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## The Group's mission

The Entrepose Group is an international contractor that specialises in designing, building and operating infrastructures for production, transport and storage in the oil and gas industry and other energy sectors. The Group works globally on onshore, offshore and underground projects.











To find out more about oil and gas infrastructures, turn to p. 27.





**Daniel Vadon**Senior Vice President,
Operations
Entrepose Contracting

Yamal LNG: an outstanding structure at the other side of the world. We were expecting terrible climate conditions and we were not disappointed. We were faced with snowstorms and temperatures that varied between -30 °C and -52 °C this year. However, even without taking this into account, the challenge was steep: digging foundations, building walls and installing roofs to tanks 3 and 4, while continuing the internal works on tanks 1 and 2. The success of this project owes a great deal to the remarkable pugnacity of the teams.





To find out more about pipelaying turn to p. 31.

**ONSHORE** 





**Guillaume Batut** Project Manager Spiecapag

The Incahuasi project represents a new milestone in the mastery of the operations performed by Spiecapag. Above all, this was the first time that automatic welding was used in Bolivia, and it was a good choice as it allowed us to optimise our performance times. In terms of safety, in December 2015 we reached 5 million hours of work with no lost time injuries. This performance is entirely due to the collaboration between Spiecapag and its customer Total, and the unfailing commitment of the project teams.





VINCI Environnement, formerly a division of VINCI Construction France, joined the Entrepose Group in January 2016.





Marc Houghton Energy-from-Waste Treatment Manager VINCI Environnement

The thermal recovery unit of the future Cornwall Energy Recovery Center (CERC) in England will allow household wastes throughout Cornwall county to be converted to energy. Capitalising on the innovative processes of VINCI Environnement demonstrated at the environmental level, the installation will provide energy to supply electricity for the equivalent of 21,000 homes and heat to local industries. Our teams are starting the commissioning activities after a project with more than 1.5 million work hours completed without accidents.





To find out more about offshore works, turn to p. 34.

**OFFSHORE** 





**Fabrice Novel**Managing Director
Geocean

On the Pacific coast, in the north of Chile, we have created two water intakes and an outfall for the Escondida copper mine. A jack-up barge was used to drill 11 m diameter holes through rocky ground. They connected to tunnels dug by our sister companies Bessac, for the offshore section, and Soletanche Bachy Chile for the onshore part. This was a technical challenge that we were able to overcome thanks to more than 30 years of experience in marine works and our ability to innovate.





**To find out more** about underground storage, **turn to p. 39.** 

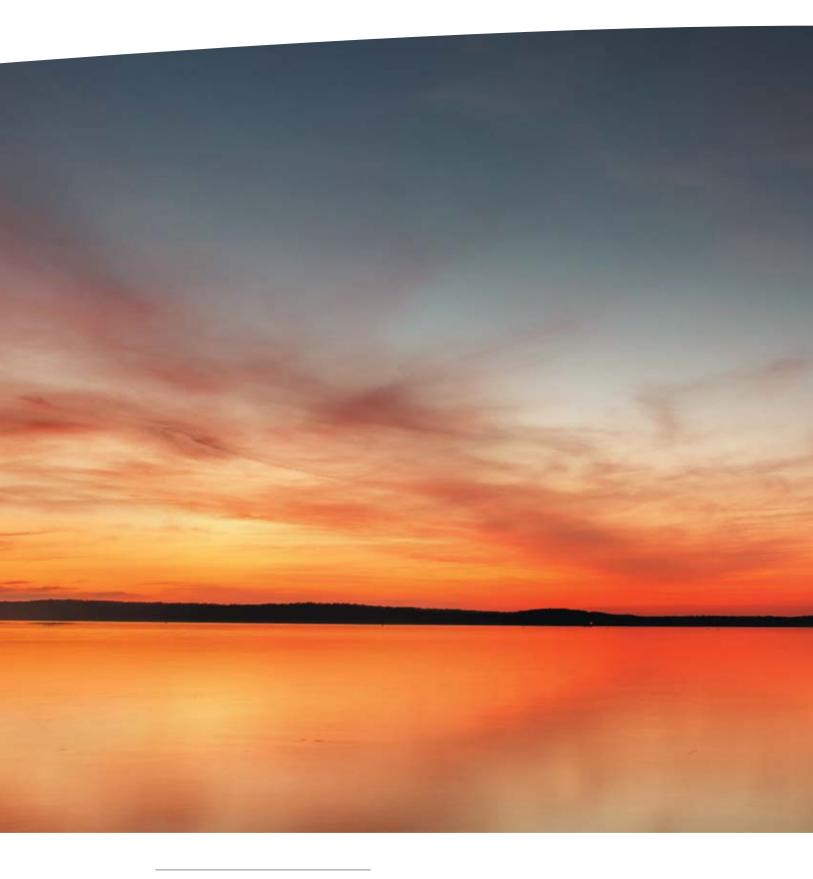
UNDERGROUND





**Jean-Michel Noé** Managing Director Geostock

Geostock celebrated its 50<sup>th</sup> anniversary in 2015, shown here at the École nationale supérieure des beaux-arts in Paris. Founded in 1965 out of the need of large countries to create strategic reserves, Geostock has developed over time in France, then through Europe. It expanded internationally into nearly 50 countries, where about 50 underground storage facilities were created. Thanks to our clients' confidence and the expertise of the men and women of our company, our story continues to be written.





To find out more about oil and gas drilling and geothermal energies turn to p. 42.

UNDERGROUND





Fabrice Tanguy Drilling Department Manager, Oil Workovers Entrepose Drilling

The workover operations on a well on Lake Parentis, in the Landes department of France, led us to equip the customer's barge with a high-capacity pulling workover rig. To stabilise this rig on the barge and work safely, we called on the services of the technical department from Freyssinet (VINCI Construction) which, after detailed calculations, allowed us to validate a cable-stayed system that fixes the mast of our rig to the barge. This collaboration allowed us to complete the project in the best conditions.





**To find out more** about installing pipelines for horizontal drilling, **turn to p. 43.** 

**UNDERGROUND** 





**Alexandre Cambier** Project Manager HDI

At a length of 1,500 m, the two tunnels under the runways at Paris – Charles-de-Gaulle airport are the longest horizontally-drilled holes ever undertaken in France. This challenge was compounded by other factors related to the complexity of the airport environment and the sensitive geotechnical context, which differed from the indications of the soil studies. In spite of this, we kept our commitment and delivered to our customer as planned.



#### What conclusion do you draw from 2015?

Before talking about our activity, I would like to stress, and commend, the improvement of our results in safety - which is, and will always be our most important value and our priority. Here and elsewhere there have been no fatalities: our efforts to raise awareness and prevent risks have paid off. In 2015, we improved the results on our worksites and in all of our facilities: there have been no incidents. This gives us real grounds for satisfaction. As for our business, the continued, unprecedented fall in the price of the oil barrel, which fell below \$30 at the end of December 2015, naturally meant that exploration and investments by oil companies were pushed back or cancelled. Like the rest of the oil and gas sector, we were directly affected by this situation. Entrepose's revenue for 2015 stands at €661.3 million, which is 21% lower than the previous year, particularly for offshore and drilling. Our order book is down, stabilising at €464 million.

#### What measures have been taken in this difficult context?

This situation, and the delay of the expected upturn, has led us to react quickly to protect the company's human and material resources. We have adjusted the scope of some subsidiaries, particularly for offshore work and drilling work in Germany, to make the company profitable. These economic measures must not make us lose sight of our advantages. Entrepose has a diversified portfolio of

expertise, which gives us a strong capacity for resilience. The successful performance of ongoing projects highlights another strength: the excellence of our teams — which is illustrated by the construction of the Yamal LNG tanks in Russia or in Dunkirk, France; the laying of pipelines for the Incahuasi project in Bolivia by Spiecapag, reinforcing our expertise in geothermal drilling; and the Shalapa LPG underground storage project in Mexico. Our subsidiaries in Nigeria and Australia, and Entrepose Industries in Dunkirk, France, have also had a good year.

#### How did the changes that began in 2014 continue in 2015?

After restructuring our brand architecture and adopting a new visual identity, we continued our dynamic by prioritising the development of internal synergies and pooling support functions and tools within the Group. This evolution towards crossdisciplinary offerings goes hand-in-hand with our sales drive. The Shalapa project, in Mexico, is a real-world example of this approach. By combining their forces, Geostock and Entrepose Contracting were able to offer the customer a global solution that brought together underground LPG storage, the creation of surface facilities and operations management for twenty years. This project also allowed us to return to a country where regulatory changes are creating good opportunities. We should be seeing more of this kind of approach.

