

Mohammed VI Tower | Rabat, Morocco

A tall, slender, white tower with a pointed top, surrounded by a landscaped area with trees and a pool of water. The tower is the central focus of the image, set against a clear blue sky with some light clouds. The base of the tower is surrounded by a modern architectural structure with a curved roof and large glass windows. In the foreground, there is a landscaped area with palm trees and a pool of water.

# ACTIVITY REPORT 2018





**ACTIVITY  
REPORT**

**2018**

## COMPANY PROFILE

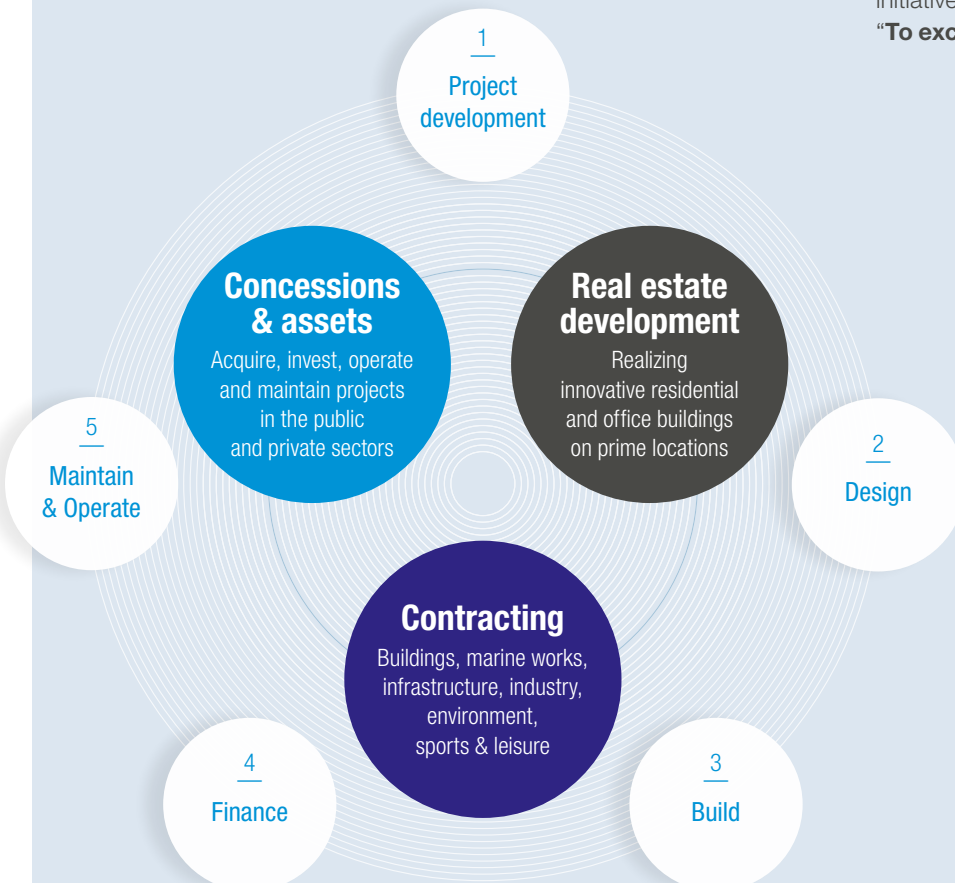
# A multi-disciplinary group with more than a century of experience

BESIX Group is a leading Belgian industrial company operating in the **construction, real estate development** and **concessions** sectors. It profiles itself as a multi-service group taking on projects of all sizes. Founded in 1909, it has grown steadily over the years.

NV BESIX SA, its largest subsidiary, offers services in the different stages of construction projects. In addition to **NV BESIX SA and its other subsidiaries**, BESIX Infra, Cobelba, Jacques Delens, So-cogetra, Van den Berg, Vanhout, Wust, Franki Foundations, BESIX RED, Lux TP, in the Benelux and in France, BESIX Group operates in Northern and Eastern Europe, North and Central Africa and the Middle East through its subsidiary Six Construct, as well as in Canada and Australia.

The group stands out in its sector by having its own **internal Engineering Department**, with wide-ranging expertise in geotechnical engineering, concrete technology, methods, planning, and BIM, System Engineering and similar tools. The group offers 'value engineering': optimising the design work and adapting the implementation processes so as to minimise the risks and costs of errors and optimise expenditure and lead times for the customer.

BESIX Group has consistently focused on **diversifying** its activities, as regards both geographical location and sector, either through organic growth or by acquisitions or shareholdings. A typical example of this is in the Middle East, where the group has been building an impressive portfolio over the last 50 years. This diversification is bearing fruit, as it reduces its exposure to risk. Through its many projects and initiatives, the Group is constantly seeking to consolidate its purpose: **"To excel in creating sustainable solutions for a better world."**



### Your dedicated partner, from construction to concessions

BESIX Group has evolved from a valued construction partner to a full service company. Construction is still its core business, but the Concessions & Assets and real estate development activities have also taken off. Its vast expertise allows the group to take charge of projects from design to construction through financing and long-term maintenance.

## The group in 5 key dates



### 1909

Founding of the Société Belge des Bétons, (SBB), which undertakes prestigious construction projects.



### 1966

Founding of subsidiary Six Construct to take charge of major projects in the Middle East.



### 2004

Management Buy-Out, SBB becomes BESIX Group.



### 2010

Inauguration of the Burj Khalifa in Dubai (UAE), the world's tallest tower, built by our subsidiary Six Construct.



### 2018

BESIX gains a foothold in Australia with the successful takeover bid for all outstanding shares of the Australian company Watpac Limited.

## The group in 5 key figures

Turnover

**€2.5  
billion**

in 2018

Net income

**€95.3  
million**

in 2018

Nearly

**15,000**

employees  
at the end of 2018

**80**

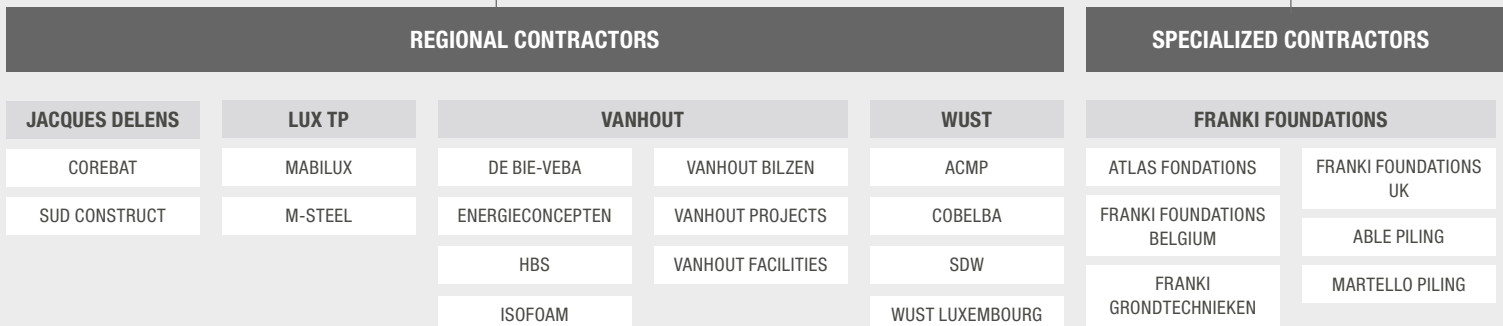
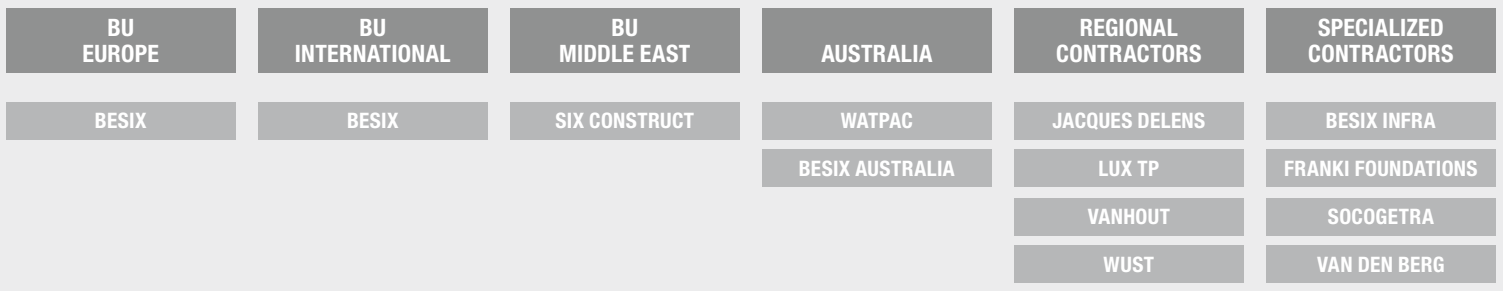
nationalities

**25**

countries

# ORGANISATION STRUCTURE

## ► BESIX CONTRACTING



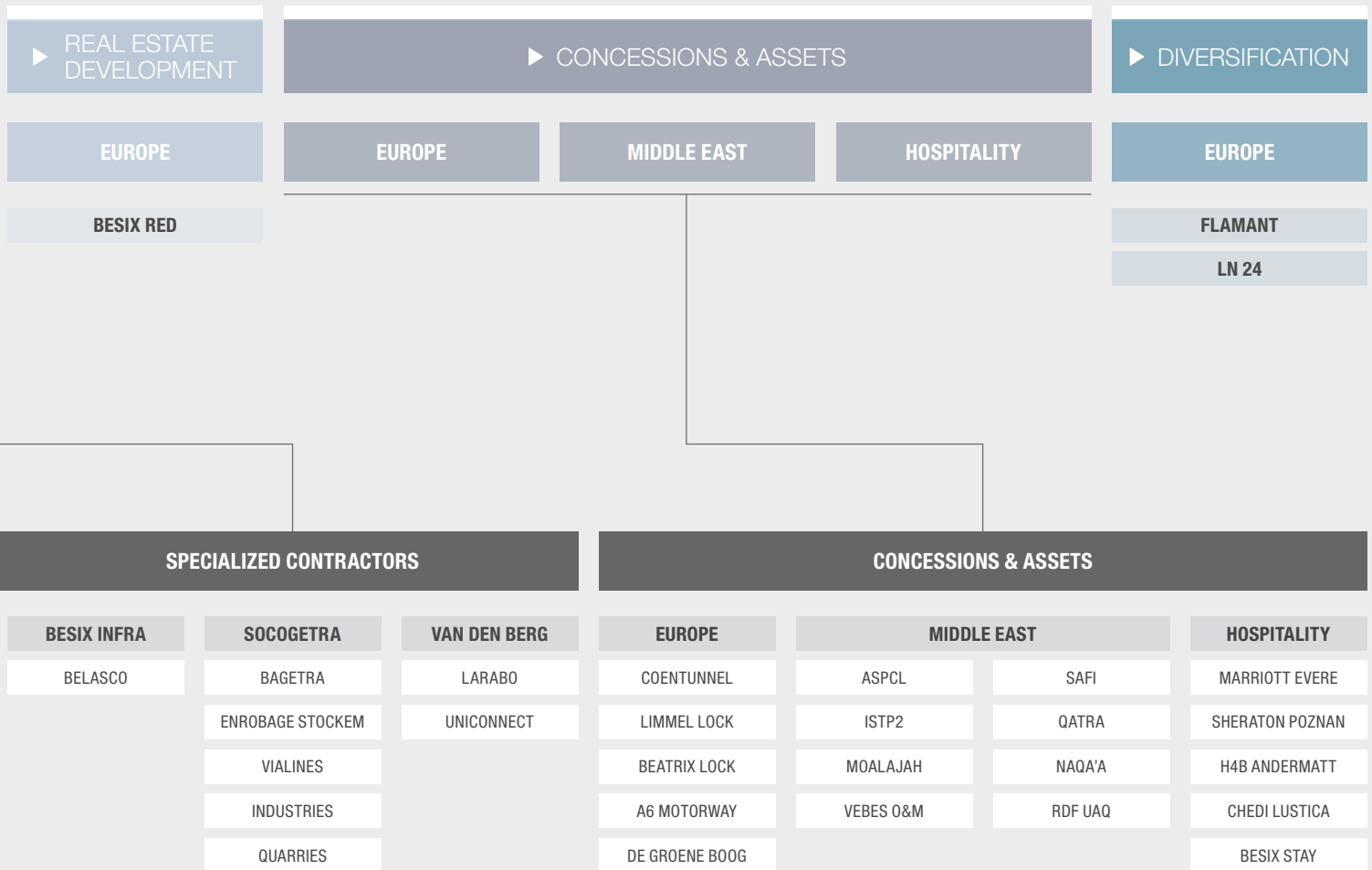
Operating across five continents, BESIX encompasses many branches and legal entities, fully owned by the group. There are also some companies in which BESIX owns a - minority or majority - stake.

- BESIX's branches have been created as the group has diversified geographically. In most cases, the BESIX name goes in front of the country in which they are established. For example, BESIX Cameroon or BESIX Canada are branches integrated into the 'Business Unit (BU) International', just as BESIX Nederland and BESIX France belong to the 'BU Europe'.

- Most of the legal entities are companies acquired by BESIX over the last few decades. They are the result of vertical integration and sectoral or geographic diversification. Although they are fully owned by BESIX, many of them have kept their names. For example Watpac (Australia), Lux TP (Luxembourg) or Martello Piling (UK). Besides commercial considerations – vital for companies whose brand embodies their specific expertise – this reflects the policy of controlled autonomy embedded within the group.

Not all BESIX companies necessarily fall within these two categories.

Not all companies presented in this chart are wholly-owned by BESIX Group. Besides branches and subsidiaries, this chart also presents companies in which BESIX Group owns a substantial stake.



- Some companies were created by the group itself: for example Six Construct, founded in 1966 to develop the group's activities in the Middle East, or BESIX Real Estate Development established in 1988 to further the group's real estate development business.
- Companies in which BESIX owns a stake, alongside shareholders from outside the group, also retain their identity. This applies to Flamant, for example.



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# BESIX IN 2018



*Message from the CEO of BESIX Group*

**ORDER BOOK  
REACHES A NEW HIGH  
AND MARKS ANOTHER  
STRONG YEAR**

Dear reader,

Thank you for reading the opening lines of this Activity Report. You won't find a list of all the projects on which BESIX and its subsidiaries worked in 2018 here: there are far too many. Rather than providing an exhaustive list, this Activity Report gives an excellent overview of our achievements. One thing is certain: BESIX Group ought to be very proud of the work it has done over the past year.

As CEO, I am certainly very proud. I am proud of our 15,000 BESIX Group employees and I congratulate them; I am also proud of our clients and partners, and I thank them for the trust they place in us.

BESIX's growth and development can be illustrated with a few key figures. Firstly, our turnover has grown for the third year in succession. Turnover for 2018 reached €2.54 billion, up by 9% since 2017.

While this is mainly due to contracting activity in Belgium and the Middle East, other activities performed outstandingly and also deserve an honourable mention. For example, our real estate development subsidiary BESIX RED celebrated its 30th anniversary in 2018, with a record turnover of €154.9 million.

The second key figure is our consolidated net profit, which reached €95.3 million: a slight decrease since 2017. This is because we have taken provisions on certain projects, as part of our prudent risk management policy.

The third and final figure is certainly the most impressive: BESIX's order book. As of 31 December 2018, the total was €4.76 billion, against €3.03 billion in 2017. The 2018 orders truly hit absolute record levels for the group.

Several factors help explain this record:

One is the acquisition of Watpac. Now wholly owned by BESIX, this company represents some €1 billion of additional orders for the group. Besides these impressive figures, Watpac represents a strategic turning point for us. This biggest-ever BESIX acquisition sees the group establish itself securely and sustainably in Australia. But this was not our only acquisition in 2018. In Belgium, the firms De Bie-Veba, Corebat and Uniconnect joined BESIX Group, which also acquired stakes in A-STAY, Flamant and LN24.

**RIK VANDENBERGHE**  
CEO of the BESIX Group

*“We will continue to strengthen our strategy throughout 2019 and 2020, relying on the six strategic pillars set out in 2017, on our values and of course on our overarching aim: to excel in creating sustainable solutions for a better world.”*

However significant these acquisitions are, our order book would still be healthy without them. This would have been a record year, with or without the contribution from Watpac. The fact is that we have seen exceptional sales performance from most of our subsidiaries.

In terms of contracting, we won prestigious contracts all around the world. These involved iconic buildings and cutting-edge infrastructure, in Europe and the Middle East but also in Africa and Canada. Real estate development also grew, and we expanded our presence to five European countries.

Concessions, our third main area of activity, has kept pace with the others. In 2018 our portfolio of DBFM contracts (Design, Build, Finance, Maintain) expanded significantly. This was particularly true in the Middle East, where 2018 saw BESIX sign world-class contracts in the environmental sector, relating to water treatment and waste.

BESIX can therefore look to the future with confidence.

In my opinion, these positive developments are the result of two basic factors. The first is our strategy, which is bearing fruit. We will continue to strengthen this strategy throughout 2019 and 2020, relying on the six strategic pillars set out in 2017, on our values and of course on our overarching purpose: to excel in creating sustainable solutions for a better world.

The second factor is the indisputable professionalism of BESIX staff in each and every subsidiary and department. It's because of them and their expertise that we have gained the trust of so many top-tier clients worldwide. That's why I look forward to continuing down this road together in 2019.

Rik Vandenberghe  
CEO of BESIX Group





## *Message from the Chairman of the Board of Directors*

# SUSTAINABLE GROWTH CONFIRMED

At BESIX, we have scaled many heights in our history. We have developed and built cutting-edge property and infrastructure, undertaken highly complex marine works, and provided first-class environmental, sports and leisure infrastructure. Once again, 2018 was a year in which the group added to this list of remarkable achievements.

We have reached these heights because, in the past, we have dared. Dared to challenge the status quo. Dared to be ambitious. Dared to learn lessons. And dared to believe that anything is possible. This is our mindset; it goes to the heart of what it means to be an entrepreneur, and we need to keep it at the heart of everything we do. We may be performant today, but we can't take anything for granted. Daring and undertaking is not merely a lifestyle choice, it's a question of survival.

Considering above, I am delighted to confirm once again that I have faith in BESIX's staff and management team. The direction we set in 2018 bodes well for the future.

### **JOHAN BEERLANDT**

Chairman of the Board of Directors  
BESIX Group

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*“BESIX is at the cutting edge,  
in large part because we have  
always shown curiosity and have  
been keen to harness the latest  
knowledge and skills available.”*

BESIX acquired several companies and holdings, in both Australia and Benelux. Each new acquisition holds its own challenges. We must meet these, but we know that in doing so we will also strengthen our group.

We have won many new contracts in Europe and the Middle East, but also in Africa and Canada. Many of these are technically and financially extremely demanding and will put us to the test. Over the years to come, we will have no choice but to excel.

Finally, I would like to express my admiration for the way our group is constantly curious and innovative. BESIX is at the cutting edge, in large part because we have always shown curiosity and been keen to harness the latest knowledge and skills available. Our Engineering Department is a good example of this. It is rare in our sector to have an in-house team of engineers to this extent and of this quality. For us at BESIX, our engineering capability is foremost an asset on which we continue to build our future.

All in all, it is now clear that the statement I made in this column one year ago has been confirmed: the baton has successfully passed from myself, the former Group CEO, to the current CEO, Rik Vandenberghe. I would like to thank everyone who has helped with this, especially every colleague at BESIX around the world, as they continue to help us meet the challenges ahead.

Johan Beerlandt  
Chairman of the Board of Directors  
BESIX Group

## OUR PRIZEWINNING PROJECTS

### Sustainable water management: Two awards for SAFI and Ajman plants

WEX GLOBAL, that showcases the leading initiatives in the world of water and energy, chose the SAFI and Ajman water reuse system as the 'Best Wastewater Management Solution' 2018. The SAFI plant also won the prize for 'Project of the year' in the water sector at the 2018 MEED Projects Awards. SAFI is a prime example of circular economy: it obtains water from the Ajman sewage treatment plant and produces and provides water for industrial and commercial use. It was developed under a DBFM contract (Design, Build, Finance, Maintain) managed by BESIX Concessions & Assets.



### 'Ruimtelijke kwaliteitspluim' 2018

The executive agency from the Ministry of Infrastructure and Water Management in the Netherlands, Rijkswaterstaat, awarded its 'Ruimtelijke Kwaliteitspluim' prize to the Princess Beatrix Lock renovation project, to which BESIX is contributing. This prize promotes consideration of landscaping and environmental aspects in the construction industry.

### Benelux BIM Awards 2018

The Benelux BIM Awards reward the best BIM projects in Belgium, the Netherlands and Luxembourg: in 2018 BESIX and its subsidiary Vanhout won three such awards. Two were gold and one silver, one in each category of the competition. The prize-winning projects were BESIX's BNP Paribas Fortis headquarters and Leopold II tunnel in Brussels, and Vanhout's Centrum-Zuid residential care centre at Merelbeke, near Ghent.

### Partnership Award 2018

BESIX Infra and engineering firm Evolta received Aquafin's Partnership Award 2018 for the quality of their cooperation when building the Baal wastewater treatment plant (Belgium). Aquafin was established in 1990 to develop and manage wastewater treatment in Flanders.

### Jacques Delens wins Be Circular 2018 award

Jacques Delens, a subsidiary of BESIX, received the 2018 Be Circular award for the Brederode II renovation project. Be Circular is an initiative taken by the Brussels-Capital Region (Belgium) which focuses on the circular economy. The Brederode project comprises the renovation of a mixed-use building, and especially involves extensive reuse of materials.

## OUR SOCIAL COMMITMENTS

### CSR 2018 Label from the Dubai Chamber of Commerce and Industry

The Dubai Chamber of Commerce and Industry awarded Six Construct its CSR 2018 Label. The Label recognises a limited number of companies who adopt best business practices and comply with international CSR standards and guidelines. The label aims to set an example to the Dubai business community as a whole.

### Aedificas 2018 prize for BESIX

BESIX's support for the non-profit TADA programme, a weekend school open to vulnerable teenagers, has been rewarded by the Aedificas Foundation. The foundation was established by the Belgian Construction Confederation in 2011 to encourage construction companies to help disadvantaged people within the Belgian society.

## CERTIFICATION

BESIX renewed several of its existing certifications in 2018. These included ISO 9001:2015 (quality), ISO 14001:2015 (environment), OSAS 18001:2007 (health and safety) and VCA\*\* (safety, health and environment). Six Construct achieved IMCA (marine competence) and ADCI (commercial diver) certification.

## A GLOBAL CONTRACTOR

### ENR's 2018 Top 250 International Contractors

BESIX was ranked 69th among the biggest global contractors by Engineering News-Record (ENR), a reference hub for the engineering and construction sectors.

# 2018 KEY EVENTS

01



▲ The **Circul 2020 Consortium (BESIX, Jan De Nul and ENGIE-Fabricom)** wins the 25-year contract to renovate and maintain the Leopold II Tunnel in Brussels, the longest in Belgium.

► The consortium made up of BESIX and Hitachi Zosen Inova (Switzerland) is awarded a contract by Dubai Municipality (United Arab Emirates) to **build, operate and maintain one of the world's largest thermal waste recycling plants** for a 30-year period.

02

► Vanhout takes over **De Bie-Veba**, specialist in fitting and maintaining technical installations.

► BESIX, in joint venture with Acciona Agua, is awarded the contract to build the **Sea Water Reverse Osmosis Desalination Plant** in Jebel Ali (United Arab Emirates).

▼ BESIX is awarded the **Quatuor** contract to build 60,000 m<sup>2</sup> of offices in the heart of Brussels (Belgium).



Jaspers Evers architects

03

► The **Jebel Ali Treatment plant**, Dubai (United Arab Emirates) has run 19 months without lost time injuries.

► The **SaVe consortium** (BESIX, Mobilis, Dura Vermeer, Hollandia and Iemants) is chosen to build the **Theemswegtracé** railway line in Rotterdam (Netherlands).

► BESIX Group and A-Star Group sign a **50/50 co-investment deal in A-STAY**, a revolutionary concept with plans to create 7,000 housing units in the next five years.

04



▲ BESIX is actively involved in the very first **'digital construction hackathon'** organised by the Construction Confederation.

► BESIX, in partnership with Dura Vermeer, TBI, Van Oord, John Laing and Rebel, will be responsible for the design, construction and pre-financing of the new motorway around Rotterdam North. **De Groene Boog** will be innovative, energy-neutral and designed for optimum integration into the environment.



► **BESIX RED** celebrates its **30<sup>th</sup> anniversary**.

▼ BESIX Group buys the **interior design specialist Flamant**.



► Shurooq and BESIX invest in a **sustainable wastewater treatment project** in Sharjah (United Arab Emirates). The Qatra joint venture will operate and maintain the existing wastewater treatment plant in the Al Saja'a district of Sharjah.

▼ BESIX Group and Proximus announce their **partnership in the smart buildings sector**.



► BESIX wins the contract to design and build **a dam and a hydroelectric power station** in Cameroon.

▼ Opening of **The Chedi Hotel** and its marina in Luštica Bay (Montenegro).



▲ BESIX France hands over the huge, innovative project '**Groupe Hospitalier Sud-Ile de France**' in Melun (France).

► BESIX Group sells off its BESIX Park subsidiary to Indigo, the world's leading car park operator.

► Launch of the **BESIX Start-Ups Accelerator**, the first of its kind for mature start-ups active in PropTech and ConTech.

07



▲ Official opening of the **Warner Bros World™ theme park** in Abu Dhabi (United Arab Emirates).



▲ Re-opening of the **Nijkerk Bridge** to all traffic (DOEN project, Netherlands).

► Six Construct is awarded the **CSR label** by the Dubai Chamber of Commerce and Industry for the 6th time in a row.

► Completion of the **LNG import terminal** in Bahrain.



▲ BESIX is awarded a contract to carry out the civil engineering works for a **Potable Water Treatment Plant** in Ivory Coast.

▶ BESIX is awarded the contract to develop and operate the first **Refuse Derived Fuel Facility** in the United Arab Emirates.

▶ Successful conclusion of the takeover bid for all existing shares of **Watpac Limited**.

▼ The Royal Atlantis Resort & Residences celebrate 20 million man-hours with no lost-time incidents.



10



Architects Rafael de la Hoz and Hakim Beneloun

▲ BESIX, Six Construct and TGCC are awarded the contract to design and build the '**Mohammed VI Tower**'. This 250-metre high structure will be the tallest tower in Morocco and in Africa.

▶ BESIX invests in **Les News 24** ('LN24'), the first rolling news channel in French-speaking Belgium.

11



Korin Pedersen Fox Associates

▲ On 22 November 2018, the joint-venture BESIX-SsangYong and the **Royal Atlantis Resort & Residences** in Dubai passes an important milestone with the **raising of the main sky bridge**.

▶ BESIX Group acquires the **Uniconnect Group** via its Belgian subsidiary Van den Berg.

12



Germann & Achermann

▲ Inauguration of the **Gotthard Hotel & Residences** in Andermatt (Switzerland).

▶ BESIX and Vanhout win three awards (infrastructure, public projects and commercial projects) at the **Benelux BIM awards 2018**.

▼ DMCC awards Six Construct the contract to build the 339-meter high **Uptown Tower** in Dubai (United Arab Emirates).



Adrian Smith + Gordon Gill Architecture

► The **BESIX Foundation** celebrates its 10th anniversary.



▲ BESIX, with partner Decmil, completes and delivers the **new tug facilities** in Port Hedland (Australia).

# ► 2019 | 01

► BESIX Group acquires shares in **Mabilux**, a Luxembourg company specialising in the fabrication and erection of metal structures.

▼ BESIX will build the Belgian and the French Pavilions for the World **Expo 2020 Dubai** (United Arab Emirates).



▲ Opening of the **BESIX 3D Concrete Printing Lab** in Dubai (United Arab Emirates).



L'Atelier du Prado and Ceiniker & Grabil Architects



Vincent Callebaut Architectures, Assac Architects

# BESIX GROUP STRENGTHENS ITS PRESENCE IN AUSTRALIA BY BUYING WATPAC

In December 2018, BESIX announced the successful closing of an unconditional takeover bid for all shares of Australian construction company Watpac Limited. This major transaction, the Group's largest acquisition ever, allows BESIX to tap into new market segments and establish its long-term industrial strategy in Australia. In 2019, Watpac should reach a turnover in excess of 800 million euro, more than 20% of BESIX Group's turnover.



Watpac employs more than 700 people across Australia, including Brisbane, Sydney, Melbourne, Adelaide and Townsville. In recent years, Watpac has supported its growth strategy by a number of strategic acquisitions (including Grant Construction, JA Dodd and JMS) that have enabled it to both expand its service offering and extend its geographic footprint.

## BESIX and Watpac: strategic cooperation between historical partners

BESIX took a shareholding in Watpac in April 2013. Since then it has gradually increased its position, becoming at the end of 2018 the majority shareholder in the Australian construction company.

### Key steps in takeover

- **April 2013**, BESIX Group enters the capital of Watpac, initially acquiring a 15% stake of the shares, increasing this to a 28% stake via on-market purchases over the following years.
- **February 2018**, BESIX announces its intention to acquire an additional 35.95% stake in Watpac.
- **November 2018**, BESIX Group launches unconditional takeover bid for all existing shares of the company.

The consolidated strategic alliance opens many perspectives for both players. Already present in Australia since 2011, BESIX's main activities have to date consisted of marine works in the north of the country (EPC contract for a breakwater and unloading docks at the Wheatstone terminal, Design and Build contract at the Port Hedland tug facilities).



## ABOUT WATPAC

- ▶ **Construction company (specialised in building)**
- ▶ **Has been present on the Australian market for thirty years**
- ▶ **Head office in Brisbane**
- ▶ **Active in four Australian states (Queensland, New South Wales, Victoria, South Australia)**
- ▶ **700 employees**
- ▶ **Value of work in progress: 1.7 billion Australian dollars (1.1 billion euros as of 31 December 2018)**
- ▶ **Customer profile: Institutions (Education, Health, Defence), Commercial, Residential**

### The best of two worlds

By becoming its sole shareholder, BESIX gives Watpac full access to the group's skills and expertise in construction, and in other key BESIX sectors such as marine works. This strategy increases Watpac's potential, allowing it to expand its service offering and compete for larger and more complex projects. At the same time, it provides BESIX with geographical diversification and enables the group to attract new talent to its ranks.



## *Meeting with Jean-Pol Bouharmont, Watpac's Chief Operations Officer*

Jean-Pol Bouharmont has been named Chief Operations Officer at Watpac, coming from the equivalent position at Six Construct in the Middle East, where he lived and worked for 20 years.

### **How did the Australian market receive the announcement of the acquisition?**

Watpac customers and employees welcomed the news positively. Even if the local market is cautious about newcomers, employees are strongly positive about being part of a larger group and about the opportunities that come with it. To be involved in more complex and/or larger projects in which they have not had the opportunity to participate so far is very motivating!

### **What are the specificities of the Australian market?**

Unlike in Europe or in the Middle East, the selection of a 'contractor' is not done solely on the basis of price. The client appreciates above all the skills and experience of the project teams. Local experience is a key element in choosing a provider, which must prove its experience in the Australian market or even in the State in which the project will be delivered. Each state is a market in itself. Australia is made up of a multitude of different markets!

Clients turn to international players by way of priority only for very large projects or when they require technical skills that are not available locally.

### **How does the acquisition impact BESIX's strategy, positioning and business development in Australia?**

We want to position Watpac among the top 'Tier One' players in the four Australian states in which it is present by attacking the market for complex buildings, using BESIX's in-house capacity and expertise in Design, Engineering and Methods. We are counting on the transfer of some senior engineering managers from the Brussels Engineering Department.

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*"We want to position Watpac among the top 'Tier One' players in the four Australian states in which the company is present by attacking the market for complex buildings, using BESIX's in-house capacity."*

As a second strategic axis, we are looking to open a 'Marine & Civil Works' business unit, combining Watpac's local anchoring with BESIX's experience in Engineering and Marine Works.

### **Given the geographical distance, how do you envision synergies with the rest of the world?**

A very experience and skilful colleague from the Brussels Engineering Department joined us recently, which helps us to maintain excellent synergies with the Headquarters in Brussels. Another axis of synergy on which we can count is the 'Customer Centricity' approach; we identify key customers of BESIX and approach them in different parts of the world. Can we work for these customers in Australia and, conversely, can we develop business relationships with Watpac customers in other parts of the world?

### **Do you have a message to send to BESIX Group clients and employees?**

The Watpac acquisition gives us access to new markets, from which we can learn. Afterwards we can share this knowledge and their good practices with our clients. This acquisition also represents new opportunities both for BESIX employees who would like to work in Australia and for Watpac employees who would like to work abroad.

