GLOBAL REPORT 3

DENYS GLOBAL

In full control

In full control

Johan Van Wassenhove
CEO Denys Group

How can you tell whether a company is successful? Look at the financial statements? Frankly, this is not enough. Annual accounts may indicate the company's financial health, but there is always much more to the story.
I usually suggest taking a closer look by asking the following question: what does the company do to meet its clients' expectations? The answer to this is much more revealing. It gives an understanding of the company's flexibility, its **willingness to innovate** and to invest, its **perseverance** and its **ability to cope with challenging situations.**

Most of our clients have very high expectations. They expect us to construct pipelines at a pace of 800 metres a day, build vandal-resistant hospitals, dig tunnels in unpredictably heterogeneous soils and restore Empire Style interiors cost-effectively. These are just a few of the challenges we encountered in 2012.

Well, we love to make our clients happy. We love to meet their expectations in Europe, in Africa, in fact around the world. And that's exactly why we continue to be successful.

DENYS SUPPORT / GLOBAL SERVICES

Rest Assured

The dream of any infrastructure owner or operator is to be able to sit back and relax once new infrastructure has been commissioned. Alas, this rarely happens. Infrastructure requires continuous maintenance to keep its functional performance and aesthetic quality, a burdensome task for the owners. They outsource maintenance activities to a number of specialised contractors, but that doesn't necessarily bring peace of mind.
These contractors may be good when direct intervention is called for, but they often miss a proactive and preventive approach, and they nearly always lack an overall view of the infrastructure's status. That responsibility is left for the owner or operator. **That is why Denys has created Denys Support.**

"We monitor continuously the infrastructure."

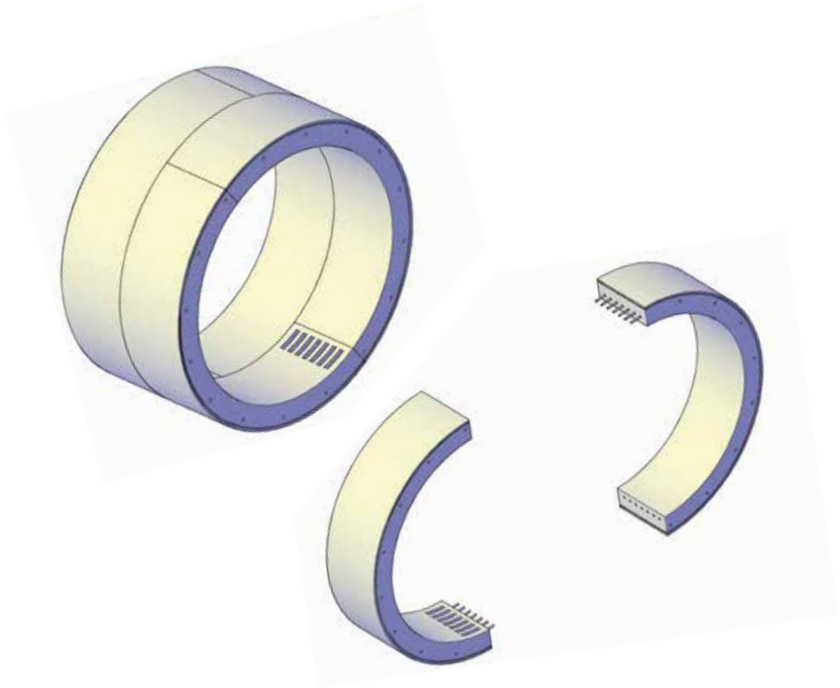
The aim of the newly-established subsidiary Denys Support, is to relieve infrastructure owners and operators from their ownership burdens. First, we determine - by mutual agreement - the required service levels of reliability, availability, maintainability and safety.

Based upon this, we develop a maintenance strategy including maintenance plans to guarantee the required service levels (aimed at maximum safety and availability, minimal downtimes and disturbances). By continuous monitoring the infrastructure, proactive and preventive maintenance is possible, increasing the overall efficiency.

It's a shift in perspective: we assume full responsibility for the owner's expectations during the life cycle of the infrastructure - without waiting for instructions. Check out the maintenance chapter in a PPP or DBFM contract and you'll see why we and our customers have fallen in love with the approach.

TUNNELSPLITPIPE

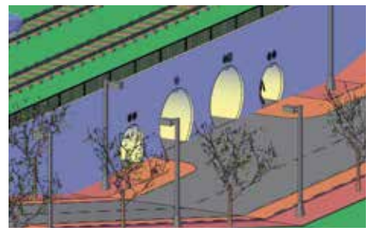
Crossing with ease under the railway



Imagine having to provide a railway crossing but not having the budget or the time required to build a bridge or dig a tunnel. Impossible situation? Not anymore. We have developed a technique called TunnelSplitPipe which is perfect for this type of situation. It's a smart combination of microtunnelling and segment tunnelling. The idea is to assemble on site two semicircular concrete segments to make a complete pipe with a 4.2 m inner diameter. Since it comes in two segments, the TunnelSplitPipe can be transported by road without costing a fortune or damaging the environment. Once assembled, the pipe is jacked through using the classic microtunnelling technique.

The TunnelSplitPipe makes building railway crossings easier, faster, cheaper and less disruptive. The crossing can consist of one or several adjacent pipes, and can be combined with smaller classic microtunnel pipes for bicycle traffic.

"Building railway crossings is now easier, faster, cheaper and less disruptive."



The TunnelSplitPipe consists of two semicircular segments to make a 4.2 m inner diameter pipe.

CZECH REPUBLIC / GAZELLE PIPELINE

"The beautiful Bohemian landscape holds some unpleasant surprises, among them large quantities of rock."