#### How do you see 2016?

This new year is likely to be tough for players in the power industry. However because we have the option we should look beyond the short-term. With the support of our shareholders and in agreement with VINCI Construction, we have set the ambitious aim of doubling our activity by 2020. Our strategy is based on strengthening Entrepose at an international level, intensifying synergies and increasing the pooling of support functions and tools. It also means diversifying into non-fossil fuel energy sources, which will help integrate VINCI Environnement. These projects, which form our Entrepose CAP 2020 development plan, have already begun. That is why we must look to 2016 with confidence. The changes underway and the work already performed internally will give rise to a stronger, more resilient Entrepose, boosted by the wealth of its business lines and ready to keep pace with the developments in its market.

## Strategy

## Developing turnkey offers across different business lines and internationalisation

Entrepose subsidiaries are unrivalled in the sectors in which they operate. They master all the expertise and professional knowledge required to create onshore, offshore and underground energy infrastructures, from design to operation — including manufacturing, procurement, construction and commissioning. The Group's companies also stand out by their unique ability to manage large projects, performed as part of master agreements such as EPCC (engineering, procurement, construction, and commissioning), regardless of the complexity of performance or extreme environments. This is best illustrated by the recent installation of a 140 km pipeline in Bolivia's rugged backcountry or the construction of liquefied natural gas tanks in the north of the Yamal peninsula in Siberia, Russia.

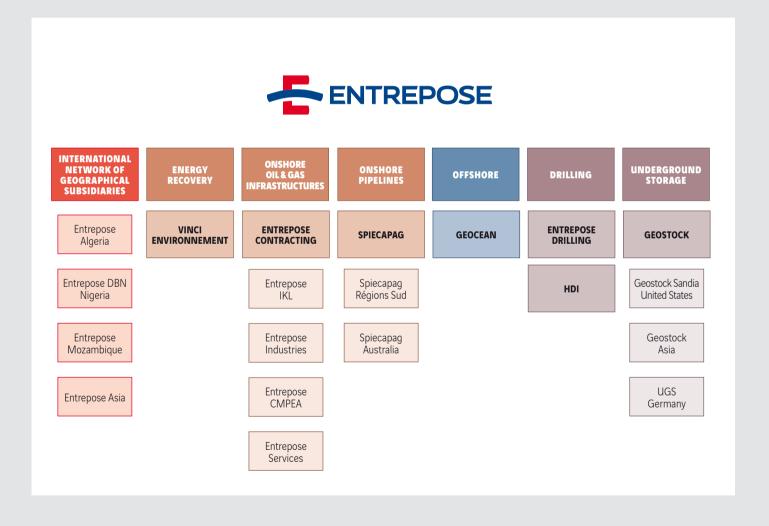
The Group's strategy is based on combining the expertise of its entities and an intention to impose itself as the benchmark in the energy value chain at a global level. Since 2014, and in 2015, this positioning was put into action by reorganising the brand architecture, reinforcing cooperation between business lines — including within VINCI Construction — and developing offers integrating several business lines. Whether by associating surface installations (Entrepose Contracting's speciality) with underground storage (Geostock), landfalls (Geocean) and horizontal directional drilling (HDI) or even the creation

of processing facilities (Entrepose Contracting) with pipelines (Spiecapag) —these offers go as far as including civil engineering with VINCI Construction Grands Projets and maintenance with Actemium (VINCI Energies) and are synonymous with optimisation, overall control of the project and simplifying management for customers.

Entrepose is better equipped to meet the needs and requirements of its market and also intends — as its second strategic angle — to become closer to its customers by building on its geographical implantations in countries such as Nigeria or Algeria, where it has a historical presence. This redeployment involves creating lasting establishments in countries where the Group performs large projects, in order to forge ever-stronger bonds with our customers and to continue our activities in the long-term. A new subsidiary was therefore created in 2015 in Mexico, in the state of Veracruz, following the award of the contract for surface installations for the Shalapa project. Mid-year, Entrepose purchased the Indonesian company IKL, also specialised in EPC contracts. This acquisition gives us access to the central and south-east Asian markets, where energy demand is growing rapidly and where resources are not yet fully harnessed.

## Group organisation

Since the end of 2014, Entrepose Group is organised in six major business lines plus an international network of subsidiaries, working on all activities. In January 2016, the Group integrated VINCI Environnement.



## Corporate governance



#### **ENTREPOSE GROUP EXECUTIVE COMMITTEE**

#### 1. Benoît Lecinq

Chief Executive Officer

#### 2. Bruno Marcé

Executive Vice President, Risks, HSE, Ethics & Compliance Officer

#### 3. Cheikh Daff

Vice President Human Resources

#### 4. Vincent Boillot

Chief Financial Officer

#### 5. Bruno Maerten

Senior Vice President, Development

#### 6. François Billard

Vice President Business Development Renewable Energies

#### 7. Jean-Claude Van De Wiele

Managing Director, Spiecapag

#### 8. Bertrand Dellinger

Managing Director, Entrepose Contracting

#### 9. Fabrice Novel

Managing Director, Geocean

#### 10. David Richard

Managing Director, Entrepose Drilling

#### 11. lean-Michel Noé

Managing Director, Geostock

#### MANAGEMENT AND COORDINATION COMMITTEE

The Management and Coordination Committee brings together members of the Executive Committee and the Group's senior executives. Its role is to ensure broad discussion of Group strategy and development.

#### **Patrick Genoud**

Senior Vice President, Business Development, Entrepose Contracting

#### Frédéric Peigné

Senior Vice President, Business Development, Entrepose Contracting

#### **Daniel Vadon**

Senior Vice President, Operations, Entrepose Contracting

#### Bruno Guy de Chamisso

Senior Vice President, Operations, Spiecapag

#### Jacquelin de La Porte des Vaux

Senior Vice President, Business Development, Onshore

#### Philippe Besson

Senior Vice President, Business Development, Geocean

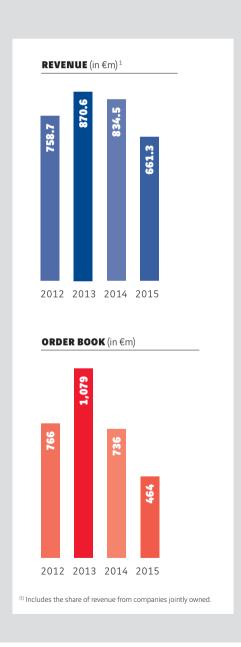
#### Sébastien Gandolphe

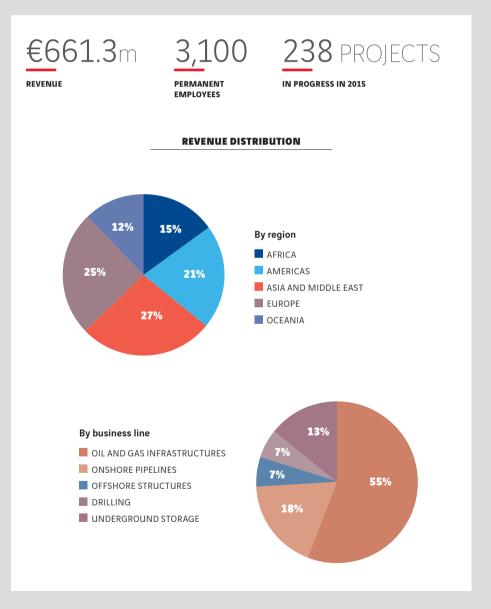
Chief Operating Officer, Entrepose Drilling

#### Pascal Baylocq

Executive Vice President, Geostock

## 2015 Key figures





## Where we operate









Throughout the whole world, Entrepose's entities combine their expertise and perform their activities onshore, offshore and underground in support of energy industries, building installations and facilities for production, transport and storage.



#### **ONSHORE**

- · Oil and gas infrastructures
- · Onshore pipelines



#### OFFSHORE

· Offshore works



- **UNDERGROUND** Underground storage
- · Drilling



## **ONSHORE**

Entrepose is a global player in oil and gas infrastructures and the installation of onshore pipelines in difficult environments. It relies on its resources in engineering, manufacturing and construction, its expertise in project management and its mastery of logistics and procurement to design and carry out the most complex turnkey projects.

# Oil and gas infrastructures



Construction of LNG tanks in Dunkirk,

Entrepose Contracting recorded a consolidated revenue of €365.6 million, an increase due, in particular, to continuing major projects and the integration of PT Istana Karang Laut, a renowned player in the oil and gas sector in Asia.

More than
7 million hours
of work were
performed on
Yamal LNG
in 2015.