# CONSOLIDATED KEY FIGURES 2018

2017-2018  
EVOLUTION OF REVENUES

**+8.8%**

NET RESULT  
ON REVENUES

**3.7%**

NET CASH  
POSITION

**135.7**

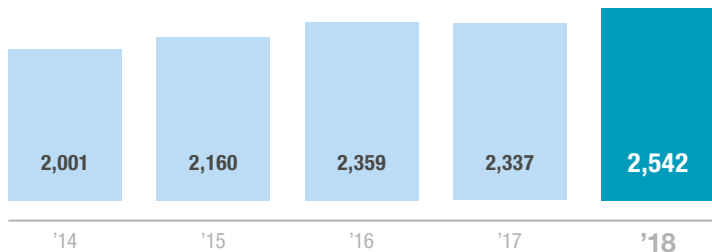
million EUR

RETURN  
ON EQUITY

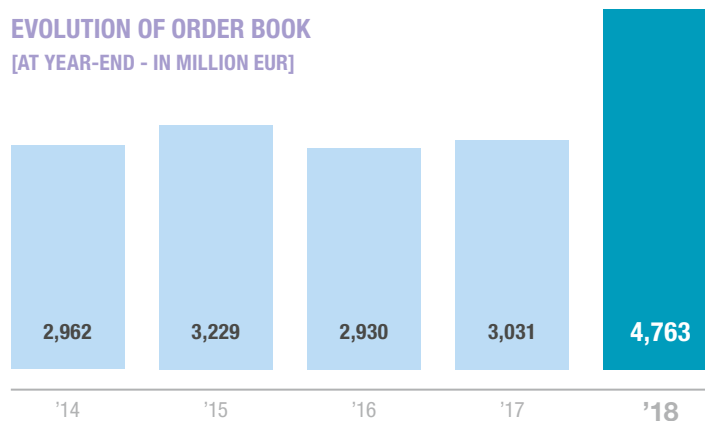
**14.4%**

IN MILLION EUR	2014	2015	2016	2017	2018
<b>INCOME STATEMENT</b>					
Revenues	2,000.5	2,159.7	2,359.1	2,337.0	<b>2,542.1</b>
EBITDA	102.7	46.1	168.1	122.5	<b>131.5</b>
<i>EBITDA margin (%)</i>	5.1	2.1	7.1	5.2	<b>5.2</b>
EBIT	65.1	0.4	117.8	78.9	<b>83.7</b>
<i>EBIT margin (%)</i>	3.3	0.0	5.0	3.4	<b>3.3</b>
Earnings before taxes	79.3	15.4	135.0	115.5	<b>103.2</b>
Consolidated profit	62.9	3.8	120.8	102.6	<b>95.3</b>
<i>Net result on revenues (%)</i>	3.1	0.2	5.1	4.4	<b>3.7</b>
Cash flow	84.6	79.6	159.3	142.1	<b>149.8</b>
<i>Cash flow margin (%)</i>	4.2	3.7	6.8	6.1	<b>5.9</b>
<b>BALANCE SHEET</b>					
Equity	527.3	518.3	653.0	660.4	<b>695.1</b>
Net cash position	160.6	26.4	172.4	34.1	<b>135.7</b>
<i>Solvency ratio (%)</i>	26.4	24.4	27.3	28.1	<b>26</b>
<i>Liquidity ratio</i>	1.43	1.40	1.42	1.42	<b>1.30</b>
<i>Return on equity (%)</i>	12.6	0.7	20.6	15.7	<b>14.4</b>
<b>ORDER BOOK (AT 31 DECEMBER)</b>	2,962	3,229	2,930	3,031	<b>4,763</b>

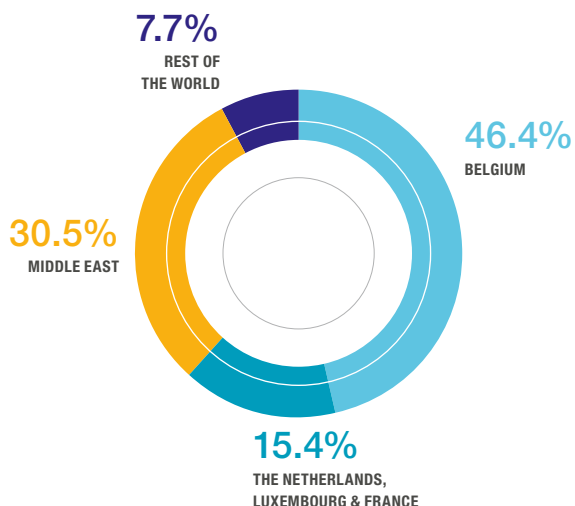
**EVOLUTION OF REVENUES**  
[IN MILLION EUR]



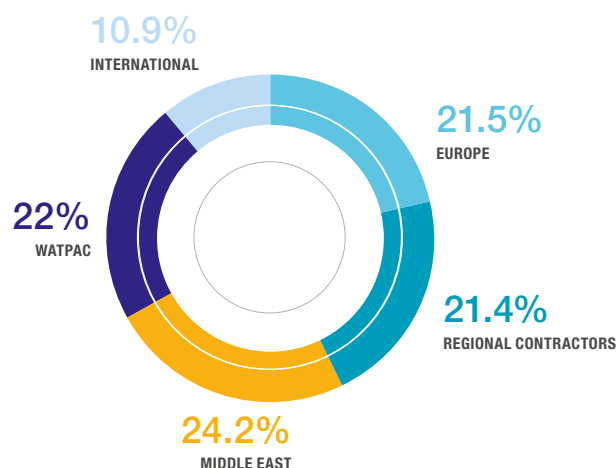
**EVOLUTION OF ORDER BOOK**  
[AT YEAR-END - IN MILLION EUR]



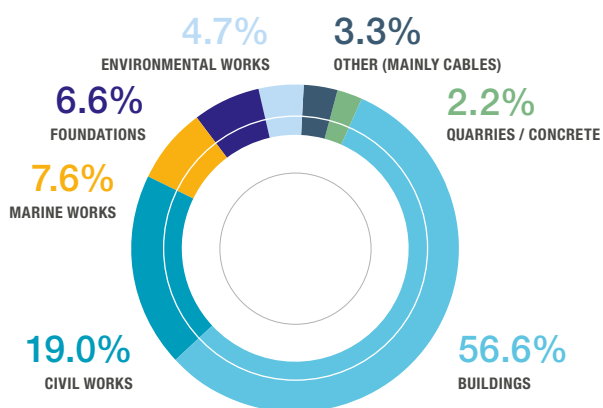
**REVENUES BY REGION**  
[2018]



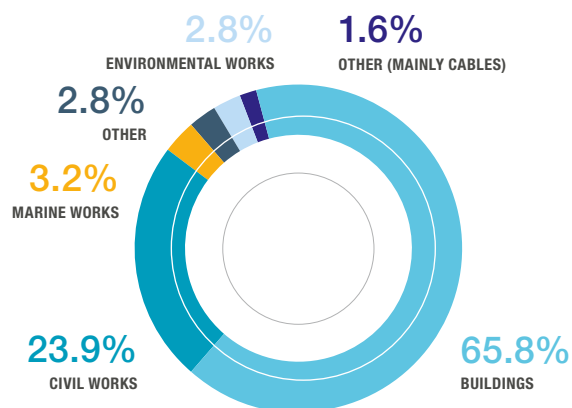
**ORDER BOOK BY REGION**  
[AT 31/12/2018]



**REVENUES BY AREA OF EXPERTISE**  
[2018]



**ORDER BOOK BY AREA OF EXPERTISE**  
[AT 31/12/2018]









# BESIX GROUP

# CORPORATE GOVERNANCE

## BESIX Group follows the Belgian recommendations on corporate governance for unlisted companies ('Code Buysse III').

BESIX Group has structures and rules in place to ensure effective corporate governance, risk management and control both in each BESIX Group company and within the organization as a whole.

The **Board of Directors**, assisted by advisory committees, plays a leading role in outlining, monitoring and controlling such structures and rules and in securing the day-to-day operational and financial management of the group and its entities by the **Chief Executive Officer** and the **senior management**.

The Board includes **four external directors**, whereby a balanced configuration ensures authority, expertise and independence, and the positions of **Chairman** and **Chief Executive Officer** are separated. Decisions are also taken after ample deliberation and consultation and the functioning of the Board is regularly reviewed, also in the light of the prevailing shareholders' arrangements.

A number of **advisory committees** are organized within the Board of Directors to prepare its deliberations and optimize its decision-making process. These committees prepare the topics discussed during the Board meetings, assess the effectiveness of the internal controls in place and formulate opinions and recommendations:

- The **Audit Committee** supervises the setup of the statutory and consolidated financial statements, the interim financial reports and the relations with the **statutory auditor**. It works closely with representatives of the **senior management**, monitors the internal control and risk management systems and the main risks associated with the activities of the group and its entities, and operates in accordance with its charter;
- The **Remuneration & Nominations Committee** evaluates the performance of the senior management, oversees the HR policies of the group and its entities and pays specific attention to succession management;
- The **Executive & Strategic Committee** focuses on the vision, mission and strategic objectives of the group and oversees the business activities and performance as well as the risk management and internal control and organization, as implemented by the Chief Executive Officer and the senior management.

# BOARD OF DIRECTORS AND COMMITTEES



Johan Beerlandt



Rik Vandenberghe



Osama Bishai



Jérôme Guiraud



Mark Littel



Paddy Padmanathan



Philippe Quoilin



Baron Jean Stéphane



Wouter De Geest



Baron Philippe Vlerick

## Board of Directors

Name	Position	End of term
Johan Beerlandt <sup>1</sup>	Chairman	2019
Rik Vandenberghe <sup>2</sup>	Managing Director, Chief Executive Officer	2020
Osama Bishai	Director	2019
Jérôme Guiraud	Director	2019
Mark Littel	Director	2019
Philippe Quoilin <sup>3</sup>	Director	2019
Baron Jean Stéphane <sup>4</sup>	Independent Director	2019
Wouter De Geest	Independent Director	2021
Baron Philippe Vlerick	Independent Director	2019
Paddy Padmanathan	Independent Director	2020
Ridder Luc Vandewalle	Honorary Director	

## Audit Committee

Mark Littel  
Baron Philippe Vlerick (Chairman)

## Remuneration & Nominations Committee

Baron Jean Stéphane<sup>4</sup> (Chairman)  
Johan Beerlandt<sup>1</sup>  
Rik Vandenberghe<sup>2</sup>

<sup>1</sup> Permanent representative of Bevafin SPRL

<sup>2</sup> Permanent representative of Audymatt SPRL

<sup>3</sup> Permanent representative of Philippe Quoilin SPRL

<sup>4</sup> Permanent representative of Innosté SA

# EXECUTIVE AND STRATEGIC COMMITTEE





From left to right:

**Frédéric de Schrevel**<sup>1</sup>  
Secretary General – General Counsel

**Gabriel Uzgen**  
Managing Director  
BESIX Real Estate Development

**Tom Neyrinck**  
General Manager  
Concessions & Assets

**Rik Vandenberghe**<sup>2</sup>  
Chief Executive Officer

**Pierre Sironval**  
Chief Operating Officer  
Managing Director Six Construct

**Johan Beerlandt**<sup>3</sup>  
Chairman of the Board of Directors

**Geert Aelbrecht**<sup>4</sup>  
Chief Human Resources Officer

**Mathieu Dechamps**  
General Manager  
Business Unit International

**Jean Polet**  
General Manager  
Business Unit Europe

(Not in this picture)  
**Jan Gesquière**<sup>5</sup>  
Chief Financial Officer

<sup>1</sup> Permanent representative of Arthepa SPRL

<sup>2</sup> Permanent representative of Audymatt SPRL

<sup>3</sup> Permanent representative of Bevafin SPRL

<sup>4</sup> Permanent representative of Gacco SPRL

<sup>5</sup> Permanent representative of Jabel SPRL

# STRATEGY

**THE FUTURE  
IS OURS**





The world of construction is evolving at an unprecedented pace to an unprecedented level. New technologies are transforming the sector. New forms of competition are emerging. New demands, especially environmental, are being placed on the industry. In 2018, these trends intensified. And they are most probably just the start of a profound transformation of the areas in which we operate. In this context, BESIX Forward, the group's strategy, demonstrates its relevance: it offers concrete solutions for each of these challenges.

BESIX's DNA rests on the ability to master state-of-the-art techniques and build highly complex structures. The aim of BESIX Forward is to remain faithful to this DNA. Our recent projects show that we are on the right track. There were plenty of examples in 2018. Buildings, marine works, environmental installations, infrastructure: the 2018 activity report showcases many achievements illustrating BESIX's uniqueness and added value.

BESIX may be on the right track, but we are not there yet. The actions we take and the choices we make today are crucial. They must anticipate the transformations taking place and keep pace with these changes, stay on top and make the most of them. That demands boldness, intelligence and creativity.

## The BESIX Forward strategy provides a structured response to these demands.

It is based above all on a **purpose: "Excel in creating sustainable solutions for a better world"**. This mission gives our actions a goal that goes far beyond profit. It is pivotal, inspiring our decisions and actions based on a simple question: what kind of future do we want and how do we make it happen? By encouraging new ideas, assuming our responsibilities in a proactive way and by excelling in all of our initiatives, we believe that we can help bring about positive change - economic, societal and environmental.



*“By encouraging new ideas, assuming our responsibilities in a proactive way and excelling in all of our initiatives, we believe that we can help bring about positive change - economic, societal and environmental.”*

## Our mission is expressed in the form of six strategic drivers

### Open innovation

This driver involves exposing BESIX to new ideas as much as possible. And, in doing so, giving ourselves the opportunity to adopt them early. But, the problem with radically innovative - ‘disruptive’ - concepts is that it is impossible to predict where they will emerge. They could just as well arise in a high-level Engineering Department, like BESIX’s, as in the mind of a student or an entrepreneur at the

head of a start-up. BESIX therefore adopts a dual response. Firstly, we pursue the Unleash initiative. This invites all employees of BESIX to submit their ideas to our Innovation Board. It was out of Unleash, and therefore the creativity of our own employees, that BESIX 3D, our 3D concrete printing unit, was born, as well as Clean Air, which develops plant walls to deal with fine particles. Secondly, in 2018, we launched a Start-Ups Accelerator, open to projects from all over the world. Nine mature start-ups have already been selected during the first nine months: BESIX offers them its expertise, projects, networks and financing possibilities. Finally, we regularly invest in innovative businesses. As we did once more in 2018 with PropChain.

### Openness to new ventures

In 2018, BESIX made several acquisitions and acquired stakes in several established companies from its original ecosystem: Corebat in Brussels, DeBie-Veba and Uniconnect in Flanders. They offer the Group opportunities for geographical or sectoral diversification and vertical integration, expanding the range of services it offers. The next step in this area is to form partnerships. For instance, since July 2018, BESIX and Proximus, Belgian leaders in the fields of construction and IT services respectively, have pooled their expertise to develop a new generation of smart buildings. This partnership has already shown promise in a decidedly forward-looking sector. Similar alliances will continue to be formed in the years to come, especially in research fields likely to be involved in the digitisation and industrialisation of construction - two key movements which have begun in recent years on a global scale.

### A great place to work

Many initiatives have been taken internally together with employees to improve the quality of their working life and their opportunities for professional and personal development. These cover many areas: an improved working environment, continuing professional development, acquiring new skills, internal mobility, experience abroad. These steps, which





focus on the human aspect, are essential to ensure that every employee can develop his or her talents in a stimulating environment. Establishing optimal safety conditions on site is another special focus, also open to innovation. For example, in 2018, a safety programme entitled BE SAFE, adopting a positive, behavioural approach to safety, was introduced in several pilot projects. As a global player, BESIX also bears a social responsibility, particularly in the states where labour laws are least stringent. In 2018, the implementation of a framework agreement signed with Building and Wood Workers' International (BWI), an international trade union, began. This gives the BWI access to all of BESIX's sites worldwide, including workers' accommodation in countries where they are housed by BESIX. All companies worldwide can state that they respect high employment standards: BESIX demonstrates this, opens its doors to audits and insists that its partners and subcontractors sign up to this, in order to be an agent of change in this area.

### Internal synergies

BESIX can draw on an extremely rich pool of internal expertise, an exceptional advantage if used constructively. A constructive use includes implementing methods to improve internal cooperation, working in cross-functional teams and ensuring fluid information transfers. Attaining this is a mark of efficiency,



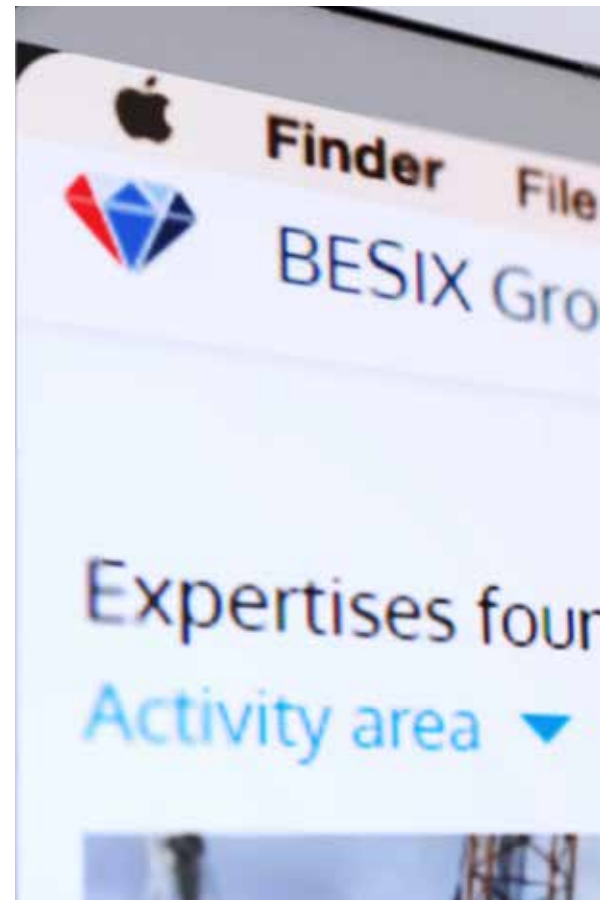
and it speaks to the quality of the work delivered. Major harmonization processes are in progress and will be stepped up in the years to come. They cover a variety of aspects, including human resources policies, computer processes, purchasing and accounting practices. For example, as far as purchasing is concerned, BESIX now has ultraspecialised purchasers for specific product categories, serving all group companies globally, in order to generate substantial economies of scale.

### One-Stop-Shop

BESIX's companies and departments cover most construction trades, from the most general to the most specialised. These can be combined in an infinite number of ways, depending on the nature and specifics of each contract and the expectations of each client. Developing One-Stop-Shop solutions is one of BESIX's major internal projects. In practice, it involves making a specific exper-

tise easily accessible to a company which does not possess it, wherever in the world that company operates, so that it can offer its client integrated solutions. For example, BESIX's Water & Environment department and the group's Luxembourg subsidiary, LuxTP, combined their respective expertise in 2018, to brilliantly tap into the water treatment market in the Grand Duchy of Luxembourg. This also signifies a myriad of opportunities for BESIX's clients. They can easily identify and subsequently entrust a series of tasks to the group which would usually involve multiple contractors - representing savings in terms of finances, time and efficiency.

*“Developing One-Stop-Shop solutions is one of BESIX’s major internal projects. In practice, it involves making a specific expertise easily accessible to a company which does not possess it, wherever in the world that company operates, so that it can offer its client integrated solutions.”*

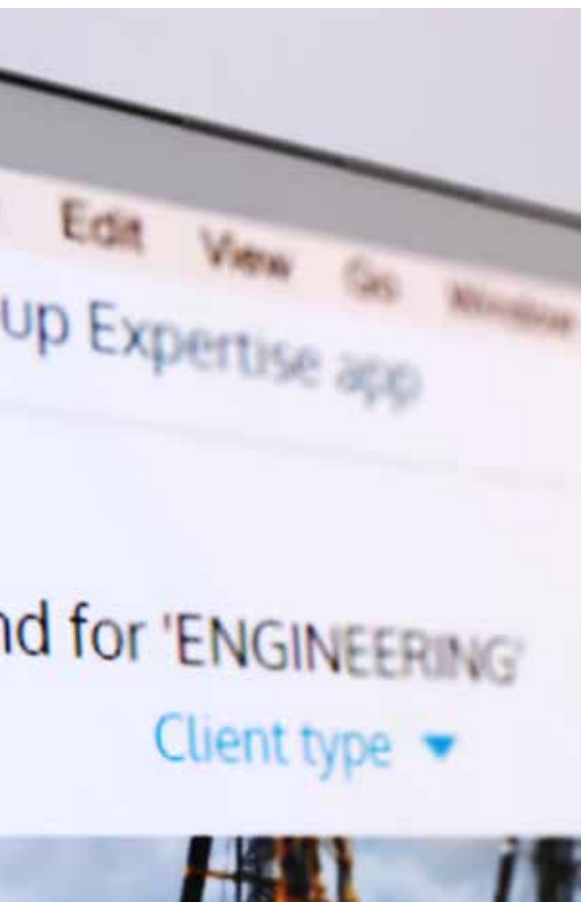


### Customer centricity

BESIX showing a strategic knowledge of its clients, partners and prospects, including their activities within their sector, their strategy and their requirements, is a sixth and final strategic driver for the group. It allows the company to anticipate and to offer unique solutions, specifically adapted and thought out for each client. In practice, in light of the diversity and number of projects BESIX has across the globe, customer analysis and follow-up is assigned to employees internally, based on their knowledge of the client, its sector and the local or regional market concerned.

### Sharing values across borders

Developing these six strategic drivers enables BESIX to anticipate contemporary challenges in the construction world. However, their effectiveness also depends on the spirit of the company in which they are developed, and the cohesion within that company. Cohesion



and spirit are built by sharing values across borders. We have defined five values: they are the cement of our Group. The success of BESIX Forward depends on them.

- The first of our values is **excellence**. This is BESIX's trademark and lies at the heart of our reputation. Whether a project is big or small, whatever its location, it must be carried out perfectly and to a superior standard.
- This constant requirement for excellence is impossible without **passion**: which drives us all to surpass ourselves professionally, to move mountains, while finding a genuine personal satisfaction in this.
- **Co-creation** is equally essential. By drawing on everyone's skill, we find solutions internally. Being smart and creative together.
- **Unity** is fundamental to this. This means turning BESIX's geographical realities into an asset and enriching ourselves through the diversity of cultures.

- **Respect** makes a logical conclusion to the list. Almost 80 nationalities, from all continents, rub shoulders on a daily basis within BESIX. Respecting each other's culture and heritage is quintessential to be able to cooperate.

The world of construction is changing. This change is technological: artificial intelligence, blockchain, augmented reality, 3D printing. It is environmental: energy efficiency, energy neutral, new materials. It is competitive: risk sharing, shrinking margins, talent war. BESIX Forward, based on one purpose, six strategic drivers and five values, is our response to these challenges. It represents a belief that profound change can be a risk or an opportunity, depending on how we choose to see it. BESIX has chosen to see change as an opportunity.



**BESIX  
ENGINEERING**

**COMBINING  
INNOVATION AND  
SUSTAINABILITY**

**JAN VAN STEIRTEGHEM**  
Director Engineering

*“As a leader in its sector, BESIX is keen to play a leading role in developing sustainable and environmental-friendly solutions.”*

JAN VAN STEIRTEGHEM | Director Engineering



It is a defining characteristic of BESIX, quite unique in the construction sector. The group has its own internal Engineering department, at the forefront of contemporary technologies. It stems from BESIX’s history and the group’s continued interest in innovation and state-of-the-art techniques.

BESIX’s Engineering Department has 190 employees on 3 sites: Brussels (Belgium), Dubai (UAE) and, since 2019, Brisbane (Australia). This decentralized presence places the Engineering teams closer to customers and their needs. Synergies between offices also promote optimal use of resources and skills - in Design, Methods & Planning, Sustainability and Digital – and permit a high level of responsiveness to market demands.

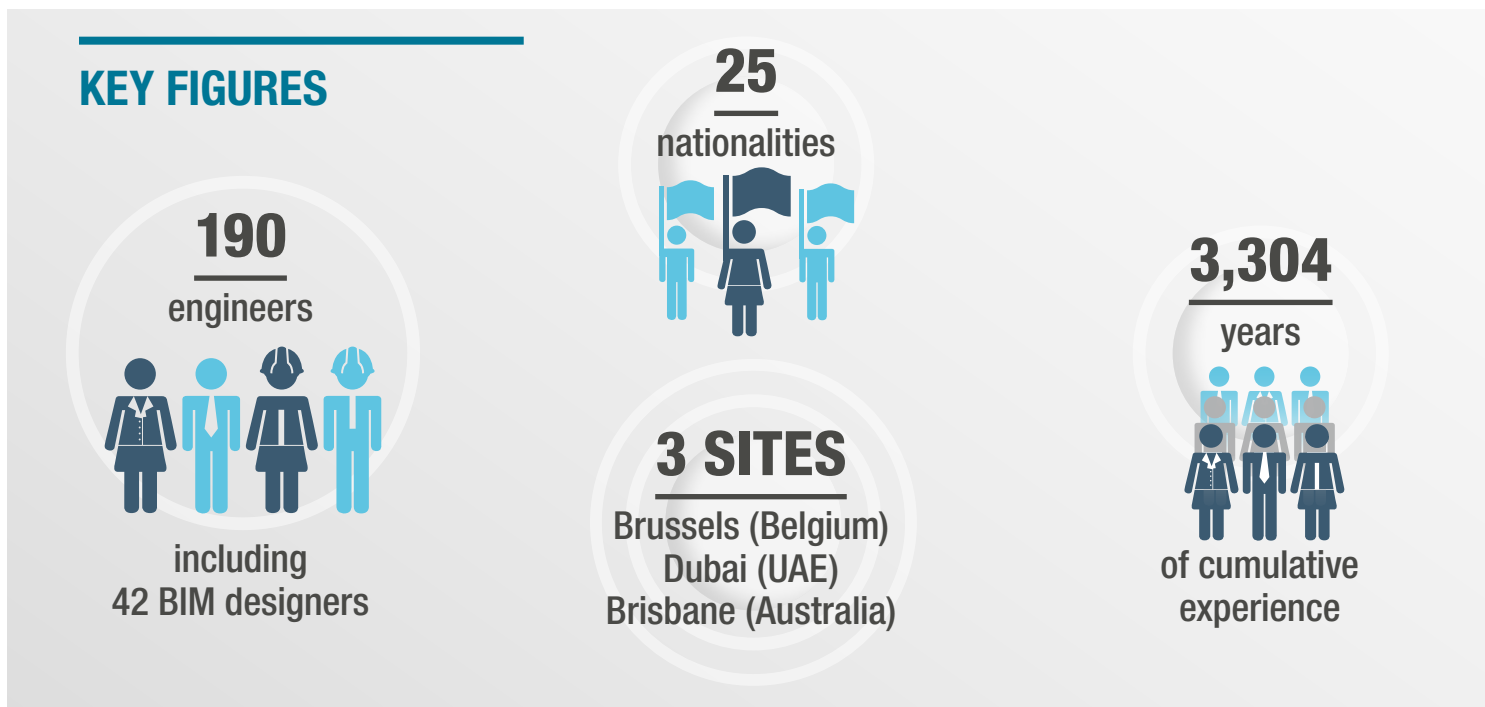
The department’s expertise derives from the exceptional know-how of its experts, for the most part academic references in their respective fields. The Engineering Department enables BESIX to realize projects of unique technical and environmental complexity.

## Construction and sustainable materials

The Engineering Department has placed “green concrete” at the heart of its strategy. During summer 2018, BESIX created, within

the Engineering department, a unit dedicated to sustainable concrete (“green concrete”). The primary objectives are to reduce concrete’s global carbon footprint and to minimise the use of primary materials. BESIX worked closely with several concrete supply chain partners to find a low-carbon binder and develop the use of recycled aggregates in Belgium. BESIX has also joined Circular Concrete, an innovative partnership funded by the Flemish Government’s Agency for Innovation and Entrepreneurship, which aims to link up innovative companies with potential users of green concrete.

BESIX is not just rethinking the chemistry of concrete, it also wants to play a leading role in promoting green concrete to its customers and contracting authorities. The company has already incorporated this expertise into certain tender submissions, for example for Befimmo’s “Zin in No(o)rd” project, in Brussels. BESIX does not intend to stop there; its objective is to position itself prominently as a promoter of green concrete on an industrial scale.



## Growing position in renovation

BESIX has decided to increase its know-how and activities in the field of renovation. Here it will apply two of its expert fields: its knowledge of concrete and of its life cycle, and digital mapping to speed up the auditing of buildings or infrastructure.

BESIX has already used these two expert fields, concrete repair and digital mapping, for the Manhattan Center building and the Leopold II Tunnel, two flagship renovation projects in the centre of Brussels.

## Digital turn

In all its engineering projects, BESIX now uses digital models or 'Building Information Management' (BIM). These 'digital twins' serve to optimise the design, execution and management of a construction project, to perform analyses and simulations (energy, structural calculations, etc.), controls (standards, budget and other) and to visualise the project. 3D models also facilitate the exchange of data on the basis of a single model, and in this way promote collaboration between all project participants.

"BIM promotes exchanges between stakeholders. Above all, this approach improves design work and can indicate problems or

inconsistencies before they show up on site. Today, BIM is a 'must-have' in this era where the amount of data produced has never been so large", Jan Van Steirteghem explains.

As the first Belgian construction company to obtain BIM Level 2 certification (January 2018), BESIX has recognised expertise in data management during the design and construction phases. This certification sets BESIX apart from the competition and offers significant competitive advantages in terms of risk control, safety and productivity. Moreover, during the BIM Awards 2018, a ceremony honouring the best BIM projects in the Benelux, BESIX and its entities took two gold and one silver award in the three competition categories: Infrastructures, Public Projects and Tertiary Projects, confirming the Group's leading position in the Benelux with regard to BIM.

Lastly, in the near future, BESIX aims to use the 'Common Data Environment', a digital and collaborative platform that promotes the recording and sharing of operational data between the various players on a building site (purchasing, property maintenance and facility management information, etc.).

"Such projects involve multiple players and generate large amounts of often scattered and sometimes contradictory data. The Common Data Environment will consolidate this data in a single database, giving the final customer guaranteed access to all building

and maintenance-related information," Jan Van Steirteghem explains.

In the longer term, it should be possible to 'Data Crunch' the large amounts of collected data (Data Lakes) to improve the analysis of available information, to perform predictive analyses or even to prevent incidents.

## Strengthening partnerships

In 2018, the Engineering Department strengthened its relations with both Belgian and international universities and with innovative start-ups, an approach that perfectly aligns with BESIX's strategy of establishing a permanent link between the business world and innovation.

BESIX is, for example, part-financing a chair for the Coastal Engineering and Geotechnics research group of Professor Pieter Rauwoens (KU Leuven, Bruges Campus) and his colleague Professor Jaak Monbaliu (KU Leuven). "At BESIX, we are convinced that private sector collaboration with academia is essential for training engineers, in general and in specific areas like marine engineering," Patriek Depuydt, Senior Projects Manager Engineering, explains.

The Engineering Department is also happy to maintain ongoing relationships with a number of innovative start-ups operating within its ecosystem.



## Engineering at BESIX: the human aspect at the centre

To be optimally effective, the Engineering Department is constantly reinventing itself in a permanent process of innovation. "To innovate, we are utterly convinced that our employees need to feel good and create a daily working atmosphere conducive to co-creation and innovation. A workplace where 'fun rhymes with excellence' but where the human factor remains at the centre of attention."

The year 2018 will remain in the department's memory as the year of solidarity. To express its concern in a concrete way to a colleague suffering from cancer, the Engineering Department sought to contribute to various cancer research campaigns. Sponsored marches, barbecue, quizzes, selling personalised calendars, creating and selling a hoodie ... there was no shortage of fund-raising ideas. No less than EUR 13,000 was collected in this way.



**JAN VAN STEIRTEGHEM**  
Director Engineering

*"We demonstrated to the customer our ability to identify challenges and problems, to come up with solutions, and to manage complex projects within a very short time frame"*

## MOHAMMED VI TOWER RABAT, MOROCCO DESIGN & BUILD PROJECT

In Rabat, BESIX and Six Construct are building Morocco's tallest tower.

The 250-metre tower will be the signature building of the Bouregreg Valley development plan, a key component of the 'Rabat City of Light, Moroccan Capital of Culture' programme. With a total surface area of 102,800 m<sup>2</sup>, the building's 55 floors will house a luxury hotel, offices, luxury apartments and an observation deck.

### **Innovation & Environment**

The tower's south façade will be fitted with photovoltaic panels, while rainwater recovery and wastewater recycling systems will be integrated into the building's design. Hot water will be provided by an internal energy recovery system. Designed for LEED Gold and HQE certification, the building meets stringent environmental quality standards.

### **BESIX's integrated approach**

This new reference perfectly illustrates BESIX's 'One-Stop-Shop' strategy, namely to be able to offer customers overall, integrated support from the design stage (structures, special techniques, façades, etc.) through to execution.

At the launch of the project, the BESIX teams distinguished themselves by their responsiveness: just three months after contract was signed, BESIX was ready to lay the foundations.

# MARINE EQUIPMENT



# THE RIGHT TOOL FOR THE RIGHT JOB



**NEW BOAT 'MAXIM'**  
with a capacity of 30 passengers  
to enable safe offshore personnel transfers



**NEW WORK BOAT 'WEAVER'** with a 24 tonnes bollard pull capacity,  
used for moving large size barges and anchor handling



**NEW TUG BOAT 'AUDREY'**: a medium size assistant tug  
with 10 tonnes bollard pull capacity

Since the acquisition of its first self-elevating platform in 1998, BESIX has continued to increase and modernise its marine construction equipment fleet in order to best suit the requirements of its coastal marine projects.

The overall fleet comprises two 1,100-tonne capacity self-elevating platforms fitted with 250-tonne cranes, two backhoe dredgers, tugs, multicats and workboats, as well as crane and transport barges. In the last two years, the group has extended and upgraded its marine fleet with the acquisition of a new work boat (24 tonnes bollard pull capacity, used for moving large size barges and anchor handling), a new crew boat (10 tonnes bollard pull), a new tug boat (10 tonnes bollard pull) and a new offshore pedestal crane (capacity of 240 tonnes for heavy lifting works).

The fleet is based in and deployed from the marine base in Ajman, UAE, that offers all the required facilities, including a slipway, to properly maintain, repair, prepare and mobilise the vessels.

Regarding HSE, BESIX has successfully passed the new International Jack Up Barge Operators Association ("IJUBOA") audit and is now fully certified as jack up barge operator.

Thanks to its know-how, its in-house Engineering Department and the variety of its fleet, BESIX is able to offer its clients tailor-made solutions for the construction of coastal marine facilities.

**HUMAN  
RESOURCES**

**PASSION**

**BUILDING A GREAT  
PLACE TO WORK**



BESIX is prospering today thanks to the commitment, investment and well-being of its employees.

## Attracting and retaining talent

Each year, BESIX Group hires up to 400 people, including many civil engineers and technical profiles. Its recruitment process includes proactive approaches to universities and being present at numerous recruiting fairs in Europe. "The size of our order book requires us to maintain a steady pace of recruitment and search widely," says Geert Aelbrecht, Chief Human Resources Officer at BESIX. "We have the advantage of recruiting for missions both in Belgium and abroad. Our vacancies can attract a profile looking for a job 'just around the corner' as much as a person tempted by an expat experience. With us, there's something for everyone."

However, getting enough people to sign employment contracts is not enough in itself; we still need to successfully integrate these new employees. For this, BESIX uses various onboarding techniques; from digital to very personal. On the tech side, there is the onboarding App: their contracts newly signed, new hires can already use this app to discover many aspects of their coming professional life, and even chat with their future colleagues.

At the personal level, every newcomer is given a volunteer 'buddy', who will help him or her to integrate by sharing all the handy things to know.

Attracting and retaining talent also involves expressing recognition. BESIX makes it a point of honour to regularly thank its employees for their efforts. This translates into symbolic acts that seek to recognize and express the importance of everyone's contribution to the functioning and success of the company. Whether it's an unexpected cake on Compliment Day or the little gold pin that employees receive on the occasion of their 10, 20 and 25 years of service, or by organizing team dinners or competitions to win a meet and greet with the Red Devils!

Finally, BESIX has always seen its employees' creativity as a source of value, a strategic element that allows the group to differentiate itself from the competition. Ensuring recognition and encouraging creativity are at the heart of the BESIX Human Resources department's strategy.



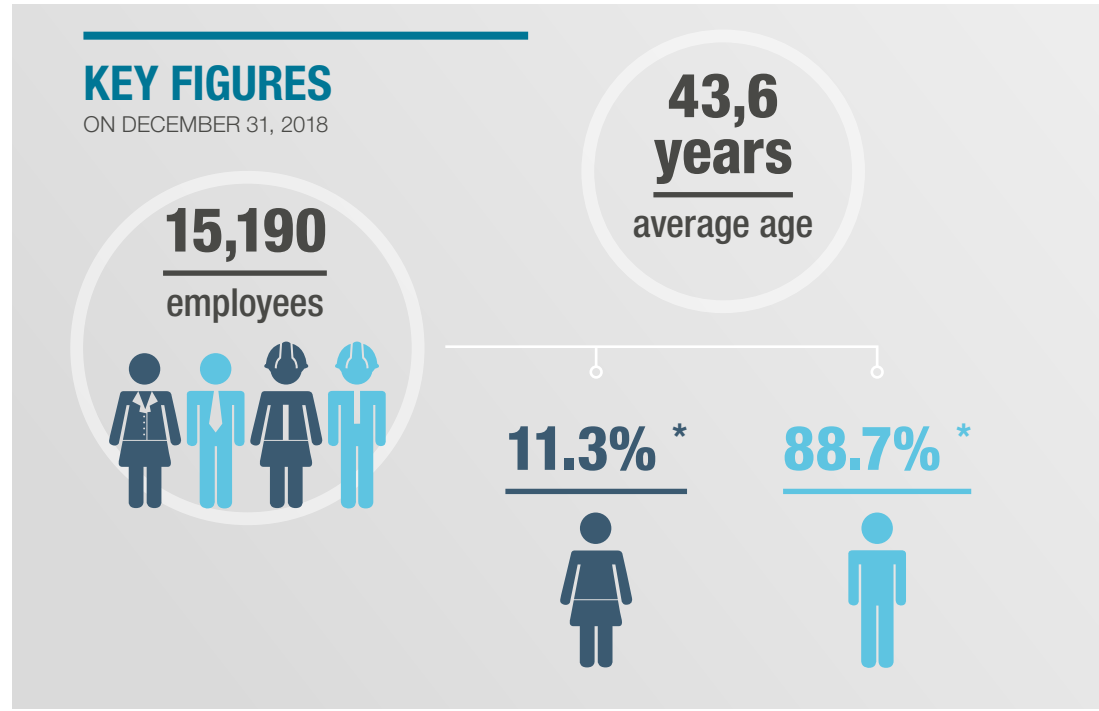


## Investing more and more in training

BESIX offers its employees more than 150 training courses. These include both advanced technical training and managerial courses organized internally and externally. The objective is to enable employees to broaden and improve their knowledge in order to evolve their careers and flourish within the group.

To better integrate training into the rhythm of day-to-day activities, BESIX offers online training modules (e-learning) enabling employees to train remotely when their schedule allows. "These e-learning sessions are supplemented by other information sessions on site, for example 'smart breakfasts' where an internal or external expert comes to present his expertise during a breakfast meeting: from LEGO Serious Play™ to drone engineering, to the basic principles of behavioural economics – the subjects are many and varied," Anaïs Glibert, head of the BESIX Potential Academy, explains.

In 2018, BESIX continued its "BESIX experience in project roll-out" (BE PRO) programme. This e-learning platform, focused solely on project management, aims to train employees in all the management aspects of construction projects. "It's exciting how the training content is constantly evolving, as our experts bring in best practices learned on our most demanding sites," Anaïs tells us.



\* Employees only.

This programme addresses the entire project management value chain, with a special focus on risk management, customer relationships, and safety.

## Flexibility and mobility

BESIX has a general compensation policy (basic pay, fringe benefits, work flexibility, mobility, etc.) and at the same time offers its employees the possibility of adapting this policy to their own choices.