CZ

ND1400@800M/DAY

CZECH REPUBLIC / GAZELLE PIPELINE

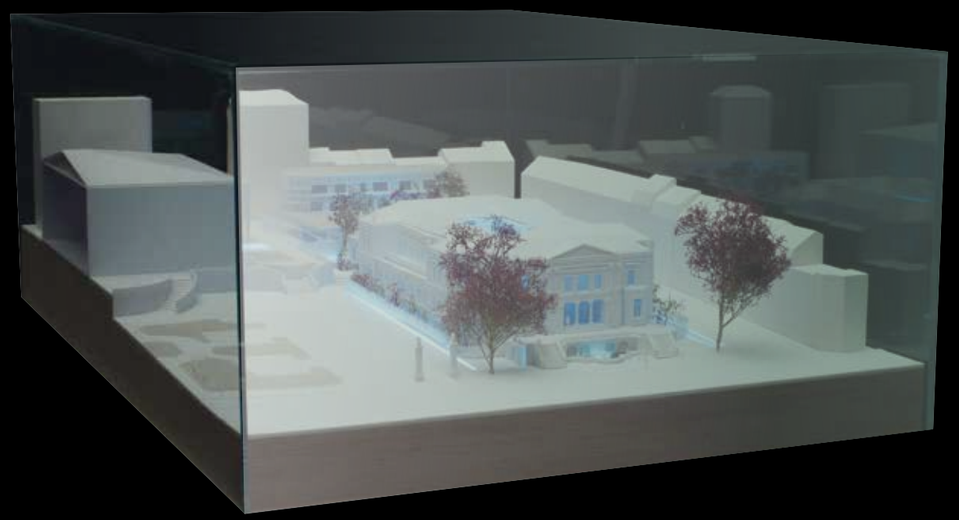
Technology alone wouldn't guarantee meeting the deadline; you also need strong problem-solving capabilities.

It was a remarkable feat: constructing an ND 1400 pipeline at an average pace of 800 metres a day with one spread. But that's exactly what Denys achieved in the Czech Republic.

The high production rate was set by the client, Net4Gas, who wanted the 106-kilometre spread finished in only 13 months time. This included a two months winter stop, making the actual construction time only 11 months. We received great praise for the achievement, especially since the rapid pace did not in any way diminish our attention to safety, quality and environmental issues.

How was this possible? It goes without saying we deployed the newest techniques, including dual torch automatic welding and mechanised coating. But technology alone wouldn't guarantee meeting the deadline. Unexpected circumstances are par for the course and nature is always unpredictable. The beautiful Bohemian landscape is a case in point. It holds some unpleasant surprises, among them large quantities of rock. You need a lot of experience and strong problem-solving capabilities to deal with this kind of situation. You also need to have a perfect understanding with the client, which is what we had.

BELGIUM / LES BAINS DE SPA



The original Spa revives

Les Bains de Spa is being given a second life. This famous spa resort, located in the Belgian Ardennes, gave the world the term 'spa', a synonym for wellness achieved through mineral water treatment

BELGIUM / LES BAINS DE SPA

"The word 'spa' is a world-wide synonym for wellness through mineral water treatment."

The word 'spa' spread in the 18th and 19th century, when European aristocracy visited the town of Spa to find relaxation, comfort and cure. The town has numerous sources of water, all of them rich in minerals (especially iron). Their curative powers were even known to the Romans, as evidenced by the writings of Pliny the Elder. But the heyday of Spa began in 1717, when the Russian tsar Peter the Great took balneotherapy and hydrotherapy there and recovered from his illness. In the decades and centuries that followed, Spa became the favourite place for artists, writers, politicians, business people and members of royal families. Famous visitors include Casanova, Giacomo Meyerbeer, Alexandre Dumas père, Victor Hugo and the Belgian Queen Marie-Henriette. All of them were attracted by the elitist pleasures and the therapeutic virtues offered by Spa.

Proudly entering the 21st century

Les Bains de Spa – right in the historic town centre – bears witness to this legacy.
It is a distinguished building in an eclectic style, predominantly neo-Louis XVI, designed and built by architect Léon Suys in 1868.

A consortium made up of Denys, Foremost Immo, SumProject and B. Van der Wee architects has won the commission to renovate and revive this Spa gem, listed as a Unesco World Heritage Site since 2008.

The building will accommodate a high-class hotel with a restaurant and some fine boutiques. The beautiful façade, crowned by a richly decorated tympanum (in neo-Rococo style) and topped with high relief statues, will be entirely restored. The original splendour of the magnificent three-stage vestibule will be revived, allowing prestigious receptions and events to be held.
The interior's artistic finesse will be preserved, giving the hotel rooms a distinguished aura. Additionally, an entirely new volume will be built facing the back of the historic building, demonstrating that Les Bains de Spa has proudly entered the 21st century.

The original splendour of the magnificent three-stage vestibule will be revived, allowing prestigious receptions and events to be held.

Reviving neo-Renaissance and art deco

In January 2013, Denys started restoring the 19th century Hôtel Knuyt de Vosmaer in Brussels, commonly known as the Hôtel Empain. This former mansion, which dominates Liberty Place, is being redeveloped to become one of the most prestigious office buildings in Europe's capital.

Photographs © SumProject.

The building was designed and erected in 1879 by architect Jean-Joseph Naert (1838-1910) for the Bruges knight Knuyt de Vosmaer. It was a masterpiece of Flemish neo-Renaissance style, using blue and white stone in the façade, exquisite marble in the carriage entrance, and 3D oak woodcarving throughout the interior.

Only two years after its completion, the building was sold to Edouard Empain, a wealthy Belgian businessman then embarking on his impressive career. Empain made it the headquarters of his newly-established investment bank, which later became the Banque Industrielle Belge, now part of ING Banking and Insurance. He and his brother François also lived there, in two adjacent apartments. In 1930, these were refurbished sumptuously in art deco style.

