADIOACTIVITY-RELATED
ACCIDENTS

A team of 60 people dedicated to ensuring protection against exposure to radioactivity has resulted in no radioactivity-related accidents since work began in late 2009.



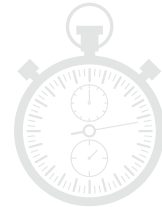
**LIQUEFIED NATURAL GAS AND
CONDENSATE TANKS**
WHEATSTONE, AUSTRALIA
DELIVERED IN 2016

**GIVING
AUSTRALIAN GAZ
A JUMPSTART**

Working in temperatures as high as and even beyond 50°C, our teams took part in the development of Western Australia through its hydrocarbon resources. To enable gas exports to distant markets, we built two liquefied natural gas (LNG) tanks. From the storage tanks, the gas is loaded onto tankers and delivered to clients in distant locations across the world. Each storage tank has a capacity of 150,000 m³. The project also called for the design and construction of two condensate storage tanks, each with a capacity of 120,000 m³.

2 hours

This is the time it took to raise each storage tank roof to a height of 35 m. Each roof covers an area of 5,700 m² and weighs 850 tonnes.



-161°C

This is the temperature at which the gas reaches its liquid state – so this is the temperature the storage tanks must maintain, even though it can be as hot as 50°C outside.



LIQUEFIED NATURAL GAS TANKS SABETTA, YAMAL PENINSULA, RUSSIA

STORING GAS OVER PERMAFROST

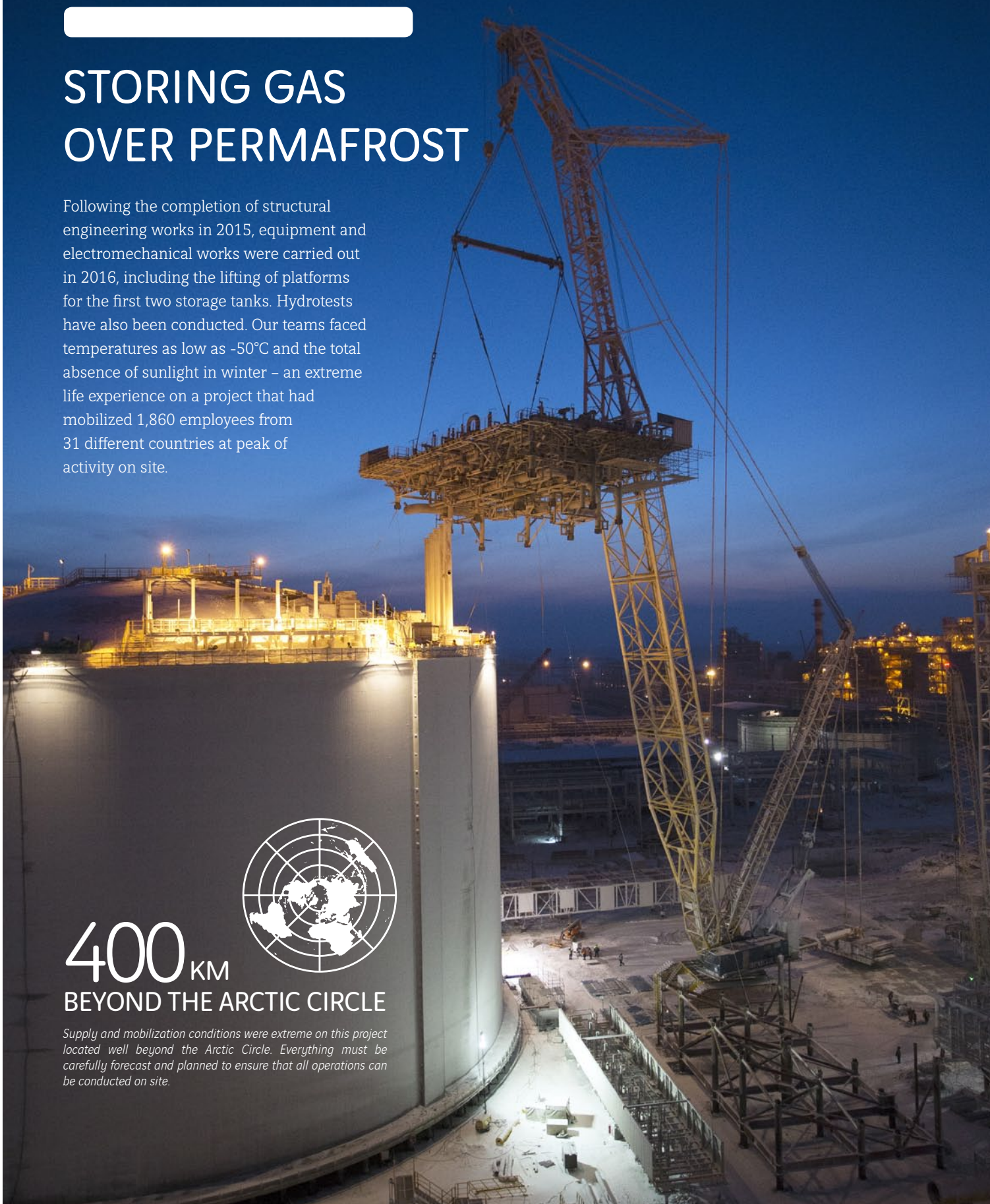
Following the completion of structural engineering works in 2015, equipment and electromechanical works were carried out in 2016, including the lifting of platforms for the first two storage tanks. Hydrotests have also been conducted. Our teams faced temperatures as low as -50°C and the total absence of sunlight in winter – an extreme life experience on a project that had mobilized 1,860 employees from 31 different countries at peak of activity on site.

400 KM

BEYOND THE ARCTIC CIRCLE



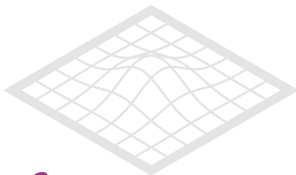
Supply and mobilization conditions were extreme on this project located well beyond the Arctic Circle. Everything must be carefully forecast and planned to ensure that all operations can be conducted on site.