"BESIX provides a working framework, which it then allows employees to tailor to their own convenience and needs," says Johan Melort, Group Head of Reward and HR Operations. "An employee's 'Mobility' budget, for example, can take the form of a public transport season ticket, a bicycle purchase, a car rental or a fuel card, as long as the colleague stays within the allotted budget envelope. We start from the assumption that it is not up to the employee to squeeze into the mould of a rigid policy, but to the company to adapt – as much as possible – to its employees' aspirations, taking into account the current legislation. Soft mobility speaks to our young recruits, so it's up to us to adapt our mobility policy when possible."

To date, nearly 100 employees have chosen to buy electric bikes thanks to the system set up by BESIX. Using a bicycle as a means of transport links in to the philosophy of the 'BESIX Fit' programme which aims to

sensitize employees to the benefits of sport and to getting fit (again). In 2018, more than 1,500 colleagues took part in the BESIX Fit programme. All physical efforts combined (running, walking, cycling, zumba, ...), BESIX employees clocked up more than 700,000 km, an absolute record! "Even the executive committee joined in," Geert Aelbrecht tells us with a smile. "During a collective triathlon, our Excom swam, ran and cycled as part of the collective effort". In addition to the get (back) into shape component, the BESIX Fit programme is a great way to bring together and connect employees through extra-professional activities.

**VALÉRIE GEURINCKX**  
Executive Assistant

*"I'm pretty active during the holidays and weekends and I really like running. But during the week I don't move enough. So I used my Mobility budget to buy a bike. As I live 7 km away from work, it's ideal. It gives me a boost to bike in the morning, I arrive less stressed than when I take the car and lose time in traffic jams."*



**10 years**  
average  
seniority

**764**  
recruitments  
in 2018



In 2018, BESIX started collaborating with Vlerick Business School, the official partner in Belgium of the Great Place to Work Institute®, on an audit of the company. The long-term objective is to obtain the Great Place to Work® label. “The Great Place to Work® label plays an important role in enhancing a company’s attractiveness and helping retain talent. Our ambition is to win it by 2020,” says Karla Craeynest, HR Business Partner Europe & HQ.

**YASMINA MEULEMEESTER**  
Innovation Officer

*“From my day-to-day interaction with colleagues in the international field, the idea of trying a foreign posting had been gnawing at me. When a position which was up my street came free in Dubai in late 2018, I didn't hesitate. I applied. The Middle East is our second largest market, there are a lot of us there. I've not (yet) experienced a single moment of doubt or loneliness!”*

And then there is not only physical mobility, there is also business mobility. “We are present in 25 countries, and in Belgium alone, we have more than a dozen entities with specific specializations: it would be a shame not to exploit this ‘playground’. We want to improve mobility between our entities, in particular by communicating even better on career opportunities within the group,” Yannick Van Aelst, Sourcing & Recruiting Officer, adds.

## Well-being at work

In 2018, BESIX implemented in the Middle East its framework agreement with the Building and Wood Workers’ International to promote fair labour standards and protect our workers. “With lots of migrant workers in our ranks this is crucial for us. Our starting premise is that while respecting international standards is fine, we have a duty to go further. Hence this framework agreement with the BWI”, Geert Aelbrecht insists.

Information sessions and awareness raising campaigns were conducted with workers’ representatives, in their languages and with illustrative posters that transcend language barriers. “These campaigns served to inform our workers about their rights and our commitments, but also and above all to press home to our partners and subcontractors what we are doing concretely to promote fair working conditions, because we’re counting on them to apply these initiatives too!” Geert Aelbrecht concludes. The Middle East was the first region to implement the framework agreement. By the nature of its activities and its international presence, BESIX believes it has a significant role to play in making sure that fair labour standards are respected. “Our role is to set an example, on behalf of our thousands of workers and employees in the region. The regular audits we allow prove we’re on the right track. Our accommodation facilities systematically score well during inspections, while allowing us each time to improve certain aspects. Our site canteen in Qatar was recognized as ‘the best in the country’ after a BWI audit.”

# QUALITY, HEALTH, SAFETY AND ENVIRONMENT



# GOING THE EXTRA MILE



The Corporate QHSE department supports the mission of BESIX Group, namely: “Excel in creating sustainable solutions for a better world”. The main objectives of the department are to develop a strong and positive culture in the field of Quality, Health, Safety and Environment and to excel within its domains. BESIX wants to ensure that no accident occurs, the safety rules are always adhered to and there is continuous improvement. The group wants to go the extra mile to put those ambitions into practice with respect for its customers, staff and partners.

## Health and Safety Programme

### Accidents

The accident frequency rate in 2018 indicates a slight improvement in safety performance. The three Contracting Business Units - Europe, Middle East and International - all performed better, as did the majority of regional and specialized entities. However, some severe accidents have occurred in some of the latter, which have had an impact on the group consolidated results with regard to severity rate.

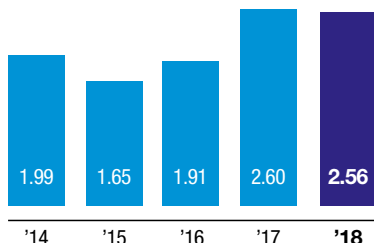
For example, the year 2018 was unfortunately marked by two fatal incidents at our subcontractors and partners. Our teams have carried out in-depth research into the cause of those accidents and have taken the necessary measures.

As a result of these fatal incidents, we are even more determined to strengthen the safety measures at our projects worldwide, and thus prevent such tragic accidents from occurring in the future. More than 150 audits and inspections of our projects were carried out this year. In this way we can check whether the safety rules are being complied with and we can help the projects to achieve the best results in terms of health and safety. In addition to these controls, we call on everyone in general to be vigilant: safety is in the interest of all of us.

### Global Safety Time Out 2018

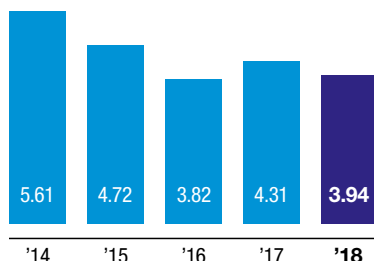
On February 28<sup>th</sup>, during the Annual Meeting of 2018, the Senior Management of BESIX Group committed itself “to go the extra mile for Safety” by signing a personal and corporate commitment to make more efforts for an excellent and safe working environment for everybody.

**BESIX SALARIED EMPLOYEES  
LOST TIME FROM INJURIES  
FREQUENCY RATES  
(LTI FR)<sup>1</sup>**



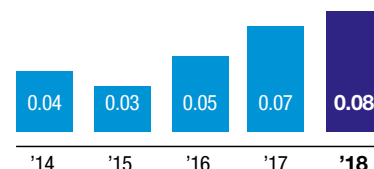
<sup>1</sup> Number of workplace deaths + injuries resulting in the loss of at least one day of work, day of accident not included \* 1,000,000 / hours worked.

**BESIX SALARIED EMPLOYEES  
TOTAL RECORDABLE  
INJURY AND ILLNESS  
FREQUENCY RATES  
(TRII FR)<sup>2</sup>**



<sup>2</sup> Number of deaths at work + time lost due to injuries + cases involving restrictions on the performance of duties + cases of medical care \* 1,000,000 / hours worked.

**BESIX SALARIED EMPLOYEES  
SEVERITY  
(SR)<sup>3</sup>**



<sup>3</sup> Number of days lost (due to LTI) \* 1,000 / hours worked.

On April 26<sup>th</sup> and 27<sup>th</sup>, 2018, all employees and subcontractors around the world took part in a reflection on safety. The Safety Time Out 2018 was the moment for all leaders within BESIX, all partners and all subcontractors to endorse the same Safety Pledge. In this way they could commit themselves to making more efforts for safety on the sites or in other words 'to go the extra mile for Safety!'.

The Safety Time Out 2018 marked the start of a series of initiatives and programmes that will support our efforts and compliance objectives.

The theme of Life Saving Rules compliance was touched upon again during the Safety Time Out.

**BE SAFE, Behavioural Based Safety Programme**

2018 was the year in which we started pilot projects for BE SAFE, the BESIX Behavioural Based Safety Programme. The programme is one of the many actions that will be taken in the context of the global plan to ensure compliance with the LSR and prevention of accidents as a whole. With BE SAFE, we want to change everyone's behaviour and create a work environment with 'zero accidents'.

**KEY POINTS OF THE SAFETY PLEDGE**

BESIX Leadership Team believes that our Company cannot succeed without having everyone safe at all times on a BESIX Group site. We are committed to go the extra mile for Safety. What does it mean for us? What does it mean for our colleagues, clients, partners and subcontractors?

We will not compromise when it comes to Safety. It is totally unacceptable to us that people expose themselves to serious injuries on a BESIX site. We want everyone to engage with the following rules on a BESIX Group project, site or facility:

- The strict respect of BESIX 10 Life Saving Rules by ALL.
- Leaders occupying overhead roles will participate in management safety walkabouts, when visiting a site.
- Site leaders will undertake management safety walkabouts on a weekly basis together with the project teams and subcontractors.

- We will stop works immediately when someone cannot or does not respect BESIX Life Saving Rules – works will restart only when remedial actions are taken and verified.
- If repetitive breaches of Life Saving Rules are observed, we will terminate contracts, and forbid access to BESIX sites.
- We will reward safety performance, individuals, work teams & subcontractors.
- We will own, sponsor, support and reward the full implementation of the BESIX Behavioural Based Safety Program BE SAFE.
- We will engage our Partners and Subcontractors' leaders in endorsing, signing and implementing the 'Let's go the extra mile for Safety' pledge.



The core concept of BE SAFE is to reinforce and grow caring values and to help our own staff as well as our subcontractors to work safely. This is done by positively influencing behaviour at work through frequent and on the spot observations and giving constructive feedback by peers.

All employees, regardless of the hierarchical level, and everyone who works for the company - including the subcontractors - will be involved in this programme. Behavioural change is a fundamental aspect that gives us the opportunity to shift up a gear in the area of accident prevention.

### Environmental highlights

Here are some examples of noticeable environmental milestones of 2018:

- Organization of 7 environmental events organised in the Middle East (World Water Day, Earth Day, World Environment Day, World Energy Day, World Paper Free Day, Employees Recycling Campaign, Carpooling Campaign, Act to sustain).
- BESIX Nederland has taken over the responsibility in 2018 to develop the CO<sub>2</sub> project plan with the objective to provide a tool for monitoring scope 1, 2 and 3 emissions on construction sites. Under the lead of BESIX, the CO<sub>2</sub> project plan has been digitalized into a software application called Smartrackers.
- CO<sub>2</sub> offsetting of major corporate events, certified by CO2logic.
- Study on more sustainable site installations (site cabins, LED Lighting, use of solar panels, use of battery packs for power sourcing, ...).
- Participation in the Green Deal Circular Procurement.



- Participation in European Mobility Week at Head Office.
- Launch of the Mobility Policy at BESIX, allowing employees to go for more eco-friendly means of commuting (bicycle, public transport, ...).

### Awards and achievements

An overview of a few of the most important achievements of 2018:

- The Grand Egyptian Museum (Cairo, Egypt) reached 21 million LTI free man-hours in 2018.
- Masdar City (Abu Dhabi, UAE) celebrated 10 million LTI free man-hours in October. A safety ceremony was held at the project along with client representatives, and selected members from the construction team received achievement certificates.
- The Royal Atlantis Project (Dubai, UAE) celebrated 20 million LTI free man-hours in November. It was also an opportunity to celebrate the lifting of the 1,300 tonne sky bridge by strand-jacking.
- QWS (Doha, Qatar) celebrated 3 million LTI free man-hours in November 2018 (since the 2 LTI which happened in September 2018). A safety achievement award has been distributed to selected

team members for their commitment towards Health & Safety.

- Environmental Award from Parsons Overseas Ltd (Construction Supervision Consultant) for 3rd Quarter of 2018.
- Environmental Performance Award – Project Recognition at EXPO 2020 project (this is awarded to the contractor who attained the highest score in reference to the Contractor Environmental Performance Criteria set by Parsons Overseas Ltd).
- Environmental Performance Award – Individual Recognition for Environmental Specialist.

### Certification

In an effort to align our way of working worldwide, we have merged the Integrated Management systems of Six Construct and BESIX into one single Integrated Management system 'BESIX Contracting (BCO)'. Following this effort, we successfully obtained a multisite certification for OHSAS18001 and VCA\*\*2008/5.1, ISO14001:2015 and ISO9001:2015 of the IMS on BCO level.

# CITIZENSHIP & SUSTAINABILITY



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**The Citizenship & Sustainability (C&S) approach, which is embedded in the group's strategy, has been driven by the new company purpose phrased in autumn 2017: "Excel in creating sustainable solutions for a better world".**

Our actions are based on three pillars (i.e. Planet, People, Profit), on the societal concerns of the countries in which we operate as well as on our vision.

We are increasingly asked to demonstrate our attitudes towards the major issues our contemporary society is facing such as the preservation of the planet against climate change, a successful digitisation, the promotion of ethical and sustainable construction projects, ensuring the well-being of employees, taking the social impact into consideration, etc.

Our C&S approach will be the subject of an in-depth reflection in 2019, to make sure it is fully aligned with our purpose and strategic drivers.

We are convinced that we can make a difference by offering our clients more sustainable alternatives right from the design phase of a project. The way we build our projects is just as important to us as the way they will benefit citizens.

For this reason, the group constantly endeavours to innovate through our Unleash programme as well as in terms of sustainable constructions. Almost 80% of the ideas originating from our colleagues under this programme relate to waste management, water treatment, safety or deal with the environment in general; which is a proof of our employees' engagement with C&S.

Following the opening of the Sustainable Construction department in Brussels in 2012, the group is preparing for the launch of a Green Building Expertise & Support Delivery centre of expertise for Brussels-Dubai.

We want to help build a better world with sustainable solutions incorporating the latest technologies in our field.

Going beyond ideas, we have set up pilot projects in 2018 that could make a difference in the construction industry of tomorrow: solutions for cleaner air in cities, 3D printing of materials, low-energy concrete, net-zero energy infrastructure and so on.

The group is committed to designing and embedding its C&S initiatives and action plans into its business organisation. To achieve this, BESIX Group continues to take inspiration from the 10 Principles proposed by the United Nations Global Compact, in which we have participated actively since 2016. Like nations before us (Just as the United Nations), we base ourselves on the 17 Sustainable Development Goals. In addition to that, we have also joined 'The Shift Network' to guide us in achieving our goals.

The activities of every company have an impact. We therefore want those of BESIX Group to be positive and help our society become more sustainable, in the broadest sense.

This year we are also publishing our fourth biennial C&S report, covering the years 2017 and 2018. This report summarises our group's citizenship and sustainability initiatives as well as the goals set by each of us, within our business units, departments or projects, to improve BESIX Group's C&S performance.

You can read about the actions we have taken in order to: protect the health and safety of people working on our sites; in order to promote workplace wellness – for example

through the application of the international framework agreement on the promotion of fair working conditions signed with the global union of building and wood workers (BWI); in order to ensure responsible business practices – for example through our Codes of Conduct; to boost local socio-economic development – for example by our inclusion programmes on site or through the work of BESIX Foundation; and finally in order to put in place sustainable project solutions and minimise carbon emissions and waste through our environmental integration plan.

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*"This year we are also publishing our fourth biennial C&S report, covering the years 2017 and 2018. This report summarises our group's citizenship and sustainability initiatives as well as the goals set by each of us, within our business units, departments or projects, to improve BESIX Group's C&S performance."*



## BESIX FOUNDATION: 10 YEARS OF SOLIDARITY

Ten years is an occasion to celebrate, but also to look back on achievements and forward to new activities.

In 2009, its centenary year, the group wanted to demonstrate its concern for society and also to support its employees and others that are working to improve the living conditions of the poor and to defend the environment. The foundation's chosen fields of activity are the environment, construction and education for disadvantaged people.

In the first year, 125 employees got involved and 25 projects were supported, 18 of them were put forward by colleagues, were supported.

Initially, most of our solidarity activities were located in Belgium, today they are geographically diversified. Thus, our colleagues in the United Arab Emirates now represent nearly 25% of volunteers.

Our first projects consisted of enabling people with reduced mobility to access a children's farm (Ferme La Hulotte in Wavre, Belgium) and clearing the undergrowth of a nature reserve in Meerhout (Belgium). From the second year onwards, as enthusiasm grew, our activities expanded and diversified. This included participation in the popular 'Operation Thermos' evenings (distribution of meals to the homeless), help to Poverello (Belgian association which helps the poorest), participation in the Olympic Games for disabled people (Flanders, Belgium), blood donation (Belgium and the Middle East), beach clean-ups (Middle East), and river cleaning (Belgium).



Besides participating in solidarity initiatives, we created two projects of our own: KiddyBuild, an opportunity for disadvantaged children to discover the construction trades (Belgium), and Right2Learn, offering computer and language learning to unskilled workers (Middle East). Both projects exist thanks to the expertise and the time of our employees.

The foundation also supports many projects with funding to enable them to achieve their goals (see graph).

And lastly, because skills sponsorship is even more valuable than financial sponsorship, our employees' construction expertise regularly contributes to the professionalism of the sponsored projects.

Involving group's employees in its projects but also supporting their interest in social activities are the driving force of the foundation. This encourages volunteering and, more than that, gives a vital push to sustainable solutions for a better world.

[www.besixfoundation.com](http://www.besixfoundation.com)

in **10** years



**247**  
projects funded



**3,400**  
volunteers participated



**2**  
own projects:  
Kiddybuild  
Right2Learn



**1,337**  
children welcomed to Kiddybuild

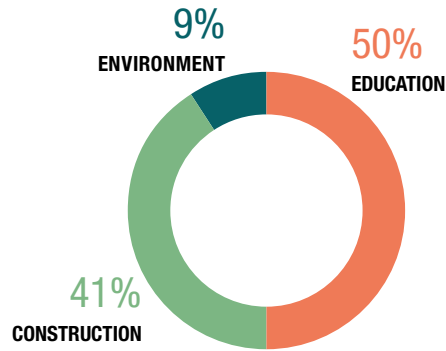


**778**  
workers trained through Right2Learn

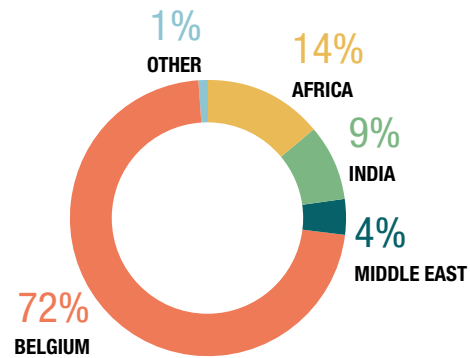


**3**  
prizes:  
Best Practice Award,  
Solidaritest,  
Aedificas Award

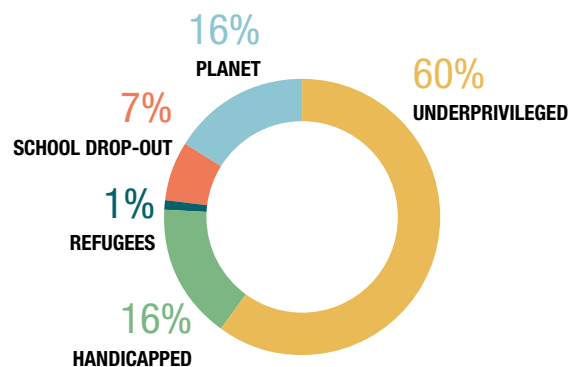
**BREAKDOWN BY THEMES**



**GEOGRAPHIC REPARTITION OF THE PROJECTS**



**TOP 5 OF OUR BENEFICIARIES**







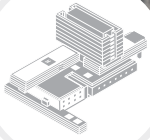
# BESIX ACTIVITIES

# OUR ACTIVITIES AND AREAS OF EXPERTISE

Thanks to its expertise and in-house engineering know-how, BESIX Group is always ready to come up with high-quality and cost-efficient solutions across its many activities.



## Buildings



From world-famous skyscrapers to low-impact housing developments, our impressive track record speaks for our professionalism and mastery. Today, we continue to design, develop and deliver fully integrated buildings and properties with a unique architecture, cutting-edge technology and performance, complex logistical and environmental requirements and extreme construction deadlines. We are especially known for our sound experience in realizing sophisticated large-scale projects, such as shopping malls, hotels and hospitals.



## Marine Works



The market for modern port infrastructure is one of the most dynamic in which BESIX Group operates. After WWI we rebuilt the Belgian ports and waterways and our expertise and experience have continued to grow ever since. Benefiting from our in-house engineers' know-how, we carry out projects mostly on a Design & Build basis. We own and operate our specialized marine construction equipment. This comprehensive design and equipment approach yields considerable cost savings.

We carry out coastal marine works all around the world: breakwaters, jetties, quay walls, ship locks, shore protection, waterways and intake & outfall.



## Infrastructure



We take on the most challenging and large-scale civil construction plans for both public and private clients. Tunnels, bridges, transport and systems engineering, geotechnical improvements, landscaping... Time and again, our engineers devise and deliver optimum results in the (re)design, construction and maintenance of diverse infrastructure projects, actively collaborating with other teams and experts.



## Sports & Leisure



BESIX Group builds places that turn people into participants. The Khalifa International Stadium (one of the official stadiums of the 2022 FIFA World Cup in Qatar), Ferrari World theme park, the Aspire Tower celebrating the 2006 Asian Games or the King Abdullah Sports City football stadium are some of the iconic examples of world-class infrastructure for entertainment and sporting events we have built.



▶ CONTRACTING



**Environment**

Over the past 40 years we have been providing integrated solutions for wastewater treatment in Europe, the Middle East, Asia and Africa. The planet is facing great challenges, but we are determined to support local communities worldwide in creating better places to live. We also actively share our specialized know-how related to onshore wind farms across Europe, from study over planning to completion.



**Logistics & Industry**

In the niche market of industrial structures BESIX Group designs and builds logistic and handling centers, oil and gas terminals, halls and warehouses... We are particularly well-versed in contracting for the energy and water processing industries and have the resources to supply our own raw and aggregate materials for the projects we are dedicated to.

▶ REAL ESTATE DEVELOPMENT



BESIX RED is the entity of BESIX Group responsible for property development. It covers three lines of activities: Offices, Residential and Retail & Services. In addition to its 30 years of experience, BESIX RED relies on a team which gathers great talents, whether it be architects, engineers or entrepreneurs. They serve the specific interests of clients with high-performance developments: maximizing convenience of occupancy and optimization of the environmental, economic and technical factors.

▶ CONCESSIONS & ASSETS

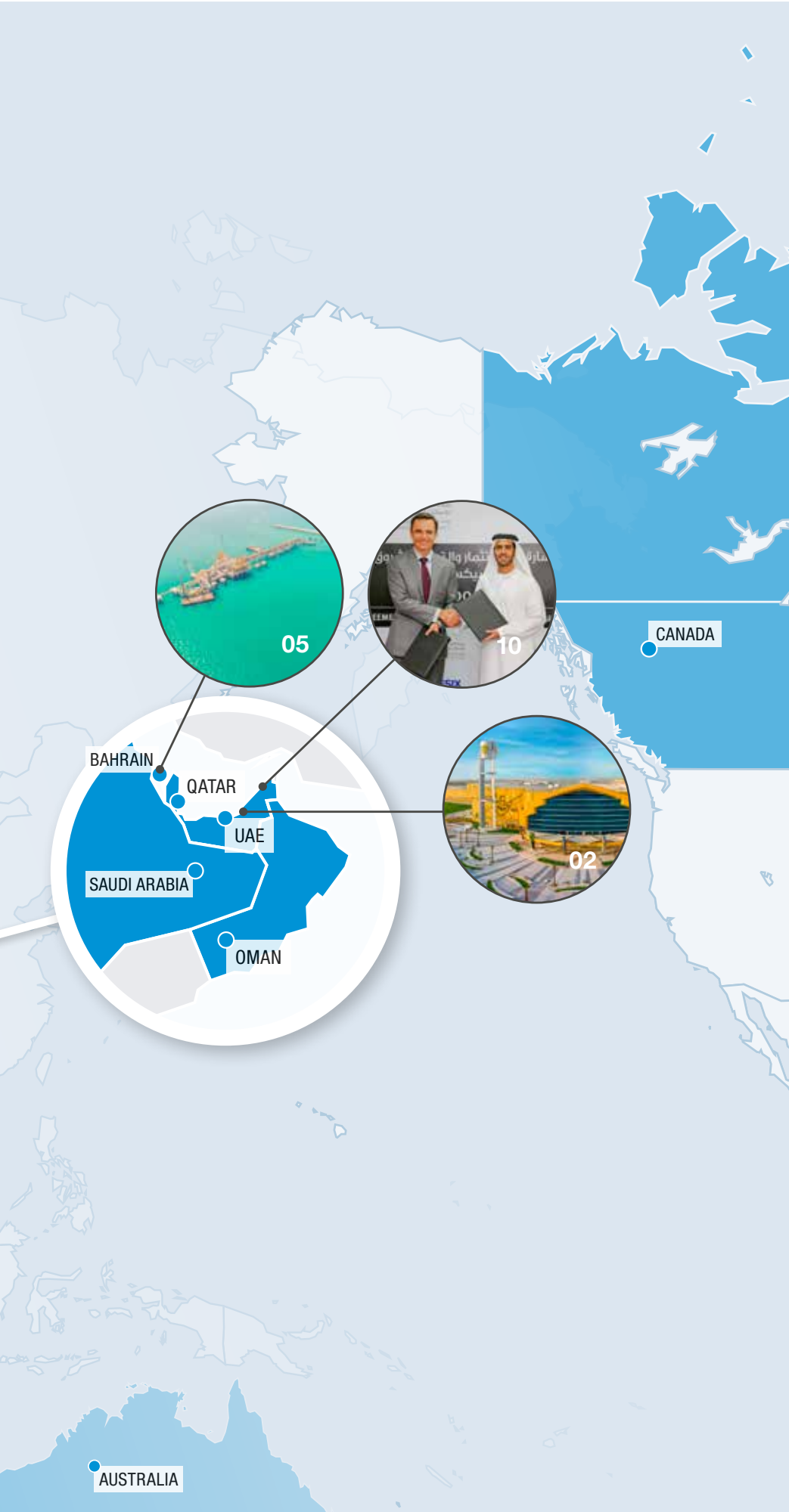


BESIX Concessions & Assets devises tailor-made solutions covering the complete infrastructure lifecycle. With our broad experience in European and Middle-Eastern Public Private Partnerships, we recognize that each project, customer and community has a unique set of challenges and we pride ourselves on being able to form collaborative partnerships to deliver on their aspirations. Together with our Client-Partners and applying BESIX's range of financing options, we devise a pragmatic approach to achieve a shared interest over the complete infrastructure lifecycle.

# BESIX AROUND THE WORLD

## WE OPERATE IN 25 COUNTRIES ON 5 CONTINENTS





PROJECTS HIGHLIGHTED IN THIS REPORT

CONTRACTING

- 01 | **HQ De Persgroep**  
Antwerp, Belgium  
*See page 64*
- 02 | **Warner Bros. World™ Theme Park**  
Abu Dhabi, United Arab Emirates  
*See page 72*
- 03 | **Grand Egyptian Museum**  
Cairo, Egypt  
*See page 76*
- 04 | **Hansadok**  
Antwerp, Belgium  
*See page 80*
- 05 | **Bahrain LNG Import Terminal**  
Muharraq Island, Bahrain  
*See page 84*

WATER & ENVIRONMENT

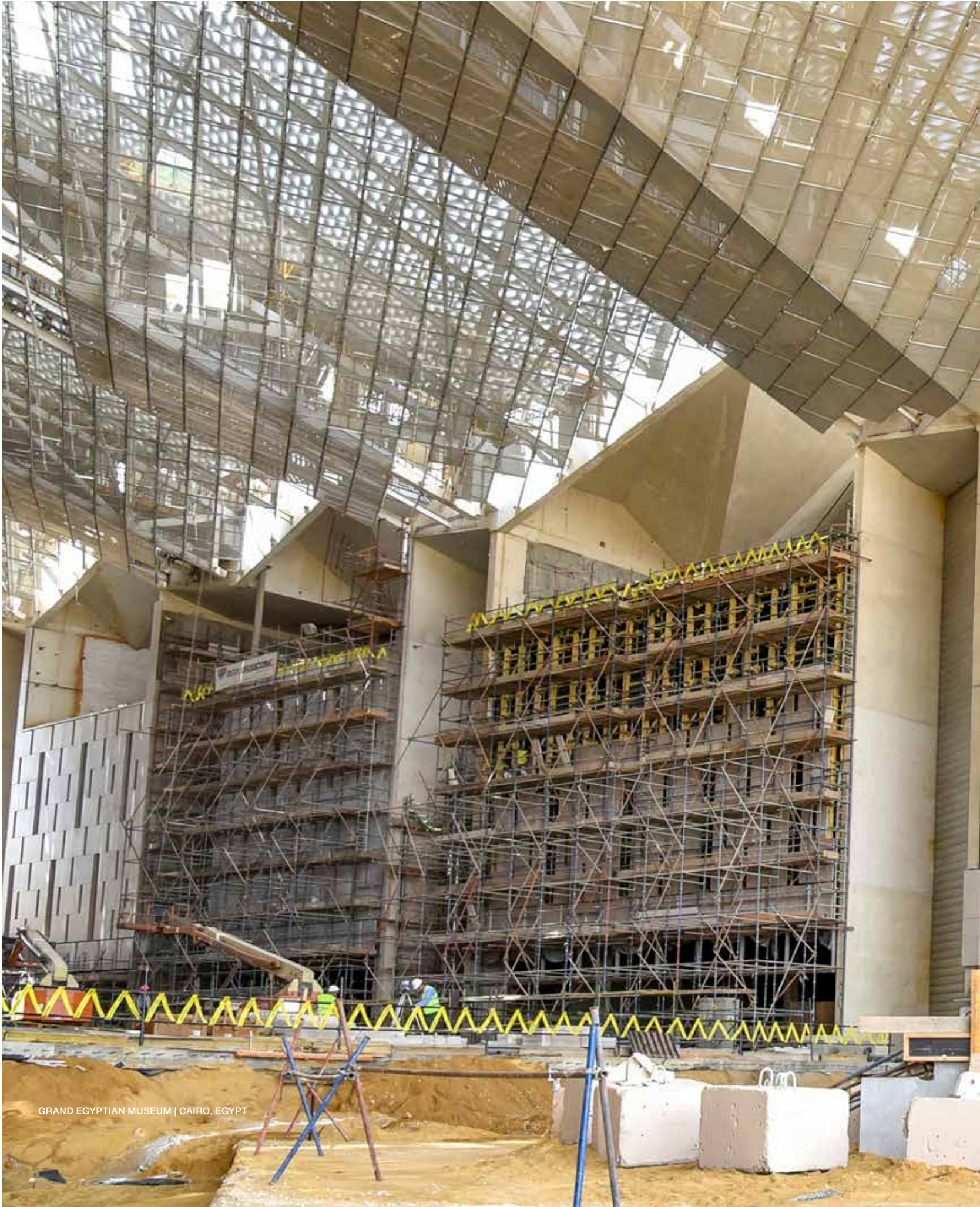
- 06 | **Water treatment in the Grand Duchy of Luxembourg**  
*See page 92*

REAL ESTATE DEVELOPMENT

- 07 | **Dunant Gardens**  
Ghent, Belgium  
*See page 124*
- 08 | **Casa FERRERO**  
Luxembourg, Grand Duchy of Luxembourg  
*See page 128*

CONCESSIONS & ASSETS

- 09 | **A6 Almere**  
The Netherlands  
*See page 138*
- 10 | **Al Saja'a wastewater treatment plant**  
Sharjah Emirate, UAE  
*See page 142*
- 11 | **Gotthard Hotel & Residences**  
Andermatt, Switzerland  
*See page 146*



GRAND EGYPTIAN MUSEUM | CAIRO, EGYPT

# ▶ CONTRACTING



BESIX  
ACTIVITIES

# CONTRACTING BUSINESS REVIEW

Despite a generally difficult economic conjuncture and intense competition, BESIX Group's core strengths have been growth drivers in 2018, consolidating our market-leading position. Clients continue to value BESIX companies as long-term partners, with the capacity and competences to take on complex projects, and proposing innovative, sustainable and added-value solutions. All BESIX contracting units present an optimistic forecast for 2019.

## 2018, a mixed year

2018 was a mixed year for the construction market – mostly positive in Europe but more challenging elsewhere, largely due to fewer contracts coming to market and heavier competition, notably from the growing presence of Chinese contractors. Nonetheless, in Europe, the Middle East and internationally, BESIX Group successfully delivered numerous prestigious projects and signed new contracts in the energy and water sectors, environmental projects, civil and marine works, general construction and infrastructure.



NIJKERK BRIDGE (DOEN) | NIJKERK, THE NETHERLANDS



GROUPE HOSPITALIER SUD ÎLE-DE-FRANCE | MELUN, FRANCE

## Europe

BESIX Europe has operated in a generally favourable construction market in 2018. The housing market in the Netherlands has been booming, due to the backlog in new housing caused by the financial crisis of the past decade. In addition, several big infrastructure projects have come onto the market. Belgium has seen a stable housing market but an increase in office developments, especially in Brussels, as well as the start of significant new infrastructure works and renovations of existing infrastructure. In France, there has been strong activity in civil works and large-building projects, while in Luxembourg, the market remained strong in office, housing and infrastructure works.

In Belgium, we delivered several important projects. For example, we completed the Maintenance Centres for the Belgian Railway Company NMBS/SNCB in Melle and for the Brussels Public Transport company STIB/MIVB in Haren. In Antwerp we delivered the new IJzerlaan bicycle bridge and IJzerlaan canal, which were the first projects for the new Oosterweel Link. New signed contracts included the renovation of the Leopold II tunnel in Brussels, the 3rd and 4th railway tracks between Aalter and Beernem, and the quay walls in the Hansadok in Antwerp, as well as an important logistics project for Brussels Airport.

In Luxembourg, works continued on the Casa Ferrero office building project and several new contracts were signed: earth works for the new Jean Monet II building, industrial works for Dupont de Nemours and several water treatment projects.

In France, we finalised our two hospital projects in Melun (south of Paris) and were awarded two new projects: a new hospital project in Neuilly (Paris region) and a mixed project of offices, hotel and housing in Nice, close to the airport.

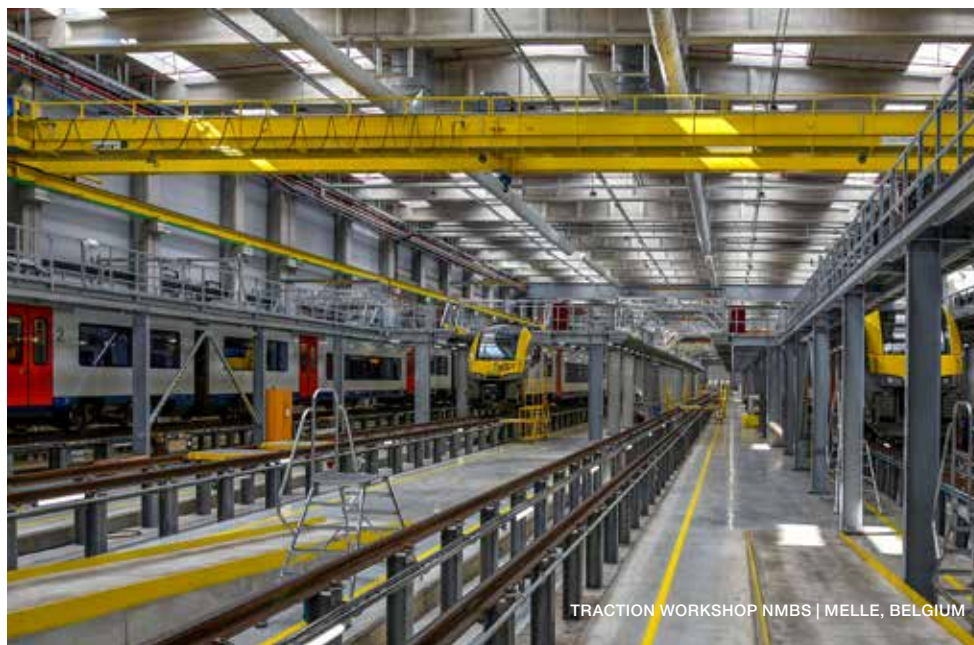
In the Netherlands, finalised projects included the new building of the College of Utrecht, the Kinderdijk-Schoonhoven dike reinforcement project and the innovative Nijkerk bridge renovation project (“Doen”). Several important new contracts were signed in 2018. In Rotterdam, the Theemswegtracé project includes a 4-km raised railway viaduct and the construction of two arched metal bridges. The massive De Groene Boog project, a public-private partnership, will expand the Rotterdam ring road with a new 11 km-long highway. The group also signed on the iconic Sluishuis project in Amsterdam and the Grotius project in The Hague, two residential towers of respectively 100 m and 120 m high.

