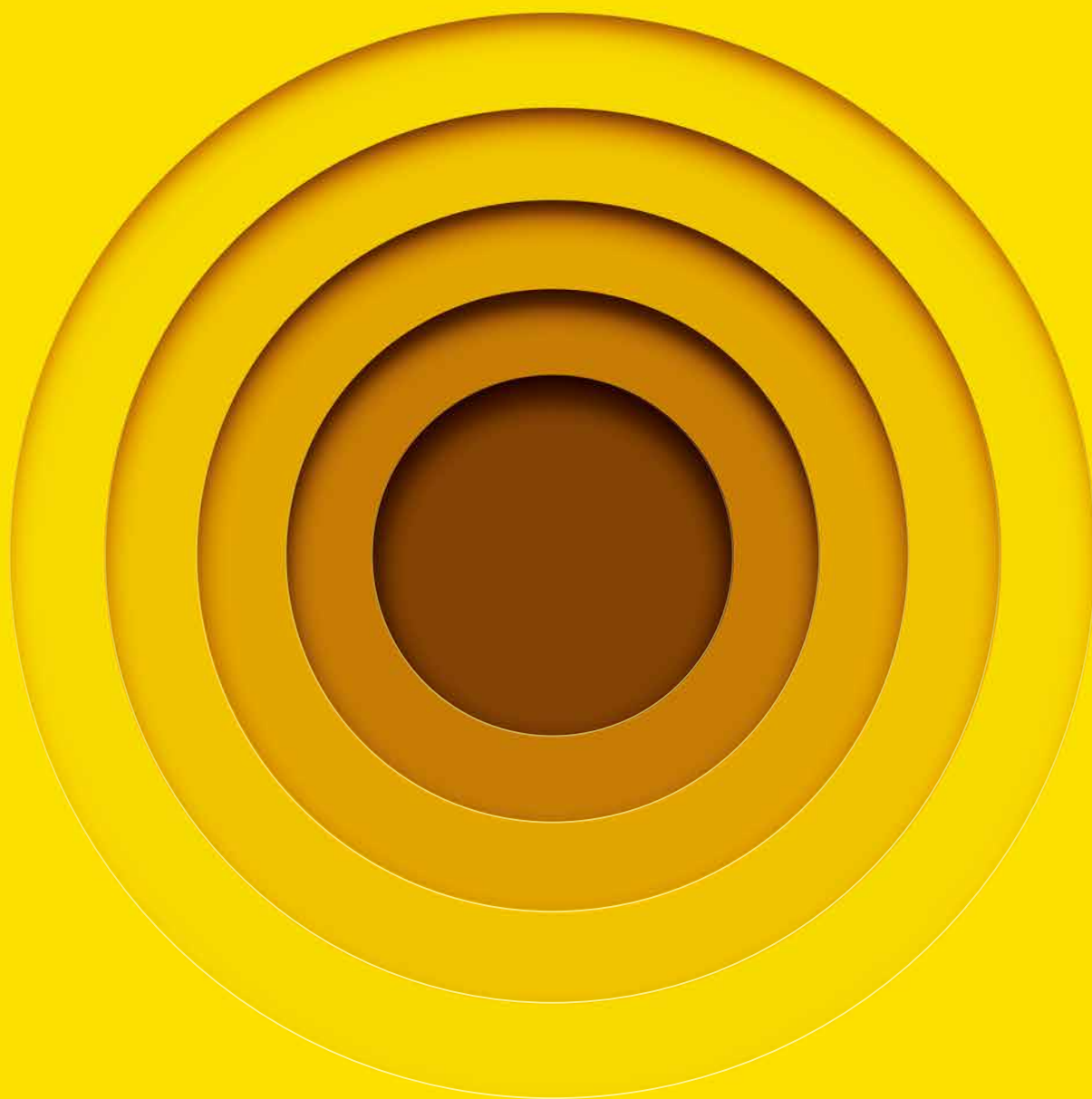


GLOBAL REPORT

7



DENYS  GLOBAL

Prepared for things
to come



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Prepared for things to come

Investment is paying off

Over the past few years, Denys has made huge investments in its business, and these efforts are now bearing fruit. Consider for a moment the Brussels Prison project, a DBFM venture launched in 2012, initially planned for completion by 2017, but suffering a three-year delay due to a series of time-consuming legal procedures. We made a similar investment upfront in the Hinkley Point C project in England, launched back in 2010 but officially ordered only in January 2017.

Consider also the efforts we have made in building strategic partnerships, developing our presence in promising markets such as Northern Africa, Saudi Arabia, France, and Germany. Look at our investment in building a new depot in Ghent, planned to be completed by 2019. Look at the number of people we took on and trained (1900 people currently working for Denys), as well as all the equipment we purchased ahead of the expected surge in infrastructure projects in Europe, Africa and the Middle East. And not least, take a look at our commitment to innovation, epitomised by the exciting development of the patented disturbance-free underground construction system called WallSlotRobot.

As a result of all this investment, Denys is well prepared for things to come. Our order books for 2017 are fuller than ever and we have good reason to believe that the following years will be even better. Whether it's Metro infrastructure projects in Paris and Brussels, tunnels and civil works in Antwerp, gas pipelines in Germany and elsewhere, underground parking in cities all over Europe, or the renovation of buildings and tunnels, you name it, we'll be there.

Johan Van Wassenhove / CEO Denys Group

INTRODUCTION

INVESTMENT
IS PAYING OFF

UNDERGROUND REVOLUTION

Welcome Wallie

On 28 September 2016, Denys' revolutionary excavation system WallSlotRobot (nicknamed Wallie) received its world premiere at Limelette, Belgium. After six years of development, engineering, manufacturing, testing and finetuning, we proudly carried out a live demonstration of the machine's capabilities. The media and other interested onlookers responded approvingly: "Wallie can build underground car parks right in the middle of a city without disturbing anything above-ground. Life and traffic go on normally."

Wallie's
world premiere
at Limelette

© Régine Mahaux



Fast and
safe excavation
without disruption

Above-ground disruption is zero, cost is very competitive and efficiency, safety, and quality are much higher than when using traditional methods.



The genius of WallSlotRobot is in performing automated trench excavation via a micro-tunnel or existing underground space, eliminating disruption above-ground. From the tunnel or underground level, reinforced casings are driven into the earth while an excavator attached to the lower casing digs up the soil. This means that WallSlotRobot also improves efficiency (up to five times faster compared to traditional methods), safety (no human presence down the shaft), and quality (excellent waterproofing and perfect finish), as well as the overall cost.



© Régine Mahaux



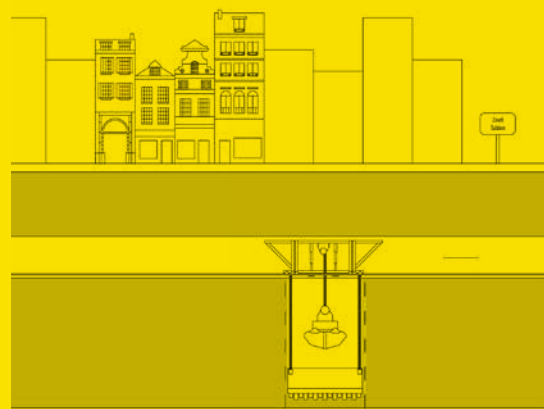
Please scan this QR code for a
Wallie demonstration video.

The Brussels Sablon scenario

To demonstrate WallSlotRobot's potential, we put together a real-life scenario for our fabled machine. The Sablon, historically one of the most idyllic piazzas of Brussels, has declined over the years to become effectively an open-air carpark, with little or no charm and poor economic potential. The proposal to build an underground carpark has come in for criticism because it could create socio-economic deadlock for years.

Three Wallie-tunnels

Not so, with WallSlotRobot at our disposal. In our undecided proposal, we would dig Wallie-tunnels starting out from the Church of Our Blessed Lady of the Sablon, impacting only a tiny area of the square. All the other construction activity would be carried out from below, just like moles. The carpark would be finished in just 30 months.



Getting operational

We're currently busy perfecting the machine. While technical and commercial feasibility has already been demonstrated, a number of design details are being optimised to improve competitiveness. We plan to carry out a pilot project in an operational environment in the second half of 2018. At the same time, we're developing the machine further to allow horizontal arching as well as use below groundwater level. WallSlotRobot, the new way to build below-ground, is here to stay.



We joined forces, in 2016, with do-and-dare fund PMV to create Future Foundations, the company that will take forward WallSlotRobot's commercialisation.