ITER PROJECT CADARACHE, FRANCE

TAKING PART IN A GLOBAL EFFORT TO DEVELOP A FUTURE SOURCE OF ENERGY


Scientists from around the world are designing a prototype to demonstrate that it is possible to produce energy from nuclear fusion. This would resolve the problem of radioactive waste produced by nuclear fission, the method currently employed at nuclear power plants. We're supporting their efforts by constructing the building that will house the future reactor. The civil engineering requirements for this building are as complex as that of nuclear reactors of the latest generation.



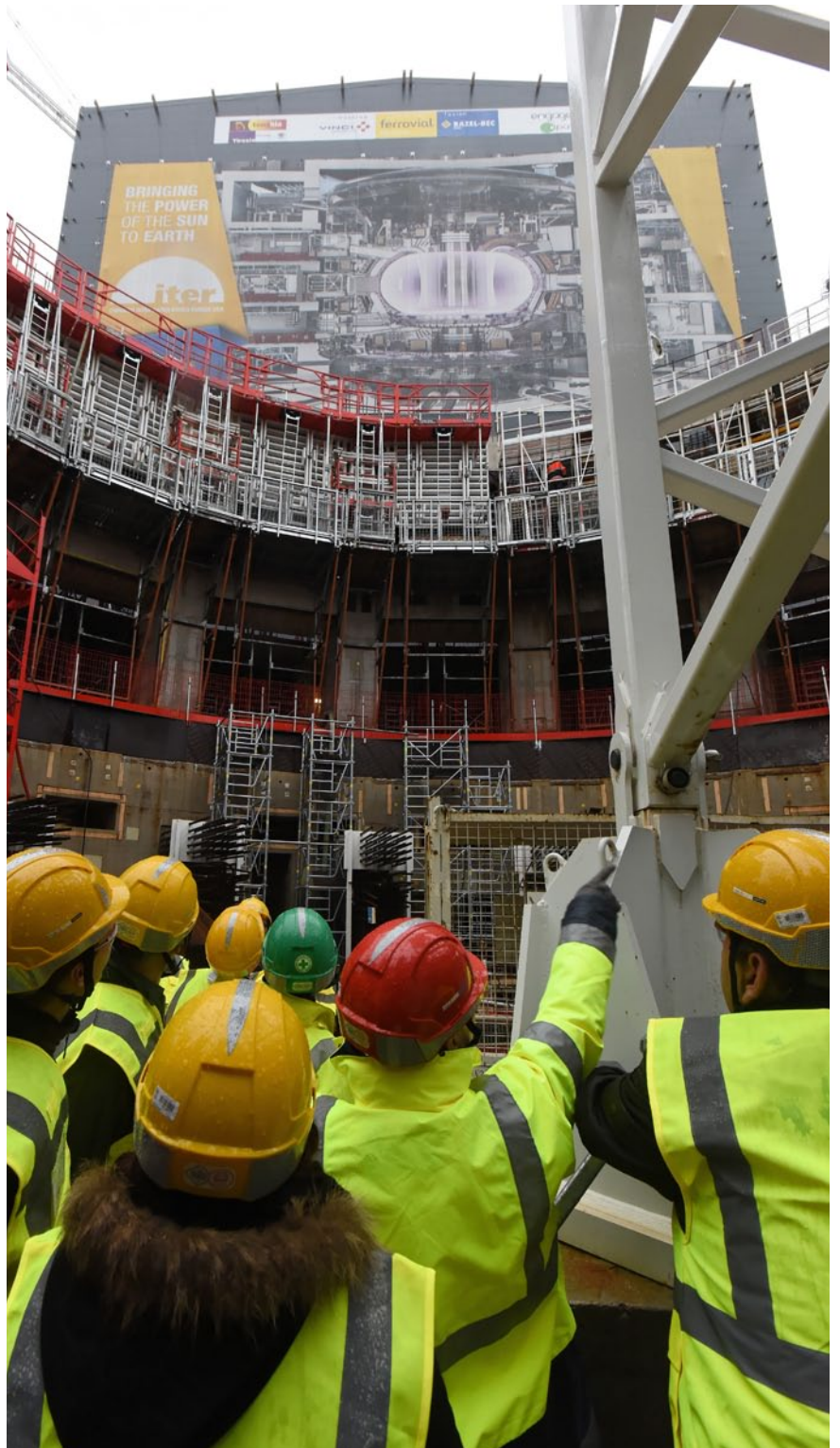
1 hectare

This is the area covered by the Tokamak complex that will house the one-of-a-kind nuclear reactor.

300 kg/m³



This is the high density attained in certain areas by steel reinforcements. A high number of inserts are also being developed to accommodate equipment and openings in future. All of it is being built with millimetric precision.

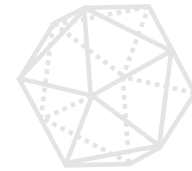


EXPANDING AND RENOVATING SANTIAGO AIRPORT

SANTIAGO, CHILE

DOUBLE THE AIRPORT'S CAPACITY TO CONSOLIDATE SANTIAGO'S POSITION AS A REGIONAL HUB

To raise Santiago Airport's capacity from 16 million to 30 million passengers by 2020, the concession-holding company (including Aéroport de Paris, VINCI Airports and Astaldi) awarded a design-build contract for a new terminal to our company. The new facility will feature 340,000 m² of floor space but also 550,000 m² of new tarmac and taxiways and 185,000 m² of car parks. In addition, the existing terminal will be renovated. Planning is crucial on this project since work must be carried out without impeding current airport operations. On this project, the use of BIM (Building Information Modelling, see p. 41) is being extended to the post-construction operations and maintenance phases.