**International**

BESIX International faced a challenging market in 2018. The major oil and gas companies are still hesitating to invest in large plants and infrastructure. Public markets, which are heavily dependent on financing, are facing growing competition from China.

Meanwhile, for private clients and in niche markets, BESIX International is particularly competitive. Our clients turn to us for our expertise and for delivery of projects safely, on time and with the required quality standard. We focus on bringing added value to our clients, for example through innovation, synergies or value engineering, to reduce their capital and operating expenses.

In 2018 our marine works included the final completion of the Ain Sukhna Product Hub jetty project in Egypt. In the large scale and high rise buildings sector, we continued the Grand Egyptian Museum (GEM) project in Egypt. We also completed two hotels – the Andermatt 4B Radisson Blu Hotel in Switzerland and the Chedi Luštica Bay Hotel in Montenegro. Infrastructure projects included continuation of the Roskilde Frederikssund bridge project in Denmark.



TRACTION WORKSHOP NMBS | MELLE, BELGIUM

**KEY FIGURES 2018**

Revenues <b>€2.4 billion</b>	Net result <b>€14.1 million</b>
Order book at 31/12 <b>€4.7 billion</b>	<b>1,000 +*</b> projects
<b>25</b> countries	<b>14,911</b> employees

\* including Regional Contractors

THE CHEDI HOTEL AND ITS MARINA | LUŠTICA BAY, MONTENEGRO



MOHAMMED VI TOWER | RABAT, MOROCCO

New contracts in 2018 included the signature, completion of engineering and main procurement of the Iron Ore Loading Facility project for Baffinland in Nunavut, Canada. We also signed, with Six Construct, the Mohamed VI tower contract in Morocco. It will be the tallest tower in Africa, built to high environmental standards, with a stunning appearance, and packed with innovations developed by BESIX's Engineering Department. In addition, BESIX International signed and started up civil engineering works for a drinking water treatment plant in the Ivory Coast and signed the contract to design and build a dam and hydro-electric power station project in Cameroon.



DRINKING WATER TREATMENT PLANT | LA MÉ, IVORY COAST



LNG TERMINAL | BAHRAIN

## Middle East

BESIX subsidiary Six Construct has operated in the Gulf Cooperation Council (GCC) area since 1965. Despite initial optimism for 2018, the area recorded its worst year since 2004 in terms of new contract awards. At \$88.5 billion, the value of contracts on this market was down 20% up to November 2018, compared to the first 11 months of 2017. Oman, Kuwait and Bahrain witnessed sharp decreases in year-on-year contract awards. Saudi Arabia remained stable and the United Arab Emirates saw a small increase.

As in other parts of the world, 2018 saw a continuing significant shift in the composition of international contractors engaged in the region and competing for contracts, largely due to the increased presence of Chinese contractors.

Six Construct delivered a number of prestigious projects in 2018. The Raft package of The Tower, at Dubai Creek Harbour, was completed two months ahead of schedule. An iconic theme park, the Warner Bros. World Abu Dhabi, was completed on Yas Island in Abu Dhabi. The Bahrain LNG Import Terminal, an important project for the energy infrastructure of Bahrain, was also delivered.

Despite the slow-down in contracts in the region, Six Construct signed on several projects in the energy sector, infrastructure, waste treatment and large buildings.

This included two waste-to-energy projects, one with the Dubai Municipality and the second to build a refuse-derived fuel (RDF) facility for the Emirates of Ajman and Umm Al Quwain, with the Ministry of Climate Change and Environment.

The group also signed on the Sea Water Reverse Osmosis Plant at Jebel Ali Power Station, Dubai, reaffirming BESIX as a partner of choice for the sustainable development ambitions of the United Arab Emirates. This new desalination project is the first by the Dubai Electricity & Water Authority (DEWA) to use reverse osmosis technology.

In infrastructure, Six Construct signed on the Shindagha Bridge for the Dubai Road & Transport Authority (RTA), as part of the ongoing AED 5-billion Shindagha Corridor Project.

In a joint venture agreement with Shurooq, the group signed a contract for the operation and maintenance of the Al Saja'a Sewage Treatment Plant in Sharjah, UAE.

Six Construct also signed on two large building projects: the 78-storey Dubai Uptown Tower for the Dubai Multi Commodities Centre (DMCC), as the first phase of a three-phase project, and the Umm Al Quwain Waterfront Development – Marine Works contract, which is part of the upgrading of an existing berth. The project includes the construction of a 1,322 m long precast block quay wall in front of the existing sheet pile quay and the necessary shore protection work and beaches.



## Outlook

All of the BESIX units are forecasting a positive outlook for 2019. BESIX Europe reports a record high order book and a well filled pipeline of expected tenders in all our European markets. Major infrastructure projects are being announced and BESIX is participating in several consortiums tendering for large building and infrastructure projects. The group will focus on those projects where our added value differentiates us most from competitors, supported by further development of synergies and one-stop-shop solutions with all entities of the group.

In addition, BESIX Europe will focus on the finalization of our challenging Sewage Treatment Plant project in Den Bosch, the Netherlands.

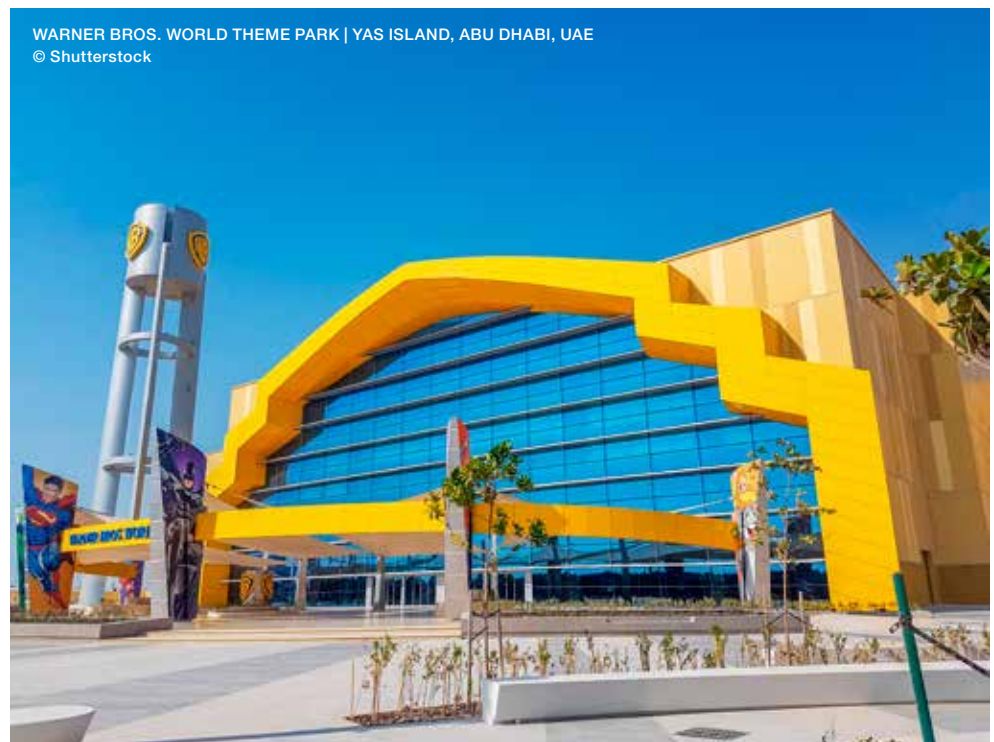
BESIX International will continue to focus on winning new clients that share our values and approach, notably regarding safety in design, safety in construction and safety in the end product in terms of use and maintenance. Design and Build projects are always preferred as this allows us to combine our expertise – in fields such as engineering, design, construction methodology and equipment – in order to deliver projects safely, on time and with the required quality standard.

The International Monetary Fund has raised its growth forecast for the GCC region in 2019. Government-led projects will be the focus for Six Construct, particularly in public-private partnership schemes. The UAE has introduced an economic stimulus programme and indicated an increase in government spending. Its federal budget for 2019 will be 17% higher than 2018 at AED 60 billion (USD 16.3 billion).

Bahrain introduced VAT in January 2019 while Oman shall do the same within the year. Six Construct will therefore keep UAE as its main GCC market, whilst selecting specific projects in Oman and Bahrain, and focus on a client-centric approach, supported by strong long-term technical solutions.



SHINDAGHA BRIDGE | DUBAI, UAE



WARNER BROS. WORLD THEME PARK | YAS ISLAND, ABU DHABI, UAE  
© Shutterstock



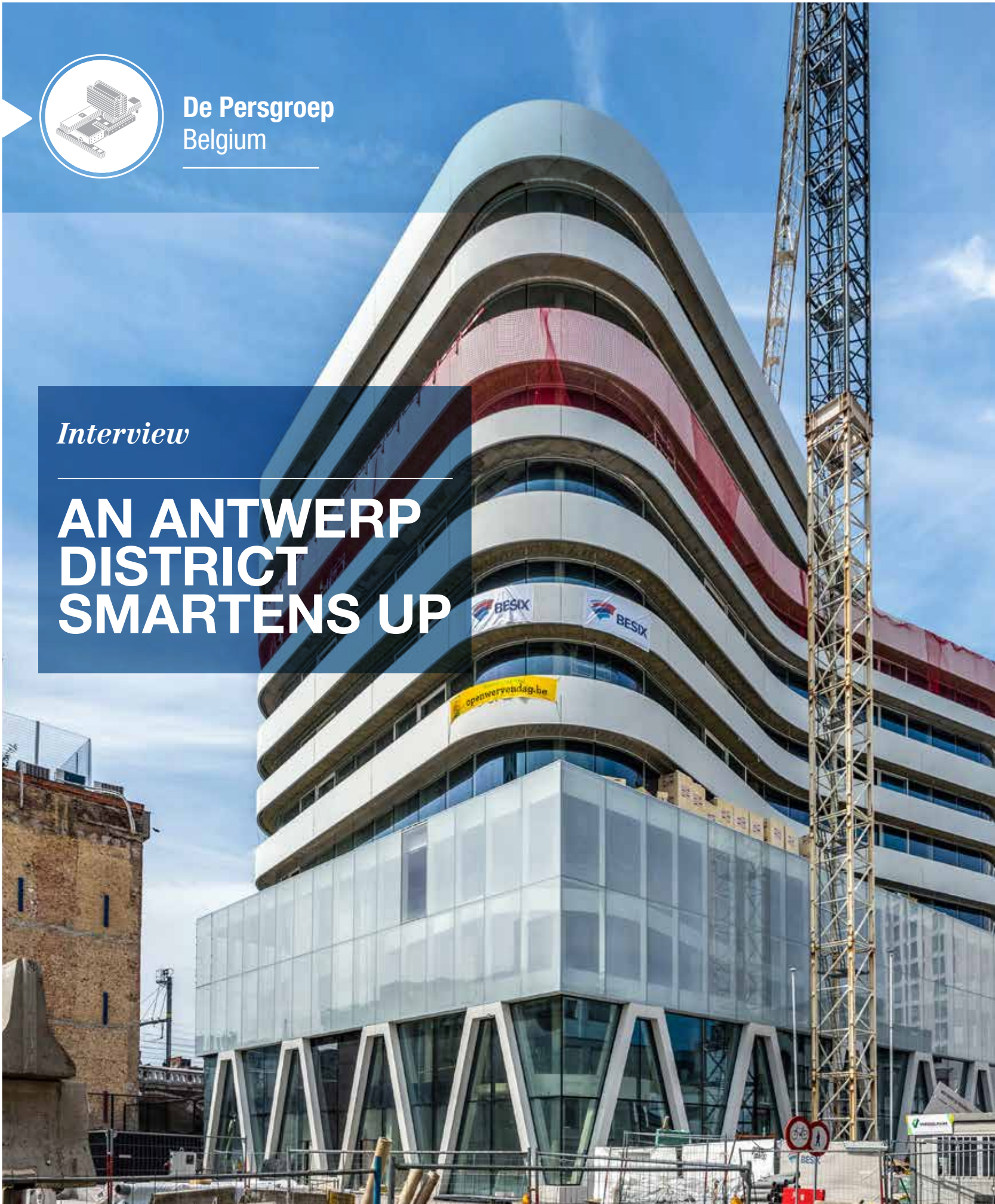
RDF FACILITY | AL MADFAQ, UMM AL QUWAIN, UAE



De Persgroep  
Belgium

*Interview*

# AN ANTWERP DISTRICT SMARTENS UP





46 m

height of the building

19 months

delivery time

3 m

height of the striking façade elements on the groundfloor



The new head office of media company De Persgroep, that will be built by BESIX in a genuine record time of just 19 months, is a figurehead of the renovation and smartening up of Antwerp's Kievitplein and the area around the Central Station. The new building, with a floor area of 22,680 m<sup>2</sup> and a height of 46m, has 4 roof gardens and offers a 360° panorama of the city. Its unique architecture, from the transparent base to the curved lines that together form the façade, has presented significant constraints in terms of technology and choice of materials. Existing buildings in the immediate vicinity, including a tunnel in an adjacent basement and the presence of a listed monument, have had to be taken into account.

**Christian Van Thillo, CEO of De Persgroep**, answered our questions. He discusses the architecture of the building, the choice to headquarter his business in Antwerp and, of course, BESIX's expertise!

**Why did De Persgroep decide to build a new building? How important is this for De Persgroep?**

Mid-2015, we began thinking about the future of our headquarters. After a few major acquisitions, the building in Kobbegem had become too small to accommodate all the employees of our Belgian publishing activities. We first thought of a new building on our own company site, but it soon became clear that this was not a future-oriented solution.

De Persgroep has undergone a real metamorphosis in recent years. A number of major acquisitions have grown us from a local media company into an international player operating in Flanders, the Netherlands and Denmark. We are active in television, radio, news-

papers, magazines and digital media and services. With a portfolio of over 50 leading media brands, we employ 6,000 people who together generate more than € 1.4 billion of turnover.

In addition to this scaling-up, we are also going through a digital transformation that is having a fundamental impact. From our headquarters, we manage computerisation, innovation and digitisation for the three countries in which we operate. This requires continuous consultation with our people in Amsterdam, Rotterdam and Copenhagen. Together we determine our strategic priorities and share knowledge and experience across borders. All these major changes led us to think hard about the ideal headquarters. Our future, we concluded, lay in Antwerp.

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**CHRISTIAN VAN THILLO**  
CEO of De Persgroep

*“After a limited tender, BESIX emerged as the best construction partner, coming out on top from a selected group of contractors.”*

## Project details

**HQ DE PERSGROEP**  
ANTWERP, BELGIUM

**Activity and area of expertise**  
Building/Office

**Client**  
De Persgroep Publishing

**Stakeholders**  
BESIX

**Type of contract**  
Build

**Contract value**  
€28 million

**Construction period**  
2018-2019



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### **With regard to the architecture of the building, which aspects were decisive for your choice?**

We deliberately opted for a building that breaks explicitly with the otherwise fairly monotonous office environment. This is possible because the building is on the square, directly opposite the station exit. We are convinced that this will not only be a landmark building, but that it will also be a substantial enrichment for this up-and-coming district.

We are not a 9-to-5 company. People will be busy in our building 24/7. The general public can also visit our building. On the ground floor, a brasserie will be open to everyone. The upper layers of the building also provide greenery, with four roof gardens where colleagues and visitors can work.

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### **You have chosen to establish De Persgroep in a specific district of Antwerp, the Kievitplein. Can you comment on the integration of the building into this neighbourhood?**

The search for an ideal location was anything but obvious. We looked at all the possibilities in the vicinity of the Central Station and Berchem Station, but it soon became clear that no existing building met our needs. Kievitplein was an option, also because we got the message from the city that it planned to upgrade this neighbourhood. As a media company, we can really contribute to that.

In addition, it puts us close to public transport that will take us to the Netherlands in no time and can help many colleagues with their mobility problems. We also notice that we can attract young creative talents more easily by being in a city centre.

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### **What did you know about BESIX before signing this contract? Why did you choose BESIX?**

This project is our first major collaboration with BESIX. After a limited tender, BESIX emerged as the best construction partner, coming out on top from a selected group of contractors. Pricing-wise, BESIX had the best offer, and it was also ready to commit to completing the works within the allotted time limits. That was and is very important to us.

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### **Since the start of the project, have there been aspects that you, as a customer, particularly like? For example, regarding the management of the site and/or your relationship with BESIX?**

Yes indeed. The works were assigned to BESIX in November of 2017 by word of mouth. Three weeks later work was under way, even before the contract had been signed. This demonstrates mutual trust and proves that BESIX is a well-oiled machine, that can move into action at lightning speed. A flying start, if you want ...

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### **Has anything particularly impressed or surprised you in the construction process?**

We were pleasantly surprised by the speed with which the work is moving forward. We have our webcam focused on the building and can follow the progress of the structural work and the assembly of the façades on a daily basis. Our colleagues can also follow these webcam images, giving them a real view of their future new workplace.

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## **A PILOT SITE FOR 'BE SAFE'**

De Persgroep was a pilot site of BE SAFE, the behaviour-based safety programme developed by BESIX Group's QHSE Department. Its core principle is to focus on caring values in order to improve safety. In short, scientific research has shown that positive feedback from peers is more effective than hierarchical orders when it comes to changing behaviours in the long term.

"The whole system is based on voluntary ambassadors. On the construction site of De Persgroep, we started with two workers, particularly sensitive to safety. We trained and coached them. Basically, their mission was to keep an eye on their colleagues' actions and to compliment or correct them. Always in a positive and constructive manner," explains Jan Vangeel, QHSE Manager Training and Communication.

The results are more than encouraging. Not only has safety constantly improved on the construction site, but additional workers have volunteered and the programme has obviously gained the full support of the site teams.

"What has changed the most are those simple but critical prevention practices and the workers' proactivity with regard to safety. For instance, it has progressively become rarer to have to remind someone to wear the right equipment or to stay at the correct distance from certain operations. These are little things, but they are key when it comes to safety," says Jan Vangeel.

In other words, the construction site of De Persgroep has delivered proof that BE SAFE works!



## The renovation of the Nijkerk Bridge The Netherlands

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*Interview*

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# A SUCCESSFUL PILOT PROJECT IN THE NETHERLANDS





1

pilot project for an innovative working method

300 m

the length of the bridge, spanning a seaway and a road

15 months

the duration of the works

2

the number of weekends closed to traffic



In 2013, Rijkswaterstaat (RWS), the executive agency of the Dutch Ministry of Infrastructure and Water Management, issued an unusual call for tenders. Relating to the renovation of a 50-year-old bridge, the selection of the contractor was not based on price or technical solution. Instead, it asked tenderers firstly to demonstrate their ability to work with the project team from RWS and take on board the expectations of the end users of the infrastructure. The method was called DOEN, meaning 'do'. In 2018, BESIX and its partner Mourik, via the consortium NU, completed the works. The new bridge is the result of optimal cooperation between all stakeholders. A success. To such an extent that the philosophy behind the DOEN method, which was an experiment, has now been rolled out by the Dutch authorities for other projects.

**NIJKERK BRIDGE**

The Nijkerk complex, constructed between 1963 and 1965, mainly consists of a lock and a bridge. The bridge connects the province of Gelderland with that of Flevoland, the twelfth and last province of the Netherlands, all of whose territory, created by man, lies below sea level. Between the 60s and today, new cities have been built there, in particular Almere and Lelystad. The traffic weight and congestion has therefore increased substantially, beyond the capacity for which the Nijkerk Bridge was built. So, renovation was necessary. The beams and pillars definitely had to be reinforced and made thicker. Part of the deck also had to be replaced. But, instead of a normal tendering process, including a list of specifications, for example, RWS decided to try out an experimental pilot scheme. A new method, called DOEN.

**A PARTICIPATIVE PROCESS**

The DOEN method puts collaboration between all stakeholders, i.e. the contractor, RWS and the customer, at the heart of the project. By customer, RWS, actually the contracting authority, means the taxpayer and local users of the bridge. RWS sees itself as a member of the project team, working alongside the contractor. This is one of the reasons why the selection process did not include a price or a project description. It asked tenderers to propose a cooperation method and demonstrate their ability to work with the RWS team and take on board the interests and expectations of the end users. The idea behind this is that such a cooperative method would guarantee maximum customer value and the best possible use of the funds released, according to real local needs.

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“That’s the spirit in which the project was conceived. User involvement allows us to work out exactly what they want and incorporate this in the project in a smart way. On the other hand, they are aware of the technical or financial consequences of their choices. And the final solution, which matches their requirements as closely as possible, is determined on an informed basis. All this was done in full transparency and in mutual understanding, while both parties respected each other’s interests. By doing this from beginning to end, we realised the project with the vision to deliver a fair work for fair money,” explains **Alexander Heeren, Commercial Director Infrastructure for BESIX Nederland**. It was only later, based on the project designed with users, that RWS and the NU consortium, between BESIX and Mourik, divided the risks, drew up a contract together and decided on the price together. This was the final stage in the tendering process, won by NU. BESIX, Mourik and RWS then set up a team to work on the project, NU DOEN (do it now).

The involvement of all parties continued throughout the creation of the project. “The stakeholders met around the same table every other week during the works. This meant, for example, that the manager of the bridge was fully involved in the process. This allowed us to build a relationship of trust and work in total transparency,” explains Alexander. Nuisance management is a good example of this. “The DOEN method allowed us to identify very precisely the real nuisances. Seeking and finding solutions together creates more pleasant and more harmonious working conditions for everyone. This means that nuisance is understood better by all parties”.

The pilot project at Nijkerk was so successful that the DOEN method has been rolled out to other projects of the Rijkswaterstaat in the Netherlands. By introducing new methods, DOEN is helping to bring about a structural change in the construction sector. A change centred on optimal cooperation between all parties. A change to which BESIX Nederland will have actively contributed.



**ALEXANDER HEEREN**  
Commercial Director

*“The final solution, which matches the requirements as closely as possible, is determined on an informed basis. All this was done in full transparency and in mutual understanding, while both parties respected each other’s interests. By doing this from beginning to end, we realised the project with the vision to deliver a fair work for fair money.”*

## WHAT ABOUT THE BIRDS?

Many different species of birds nest in our bridges. At Nijkerk, we paid particular attention to managing this wildlife. Shelters were created, especially for jackdaws, bats and swallows. We also had to prevent swallows from building their nests under the bridge during the works. They were therefore removed from the site in a completely natural way, using a falconer and his birds of prey to scare them away!



## THE RENOVATION WORKS

The renovation of the Nijkerk Bridge was a Design & Build contract awarded to Combinatie NU (meaning 'now'), a consortium in which BESIX, the main contractor, and Mourik each held a 50% stake. The 300-metre-long bridge spans a seaway, the Nijkerkernauw, and a road, the Slingerweg.

BESIX and Mourik reinforced the structure of the bridge, especially the pillars and beams, so that the tonnage restrictions on traffic could be lifted. A section of the bridge deck was also replaced. This section was raised to a height of 4.5 metres to allow taller vehicles to pass under the Slingerweg.

The works started at the beginning of September 2017 and were completed on 11 December 2018. The infrastructure was handed over to its manager the same day, an achievement made possible by the DOEN method.

## MINIMAL DISRUPTION

In total, the bridge was only closed to traffic during two weekends. Most of the works were actually carried out from underneath the bridge, minimising the inconvenience to traffic. The only works requiring the closure of the bridge were those relating to the road surface and cycle paths, the joints, the drainage infrastructure and, of course, the installation of the new deck section. During these closures, a ferry service was laid on for pedestrians and cyclists. There was no disruption to shipping during the works.

## Project details

### NIJKERK BRIDGE

NIJKERK, THE NETHERLANDS

### Activity and area of expertise

Infrastructure

### Client

Rijkswaterstaat

### Stakeholders

Combinatie Nu (BESIX - Mourik)

### Type of contract

Design & Build (developed with the client)

### Contract value

€12 million

### Construction period

2017-2018

## FIVE QUESTIONS TO RIJKSWATERSTAAT, MARLOTTE KOSTER, PROJECT MANAGER PROJECT DOEN & GUIDO HAGEMANN, DIRECTOR PRODUCTION AND PROJECT MANAGEMENT

### As infrastructure, how important is the Nijkerk Bridge, economically and in terms of mobility?

The Nijkerk Bridge connects Gelderland and Flevoland. About 18,000 vehicles cross it every day. The Nijkerk Bridge is the only crossing in the surrounding area. It's a detour of about 10 minutes via the next bridge for cars, but much longer for cyclists, mopeds and pedestrians. A cyclist has to take a detour of an extra three quarters of the route. The bridge experiences above-average use by freight and agricultural traffic.

### The tendering process for the project was innovative (DOEN). What led the Rijkswaterstaat to choose this method?

Rijkswaterstaat wanted to improve cooperation with market participants. With fewer rules and more trust. The goal of the DOEN project was to aim for maximum customer value and fair money for fair work. Through better cooperation along the entire chain. Between clients and market participants, but also with managers and surrounding stakeholders. Inspired by the goal behind existing rules. Not working how we usually do, but thinking logically, with a fresh view, and only doing what makes sense. And finally, by learning and sharing lessons learnt with others, to help bring about a structural change in the construction sector.

### In retrospect, did this process have a positive impact on the execution of the works and in what way?

Yes. The DOEN approach led to the following results: Satisfied customer and stakeholders, fair money for fair work, predictable progress of execution in terms of time, money and quality, minimal hassle, truly working together, more scope for innovation and expertise and greater job satisfaction.

### Are there any specific aspects of the work that you are particularly satisfied with?

The project team from Rijkswaterstaat and the project team from the Combinatie



Mourik-BESIX consortium decided right at the start of the project to form a joint team. To work together as colleagues. The project team from Rijkswaterstaat found this intensive mutual collaboration on one site, with one organization chart and one consultation structure, to be very positive. The main benefit of the mutual cooperation between RWS and the consortium came from the combination of technical expertise and soft skills brought by the consortium. We (RWS and the consortium) invested in understanding one another's interests and were all committed to safeguarding these interests as far as possible. Transparency, trust and understanding were key to this. The capacity to subordinate stakeholders' own interests, culture and customs to the team process positively surprised us.

### From your point of view, what were the technical challenges of this project?

The greatest challenge was to renovate the bridge from underneath, so that traffic could continue to drive over it as much as possible. We succeeded in this - throughout the renovation, the bridge only had to be closed for two weekends.



Warner Bros. World™ theme park  
United Arab Emirates

*Interview*

# SIX CONSTRUCT IN SUPERHERO MODE





1

fully indoor theme park

145,000 m<sup>2</sup>

dedicated to Warner Bros. heroes

30

months to be completed

29

state-of-the-art exhilarating rides



## FOUR QUESTIONS TO ABDEL RAZAK NALOUTI, VICE CHAIRMAN OF SIX CONSTRUCT

**Warner Bros. World was inaugurated in July 2018 and thousands of people have already visited it. Is there a specific aspect that we could be particularly proud of?**

One of the main criteria of the project brief was the design and build of a first-class theme park, which is a very subjective thing. However, we obviously succeeded in making it happen. Warner Bros. World has been named as one of the 100 must-attend attractions in the world and named Best Theme Park by Theme Park Insider. BESIX and Six Construct can certainly be proud to have achieved that.

**A theme park as iconic as Warner Bros. World presents unique challenges. What were the specificities of the project?**

As part of the construction process, a major feature was to bring to life animated characters and coordinating them with audio and video installations as well as with the theme park's rides. It is quite a unique challenge. We had to marshal the creativity of art directors and concretize their ideas. We have been able to translate their many

contributions and build a park that reflects what they conceived. It demonstrates the ability of Six Construct to bring together a wide range of disciplines, including expertise miles apart from the traditional construction field.

**In your opinion, what makes Six Construct a partner of choice to design and build such unusual projects?**

Over the last five decades in the United Arab Emirates, Six Construct has shown its ability to carry on the most challenging and unique projects. We are known as a major construction company that delivers its projects on time and to the quality expected by its clients. In this regard, the key is certainly our level of cooperation and team spirit in the pursuit of a common objective. Also, we have with BESIX a wide pool of in-house expertise from all over the world to draw on. The successful construction of Warner Bros. World is a perfect illustration of the combination of all these aspects.

**One more thing you wish to add?**

That's all folks!



**KOEN DE ROOY**  
Project Director

*“We completed the works without any incidents. We even received the Appreciation Award for 20 million man-hours without a lost time incident (LTI). This is a collective success that makes the whole project even greater.”*

On 25 July 2018, 100 years after Warner Brothers opened their first studios in Hollywood, Warner Bros. World theme park opened its doors on Yas Island, Abu Dhabi. 145,000 m<sup>2</sup> dedicated to Warner’s heroes, from Bugs Bunny to the Flintstones, and Batman and Superman too. But... the real superhero in this story is Six Construct. The company built and fitted out the theme park at the speed of Road Runner escaping Wile E. Coyote, in just 30 months. The shell and finishing, the roller coasters and carousels, the scenery. Six months after opening, Warner Bros. World was voted Best Theme Park in the world by readers of specialist guide, Theme Park Insider. An amazing feat on the part of Six Construct. Or, to paraphrase Batman: “Everything’s impossible until somebody does it”.

**“EH! WHAT’S UP DOC?”**  
– Bugs Bunny

The official opening date was announced far in advance. It is the biggest indoor theme park in the Middle East and promises to reach the highest standards for a leisure attraction. Thrills. Magic. Unique moments. Warner Bros. is the second largest production and distribution company in the US in terms of market share, a company whose brand is known and admired worldwide. The expectations of the client, Miral Asset, the media and the public were huge. So, it was unthinkable to countenance any delay or deliver a ‘product’ that was anything but excellent, in keeping with the Warner Bros. image. The scene is set. We’ll spare you any further suspense. The story has a perfect happy ending.

**“ARRIBA! ARRIBA!”**  
– Speedy Gonzales

Six Construct was responsible for building, finishing and commissioning the park. It’s not the first one the company has built. Ferrari World, Legoland, The Living Planet and HUB Zero are among its recent achievements in the leisure sector in the United Arab Emirates. “Warner Bros. World Abu Dhabi marked a new step for Six Construct. It was a particularly vast and complex project, to be completed within a fixed timeframe, with no scope for overrunning,” explains **Koen De Rooy, Project Director for Warner Bros. World Abu Dhabi.**

The actual construction of the building posed challenges for Six Construct: a total area of 145,000 m<sup>2</sup> involving 9,400 tonnes of steel, 71,200 m<sup>3</sup> of concrete for the foundations, 26,300 m<sup>3</sup> of concrete for the superstructure and 41,500 m<sup>2</sup> of cladding and 95,200 m<sup>2</sup> of roof. “5,500 people worked on the site

to complete it on schedule. Besides this, we set up an efficient and transparent coordination between the various stakeholders – the client, Miral, the Engineer Louis Berger, the consultants Aecom and Thinkwell, and our subcontractors. For example, delivery took place gradually, with perfect liaison between the various parties involved”.

Building the shell is one thing, handled by Six Construct in fact, but adding the scenery, animation, rides and entertainment is another, less common for a construction company. “So, the site teams included artistic directors alongside the normal trades!” adds Koen De Rooy.

**“WHEN I SAY WHOA, I MEAN WHOA!”**  
– Yosemite Sam

The park is organised around six immersive themed worlds, inspired by Warner Bros.’ biggest hits. Gotham City for Batman. Metropolis for Superman. Cartoon Junction for Tom and Jerry or Scooby-Doo. Dynamite Gulch for Road Runner, Wile E. Coyote or Yosemite Sam. Bedrock for the Flintstones. And finally Warner Bros. Plaza, which showcases the golden age of Hollywood.

“If you’d said to me, when I was a child, that one day I’d build a temple for Superman, I’d have been over the moon,” explains Koen De Rooy. “Having said that, this kind of project forces us far out of our comfort zone. We had to work with artistic directors and consultants who are highly specialised in the area of theme parks.”

The park boasts state-of-the-art attractions, including the latest generation roller coasters and a 360° cinema, various scenes and family entertainments. These aspects were also the responsibility of Six Construct. "The overall creation of a project of this type is highly specialised. Apart from the actual construction, you also have to consider the type of special effects and the lighting methods, the integration of audio and video systems, and creating the right scenes for the world of entertainment. All of this has to be synchronised and implemented perfectly to provide the best possible experience for visitors. It was an amazing challenge."

A challenge taken up with enthusiasm by the teams from Six Construct. But, the final word goes to Batman: "It's not who I am underneath, but what I do that defines me."

## Project details

**WARNER BROS. WORLD THEME PARK**  
YAS ISLAND, ABU DHABI, UAE

**Client**  
Miral Asset Management LLC

**Stakeholders**  
Six Construct

**Type of contract**  
Build

**Activity and area of expertise**  
Leisure / Theme Parks

**Contract value**  
€453 million

**Construction period**  
2015 - 2018



## DISCUSSING THE BIM MODEL WITH MINA NESSIM, SENIOR STRUCTURAL ENGINEER

**From a technical perspective, what were the specificities of the BIM models of this project?**

The construction of Warner Bros. World was fully dependent on BIM from day one. All the building's elements were modelled in BIM. All the coordination workshops and technical meetings were dependent on BIM models in order to provide technical solutions. BIM was used for full quantity survey,

planning and progress reports, 4D scheduling as well as cost evaluation. Also, besides the engineering submissions and the design of structural works, the show and architectural elements were done using BIM models. It includes aspects that are quite unusual on construction projects such as specific projectors, speakers, lightings, rockworks and even water rides and fog effects equipment! BIM was actually used extensively. Even shop drawings were extracted from our coordinated BIM Models.

**What does it imply to integrate rides in a BIM model?**

Most of the rides' vendors had provided their own rides' models. Each model included the safety envelope, which is a major element that BIM had to integrate. It describes the physical interactions of humans, such as their arms and legs movements. All the construction trades had to take that into account to avoid any clash with the ride models and their safety envelopes. We integrated that in our BIM models too.

**That is quite a challenge!**

Yes, it is. The main challenge was actually the coordination between all these elements in order to work simultaneously and in a synchronised way. I truly believe BIM has successfully contributed to deliver the project on time. The key, and actually

the major success of this BIM project, has been our teamwork. We all worked homogeneously and the management has always provided the backup and necessary support whenever required.

**How did you work with the other stakeholders, such as the client for instance?**

The BIM models were shared and reviewed by the project consultant and the client on a weekly basis. All the subcontractors used Live BIM models to make sure that their respective construction elements were fully coordinated with the other trades. With regard to the overseas subcontractors, we shared the BIM models using FTP Cloud sharing drives that were synchronised on a daily basis to make sure that all the parties were using the latest Live models.

**Retrospectively, what does this project represent for you, professionally?**

Professionally, as a structural engineer, it was a fascinating experience. Besides the extraordinary aspects that we had to take into account, the structural team was fully dependent on BIM to design and build every single piece of concrete and steel structure. BIM is a powerful 3D tool that gives the opportunity for every engineer working on the project to be aligned if it's well used. And the whole staff has been successful in achieving this!



## Grand Egyptian Museum Egypt

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### *Interview*

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**IN THE SAME LEAGUE AS  
THE MAGNIFICENT PYRAMIDS**

**A CLOSER LOOK AT  
THE GRAND EGYPTIAN  
MUSEUM**



#1

the world's largest museum  
devoted to a single civilization

&gt; 100,000

artifacts showcasing  
Egyptian cultural wealth

160,000 m<sup>2</sup>

built area on a total surface area  
of 470,974 m<sup>2</sup>

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

of concrete and 200,000 m<sup>2</sup>  
of marble

One superlative succeeds another. The Grand Egyptian Museum is the largest human construction in Egypt since the Pyramids. It is also a site of rare complexity. Building work by BESIX and Orascom continued throughout the year, under the watchful eye of Ramses II. The 3200-year-old pharaoh's statue of 83 tonnes and 13 meters, took up position at the centre of the site in January 2018. The Grand Egyptian Museum, with more than 100,000 artefacts on display, will be the largest museum in the world dedicated to a single civilization.