This splendour was sadly erased in the 1970s when the building was altered with prefabricated elements and partitioning walls to accommodate a state department. However, the recent removal of these modern elements laid bare the building's original decorative wealth. The entire building is now being renovated with utmost precision and care for detail. In just two year's time it will be transformed into a luxurious office building, testifying to the magnificence of a bygone age.

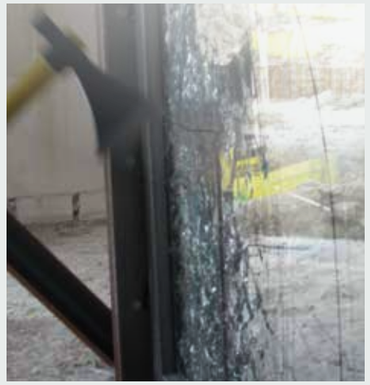
The former headquarters of the Banque Industrielle Belge will become one of the most prestigious office buildings in Europe's capital.

"This splendour was sadly erased in the 1970s."

BELGIUM / FORENSIC PSYCHIATRIC HOSPITAL, GHENT

Having a smashing time

We were happily working on a site nearby our offices in Ghent (Belgium) recently when two dubious-looking figures entered the premises carrying hammers, axes and other heavy tools. Suddenly, they proceeded to batter the recently-installed doors and windows as hard as they could. They continued with this violent behaviour for almost fifteen minutes. All we could do was stand and watch (rather nervously) as they tried their very best to smash the armoured glass!



What was that all about? These rather fearsome men had been sent by the future owner of the building. Their instructions were to ensure all the doors and windows complied with the owner's requirements, which meant they had to withstand acts of violence and vandalism for at least fifteen minutes. Since we had installed Chinese armoured glass with a thick polycarbonate layer, the doors and windows passed the destructive test with flying colours.

But why armoured glass? Well, the building is going to be a new Forensic Psychiatric Hospital for those declared by the courts to be unsound of mind and referred for treatment and assessment. In Belgium, many of these individuals are detained in prison due to lack of suitable treatment facilities. Planned to be ready in March 2014, the 15,000 m² hospital in Ghent will have 270 rooms, allocated to various clinical units for treating patients and gradually preparing them to reintegrate into society.

Unfortunately, many patients behave violently and dangerously, especially in the early stages of treatment. This calls for special constructive and architectural solutions such as unbreakable glass, peculiarly shaped surrounding walls, rock-solid wall finishing and sanitary blocks that cannot be removed. Many of these solutions were new to us, but at least one aspect is familiar: working with utmost precision.

The doors and windows must withstand acts of violence and vandalism for at least fifteen minutes.