#### ENTREPOSE CONTRACTING LARGE GAS STORAGE STRUCTURES

Although engineering and trading activities slowed over the financial period, ongoing operations moved into large works phases. The year's major project has been the Yamal LNG project in northern Siberia, in Russia. Work on-site involves 1,500 people, the company's project teams worked simultaneously with VINCI Construction Grands Projets on the four cryogenic liquefied natural gas (LNG) tanks and performed more than 7 million hours of work. The carbon steel liners for tanks 1 and 2 are complete and the suspended roofs are being assembled. These first two tanks were respectively fitted with their fifth and fourth 9% nickel steel shells. The four structures were closed before winter set in and heated in order to allow work to continue.

In France, on the Dunkirk LNG site, work entails the creation of three 190,000 m³ LNG storage tanks. Entrepose Contracting began to demobilise its teams and the subcontracting companies after the end of the pre-commissioning and commissioning phases, and completed its work on-site in early 2016.

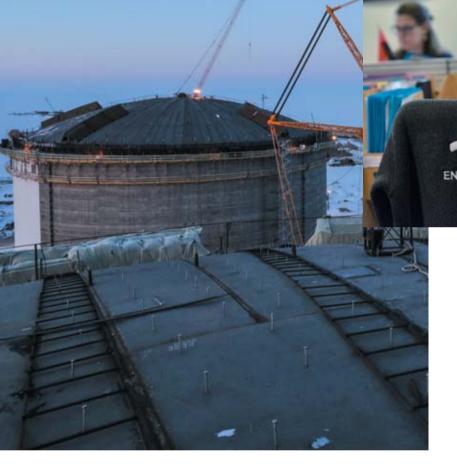
In north-western Australia, near Onslow, the teams of Entrepose Contracting,

VINCI Construction Grands Projets and Thiess have made progress on the Wheatstone LNG project, an EPC (Engineering, Procurement, Construction) contract to build two LNG tanks with a unit capacity of 150,000 m<sup>3</sup> and two 120,000 m<sup>3</sup> condensate storage tanks. The construction site employed 500 people and involved 3.5 million hours of work. For the two LNG tanks, the highlight of the year was the installation and welding of the 9% nickel steel shells, the laying of the modular platforms on the roofs and the installation of the vertical pipe-racks. The latter were prefabricated in China and this worksite was the first where Entrepose Contracting has implemented this kind of modular equipment. On the condensate storage tanks, the installation and the welding of the shells are continuing and the floating roof pontoons have been installed. Hydraulic tests on the first tank began at the end of the year.

In Tunisia, on the Gabès project, the construction of six buried LNG storage spheres resumed at a fast pace in the second half of the year after the country went through a troubled period. The teams from Entrepose Contracting, which peaked at 400 people, were therefore able to create the concrete sarcophagi and perform work on the piping, roof, electricity and instrumentation.

Yamal LNG work site,

Entrepose Services, a specialist in sourcing and trading, works for VINCI, Entrepose and for customers outside the Group



Pre-commissioning and commissioning began at the end of the year in view of completing work in September 2016.

The company is making strides in Mexico by signing a large contract with the Mexican company ASSE on October 9<sup>th</sup>. The contract covers the design and construction of surface and underground liquid petroleum gas (LPG) storage installations in salt caverns in Coatzacoalcos, in the State of Veracruz. The project, for which engineering studies were carried out in June, will be performed under the terms of an EPC contract and completed in March 2017.

All of these projects demonstrate the Group's expertise in performing turnkey projects and its mastery of the value chain — from engineering, performed in advance by the teams in Colombes and the Entrepose CMPEA design offices based in Sedan (France), up to construction, including procurement and logistics.

#### **AUXILIARY ACTIVITIES**

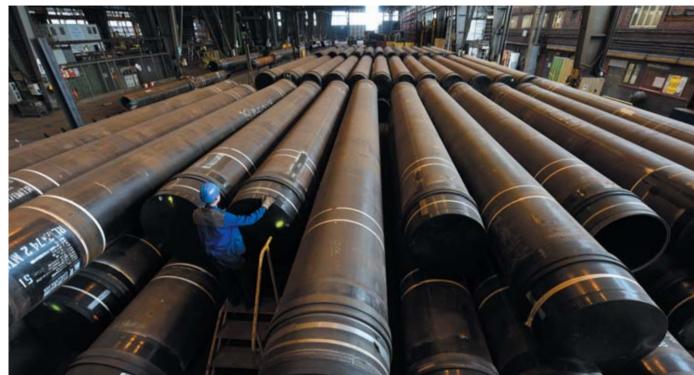
Subsidiaries worked solidly throughout the year. In Nigeria, Entrepose DBN delivered a fine performance, posting revenue up by 15% from last year. Operating in the country for almost 40 years, the company works on EPC projects, in prefabricating equipment onshore for

the country's offshore activities and providing staff to oil platforms for various operations, including hook-up. Entrepose DBN also created more than ten jumpers and deployed staff to the Usan and Ofon 2 platforms off the coast of Nigeria.

Activity was more contrasted in Algeria, with revenue remaining unchanged from 2014. Work by the Entrepose Contracting subsidiary consisted mostly of electrical assembly operations on the MLN (Menzel Ledimet Nord) block 405 sites, deep in the Sahara desert, 350 km to the south-east of Hassi Messaoud, and Skikda, 500 km east of Algiers. A contract was signed for the assembly of a miniboosting gas unit for the Japanese company JGC. At the end of the year, the Algerian subsidiary was also part of a consortium that won an instrumentation and mechanical assembly contract for the Chlef cement plant. This commercial success outside the oil and gas sector demonstrates the Group's capacity to find new sources of growth in the country and to bounce back, thanks to its solid reputation.

#### **INDUSTRY**

In France, it has been a good year for the subsidiary Entrepose Industries, a boilermaking company.



Entrepose Industries, a boilermaking company based in Dunkirk, France, fabricates and supplies numerous articles for the oil & gas industry, such as these pipelines supplied to Technip for the Shell Prelude FLNG Project in Australia.

The growth in its activity can be explained to a large extent by the Yamal LNG project, in Siberia, Russia, for which the plant manufactured roof segments. At the same time, the plant continued work, for Technip, on a riser for the Shell Prelude FLNG project off the coast of Western Australia, and successfully positioned itself on the international markets, where the exchange rate between the dollar and the euro allowed it to leverage its expertise. This was demonstrated, amongst other things, by the contract signed with the American group Tarsco for the production of thick spheres. Finally, Entrepose Industries signed a contract with Bechtel for the prefabrication of two crude oil tanks to be sent to Kazakhstan.

In Asia, the Indonesian company Entrepose IKL, which has just joined the Group, worked in EPC on a condensate fractioning division complex in Bangladesh, and is continuing work on a BOPP (biaxially oriented polypropylene) production plant in Turkmenistan.

#### **TRADING**

The trading activity of Entrepose Services operates from several sites around the world, notably in France, the USA, the United Arab

Emirates, China, Singapore and South Korea. This allows it to provide diversified and efficient sourcing and to be closer to international customers. The company is now concentrating on developing its customer portfolio and supporting the major projects and the subsidiaries of Entrepose and VINCI.

#### **OUTLOOK**

In the oil and gas market that is now facing difficulties financing projects, Entrepose Contracting represents an attractive alternative for contractors through the complementarity and synergy of its business lines and, further, the optimisation of interfaces that it facilitates.

The Group should maintain its level of activity in 2016 thanks to continuing operations on its largest projects (Yamal LNG in Russia, Wheatstone in Australia, Shalapa in Mexico) and continuing its development, particularly in favour of its subsidiaries gaining momentum. With the recent creation of subsidiaries in Maputo in Mozambique, and Mexico city

in Mexico, the company is demonstrating its intention to build on its geographical positions.

New projects are already under study in the Middle East and in Northern Europe.

> To ensure their mechanical protection, the storage spheres are buried in sand. Gabès, Tunisia.





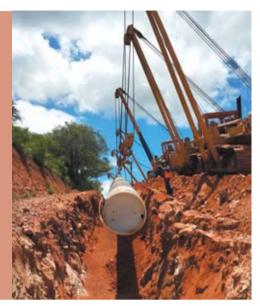
#### **Entrepose's strength**

## TURNKEY SOLUTIONS

Once again in 2015, large-scale creations demonstrate the Group's expertise in LNG tank turnkey projects. The in-house expertise of Entrepose Contracting in project management and completion of the works up to commissioning is complemented by the contributions and competence of several subsidiaries: The Entrepose CMPEA design office, which completes Entrepose Contracting's expertise in the fields of design and engineering; Entrepose Services for procurement (equipment and materials) and logistics; Entrepose Industries for boilermaking.