FUTURE FOUNDATIONS

Brussels and Paris, here we come!



The construction of railway tunnels will be another promising business in the next few years. In Brussels, a new metro line is due to be built, creating a fast 20-minute connection from Evre in the north through the city centre to Forest in the south, a track length of 10.4 kilometres. This will mean new tunnels and eight new underground stations as well as the adaptation of existing tunnels and stations. It's a major challenge, especially the requirement to minimise aboveground disturbance during the construction period which is expected to last until 2025.



Our WallSlotRobot investment is destined to prove its worth in the Brussels and Paris metro projects.



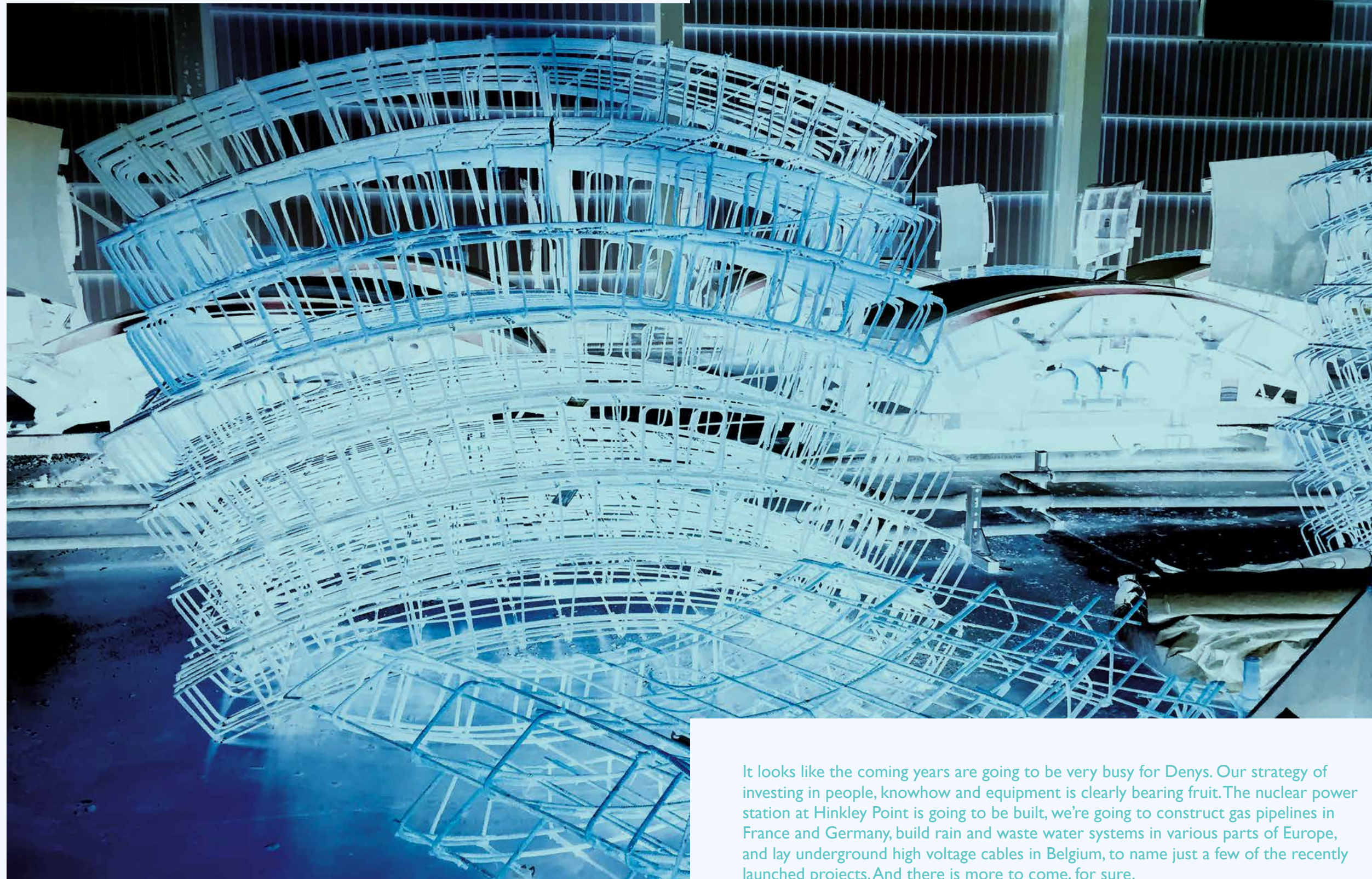
The Brussels project is a big deal, but even that pales in comparison with what is planned in Paris - a 200-km metro extension with 68 new stations forming a ring around the city to connect all the banlieues. Preparatory work is ongoing, construction will start in 2018 and completion is planned for 2030. Both infrastructure projects are very much our speciality. Tunnelling is one aspect, but we're even more eager to build some of the new stations, especially those in the more dense and lively parts of the city. Our WallSlotRobot solution, the patented semi-automated low disturbance underground construction system, is destined to prove its worth. Brussels and Paris, here we come!



© Kengo Kuma & associates - Société du Grand Paris / Gare Saint-Denis Pleyel



The fruits of investment



It looks like the coming years are going to be very busy for Denys. Our strategy of investing in people, knowhow and equipment is clearly bearing fruit. The nuclear power station at Hinkley Point is going to be built, we're going to construct gas pipelines in France and Germany, build rain and waste water systems in various parts of Europe, and lay underground high voltage cables in Belgium, to name just a few of the recently launched projects. And there is more to come, for sure.

PIPELINES / GRIDS
TUNNELLING WORKS

HINKLEY POINT
ALGIERS - GENEVA
VAL-DE-SAONE
MUNICH
BRUSSELS
ANTWERP



Our Oued Ouchaiah wastewater project in Algiers is a similar story of investment bearing fruit. We tendered in early 2014, were granted the commission later that year, ordered the tunnel boring machine in 2015 and started boring at the beginning of the year. In the meantime, we were building a temporary production facility near the construction site which now runs almost 24/7 to produce the necessary high-quality concrete tunnel segments. We did encounter some difficulties, including a lot of administrative hassle and a flooding disaster after the heaviest rainfall in the region in 40 years. But we kept our cool and we'll deliver on time.

PIPELINES / GRIDS
TUNNELLING WORKS

ALGIERS

Our temporary tunnel segment production facility in Algiers now runs almost 24/7.

Beneath the taxiway

In Switzerland, Denys is building a rainwater collector at Geneva Airport, right under a major taxiway. The collector is a 2-km tunnel made from 1600-mm diameter concrete tubes. We needed to purchase a new boring head for our machine to deal with the unpredictable subsoil of clay and hard rocks deposited by glaciers.



Brussels

The purchase of the machine for Algiers also allowed us to successfully tender for a large-diameter tunneling project in Brussels. It involves the construction, for public company Vivaqua, of a 500-metre tunnel with an external diameter of 5700 mm which will serve as an 8000 m³ rainwater detention basin. One of the challenges here will be the limited manoeuvring space for our 103-metre-long tunnel boring machine.



Preparing for the big thing

In Antwerp, preparations are ongoing for the strategic traffic infrastructure programme which is still the subject of some challenge and negotiation. At Schijnpoort, Denys has carried out several projects, including one 3-metre diameter and five 2-metre diameter pipe-jacking jobs under the Antwerp Ring to allow relocation of a water collector to make way for the Oosterweel connection.

PIPELINES / GRIDS
TUNNELLING WORKS

GENEVA
ANTWERP
BRUSSELS

Access to knowhow and equipment



We were granted two spreads as part of the same GRTgaz project, so we mobilised double the personnel and equipment.

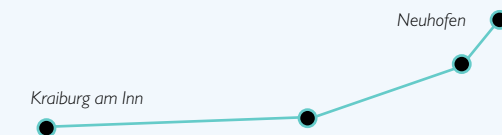
How can you be successful in the gas pipeline business? It all comes down to three things: people, knowhow and state-of-the-art equipment. We have them all. That's what France's GRTgaz found out at several occasions.



Our commitment to GRTgaz continues this year with the construction of two more spreads of the Val-de-Saône pipeline. The fact that we were granted two spreads in one go means that we need to mobilise double the personnel and equipment. In addition, the work involves navigating two TGV railway crossings as well as passing beneath the Saône and Doubs Rivers. For the latter, we opted for micro-tunnelling instead of directional drilling because of its greater reliability in this challenging geology. This is further evidence that in the pipeline world you need to have access to a wide range of techniques to stay in business.