BELGIUM / BIO-ACCELERATOR II, GHENT

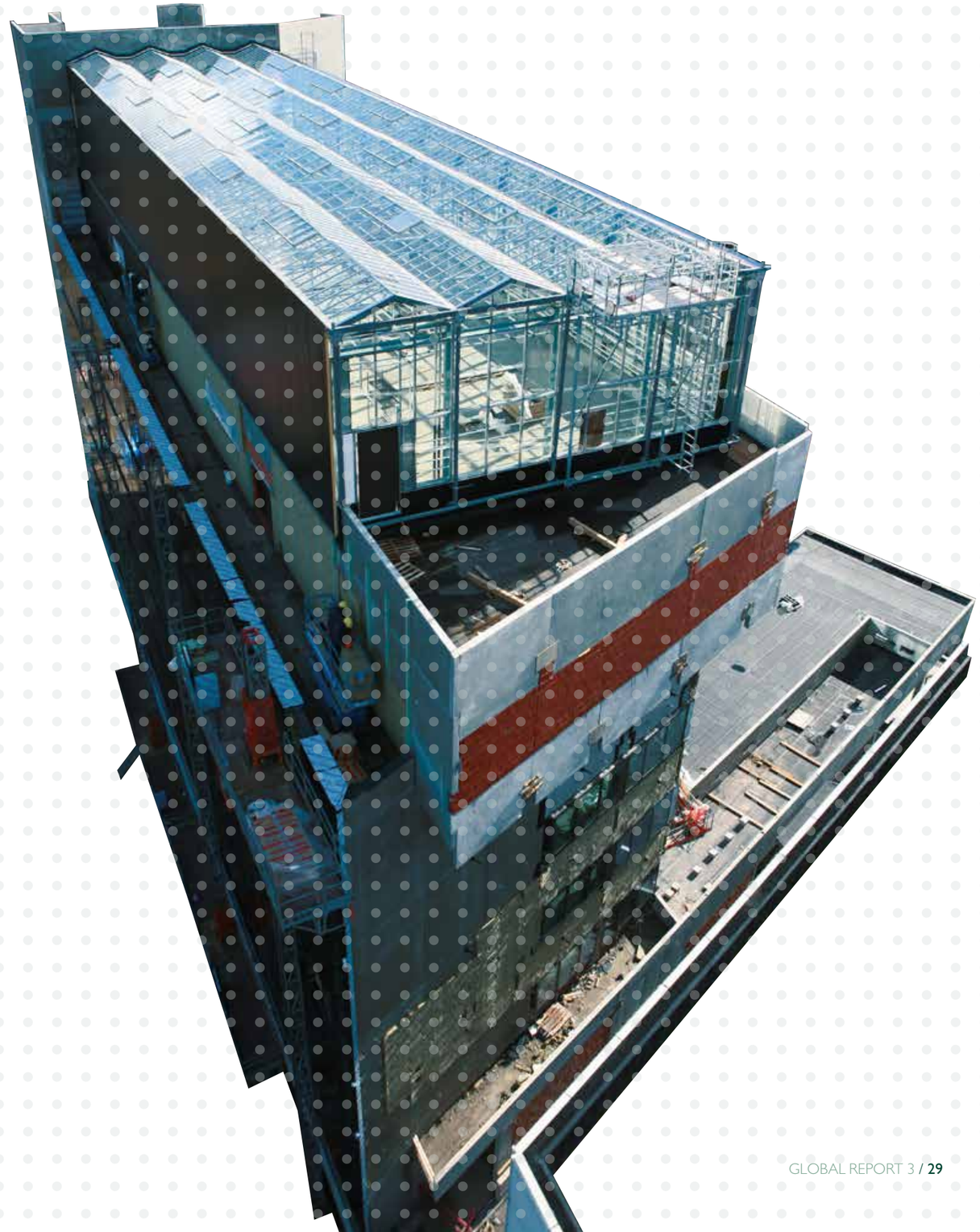
Crowning glory

Biotechnology activities continue to grow fast in Ghent, confirming the need for additional office and laboratory infrastructure for several spearhead enterprises.

In 2010, we finished the first phase of the Bio-Accelerator service complex. This year, we are ready to deliver the second phase - an 8,000 m² facility to be entirely occupied by Cropdesign, a BASF Plant Science branch delivering agronomic traits for the global grain and rice seed markets.

However, when working for a rapidly growing sector, you have to be able to act fast. Cropdesign needs a large conservatory for growing plants, but this wasn't in the original design of phase two. The plans were changed at the last minute; the roof will now support a conservatory, crowning this highly efficient and functional five-storey building.

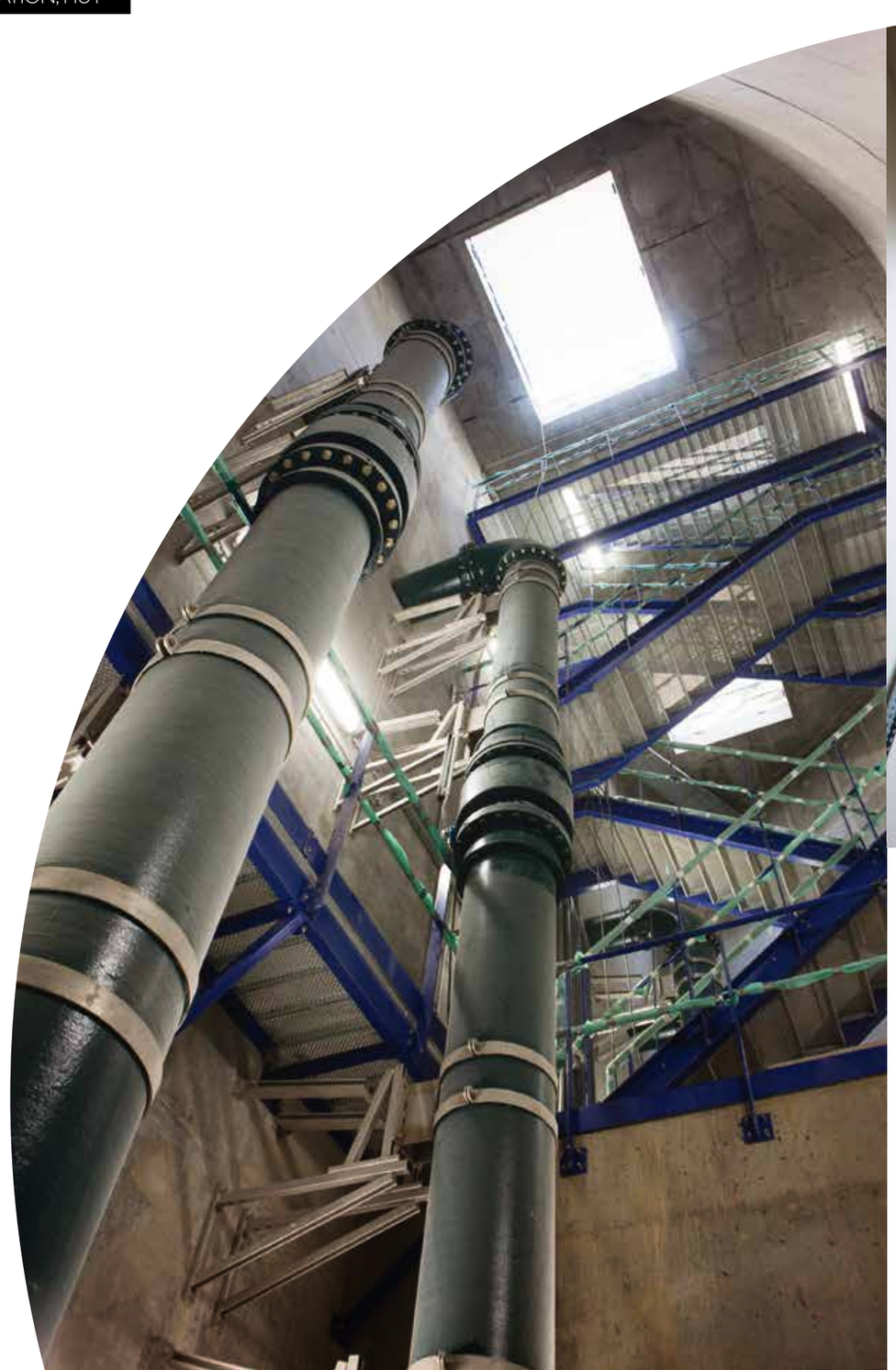
The conservatory for growing plants will crown the five-storey building.