Wheatstone LNG tanks, Australia.

# Onshore **pipelines**



Incahuasi project, Bolivia

The Group carried out four major pipeline projects in 2015 and its revenue reached €121.2 million, in a context that was made difficult by the cancellation or postponement of several operations by customers.

Spiecapag leverages its resources to accomplish capital projects of a wide scope.

#### **WORK IN PROGRESS, DELIVERIES**

The Arc de Dierrey, Lot 3, Project was completed in summer 2015 —bringing to an end an operation that began in March 2014. This project involved the laving of a 63 km long, 48" gas pipeline for GRTgaz. It was part of a larger project for connecting the Dunkirk methane terminal in the Nord region of France to the terminal in Fos-sur-Mer (Bouches-du-Rhône department). Further to this operation, in August, the company began a year long study phase for the same customer for lot 5 of the Val de Saône project. This involves laying a 43 km long, 48" gas pipeline towards the south of France between Etrez (Ain department) and Voisines (Haute-Marne department) — operations that the company will launch after the study phase.

In Australia, at the end of September, Spiecapag finished work on a 290 km, 8" gas pipeline for the East Gold pipeline project, for Australian operator APA. Before demobilisation in October, the teams performed a series of hydraulic tests and various finishing works.

In Bolivia, on the Incahuasi project that began a year earlier for Total, the company laid a total of 140 km of pipes comprised of 103 km in 30" gas pipes, 22 km in 10" flowlines and 17 km in 8" pipes intended to carry condensate. At the end of the year, when only work associated with the gas processing station remained to be performed, the company began to demobilise its teams.

Spiecapag Régions Sud, a subsidiary of Spiecapag, is assisting its parent company in the execution of the VDSO lot of the Val de Saône project, for the construction of a 48" pipeline and five deviations in Burgundy, around Mâcon, Lyons and the Rhone area.

In 2015, Spiecapag Régions Sud was awarded a remarkable project by Geosel to replace a 1,300 m submarine section (Saumoduc GSM2) of a 20" pipeline in the Étang de Berre lake, in France. This project, known as Geosel 1KB, was performed in collaboration with Eiffage Travaux Maritimes. After a design phase and production of the pipe on land, actual work began on November 18, 2015. The first section of the pipe was put in the water and floated over 11 km to the installation zone where it was sunk and connected to Saumoduc GSM2. The worksite will be completed in 2016 with the dismantling and evacuation of the old pipeline.

Over the course of the year Spiecapag Régions Sud also carried out coring work for GRTgaz, Storengy and Solvay, on 240 existing crossed networks, including 140 pipes.



Crossing the Seine at Pont-sur-Seine (Aube) Arc de Dierrey project, France.



Mobile welding workshop. Incahuasi project, Bolivia.

Other work included geotechnical coring and construction studies (profiles, bending studies, etc.). It should also be noted that the subsidiary signed a contract at the start of 2015 for work laying potable water supply pipelines (replacing and extending the network) as part of the SIAEP project in Blayais, in the Gironde department of France. This contract, which will be renewed twice, will run until the end of 2017.

#### OUTLOOK

In an oil and gas infrastructures market that remains depressed, the Group, through its subsidiary Spiecapag, is focussing its efforts on the large-scale projects on which its reputation is built. Accordingly, at the end of 2015, the company was bidding for four major projects located in Europe, in Canada and in Mexico.



# **Entrepose's strength**SPECIALISING IN COMPLEX PROJECTS

As a specialist in laying pipelines, Spiecapag works on all kinds of terrains. Throughout its history, the company has built structures in 60 countries, in every possible environmental condition and on every type of landscape — desert, tropical, swamp and mountainous areas — where it has always been able to make a route and build temporary base camps. After the exemplary PNG-LNG project in Papua New Guinea in 2014, the Incahuasi worksite in Bolivia embodied this speciality in 2015.

Spiecapag works in all kinds of environments, regardless of the terrain. Incahuasi project, Bolivia.



## **OFFSHORE**

Through Geocean, the Group masters all the engineering and expertise in offshore works — pipelines, outfalls, landfalls and other coastal structural works — required to transport oil products or for water capture, transport and discharge. This expertise allows it to develop many kinds of innovations, in particular in the field of renewable energy sources such as underwater turbines and ocean thermal energy.

## **Offshore** works



Jack-up barge in Puerto Coloso. Escondida Water Supply (EWS) project, Chile.

Offshore activity amounted to €43.7 million, and mostly concerned the water treatment and transportation sector (75% of revenue) rather than oil and gas (25%), which is in sharp decline due to the fall in the price of the barrel.



The Abyss and Masurca systems were used respectively in Benin and in Chile.

#### **WORK IN PROGRESS**

During the year, Geocean worked on three major sites in Africa. In Benin, the offshore work for SAPETRO on the Sèmè-Podji field, which began in 2013, was completed in August 2015. This turnkey contract included the installation of three pipelines of a total length of 24 km, the installation of a PLEM (pipeline end manifold), a CBM (conventional buoy mooring) system and a CSP (conductor-supported platform). In order to achieve this project, the company acquired a barge that was inaugurated as the Geocean Protis in 2013. It was adapted to lay pipelines and Geocean developed the innovative Masurca trenching system.

In Morocco, Geocean completed work on a sea outfall on behalf of Lyonnaise des Eaux de Casablanca (Lydec), a project that also began in 2013. This contract was performed in a consortium with Etermar, Somagec and CSM Bessac/Solsif. It covered the design, procurement and installation of a 2,200 m pipeline including a 1,060 m tunnel in the landfall area (crossing the surf zone and rocky coastal layers) and an offshore 1,140 m HDPE tube laid in a single section. Tests were performed in October 2015.

In the Congo, the company continued to provide assistance services to Technip UK

Congo Branch for the laying of a pipeline as part of the development of the Moho Nord UFR field operated by Total. This involved, in particular, manufacturing and installing a 700 t temporary anchoring block and supplying a linear winch with a capacity of 500 t and the accessories for laying a 16" pipeline over 3,000 m. One of the notable peculiarities of these operations is that they were performed in a limited space to avoid interfering with the activities of the Djeno oil terminal at Pointe-Noire. The delivery of the work is planned for the second half of 2016.

Geocean also works on the American continent, in the North of Chile, as part of a consortium with CSM Bessac (a subsidiary of Soletanche Freyssinet) and several Chilean partners. The company has been performing various offshore operations for the Escondida copper mine since January 2015 — including in particular 7 m diameter borings of a depth of 11 m in the seabed from a jack-up barge. In total, the contract assigned to the consortium includes installation engineering, prefabrication and construction of two water intakes and a discharge line for a seawater desalination plant to supply the Escondida mine. Each water intake includes a 500 m long microtunnel with an internal diameter of 2 m ending with a 450 t concrete suction



head, laid and anchored on the seabed. The discharge line is made up of a 350 m long microtunnel with a diameter of 2 m ending in two 1.60 m HDPE twin pipelines, anchored on the seabed. This project includes the creation of an onshore collection basin and a seawater pumping station.

In March 2015, Geocean began engineering studies on a deepwater outfall and the laying of onshore pipelines and construction of effluent treatment plants for Moa Nickel's laterite ore mines, on the island of Cuba. The aim of this project is to modify the procedure for disposing of waste, residue and effluents produced by the facility, in order to better meet current and future environmental requirements.

#### OUTLOOK

In 2016, Geocean is focussing on several African contracts and development in South America, as well as in the Caribbean.



Towing HDPE pipes. Outfall project, Morocco.

#### **Entrepose's strength**

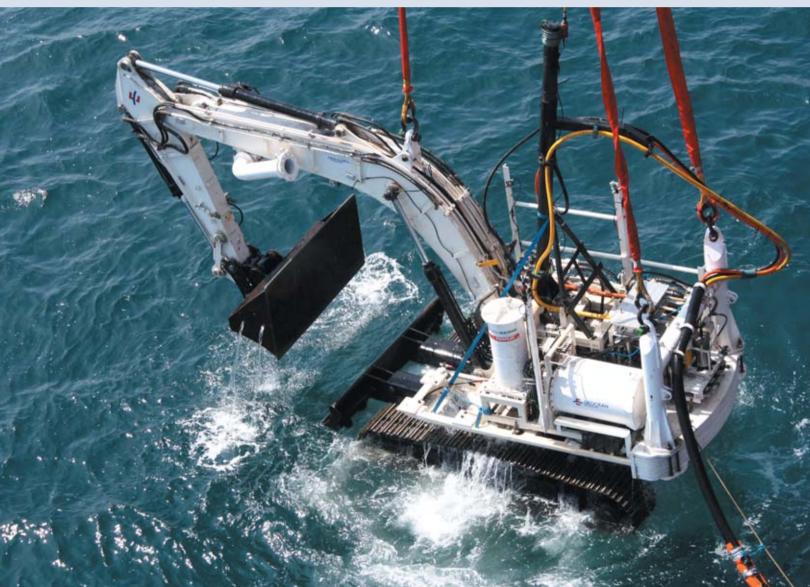
### SPECIALISED EQUIPMENT

In the offshore industry sector, Geocean stands out from its competitors through its specialisation in operations — such as trenching, landfalls, groundwork — performed in very shallow waters and in coastal areas.