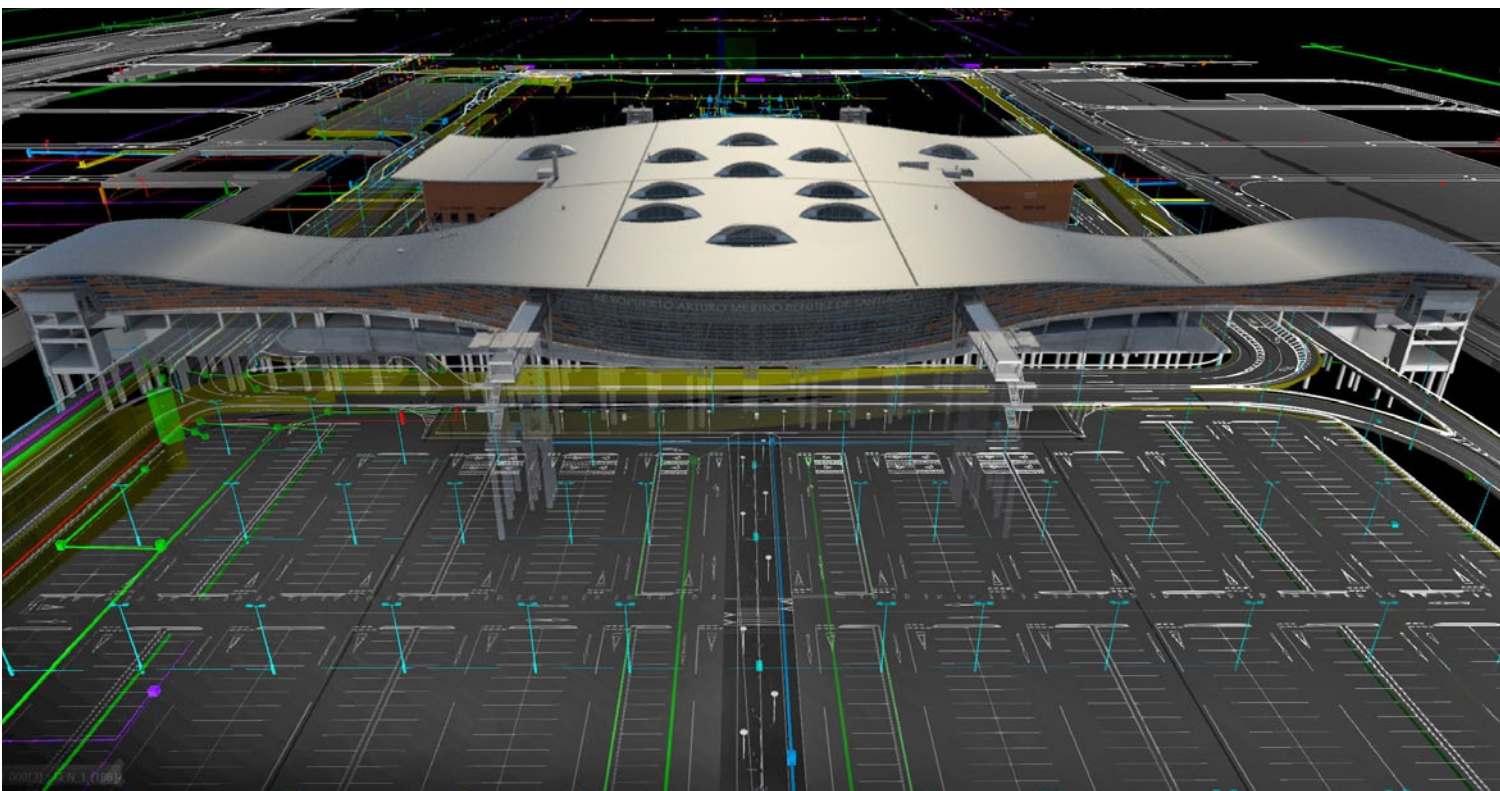
9 months

This is the short time span we had to develop and deliver the design. 200 people worked on this phase, cooperatively thanks to the use of BIM.



48 months

This is the duration of the construction phase to deliver seven new buildings to manage international flights and renovate the existing terminal, which will be dedicated to domestic air traffic.





EXPANDING AIRPORT TERMINALS

PHNOM PENH AND SIEM REAP, CAMBODIA

INAUGURATED IN 2016

A NEW AUTHENTIC SHOWCASE FOR AN INCREASING INFLUX OF TOURISTS

In November 2013, in efforts to raise the capacity of the airports at Phnom Penh, the capital city, and Siem Reap, the gateway to the Angkor Wat temple complex, to five million passengers a year, VINCI Airports entrusted us with a design-build mandate to expand the existing terminals. By doubling their surface area, Phnom Penh Airport now covers 31,000 m² and Siem Reap Airport, 26,000 m². Both terminals were inaugurated on March 16, 2016 by the prime minister of Cambodia. Project delivery was carried out in multiple phases, without ever interrupting airport traffic, in order to facilitate the renovation of the existing terminals.



915 hours of
Skill up
training

Skill up is a mobile training centre implemented by VINCI Construction Grands Projets to foster the adoption of practices that ensure occupational safety and high-quality production. On this project in Cambodia, four Skill up training sessions were provided, specifically for scaffolds and formwork.



30
UNIQUE
STATUES

Airport decoration was entrusted to artisans from Angkor who preserve traditional Khmer art, providing travellers with an opportunity to appreciate Cambodian culture as soon as they step off the airplane.

MANDARIN ORIENTAL HOTEL
LONDON, UNITED KINGDOM
NEW CONTRACT IN 2016

A 12,000 M² PLUS RENOVATION IN A VIP SETTING

London's Mandarin Oriental, located in the up-market area of Knightsbridge, adjacent to Hyde Park, is getting a makeover. The project calls for renovating 12,000 m² of rooms and reception spaces (lobby, reception area, hallways, a spa, lifts) and upgrading electrical and plumbing systems as well as the building's façade. The project includes creating two new suites on the 9th floor with a view of Hyde Park, which will bring the number of rooms at the hotel to 170.