Entering the German market

Meanwhile, we are also teaming up with a German partner to enter the demanding but promising gas pipeline business in Germany. Together we won a project for a 40-km 48-inch pipeline in Bavaria for Bayernets, to be completed by March 2018. This means that in June or July 2017 we will be able to relocate some of the Val-de-Saône project teams to the area around Munich.



Motivating personnel

People, and the knowledge they hold, are among our most valuable assets, so it's essential to keep personnel motivated to work for Denys. That's why we recently created the Denys Pipeline Academy, which functions as both a knowledge sharing platform and a team building programme. We organise monthly sessions where we present and discuss aspects of the pipeline construction process, including tips & tricks and do's & don'ts. We have also set up a welding academy in our premises in Moerdijk, The Netherlands, where we provide training in automated pipeline welding techniques.



PIPELINES / GRIDS
TUNNELLING WORKS

VAL-DE-SAONE
MUNICH
PIPELINE ACADEMY
ANTWERP

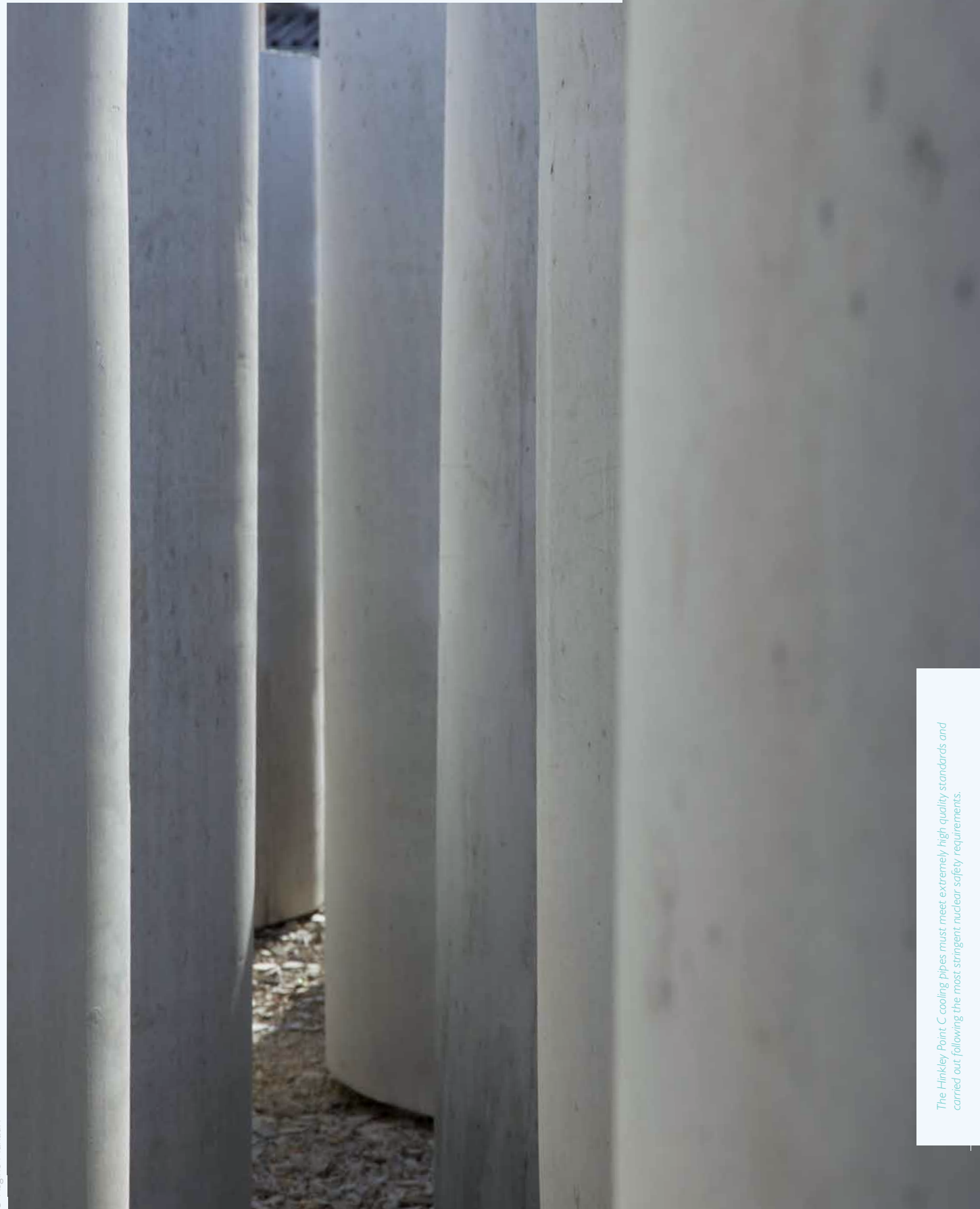


Auxiliary structures were built to guarantee a minimum bending radius for the HV cable laying.

Impeccable engineering is essential

As part of the Oosterweel infrastructure programme in Antwerp, Denys is completing various pipework and cabling projects, including steel gas pipes, PVC water supply pipes, high-voltage cables, and PE telecom ducts along a new 250-metre tunnel beneath the Merksem overpass and the Albert Canal. It was essential to achieve an impeccable standard of engineering for quality assurance, and this involved the challenge of developing and putting in place special procedures and techniques, particularly in relation to the HV cable and gas pipe installations.

Cooling pipes for Hinkley Point C



In July 2016, the final investment decision was made for the construction of the new EDF Energy 3200 MWe twin nuclear power plant at Hinkley Point in Somerset, South West England.



It will be the largest construction site in Europe, and Denys is participating with the construction of the cooling pipes of the tertiary cooling water circuit. It took us no less than six years of upfront effort, including engineering, prototyping and testing, but it was worth the endeavour. Now, we're at the stage of producing the 810 pieces of steel-core concrete pipes with internal diameters up to 3500 mm. The work is being carried out in close cooperation with EDF Energy subsidiary NNB GenCo, meeting extremely high quality standards and following the most stringent nuclear safety requirements. Installation and welding on site will commence in the autumn of 2017 and should be completed by the end of 2018.

The Hinkley Point C cooling pipes must meet extremely high quality standards and carried out following the most stringent nuclear safety requirements.





Denys has built up substantial expertise and capacity in constructing underground high voltage circuits and district heating



The growth of underground high voltage cabling

Some of our activity areas show signs of growing significantly in the next few years. For example, we expect a sharp increase in high voltage cabling projects because of the increasing importance of electricity transmission in the energy market, the growth of decentralised power production, and the need to transport excess power from intermittent sources such as wind and solar. In the recent years, Denys has built up substantial expertise and capacity in laying underground high voltage cables for HV grid operators Elia and Tennet. We recently completed the relocation of a 150-kV line in the north of Antwerp, as well as a project in Ieper.



Heating networks

District heating is on the rise too, both for residential and industrial purposes. Last year, we completed the 3.4-km heating network linking the sites of paper producer Stora Enso Langerbrugge and Volvo Cars in the Port of Ghent. This year, we're carrying out similar projects at the Kolb industrial site in Moerdijk, which produces several types of chemical intermediates, as well as in Alkmaar (3 km, ND300/ND450) and Zeeburg (1.6 km, including a 1.3-km segment using horizontal direct drilling with steel casing pipes).