Exclusively for the BESIX Activity Report, **Major General Atef Moftah, General Director of the Grand Egyptian Museum Project and Surrounding Area, Director of Engineering Committee of Engineering Authority of Armed Forces**, does us the honour of presenting the Grand Egyptian Museum, both in its technical complexity and with its cultural and economic interest.

**The Grand Egyptian Museum is certainly the most iconic building under construction in the world today. What does it represent for the Arab Republic of Egypt?**

This museum is a new Egyptian icon and amounts to a fourth pyramid built by the modern Egyptian state. As such, it will restore Egypt's leading role in the extremely important tourism industry and tourism economy.

In this project, over 100,000 rare artefacts from the Egyptian civilisation, including 5,000 artefacts that belonged to King Tut, such as the Golden Mask, will be displayed under one roof in a single exhibition hall. For the first time in one place, tourists will therefore see artefacts and historical monuments that the world has never before seen. So far, no exhibition has shown more than 1,800 artefacts. The Museum also includes 45 pieces representing different historical periods of the Egyptian civilisation, and the 100 largest antiquities and historical artefacts in the world.

All in all the museum has two purposes. Our greatest goal is to disseminate the Egyptian civilisation and culture to the entire world through the museum. This will open up new horizons for us, as it will enable everyone to understand how ancient Egyptians thought and lived. Regarding the economical side, the aim is to provide tourist activities appropriate for the Egyptian state. It will restore Egypt's leading role in the extremely important tourism industry.

**Egypt's Vision 2030 is an ambitious national strategy. What is the place or role of Egyptian history and cultural wealth in this strategy?**

His Excellency the President has an insightful vision for the future of tourism in Egypt. He pays considerable attention to the Ministry of Antiquities and its relevant activities, foremost among which is the Grand Egyptian Museum.

This is not the only project. The state, led by its head, is keen to see the tourist zone being developed in its entirety. This includes developing the Giza Plateau and linking it to the museum project. This will create one of the largest touristic, cultural, and entertainment investment projects in the world on an area of strategic and extremely important land. Tourists will easily be able to go from the museum to the Pyramids and from there to the hotel without any threats to their safety. Finally, we will link this project to the new airport, Sphinx, so that those who visit Egypt and whose priority is to see its Pyramids, museum and to stay in one of the hotels, can do so in a practical, quick, and planned manner and can stay in the cultural and touristic promising zone that is being constructed now.

This project is a promising dream. Once all stages of it are completed, it will usher us into history as an Egyptian state. It is an undertaking we can present as the greatest heritage, culture and tourism project in the entire world. This open and outdoor museum will be situated on an area of nearly 160,000 sq. metres, the largest worldwide. This is the vision for 2030.

&gt;



**DAVID DE VISSCHER**  
Egypt Branch Manager

*“The Grand Egyptian Museum has been my prime focus throughout the year 2018, especially considering its important financial weight for the BESIX Group. I concentrated on the numerous and complex commercial matters that needed to be finalized with our Client. This requires a lot of energy and determination but it is a great professional challenge that I am very keen on accomplishing. On a personal level, it is an honor to take part in such a mega-project which will be a game-changer for Egypt and a cultural landmark for the world. However, what makes me the proudest is to be able to physically show my 6 and 11 year old boys what their father is doing all day and to see how proud that seems to make them!”*



**Is there a specific aspect related to the Grand Egyptian Museum that you are particularly proud of?**

The entire project, with all its details, makes me feel proud. Everything in it is unique. There are two notable aspects of this project: its size and immensity, and the sense of perspective where a person feels insignificant and small in front of this great civilisation. This is also the philosophy of the ancient Egyptian civilisation: that a man feels small beside the temples, and this was the idea underlying the gigantic façade of the project.

I am proud to take charge of this work: I consider it to be the greatest in my career as an engineer with the Egyptian Armed Forces, to whom I feel honoured to belong. I feel God has blessed me because I have been tasked with this mission. The instruction that I received when I was given this responsibility was clear: maximise utilisation of the funds allocated to the project; do not waste money or spend extravagantly; and do not use materials that require costly maintenance. My job was not easy, given the directives I was asked to follow.

We have executed several mega works, one of which is the entry wall that contains big murals, which is the largest of its kind in the world. To be honest, this wall is my own personal design. It holds seven pyramids and is the first thing visitors see on their arrival. I designed it in such a way as to emphasise Egyptian

identity and the continuity of the Egyptian role in resurrecting and transporting civilisation towards the north and across the world. Inside, tourists will see the great statue of Ramses which stands 13 metres high and lies grandly under the roof of the main entrance, which itself is 35 metres high.

**During the work, have there been any aspects of Orascom and BESIX’s expertise that have particularly impressed you?**

This project is highly complex. Companies that can build the Grand Egyptian Museum with this level of detail and with such highly complex structural and architectural connections can work on any structure in the world.

Any architectural structure has dimensions and fixed sides; however, this unique structure does not have any side or angle similar to the other. The size of works and extreme complexities involved in the construction of this building are something I have never seen before in any structure across the world. As a testimony to history, it would have never been accomplished but for the competence of this Egyptian-Belgian consortium. There is precision in implementation and an insistence on ensuring safety and security for all workers on the project. The skills and ability of the engineers and Orascom & BESIX’s management meant such challenges were successfully overcome.



## FOUR QUESTIONS TO LAURENS SCHOKKING, PROJECT DIRECTOR OF THE GRAND EGYPTIAN MUSEUM

### Could you remind us the time frame of the works carried on by BESIX?

We are aiming to complete the building works at the end of 2019. However, we are not just building the museum, we are also carrying out the design and execution of the exhibition, including the procurement and installation of showcases and fit out. This provides our client with a 'ready to go' museum in which he only needs to place the artefacts. This part is expected to be completed in 2020.

### From a technical point of view, what were the most challenging aspects of the construction process?

Technically, the construction had some big challenges, one of them being the folded roof slab, in white concrete. To get this massive roof right, spanning up to 40 metres in one gallery, was a major achievement. Another one to mention are the

stilettoes, the downward pointing structures flanking the grand stairs. These are 30 metres high at some point and are clad with marble, aligning perfectly with the ceiling tiles and white concrete pattern.

### Could you give us a glimpse of the materials used?

The museum is built of materials ranging from basic construction materials such as concrete and steel, to jumbo glass facades, imported aluminium panels, Egyptian marble and exquisite translucent onyx stone from Iran. All quantities are large: to give an idea, the built area is 160,000 m<sup>2</sup> of which 65,000 m<sup>2</sup> is purely for exhibition purpose. For this, around 350,000 m<sup>3</sup> of concrete was used, 200,000 m<sup>3</sup> of sand was excavated and some 200,000 m<sup>2</sup> of marble was installed in the various indoor and outdoor areas. The quality of materials and installation is at the highest level possible, as one should expect from such an iconic landmark.



### What does the GEM represent for you, professionally and personally?

Professionally, I have only ever been involved in marine projects, and as such it is an interesting experience. Although leading a multidisciplinary team is not much different on a museum than it is on a jetty or quay wall, some new terms are added to my professional jargon, such as 'façade', 'first fix', 'curtain wall', 'vanity' and 'soap dispenser' to name but a few. Personally, I think there are few projects worldwide with such a profile and importance to a country. Who has not heard of it? I am therefore very honoured to lead the construction of this project which will hopefully play a key role in bringing tourism back to Egypt.

### From your point of view, what were the technical challenges of this project?

Firstly, part of the ceiling is around 50 metres high. The maximum height for any floor in any building in the world does not exceed 20 metres. What we have is a single floor that is 50 metres high, which means it was a highly complex mission. More than two or three times the average ratio of steel per m<sup>3</sup> of concrete were needed to cast the concrete. The construction of this project also required highly complex structural systems. The ceiling consists of lined and extremely complex triangles, none of which is similar to the other in size, height, or location. In addition to this, the lines of the building tilt in all directions and thus a complex system is required between concrete and metal structures. We used a complex construction system to create the composite section.

The metal construction is also very complicated. The building contains pyramids that are turned upside down. These require highly complex and precise metal structural systems and extreme attention to detail. To ensure the details of this project were implemented, we designed more than 50,000 panels and produced computerised models using BIM to illustrate the structural relationships between iron, concrete and fin-

ishing. The technical team that executed this model before the actual implementation included more than 70 of the most competent engineers in the world.

### How is your relationship with the BESIX-Orascom team?

Undoubtedly, our relationship was built on respect and an insistence on success. This is the spirit with which I intended to approach the work. I was tasked by his Excellency the President to launch this mega project. I held a coordination meeting at the beginning of my assignment and conveyed the determination I had inside me. An alliance was then formed between the owner, whom I represented, the general contractor, and the consultant. Together, we resolved and were determined to establish this project on time and in an appropriate manner so that we could add this most important of mega strategic projects to the world and the Egyptian state. We also developed a sense of mutual trust. I was required to look after their financial needs to complete this project and they experienced cooperation that was based on mutual understanding, enabling them to accomplish the project to a very high standard.

## Project details

**THE GRAND EGYPTIAN MUSEUM**  
CAIRO, EGYPT

**Activity and area of expertise**  
Building / Culture

**Client**  
The Ministry of State for Antiquities

**Stakeholders**  
BESIX, Orascom

**Type of contract**  
Build

**Contract value**  
€810 million

**Construction period**  
2012-2019



Hansadok  
Belgium

*Interview*

**A FORMIDABLE  
PERFORMANCE  
IN THE PORT  
OF ANTWERP**



**SAÏD EL-BARBAR**  
Project Manager

*“Afterwards, as an engineer and Project Manager, if you pass by again, you’ll say to yourself with pride: I helped build that. But as always, it’s your first love that stays with you most. For me, that was the jetty in Libya I helped build for BESIX. I’ll never forget that assignment.”*





**600 m**

length of the quay wall

**-12.58 m**

ultimate depth of the works under sea level

**6 months**

completion ahead of schedule



“Great job by our people,” says **Project Manager Saïd El-Barbar** appreciatingly as a sharp wind blows over Antwerp’s Hansadok. “All these months they have worked extremely hard in all weather conditions. We’ve had a lot of rain and strong winds, but in the end they only stayed home just one day when there was too much snow. Our assignment, to deepen these 600 metres of quay walling, will be completed six months earlier than expected thanks to their efforts and thanks to our increasingly sophisticated BESIX methods.”

At the end of August 1928, thousands of spectators gathered here in the middle of a polder landscape. None other than King Albert, just returned from Léopoldville in Congo, officially opened the newly-built Kruisschans lock (now Van Cauwelaert lock) by sailing through it. With this the newly dug Hansadok (then Kanaaldok-C) was officially brought into use. The walls were then only partially concreted.

Today, these polders have long since disappeared, replaced by an industrial landscape of storage tanks, kilometres of quays and moored ships. But the ninety-year-old quay walls are no longer adequate.

“Concessionaire Sea Invest wants to convert this quay into a tanker terminal with loading and unloading facilities for sea-going vessels,” Saïd tells us. “Our assignment from the Antwerp Port Authority is therefore to make this quay from K242 to K246 accessible to deeper draught ships. This requires the dock bottom to be dredged up to 4.75 meters deeper, to below the existing quay walls which would then collapse. This means that, before dredging, the quay wall must first

be made deeper. In addition, the client demanded that the concrete work be done in the dry.”

BESIX already has quite some experience here, like deepening the quay walls at Umicore in Hoboken in 2010, and later even more extensive work in the Fifth Harbour Dock. Each time, BESIX has used its new experience to fine-tune its methods. On this north side of the Hansadok, it was no different.

“These quays consist of miles of so-called ‘weight walls’ in concrete,” Saïd tells us. “These are solid concrete walls that have remained standing without anchors owing to their weight and the balance between the pressure from the land and water sides. The bottom of the dock was at the toe of the wall. An additional problem is that the existing quay has been built to different depths: 240 metres need to be made ‘only’ 2.75 metres deeper, 100 metres 3.7 meters deeper and one 160-metre segment no less than 4.75 metres deeper. All to arrive at a dock-bed level of -12.58 metre TAW<sup>1</sup>.”

>

<sup>1</sup> Belgian water elevation level measurement



**GEERT VAN CAUWENBERG**  
Site Manager

*“For me, working on such a quay wall is nothing new in itself. What is new and challenging is that everything is technically even more sophisticated. The biggest difficulty for me particularly? My daily commute back in the direction of Sint-Niklaas. In the evening around Antwerp you always have to wait and see how you get through the traffic jams.”*



## PILOT PROJECT ON THE QUAYSIDE

Visit BESIX's Antwerp site and you'll be immediately struck by a 'stack' of container-cabins with a sloping wall of solar cells. This construction is a direct outcome of BESIX's Unleash internal programme to stimulate innovative ideas from the grass roots. This led to the idea of a separate, cost-saving department responsible for sustainable site installations.

"The result is this pilot project alongside the Hansadok: modern, highly insulated container-cabins with solar panels against them," says Saïd. "During the long and sunny days, these cells support the classic power generating set that remains necessary. The first conclusion is that a sustainable site installation like this certainly makes sense in places where – like here – no main electricity is available. Equally important was that the entire construction was up and running in just one day."

### CONCRETE DOCK EDGE

To carry out the assignment, the Port Authority chose to place a steel 'advance' or 'combi-wall' five metres out from the ninety-year-old quay wall at the same depth everywhere.

Only then could the really original part of the BESIX concept start. Prefabricated floor slabs were laid from the old quay edge as far as the steel combi wall - with five metres of splashing Scheldt water in between. That workflow allowed the reinforced concrete quay wall head developed by BESIX to be installed 'in the dry': a hollow, prefabricated, watertight container, which is then filled with concrete to form the upper edge of the new quay.

Onto the prefabricated floor slab comes a 1.1-metre-thick reinforced concrete floor plate. To give you an idea: about 50 tonnes of rebars are processed per 20-metre section.

And that's not the end of it. Here and there are square openings (filling holes) below which you can see the Scheldt water splashing in the depth. Every 2.5 metres, we notice oblique niches cut out in the concrete in a landside direction. It is through these that the proper anchors are drilled 37 metres deep into the hard sandy soil, filled with steel strands and then injected with cement pulp, in order to anchor the construction.

### DELAYS TURNED INTO ENORMOUS LEAD

"It was not all smooth sailing," Saïd notes. "On 1 March 2018, the order to start was given and we began the preparation work, like refining our methods. Construction of the combi-wall began at the end of August. We had planned six weeks to arrive at this stage. But first the supply chain went wrong due to a machine breakdown at the producer. Then we encountered much harder sand layers than we had reckoned with and had to rent the largest vibratory pile driver on the market. This first phase was finally completed at the end of December. Only at the start of January could we begin with the floor plates."

Afterwards, the yard revved up at lightning speed. "Delivery for the entire quay wall construction is planned for 31 December 2019. Despite the super-late delivery of the combi-wall and despite the difficulties with the hard and sandy soil, we have been able to produce the quay wall three times faster than expected. Our previous experience has allowed us to improve the entire system to such an extent that we'll be ready by the end of June 2019! No less than six months ahead of schedule. I'm pretty proud of that."

### STRONGER AND SAFER

In the meantime, Saïd points out how the work on this renovated quay wall is already different from the work in the Fifth Harbour Dock in which he was also involved. "You see how everything in the maritime world gets bigger. Not only for the first time do we place



**BRUNO DE MAESSCHALCK**  
Chief Site Manager

*“I actually applied this system of U-shaped prefab elements for the first time on the quay wall we built for Umicore in Hoboken. That project was located along the River Scheldt and we always had to work at low tide. Afterwards we optimised this system, first in the ‘Graandok’ and finally with Saïd in the Hansadok.”*

two 200-tonne mooring piles per 20-metre section, whereas in the Fifth Harbour Dock we placed a single 120-tonne mooring pile. At the same time, even more attention has been given to safety: the ladders have been placed closer together and – something completely new – about half a metre above the waterline, we have placed a ring in the wall every 1.4 metre in case anyone falls into the water.”

**SAND**

Before the accelerated deadline is reached, there is still work to be done: after all the concreting, Scheldt water is still splashing under the 1.1-metre-thick concrete floor. “Since the end of April, a subcontractor has been bringing in 2,000 tonnes of sand a day from the Port Authority’s sand stock, to fill the hollow space so that everything is ready by the end of June.”

But since the Port Authority had planned to be ready only by the end of 2019, dredging windows were reserved for the first quarter of 2020. As a result, only in January 2020 can another subcontractor start work on completing the project by dredging a fifty-metre-wide strip to the required depth of -12.58 m TAW. That is 115,000 m<sup>3</sup> of sludge and sand to be removed “so that everything will be ready as planned by the end of March 2020.”

Saïd is confident: “With the reputation we have built up here in quay wall renovation, we have proven ourselves as solid partners for other high-tech, difficult projects in the port.”



Project details

**HANSADOK**  
ANTWERP, BELGIUM

**Client**  
Antwerp Port Authority

**Stakeholders**  
BESIX

**Type of contract**  
Build

**Activity and area of expertise**  
Marine works/Quay wall

**Contract value**  
€20 million

**Construction period**  
2017-2019



## Bahrain LNG Import Terminal Bahrain

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*Interview*

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# A NEW OFFSHORE GAS TERMINAL



## LIQUEFIED NATURAL GAS

Liquefied natural gas (LNG) is a naturally occurring gas converted into liquid form by cooling it to around  $-160^{\circ}\text{C}$ . This liquefaction condenses the gas and reduces its volume to around 1/600th of its volume in a gaseous state under standard temperature and pressure conditions. This makes it easier to transport the gas by sea. In turn, transport by sea reduces dependence on gas pipelines and the risks, including geopolitical ones, associated with them. LNG is shipped aboard specially designed vessels called carriers, and must be unloaded at a specific type of terminal equipped with the technology to import, store and regasify it: that's exactly what Six Construct's Bahrain terminal does.



In 2018, Six Construct finished the civil works on an offshore LNG import terminal in the Kingdom of Bahrain. Not only is this a first for the Middle East, it is also a key item of strategic infrastructure for Bahrain. Six Construct acted as EPC subcontractor for the South Korean firm GS Engineering & Construction. Among the services it provided were: building an offshore platform, a receiving jetty, mooring dolphins and a 600 m long breakwater, and doing dredging work. In doing so, it faced the many challenges associated with civil engineering in the open sea, in the middle of the Arabian Gulf.

This is a major offshore terminal designed to import and regasify LNG. It is also the first of its kind in the Middle East. The holder of a 20-year licence to operate this facility is Bahrain LNG W.L.L., a consortium comprising of National Oil & Gas Holding Company (30%), owned by Bahrain, Teekay LNG Partners (30%), Samsung C&T (16%), and Gulf Investment Corporation (24%). The terminal is crucial to Bahrain, as it reduces the country's dependence on its own domestic gas production. It provides security of supply in natural gas, an energy source Bahrain needs for its major industrial projects, as well as water purification and electricity generation, and even oil extraction.

In 2016, South Korean firm GS Engineering & Construction (GS E&C) was awarded the general contract to build the terminal, with Six Construct as EPC subcontractor. **Changyeon Hwang, General**

**Manager at GS E&C and Project Manager for the terminal**, explains: "We did not know Six Construct very well. We chose them once we learned of their technical expertise and capacity for doing this type of work. We also visited a few projects which the company had undertaken, such as VLCC in Fujairah, which helped us make our final decision."

"Our works included building an offshore platform, receiving jetty, mooring dolphins and a 600 m breakwater, and dredging," states **Yasser Laroussi Ben Asker, Operations Manager and Six Construct's representative in Bahrain**. "It was a design and build contract. Six Construct was in charge of construction and BESIX's Engineering Department acted as civil engineering consultant, alongside Whessoe and COWI."

>

The terminal was built out at sea in the Gulf, some 5 km from Muharraq Island as the crow flies. “Having to undertake work on this scale offshore involved several challenges. The first challenge was a logistical one. There was clearly only one transport route for all the material and equipment: by sea. The journey from the coast to the site by boat was 12 km; it was complicated by the fact that our temporary installations were next to the port of Khalifa Bin Salman, which is very busy with shipping. The original plan was to work with ready-mix, brought in by barges, but this requires the concrete to remain workable when it reached the site. In the end we agreed internally to build a floating concrete batching plant which could be used offshore. That solved one logistical problem! For other issues, we made the best possible use of the resources available within Six Construct. Anything we could, we prefabricated and dispatched from our yard at Ajman in the United Arab Emirates,” explains Yasser Laroussi.



## BESIX EXPERTISE

BESIX has helped build a great deal of marine infrastructure associated with the natural gas industry, all around the world. This includes facilities at Ain Sokhna in Egypt, Bioko in Equatorial Guinea, Ras Laffan in Qatar, South Hook in the UK and Wheatstone in Australia. Marine Works is one of the specialist areas on which the BESIX Engineering Department (BED) has established a formidable reputation.

The second challenge was being dependent on weather conditions. It proved impossible to work in strong winds, rough seas or low visibility due to fog. Yet these conditions are common in the open ocean. “For 40% of the total project duration, poor weather prevented us from working. The only solution to this downtime and delay was to improve efficiency whenever conditions allowed. We therefore implemented methods for optimising productivity. We learned how best to organise operations and anticipate the weather conditions. In this we benefited greatly from the positive attitude, creativity and professionalism shown throughout our teams.” Changyeon Hwang of GS E&C confirms: “The Six Construct teams demonstrated that they could deliver this project on time, and spared no effort to achieve it.”

Yasser Laroussi adds: “We adapted as best as we could to the realities of the site”. Firstly, there were the human resources: up to 500 people worked here. “Being offshore influenced our work schedule. Even more so because we were operating 7 days a week, 24 hours a day. We had to apply longer shifts than for onshore sites, and we agreed within the company to adjust compensation accordingly. In particular, we awarded additional holidays – for example a pattern of three weeks on, one week off. We worked together to

## A RESOURCE FOR THE WORLD

In 2017, LNG made up 35% of natural gas flows worldwide. The two main exporters were (and remain in 2018) Qatar and Australia, with 27.6% and 19.2% of exports respectively. The biggest importers were Japan, China and South Korea.

find solutions we could all agree on.” It was also necessary to adapt Six Construct’s marine construction fleet, which was upgraded to meet the conditions of the open sea. Some 80% of its fleet was deployed; this was supplemented by vessels and equipment from the Ain Sokhna site in Egypt, plus other hired equipment including three self-elevating platforms.

Work began in November 2016 and ended on 4 September 2018. The schedule was tight, but was met in full despite the periods of downtime. Remarkably, this was not Six Construct’s only major achievement on this project.





**YASSER LAROUCSI BEN ASKER**  
Operations Manager, Six Construct

*“I have worked on many marine projects in my career, both onshore and offshore. But LNG Bahrain was something new: it was my first LNG site, and it was also outside the United Arab Emirates. So not only was I responsible for the site, I was also the representative for Six Construct in Bahrain. I accepted this twofold challenge and we mastered it – all thanks to our team, who were excellent on both personal and professional levels.”*



Changyeon Hwang from GS E&C explains: “The Six Construct team was very positive, flexible, helpful and very understanding of our culture and what we needed, which all helped make this project a success. Six Construct was on hand to help if need be, even outside their area of activity. The value they added gave us faith in the company and its management style”.

In the course of the project, one of GS E&C’s subcontractors went bankrupt, which put the success of the project at significant risk. Yasser Laroussi says: “We went to our client, GS E&C, and explained that we could help solve their problem. We performed some of that subcontractor’s work, and completed it on time. We coped as best we could, for example sourcing, then transporting the necessary equipment by sea and by air. This generated even greater trust between Six Construct and GS E&C.” In a further example of good time management, Six Construct provided ear-

ly access to the terminal from February 2018. “This was not a requirement. But it was in our client’s interests, and as such subject to a bonus. We achieved it, thanks to the substantial effort made by the whole project team.”

“We took time to understand our client’s culture. We established a relationship of trust by demonstrating commitment to our work, as well as constantly trying to understand and work towards GS E&C’s best interests. The cultural issue is significant. Two companies who have never worked together before, such as a company based in the United Arab Emirates like Six Construct and a South Korean company, must ‘build bridges’. This can be achieved by getting to know and appreciate your project partners, on both personal and professional levels. Above all, this builds respect and trust. It’s certainly one of the lessons we have learnt from this project.”

## MIDDLE EAST DEAL OF THE YEAR

In 2016, the project finance structure established by Bahrain LNG W.L.L. was named Middle East Deal of the Year by Project Finance International (PFI), a big name in the industry.

## Project details

**BAHRAIN LNG IMPORT TERMINAL**  
OFFSHORE MUHARRAQ ISLAND, BAHRAIN

**Activity and area of expertise**  
Marine works

**Client**  
GS Engineering & Construction Corp.

**Stakeholders**  
Six Construct, BESIX

**Type of contract**  
Design & Build

**Contract value**  
€126 million

**Construction period**  
2015 -2018



▶ WATER  
& ENVIRONMENT

BESIX  
ACTIVITIES

# WATER & ENVIRONMENT BUSINESS REVIEW

In a globally highly competitive market, BESIX Water & Environment offers a one-stop-shop for water and energy solutions, in collaboration with its BESIX Group partners. Our offer includes the design, engineering, execution, commissioning and start-up of wastewater treatment plants, treatment plant capacity upgrades and extension, sludge drying and waste recycling/upcycling (biogas, biofuel, biosolids, ...) and the polishing of treated effluent to potable water standards, pumping stations and hydroelectric installations, and underground sewerage systems. From conception to execution (Contracting business) to operation, maintenance, finance and ownership (Concessions business).



WASTEWATER TREATMENT PLANT | 'S HERTOGENBOSCH, THE NETHERLANDS



TIEL SEWAGE TREATMENT PLANT | TIEL, THE NETHERLANDS

## 2018, business review

Climate change, rapid urbanization and demographic changes are challenges faced by societies worldwide, driving the increasing need for a transition to clean energy systems and circular economy solutions. BESIX stands as a front-runner in global efforts towards a more sustainable future, being firmly committed to maximising resource recovery, transforming waste and water potentials into profitable energy, and delivering clean and potable water to communities.

Through BESIX Water & Environment, we offer a wide range of highly innovative solutions for long-term sustainability, with a particular focus on water treatment and the recovery, recycling and upcycling of waste and by-products. In an extremely competitive market in 2018, BESIX has been awarded valuable contracts and received international recognition for its activities in the sustainability sector.

## Strong performance in a competitive market

Globally, there is an unprecedented demand, along with intense competition, for environmental contracting. For example, the European Union's increasingly stringent water quality requirements are pushing governments and

industries in Europe to upgrade their existing treatment plants. In the Middle East, 2018 saw further development and investment in renewable energy and circular economy solutions. These markets are extremely competitive with numerous contractors bidding for mid to large-scale projects. On the international market, the security of funds, the uncertainty of approved project financing by multilateral banks and the domination of several countries' direct funding result in heavy competition, or in projects being directly awarded to pre-selected contractors.

Despite these market challenges, BESIX acquired a number of key contracts in 2018 and early 2019. One of the key success factors for winning contracts is BESIX's position as one contractor offering numerous competences: ability to design, engineer and implement technically competent, cost effective solutions to engineering challenges, thanks to integrated teams of electromechanical experts working hand in hand with civil works experts.

The acquired contracts of 2018 and early 2019 included one sewage treatment plant and two stormwater basins works in Europe for Lux TP, as well as two water-related infrastructure projects, i.e. a hydroelectric dam 'Nachtigal Amont' in Cameroon and a potable water treatment plant on the La Mé river in Ivory Coast.

In Dubai, United Arab Emirates (UAE), BESIX was awarded a contract for one of the world's largest thermal waste recycling plants. BESIX also signed the Qatra Concession, a wastewater treatment plant in Sharjah. Qatra is another example, like the Safi project in Ajman, of a successful 'full life cycle' asset management project in the water business, covering Project development – Design – Build – Finance – Operate & Maintain. Qatra now foresees expansion plans to polish and sell the treated water for commercial and industrial use, just as in Safi, and to double the capacity of the wastewater treatment plant. In addition, BESIX reached financial close in May 2019 for the Refuse Derived Fuel Facility in the Emirate of Umm Al Quwain, to convert household refuse into fuel that will be used in cement factories instead of coal.

In February 2018, BESIX signed an Engineering, Procurement and Construction (EPC)

contract for a USD 240 million seawater desalination plant to increase the supply of drinking water in Dubai by 180 million litres per day. In April 2018, BESIX completed the EPC works to increase the capacity of the Ajman Wastewater Treatment Plant by 40,000 m<sup>3</sup>/day. And in early May 2019, BESIX completed the extension to the existing Dubai Jebel Ali Sewage Treatment Plant that has increased the treatment capacity by 375,000 m<sup>3</sup>/day.

## International recognition

BESIX Group's reputation has been built on its ability to design, engineer and implement technically competent, cost effective solutions to engineering challenges, and provide first class services to our clients, thanks to a successful combination of a dedicated and reputable process and electromechanical team working hand in hand with civil works experts.

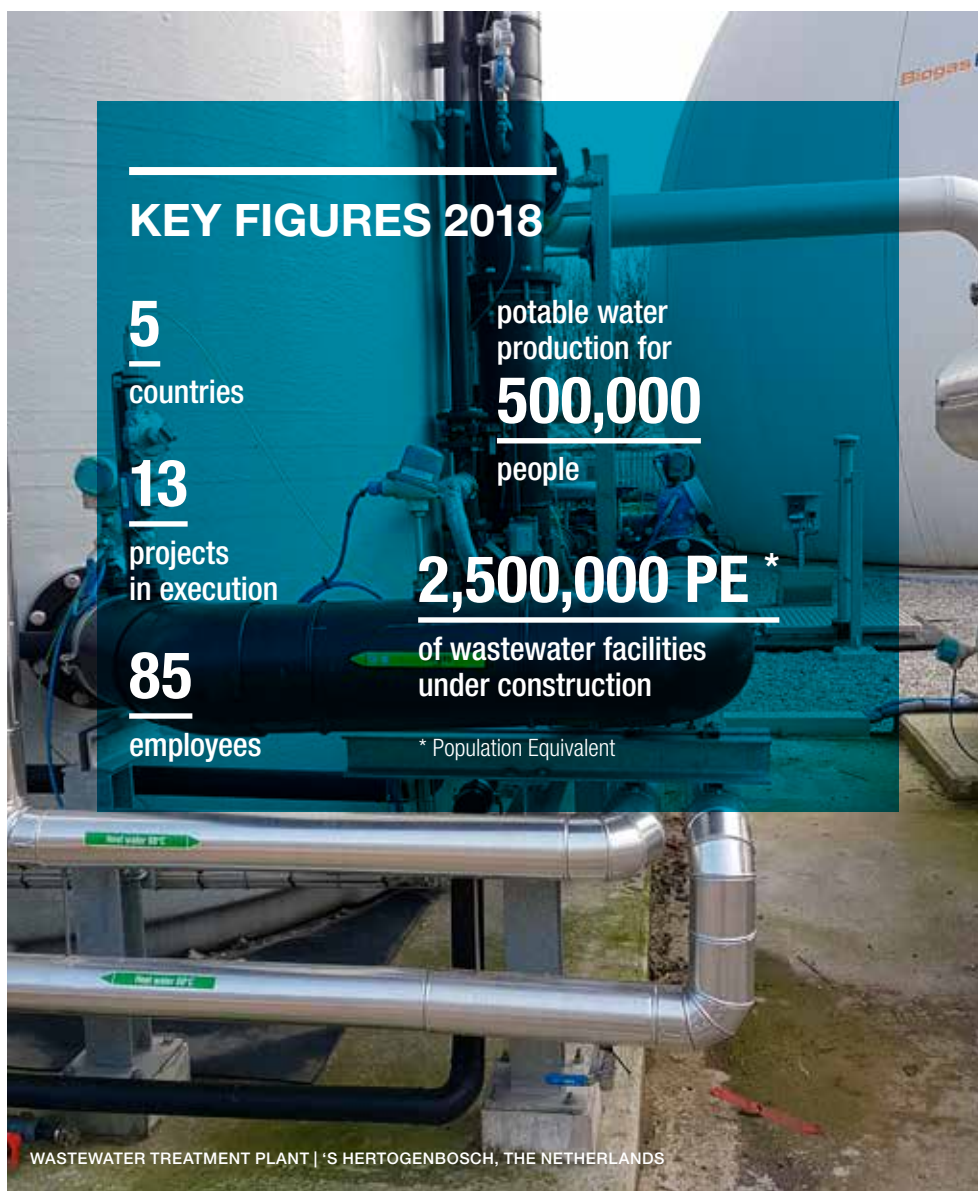
2018 saw good coverage in the media for BESIX's environmental contracting and concessions activities. The company was also recognized in June when the Board of Directors of the International Desalination Association (IDA) appointed Ghassan Ejeh, BESIX Senior Vice President and Past IDA President and Director, as a member of its Honorary Council, along with six other prominent members of the global desalination and water reuse community. BESIX was Silver Sponsor of the IDA International Water Reuse and Recycling Conference, where Eryl Edwards, BESIX Commercial Manager Concessions & Assets, gave a session keynote on 'Maximising Reuse for Industries with the Benefit of Aquifer'.

## Leading a sustainable future

BESIX continues its sustainability direction in 2019 and beyond, taking a targeted approach: the right commercial penetration, with the right value in engineering, and operational excellence in execution. Water and energy management will remain an important focus. The digital transformation (big data, internet of things, smart cities, etc.), which will also affect infrastructure assets, is an area of growing activity. BESIX has already and will further embark on this transformation to remain at the forefront of this fast-evolving market.



JEBEL ALI SEWAGE TREATMENT PLANT PHASE II | DUBAI, UAE



### KEY FIGURES 2018

**5**  
countries

**13**  
projects  
in execution

**85**  
employees

potable water  
production for  
**500,000**  
people

**2,500,000 PE** \*  
of wastewater facilities  
under construction

\* Population Equivalent

WASTEWATER TREATMENT PLANT | 'S HERTOGENBOSCH, THE NETHERLANDS



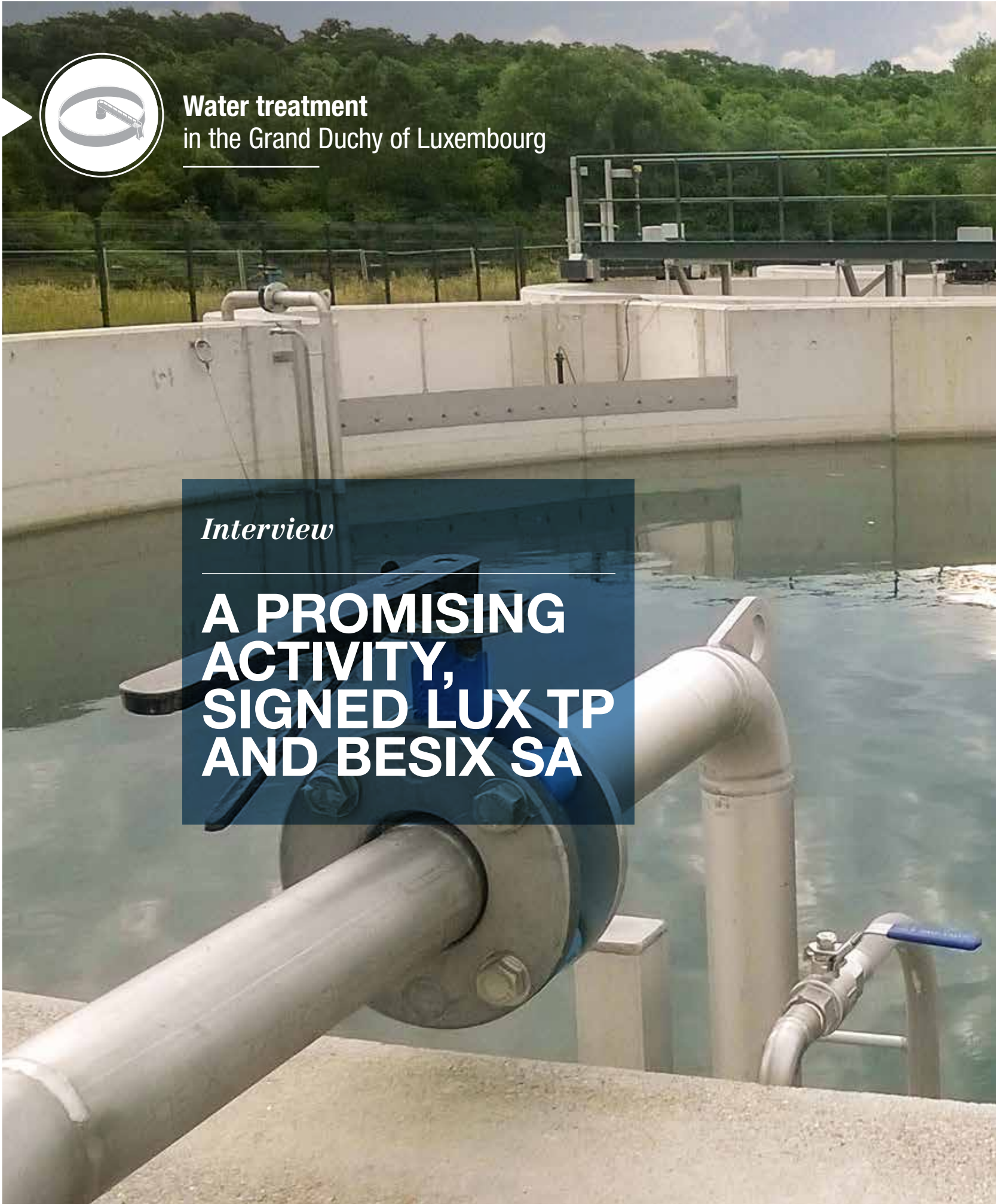
## Water treatment in the Grand Duchy of Luxembourg

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*Interview*

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**A PROMISING  
ACTIVITY,  
SIGNED LUX TP  
AND BESIX SA**





1

example of co-creation

1.5 year

to become a local player

1/4

of all tenders won in 2018



In a textbook case of co-creation within BESIX, the group entity Lux TP and the BESIX Water & Environment department have successfully partnered up to conquer the wastewater treatment market in the Grand Duchy of Luxembourg to the point of becoming a widely-known local player in less than a year and a half. This example testifies to the range of possibilities available internally for group companies to grow further by combining their expertise.