 **NO**
interruption

This luxury hotel will remain open and operational during the project thanks to a detailed work schedule developed with the use of BIM. In fact, the project won a BIM Gold Award in 2016 in the international category (see p. 40).

100%
Plendi

London's Mandarin Oriental is the Plendi brand's first project. Plendi brings together the know-how of VINCI Construction companies in the area of luxury facilities. To find out more, visit plendi.com.





BERJAYA CENTRAL PARK
KUALA LUMPUR, MALAYSIA
DELIVERED IN 2016

KUALA LUMPUR FROM A HEIGHT OF 200 M

After the first of the two Berjaya Central Park towers, known as Menara Bangkok Bank after its largest tenant, was delivered in June 2015, the second tower has been completed at the end of 2016. To build this 180,000 m² complex in a cost-effective manner, we employed a new design for the reinforced concrete structure: flat-slab post-tensioning. A curtain-wall design was used for the facade.

1995 We have been working closely with our client, Berjaya, on its property-development projects since 1995, which is when we started work on Berjaya Time Square. The building, in which the Berjaya Group's head office is now located, was delivered in 2003.

2016



100% DIGITAL

Delivery of the second tower took place using a digital process that defines remaining activities and the lifting of reservations.

ONCOLOGY HOSPITAL
ASTANA, KAZAKHSTAN
NEW CONTRACT IN 2016

A TURNKEY CANCER RESEARCH CENTRE

We've been helping our client, Nazarbayev University, from as early as the project-definition stage in accordance with an Early Contractor Involvement (ECI) contract, and in 2016, we launched the initial phase of the project. Studies continue in 2017, and an offer for the building of the facility will be submitted. We're designing a 200 bed cancer research centre with a 200 space car park, an 80 room hotel complex, technical facilities, and exterior development for a total surface area of 84,000 m².



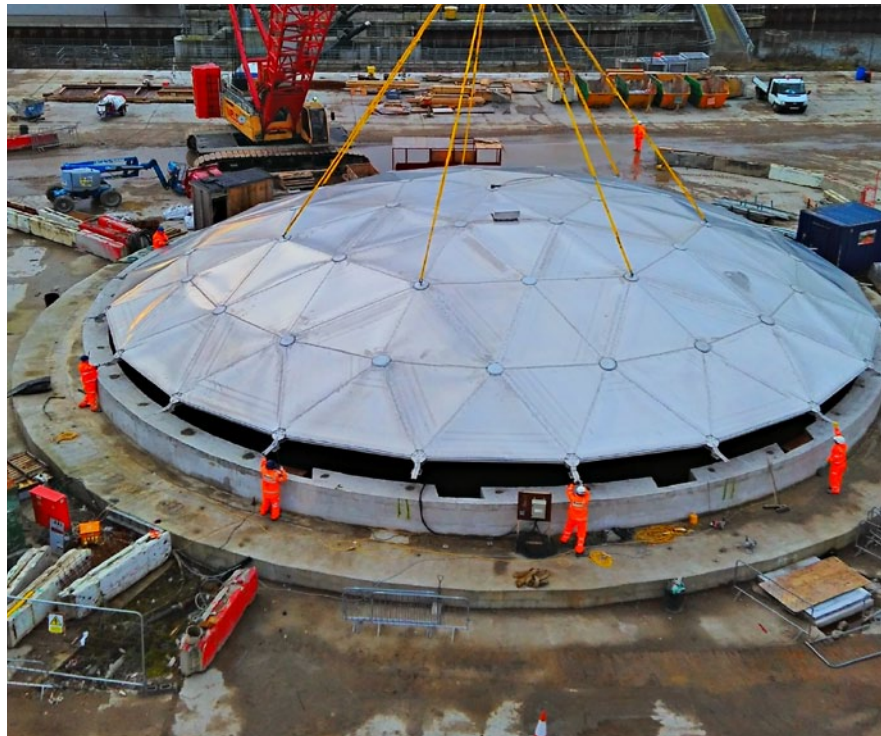
LEE TUNNEL
 LONDON, UNITED KINGDOM
INAUGURATED IN 2016



PROJECT OF THE YEAR ACCORDING TO NCE

Thanks to the 7 km of tunnels excavated in London’s chalky soil, a first step has been taken toward the clean-up of the River Thames, which is the objective pursued by the Tideway project.

On the Lee Tunnel project, our consortium drilled the deepest shafts ever built in the United Kingdom – up to 80 m in depth. They were constructed by sinking diaphragm walls and lined using slip forming that involved the longest concrete pour ever in the United Kingdom. The New Civil Engineer magazine awarded the Lee Tunnel the "Project of the Year 2016" price.



16 MILLION M³
This is the quantity of non-treated sewage that will no longer be poured into the Thames every year.



TIDEWAY, EAST LOT
 LONDON, UNITED KINGDOM



RECONCILING LONDONERS WITH THE RIVER THAMES

In the wake of the Lee Tunnel project (see below), the consortium in charge of the Thames clean-up operation has attributed three new lots for the development of wastewater collection tunnels. Our consortium was awarded the East Lot, which will connect Chambers Wharf and the Abbey Mills Pumping Station, which is at one end of the Lee Tunnel. For this new design-build mandate, the main 5.5 km tunnel is complemented by a 4.6 km connecting tunnel, five shafts ranging in internal diameter from 17 to 25 m of a depth up to 65 m, connecting structures, and electromechanical works.

100%
 by waterway



Respect for the environment was a prerequisite in selecting construction techniques for this new project, especially with regard to logistics. That is why the removal of excavation materials from the main tunnel and supply of precast tunnel segments will be carried entirely on the waterway.