BELGIUM / PUMPING STATION, HUY

The 200-day challenge

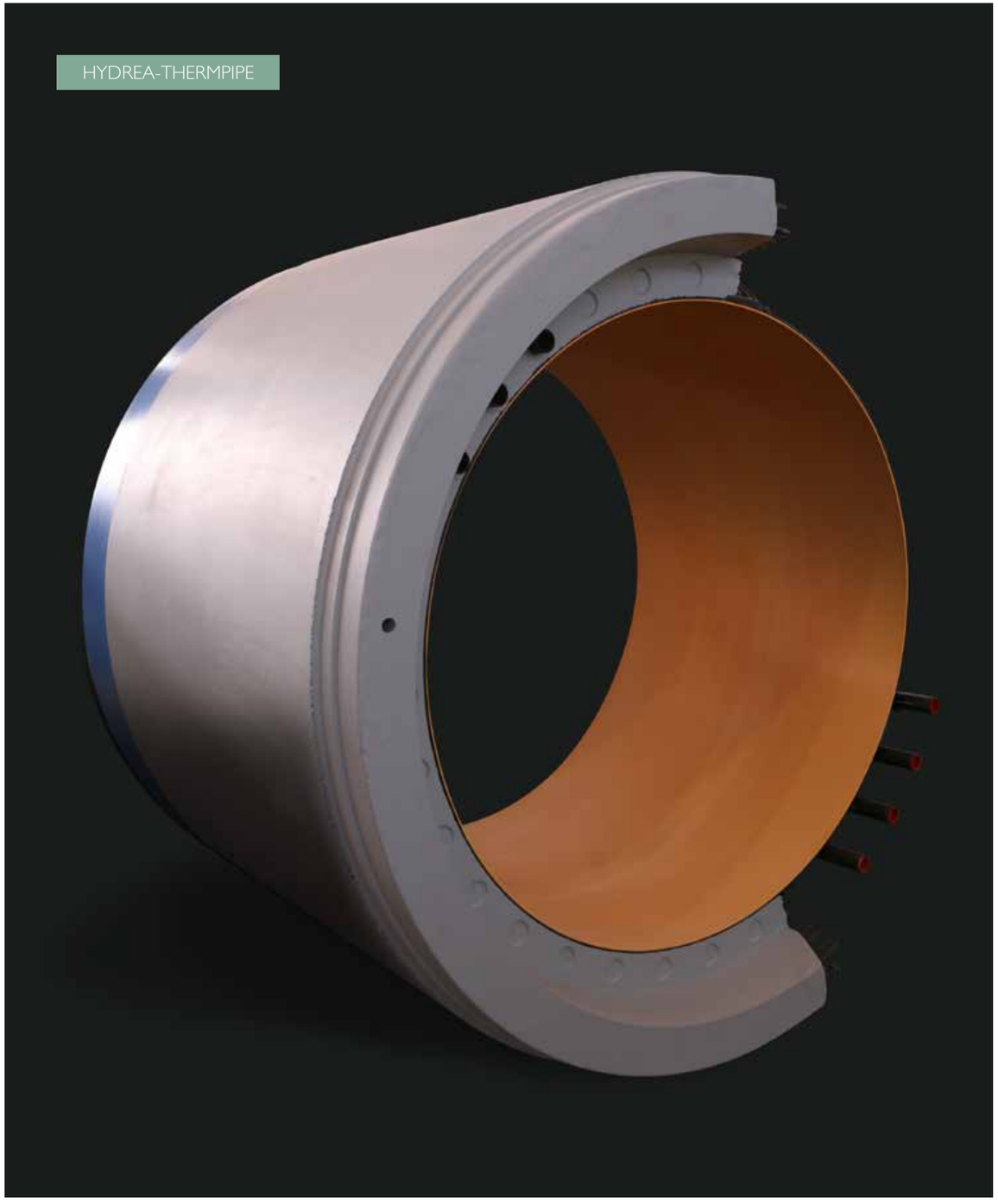
BELGIUM / PUMPING STATION, HUY



The challenge of building the new wastewater collector and pumping station along the Meuse River in Huy was recently taken on by Denys with great success.

The highly technical pumping station has been carefully disguised using a fine modernistic façade.

Constructing the pumping station, a 14-m cylindrical volume reaching 20 m below ground level, was challenging for several reasons. The geology is incredibly difficult with its layers of boulders and schist and its high groundwater pressure. We also had little room to manoeuvre.
To top it all, we had no more than 200 labour days to complete the job, including joining up with the 240 m tunnel construction 16 m down and below the river. For all these reasons, we decided to construct a larger circular secant pile wall and then build the concrete structure against it on the inside. The short completion time meant we had to allow the tunnel to enter at the base of the station while still constructing the building. As a result, we had to schedule the work carefully and organise safe coactivity.



Recapturing lost heat

The Hydrea-thermpipe has a concrete outer housing and an inner lining made of HDPE. The heat recovery system is effective even with modest temperature gradients of 3 or 4 °C.

Wouldn't it be great if we could recover the waste heat from household activities such as cooking, washing and dishwashing? Denys has found a practical way to do just that.

We've developed the Hydrea-thermpipe, a jacking pipe with a concrete outer housing and an inner lining made of HDPE. The system recovers 'lost' heat from the fluid in the pipe thanks to an array of tubes and heat pumps. It is effective even with modest temperature gradients of 3 or 4 °C, enabling the recovery of heat from wastewater drainage pipes to supply hot water or district heating.

The technique can be applied to all types of pipes, including gravity drainage pipes and steel core concrete pipes. Industrial cooling water circuits are obvious candidates.

BELGIUM / SAINT ANNA CHURCH, GHENT

A STONE ROSE

In November 2012, Denys finished restoring three more bays of the Saint Anna Church in Ghent. We also restored the stone works of the impressive rose window in the façade. Our sculptors were delighted to see the 3D robot do all the tedious repetitive work.