To master this work, which is always delicate to perform, the company invests heavily in the research and development of innovative solutions.

Geocean therefore has an exclusive range of specialist equipment, such as the remotely operated submarine excavator Abyss — recently used in Chile — or other pipeline trenching devices, like Super MAX or MAX — that both use an augmented reality system — and Masurca, used in Benin.

Launching of the remotely operated Abyss excavator. Escondida Water Supply project, Chile.

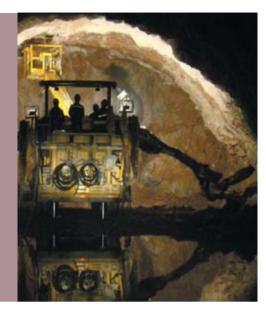




### UNDERGROUND

Entrepose's subsidiary Geostock is a world leader in the underground storage of liquid, liquefied and gaseous hydrocarbons, and the associated surface facilities and processes. Its offer extends from consultancy and design, to operation under long-term contracts. The expertise of Entrepose Drilling in deep drilling and HDI's expertise in horizontal directional drilling complete the Group's expertise in underground work.

## Underground **storage**



Preparatory work for the beginning of operations on an underground storage site in China.

In underground storage, the Group has demonstrated its resilience, with its subsidiary Geostock achieving revenue of €84.1 million, close to its 2014 performance, and continuing international expansion.

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With the Shalapa project, Geostock is establishing itself on the Mexican market.

#### **DEVELOPMENT**

2015 was a highly symbolic year for Geostock, which celebrated fifty years since the creation of the company. During events organised to mark the occasion in Paris and in the south of France, Jean-Michel Noé, the company's Managing Director, emphasised the role played by the bond of trust that exists between Geostock and their customers, developed over the course of this shared history. At the business level, the company continued its international development and won several contracts in new geographical regions. In Georgia, in the Caucasus, it began an eight-month feasibility study for a project to convert a depleted oil field into underground natural gas storage for the Georgian Oil and Gas Corporation (GOGC). In Azerbaijan, it signed a study contract with SOCAR (State Oil Company of Azerbaijan Republic) on the feasibility of creating underground gas storage in salt caverns.

On the American continent, the company was particularly active in Mexico, where it has just begun operations, and particularly in the state of Veracruz through the Shalapa project. Here, Geostock is providing engineering and contracting assistance services to the Mexican company Cydsa for the construction of strategic underground LPG storage in salt

caverns. Geostock was granted operating rights on the future facility for twenty years. Finally, a design office was opened in Rio de Janeiro, Brazil, with the aim of taking a sustainable position in a country with a promising outlook for underground storage.

#### **WORK IN PROGRESS**

In Italy, Geostock performed studies on converting a depleted gas field into natural gas storage for Italgas Storage. With a capacity of 1.3 billion cubic metres, the facility will benefit from the maximum injection productivity and production of 28 million cubic metres per day, and will be operated through 14 surface wells in two clusters. In Germany, the subsidiary UGS put gas in the first two caverns of the Katharina project in Berburg in the Land of Saxony-Anhalt as part of a consortium with the German and Russian operators VNG and Gazprom.

In Singapore, alongside the operation of two of the five caverns of the Jurong Rock Cavern — assigned by JTC Corporation to the Banyan Caverns Storage Services Pte. Ltd. (BCSS) consortium — Geostock supervised works with a view to putting the remaining three caverns into operation (for the storage of oil products) in 2016.



Jurong Rock Cavern, one of Geostock's primary underground storage projects in 2015, Singapore.



Surface facilities for underground storage works, Tuz Golu, Turkey

In Turkey, Geostock continued assisting with the construction of the underground gas storage site for Tianchen Engineering Corporation (TCC), contractor for the company Botas. The project involves creating turnkey facilities, including 12 salt caverns with a total volume of 1 billion cubic metres and surface facilities. Geostock also provides assistance for leaching under the terms of a two-year contract, laboratory test monitoring services, and HAZOP and HAZID studies (qualitative risk analysis methods) for the whole project.

In Argentinian Patagonia, where Geostock has been providing technical support to the oil operator YPF since 2002, the company signed a new contract in 2015 on the Diadema project for gas storage in a depleted field. This provides for the creation of a dynamic 3D model and a feasibility study for extending the on-site storage capacity from 100 to 200 million cubic metres.

#### OUTLOOK

As it is committed to the long-term operation of sites, the activity of Geostock is sustainably supported by the dynamism of markets where it has a long-standing presence: the USA and Asia. The outlook for underground natural gas storage is positive in this area, favoured by contracts won over the year in Georgia and Azerbaijan. Alongside this, the company continues to develop in Latin America thanks to the Shalapa project, in Mexico, and the opening of its office in Rio de Janeiro, Brazil.

#### **Entrepose's strength**

### THE THREE TYPES OF TECHNIQUES

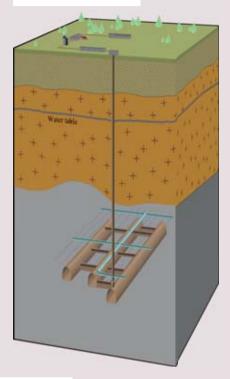
Geostock's core business is the underground storage of natural gas, liquid or liquefied hydrocarbons, compressed air, hydrogen, carbon dioxide (CO<sub>2</sub>) or effluents in different types of caverns: salt caverns, mined rock caverns (lined and unlined), and porous reservoirs (aquifers, or depleted oil or gas fields).

Geostock's multi-disciplinary teams master the technical expertise related to storage and the competences required for site operation.

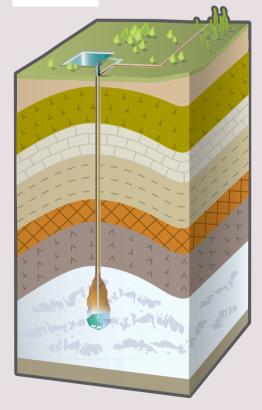
#### DEPLETED FIELDS



#### MINED ROCK CAVERNS



#### SALT CAVERNS



### **Drilling**



Creating geothermal wells in an urban environment, Chevilly-Larue, France.

The Group recorded revenue of €46.7 million euros, in both the oil and gas and geothermal sectors as well as in horizontal directional drilling works.



The Group's expertise in geothermal energies enables it to take part in European "Firsts".

#### **OIL AND GAS DRILLING**

Entrepose Drilling's expertise was well demonstrated by two international projects in particular, one in India and the other in Morocco. In Rajasthan, in north-west India, the company completed its work for Cairn India Limited over the year. This project, on an onshore oil field, was carried out under particularly challenging conditions: transporting 1,600 t of drilling equipment and creating a secure base camp in the middle of the Thar Desert, with temperatures of more than 55 °C in the shade. In Morocco, where Entrepose Drilling has been operating for two years, drilling operations continued in different regions, especially in the Rharb gas field, north of Rabat, within the scope of a contract assigned by the English company Gulfsands Petroleum.

In France, in the oil and gas sector once again, Entrepose Drilling performed maintenance work on wells on Lake Parentis in the Aquitaine region, for the Canadian company Vermilion Energy. In the second half of the year, a number of operations were carried out on the lake using a barge.

#### **GEOTHERMAL ENERGIES**

In France, Entrepose Drilling confirmed its position as an expert in the geothermal field by successfully completing more than ten worksites creating new doublets or maintaining wells. This activity is part of the Group's strategy to develop renewable energy sources and demonstrates its intention to support the energy transition. It also demonstrates the company's ability to work in dense urban environments, where little site coverage is available and the latest generation machines must be used to limit noise pollution.