NEW DAM

ASSIUT, EGYPT

THE NILE DIVERTED AND RESTORED

In 2012, 27 years after the delivery of the Aswan Dam, we launched a new dam-building project in Egypt. The mandate was to design and build a new dam 400 m downstream from the existing Assiut Dam, which was erected in 1902. To that end, we diverted the Nile at this location to dry-build the new dam, two locks to ensure river navigation, a power-generation plant consisting of four 8 MW turbines, two spillways equipped with eight 17 m gates, and a 4 lanes road bridge. In 2016, the course of the Nile at the location of the diversion was successfully restored.

690,000 HECTARES

This is the size of the agricultural area that will be irrigated thanks to the new dam through a main spillway channel connected to the Ibrahimia Canal.





EXPANDING AND UPGRADING THE PORT

KINGSTON, JAMAICA

NEW CONTRACT IN 2016

HELPING KINGSTON ACCOMMODATE HUGE SEA VESSELS

Following the launch of new locks in the Panama Canal, the port of Kingston has begun work to upgrade and expand its facilities to accommodate the world's largest container ships, including changing all dock equipment, dredging an access channel, reinforcing the soil, reclaiming 50,000 m² of land for traffic purposes, and anchoring the port's new cranes – all at a busy site prone to seismic and cyclone activity. This technically challenging project required innovative variants to allow us to meet tight deadlines all the while ensuring worker and employee safety at this busy port.



12 months

The first half of the project must be delivered in only one year without interrupting operations at this busy site.

8 years



This project marks our second collaboration with the CMA CGM Group for which VINCI Construction delivered a head office in 2008 in Marseille designed by architect Zaha Hadid.




BOSCOBEL & ELLETSON FLATS PLANTS

JAMAICA

DELIVERED IN 2016

MORE THAN 17 YEARS ENHANCING WATER MANAGEMENT IN JAMAICA

over
80%



More than 80% of the tap water in Jamaica comes from water-supply facilities that we built.

Our history of water-management achievements in Jamaica began in 1999 with the construction of a first drinking-water treatment plant at Logwood. Since then, we've rehabilitated plants, expanded and enhanced water-management networks, and built new treatment plants all over the country. Our teams worked for a period of 12 months on a design-build mandate for the Boscobel and Elletson Flats wastewater treatment plants; they received the certificate of reception on December 31, 2016.

The project was delivered on schedule thanks to rigorous planning with respect to civil engineering tasks, electromechanical activities, and equipment purchasing.

NIROTH TREATMENT PLANT PHNOM PENH, CAMBODIA

PROVIDING MORE OF THE POPULATION OF PHNOM PENH WITH DRINKING WATER

2X



The Niroth treatment plant's drinking-water production capacity doubled in 2017 as a result of the launch of the second phase of the project, going from 130,000 m³ to 260,000 m³ a day.

In view of population growth (which now exceeds 1.5 million) and industrial development in the capital of Cambodia, the authorities have decided to double the drinking-water production capacity of the Niroth treatment plant. Our project aims to install four new pumps to the existing water-uptake system and design-build a new turnkey treatment plant. Thanks to fully automated control management and variable-speed pumps, the quality of water treatment is optimised and energy consumption minimised.



WASTEWATER TREATMENT PLANTS AT AIRPORTS PHNOM PENH AND SIEM REAP, CAMBODIA DELIVERED IN 2016

A CONSTRUCTION PROJECT CARRIED OUT AT BUSY AIRPORT WORKSITES



With the increase in airport traffic in the capital and at Siem Reap near the tourism attraction of Angkor Wat, there is a greater need for sanitation services, hence the development of a wastewater treatment plant for each city's airport. Each of these new activated-sludge plants treats 140 m³ of water an hour and includes an odour-removal unit. One of the challenges of this project was to overcome constraints – typical for busy airports – relating to site access both for personnel and equipment. Construction methods also had to be adjusted to airport-related constraints.

BRUSSELS SOUTH WASTEWATER TREATMENT PLANT

BELGIUM

TREATING A QUARTER OF THE WASTEWATER IN EUROPE'S CAPITAL

With our civil engineering and electromechanics partners, we are taking part in modernising the Brussels South wastewater treatment plant. The new plant will treat the nitrogen and phosphorus content in effluents. Thanks to the implementation of biological treatment and membrane-ultrafiltration processes covering an area 225,500 m², solids, bacteria, and viruses will be removed from treated water.



360,000

This is the population-equivalent capacity of the new Brussels South wastewater treatment plant.





IMPROVING DRINKING-WATER SUPPLY

FAISALABAD, PAKISTAN

DELIVERED IN 2016

PROVIDING DRINKING WATER TO PAKISTAN'S THIRD-LARGEST CITY

Thanks to funding from the French government, we have designed and built a drinking-water treatment plant with a capacity of 48,000 m³ a day and ten 100 m³ per-hour wells and laid pipes over a distance of 13 km to supply drinking water to the old quarter of Madina Town. We have also installed 8 km of cast-iron pipes to connect the existing water-storage tanks to the southern section of the city's main water network. We also rehabilitated and re-equipped most intermediate pumping stations. The project was carried out with a locally recruited workforce and included 3,000 hours of safety training.

24/7

In southwest Faisalabad, this is the first time that residents have safe-to-drink tap water seven days a week and 24 hours a day.



WMI AND HYDROPLUS, TWO SUBSIDIARIES TO OFFER A GREATER RANGE OF SERVICE IN THE WATER-MANAGEMENT SECTOR

To minimize water losses in drinking-water networks and improve water-network performance, WMI has been offering an integrated solution since 1989. WMI's expertise, already tested in more than 40 countries, translates into benefits all along the drinking-water value chain, from production to distribution to consumers.