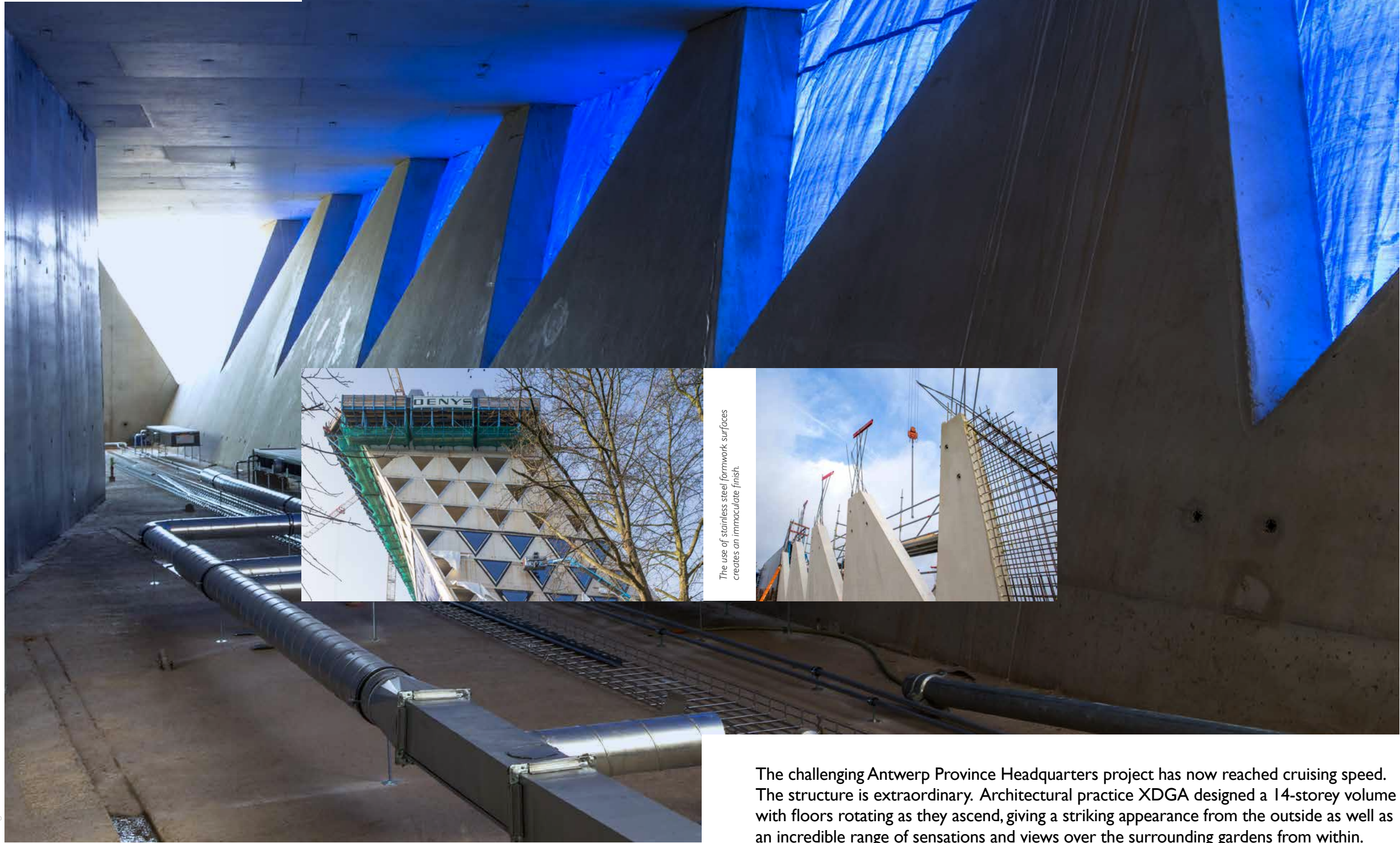


PIPELINES / GRIDS
TUNNELLING WORKS

MOERDIJK
ALKMAAR
AMSTERDAM



With due respect
for tolerances



© Régine Mahaux

The use of stainless steel formwork surfaces creates an immaculate finish.

The challenging Antwerp Province Headquarters project has now reached cruising speed. The structure is extraordinary. Architectural practice XDGA designed a 14-storey volume with floors rotating as they ascend, giving a striking appearance from the outside as well as an incredible range of sensations and views over the surrounding gardens from within.

BUILDING WORKS
ANTWERP
PROVINCE HEADQUARTERS



© Régine Mahaux

Not surprisingly the stunning twisted outline, with its 3D curved surface brings tough challenges, especially in constructing the formwork, casting the heavily reinforced concrete elements, and developing the triangular window frames, all with due respect for tolerances. Despite all that, we're currently constructing floors at the pace of one every six weeks or so, which is quite an achievement.



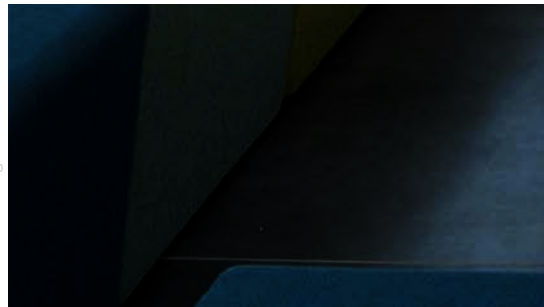
BUILDING WORKS
ANTWERP
PROVINCE HEADQUARTERS

For study and fun

Student cities in Belgium such as Ghent and Leuven increasingly encourage the construction of purpose-built student housing to relieve pressure on the local housing market. In Leuven, Denys has built such a facility, known as De Flint, after its location on Frederik Lint street, providing housing for 205 students.

It's a place where students can find everything they need. As well as their room or studio, they have access to shared facilities such as a kitchen, a study, a lounge, chill and fun spaces for watching videos or playing pool and football, a fitness room, and a courtyard for relaxation.

The building was erected in less than 18 months. Special attention was given to architectural details such as the patterns in the brick facade, requiring each brick to be cut individually, and the use of natural stone in the garden.



De Flint was built in less than 18 months.

BUILDING WORKS

LEUVEN
DE FLINT
STUDENT HOUSING

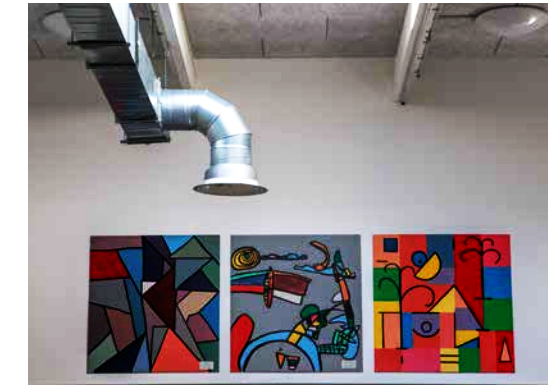


Daring but pleasing

In Zomergem, Denys have constructed another school building as part of the Flemish PPP programme Scholen van Morgen.

This latest was remarkable for its daring but pleasing architecture. Marlies Rohmer Architects & Urbanists designed a triple-vaulted volume in which all school activities are carried out, making maximum use of the flexibility and efficiency of the space. At one end of this volume, a wide exterior platform and stairway connects the first floor to the playground below, providing a viewing area for the staging of school performances on sunny days and a covered play area when it rains.

The colourful interior, with its high-quality finishes, is a pleasure to behold, while even the deliberately-exposed pipework of the air conditioning system is part of the experience.



The stylish use of bright colours makes for a joyful interior.



BUILDING WORKS
ZOMERGEM
PRIMARY SCHOOL

Echoes of dunes



The subtle interplay of sandy shades, natural stone, and accents of etched glass echo the dunes of Knokke.

Denys continues its journey in Knokke, arguably the most prestigious of cities along the Belgian coast. The building we're working on right now is called Duin & Park. It borrows its name from the Yserpark adjoining, a former green space a short distance from the sea-dike that was remodelled into a gently-sloping dune park in 2007. Landscape architect Aldrik Heirman has made it into one of the must-see attractions of Knokke, a charming place which includes a 'love garden' and a labyrinth, the work of artist Jan Vercruysse.

Duin & Park has equally lofty ambition. Dune landscapes are echoed in the stylish but discreet design by Crepain Binst Architects, for example through the subtle interplay of sandy shades, the consistent use of natural stone, and the accents of glass etched with dune motifs. It's the kind of project we just love to work on.