Amongst other projects from 2015, the drilling, completed at the start of the year in Bagneux (Hauts-de-Seine department) stands out. This project entailed creating a 2,000 m deep geothermal doublet to serve the equivalent of 9,500 homes. At the end of this operation, the MR8000 rig was deployed in Villepinte (Seine-Saint-Denis department) to create a production well and an injection well. These two 2,140 m long wells will provide a geothermal flow of 350 m³/h and will serve the equivalent of 5,200 homes.

In July, Entrepose Drilling began drilling a heat doublet for the town of Tremblay-en-France (Seine-Saint-Denis department),



Drilling on Lake Parentis, France

which was one of the geothermal pioneers in the Ile-de-France region in 1984 and now heats an average of 4,300 homes in the town centre as well as the town hall, the swimming pool and the reception hall.

The new wells, dug to a depth of 2,213 m will be used to extend the network and connect an additional twenty buildings, including those built as part of urban renewal.

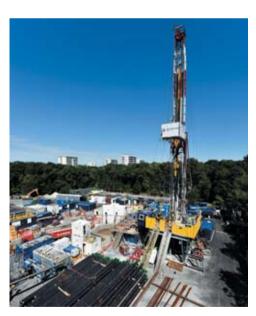
Geothermal energy projects also offer Entrepose Drilling the opportunity to take part in European firsts, such as the renovation of the central wells in Chevilly-Larue and L'Haÿ-les Roses (Val-de-Marne) through relining. This solution consists of inserting fiberglass tubes into the existing steel tubes and offers major advantages. First, it means that the installation of new steel tubes can be avoided. The fiberglass tubes are also more resistant than those made from steel. They do not rust and notably do not require the use of chemical products during maintenance, which can cause pollution if there are leaks. During the year, Entrepose Drilling was chosen by SEMHACH, a public company owned by the towns of Chevilly-Larue, L'Haÿ-les-Roses and Villejuif, to implement this solution in the plants it has operated in Chevilly-Larue and L'Haÿ-les-Roses for 30 years. To put it into perspective, these two plants power the

biggest geothermal heat network in Europe, including about 30,000 homes, and avoid emitting more than 35,000 t of  ${\rm CO_2}$  into the atmosphere every year.

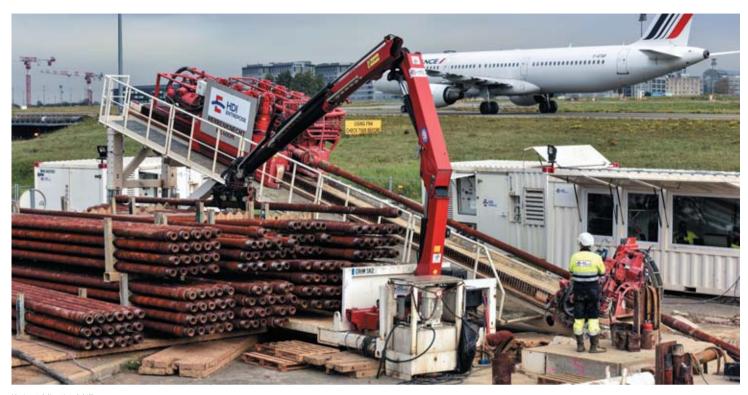
#### HORIZONTAL DIRECTIONAL DRILLING: LANDFALLS, OUTFALLS

One of the biggest worksites for HDI this year was the Rota Cabiunas landfall, in Brazil, with the installation in March, under the coast of Macaé (state of Rio de Janeiro), of a 1,300 m long 24" gas pipeline as part of the development of the Cernambi offshore gas field for Petrobras. This operation marks the end of the Saipem contract that was awarded to the consortium formed by HDI and its Brazilian partner Intech in 2012. Works under this contract included implementation engineering, construction and operation of the onshore base camp, offshore assistance and horizontal directional drilling in coastal rock — a very tough and abrasive gneiss.

In March and May, two landfalls were created in Britain for the company Maritech, ready for the installation of intercontinental fibre optic data transmission cables. The 1,000 m and 300 m landfalls are located in Wales and Ireland. Finally, to cap off this impressive series of projects, HDI created two 350 m



Geothermal drilling in Tremblay-en-France, France.



Horizontal directional drilling under the runways at Paris – Charles-de-Gaulle airport, France.

long, 14" outfalls with openings in the sea at a depth of 60 m for the new water processing plant in Papeete, Tahiti. This work, which was keenly anticipated by the island dwellers, was subcontracted by VINCI subsidiary JL Polynésie.

#### **ELECTRICAL INSTALLATIONS AND NETWORKS**

In mainland France, near Bordeaux, the company delivered a 1,200 m horizontal directional drilling in July to its client RTE (*Réseau de transport d'électricité*), a subsidiary of EDF. The drilling was done under the Garonne river, for a 26" diameter sheath that was part of a project to construct a 225 kV aerial-underground power line between the Marquis and Bruges substations. The RTE has also awarded half a dozen contracts to the company for the performance of similar work across France. They cover the performance of more than twenty horizontal directional drilling operations — over distances of 100 to 350 m — to bypass obstacles and to carry high or medium voltage power lines.

Over the course of the year, HDI was awarded and performed three major contracts in France. The first, for Air Liquide, for a gas pipeline in the Bionext facility in Dunkirk (Nord department), required the drilling of a 780 m curved horizontal drilling under a

canal and railway lines. The second consisted of two parallel 400 m drillings under the Tarn river to lay water pipes for the town of Montauban (Tarn-et-Garonne department).

The third project, the preparation of an outfall in the Loire river à Luynes (Indre-et-Loire department), was carried out in co-contracting with the VINCI subsidiary Sogea on behalf of La Communauté d'agglomération Tour(s) Plus, the regional local authority organisation.

In the middle of the year, RTE once again awarded HDI a very large project for the horizontal directional drilling of two parallel crossings under the runways of Roissy-Charles-de-Gaulle airport and the installation of electrical connections underneath existing infrastructure at a depth of 35 metres. The crossings themselves, which were both 1,500 m long, were created using horizontal directional drilling, a technique that made it possible to cross the airport complex underground without disrupting its operation. After a three-month engineering and construction phase, work began on-site in November 2015 and delivery is planned in June 2016.

#### **OUTLOOK**

The share of Entrepose Drilling's geothermal activity in France and beyond the country's



Landfall site for the Rota

borders should continue to progress in the future. This has been the case for several years, in the favorable overall context of the energy transition — and the search for alternative energy sources rather than based on strictly economic considerations. As for HDI, its horizontal directional drilling obstacle clearance activity should regain a more international dimension, with the restart of pipeline projects in the oil and gas sector.

#### **Entrepose's strength**

## LANDFALLS, SYNERGIES WITH GEOCEAN

HDI is a global specialist in horizontal directional drilling applied to the landfall sections of offshore pipelines. This solution offers a number of advantages compared with the traditional trenching technique: it is less vulnerable to weather conditions

(swell, tides, etc.), offers shorter performance times, and is more environmentally friendly. Combined with the expertise of Geocean (see p. 35), it offers a competitive and innovative alternative for connecting offshore and onshore facilities.

Outfall works performed by HDI in collaboration with Geocean in El Jadida, Morocco



# Research and innovation to stand out



In the energy sector, at the heart of the geopolitical issues of the modern world, adapting offers to the market and ensuring competitiveness are achieved through a dynamic research and development policy. Entrepose's policy has been illustrated for many years by its contribution to the Citeph\* project run by the GEP-AFTP association and through the projects carried out in-house by the business lines.

An approach to R&D that is in line with coordination efforts between all entities within VINCI Construction...

#### **DEVELOPING CROSS-DISCIPLINARY R&D**

In 2015, Geostock's investment in R&D was illustrated by the completion of a programme called WINS, which monitors the integrity of storage wells. This programme is part of the AIMS (Asset Integrity Management System), specifically adapted to the underground storage industry (wells and underground structures). At the Group level, during the year, a specific mission was also assigned to the R&D steering committee, aimed at constituting an in-house network of experts and developing "cross-disciplinary" solutions between business lines. This cross-disciplinary approach is in line with efforts to coordinate R&D between all entities of the VINCI Construction division.

Two of these "cross-disciplinary" research subjects were approved by Entrepose's Executive Committee during the year. The first combines HDI and Geocean, who both work on landfalls. It aims to improve techniques for pulling pipelines between the land and the sea by means of horizontal directional drilling.

The second subject chosen requires combining the experience of Geostock and Entrepose Contracting. The goal is to assess the technical and economic value of several procedures for storing renewable electrical energy, which is now key to the development of the subsidiary.