The Saint Anna Church displays an eclectic mix of Roman, Byzantine and Gothic styles.

BELGIUM / HOUSE OF THE LIBERALS, GERAARDSBERGEN

All crafts mobilised

"A full-scope restoration."

Last year we finished restoring the House of the Liberals in Geraardsbergen, a provincial town in the Flemish Ardennes.

This house was once an imposing bank building, a real early 19th century eye-catcher built in the Empire style of the era and displaying Corinthian richness and splendour.
The Liberal Party acquired it to make it their local headquarters in around 1880.

Despite its magnificent interiors, the building was somewhat neglected during the 1960s and 1970s. At one point the roof began leaking, gradually weakening the upper floor and even parts of the majestic first floor.

Unfortunately, it took decades to find the necessary funding for restoration.

It was a full-scope project, requiring the mobilisation of various crafts, including marble painting, stucco, fine carpentry and bronze imitation work. With so many different teams at work, planning and organisation was crucial. Plus: we came across some unexpected extras. Despite all that, we managed to finish four weeks ahead of schedule.

The building's Empire style exudes Corinthian richness and splendour.

BELGIUM / CHURCH OF OUR LADY, LAEKEN

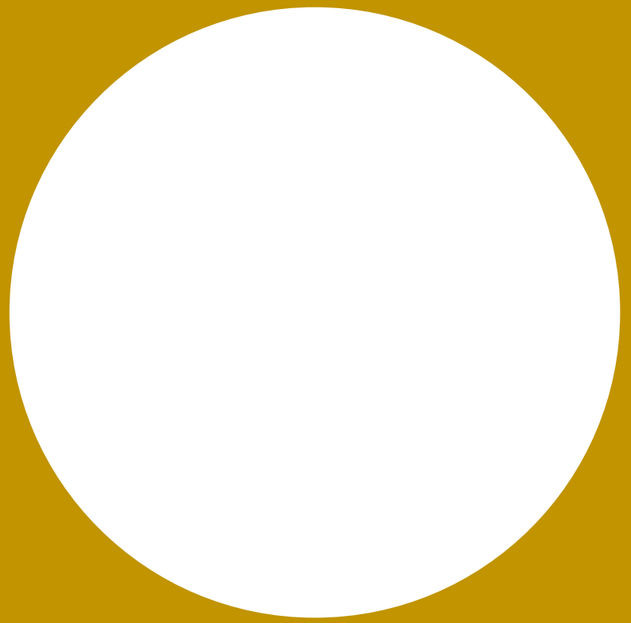
An act of preservation

In Laeken, we have continued restoring the Church of our Lady. Much to our surprise, we discovered a peregrine falcon's nest while setting up the scaffolding to start sandblasting works on the side wall.

The peregrine falcon is an endangered species, so we didn't want to prevent these rare birds of prey from breeding. After all, these beautiful creatures help to preserve monuments by chasing away the pigeons!

It meant delaying the sandblasting until the young falcons were ready to fly the nest but, in the meantime, we have built a special platform for the falcons to use as a nesting place next year and the years thereafter. Of course, our work will be interrupted again when the breeding season starts, but we believe both nature and culture are worth preserving.

Forty-two pinnacles were either lost or severely damaged, so our 3D stone robot had to work day and night to re-create them.



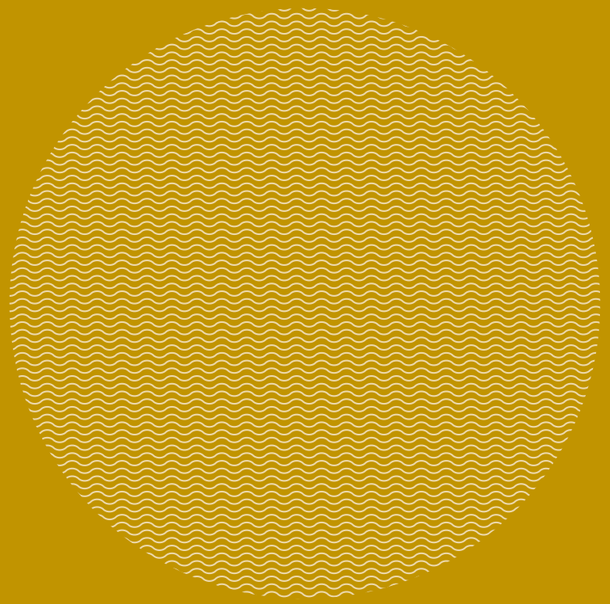
"We always team up with locals, but we never compromise on strict planning and execution."

A vibrant continent

Africa is such a vibrant place. Denys has been working on the continent for more than twenty years, yet we still marvel at the wide diversity of nature, culture, people and customs.