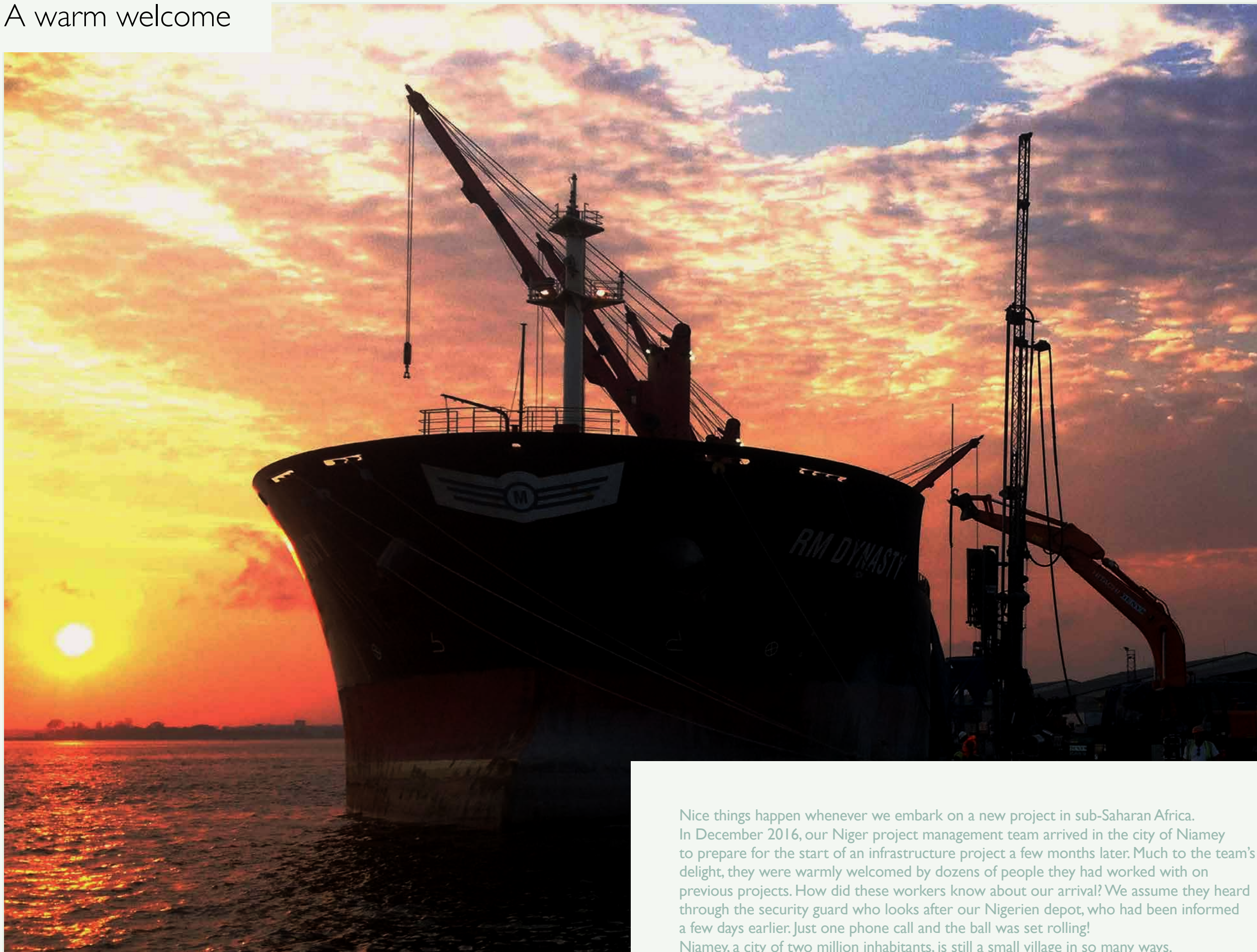
And we're already quite far advanced. In January 2017, we completed the camp-shedding using the Cutter Soil Mix technique and started constructing the basement walls. Carcase work is planned for completion end 2017.



BUILDING WORKS

KNOKKE
DUIN & PARK

A warm welcome



Nice things happen whenever we embark on a new project in sub-Saharan Africa. In December 2016, our Niger project management team arrived in the city of Niamey to prepare for the start of an infrastructure project a few months later. Much to the team's delight, they were warmly welcomed by dozens of people they had worked with on previous projects. How did these workers know about our arrival? We assume they heard through the security guard who looks after our Nigerien depot, who had been informed a few days earlier. Just one phone call and the ball was set rolling! Niamey, a city of two million inhabitants, is still a small village in so many ways.

AFRICA WATER WORKS

NIGER
IVORY COAST
MALI
MOZAMBIQUE
ZAMBIA

Top-quality equipment
where it's needed



Our project management team was warmly welcomed when they arrived in Niamey, Niger.

The local depots and construction yards are a key success factor for our business in Africa, since immediate availability of the most common materials and equipment means a quick response when the tide is high. The more so because we use top quality equipment in Africa.

Our African depots can also serve a whole region. Our local people are familiar with the intricacies and pitfalls of road transport in Africa, so we're not afraid of travelling hundreds and thousands of kilometres around the continent to bring the equipment to where it is urgently needed.

Switching languages in a snap

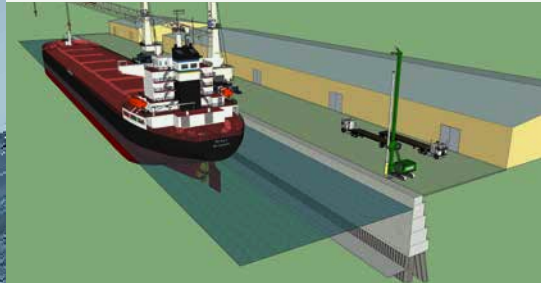
And we hold many more trump cards. One is our staff of highly experienced project managers and engineers. They are able to effortlessly switch language from French to English and back again, which makes communication much easier in this international environment where people from different continents and cultures meet and enjoy doing business together. We're also among the few companies willing and able to meet strict stipulations such as the high quota of female employees. Denys loves Africa and Africa loves Denys.

Introducing jet grouting

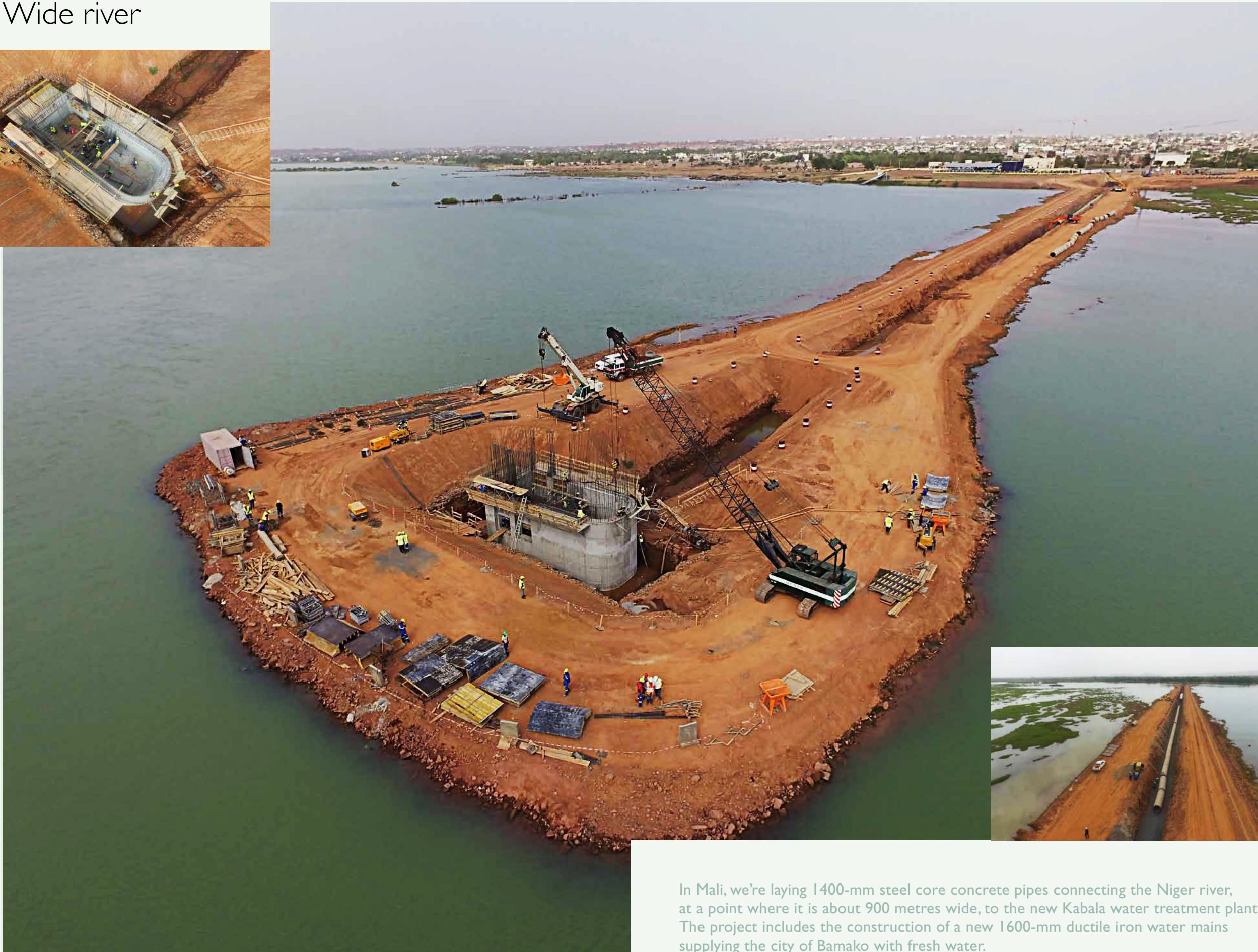
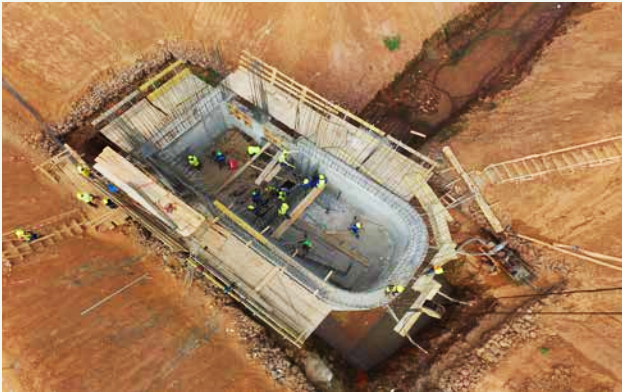
In the port of Abidjan, Ivory Coast, we have completed a pilot project to reinforce the quay walls using jet grouting, a fairly common technique in Europe but almost unknown in Africa. Through careful planning we could carry out our work while port activities continued.