#### GIVING LIFE TO THE SPIRIT OF INNOVATION IN THE BUSINESS

Participative innovation is a feature of the construction profession that is embodied by the processes, materials and methods that improve productivity and safety on worksites, the quality of projects and their integration into the environment. Practicing innovation directly related to company activities is encouraged at the VINCI Group level by the organisation of innovation awards every two years. This competition is open to all employees, who can enter as individuals or as a team. Since 2009, more than ten innovations from Entrepose have received awards. For the 2015 edition, 34 projects were presented by Entrepose employees, including 24 on the theme of safety. Three of them won prizes in 2015 (see opposite).

<sup>\*</sup> Collaborative & Innovative Technology Program in Exploration and Production of Hydrocarbons

#### WINNING PROJECTS AT THE 2015 VINCLINNOVATION AWARDS

#### **Safety Net**

When underground storage well casing tubes are extracted to be recovered, the mineral deposit that covers them must be removed using a jack hammer to avoid it injuring workers when falling off in chunks. Thanks to the Safety Net from Geostock, inspired by systems for wrapping Christmas trees, these deposits can instead be held in place. An additional advantage is that no waste encumbers the working platform, which makes it much safer.





#### Two solutions to limit the effects of swell on moored structures

When a barge is pulling pipe strings offshore, the amplitude of the swell can cause breaks and dangerous "whiplash" effect from the traction cable if it suddenly breaks free.

The two solutions perfected during a landfall project by HDI in Brazil in 2014 consist of using an immersed dead weight that reduces the variations in tension on the pulling cable, and a fuse shackle system that holds the cable if it breaks.



Winners Maxime Aera (left) and Alexis Filiette (right).

#### **Lost system**

Jacques Grappe (Geostock) Burkhard Thiele (UGS), pictured here, Ralph Schreiber (UGS)

HDI tested the Lost system in 2014 to reduce sludge discharge on the work platforms and to improve the productivity of worksites installing a 1,200 m steel sheath under the bed of the Garonne River in France. This tool requires the use of a second rig, which serves only as a support for the drilling tube at the exit point, but avoids the traditional need to disassemble and reassemble the king swivel, which causes a discharge of sludge and interrupts production.











Entrepose aims to set an example in every area of responsibility and intends to unify all of its teams in a strong corporate culture, based on the culture of its business lines. Alongside the restructuring measures that began in 2014, concrete actions were undertaken in 2015 in terms of human resources, safety and accident prevention, quality, ethics and the environment.



**HUMAN RESOURCES** 



SAFETY



QUALITY



ETHICS



**ENVIRONMENT** 



## **Human** resources



During the year, the Human Resources department participated in several student forums. Members also presented the Group at various universities and institutions as shown here, at the École nationale supérieure des industries chimiques in Nancy.

The human resources policy applied in 2015 by Entrepose builds on the changes begun in 2014 and is based on the fundamentals — creating sustainable jobs, developing employees' skills, social dialogue. Guided by the principles and commitments of the charters adopted at the start of the year, it emphasises the development of links between the entities, the emergence of a common language, and a dynamic business culture.

For Entrepose, 2015 was a year of new perspectives and encounters. Integration weeks were organised in the Paris area, bringing together the newcomers with the Executive Committee to introduce the Group, its business lines, its values and its strategy.

The Group's business development teams met again to catch up on projects in examination and opportunities for synergies. These meetings facilitate direct discussion and operation of the Group sales force as a network.

Training, which is an essential cornerstone in building a shared culture, benefited from even greater means this year (3% of payroll). 35,945 hours were spent on training 1,241 employees (compared with 2,465 in 2014). In addition to the central theme of safety (30% of the sessions), training also covered improving the language skills of managers, who were offered individual development plans; and on intercultural integration (since Entrepose began working in Mexico).

Along the same lines — preserving the company's expertise — an apprenticeship and mentoring system was implemented in the Group at the level of VINCI Construction to allow for the transmission of very specific know-how from project directors on EPC contracts. Fifteen of the most experienced amongst them were selected. Over a period of twenty-four months, they will each mentor two younger managers for this type of project.

Mobility helps to create bridges between business lines and to support the Group's international development. It is encouraged within Entrepose and facilitated by different tools: the Construction Talents CV database, which is shared by all the divisions of VINCI Construction, and VINCI Mobility at the VINCI level.

The ten coordination committees established in 2014 to exchange best practices, share projects and harmonise working methods between different entities continued their work on QHSE, business development, financial coordination and cash flow, legal affairs, human resources and training. Their action has been accelerated with the implementation of the Entrepose CAP 2020 development plan. Thus, the "Information Systems and Management IT" coordination committee finalised a requirements analysis and launched the deployment of an ERP (Enterprise Resources Planning). The organisation of support functions will be streamlined.

#### **VARIATIONS IN THE WORKFORCE**

In 2015, the Group's workforce fell by 10% to reach the figure of 3,100 worldwide, mainly due to the end of a big pipeline construction project. Conversely, women are gaining ground in the workplace as in one year, the percentage of women rose from 16% to nearly 21%.



The Group has only just arrived in Mexico and is already offering cultural integration programmes to its employees

#### SOCIAL RESPONSIBILITY

As a responsible international group, Entrepose places environmental and social questions at the heart of its activity and its projects. This principle — which is recorded in the CSR Charter ratified by all the members of the Executive Committee and published at the start of 2015 — was notably applied during the year when the company committed to the GEIQ Métallurgie Industrie Nord Pas-de-Calais region and the support programme for Bolivian communities associated with the Incahuasi project.

#### Social programme for communities in Bolivia

The Incahuasi project team was behind an aid programme for populations neighbouring the worksite. This programme allowed for the construction of a medical dispensary, a building dedicated to raising poultry, two school canteens (two others were renovated) and the irrigation of cultivated land.

Some housing was also able to be renovated, thanks to provision of construction materials. A thousand educational kits were distributed to children. This programme won the Corporate Social Responsibility award sponsored by Total at the annual IPLOCA convention\*, which was held in Singapore in October 2015.

\* INTERNATIONAL PIPELINE & OFFSHORE

#### Return to work in the Nord – Pas-de-Calais

Entrepose entities feel it is important, as part of their facilities or operations, to offer opportunities for those who face difficulties accessing stable employment to integrate the job market and gain qualifications. Following the model of the GEIQ BTP — which VINCI Construction France companies and subsidiaries played a large part in creating in France — Entrepose Industries was behind the creation of GEIQ Métallurgie Industrie

Nord – Pas-de-Calais in Dunkirk (Nord department) in 2009. As an expert in job creation, the organisation offers candidates vocational work-study training courses to obtain qualifications (generally occupational training contracts) and covers all of the administrative costs. The dynamic created by this organisation in the Dunkirk area over the last six years has been overwhelmingly positive. More than thirty companies are now members of the GEIQ and every year more than fifty people obtain stable employment (including three people hired through fixed-term or permanent contracts by Entrepose Industries in 2015). A branch of the GEIQ could soon be opened in Picardy to extend the reach of the programme.



## Safety



Safety is the primary value of the Group.

The HSE policy applied by Entrepose is intended to protect its teams, who often operate in difficult conditions, and to meet the very demanding requirements of contractors. Safety is a lever as equally important as expertise. It is the primary value that unites all of the entities of Entrepose around a common goal: "Injury Free on Every Site".



The Safety, I Care! logo symbolises the Group's commitment to safety.

The safety policy, embodied by the Group's six principles, the golden rules, and the subsidiaries' initiatives, has become one of the main vectors for the shared culture that Entrepose has sought to create. It is implemented by several unifying approaches: the Safety, I Care! plan\*, whose logo now identifies all the Group's safety commitments; and the health, safety and environment challenge (see opposite). The company joined the VINCI Construction International Safety Week for the second year running in 2015. In the context of the restructuring that marked the year end 2014-2015, this focus on safety was confirmed by the publication of the CSR charter and the Health, Safety and Security Principles. It is a key angle of the Entrepose CAP 2020 Strategic Plan.

Entrepose's safety policy is managed, under the authority of the general management, by fifteen HSE managers who implement a very full range of initiatives. These are intended to identify and prevent specific risks in some business lines, related to combined work — which often occurs on worksites in the oil and gas sector. Attention is also given to delicate tasks like slinging and hoisting, or preventing inappropriate behaviours, and creating a climate of vigilance and mutual assistance within teams.

\* Launched in 2011, this plan aims to reduce, to less than 1, the number of accidents with lost time per million hours worked.

HSE managers are supported in their assignment by the on-site management team which presents their teams with the measures to be taken during "prestart meetings" held once or, if required, several times a day.