**An ambitious policy**

In November 2013, the Court of Justice of the European Union condemned the Grand Duchy of Luxembourg for failing to comply with a directive on the treatment of wastewater. A few years earlier, Luxembourg, Belgium and the Netherlands had been declared a 'sensitive zone' because the nutrients in their rivers, especially those of the Meuse and Scheldt basins, carry down into the North Sea. These nutrients induce what is known as eutrophication of the sea. This is accompanied by the development of algae and the depletion of the oxygen in the water, which is critical for various marine organisms. The Benelux countries are therefore subject to an obligation to treat their water more intensively than other states or regions of the European Union, particularly with regard to phosphorus and nitrogen levels.

Following the condemnation of the Grand Duchy, the Luxembourg public institution 'Water Management Administration', which brings together all the government services in this area, announced it was accelerating the upgrading of its water treatment stations. In the process, Luxembourg introduced an ambitious remediation plan for most of its facilities.

**BESIX tries its luck**

The Grand Duchy of Luxembourg's policy did not go unnoticed at BESIX. With 40 years' experience in water treatment, BESIX has a 'Water & Environment' department specialising in tailor-made solutions, from design and build to operation and maintenance of such facilities. Unlike many of its competitors, the company has a wide range of in-house profiles enabling it to adapt to clients' needs and even go on to propose variant solutions.

"The Luxembourg government tendering process divides civil engineering and electromechanical work into separate markets," explains **Adrien Theunissen, Senior Manager at BESIX 'Water & Environment'**. "We were naturally interested in the electromechanical field, which corresponds to our expertise, and participated in a first call for tenders. This involved assembling the treatment facilities for a water treatment plant: process equipment, air diffusion, pumps and valves, filters, electrical and instrumentation, etc.

>



At this stage, our objective was first and foremost to enter the market in order to study and understand it. The announcement of the results surprised us, and pointed out our need to deepen our strategy in order to get closer to the reality of the Luxembourg market.”

The central problem is not the technical aspects of the task at hand, which are relatively simple for the company, but the local realities of operation and costs. As well as the language...

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### **A BESIX strategy**

“The heads of BESIX ‘Water & Environment’ approached us, explaining the market reality they were facing. From our side, electromechanics has never been one of Lux TP’s businesses. But it seemed obvious that we could become a serious and competitive operator by creating together a temporary joint venture in Luxembourg,” explains **Lux TP Managing Director Alain Dostert**.

Fully-owned by BESIX, Lux TP is one of the largest construction companies in the Grand Duchy of Luxembourg, operating mainly in the building construction and public works sectors. It is known in its home country for iconic sites like the renovation of the famous Adolphe Bridge in the heart of Luxembourg City, the construction of the capital’s funicular and the Grande-Duchesse Joséphine-Charlotte Concert Hall, also known as the Philharmonie Luxembourg. “This is not the first time Lux TP has worked with another group entity. The development and construction of the new ING Luxembourg head office, for example, was done with BESIX RED, as is the development and construction of the new Ferrero headquarters, the Casa Ferrero (see page 128). The novelty here has been to partner for projects for which we were not ourselves, at the outset, the carriers of the technical expertise,” Alain Dostert adds.



**ALAIN DOSTERT**  
Lux TP Managing Director

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*“The first tenders in which we participated together enabled us to refine our approach, for example identifying the best subcontractors, and gaining a total understanding of the market.”*





The temporary joint venture takes shape, with BESIX contributing its technical expertise and Lux TP its knowledge of local realities.

"The first tenders in which we participated together enabled us to refine our approach, for example identifying the best subcontractors, and gaining a total understanding of the market. We won a first contract, then a second one. Others followed, each one a little larger than the previous ones. Since mid-2018, we have taken part in most tenders in the field," Alain Dostert explains. Adrien Theunissen adds: "In a year and a half, we have become a serious local player of Luxembourg wastewater treatment plants and stormwater basins. In 2018, we won about a quarter of the tenders submitted to the authorities."

### Success gives wings

Beyond the contracts themselves, a second success is gradually emerging: a transfer of expertise from BESIX to Lux TP. "Electromechanical engineering in purification plants, an area still unknown to us two years ago, has become a promising activity for Lux TP. We have moreover recruited some specialised profiles for this type of work. The temporary joint venture with BESIX has allowed us to diversify in an unexpected, fast and effective way," Alain Dostert explains.

"Our strategy is proving so successful that Lux TP will soon be able to bid solo for this type of contract. And, for specific technical challenges, the expertise of BESIX 'Water & Environment' remains available in Brussels. By creating an alliance, we have co-created a new activity for Lux TP, conquered a new market and generated added value for BESIX," Adrien Theunissen concludes.



### ADRIEN THEUNISSEN

Senior Manager at BESIX 'Water & Environment'

*"By creating an alliance, we have co-created a new activity for Lux TP, conquered a new market and generated added value for BESIX."*

## ONE-STOP-SHOP

In 2017, BESIX redefined its strategy, called BESIX Forward. This includes a purpose ('Excel in creating sustainable solutions for a better world'), values and six strategic drivers. One of these strategic drivers is the development of One-Stop-Shop solutions. BESIX has, in-house, about one hundred expertise areas and therefore the ability to develop solutions adapted to specific opportunities or requests from its clients.

"The partnership between Lux TP and BESIX, via its 'Water & Environment' department, demonstrates the value of the One-Stop-Shop concept: neither of the two companies on its own could have achieved a result similar to the one they have obtained together. Their development in the electromechanical field in Luxembourg illustrates the levers available to BESIX subsidiaries and entities to stimulate their growth," says **Christophe Ledur**, Director of Water & Environment activities for BESIX Group.



▶ REGIONAL  
& SPECIALIZED  
COMPANIES

BESIX  
ACTIVITIES



L'IMPÉRIALE | JAMBES, BELGIUM


 | [www.cobelba.be](http://www.cobelba.be)

**N**amur-based Cobelba has operated as a general construction company in Wallonia (Belgium) since 1994. It has been integrated within the BESIX Group since 2007 and a subsidiary of Wust since 2018. Building on its long experience, it produces, among other projects, industrial buildings, shops, public buildings, apartment buildings and offices. Cobelba has also positioned itself as a real estate developer for major projects like the 'Les Jardins de Baseilles' eco-neighborhood or the 'Les Tilleuls' revitalisation project in downtown Andenne.

The company operates out of two sites, Naninne and Virton, from which it can radiate out along the route of the E411 motorway. In 2018, it generated an annual turnover of 38 million euros with almost 120 employees.

ISO 9001 and VCA certified, it does its best to ensure constant improvement, professionalism to satisfy its clients and safety in the broadest sense, whether for its own employees or those of its subcontractors.

2018 was a very important year as a result of a change of shareholding structure and management with the appointment of a new Managing Director, Didier Hans (also Managing Director of Wust) and a new CEO, Etienne Lambilliotte. These organizational and structural changes have breathed new energy into the company in terms of management style and a renewed sales drive to boost the order book.



## *Flagship project*

# L'IMPÉRIALE IN JAMBES

The Bister mustard company, a jewel of Namur founded in 1920, felt cramped in this modernist building. Following the company's relocation to Achêne, Cobelba as real estate developer implemented the first phase of the reconversion project for the site: the construction of 28 apartments and a multi-purpose room in the old mustard factory building.

Four apartments in this first phase are managed by the social housing agency of the City of Namur. The multi-purpose room has become a community space available for local residents to hold celebrations, yoga classes, training sessions, etc.

This redevelopment is designed to respect the history of the site. So, we conserved the façade, the "Bister" sign and the complex was named 'L'impériale' after the mustard factory's flagship product. This project, ideally situated around a central green isle, is designed to participate in local life.



TRAKK | NAMUR, BELGIUM



LIDL | HYON, BELGIUM

## 2018 NEW CONTRACTS

### LIDL | Hyon

Demolition and reconstruction of a LIDL store in Hyon.

### IMMODEC | Jambes

Construction of a mixed-use building containing 14 apartments, with retail units on the ground floor.

### TRAKK | Namur

Construction of a creative hub in the form of multidisciplinary co-creation spaces to encourage the emergence of creative projects across the entire Namur region. The TRAKK encourages meetings and sharing between people and organisations from the worlds of the arts, business, science and new technology.

### INDA | Arlon

Construction of a sports hall in Arlon.

### BRICO PLAN-IT | Jambes

Extension of the BRICO store in Jambes for the PLAN-IT division.



 | [www.jacquesdelens.be](http://www.jacquesdelens.be)

**F**ounded in Brussels in 1967, Entreprises Jacques Delens is a general construction and property development company, with its operations concentrated in the Brussels region, in Walloon Brabant and Flemish Brabant. For over 50 years, it has specialised in construction, in the restoration of listed buildings, some of them rooted in the collective memory, and in the renovation of buildings of all types and sizes.

With its three construction entities (Jacques Delens, Sud Construct & Corebat), it operates in both public and private markets, including the renovation and modernisation of care units, office development and renovation, and the construction of luxury housing.

At a strategic level, 2018 saw the acquisition in June of the Brussels-based company Corebat. This acquisition reinforces Jacques Delens' position in the private renovation and conversion market.

Entreprises Jacques Delens has boosted its order book by signing contracts with new customers such as Eaglestone, Befimmo and Gretry Shopping Centre. No fewer than 26 projects were signed in 2018, including the Courbevoie real estate project in Louvain-la-Neuve, the construction of a swimming pool in Braine-l'Alleud and the Brederode II renovation in Brussels. 2018 will be looked back on as a year of accomplishments

with the completion of several attractive projects. These include the inauguration of Phase 2 of the Gare du Nord renovation, the renovation of the Union Saint-Gilloise stadium, the restoration of the Tour à Plomb (all three in Brussels) and the construction of residential buildings Coparty III in Nivelles and Jardins d'Orne in Mont-St-Guibert.

Entreprises Jacques Delens continuously pursues a 'zero waste' goal. Its Tivoli GreenCity project (Brussels), undertaken in joint venture, has won the 2018 'Sustainable Building Award' and its 'Brederode II' renovation project has been proclaimed winner of the 2019 Be-Circular. As a general contracting company concerned about its ecological footprint, Entreprises Jacques Delens remains sensitive to the scarcity of resources and favours an innovative approach on its sites by recovering various materials initially intended for demolition. This approach has already proven itself at the Gare du Nord site, at Brederode II and at the new Gretry Shopping Centre project in downtown Brussels.

In 2019, Entreprises Jacques Delens intends to continue its growth by acquiring other companies or start-ups operating in construction or in energy savings.



RENOVATION OF A PRIVATE HOME | IXELLES, BELGIUM



## Flagship project

# COREBAT, SERVING INDIVIDUAL CUSTOMERS

With more than 20 years' experience in conversion, renovation and extension works for private customers, Corebat joined Entreprises Jacques Delens on 18 June 2018.

Operating in and around Brussels, Corebat has more than 3,800 worksites to its credit. This acquisition is important for Entreprises Jacques Delens' future as it strengthens its position in the renovation and conversion sector, enabling it to offer its partners even more versatile and high-level expertise and know-how.

The Corebat team consists of around ten multi-skilled workers. This multi-disciplinarity allows it to carry out almost all of its projects in-house.

Corebat specialises in placing windows and doors, plumbing, heating & sanitation, structural works, masonry & foundations, landscaping, electricity, finishing works, and façade insulation.

The entire team is perfectly integrated into Entreprises Jacques Delens and the results emerging after just half a year are more than positive. The projects undertaken by this new division, uniquely for individual private customers, demonstrate quality know-how, enabling Entreprises Jacques Delens from now on to offer an all-round service to its customers.



MULTIPHARMA PHARMACY | ANDERLECHT, BELGIUM



IMMO RENAISSANCE | UCCLE, BELGIUM

## 2018 NEW CONTRACTS

### Royal Louise (EJD) | Brussels, Belgium

Construction, for promoter Immobil, of an apartment building with 77 units and liberal profession business premises.

### Jardins de l'Orne 2 (EJD) | Mont-St-Guibert, Belgium

Construction, for Ginkgo Advisor, of a building containing 35 homes and 1 commercial unit.

### Crystal City (SC) | Brussels, Belgium

Construction and transformation of a "shell & core" structure (CASCO) for Getry Shopping Centre.

### Brederode 2 (EJD) | Brussels, Belgium

In-depth renovation and exterior and interior restoration of a partially classified building housing Befimmo's offices.

### Marriott (SC) | Brussels (Ixelles), Belgium

Renovation of 'Mock-up' bathrooms for Algonquin.

### FSMA (SC) | Brussels, Belgium

Renovation works for the FSMA (Financial Services and Markets Authority) building on the Rue du Congrès.

### Hamoir Villa (EJD) | Brussels, Belgium

Construction of a single-family villa inside a block of houses, with basement, ground floor and first floor.



 | [www.luxtp.lu](http://www.luxtp.lu)

LuxTP operates in many construction markets as well as in civil and railway engineering. They specialise in renovations, reconstructions and conversions of every kind. With the exception of a few minor sites in the Belgian province of Luxembourg, LuxTP operates exclusively in the Grand-Duchy of Luxembourg.

Its strategy, based on a sharp selection of projects, partners and subcontractors, has been confirmed by LuxTP's subsequent success in recent years.

Ongoing and finalised projects generated a turnover of 61 million euro in 2018.

A key element in the evolution of LuxTP is their flexible approach of listening to the customers' expectations and ideas, and then implementing their projects with a committed team.





## Flagship project

# CASA FERRERO

In 2016, the FERRERO group, with some 900 employees spread over several sites in the Grand Duchy of Luxembourg, was looking for the necessary infrastructure for its further development by building a new headquarters, which it would then own.

Its choice fell on land available near the airport in Luxembourg Niederanven and not far from the Trier Office administrative project then under construction. This consisted of two plots, one owned by property development and construction company Félix Giorgetti and the other by BESIX RED. Giorgetti then approached BESIX RED to build the FERRERO building on both plots together.

Following negotiations with the FERRERO group, the latter gave its green light to the project. The design of the future head offices was entrusted to the architects Perry Weber & Associates. Erecting this building meant demolishing already partly-built above-ground structures and strengthening the foundations for the new head offices.

The project of approximately 30,000 m<sup>2</sup> was developed by Giorgetti and BESIX RED and built by Giorgetti in joint venture with LuxTP, Wust and BESIX Luxembourg. Located on a sloping ground and developed around a large atrium, the eleven-storey building, with six upper levels (ground floor and five floors) and five lower levels, fits perfectly into its environment. The offices are spread over eight floors, enjoying maximum natural light. Levels -3 to -5 consist of technical areas, laboratories and parking spaces.



QUATUOR | LUXEMBOURG CITY



CREOS | LUXEMBOURG-MERL

## 2018 NEW CONTRACTS

### Quatuor | Luxembourg City

Partial demolition of the former Ministry of the Environment building, while retaining the existing basement. Construction of a new 4,603 m<sup>2</sup> office building over four levels, certified BREEAM Excellent. General contractor works.

### Iergaertchen Exchanger | Luxembourg-Hamm

Modification of an existing traditional roundabout to a regulated flow roundabout. Civil engineering and infrastructure works.

### Car Park | City of Ettelbruck

Construction of a three-level covered car park. Structural works.

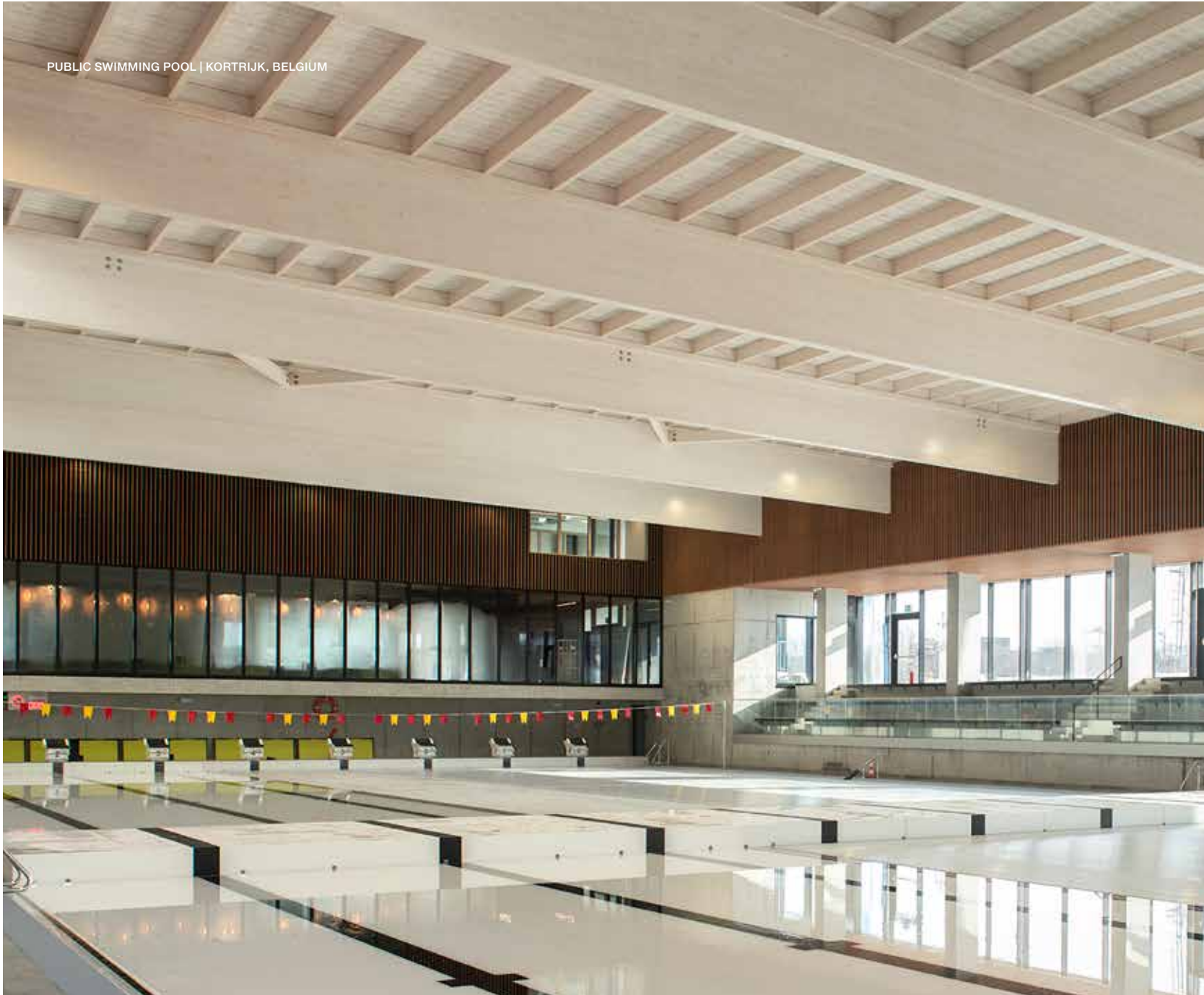
### CREOS | Luxembourg-Merl

Construction of the new 15,000 m<sup>2</sup> administrative headquarters and 4,100 m<sup>2</sup> operating centre.

### Luxembourg railways, various construction sites

- New Luxembourg-Bettembourg railway line
- Mersch station
- Secure road centre in Bettembourg
- Civil engineering works

PUBLIC SWIMMING POOL | KORTRIJK, BELGIUM



In 2018, the Vanhout Group continued its growth into a well-respected multidisciplinary construction group of 40 companies. In addition to the companies established in the framework of its specialisation in Public Private Partnerships and project developments, the Vanhout Group manages various building disciplines through its subsidiaries: Vanhout and Vanhout Bilzen operate as general contractors, HBS is a specialised contracting and finishing company, Vanhout Facilities is known as a facility manager for both technical and structural maintenance, Vanhout Projects is the real estate developer of Vanhout Group, Isofoam and Isochape place PUR and EPS mortar respectively as insulation specialists, and Energieconcepten and De Bie – Veba are the group's technical companies. Vanhout Group is active in both the private and public sectors, and

in both the residential and industrial markets. All group companies strive for quality, sustainability and clear added value.

With the takeovers of De Bie - Veba and Belemco in 2018 (since renamed Vanhout Bilzen), Vanhout Group has more than 500 employees and realises an annual turnover in excess of € 200 million. In addition to its headquarters in Geel, Vanhout Group operates out of Aartselaar, Arendonk, Bilzen, Brussels, Houthalen and Turnhout. The future of Vanhout Group is already assured by the record € 220 million of new orders received in 2018.



## Flagship project

# KORTRIJK PUBLIC SWIMMING POOL

The swimming pool is currently under construction in Kortrijk for the 300,000 inhabitants of the South-West Flanders region. The project consists of an 8-lane, 50 m swimming pool, with two movable bottoms and a 300-seat grandstand.

The pool is two meters deep and meets the international competition standards. It is therefore ideally suited for swimming training sessions, swimming competitions as well as for water polo. This means that the Kortrijk Waterpolo Circle (KWK) can from now on play home games in its own pool.

The sports swimming area is also supplemented by a recreational area, with a spacious warm lagoon, wave pool, extensive children's attractions, three spectacular waterfalls and an exciting 150-metre-long wild-water course. The exceptional all-weather outdoor pools will be open all year long, including the 266 m<sup>2</sup> large pool, the water playground for children and the sunbathing lawn. The wellness area will include saunas, a steam bath, a foot bath as well as indoor and outdoor catering facilities.

The completed project will result in a large swimming complex appropriate for both young and the elderly and for recreation as well as sports.

Architecturally, the building is designed to blend in the surroundings of the new Kortrijk Weide district. The pools, the catering premises and the multi-purpose hall room all give views over the city park. The horizontal lines of both the events area and of the lower city park are preserved in the building, which achieves a smooth transition between the two.

The building is a landmark for the city of Kortrijk with catering establishments that will attract visitors in the same way as the city's Buda Beach recreational site does today.



BORGERSTEIN | SINT-KATELIJNE-WAVER, BELGIUM



KANTWARTIER | VILVOORDE, BELGIUM

## 2018 NEW CONTRACTS

### Bloesembad and sport complex | Sint-Truiden, Belgium

On the current swimming pool site, a brand new swimming pool complex is being built including water falls, a brasserie, a wellness centre and sports hall.

### Gallait site | Schaerbeek, Belgium

A large school project including four units: a primary school for 220 pupils, a teenage school for 240 pupils, a secondary school for 680 pupils and a youth centre.

### Collegium Zottegem | Zottegem, Belgium

This former school building, dating back from 1862, will soon be expanded with 68 luxury apartments. The clean lines of the new modern building will beautifully contrast with the neo-Gothic style of the ancient one.

### Borgerstein | Sint-Katelijne-Waver, Belgium

A total project is being developed on and around the seminary building, which serves today as the health care facility of the Borgerstein non-profit association.

### Kantwartier | Vilvoorde, Belgium

New construction of 82 luxury apartments on the former Kantfabriek (lace factory) site in the heart of Vilvoorde, on top of the underground car park already built by Vanhout Bilzen.



**W**est Construct specialises in civil, hydraulic and industrial engineering works for both public and private sector customers in Flanders and Brussels. The company has also built a solid reputation in coastal infrastructure and canal maintenance under framework agreements. This includes emergency interventions, calling for extreme flexibility and professionalism.

West Construct's activities generally involve specialised engineering requiring a high degree of technical expertise and risk management. In their core activities, they place their skills and knowledge at the client's service, going beyond the limits of traditional contracting to create real benefit. Under the BEWIND label, West Construct has in recent years built a solid reputation as a builder of foundations for onshore wind turbines.

2018 was a busy year for West Construct, in which several attractive projects were successfully concluded. Projects including the "Fietsspiraal bridge" in Leuven, the Parkbos bridges for cyclists and pedestrians in Ghent and the drinking water production centre in Eeklo were delivered to the client's satisfaction. With its experience and expertise, and in spite of the strong competition within the hydraulic engineering market, West Construct succeeded in renewing the Ijzer and Kanalen West district maintenance contracts.

In the past year, West Construct was also very busy in the civil engineering market. For TUC RAIL, for example, the company built a passageway in Lokeren, a bridge in Bruges, a footbridge in Haren and parallel railway tracks in Zwankendamme.

Finally, the contract from Chevron to design and build a jetty in Ghent is a fine example of how West Construct can offer benefit to the customer by being involved right from the design stage.

West Construct has been fully integrated within SA BESIX NV since 1 January 2019.

 | [www.westconstruct.be](http://www.westconstruct.be)





## *Flagship project*

# NEW TUNNEL UNDER THE L59 RAILWAY LINE

The project to 'remove LC 50' for client TUC RAIL/Infrabel is an interesting reference project for West Construct within its civil engineering activities. This project was tendered for in the spring of 2017 and awarded in July 2017. The works had to be started immediately in order to be able to meet the contractual deadlines set. The contract covers the construction of a new tunnel under the L59 railway line at Uitbreidingslaan in Lokeren as a replacement for the existing level crossing (LC50) on Oude Heerweg. These works include not only civil engineering works but also road, hydraulic engineering and rail track works as well as integration in the surrounding area.

A trough bridge was used to construct the tunnel. In order to do this, a bridge deck was constructed beforehand next to the existing tracks and, once it was completed, it was slid into place. This required the tracks to be taken up temporarily.

The works were executed during the weekend of 4-5 May 2018. Thanks to the meticulous preparations by the entire site team, these works were carried out safely and to a high standard within the set timeframe. The works are expected to be completed in the summer of 2019. The value of this contract is € 3.9 million and the execution period 730 calendar days.

To illustrate the size of the project, here are some of the quantities involved: 12,000 m<sup>3</sup> of earth moved; 3,500 m<sup>2</sup> of sheet piles; 2,500 m<sup>3</sup> of concrete; 420 t of steel and 6,500 m<sup>2</sup> of asphalt.



CANADA BRIDGES | BRUGES, BELGIUM



KOLENHAVEN | GENK, BELGIUM

## 2018

### NEW CONTRACTS

#### **Rebuilding the Canada bridges | Bruges, Belgium**

Thorough renovation of the central bridge and replacement of bicycle and pedestrian bridges downstream and upstream of the central bridge with composite bridges.

#### **Renovating the bridge over the access channel to the Kolenhaven | Genk, Belgium**

Raising the bridge (+ 1.80 m) at the access channel to the Kolenhaven and adjusting the surrounding roads.

#### **Constructing new access facilities | Temse station Temse, Belgium**

This project mainly involves constructing an access ramp and steps – both in concrete – and building a steel canopy structure. The objective is to improve access to the platforms.

#### **Designing and constructing a jetty for Chevron | Ghent, Belgium**

The design – through collaboration with the BESIX Engineering Department – and construction of a jetty for Chevron.

#### **Haren South, renovation of the platforms (NMBS) | Haren, Belgium**

Demolition and resurfacing of the platforms and replacement of the current infrastructure.

COURTHOUSE | EUPEN, BELGIUM


 | [www.wust.be](http://www.wust.be)

**A** general contractor operating in all areas of construction, Wust manages a very large number of sites varying in types and sizes, thanks to the commitment and expertise of its employees.

Wust operates in Belgium (Wallonia and Brussels) and in the Grand-Duchy of Luxembourg. It builds residential complexes, offices, industrial halls and commercial surfaces, buildings for education, health care and medical care, as well as sports and leisure facilities, and also undertakes restoration and renovation works.

In 2018, Wust's business increased, in particular thanks to its Luxembourg subsidiary.

The private sector, particularly residential and office building, was buoyant, and the business benefited. Although activity was weaker here than in 2017, industrial halls and commercial areas accounted for nearly a quarter of the production of the year.

Continuing the trend of recent years, the company is undertaking more and more large-sized projects, like the Casa Ferrero offices in Luxembourg, in temporary partnership with a local contractor and other entities of the group.

The conversion of the company's former head office into a 17-apartment residence has been completed, with most of the units already sold.

Wust is increasingly profiling itself as a partner in Design & Build projects, especially in 'bouwteam' format, where its professionalism, active collaboration and reliability are recognized and appreciated.



## *Flagship project*

# COURTHOUSE

Befimmo entrusted Wust with the construction work of a courthouse in Eupen. The existing building was demolished to allow the reconstruction of the new courthouse. Special technical features include zinc roofing, curtain walling of different shapes, stone facing blocks of different sizes and an extensive use of wood in the courtrooms.

The client, as well as the public stakeholders, the Régie des Bâtiments and the Finance Ministry, imposed stringent requirements for this important project. A building like this is technically demanding, in particular in terms of the very strict acoustic constraints of the courtrooms, but also of security.

This complex project was completed in a tight deadline, with work beginning in late January 2017 and completed in September 2018.



RÉSIDENCE FALIZE | MALMÉDY, BELGIUM



LIDL | SPA, BELGIUM

## 2018 NEW CONTRACTS

### **Christian Hospital Centre | Glain, Mont Léglia site, Belgium**

Construction (in joint venture with DUCHENE) of an administrative building and nursery for the CHC group, and developing a car park and surroundings.

### **Lidl | Malmédy, Belgium**

Renovation and expansion of a commercial area.

### **Liège Airport | Bierset, Belgium**

Construction of three air cargo handling halls (B14, B24, B26).

### **Lidl | Spa, Belgium**

Demolition and construction of a commercial area.

### **Résidence Falize | Malmédy, Belgium**

Conversion of former Wust offices into a building with 17 apartments.



**B**ESIX Infra is the knowledge-driven contractor for road construction on the Flemish and Brussels markets, operating in road construction, sewer construction and construction of public spaces. The company is a top 5 player on the Belgian infrastructure market, for both public and private clients.

The facilities in Bilzen and Burcht have their own concrete and recycling sites. 100% subsidiary Belasco also has its own asphalt production facilities in Bilzen, Ghent and Puurs. These facilities enable BESIX Infra to operate efficiently in Flanders and Brussels.

BESIX Infra is also profiling itself increasingly as a true partner in communication, neighbourhood consultation and nuisance limitation. With the company operating primarily in the public sector, its operations in 2018 were largely determined by the local elections. 21 new orders of at least one million euro each were brought into the portfolio. With the elections now over, the main task is to look forward to and focus on planned investments beyond the local level.

Ensuring sustainable growth means taking on larger projects. In this context, the synergy and cooperation with the (civil) engineering companies of BESIX group is an added value for BESIX Infra.

Apart from the first assignments in temporary collaboration with BESIX Flanders, the company's main focus remains their traditional public clients, Aquafin and AWW.

The challenge for BESIX Infra in 2019 will be mainly in the private market. The positioning within BESIX Group should provide the necessary added value with which to become once again an important player for companies and investors. From this viewpoint, BESIX Infra fully supports the One-Stop-Shop concept that the group is keen to market.

 | [www.besixinfra.com](http://www.besixinfra.com)





## Flagship project

# N8 IN ROOSDAAL

BESIX Infra completely redid the N8 in Roosdaal for the Flemish Region. Wide, raised cycle paths make the road safer for soft road users. At the same time, a solution to local flooding was provided by building a new, separated sewer system with large buffer basins.

### Together we are strong

BESIX Infra brought in sister company Franki Foundations to build the foundations of the outflow constructions. It strongly believes in the one-stop-shop principle in which expertise within BESIX Group is bundled to reduce the administrative burden on the customer. The asphaltting was done by BESIX Infra subsidiary Belasco.

### Every shop accessible

Road and infrastructure works are often a tough nut for traders and self-employed persons located within the site zone. BESIX Infra is aware of this and works hard to minimise the economic nuisance. At the start of the works the team takes the time to visit and inform every trader. When possible they adjust their work schedule. Alternatives are worked out to achieve accelerated implementation.

### Safe traffic management

Using a mobile slip former, BESIX Infra built a raised splitter island over a length of almost one kilometre. This construction prevents vehicles from turning on the busy trunk road. Traffic flows to side streets are via a large oval roundabout. Ensuring a safe environment for employees, subcontractors and road users is also top priority during the work itself. For this, BESIX Infra works closely with the client, the engineering office, the safety coordinator and its own road traffic injury prevention.



STOBART | GENK, BELGIUM

## 2018 NEW CONTRACTS

### Edegemsesteenweg | Kontich, Belgium

BESIX Infra is installing a separate sewer system in the Edegemsesteenweg and Villermontstraat. Underground buffer basins commissioned by Aquafin consisting of polyethylene pipes with diameters of up to 2,400 mm are a first in Flanders.

### N8 in Roosdaal, Belgium

BESIX Infra completely redid the N8 in Roosdaal over a distance of 2 km. As well as renovating the sewer system and constructing water collection basins, the contract involved laying separate, safe cycle paths.

### Stobart | Genk, Belgium

English transport company Stobart brought in BESIX Infra and Belasco for expanding its business sites in Genk. After the design work on the sewer system and parking, the challenge lays mainly in the strict phasing of work on a site that remained operational during the works.

### Kennedylaan collector | Oostakker, Belgium

BESIX Infra is installing a separate sewerage system in Oostakker (Ghent). The challenge consists of diverting polluted water to a treatment station, while draining rainwater directly into the Ghent-Terneuzen canal. This involves piercing a concrete collector over a distance of more than 1 km under the R4 and industrial sites along Kennedylaan. The construction of the outflow into the canal is a further challenge.

### N777 | Wellen, Belgium

BESIX Infra is undertaking a total reconstruction of the N777 in Wellen, which also passes next to a school building. They strive to carefully design a safe school environment. During the works, special attention is given to reducing nuisance to neighbours and to the safety of the children.



## Franki Foundations

📞 | [www.ffgb.be](http://www.ffgb.be)

**S**pecialised in the design and construction of deep foundations, Franki Foundations is one of the top 10 European entrepreneurs. The company has subsidiaries in France (Atlas Fondations), the Netherlands (Franki Grondtechnieken) and the United Kingdom (Franki Foundations UK and Martello Piling).

Deep foundations are used in various sectors, including office buildings, residences, distribution centres, infrastructure works, nuclear sites and petrochemical facilities. With its extremely complete fleet of machinery (more than 110 items, some of them developed in-house) and its own

design office, Franki Foundations is able to offer foundation solutions for any project.

The company also focuses on global projects, where Franki Foundations acts as a general contractor, offering the customer a “turnkey” foundation project, including if desired the implementation and coordination of other project tasks (preparatory works, earthworks, dewatering, etc.).

PROJECT CONFLUENCE | NAMUR, BELGIUM



## Flagship project

# CONFLUENCE

In 2018, Franki Foundations literally invaded the capital of Wallonia. We worked on the renovation of the Maison de la Culture, laid the foundations for the bus bridge up to the multi-modal station, laid the foundations of the L'Enjambée footbridge connecting Namur and Jambes and, of course, were present on the big Grognon construction site: the Confluence project.

At the foot of the Citadel, where the Sambre flows into the Meuse, Franki Foundations built a 286 linear metre wall, composed of nearly 300 large diameter secant piles, as well as driving the drilled foundation piles for the 4 underground parking levels of the future esplanade.