We use top-quality equipment in Africa, because African projects are just as urgent or important as any other.



Wide river



AFRICA WATER WORKS
MALI



In Mali, we're laying 1400-mm steel core concrete pipes connecting the Niger river, at a point where it is about 900 metres wide, to the new Kabala water treatment plant. The project includes the construction of a new 1600-mm ductile iron water mains supplying the city of Bamako with fresh water.

Trencher equipment is used to remove and transfer 2 million m³ of solid rock and sand



Investment pays off

In Mozambique, Denys is building a 93-kilometre pipeline for the supply of water to Maputo, making sort of a connection between the famous Kruger and the beaches of the capital city.

For efficiency and cost reasons, we work closely together with local and South African suppliers. Furthermore, we have put a huge amount of investment into the project, including the purchase of a 1.5-million-euro trencher and more than twenty excavators. We need to remove and transfer no less than 2 million m³ of solid rock and sand. The trencher is a big help, allowing work to advance at a pace of almost 2 kilometres per week in this difficult subsoil. Nevertheless, it's quite a logistical and organisational challenge to get things done.

AFRICA WATER WORKS
MOZAMBIQUE



Trencher equipment is used to remove and transfer 2 million m³ of solid rock and sand.





Rehabilitating water treatment plants

In Lusaka, the capital of Zambia, Denys is rehabilitating an existing water treatment plant to restore its original production capacity of 120,000 m³/day. It's a heavily multidisciplinary task.



Social regulations require us to employ 30% women on the Zambia project.

All the pumping stations are to be replaced and the water supply network is being renewed. A major challenge is the renovation of water reservoirs built by British companies in the 1960s which have suffered from concrete carbonation over the years. Advanced techniques such as electrochemical dechlorination are used to repair the concrete. And we'll continue working in Zambia next year with, among other things, the renovation of a water tower involving the replacement of a huge steel vessel at the top, a first in Africa.

AFRICA WATER WORKS
ZAMBIA



In 1986, Charles Vandenhove created a small-scale architectural composition of marble, stone, concrete and wood sitting atop three window openings on the rear facade of Ghent's Design Museum.

A subtle accent



In the Drabstraat, a modest alley in the heart of Ghent, you can still see one of the few outdoor works from *Chambres d'Amis*, the leading-edge 1986 exhibition of contemporary art organised by Jan Hoet. It is a subtle postmodern accent na neo-classical facade, a small-scale architectural composition of marble, stone, concrete and wood sitting atop three window openings on the rear facade of Ghent's Design Museum. In one corner, traces remain of the artist's signature: Charles Vandenhove, one of the most authentic and influential Belgian architects. His *Chambres d'Amis* contribution is, in fact, the only work he created in Ghent. Or it was, until just recently.



BUILDING WORKS

GHENT
CHARLES VANDENHOVE
PAVILION



Charles Vandenhove built an impressive private collection of works by contemporary artists such as Andy Warhol, Anselm Kiefer, Marlene Dumas and César.

A thing for contemporary art

Charles Vandenhove's architecture is that of perfectionism, elegance and harmony. Among his most famed creations are Liège University Hospital (with its splendid atrium offering peace and tranquillity to patients and visitors), the Théâtre des Abbesses in Paris, and the courthouse in Den Bosch, to name just a few. His presence at the Chambres d'Amis exposition was not just a happy accident.



In the 1960s, he had been one of the first post-war architects to invite contemporary artists to take part in architectural projects. Leading artists such as Sol LeWitt and Daniel Buren made original creations specifically for Vandenhove's buildings and in dialogue with the architect. Over the years, Vandenhove was also putting together his own private collection of contemporary art, including works by Anselm Kiefer, Marlene Dumas, and Andy Warhol.

Back to Ghent

It is this art collection which brings Vandenhove, now in his 90th year, back to Ghent. Professor Bart Verschaffel of Ghent University engaged his institution to fund the design and construction of a 3-storey pavilion for Vandenhove's 180-piece collection. What's more, the collection will be used by the university's art and architecture students to develop skills in creating art exhibitions. Temporary shows will be presented on the second floor. The first floor will be an art and architecture workshop and the ground floor will house a 120-seat auditorium.

A great honour

The pavilion itself may be little more than a gentle footnote in the architect's oeuvre, but the choice of materials (stone, concrete and afzelia wood), as well as the geometric sobriety, subtly echo earlier works such as the extensions to Ridderkerk Town Hall and the Royal Theatre in The Hague. In a way, the pavilion is an extension too, because it is being built just next to Henry van de Velde's famous Boekentoren. For Denys, it is a great honour to carry out this unique project.

BUILDING WORKS

GHENT
CHARLES VANDENHOVE
PAVILION

The new normal



© Régine Mahaux

RENOVATION AND
RESTORATION WORKS

Ghent
Antwerp
Brussels
Luxembourg

In European cities, the practice of renovating existing buildings instead of constructing new ones is gaining market share. One of the reasons is an increased recognition of the quality of our built heritage, not only the monuments but also the less prominent buildings contributing to the urban fabric. Environmental and transport policy considerations further encourage the re-use of abandoned spaces in city centres such as upper floors in shopping streets. But the increased number of renovation projects in city centres brings additional challenges, especially with respect to costs and the disruption of urban life and traffic.

For Denys, this is familiar territory. We have been renovating city centre buildings for several decades now, and we're continuously developing new techniques and solutions, such as our WallSlotRobot, to speed up the work, minimise disruption and keep costs down.

Restoring a gem



© Régine Mahaux

A former gem in the centre of Ghent has been restored to house the new A.S.Adventure outdoor store. Designed and built in 1922 by architect Maurice Fétu for drapery retailer Franchomme & Cie, the building had taken quite a beating in the 1980s when the elegant neo-rococo facade with hints of art-deco was damaged and hidden behind bland wall panels. The interior was equally mistreated, with the magnificent triple skylight being completely hidden from view.

Denys carried out the renovation and restoration work. We reconstructed the facade and restored various interior elements to their original glory, including the iron banisters and the leaded glass skylights. The project was finished in less than twelve months, right on time for the grand re-opening in October 2016.

The magnificent skylight, previously hidden from view, was entirely restored.



RENOVATION AND
RESTORATION WORKS
GHENT
ZONNESTRAAT
RETAIL STORE



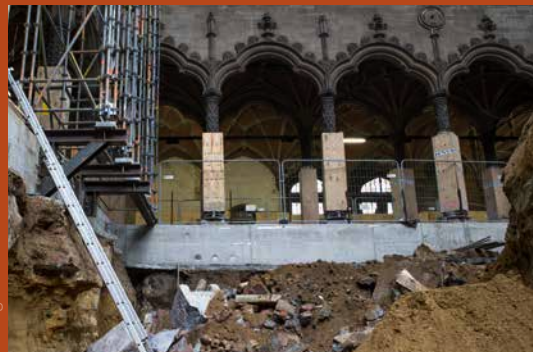
The most critical work is ready

Work is well under way to restore the Antwerp Handelsbeurs. Denys is transforming it into an events hall and business space, with an underground parking garage.