HSE managers are also responsible for identifying and sharing best practices and for HSE reporting. They are organised in a network and use different tools, such as VINCl's enterprise social network called "Network Together" designed to encourage sharing experience and best practices. Software developed by Spiecapag and Entrepose Contracting, currently in the deployment phase, will make it possible to simplify data collection.

Many actions, taken at the initiative of worksites, aim to increase teams' awareness of the impact of their work environment, and incite them be involved in efforts made to improve it. This is achieved by organising weekly challenges, token awards, etc. "Open eyes cards" are distributed to site workers to encourage them not just to report dangerous situations, but also to act to correct them.

Since November 2015, the availability of VINCI Construction's mobile phone application, "Watch", has facilitated reporting using smartphones.



#### SAFETY WEEK

From November 23-27, 2015, Entrepose participated in the VINCI Construction International Safety Week for the second consecutive year. This edition focused on the theme of responsible driving, whether on the road or on a project site. Numerous tools (posters, videos, guides, etc.) served as support for daily activities on the topic, in parallel to the initiatives taken by each entity. Examples of company initiatives include: poster contests, ERP (Emergency Response Plan) and IOP (Internal Operation Plan) exercises, site and workshop visits, and meetings with Benoît Lecinq.

On the occasion of the VINCI Construction International Safety Week, the management team travelled to the Dunkirk, France site of

#### HEALTH, SAFETY AND FNVIRONMENT CHALLENGE.

Every year since 2012, all employees of the Group are invited to participate in the Health and Safety Challenge, as an individual or in teams. This competition is designed to reward, promote and spread awareness about the best initiatives in three categories ("Management, Organisation", "Technique, Equipment, Tools" and "Training, Behaviours, Human Factors"). In 2015, with the addition of an "Environment" category, the competition was renamed the Health, Safety and Environment Challenge. The list of prize-winning projects was published on January 22, 2016. The 26 projects competing are presented in a brochure distributed internally and also accessible on the intranet.



All of these actions are combined with more formal approaches. Alive on Site, for example, consists of watching a film made on site in small groups in order to identify positive and negative aspects of the installations and behaviours. After these discussions, the site workers are invited to pledge their commitment to safety.

Training is an essential aspect of this continual improvement at every level of the hierarchy. A number of training courses designed to meet specific needs were provided on-site to cover various issues (slinging, pollution alerts, man overboard, etc.). Three Safety Leadership sessions were organised for management in 2015. For the first time, a partnership with Subsea 7, as part of the Citeph programme (see page 46), was finalized in order to finance a training module. This training course,

which was developed as a "serious game", is specifically designed for riggers (staff in charge of slinging during offshore operations). It should be operational in 2016.

In 2015, the Lost time injury frequency rate (1) for Entrepose (which includes temporary workers and subcontractors) was 1.57, compared with 1.50 in 2014. The increase in this figure is largely explained by the decrease in the number of hours worked in the year and by the increase in small events in professions that are prone to accidents, mainly in France.

Another more representative measure of real performance, not restricted to lost time injuries, is the TRIR (2) — which is the benchmark indicator for the oil and gas sector. This results in a rate of 3.86 in 2015 as opposed to 4.21 in 2014.

- This corresponds to the number of workplace accidents with lost time divided by the number of hours worked multiplied by one million.
- Total Recordable Injury Frequency Rate. Total number of events (mortal accidents, lost time accidents, accidents without lost time) divided by the number of hours worked multiplied by one million.







# Quality, ethics and compliance, environment

During the 2015 Entrepose Health,

During the 2015 Entrepose Health, Safety and Environment Challenge, Geostock won an award for the use of cornstarch pipeline markers.

Committed to corporate social responsibility, the Group undertakes concrete actions regarding quality, ethics and the environment.

#### QUALITY

In 2015, the confirmed reduction in activity due to the fall in the price of oil and the excellence objective set by the Entrepose CAP 2020 plan highlighted the necessity to limit the cost of non-quality issues (non-compliant supplies, the operational impact of late delivery, lost time, etc.) and to share best practices throughout the Entrepose Group, beyond trade-specific specialties. This is why a process was undertaken to harmonise the management systems in order to obtain an integrated system by the end of 2016.

#### ETHICS AND COMPLIANCE

Ethics is one of the areas of corporate social responsibility, along with the environment, quality and safety. This is one of the most sensitive subjects in the oil and gas sector, where customers and in a general manner, stakeholders, of projects are increasingly demanding in terms of the example set by companies. From 2010, Entrepose was therefore highly proactive on this matter, with the ambition of setting an example and staying a step ahead of competitors.

After distributing the VINCI Ethics and Compliance Charter and then appointing an "Ethics and Compliance" officer in 2013, the company began preparations for certifying its

anti-corruption management system according to the future ISO standard. The preparations continued in 2015 with the publication of the CSR charter ("Exemplary Conduct, Together") and two guides: corruption risk assessment and the prevention of corruption in the Entrepose Group. Designed to serve as practical guides, these publications are intended for the Group's employees and partners of the company.

Alongside this, Entrepose's legal affairs division continued to give ABC (Anti-Bribery and Corruption) training throughout the year, and several weeks of awareness campaigns were organised in company departments. These documents are available to employees on the company collaborative workspace on the Intranet.

#### **ENVIRONMENT**

Limiting the environmental impact and seeking better energy efficiency to benefit customers are two of the three primary undertakings of Entrepose's social responsibility charter, which was published at the start of 2015.

This privileged position is linked to the requirements of contractors in the oil and gas sector, and is illustrated by the ISO 14000 certification of Entrepose Contracting and Spiecapag's environmental management

systems. These two companies perform the types of operations that have the highest exposure to environmental risk and whose activity accounts for more than 80% of the Group's revenue.

Beyond complying with standards in the sector, Entrepose's environmental commitment is proven by systematically seeking added value in its offers. In the technical field, designing a process also leads the company to offer a solution that consumes less energy in the operation phase. This goal, ever-present in the design phase, also steers longer running research work (see page 46) and results in innovations that can mark the whole sector. This was the case in 2013 with the "hydraulic testing of the inner liner of cryogenic tanks". This test, now performed using salt water with no chemical additives, avoids wasting hundreds of thousands of cubic metres of fresh water in countries where this resource is often rare. This was also the case in 2015, with the tool developed by HDI to limit the discharge of sludge and protect the environment on horizontal directional drilling sites (see page 47).



#### **Yamal LNG, Russie**

#### A UNIQUE ENVIRONMENT

The isolation of the Yamal LNG project makes transporting wastes inconceivable. Wastes are therefore collected by a subcontractor who processes them on site through incineration, under the authority of the client.

Potable water supply is procured from a freshwater lake about 5 km away and treatment is subject to the same constraints of isolation. The project team managed to impose equipment and practices employed on similar projects. Therefore, potable water undergoes treatment before being distributed, and waste water is treated using a water treatment station installed in a heated hangar before being discharged into the natural environment.

Moreover, all personnel working on the project undergo an "Environmental Induction", during which information is communicated about the local population (nomadic Nenets tribes) as well as the rules to follow with regards to local wildlife, wild geese, foxes, seals and bears, that must not be fed.

Yamal LNG Project, Russia.

#### Shalapa, Mexico

## LIMITING THE IMPACT OF SURFACE FACILITY WORKSITES

Entrepose Contracting is in charge of surface facilities in the Shalapa underground storage project in Mexico, where, at the end of 2015, it began deforesting a 28-hectare area of a particularly rich jungle ecosystem. The company worked alongside its customer, ASSE, to implement a programme designed to limit the environmental impact. Prior to the works, and once all the flora and fauna in the area had been noted and staff made aware of environmental concerns, a team was specifically assigned the task of evacuating the most vulnerable species of animals (turtles, armadillos, iguanas, opossums, etc.) and removing certain plant species (trees and shrubs). Planted in a nursery until the works are completed in the first quarter of 2017, these shrubs and trees will be replanted to landscape the spaces around the future facilities, where the rescued animals will also be released. The programme will also make local communities aware of responsible actions to take to protect the ecosystem.

Preparatory groundwork. Shalapa Project, Mexico.



An opossum found on the Shalapa site, Mexico. A special programme was implemented to protect the particularly rich flora and fauna.



This document was prepared by Entrepose Group Communications Department communication@entrepose.com

Writing: Jean-Marc Brujaille and Stéphane Tourneur Translation: Technicis | Editing: Amber Marcum Combaud Designed and produced: INCREA

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Entrepose Group 165, boulevard de Valmy - 92700 Colombes / France Tel.: +33 (0)1 57 60 93 00 - Fax: +33 (0)1 57 60 93 01 www.entrepose.com