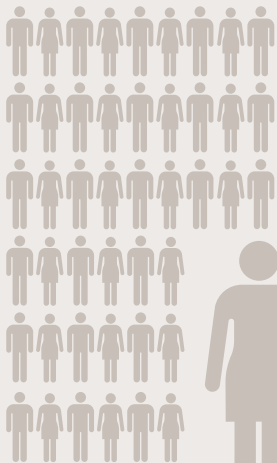
Find out more: wmi-water.com

Hydroplus was founded in 1991 in efforts to develop innovations to prolong the useful life of dams. Hydroplus invented and patented the Fusegate®, which can be used to increase dams' storage capacity and enhance their safety, thereby improving the performance of flood-protection dikes.

Find out more: hydroplus.com

OUR PEOPLE, OUR RESOURCE

7,328
EMPLOYEES
IN THE
WORLD



INCLUDING
1,166
MANAGERS



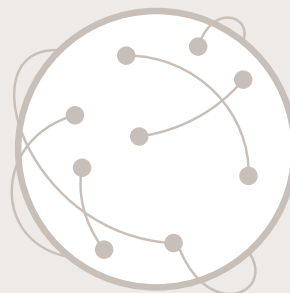
2,187
HIRES UNDER
PERMANENT
CONTRACT



20.5%
WOMEN



33
NATIONALITIES



125
VINCI
MOBILITY
CONTRACTS

VINCI Mobility contracts allow international managers to enjoy permanent contracts with benefits such as health insurance or a retirement savings plan. This type of contract helps to retain our best employees around the world.

24,224 HOURS OF TRAINING IN 2016 OR 4.86% OF TOTAL PAYROLL



271 EMPLOYEES TRAINED IN MULTICULTURAL MANAGEMENT

We gauge our success by our clients' satisfaction. It is therefore fundamental that we understand, from the very first meeting, the cultural context we're working in, on all five continents. Furthermore, the integration of partners and local economic networks into our activities demands that we fully comprehend these environments. Finally, an understanding of cultural differences ensures that the structures we build are fully adopted by the populations for whom they are intended.



371 MANAGERS ATTENDED TEAM GRANDS PROJETS 44 SPEAKERS IN TEAM GRANDS PROJETS

Created in 2008, Team Grands Projets is the academy of excellence for future senior project managers. The company's experience and knowledge are passed on through direct testimonials, in a spirit of sharing that fosters a true company culture.



632 EMPLOYEES ATTENDED ORCHESTRA TRAINING

Orchestra is the training available since 2007 for employees supervising works. Employees master worksite preparation and production, while developing appropriate quality and safety habits.



2,072 WORKERS ATTENDED SKILL UP TRAINING 12 SKILL UP TRAINERS SESSIONS DELIVERED IN EGYPT, DOMINICAN REPUBLIC, AND DJIBOUTI

Since 2012, Skill up has operated as a mobile training school for workers around the world. Project managers identify tasks on which local workers need to be trained in order to achieve our quality and safety criteria. A knowledge and skills transfer program is developed, and then our multi-lingual trainers, once foremen themselves, go on site to provide hands-on training.



SAFETY IN EVERY PROJECT



SAFETY FIRST

Safety is one of the most important values at VINCI Construction Grands Projets. The "**Safety First**" policy applies to everyone within the organization, at every level, to ensure that worksites remain safe and that each and every person's well-being is respected.

Beyond the application of laws, regulations and contractual obligations, all means are put forward to protect the health and guarantee the safety of all stakeholders: employees, subcontractors, partners, clients, visitors and future users.

Safety is an integral part of the management culture at VINCI Construction Grands Projets. It is also a source of progress, as it fosters work quality and contributes to our know-how, experience, and competence.

Safety is an essential condition for our employees and contributes to client satisfaction.

1.73 **FREQUENCY RATE**
FOR 100 MILLION
MAN-HOURS IN 2016
(INCLUDING DIRECT EMPLOYEES,
SUBCONTRACTORS AND SUPPLIERS)

220
QSE MANAGERS'
NETWORK AROUND THE WORLD



SAFETY BEGINS WITH DESIGN

The safety of our workers, stakeholders and users of our structures must be guaranteed throughout the life cycle of our projects, and this begins with the design phase.

Implemented at VINCI Construction Grands Projets since 2014, the **Safety in Design** approach consists in optimizing our construction works in terms of health and safety during their design and worksite preparation, to ensure optimal safety throughout the construction, operation and facility management phases.



276 employees trained with the basic session,
170 employees trained with the expert session,
 in **10** countries,
 for **38** sessions

BUILDING A CULTURE OF SAFETY



Launched in 2011 by VINCI Construction, the **Managing Safety** program is aimed at senior management teams. The goal is to build a genuine culture of safety by ensuring accountability at the highest level.

138 employees,
 in **5** countries,
 for **8** sessions



The operational version of the **Managing Safety** program has been implemented on our projects since September 2013 with **Safety Boost**. These coaching sessions enable worksite supervision teams to fully understand their own role in ensuring safety.

116 employees,
 in **2** countries,
 for **8** sessions



Created in 2008, **(A)live on site** training increases workers' awareness of their attitudes and behaviours through the use of videos taken on site, on which workers are then invited to comment. This self-critiquing exercise raises the level of safety awareness on the worksite.