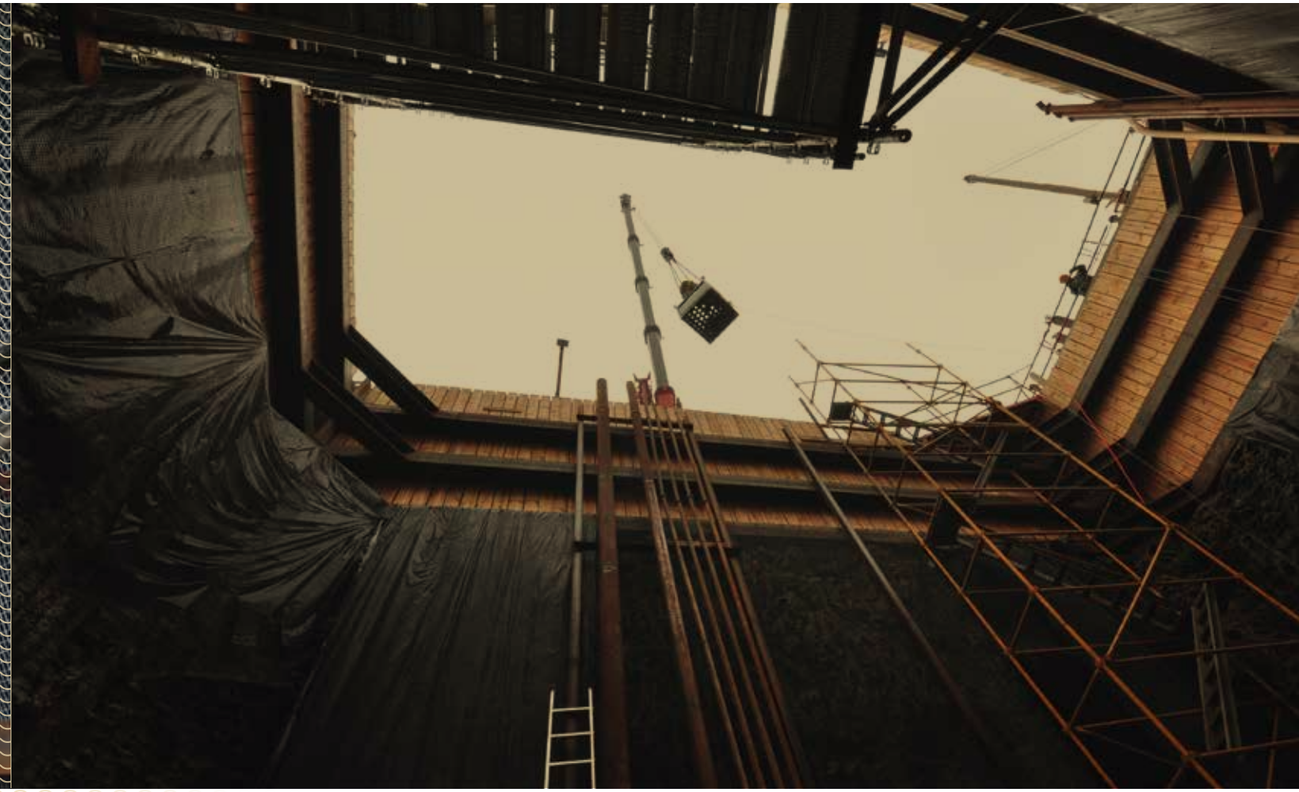
The contrast between North Africa and sub-Saharan Africa is well known, but that doesn't tell the whole story. There are, for instance, huge politico-economic differences between the two North African countries of Algeria and Morocco. While the former strongly favours local businesses, the latter is becoming an international market for companies from around the world. Nevertheless, we have learned that, in both cases, it's essential to team up with local companies to be successful.

We also team up with locals in sub-Saharan Africa, but more from a recruiting (and training and coaching) perspective. In countries like Cameroon, Chad, Congo, Niger and Ghana, we prefer managing the entire project ourselves to avoid local common practice interfering with strict planning and execution. Believe it or not, even in Africa we often deliver early.



Expertise and organisation

AFRICA / CASABLANCA, MOROCCO



We were still finishing the 2.6 km wastewater pipeline in Casablanca, Morocco when we heard we had won the tender for jacking an additional 3 km. This additional pipeline will reach a newly planned wastewater treatment plant, east of the city. It's yet another 50/50 joint-venture with renowned Moroccan company CAPEP, which clearly appreciates our extensive expertise in microtunnelling, our splendid organisation and our willingness to work.

AFRICA / CASABLANCA, MOROCCO

AFRICA / ALGER, ALGERIA

Dealing with the unpredictable

Denys finished the 2.7 km wastewater pipeline in Alger, Algeria, at the end of 2012. The city has a very heterogeneous geology, so we had to use various special techniques along the way. The unpredictable nature of the subsoil meant replacing cutting disks frequently – we encountered different types of hard rock as well as backfilled sand. We were forced to keep the drill head to 1 bar overpressure to prevent groundwater from penetrating in and destroying the 'air bubble' created for doing interventions in front of the cutting head.
We even had to reinforce the subsoil with jet grouting at various points to ensure safe operability of the drill. Nevertheless, the project was a success.

We had to use various special techniques to construct the 2.7 km wastewater pipeline in Alger.

The unpredictable nature of the subsoil meant replacing cutting disks frequently.

AFRICA / NIGER – GHANA – CONGO

Clean water in the tropics

There's plenty of water in the tropical regions of Africa, but clean water for domestic use is still scarce. Many projects are ongoing to improve that situation, from small-scale solutions to large-scale treatment and supply systems. At Denys, we are happy to play our part.

In February 2013 (one month ahead of schedule), we finished an important project on the Niger River. We constructed a water supply pumping station, an 18-km transport network, a 2,000-m³ reservoir and an 80-km distribution network to bring water to the people of Niamey, the ever-expanding capital of Niger.

In March 2013 (eight months ahead of schedule), we finished constructing the dam on the Ochi-Nakwa River in Southern Ghana, a tropical region with more than 2,200 millimetres of rainfall each year.

We finished the Niamey project one month ahead of schedule.

Gas for the Kribi power plant

The region around the town of Kribi, Cameroon, is certainly one of the most beautiful places in Africa. Yet currently the town and foremost its harbour are being converted into an industrial area.

Kribi was also the preferred location for building the new 216 MW natural gas-fired thermal power plant, a project meant to increase Cameroon's generated capacity by 20%. Denys and its partners have built the 18-km, 12-inch pipeline and distribution plant to feed natural gas to the power plant. It was a modest EPC project, but the timeframe was extremely short: undertake the engineering in July; supply the pipes in August and the filtering and metering skids in November; install and test between September and January. We delivered on time.