At this location the soil includes sandstone layers with veins of very hard and highly abrasive quartz. Drilling was not easy, and in some parts of the site it was necessary to pre-drill with a percussion machine to loosen the rock before completing the drilling.

The other peculiarity of this site is the simultaneous presence of archaeologists. To give them more time to uncover the traces of the past, we installed pre-cast concrete columns in the foundation piles, which now form the columns of the future car park. With this technique, work can take place simultaneously above and below the slab, allowing archaeologists to continue their excavations without slowing down the construction of the building.



WHITEHALL | LONDON, UNITED KINGDOM

## 2018 NEW CONTRACTS

### Brucity | Brussels, Belgium

Franki Foundations was tasked with providing the foundations of the new City of Brussels Administrative Centre, including preparatory pinning of the old wall of Les Halles, 400 linear metres of diaphragm walling for the future underground car park, an anchoring bed and the installation of struts on two beds to allow excavation to the bottom of the building pit.

### Expansion of the Ampsin lock | Huy, Belgium

For the Ampsin lock enlargement project, Franki Foundations installed no less than 1,200 large-diameter drilled piles and a thousand anchors, including from barges, while maintaining the site operational throughout, with undiminished safety and fluidity.

### Grand Paris Express - Line 16, lot 1 | Paris, France

For two years, Atlas Fondations has been involved in various projects of the Grand Paris Express, extending the existing Métro into the Paris suburbs. This time, it is in the north of Paris, on lot 1 of line 16, that major works will be undertaken. 1.50 m thick and more than 60 m deep diaphragm walls will be drilled after first injecting the ground to prevent slurry loss.

### Scheveningen Noordboulevard | The Hague, Netherlands

For the renovation of the Noordboulevard along Scheveningen beach, Franki Grondtechnieken created a  $\pm 240$  metre curtain of 329 secant piles. These provide the wall of the future car park while ensuring the stability of the boulevard.

### Whitehall | London, United Kingdom

This iconic building in central London is a group project. Martello Piling's patented pile driving machines were used to drive the piles in the most difficult-to-access places, with Franki Foundations UK driving the remaining 300 piles. A first successful and promising synergy.



 | [www.socogetra.com](http://www.socogetra.com)

**F**ounded in 1948, Socogetra is an essential Belgian player in road construction and civil engineering. The company is also active in water treatment and environmental project management. Through its subsidiaries, Socogetra owns and operates various plants and entities that produce construction and surfacing materials, which add real value: Famenne Enrobés, Enrobage Stockem and Enrobés des Trois Frontières (asphalt), Emubel (bituminous road binders), GNB (concrete) and Vialines (road marking equipment). It also operates quarries: the Carrière des Limites in Rochefort and CGR in La Roche-en-Ardenne. The materials from these quarries are used in the asphalt and concrete plants in Belgium and the Grand Duchy of Luxembourg. Socogetra's subsidiary Bagetra, based in Mons in the Hainaut province, complements these activities in the fields of civil engineering and industrial building.

Socogetra Group has had a busy 2018, in both the Works and Industries divisions. Levels of new business in its order book were at a historic high.

The activities of Socogetra and its subsidiary Bagetra in 2018 encompassed a variety of sites spanning the Group's major areas of activity: major motorway works, water purification plants, large-scale rail projects, civil engineering and industrial buildings.

Socogetra has delivered several water purification plants, including in Neuville en Condroz and Oisquercq. Key motorway projects on the E411 and E25 were also implemented in 2018. Railways activity included substantial works conducted on the stretch between Lavaux and Habay. The company also completed the final phase of the Marche-en-Famenne bypass, and undertook various civil engineering works in the chemicals and petrochemicals sectors in Hainaut Province.

In Industries, 2018 saw Socogetra scale new heights in terms of production and sales in the concrete and asphalt sectors. The two quarries (Carrière des Limites and CGR) produced over 2.1 million tonnes of rock, and the asphalt plants produced over 500,000 tonnes of asphalt.

Socogetra enjoyed major investments from several public-sector organizations, especially in conjunction with the per-kilometre charge, where almost 300 million euros has been ploughed back into maintaining and renovating large parts of the Belgian motorway network. Socogetra expects this investment, which represents over 80% of roadworks, will be maintained in 2019.



E411 RESURFACING | ARLON - STERPENICH, BELGIUM

## Flagship project

# RESURFACING THE E411

The Walloon Region and Sofico have awarded Socogetra the resurfacing and creation of a carpool lane on an 11-km stretch of the E411 between Arlon and Sterpenich.

The works began in August 2018 and are scheduled until mid-2019, in consultation with the regional administration. Since the motorway was in a worse state than expected, the timeline for these works has been extended. The project includes creating 22 emergency refuge areas (since the emergency lane will be turned into a carpool lane), repairing the reinforced concrete foundations across over 23,000 m<sup>2</sup>, and laying 60,000 tonnes of asphalt.

This project is a good example of smooth cooperation between Socogetra's departments and the regional administration: cooperation on the schedule overrun, on road user safety, and on implementing the various road building techniques. The new carpool lane is intended for vehicles occupied by a minimum of three people, with the aim of helping commuter traffic into the Grand Duchy of Luxembourg flow more freely. Cameras will be placed along this route in order to monitor how effective the lane is at achieving this.



CARRIÈRE DES LIMITES QUARRY | ROCHEFORT, BELGIUM



PLACE DE HEER | DINANT, BELGIUM



## 2018 NEW CONTRACTS

### Highways project Nationale 4 | Tenneville

Renewal of the crossing and safety infrastructure on behalf of Sofico/Walloon Region.

### 1.5 km rail link | Aubange

1.5 km rail link between the Athus business park and France on behalf of IDELUX regional development agency.

### L162 Track widening | Nassogne

Track widening between rock walls, with renovation of drainage system and cable ducts on behalf of TUC RAIL/Infrabel.

### Aye water treatment plant | Rendex

Construction of a 15,600-person-equivalent water purification plant and northern main sewer on behalf of AIVE-Steinfort regional development agency.

### Seveso plant INOVYN | Jemeppe-sur-Sambre

Phase 1 of civil engineering works for a new production unit on behalf of INOVYN.

ALEGrO BARCHON | AACHEN - LIÈGE


 | [www.besixvandenbergh.com](http://www.besixvandenbergh.com)

**V**an den Berg has extensive experience in cable and pipeline construction and offers its customers high-quality infrastructure solutions: underground and above-ground cable and pipe-laying, HDD (horizontal directional drilling), high voltage and traction, networks and structured cabling systems, fibre optic networks, signalling and monitoring systems, house connections, tunnel-technical installations and traffic technologies. Its expertise is strong, broad-based and constantly being refined.

The phasing out of nuclear energy production and the increase in alternative energy generation such as wind and solar energy require additional investments in the national grid and in connections with other countries.

The telecom market remains very competitive. In the context of a 'design and build' assignment, Van den Berg, together with its partners in the Fifthnet consortium, is installing an FTTH (Fibre To The Home) fibre op-

tic network. The acquisition of Larabo further strengthens this business branch.

With the growing demand for renewable energy, Van den Berg has also started the construction of district heating networks.

In 2018, Van den Berg acquired Uniconnect, a strong performer in the distribution sector, specialising in, among other things, the construction of water distribution networks.

In addition to the various signalling projects, Van den Berg and its partners in the EnVES consortium also commenced the roll-out of the ETCS L2 (European Train Control System) in 2018. For the expansion of its activities in Wallonia, Van den Berg has opened a new regional office in Ath.

## Flagship project

# ALEGrO BARCHON

ALEGrO (Aachen Liège Electric Grid Overlay) is the first electricity connection between Belgium and Germany, linking up the two countries' high-voltage networks. Elia has developed the Belgian side of the project, which consists of two parts: an underground link between the Lixhe station and the German border and the Lixhe conversion station that connects the ALEGrO DC link with the existing AC network.

### The unmistakable role of Van den Berg

As a subcontractor to General Cable, Van den Berg plays an unmistakable role in the underground DC installation. The 49 km of cable-laying on Belgian territory, including a tunnel under the Albert Canal and the River Meuse, is being done entirely by Van den Berg. For the 670-metre-long tunnel, it has partnered with Jan de Nul and K-Boringen.

The total underground electricity connection will be a hundred kilometres long. In this project, Van den Berg is carrying out 35 horizontally directed drillings (HDD) with lengths ranging from 70 to 450 metres, a large number of them through rock. 94 reels of cabling are being used, weighing an average of 40 tonnes each. In addition, 40,000 tonnes of dolomite are processed in the total project. Van den Berg is striving for excellence and zero accidents. By the end of 2018, more than 80,000 hours had already been worked without a single work accident.



FLUXYS UNICONNECT | DENDERMONDE, BELGIUM



LAYING SUPPLY PIPING | TERVUREN, BELGIUM

## 2018 NEW CONTRACTS

### Fluxys Uniconnect | Dendermonde, Belgium

Under a contract with Fluxys, Uniconnect is building a new natural gas pressure reduction station in Dendermonde. For this project, Fluxys is expanding an existing site. Sub-contractor Segaf is responsible for the placement of the enclosures. All other works are performed by Uniconnect.

### Laying supply piping | Tervuren, Belgium

In Tervuren, Van den Berg is laying the supply piping to the water towers for De Watergroep, as well as building new cycle paths.

### ALEGrO Barchon | Aachen - Liège

Elia is developing the Belgian part of the ALEGrO project, the first electricity link between Belgium and Germany that connects the high-voltage networks of both countries. As a subcontractor to General Cable, Van den Berg plays an unmistakable role in the underground DC installation.

### FTTH, Fibre To The Home | Belgium

In the context of a 'design and build' contract, Van den Berg, together with its partners in the Fifthnet consortium, is installing an FTTH (Fiber To The Home) fibre optic network. This network is being built simultaneously in various Flemish and Walloon cities, and already reaches more than 22,000 homes.



ICONE | BELVAL, LUXEMBOURG





▶ REAL ESTATE DEVELOPMENT

BESIX  
ACTIVITIES



# REAL ESTATE DEVELOPMENT BUSINESS REVIEW

After a successful 2017, continued and constant growth was also the theme for BESIX RED in 2018. Our expansion remains at a steady pace resulting in a turnover of €156.8 million (+ 8.5% vs. 2017). A positive result we owe to our geographical and sectorial diversification but also to our focus on innovation, backed by the financial strength and synergies with the different entities of BESIX Group.



These assets, combined with our expertise in complex and large-scale projects, have helped us develop strong and long-term public and private partnerships in all cities we are active in.

In terms of portfolio, BESIX RED counts 26 projects in today's pipeline that totalize more than 500,000 sqm under development. Covering 13 cities in 5 European countries, 2018 marks also the ambition of BESIX RED to consolidate its presence in France with the nomination of its Country Director.



## Our vision and assets

As a developer, our ambition is to participate in the city of tomorrow, by offering not only a living and working space but also a living and working experience.

We seek for Excellence to provide our clients sustainable, innovative, high-quality and technical solutions; that make life easier while contributing to urban revitalisation.

Backed by a multidisciplinary Group, we offer an added value to our clients thanks to our 'Developer-Contractor identity'. Our 'One-Stop-Shop' approach combines all our Group's competences under one responsibility to deliver the highest quality and efficient product to our clients.

Even though today BESIX RED welcomes its Pan-European dimension, its first willingness is to be a local player instead of being the subsidiary of a Belgian real estate development firm working abroad. In each country we enter, we partner with local reference actors to exchange our expertise and better understand the specificities of the local market and its needs. This applies, for example, to some projects in Luxembourg (Félix Giorgetti, Soludec), France (Rabot Dutilleul), The Netherlands (Vorm).

## 2018, growing business

### Context: a changing real estate market

The **densification of urban areas**, as well as sustainability, must be considered when conceiving the city of tomorrow. According to the United Nations, by 2050, two out of three people (+ 2,5 billion people) will live in cities.

At the same time, **digital transformation** has become reality: 'Proptech' belongs to the common language and the number of start-

ups active in real estate is booming, driving a plethora of innovations which reshape the function of tomorrow's residential, office and retail projects.

In this changing landscape of real estate, a new client profile has also emerged, disrupting the business with new needs and key values: 'Millennials'. When it comes to select a place to live, work or even shop, new criterias – such as sustainability, innovative services and experiences – have become as important as location.

This results in the emergence of new demands (co-living, co-working) and a profound disruption of the way developers must approach and design their developments.

By keeping its clients at the centre of its reflection, offering complex and high-quality products while embracing and incorporating the latest innovations, BESIX RED has positioned itself as client-centric developer. In its willingness to leave a positive environmental footprint for the next generations, sustainability remains one of the company's major concerns. As such, BESIX RED brings a long-term approach when conceiving its real estate developments.

**2018: Deep dive in the figures**

2018 was a successful year for BESIX RED, financially as well as in terms of expansion.

Our priorities remained consolidating our Pan-European dimension keeping Belgium and Luxembourg in the centre of our operations. In addition to this we continued focusing on sectorial diversification to increase our presence and expand our know-how in the non-residential market.

**1. In our core territories**

The continuing positive trend of the Belgian residential property market also contributed to our success. With interest on savings (at best 0.5% or even 0.3% after fees) and mortgage loans at all-time low, combined with inflation around 2%, the residential sector remains a safe investment for investors. A positive trend that also seems to be confirmed for the coming year.



**KEY FIGURES 2018**

**26**  
projects  
under development

**13**  
cities

**52**  
employees

ROI of  
**21.7%**

**€156.9**  
million  
in turnover

Net profit  
**€18.9**  
million

**68%**  
in residential

**32%**  
in non-residential

THE COSMOPOLITAN | BRUSSELS, BELGIUM

Our strategy, combined with a positive real estate environment, enables us to achieve a turnover of €156.8 MiO (resulting in a ROE of 21.7%). This excellent result has been reached thanks to the dynamic activity of BESIX RED in both non-residential and residential sectors, more specifically in its core countries:

- **BELGIUM** with 10 main residential projects totalling 100,000 sqm:
  - **Brussels:** 66,500 sqm;
  - **Wallonia:** 7,000 sqm;
  - **Flanders:** 26,500 sqm.
- **LUXEMBOURG** where BESIX RED has now confirmed its position as a major actor on both:
  - **Residential sector:** 17,000 sqm (SOHO: 150 units);
  - **the office market:** > 40,000 sqm With key projects such as Ferrero (Future HQ of Ferrero Group: 30,000 sqm);
  - **and other office buildings sold to institutional investors:** Quatuor (4,870 sqm) sold to Monceau Assurance and Impulse (6,453 sqm) sold to Swisslife.

In 2018, not less than 453 apartments were sold and more than 6 projects totalling 89,000 sqm (840 residential units) finalised.

## 2. Acquisitions

2018 was also synonymous of growing business; in terms of projects portfolio as well as geography.



BESIX RED has acquired new sites in Belgium and Luxembourg, resulting in a total of more than 150,000 sqm to develop in the coming years.

- **BELGIUM:**
  - **Cours St. Michel,** Brussels: 76,000 sqm mixed-use project in partnership with Immobel;
  - **Matisse,** Brussels: 35,000 sqm residential;
  - **Meyvaert,** Ghent: 17,000 sqm residential;
- **LUXEMBOURG:**
  - **Walferdange,** Luxembourg: 19,500 sqm residential;

At the same time, the construction permits were delivered for the 1<sup>st</sup> phase of So Stockel in Brussels (BE) - 13,850 sqm (138 units) and Icône in Esch-Belval (LU) - 18,800 sqm office building.

Finally, the nomination of our Country Director France confirmed our determination to strengthen our activity in this country, especially in the following four main cities: Paris, Lille, Lyon and Bordeaux.

## Building for the future

BESIX RED's innovation strategy, settled in 2017, has been applied to our activities in 2018. Our focus was on collecting and analysing information on trends and on co-creating solutions with our partners to perfectly meet our clients' needs and anticipate their future expectations. Client-centricity as well as flexibility and productivity were defined as three main objectives our innovative approach should answer to.

In order to fulfil this strategy, several initiatives have been put in place. An Innovation cell was set up to deepen our reflexion on the cities of tomorrow and to seize innovative opportunities. In order to get in touch with start-ups and even support some of them in the evolution of their concept, we established a close collaboration with Startup Factory in 2018. This enabled us to finalize a partnership with Propchain, a Belgian start up that combines Blockchain and real estate.

While working trends are evolving, we integrated those in one of our projects in Luxembourg named Icône. This 18,000 sqm office building will be dedicated to the latest working trends, of which 3,000 sqm will be reserved for co-working spaces.

MEADOW | HERENT, BELGIUM



Digital technology and IoT (Internet of Things) also remained at the centre of our new 'smart' initiatives. In order to offer our clients additional services, we teamed up with a digital platform, named Ziggu. The aim of the tool is to facilitate communication and strengthen the relationships with our clients. And finally, we started a partnership with Bringme smart lockers and mailboxes in several of our projects.

## 2019 - Perspective

Based on the successful developments, our diversified projects portfolio and an innovation-based strategy, we look confidently to the future and are determined to pursue our Pan-European expansion.

This ambition looks even more achievable thanks to our 30 years' experience and knowledge in real estate. A long-term expertise that allows us to identify cities with potential in which we can contribute to their revitalisation with high end residential, offices and retail developments. In this approach, we are also paying close attention to opportunities in strong markets like Germany and the Scandinavian countries.

Our goal is to continually expand in a steady and sustainable way, while keeping our soul. Meanwhile, our clients and their very high satisfaction will remain our main objective.



## SUMMARY

- BESIX RED's expansion remains at a steady pace resulting in a turnover of €156.8 million (+ 8.5% vs. 2017) thanks to its geographical and sectorial diversification but also to its focus on innovation, backed by the financial strength and synergies with the different entities of BESIX Group.
- In 2018, BESIX RED has acquired new sites in Belgium and Luxembourg, adding more than 150,000 sqm of residential and office building to its portfolio.
- The company's today's pipeline counts 26 projects totalling more than 500,000 sqm under development, covering 13 cities in 5 European countries.
- 2018 marks also the ambition of BESIX RED to consolidate its presence in France with the nomination of its Country Director.
- Based on the successful developments, its diversified projects portfolio and an innovation-based strategy, BESIX RED looks confidently to the future and is determined to pursue its pan-European expansion.
- Its goal is to continually expand in a steady and sustainable way, while keeping its company's soul. Meanwhile, clients and their very high satisfaction will remain BESIX RED's main objective.



## Dunant Gardens Belgium

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**TIM BOURGONJON**  
Regional Director for Flanders at BESIX RED

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*“One request from the city was to preserve the building's initial façade. Beyond a simple conservation, we wanted a harmonious integration of this element into the project and its environment as a differentiating element adding value to the entire project.”*



# 26,500 sqm

# 201

apartments:  
145 classic apartments  
and 56 assisted living apartments

# One

bank branch (KBC)

# 7

retail units



After acquiring several sites in Flanders in recent years, BESIX RED gives concrete expression to its position on Flemish territory with the delivery of its new 'Dunant Gardens' project, a 26,500 sqm residential complex close to the city center of Ghent. Designed by the architects duo Bontinck and Fretton, this reference project gives the city a strong architectural signal and confirms the developer's expertise in urban revitalisation.

Being a reference development for BESIX RED in Flanders, Dunant Gardens is the promoter's latest project in the north of the country. After Herent-Leuven (Meadow, 27,600 sqm of residential premises) and Oudenaarde (Leskoo, 23,280 sqm of residential premises), BESIX RED turned its attention to Ghent, seduced by the local authorities' dynamism and their pro-active approach to revitalising their city. In its spirit of collaboration and with its strategy of faster market penetration, the developer identified Immogra as a local partner to assist this bold development.

Just delivered, this 26,500 sqm residential complex, consisting of 201 apartments, an office area (KBC bank) and 7 retail units, was already sold over 90%.

Dunant Gardens owes this success in particular to its high potential location. On the one hand, the building is close to the Blaarmeersen sports, relaxation and nature area, and to the green spaces of the Leie valley. On the other hand, the city centre and its museums (STAM Municipal Museum and SMAK Museum of Contemporary Art) provide the cultural impetus. Not to mention the view its residents have over the Watersportbaan, the 2 kilometre-long five-lane rowing race course in Blaarmeersen.

"When BESIX RED acquired the site at the end of 2013, Dunant Gardens was located in the peri-urban area. The CIAC building (former garage) was an iconic showroom known to all locals. Being this close to the city centre, its location seemed to be a logical extension of the city of Ghent. In addition, the location was conducive to a large-scale residential development which, with a high-quality program, could participate in the revitalisation of the city.

We therefore conceived our project as a bridge between these different environments, with the ambition of offering future occupants not just bricks, but a real life experience," says **Gabriel Uzgen, Managing Director BESIX RED.**

The size of the project has enabled BESIX RED to envision a wide typology of apartments to meet local demands: from studio apartments to penthouses with views onto the 'Watersportbaan'. But also assisted living apartments offering complementary services for the elderly.

>





**JOHN BONTINCK**

Bontinck Architecture and Engineering

*“BESIX RED gave us a lot of freedom in designing the building. We really could envision a dream project. Besides this freedom of expression, we shared the same sensitivity towards the city. Understanding was made all the easier by the fact that the promoter was really listening to the city's concerns and local needs.”*

## Project details

**DUNANT GARDENS**  
GHENT, BELGIUM

### Client

Sold to individual owners

### Promoters

BESIX RED  
Immogra

### Architects

Bontinck Architecture and Engineering  
Tony Fretton Architects  
Erik Dhont Landscape Architect

### Contractor

BESIX

### Construction period

Fall 2013 (purchase of land)  
to January 2019 (delivery)

## Strong architectural signal for the city

As much as in its location, the strength of the project lies in the quality of its architecture.

Designed by Bontinck Architecture and Engineering and in collaboration with London-based Fretton Architects, Dunant Gardens offers a mix of existing modernist architecture and contemporary elegance. The initial building, not very welcoming and boxed-in between three roads, today gives way to a seductive, elongated building, at right angles, and with four interior gardens. Each apartment looks out both on the street and a garden.

To respect the history of the place, the façade of the old CIAC building on Luxembourg Square has been maintained.

“One request from the city was to preserve the building's initial façade. More than a simple conservation, we wanted a harmonious integration of this element into the new project and its environment as a differentiating element bringing added value to the entire project,” says **Tim Bourgonjon, Regional Director for Flanders at BESIX RED.**

The architectural duo was inspired by the style of the existing façade to offer a unique and homogeneous architecture, visually coherent with the original construction.

“BESIX RED gave us a lot of freedom in designing the building. We really could envision a dream project,” says **John Bontinck, a partner at Bontinck Architecture and Engineering.** “Besides this freedom of expression, we shared the same sensitivity towards the city. Understanding was made all the easier by the fact that the promoter was really listening to the city's concerns and local needs.”

## Customer-oriented innovation

With 56 assisted living units, Dunant Gardens also offers a type of comfort more specific to seniors. Combining large living spaces and new technologies, these dwellings, mixed with the more ‘classic’ apartments, differ from the often more compact products generally offered within this segment nowadays, usually gathered in the same building, making them look like nursing homes.

Equipped with alarm systems connected to a virtual concierge, these apartments (fitted with the promoter's All One's Life Living technology) offer care services provided by the specialised agency Solidariteit voor het Gezin, from ordering a meal to home assistance for a person with reduced mobility.

This concept, which allows seniors to live longer in their own homes, has proved particularly popular, with 95% of these units sold in just six months.

Tailor-designed to the local fabric, Dunant Gardens combines many special features that offer its occupants a real experience and comfortable living, while at the same time participating in the revitalisation of this district of Ghent. An ambition dear to BESIX RED that Gabriel Uzgen expresses as follows: “When conceiving a real estate program, we pay attention to its immediate environment in order to meet the specific needs of the market we are addressing and to contribute to urban revitalisation. Standardised products do not interest us. Each of our projects is, above all, part of a neighbourhood, a city, a country.”



# Casa FERRERO

Luxembourg, Grand Duchy of Luxembourg

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&lt; 2000

Acquisition of the field (13,800 sqm).

PIERRE GOVARE (LEFT) AND ERIC MORETTI (RIGHT) OF FERRERO GROUP



The outcome of a co-creation within BESIX Group and of exemplary collaboration with local partner Félix Giorgetti, the new world headquarters of agro-food giant FERRERO will be delivered by the end of 2019. This 29,500 sqm building impresses with its discreet, elegant, and at times daring architecture and with its refined interior design, taking the concept of well-being at work very far. For BESIX Real Estate Development (BESIX RED), this real estate project is a reference in terms of expertise; whether legal-financial structuring, architectural design or even technical sophistication.

“Initially, I didn’t give the project a 10% chance of success given the complexity of the required legal structure, the potential legal obstacles and problems with neighbours, the need to reroute the originally-planned access road, and finally, strong personalities gathered around the table whom I had difficulty seeing working together,” admits **Pierre Govare, Director, Maître d’Ouvrage Ferrero World Headquarters**, remembering the first meeting between the two developers, BESIX RED and Luxembourg company Félix Giorgetti. “And finally, what we have is a magnificent success story of technical know-how and quality, and a good example of collaboration and continuous dialogue between teams serving a common client.”

The story of the FERRERO building is indeed an extremely complicated one. “The complexity started well before the architectural or technical aspects of the project as such. Upstream of the conceptual thinking, there was a mass of legal and financial work to be done: different people from different companies had to be brought together on a single dossier, as well as merging the two companies holding the land. Without the financial and legal expertise, this project

could never have materialized,” admits **BESIX RED Managing Director Gabriel Uzgen**.

The starting point: the desire of FERRERO Group, currently renting several buildings in the Grand-Ducal capital, to group all its employees under one roof, this time in a building owned by itself. And as close as possible to the airport, a vital location for the group. “After long and unsuccessful searches, we were almost simultaneously proposed the project of promoter BESIX RED and that of its colleague Félix Giorgetti,” Pierre Govare remembers. Both, however, were for buildings of 14,000 or 15,000 sqm, whereas FERRERO was aiming at 25,000 sqm (a surface area finally raised to around 30,000 sqm), to house 1,500 people.

“Facing the airport, the location was ideal, but not feasible given the area offered,” Ferrero answered the two developers with great regret. This disappointment was short-lived: the two developers – owners of adjoining plots – decided, despite the advanced state of their respective projects, to work together on a common development.

&gt;

## 2013

Q3: 1<sup>st</sup> Building Permit obtention for an office development of 13,800 sqm called 'City Gate'.

Contract signature with WUST and LUX TP.

Signature of lease contract with a client for 5,800 sqm (40%).

Launch of construction of 'City Gate'.

CONSTRUCTION ORDER: € 26.8 million

## 2014

Start of the discussions with FERRERO GROUP.

Interruption of the construction work, implementing program for FERRERO GROUP.



## LAURENT JANSSEN

Project manager at BESIX Group

*“On the field, the collaboration between developer BESIX RED and builder BESIX – in this case together with two subsidiaries Lux TP and Wust – was a great asset given the technical challenges that occurred along the way. Being part of one family makes it possible to be much more proactive in coming up quickly with appropriate technical solutions. On the FERRERO project, the companies have worked in fusion mode, far beyond simple synergies. BESIX Group's experience in large-scale building projects was another asset. BESIX immediately put into action a team matching the size of this project.”*



## 2015

Joint venture with F. GIORGETTI SA to allow a total project of 29,500 sqm.

2<sup>nd</sup> Building Permit introduction for a 29,500 sqm Office project.

Preparing all development contracts with FERRERO GROUP.

“Our initial project (City Gate) covered 13,800 sqm. In 2014, when the idea of a collaboration with Giorgetti was launched, we were already well down the road: we had the building permit since 2013, a rental contract for 5,800 sqm already signed and construction work (€ 26.8 million) already launched by our sister companies Lux TP and Wust. This would mean starting again from scratch and doing even better! Excellence at BESIX is a bit like this,” says **Bernard Van Essche**, Key Account Development BESIX RED, with a smile.

“The FERRERO building is a perfect illustration of teamwork spirit and continuous co-creation that exists between the partners and also between BESIX Group entities. The legal and financial spadework produced such an effective and attractive result that FERRERO ultimately decided to acquire (in full ownership) the company holding the construction rights for the building. This outcome demonstrates once again that BESIX RED's added value lies as much in the attention paid to a project's financial and legal structuring, as in its architectural, programmatic and technical design,” says Gabriel Uzgen proudly.

## Flexibility at all times

With the legal and financial transaction finalised, the conceptual design could be started, which in turn increased the complexity of the project. “The promotional building initially proposed by BESIX RED was radically modified and integrated into a global project twice its size. But, remarkably, the new global architectural project submitted early in 2015 by Perry Weber architects, while integrating the constraint of the initial BESIX RED project, immediately won the unanimous and enthusiastic support of all stakeholders,” adds **Eric Moretti**, Project Manager FERRERO World Headquarters.

The interior design of the building was defined bit by bit, as construction progressed. “It was more complicated this way, but we really appreciated the flexibility of the Group, especially the builders (BESIX, Lux TP, Wust & ...), because more than once we made major changes to our requirements and needs. But also the Group's concern for quality. To the extent that the developer-builder itself has made improvements beyond what was planned,” says Pierre Govare.

## 2016

Q1: 2<sup>nd</sup> Building Permit obtention.

Merging the 3 companies to allow a new development of 29,500 sqm.

Q3: Start of the construction work.

Sale of the shares of Treves Offices, developing the project, to FERRERO GROUP.

**CONSTRUCTION ORDER: € 90 million**

Eric Moretti: "The interior needed to feel Italian, light and with warm colours. The central atrium has been designed as a village square, full of colours and life. The project as a concept and in its architecture is a reflection on FERRERO Group, but in the first place it is foreseen as a living space for its future occupants".

"With its imposing size and architectural style, the building projects the exterior image of a large, dynamic and solid multinational company. It's elegant, but without going over the top or trying to be showy," Pierre Govare adds. This does not exclude some architectural feats of daring, such as the huge 'cap' overlooking the entrance, without support columns. Or the interior walkways, staggered and in very complex shapes. "It was very complicated, but each time our BESIX Group-Giorgetti partners were keen to pick up the technical challenges and find solutions to obtain the purest architectural design possible. We know others who would have opted for the easy path. It is certainly this constant search for excellence that Eric and myself have most appreciated in our collaboration with BESIX RED-Giorgetti."

### More than synergies

"Understanding between the developers was perfect because we share values such as Excellence and Client Centricity," says Bernard Van Essche. The guiding concept of the entire development has been this ongoing dialogue and attention to detail – both inside BESIX Group and between peers – which ultimately translates into a reference project and great customer satisfaction.

The result: a real bespoke building, with exceptional comfort and innovative design right down to the desks and chairs. These requirements for well-being and innovation have been easily met by BESIX RED, which clearly shares them.

The FERRERO building is a reference project for the tertiary sector, combining flexibility, space optimisation, ergonomics and new ways of working. It is, moreover, a flagship project for BESIX Group as much as for its client: "With such a building, people continue to talk about us, as well as these two developers in Luxembourg," Eric Moretti says enthusiastically.

...

Co-creation meetings between:

- Contractors: BESIX / LUX TP / WUST / F. GIORGETTI
- Developers: BESIX RED / F. GIORGETTI
- Client: FERRERO GROUP.

## 2019

Q3: Delivery of the FERRERO new world headquarters.



### BERNARD VAN ESSCHE

Key Account Development BESIX RED

*"Understanding between the developers was perfect because we share values such as Excellence and Client Centricity. The guiding concept of the entire development has been this ongoing dialogue and attention to detail – both inside BESIX Group and between peers – which ultimately translates into a reference project and great customer satisfaction."*

## Project details

### FERRERO BUILDING

LUXEMBOURG, GRAND DUCHY OF LUXEMBOURG

#### Client

FERRERO Group

#### Developers

BESIX RED  
Félix Giorgetti SA

#### Architects

Perry Weber and Associates  
AKDV

#### Contractors

BESIX, Lux TP and Wust  
Félix Giorgetti SA

#### Contract value

€ 90 million

#### Construction period

2014 to 2019

# BESIX ACTIVITIES



# ▶ CONCESSIONS & ASSETS

BESIX Concessions & Assets devises tailor-made solutions covering the complete lifecycle of infrastructure, environmental or buildings projects: design, build, finance, operate and maintain.

For Public-Private Partnership projects (PPP), BESIX Concessions & Assets aligns to its clients' vision and expectations, and customise schemes technically and commercially to meet their long-term needs. With successful accomplishments in Europe and the Middle East for transport infrastructure, water, wastewater, energy and hospitality, BESIX believes that strong partnerships are the key to delivering quality infrastructure benefiting the community whilst using each partner's strength.

Working in close collaboration with the Contracting business unit, BESIX Concessions & Assets undertakes complex integrated projects, adding unique value by its financing and lifecycle approach.

# CONCESSIONS & ASSETS BUSINESS REVIEW

In the Netherlands, we are now close to the end of the pipeline of large infrastructure works. These were brought to market as Design, Build, Finance & Maintain (DBFM) projects over the past ten years. Not only have the major missing projects now been realised, but some highly visible projects, for which the Engineering, Procurement and Construction (EPC) contractors incurred deep losses, have raised questions about the PPP procurement model. In Belgium, however, after a long period of very few projects being launched (partly because of issues with the EU about their budgetary treatment by the procuring authorities), a new wave of buildings and infrastructure PPP projects has arrived. Nordic countries, the Baltics, Poland and Luxembourg are other countries that will continue to bring some projects to market as PPPs.

In the Middle East, public bodies in the UAE, Oman and Saudi Arabia continue to use the PPP procurement framework for power generation, desalination and wastewater (collection and treatment) projects. There is an increasing number of solid waste PPP projects in the region, but infrastructure projects are still tendered as Design & Build projects. Australia continues to be a very active PPP market with a large pipeline of projects for more new hospitals, schools, prisons, tunnels, roads, etc.



THE CHEDI HOTEL AND MARINA  
LUSTICA BAY, MONTENEGRO



SHUROOQ AND BESIX SIGNING  
A JOINT VENTURE AGREEMENT TO OPERATE  
AND MAINTAIN AN EXISTING WASTEWATER  
TREATMENT PLANT IN AL SAJA'A AREA  
IN SHARJAH

## Positioning

When procuring large projects under the PPP model, public clients are not paying merely for an asset, but for a service in good order: clean water, power, the custody of prisoners, smooth traffic from point A to point B, flood protection, etc. Spreading payments over the duration of a concession or the economic lifetime of a project also helps in spreading governmental or municipal expenses over time. BESIX differentiates itself from competitors through its engineering, design and planning skills, which help to reduce an asset's total lifecycle cost, as well as through its highly client-centric approach.

## Milestones 2018 & Q1 2019

In Europe, BESIX continued to grow its highly successful portfolio of DBFM projects in the

Netherlands. The A16 De Groene Boog project in Rotterdam was won and the commencement certificate for the works was obtained in December. Meanwhile, construction progressed well for the A6 project north-east of Amsterdam and the Beatrix lock near Utrecht. Tendering efforts focused on an infrastructure project in Belgium, a school project in Luxembourg and further large infrastructure and buildings projects in the Netherlands. The year 2018 also saw the opening of two additional hotels, in Lustica Bay and Adermatt, which have been co-developed and are co-owned by BESIX. In June, BESIX also acquired a 51% stake in the company that is now called BESIX STAY, and which is active in the development and operations of short and mid-term stay concepts.

In the Middle East, where Concessions & Assets was traditionally most active in municipal wastewater treatment projects, the focus moved to waste-to-energy projects. In Dubai,





## KEY FIGURES 2018

**8**

number of countries

**€1.8 billion**

book value (100%)  
of managed assets

**1.6 million**

people served daily  
by the managed assets

**€18.9 million**

net result

THE CHEDI HOTEL AND MARINA  
LUSTICA BAY, MONTENEGRO



A6 | ALMERE, THE NETHERLANDS



BEATRIX LOCK | NIEUWEGEIN, THE NETHERLANDS



SEASIDE RESORT | LUŠTICA BAY, MONTENEGRO

BESIX group is a key member of a consortium that also comprises Hitachi Zosen Innova, and was awarded the largest ever waste-to-energy project, for which construction is to start in 2019. Other key milestones of the past year are the launch of the Al Saja'a wastewater treatment concession in Sharjah and the development of the Refuse-Derived Fuel project in Umm Al Quwain.

## Outlook 2019 and beyond

2019 will see the awarding of the last two big PPP infrastructure projects in the Netherlands, the A9 BaHo and A15 East projects, for each of which BESIX is member of a consortium that is preparing a final tender. Besides tendering, BESIX will also strive to deliver the A6 and Beatrix Lock projects on time and on budget, while construction of the A16 De Groene Boog project will ramp up to full capacity. In Belgium, tendering efforts will focus on several public transport projects (tram and bus), as well as the Ghent R4 Noord infrastructure project.