668 employees,
 in **9** countries,
 for **56** sessions

ENGINEERING: CENTRALISED, MULTI-DISCIPLINARY EXPERTISE FOR THE DESIGN AND CONSTRUCTION OF COMPLEX STRUCTURES

**200 ENGINEERS AND
TECHNICIANS WORKING
FOR OUR PROJECTS**



10

**PLANTS AND
LOGISTICS**



9

**BUILDING
ENGINEERING**



8

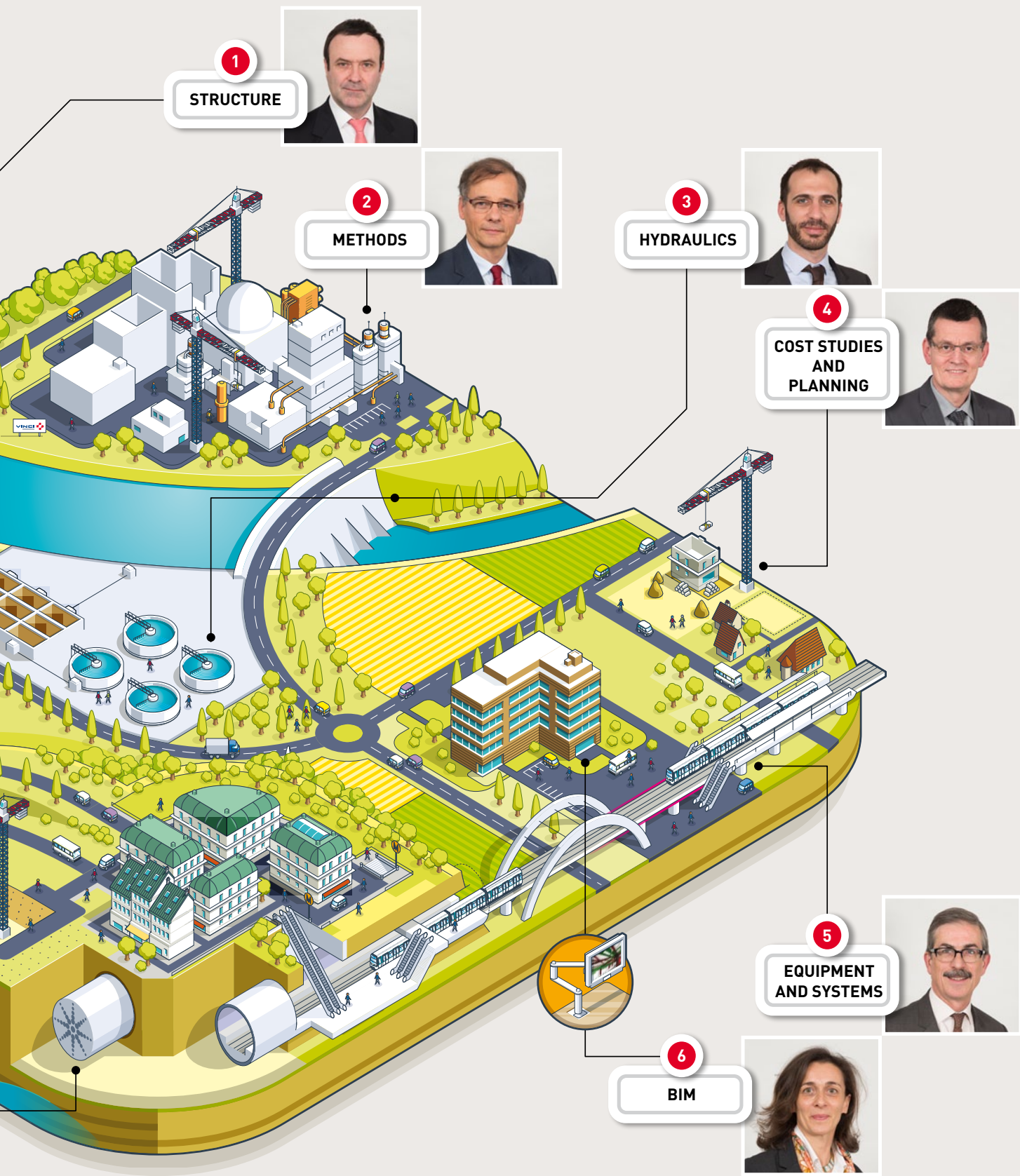
**R&D, CONCRETE
AND GEOTECHNICS**



7

**UNDERGROUND
ENGINEERING
WORKS**

- 1 // Philippe Moine
- 2 // Bruno Francou
- 3 // Geoffroy Desportes
- 4 // Olivier Avril
- 5 // Gilles Causse
- 6 // Pascale Commun
- 7 // François Renault
- 8 // Laurent Boutillon
- 9 // Jean-Philippe Raymond-Bertrand
- 10 // Marc Bohin



R&D AND INNOVATION: PERFORMANCE LEVERS

In 2016:

3 FRENCH
RESEARCH
PROJECTS

13 ACADEMIC
ASSOCIATIONS
and
9 PROFESSIONAL
ASSOCIATIONS

7 Courses taught in
ENGINEERING
OR TECHNICAL
SCHOOLS

11 ACTIVE
PATENTS

LinKtech

COOPERATE

At VINCI Construction Grands Projets, innovation and the technical optimization of worksites are part of our DNA.

LinKtech is our network for members of the technical teams to discuss and exchange information, with the goal of increasing team effectiveness. In addition to capitalizing on experience in the field, **LinKtech** also serves to anticipate construction issues that may arise in the future.

The strength of the VINCI Group lies in its ability to unite the various business lines with construction, operation and maintenance.

Through the internal network **Cooperate**, we have access to the know-how and expertise of our colleagues involved in Concessions business line and we can therefore integrate the post-delivery needs of our clients right from the design stage.

Externally, VINCI Construction Grands Projets is actively involved in a number of educational and research projects.

2016 BIM D'OR:

our project awarded in the International Category

Our project to renovate the five-star Mandarin Oriental Hotel in London, in a joint-venture including Petit (a VINCI Construction subsidiary), was awarded a prize in the International Category. In this complex project – prestigious establishment with stringent requirements, heritage building with an intricate layout and structure, work on a busy site, and other challenges – BIM deployment facilitated technical validation and enabled painstaking and comprehensive spatial coordination.