We're about to complete the reinforcement of the 19th century foundations, which is the most critical aspect of the project. We constructed jet grout columns and a grid of concrete beams to connect and support the building's 68 neo-gothic stone columns. The work was planned and is being carried out following a well-crafted excavation procedure, while subsidence is continuously being monitored and compensated for by means of hydraulic jacks.

The remarkable thing is that we're now constructing the parking space while simultaneously carrying out the above-ground renovation work. Although this requires the use of temporary platforms and scaffolding, it means that the project moves faster and we can be sure of meeting the agreed deadline of the end of 2018.

Meanwhile, we also replaced the zinc roof of the Handelsbeurs. The 5-star hotel to the northeast will be built in 2019.



© Régine Mahaux

Thanks to the use of temporary platforms, we can renovate the neo-gothic interior and work on the underground parking at the same time.



RENOVATION AND
RESTORATION WORKS
ANTWERP
HANDELSBEURS

Back in the Champions League

The renovation of La Monnaie Opera House is reaching its final stages following several delays due to changes in the specifications. After careful consideration, the decision was made to develop a unique super-fast and ultra-silent performance stage lift using a combination of electric and hydraulic drives. Four of these stage lifts are to be installed, each measuring 2.6m by 14m and weighing 30 tonnes. Add to that a live load capacity of 500kg/m² as well as a lifting speed of 0.5m/s, and it's clear to anyone that the foundations of the stage house will have a hard time. And a hefty personnel lift with a 180-person capacity measuring 9.3m by 2.3m was also installed.

Denys proved a reliable and committed partner throughout the whole process. Once the new lift design was approved, we went on to reinforce the foundations accordingly, using jet grouting. We also carefully located, measured and reconstructed about fifty foundation columns that had been planned and drilled in the 1950s (but did not appear on any documents) to prevent subsidence of the building.

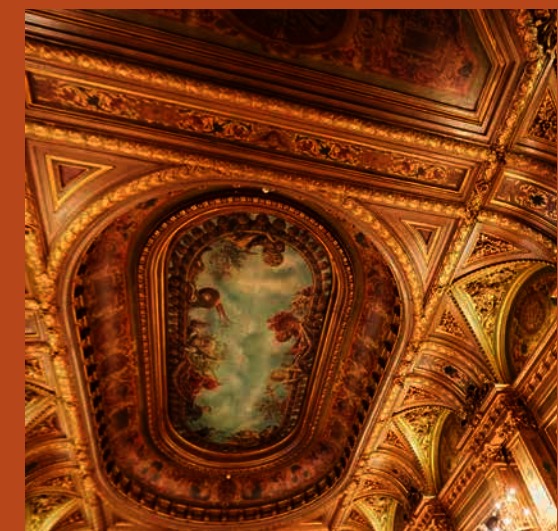
All's well at last: in September 2017, La Monnaie will be back in the Opera Champions League.

RENOVATION AND
RESTORATION WORKS

BRUSSELS
LA MONNAIE
OPERA HOUSE



Foundations needed to be reinforced to allow for a late change in stage lift design.



© Régine Mahaux

Exquisite renovation



Denys is putting the finishing touches to the renovation of Le Cloître de Saint-François, the former Dominican monastery in the historic centre of Luxembourg. By end 2017, all the units will be ready, including the planting of some of the most exquisite trees in the courtyards and gardens.

RENOVATION AND
RESTORATION WORKS
LUXEMBURG
LE CLOITRE

A fitting thank-you to Victor



© Régine Mahaux



The former bookshop and radio studio in the Palais des Beaux Arts in Brussels was renovated and converted to the stylish café-restaurant Victor, named after Victor Horta (1861-1947), the building's world-renowned architect. The interior was redesigned by Robbrecht & Daem architects, who created a distinctive evocation of a planetary system, with extensive use of circular elements such as rounded chandeliers and mirrors. In addition, various features reflect materials Victor Horta used in his building, for example the dark green leather benches and the impressive terrazzo bar, also in green.

The latter feature was the more difficult to construct because the architects required it to be cast entirely in terrazzo, which is very unusual. We therefore had to devise a special casting procedure to ensure an evenly distributed granulometry. Other difficulties arose in securing the torus-like chandeliers. It was all rather challenging but the result is quite sumptuous, a fitting thank-you to Victor Horta.

RENOVATION AND
RESTORATION WORKS
BRUSSELS
PALAIS DES BEAUX ARTS

Building trust in the Middle East



DENYS ARABIA
JUBAIL & KHURSANIYAH

The Middle East: what a fascinating region, and what a great place to do business! If that sounds a little surprising, it shouldn't.

At Denys, we've learned a lot about the region in recent years, especially about working in Saudi Arabia. We have developed a deep understanding of the local business culture and we increasingly appreciate it.

The first lesson we learned is that you need to build trust, a prerequisite before you can talk business. That takes time. We have been here since 2010 and gradually developed a strong network of relationships with Saudi Arabian construction companies until the time was right to establish Denys Arabia, a joint venture with a local partner.





Denys is the first European company to work for Saudi Aramco, the world's largest integrated energy enterprise.

Important Saudi Aramco projects

Our long-term investment strategy for the Middle East is now clearly paying off. After several years of building trust, Denys Arabia acquired accreditation to carry out pipeline construction work for Saudi Aramco, the world's largest integrated energy enterprise, headquartered in Dhahran, Saudi Arabia. Last year, we were granted two important Saudi Aramco construction projects along the east coast of Saudi Arabia, at Jubail and Khursaniyah. The Jubail project aims to relocate the transport of hydrocarbons away from the growing city. It involves replacing three hydrocarbon pipelines (mainly 30-inch and 36-inch diameters) over a total distance of 110 kilometres. The Khursaniyah project encompasses engineering, procurement and construction of two natural gas manifolds, 12 kilometres of access roads to the manifolds, and a total of 56 kilometres of 16-inch natural gas trunk lines.

Happy to comply

Both projects were launched early 2017 and are making good progress. We seized the opportunity to further develop Denys Arabia as a company, which during this time has grown to employ more than 50 administrative and technical staff from all over the world, and more than 600 other workers. In accordance with its corporate social responsibility policy, Denys aims to employ as many Saudi nationals as it can, giving them appropriate training where required. Only this way we can build strong roots in Saudi Arabia and hence become a reliable partner for our clients, a partner that not only complies with the regulations but strives to be best in class.