The timeframe for the construction of the 18-km, 12-inch pipeline and distribution plant was extremely short.

AFRICA / MANGARA FIELD, CHAD

Under control

In October 1977, an oil and gas well was spudded in Mangara in the south of Chad. However, the discovery, which is near the Cameroon border, was left unused until 2012, when Canadian company Griffiths Energy International signed the concession to exploit it.

Thirty-five years after the Mangara discovery, the oil and gas field is finally being prepared for commercial exploitation.

Griffiths has since started constructing a series of well sites and satellite-gathering stations as well as a central production facility (for wet oil and fuel gas) and a sales terminal. The terminal will connect to the Chad-Cameroon pipeline some 100 km to the south.

Denys has been asked to construct the pipelines (12-inch wet oil and 6-inch fuel gas) between the production facility and the sales terminal, a trajectory that will cross the Logone River at more or less the halfway point. The contract was signed in October 2012 and the mechanical completion is scheduled for July 2013, quite a challenge considering the logistic skills required. In November, we already started shipping more than 20 excavators, 32 trucks, more than 30 cars and other heavy equipment from Antwerp to Moundou via Douala. Meanwhile, we've built an encampment near Moundou, capital of the Logone Occidental region, to house 62 expats for the duration of the project. We've also hired more than 250 local people who will be trained appropriately. We are confident of meeting the deadlines.

BELGIUM / SMALL ISLAND, ANTWERP

Underwater diving @ small island

Underwater divers had to manually remove soil at the bottom of the well.

BELGIUM / SMALL ISLAND, ANTWERP

One of the oldest parts of Antwerp is Het Eilandje, which is Dutch for ‘Small Island’. It borrows its name from the fact that it is virtually surrounded by Antwerp’s 16th century harbour docks. The place has long been neglected, but is now being transformed into maybe the liveliest place in town.

Denys has built a couple of bypasses and a dry well there as part of the new sewage system. The 10-metre wide L-shaped dry well had to go 15 metres down. We used underwater divers to construct it. That’s right, underwater divers! Instead of building a secant pile wall, we decided to cast a concrete construction and to sink it gradually by excavating the ground inside. Every now and then, we sent underwater divers down the groundwater to manually remove soil at the bottom of the well. It’s a rather unusual procedure, but actually very efficient.

We casted an L-shaped concrete construction and sunk it gradually by excavating the ground inside.

Joining forces in Europe

Denys' strategy of forming joint ventures has clearly boosted our European gas pipeline activities. We have recently won tenders for constructing important pipelines in Switzerland and France, and we are now strengthening our presence in the Dutch market.

France
Denys, in a joint venture with French company SPAC, is building two natural gas pipelines for GRTgaz in the north of France. The two sections - 72-km/48-inch and 19-km/36-inch respectively - have to be mechanically completed in only seven months. That's a short timeframe. Nevertheless, we are ready for the challenge since our people combine great enthusiasm with technical mastery (including automated welding and sandblasting).

Switzerland
In co-operation with local contractors, we are constructing the 24-km, 16-inch diameter GAZNAT pipeline between Trévex and Colovrex parallel to Lake Geneva. The project's major challenges are the stringent environmental regulations on emissions and on the ground pressure caused by equipment. Every day a pedology expert monitors the soil (nature and water content). He then defines the maximum ground pressure allowed, restricting the type of equipment that can be used. As a result, a little bit of rain can cause the construction team to come to a complete standstill.

The Netherlands
Denys engaged 40 highly skilled pipeline staff and workers at the end of 2011. Most of them came from Nacap Benelux, the Dutch pipeline contractor that had gone bankrupt earlier that year. This valuable addition to our workforce helps us to provide an even better service to the Dutch market.

YEMEN

Pipeline fixed - Emergency repair in the desert

DENYS

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Technological wonders and great expertise

Nothing compares to operating a tunnel boring machine. Denys has been working with them for more than twenty years, digging tunnels with diameters ranging from 1 to 4 metres and more.

No two projects are alike. We have bored tunnels through every kind of geology: solid rock, clay, sand and more (including various heterogeneous combinations). We have bored tunnels above and below the groundwater level, in canals, under densely populated cities and in harbours.

The tunnel boring machines we purchased for these projects really are technological wonders, though they require great expertise to be adapted to the circumstances and used effectively. That's why we possess and continuously develop in-house expertise.

We have a thorough command of all current tunnelling techniques. We apply earth pressure balance, mixshield or slurryshield technology depending on the geology.
Whenever necessary, we stabilise the soil with, for example, jet grouting. We have also mastered pipe jacking, horizontal directional drilling, segmental lining, rock support with shotcrete, pipe arch construction and shaft construction.

We have even developed pioneering techniques such as the TunnelSplitPipe process, a smart combination of large diameter segment tunnelling and fast micro-tunnelling.

We have first-class references in practically all categories. Well, not quite all categories since we haven't built a large diameter segment tunnel yet. But that is only a matter of time, given our passion, proven expertise and impressive track record. Denys is ready to make every tunnelling project a success, no matter how small or large.

DENYS

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Sharing the vision

Respect is central to Denys' vision. We strive to treat everyone with due respect, be it employees, customers, people living near our construction sites or anyone involved directly or indirectly in our activities.

Wherever we work, we take the time to promote and maintain cordial relations with everyone. When working abroad, we often hire and train local people or we co-operate with local companies, sharing knowledge, expertise, vision and values. In doing so, we create goodwill towards the project.

This respectful attitude pays off internally too. The large majority of our employees identify strongly with the company. About 90% of our people stay with us for many years, having the opportunity to continuously broaden their horizons.

Printed in 2013

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construction
made easier,
faster and less
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