INFORMATION SYSTEMS THAT ENHANCE PERFORMANCE

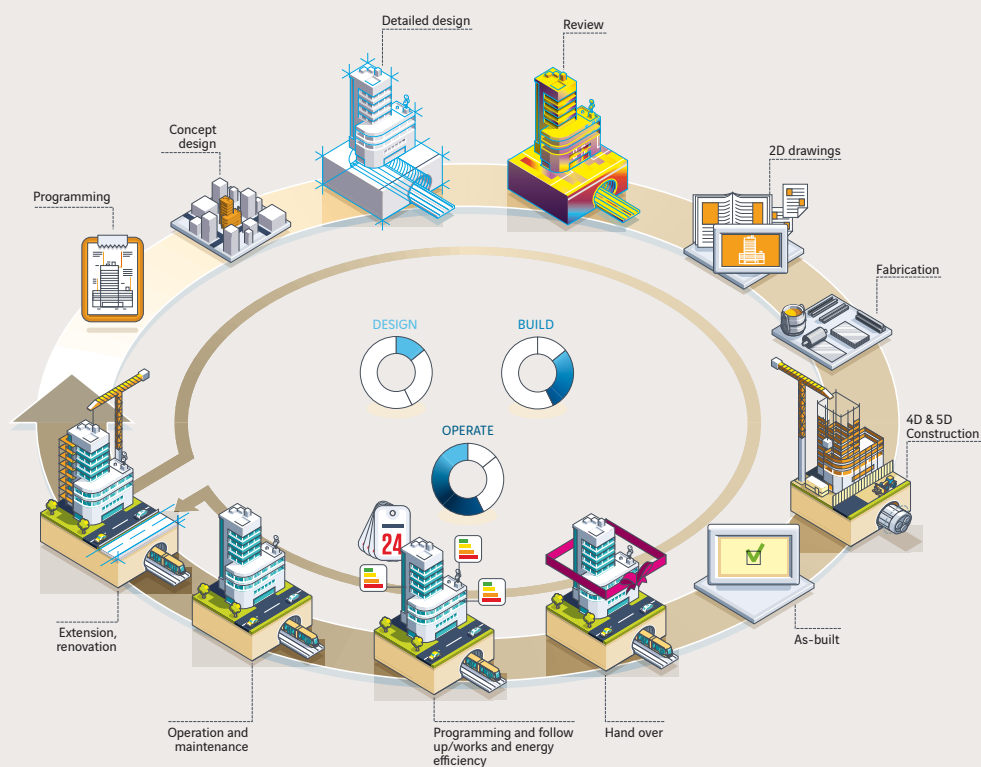
The recognized technical and scientific capacity of the Engineering department of VINCI Construction Grands Projets relies on the latest computer technology and calculation, design and project management software – or even better: in fact, we also develop our own, specialized tools for carrying out special projects.

BIM: BUILDING BEFORE BUILDING

The expert use of BIM – from development to operations to maintenance – on building and infrastructure projects and processes adds value and delivers new services to project clients and users throughout the entire lifecycle of the structure.

Given the need to ensure robust and sustainable building information models, we undertake all BIM management assignments into our projects.

We leverage our acquired lifecycle expertise in our concession activities to meet requirements stipulated in the various types of contracts (set-up, construction, operation) under which we operate.



BIM IN OUR PROJECTS

Buildings: Phnom Penh and Siem Reap (Cambodia), Santiago (Chile) airports - Cancer Research Center (Kazakhstan) - Mandarin Oriental Hotel London (United Kingdom) - Joukovka Villa in Moscow (Russia).

Infrastructure: Crossrail, London (United Kingdom) - Atlantic Bridge (Panama) - Doha Metro (Qatar) - Lusail LRT (Qatar) - Tideway, London (United Kingdom) - EOLE, rail station below CNIT, Paris - La Défense (France).

together!

As an integrated concessions-construction company, VINCI designs, finances, builds and operates infrastructure and facilities that help improve daily life and mobility. Because our projects are in the public interest, we at VINCI consider that we have a duty to reach out to our public and private sector partners and to engage in dialogue with them, and so we are publishing a new Manifesto with commitments that meet this objective.



1 Our infrastructure and facilities serve the public and the common good. We therefore strive to involve all stakeholders – partners, customers, suppliers, elected officials, local residents and civil society – in our projects as early as possible.
We commit to promoting outreach and consultation in conducting our projects to ensure that our partners are closely involved.



2 Ethical behaviour is key to our contracts and our customer relations. Our companies apply our Code of Ethics and Conduct around the world.
We commit to ensuring total transparency in our own practices and in those of our subcontractors.



3 We take part in the forward-looking debate about the sustainable city and sustainable mobility. Our eco-design innovations enable us to improve the energy and environmental performance of our infrastructure.
We commit to reducing our greenhouse gas emissions by 30% between now and 2020, to supporting our customers in their quest for better energy efficiency and to encouraging their adoption of an environmentally responsible approach.



4 Our business activity is rooted in local service. We therefore support the engagement of our employees and companies in sponsoring civic projects and combating social exclusion.
We commit to supporting the civic engagement of our employees, especially through the Group's foundations around the world.



5 We reject the idea that workplace accidents are unavoidable. Our management has a responsibility to do its utmost to ensure the physical integrity and the health of everyone on our worksites and in the facilities we operate.
We commit to the zero accidents objective.



6 Our culture is based on bringing together people of different backgrounds and experience. We fight all forms of discrimination in hiring, in workplace relations and in the career paths of our employees. We train our managers in this requirement and impress it on our suppliers and subcontractors.
We commit to diversifying our supervisory staff to include more women and people of diverse origins.



7 We take a long-term approach to relations with our employees. We practise responsible flexibility to foster balanced career and personal development for our employees.
We commit to proposing training and job mobility opportunities for all our employees in order to promote sustainable employability.



8 Our employees together represent VINCI's biggest shareholder block. We strive to share the benefits of our growth with our employees around the world through employee shareholding and appropriate profit-sharing schemes.
We commit to ensuring that every VINCI employee is given an opportunity, wherever possible, to share in our economic success.



R E A L
S U C C E S S
I S T H E
S U C C E S S
Y O U S H A R E

Follow us on



5, cours Ferdinand-de-Lesseps – F-92851 Rueil-Malmaison cedex
Tel: +33 1 47 16 47 00 – Fax: +33 1 47 16 33 60
www.vinci-construction-projets.com



GRANDS PROJETS