DENYS ARABIA

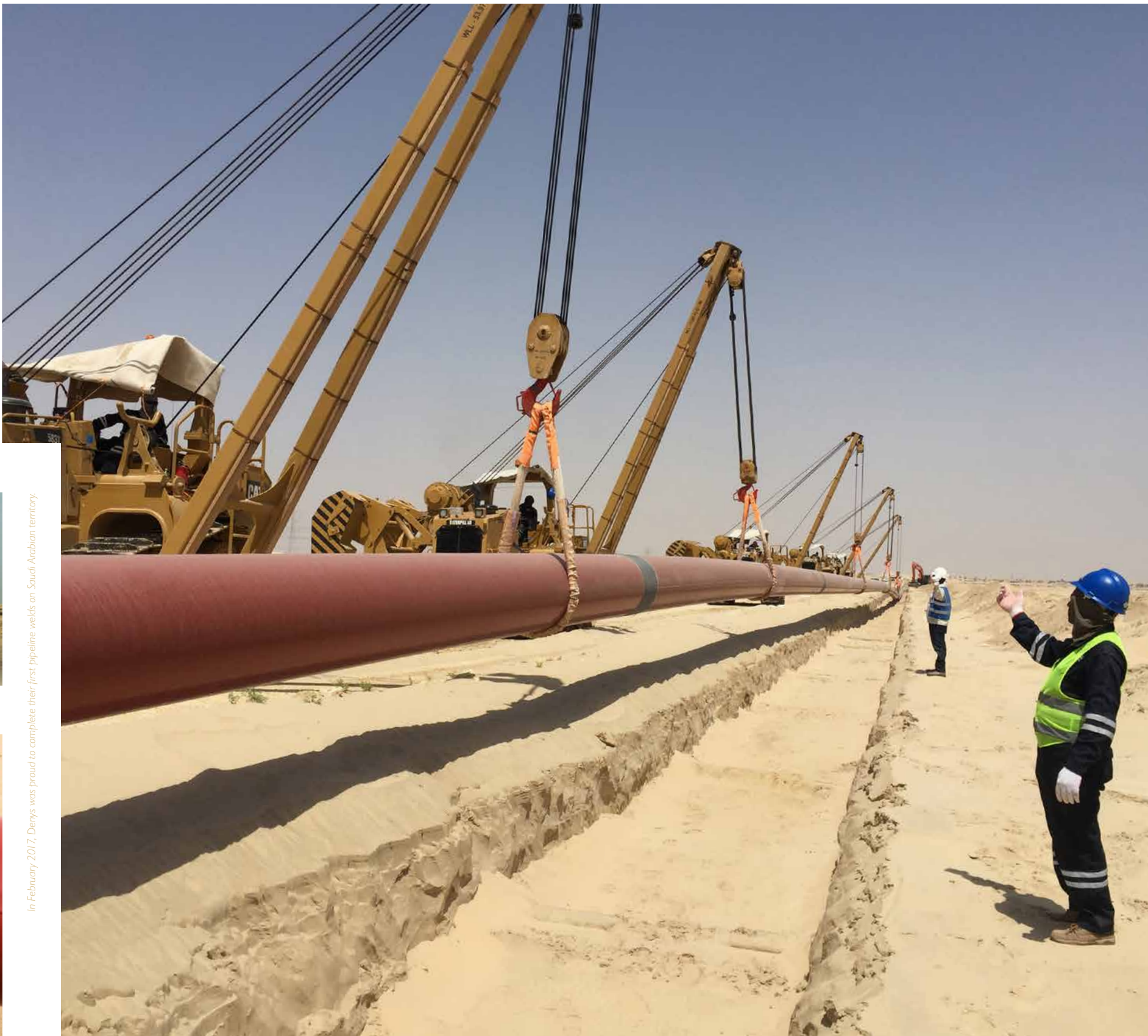
JUBAIL & KHURSANIYAH

Expertise and commitment

Working in Saudi Arabia is quite a challenge, however. Conditions are hard, given the extremely hot climate which sees temperatures sometimes climbing to 50°C in the shade. We also must deal with the oddities of working in and around sand dunes, those desert formations that seem to gradually grow, shift and travel in an alarmingly unpredictable way. Sand storms can even bring a halt to all activities on site and can alter the landscape completely overnight. Our wide-ranging technical and organisational expertise comes in handy here. We set up a fully equipped yard with offices, medical facilities, and shelters for the maintenance of equipment, the prefabrication of piping spools, concrete and steel supports, and materials storage. We introduced typically European working methods and equipment to improve efficiency and ease some of the tasks, especially the handling of heavy material. We also invested in special equipment adapted to the job and the challenging conditions. Yes, we're very committed to the project, and that's greatly appreciated by the customer.



In February 2017, Denys was proud to complete their first pipeline welds on Saudi Arabian territory



Denys invested in special equipment adapted to the job and the challenging conditions.

Mutual respect, dignity and loyalty

The project owners are extremely demanding and attach great importance to the respect of rules and procedures with very stringent safety and quality control. This has probably developed from their experience of working with so many different companies, cultures and nationalities. No problem for us, however, since we are accustomed to adapting our organisation to the various demands of different clients. What's more, we've learned to appreciate their business-minded and highly-professional attitudes, creating a working environment of mutual respect, dignity and loyalty. They appreciate our efforts, determination, seriousness, courage and organisational strength. And we increasingly appreciate their way of thinking.



DENYS
ARABIA

DENYS ARABIA
JUBAIL & KHURSANIYAH

Best-in-class for QSHE

One of the areas where Denys clearly stands out from the crowd is QSHE - quality, safety, health and environment. We are highly committed to QSHE, and are regularly awarded for it. For example, project managers and workers on the Total Optara project in the Port of Antwerp elected us Contractor of the Month for precisely this reason. Similarly, we were given the Constructiv award, a survey-based election of the construction company that best takes care of such aspects as construction site safety, employment of people with low skills, the scope and quality of employee training, and overall employee well-being.



Rooted in Risk Based Thinking

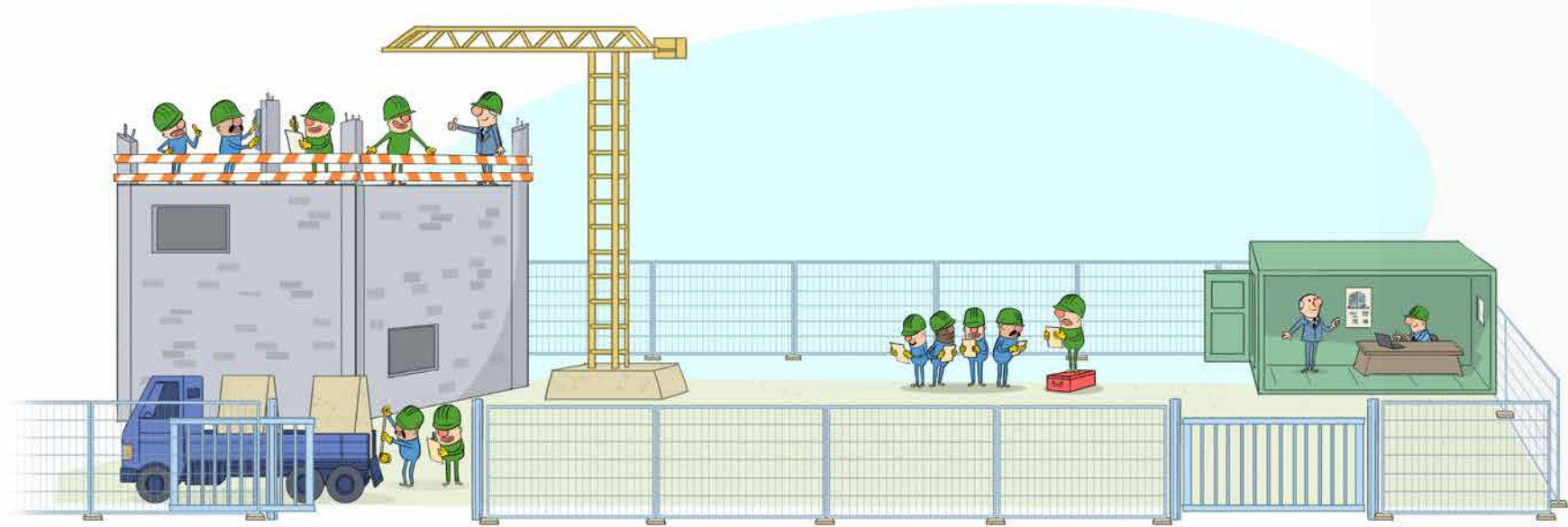
Our firm commitment to QSHE is the direct result of our overall business and project management philosophy, which is rooted in Risk Based Thinking. It is actively championed throughout our organisation by top management and project and team leaders. We're ISO 9001, ISO 14001 and OHSAS 18001 certified and EMAS registered. We regularly carry out audits in every branch of the organisation, with the full involvement of senior management. Training



and knowledge management are among our highest priorities. In workshops and on-the-job training sessions, we very much lay emphasis on safety awareness and accident prevention, as well as on learning from past experiences, both positive and negative. While we provide QSHE training in Europe, it is even more important abroad, wherever we go in Africa or the Middle East. For example, we organised a highly appreciated special QSHE-day in Mozambique at the end of 2016. In Saudi Arabia, we further increased our QSHE efforts to meet the very specific Saudi Aramco requirements.

Committed to nuclear safety

When it comes to safety, nothing compares to the nuclear sector, and Denys is there too. In the coming months and years, we will be delivering 810 sections of steel-core concrete pipework for the tertiary cooling water circuit at the new Hinkley Point C reactor in the United Kingdom. Everything we do for Hinkley Point is checked against safety criteria first, with quality control coming second, followed by planning considerations and finally budget constraints.



We actively promote five core values underlying the project:

- **SOLIDARITY**
Always acting as one indivisible team
- **CLARITY**
The job to be carried out is always fully understood
- **RESPECT**
Everyone involved in the project is respected
- **POSITIVITY**
Leaders embrace and promote positive attitudes
- **HUMILITY**
We learn from our experiences to avoid repeating mistakes



Quality and safety go hand in hand

In fact, it's a very rational thing to be committed to safety, because we're selling quality, and quality and safety always go hand in hand. Take for instance our automated pipeline sandblasting technique, for which we received the IPLOCA award in 2015: the technique enhances the quality of work, improves safety and comfort for workers, reduces impact on the environment (thanks to the recycling of sand), and boosts productivity. Similar quality and safety gains are anticipated from our new zero-disturbance underground construction machine WallSlotRobot.



DENYS

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HEALTH & ENVIRONMENT

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