In the Middle East, tendering teams will work towards bringing two waste-to-energy projects to financial close, and then start construction. There will be selective tendering, mainly in the United Arab Emirates, and in Oman and Qatar for very specific opportunities only, for more wastewater treatment projects, as well as desalination developments for which BESIX can bring added value through specific design skills or client relationships.

In Australia, where Watpac already has excellent credentials as Design & Build contractor for PPP projects, Concessions & Assets will look at opportunities where Watpac can also participate as investor and be part of the long-term operating and maintenance phase of the projects.

BESIX STAY is set to open its first A-STAY in Antwerp by the end of the year. After permits are obtained, construction will start this year for the projects that have been acquired in Diegem, near Brussels (Belgium) and Moldova, and new opportunities will be sought in thriving European cities and regions.



ENERGY FROM WASTE | DUBAI, UAE



A-STAY | DIEGEM, BELGIUM



**A6 Almere**  
The Netherlands

*Interview*

# FIRST ENERGY-NEUTRAL HIGHWAY IN THE NETHERLANDS





# 4,000

tonnes of steel

# 22,000 m<sup>3</sup>

of concrete

# 1,050

new lamp-poles



The Parkway6 joint venture (with BESIX, Dura Vermeer, RebelValley and John Laing Investments) has successfully completed, ahead of schedule, the widening and re-profiling of the A6 motorway near Almere. This busy 14 km section of the A6, the ‘aorta of Flevoland’, is today also the first ‘energy-neutral highway in the Netherlands’. This is a valuable reference: by 2030, the Netherlands wants “all roads, bridges, tunnels and locks to provide in their own energy needs”.

“The choice of the name ‘Parkway6’ for our joint venture says a lot about the overall concept,” says **Toine van Riel, Risk Manager at BESIX**, while we drive along new and renovated bridges and structures, carefully planted slopes and even a completely new bus station on an 80-metre-wide viaduct. “Parkway6 perfectly expresses what we want: a green ‘highway’ in a park-like setting.”

“The assignment was to widen the A6 on these 14 kilometres between Almere Havendreef and Almere Buiten-Oost from two times two to four times two lanes. That is, in each direction, two lanes for through traffic and two for local traffic. At the same time, we needed to install public lighting, along with route signposting, traffic lights and dynamic traffic management via overhead information panels. All this had to be as ‘green’ as possible, as the segment as a whole needs to be totally energy neutral. This included building a solar panel field able to generate sufficient energy for the segment’s electricity consumption.”

### Best of three

“After preliminary study work in 2015, we entered the tender process at the start of 2016 with Parkway6. Ultimately, we were selected from three candidates as the winning consortium. The contract with the Rijkswaterstaat was signed in May 2016 and the financing agreement with the banks finalised in June 2016. This is a DBFM contract (Design, Build, Finance & Maintain): we will be responsible for the maintenance for twenty years.”

“Only then could we really get moving, including producing a final design. On that basis, we were able to apply for the necessary permits and start with procurements.”

“At the beginning of 2017, we were ready to start the actual outdoor work. The supply and distribution of sand began in January and the actual start of the works was 3 April 2018. The project has to be ready for use by the end of 2019, but everything indicates that we will already get there before that.”

>



## FLORIADE, THE TRIGGER

Why does the Netherlands want to widen the A6? And why the first energy-neutral highway right here?

While most Benelux cities go back to the Middle Ages or even Roman times, Almere is barely 43 years young. Until well after the war, the Zuiderzee lapped against the shore here. It was not until the late 1960s that the Flevo polders were drained with the aim of making this area the 'demographic overflow' of Amsterdam. Around 1980 the town already had 4,000 homes. In 2018, the number of residents had risen to 205,000. Today the city is the eighth largest municipality in the Netherlands. That growth figure alone explains why the connections to this hub needed to be expanded.

But there is even more. Lelystad Airport (near the A6) is becoming the overflow for the airport of Schiphol and will in time become the departure point for most charter and business jet flights.

But the trigger to turn the doubled A6 into a super-green project is the 23rd world edition of the 'Floriade 2022': a world horticulture show, which Almere will be privileged to host in 2022 and where 2.2 million visitors are expected. The Weerwater green zone along both sides of the A6 will become the exhibition park and after that a green residential zone. In view of this future residential function, the motorway route in the Weerwater zone has been reduced by no less than five metres over the entire length, including all adjacent infrastructure works and roads. As a result, the highway 'has disappeared' between noise barriers which in turn increases the quality of life.

### Sustainable

Parkway6 did not wait for the solar field to work sustainably and ecologically. They already started with the supply and spreading of the sand. "We shifted 1.6 million m<sup>3</sup> of sand and brought in almost 700,000 m<sup>3</sup> of sand and soil, more than 60% of this by inland waterway," adds **Ronald Wouters, Contract Manager at BESIX**. "We had the advantage that the Hoge Vaart, the canal connection to the IJsselmeer, crosses our A6 segment almost mid-way."

"In everything we did we attempted to reduce the environmental impact," Toine is keen to point out. "By using cement produced in an environmentally-friendly way, for example. Dura Vermeer also took charge of the delivery of eco-sand. This is jet-black sand recycled from asphalt and mainly used in the earth embankments. Concrete rubble from the demolished infrastructures was also reused in the concrete mortar. The scraped-off asphalt was also partly recycled. And of course, high energy-efficiency LED lighting was installed everywhere. It was also important to use a quieter and water-permeable asphalt, the thickness of which was further adjusted in the vicinity of the residential areas."

Toine proudly shows the many new or renewed viaducts along the route. The edging of these bridges is required to be uniformly decorated across the Randstad with silver-coloured, round finishes. This excludes the structures in the central Weerwater zone, which will be in the middle of the Floriade in 2022 (see box). "You can already recognise these by their heavy natural stone finish."



## Project details

### A6 MOTORWAY

ALMERE, THE NETHERLANDS

#### Client

Rijkswaterstaat (Dutch highways and waterways authority)

Fourteen kilometres of highway

Eight new infrastructures

Adapting of five existing structures

Re-laying four exits and one junction

“Much attention has been paid to the landscape design: we planted lots of trees, with here and there ‘flora and fauna passages’ under the A6. At one point, last year’s extreme drought put our water supplies at risk. We had a lucky break there.”

#### Consultation, consultation

“It was important to create sufficient support among the population, as well as being available during office hours. We organised five large-scale information evenings where a team from Parkway6 was ready to answer questions and complaints. With a 3D animation film and 3D glasses, we were able to make clear to all parties what everything would look like. We worked very intensively with Rijkswaterstaat on this.”

Toine is full of praise regarding this collaboration. “A telling anecdote is how we discovered at the start of the project that the congestion problem was greater than expected. To tackle this quickly, we had to adjust the planning with Rijkswaterstaat. The additional cost of a third temporary lane was more than offset by the great satisfaction of road users. Pretty soon we were able to reach an agreement on this to everyone’s satisfaction.”

“That fairly unique collaboration has grown on the job. We maintained continuous, open communication with Rijkswaterstaat and were able to discuss the problems with them in a solution-oriented approach.”



## THEO WINTER, FROM THE BOARD OF DIRECTORS OF DURA VERMEER GROEP NV

Working with BESIX means added value.

“My compliments to the people who have achieved this,” says Theo Winter from Dura Vermeer’s Board of Directors, looking back on the A6 project. “To the satisfaction of the customer and car drivers, we were able to complete this project much faster than planned.”

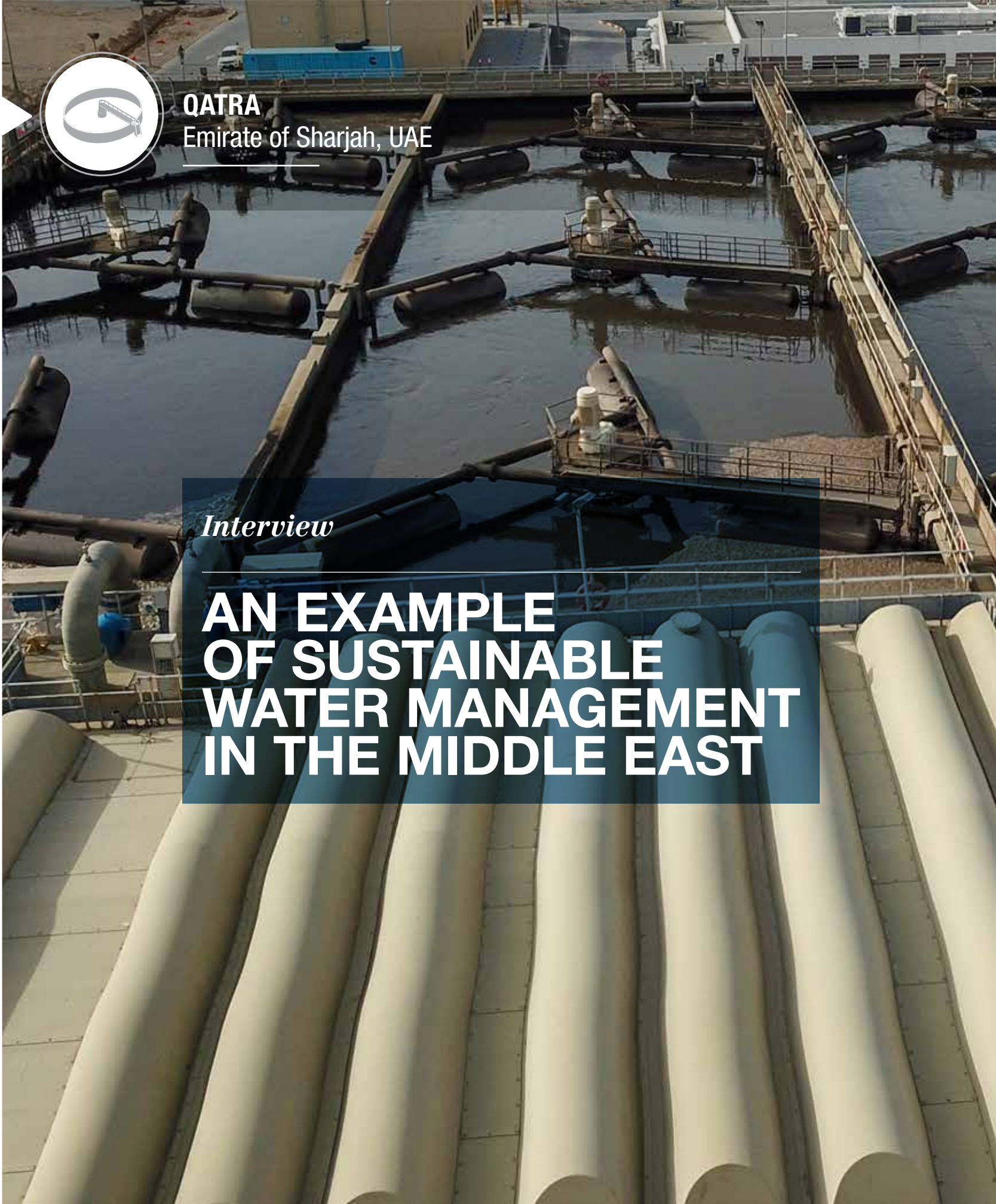
“Our complementarity lies primarily in our combined expertise. Dura Vermeer is advanced in surfacing such as asphalt. BESIX is also very strong and internationally known for its knowledge of the use of concrete in construction. That combination provides immediate added value.”

“At the same time, we are stronger together when registering for a tender, because working separately makes it difficult to maintain a continuous workflow. Working together helps us to fill each other’s peaks and troughs.”

“The project was too large to execute separately. Not because it was technically infeasible for us, but because of the size of the risks involved. You absorb these by joining forces. A great thing here is that we share a common corporate culture, in which people are really central.”

“It’s particularly noteworthy that we’ve been able to deliver the project much earlier than the customer had expected. The customers behind the customer - starting with the provincial authorities - have greatly appreciated this. This has also simplified the atmosphere for introducing optimisations.”

“I’ve been able to work particularly well with Jean Polet from BESIX. We were in permanent contact with the people in the field to see how we could help them. I’m extremely proud that we’ve been able to deliver this project without major accidents!”

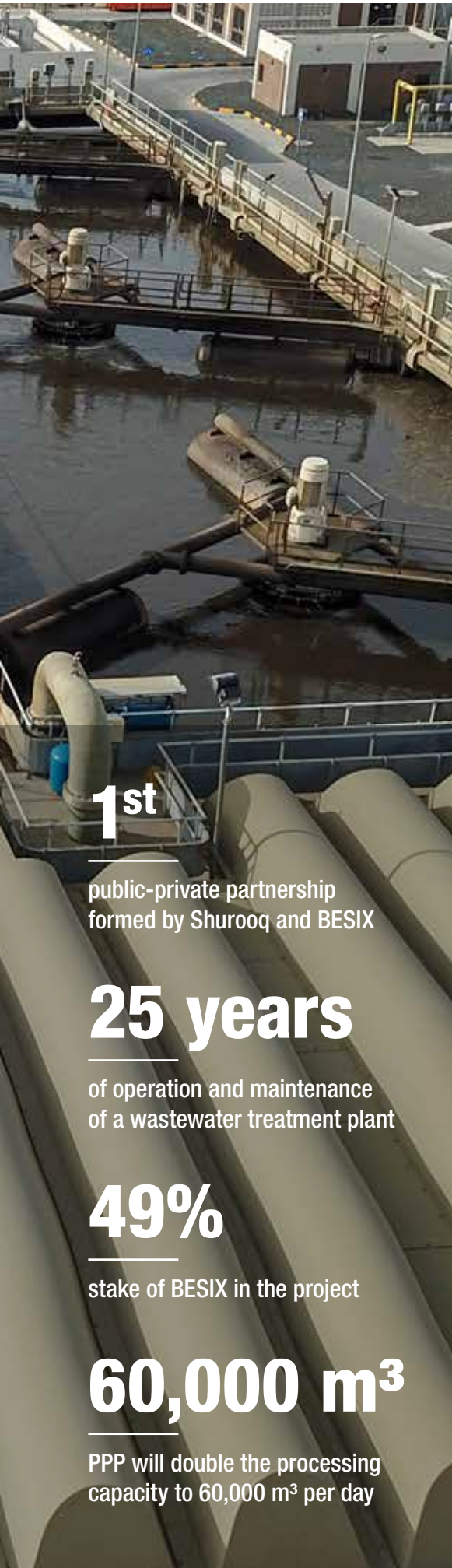


**QATRA**  
Emirate of Sharjah, UAE

*Interview*

**AN EXAMPLE  
OF SUSTAINABLE  
WATER MANAGEMENT  
IN THE MIDDLE EAST**





1<sup>st</sup>

public-private partnership formed by Shurooq and BESIX

25 years

of operation and maintenance of a wastewater treatment plant

49%

stake of BESIX in the project

60,000 m<sup>3</sup>

PPP will double the processing capacity to 60,000 m<sup>3</sup> per day



In July 2018, BESIX and the Sharjah Investment and Development Authority (Shurooq) formed a joint venture: QATRA. The company was granted a 25-year concession to operate and maintain the Al Saja'a wastewater treatment plant. The initial objective is to double the treatment capacity and to build a water reuse plant, similar to the successful scheme of Safi (Ajman).

Located in Al Saja'a, a 14 million-square-foot industrial zone in Sharjah, the plant receives and treat daily up to 32,000 m<sup>3</sup> of wastewater from 1,500 tankers coming from all over the Emirate.

This environmental thrust of the Emirate of Sharjah originates from the United Nations Sustainable Development Goals (SDGs), more specifically the goal to ensure availability and sustainable management of water and sanitation for all. The Emirate of Sharjah has made this a priority.

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**OLIVIER CRASSON**  
General Manager BESIX Middle East

*“One of QATRA's missions is to extend the plant's processing capacity. By 2021, this will have doubled from 30,000 to 60,000 m<sup>3</sup> of treated water per day. The building work has now started.”*

The second aspect of the joint venture contract is the operation and maintenance of the plant for 25 years. "QATRA is a representative project for BESIX's expertise in the Concessions & Assets business," **Olivier Crasson, General Manager BESIX Middle East, explains.** "It combines technological and environmental innovation with affordable and competitive tariffs. In this way BESIX is contributing to the development of the circular economy, applying its optimised management know-how to ensure the reuse of a strategic resource. It's a project that is at once useful and exciting."



#### **CHRISTOPHE LEDUR**

Director of 'Water & Environment' Activities for BESIX Group

*"BESIX is making available to the project its expertise and management of the complete life cycle of water production and wastewater treatment infrastructures."*

"It covers needs identification, followed by design, engineering and construction, but also, as is the case with QATRA, the operation, maintenance and development of these infrastructures. And with the constant aim of combining economic utility with environmental interest," **Christophe Ledur, Director of BESIX's 'Water & Environment' activities,** explains.



#### **ABOUT SHUROOQ**

Sharjah Investment and Development Authority (Shurooq) is an independent government entity established in 2009 under an Emiri decree by His Highness Sheikh Dr. Sultan bin Muhammad Al Qasimi, Member of the Supreme Council and Ruler of Sharjah, facilitating partnerships and connecting investors with relevant opportunities. Shurooq aims to create authentic destinations that are committed to enhancing the quality of life for citizens and residents, as well as foster an environment where businesses thrive and ideas flourish. Shurooq strives to encourage investment in Sharjah by adopting the best international standards in providing quality services that help attract investors from both the region and the world.



## HIS EXCELLENCY MARWAN BIN JASSIM AL SARKAL, SHUROOQ EXECUTIVE CHAIRMAN

“The mission of Shurooq is to develop premium destinations and leading infrastructural projects that support the emirate’s position as the top global investment destination in the region and the world. Since Shurooq’s inception in 2009, it has transformed a number of its ambitions and plans into concrete developments. This includes several high-end tourist attractions and hospitality destinations, premium real-estate projects as well as unique retail projects, attracting the latest designs and cutting-edge technologies, in addition to unique partnerships that support our objectives of servicing communities and businesses across districts in Sharjah. Such partnerships have also enabled us to deliver advanced solutions that support the current consumer trends in Sharjah, the UAE and the wider region.

One of our priorities is the sustainable development of all our projects, by forging partnerships with a number of private and public entities. This would entail intelligently combining economic and human development, taking into consideration the environmental impacts. The partnership between Shurooq and BESIX, which is a leading energy service provider, explains this logic.

The treatment of wastewater and the optimisation of treatment processes is part of its strategic development in this area and reflects Sharjah’s global position to provide a platform for research and development for a number of resources, commodities, technologies and solutions that improve the daily lives of consumers, citizens and businesses across the Emirate.

This partnership is exclusive to the full and advanced treatment of water, which is considered one of the most important commodities worldwide. It is both economically viable and an environmental imperative.

In terms of expertise, BESIX has developed similar projects elsewhere in the world. The group makes this expertise available to our facilities. Together, we can develop state-of-the-art facilities that meet our economic and environmental goals. BESIX is well known in the Emirates. We know it as a reliable partner. And with respect to our relationships since creating QATRA, new synergies are coming to light that we can develop together. We also value BESIX’s flexibility and its understanding of our interests and expectations.”

### THE EMIRATE OF SHARJAH

Independent and ruled by the Al Qasimi dynasty since 1727, Sharjah is one of the seven emirates of the United Arab Emirates (UAE). Third in size, it occupies a central geographic position and is the only Emirate bordering the other six. It is also the only one with access to both the Arabian Gulf and the Arabian Sea. Since 1972, the Emirate has been ruled by His Highness Sheikh Dr. Sultan bin Muhammad Al Qasimi, Member of the Supreme Council of the United Arab Emirates.



**GURVAN DERSEL**  
General Manager of QATRA

*“There is a vital need to reuse water for non-drinking applications to reduce the demand on borewell and desalinated water. Hence, investments such as these, provide a new sustainable source of water supply for the community. This is the first project under the Shurooq and BESIX alliance and it will be followed by many like it both in the wastewater treatment and water reuse.”*

## Project details

**QATRA**  
EMIRATE OF SHARJAH, UAE

**Client**  
Sharjah Investment and Development Authority (Shurooq)

**Stakeholders**  
BESIX & Sharjah Investment and Development Authority (Shurooq)

**Type of contract**  
DBFM

**Activity and area of expertise**  
Environment / Water

**Maintenance period**  
25 years



**Gotthard Hotel & Residences**  
Andermatt, Switzerland

*Interview*

**A WORLD-CLASS  
REAL ESTATE  
COMPLEX IN  
A DREAM SETTING**



The Gotthard Hotel & Residences, inaugurated on 11 December 2018, is a premier real estate complex, nestling 1,450 metres above sea level in the village of Andermatt in Central Switzerland. It now hosts a 4-star hotel, residential apartments and a concert hall. BESIX is a co-investor and co-developer in the project, with the group and its partner Andermatt Swiss Alps AG holding respectively 49% and 51% of the shares. BESIX also erected all the buildings.

In the canton of Uri, one of the 26 cantons of the Swiss Con-federation, the Northern Alpine passes rise to 3,630 metres. This part of the country offers spectacular landscapes, with alternating glaciers, canyons, steep forests, lakes, torrents and waterfalls. 800 years ago already, people lived in Andermatt, a village still perfectly integrated into this mountainous environment. Leaning against the foothills of the Urseren Valley, surrounded by the Furka, Gotthard, Oberalp and Göschenertal mountain ranges, it presents the traditional architecture of Central Switzerland. "Of all the places I know, this is the dearest and most interesting to me," said German writer and statesman Goethe.

Under two hours from the airports of Zurich, Milan and Basel, ski enthusiasts today find in Andermatt the largest ski resort in Central Switzerland, the Ski Arena Andermatt-Sedrun. In summer, the area is a paradise for hikers, cyclists or golfers, who enjoy access to an 18-hole course laid out to international tournament standards.

The idea of developing tourism in Andermatt comes from Samih Sawiris, Executive Chairman and CEO of Orascom Development Holding AG. During the 2000s, in perfect collaboration and at the request of the Canton authorities, he took on the responsibility of planning and developing the site. The concept is to make the village a refined destination, respecting the local nature and architectural heritage. It was in this context that Andermatt Swiss Alps AG (ASA) was founded, with BESIX Group as co-investor and co-developer of the Gotthard Hotel & Residences complex. Via the company Hotel 4B Development AG, ASA and BESIX hold respectively 51% and 49% of the project.

The Gotthard Hotel & Residences is a mixed project: one of its two parts hosts a 4-star hotel and the second, markets residential apartments, in a real estate development context.

The hotel is today operated under a management contract by Radisson Blu, an international hotel chain. It

offers 179 rooms and 10 suites, in addition to quality services including a wellness centre, restaurant and sports facilities. With the arrival of the snow, the year 2018 was its first opening season, with a promising and more-than-satisfactory occupancy rate for a first winter.

The residential building consists of 113 apartments. As of 31 December 2018, almost half of these had already been sold. Residents, that is apartment owners, have access to all the sports and wellness facilities of the complex, as do also the village's inhabitants.

A third aspect of the complex is an auditorium, to be completed in 2019 and inaugurated by the Berlin Philharmonic Orchestra. In this way, in combination with the hotel infrastructure, the Gotthard Hotel & Residences offers an ideal venue for events such as concerts, conferences or seminars.

### Construction

Already a co-investor and co-developer of the project with its 49% shareholding, BESIX also took charge of the construction work. All the buildings were designed and erected by BESIX, at what has been its first building site in Switzerland. And the least we can write is that it clearly bears the BESIX mark. The structural work was completed in just 13 months, while the finishes and the design match the best in the hotel industry. The buildings also comply with high environmental requirements, with BESIX meeting all the standards of the Minergie label. This guarantees sustainable buildings with an ecological design, including low energy consumption, with electricity and heat generated exclusively from renewable sources.

Finally, the heart of the initial project has of course been respected: the architecture fits perfectly into the cultural heritage of Central Switzerland and respects its building traditions, with most materials sourced within the region.

## JAMES BOND

It is one of James Bond's legendary car chases, in Goldfinger, in 1964. Sean Connery is driving a grey Aston Martin DB5, and actress Tania Mallet a white Ford Mustang, at full speed in a dream mountain setting. Agent 007 wins, after discreetly puncturing his rival's tyre using a gadget of which he has the secret. He then takes her on board the Aston Martin and drops her off at the first garage, the petrol station in ... Andermatt. He even offers to drop her at a hotel, which she refuses. Of course, at the time, the Gotthard Hotel & Residences did not yet exist: today, Tania Mallet would have no reason to refuse James' advances. As for the sumptuous scenery of the chase, it is that of the Furkastrasse, linking Gletsch to Andermatt, and passing over the Furka Pass, which at 2,429 metres above sea level is the fourth highest road pass of the Swiss Alps. Worth discovering (with or without Aston Martin).



## Project details

**GOTTHARD HOTEL & RESIDENCES**  
ANDERMATT, SWITZERLAND

**Activity and area of expertise**  
Concessions & Assets / Contracting

**Stakeholders**  
Andermatt Swiss Alps AG,  
Hotel 4B Development AG, BESIX Group



## BESIX Park

In June 2018, BESIX Group sold its subsidiary BESIX Park to INDIGO, world leader in parking service operations and one of the largest parking operators in Europe.

Over the past years, BESIX Park had experienced strong growth and up until this period, it was operating more than 49,000 parking spaces in the country, among which some 20 above-ground and underground parking facilities and above-ground paid parking in some 40 cities.

In order to sustain this kind of growth, BESIX Park needed the support of a sizeable player who specialises in parking solutions. For that reason, BESIX Group deliberately chose a buyer with strong ambitions and the expertise required in order to guarantee the necessary continuity for both its personnel and clients.

At the time of the transaction, INDIGO was managing 80 contracts in 35 cities and employing 250 people in Belgium. The company had been present in Belgium for 25 years. During this time, it had continued to grow and strengthen its position in the market, causing its activities to quadruple in the last decennium. The acquisition of BESIX Park reinforces INDIGO's development strategy as the fastest growing company in the Belgian parking services market.

"We proudly look back on how far BESIX Park and its teams have come over the past years. This is a company that is clearly ready for the next step: partnering up with INDIGO ensures that BESIX Park will be better equipped for even more success and growth in the future," said Rik Vandenberghe, CEO of BESIX Group, at the time of the transaction.



## Cofely-BESIX Facility Management

In November 2018, BESIX has signed an agreement to sell the 50% share that BESIX held in Cofely-BESIX Facility Management to ENGIE.



Born as a partnership between ENGIE and BESIX in 2008, Cofely-BESIX Facility Management (CBFM) grew into a regional success story in integrated Facility Management Services for numerous landmark sites in the United Arab Emirates, including Dubai Mall & Fountains and Abu Dhabi's Yas Island, as well as in Qatar (with its partner Mannai) and Oman (with its partner Daud).

Tom Neyrinck, General Manager Concessions & Assets at BESIX Group: "We are very proud of the journey that CBFM has achieved so far under the joint stewardship of ENGIE and BESIX. The company has grown into a mature player, delivering a broad range of facility management services to the utmost satisfaction of its expanding customer basis in the Emirates and Qatar with a skilled work-

force of approximately 2,000 dedicated employees. The sale of our participation is driven by the belief that CBFM can now best further develop itself as a wholly owned affiliate of ENGIE. It goes without saying that we look forward to maintaining strong professional ties in the region with ENGIE."

ENGIE and BESIX agreed that their shared success story in CBFM has demonstrated the strength of their decade-long partnership in the Gulf, and will continue to explore regional opportunities to join forces for sustained success. BESIX Concessions & Assets now concentrates on the further development of its expanding portfolio of water and waste treatment activities in the Emirates, and other potential new ventures.

## Hotel industry

The summer of 2018 has seen the opening of the five-star The Chedi Hotel and the first of two marinas in the seaside resort Luštica Bay in Montenegro. As the main contractor and the co-owner of The Chedi Hotel (50% owned by BESIX, 50% owned by Luštica Development), BESIX made sure that the work was done professionally and with impeccable expertise, all the while respecting the cultural heritage and natural surroundings of the beautiful bay.



In December 2018, BESIX and its partner, Andermatt Swiss Alps AG have inaugurated the Gotthard Hotel & Residences, a world-class real estate complex located in the mountain village of Andermatt, in Central Switzerland. The Gotthard Hotel & Residences comprises a 4-star hotel operated by Radisson Blu and a residential building. BESIX, who has a 49% stake in the project, delivered the construction works for this Design & Build project that meet the most demanding requirements in terms of environmental compliance.

In Brussels (Belgium), BESIX also has a 50% share in the Courtyard by Marriott Hotel and a 29% stake in the Sheraton Hotel in Poznan (Poland).





# ▶ DIVERSIFICATION

BEST SIX  
ACTIVITIES



# BESIX STAY

**B**ESIX STAY aims to transform the market of short- mid- and long-term stays through the development of a new millennial brand, A-STAY. A-STAY will act as a home away from home for thousands of guests in dozens of identified key cities. The concept leverages the use of new technologies such as IoT, biometric recognition and extensive software algorithms to deliver added value at a low price point.

The 7,000 planned standardised rooms are going to be equipped with all the possible personalisation options: not only does the lighting and entertainment system change to fit the mood of the guest, but she or he can also personalise the way A-STAY will bill her or him. The A-STAY experience is modular in the way that a guest will have the liberty to request as many clean-ups or sheet changes she or he wants, which will directly affect the price.

*“Our goal is to leverage on the embedded know-how of BESIX Group and to apply the newest technologies available in the real estate industry. We will leverage on the efforts of Unleash and look forward to the opening this year of the first A-STAY in Antwerp. Our team is ready to unfold the city.”*

The brand will be launched onto the market in 2019, with the grand opening of the first location just outside the central train station in Antwerp, Belgium. This amazing start will be followed by two other confirmed openings in Diegem, Brussels and Chisinau, Moldova. BESIX STAY commits to develop and open 35 to 40 new properties in the next five years.

 | [www.a-stay.be](http://www.a-stay.be)





A-STAY DIEGEM | BRUSSELS, BELGIUM

## Flagship project

### A-STAY DIEGEM

The A-STAY site in Diegem is the most ambitious project which started in 2018. Pending permit approval, the development would comprise almost 20,000 m<sup>2</sup> offices, retail spaces, A-STAY rooms and expat flats. The location next to the new NATO building and the new Diegem railway station will result in a large number of expats and temporary workers staying in the area.

With the planned development, A-STAY is aiming to start a new community in which people will be happy to live and work, often far away from their homes in other countries. In addition to the 200 A-STAY rooms, there would also be another 120 expat flats in the building behind.

This project is not only extremely ambitious but also very important for the company as it will host the offices of BESIX STAY. In the course of the year 2019, BESIX STAY will move to Diegem and continue its story in a brand new modern office.



A-STAY | ANTWERP, BELGIUM

## 2018 NEW CONTRACTS

### A-STAY Antwerp | Antwerp, Belgium

Located on the Pelikaan site next to Antwerp Central Station, this project with 192 rooms will at once present A-STAY to the European markets and contribute to the revival of a part of the city.

### A-STAY Diegem | Brussels, Belgium

Located next to the brand-new NATO building in Diegem, this project will include not only an A-STAY location but also small shops and a restaurant, giving the area a new character and community feel. This site will also house the offices of BESIX STAY.

### A-STAY Chisinau | Chisinau, Moldova

Right in the centre of the lively capital of Moldova, an old classical building will be converted into a modern A-STAY location with 174 rooms. Elements of the old building will be retained to preserve a timeless character.



# FLAMANT DESIGN

The company was started by Alex Flamant in 1987 with the idea of reproducing antique furniture. He searched for and found craftsmen who made beautiful products with old craft techniques and the best materials as in the past. In this way the 'Flamant concept' was created. This consists of reissuing and reinterpreting unique and iconic antique furniture and decorative interior objects. These objects are then offered for sale to the end user in beautifully decorated shops. Today Flamant has become a lifestyle brand, the 'ultimate shelter for our hectic lives'.

Flamant creates a unique home feeling where you can be at one with yourself, your family and friends. Natural and recycled materials are processed into unique pieces of furniture and accessories, resulting in 'the Beauty of Imperfection'.



 | [www.flamant.com](http://www.flamant.com)





## 2018 NEW CONTRACTS

Given the precarious situation of the acquired business, a lot of energy and (financial) resources were spent in the first months on restarting the activities. Regaining the trust of customers, suppliers and employees has been a full-time activity for management. The Flamant e-shop was reactivated in January 2019.

The redesign of the stores and showroom in Geraardsbergen, together with the well-stocked racks in the warehouse, were a determining factor in renewing customers' and employees' enthusiasm and belief in the brand and concept.

Financial and management support from the new shareholders was and is crucial for the (re)development and expansion of this new member of BESIX Group.



Following judicial reorganization, on 25 May 2018, the assets of the Flamant group were taken over by Mr Johan Beerlandt and BESIX Group. This acquisition included the brand name, five stores in Belgium and one in Paris, the warehouse and the offices in Geraardsbergen, as well as all 83 employees. In addition to the administrative and legal settlement of the acquisition, management had to work on a number of priority issues.

With a lack of new products for several months, a new collection had to be launched. At the same time, new logistics processes were introduced in Geraardsbergen. Previously, these had been managed from a subsidiary in Poland.

From October 2018, the company's own stores and showroom could be restocked and redecorated. Work was also done to restore confidence among wholesale customers. The availability of stock proved to be crucial in this segment. For this reason, the 10,000 m<sup>2</sup> warehouse in Geraardsbergen was equipped with new high racks, enabling ordered stock to be stored and delivered smartly.



# LN24

LN24 is Belgium's first 24/7 news network. Founded in 2018 by Martin Buxant, Joan Condijs and Boris Portnoy, all experts from the Belgian media world, it has a digital platform (site and application) and is present on several social networks (Facebook, Instagram, LinkedIn and Twitter). LN24 covers political and economic news, both in their national and international aspects, decodes social movements and embraces sporting and cultural events. LN24 verifies the information it publishes and offers a positive approach to news. The studios and editorial offices of LN24 are based in Brussels.

The media market is constantly evolving. Or rather, it underwent a revolution for twenty years with the arrival of internet, smartphones and social networks. Today, information is consumed everywhere and all the time. That is why LN24 is available everywhere and all the time, on television, in the office, on smartphone as on tablet.

LN24 is an innovation on the Belgian market. If there are many news channels in the world, Belgium does not have its own. LN24 will also present a constructive and positive approach to information.

 | [www.ln24.be](http://www.ln24.be)





## 2018 - 2019

LN24 was founded in October 2018 with the support of several important Belgian investors. BESIX is one of the two largest contributors. LN24 will begin broadcasting on September 2, 2019 at 8 pm sharp.

In March 2019, LN24 also introduced a file to the Belgian authorities to obtain an FM radio frequency and aims to be the first continuous news radio channel on the Belgian market.

**RIK VANDENBERGHE**  
CEO of BESIX Group

*“It was LN24's entrepreneurial approach and the professionalism of its creators that attracted us in particular.*

*In addition to these aspects, which lend credibility to the project, it is also the values LN24 advocates that convinced us.*

*These are the same as those that guide BESIX on a daily basis: addressing the challenges facing our country in a positive and solutions-oriented way.*

*This desire to undertake positive, constructive journalism charmed us from the very first contacts.”*







A blurred background image of two men in business attire. The man on the left is wearing a blue button-down shirt and has short blonde hair. The man on the right is wearing a light purple shirt and has dark hair and a beard. They appear to be in a professional setting, possibly a meeting or presentation.

# BESIX FINANCE

*Message from  
the CFO of BESIX Group*

**THE GOOD  
RESULTS  
OF THE LAST  
TWO YEARS  
CONTINUED  
IN 2018**



Although 2018 wasn't the third consecutive record year, it came close. A strong performance, since provisions were made based on the principle of prudence. BESIX Group achieved consolidated revenues of €2,542 million. The consolidated net result stood at €95.3 million.

BESIX Group reported a consolidated net cash position of €135.7 million. Its solvency ratio stood at 26%, which is above the minimum standards for the sector.

In October 2018, BESIX Group launched an unconditional takeover bid for the remaining shares of Australian construction company Watpac, in which it already held a 28.11% stake. Following its successful completion, on 3 December 2018, the group owned around 92% of the shares. In accordance with the Australian Corporations Act 2001, BESIX Group then acquired the remaining Watpac shares.

Since the acquisition took place at the end of 2018, no result for Watpac is recorded in the figures for 2018. However, its assets and liabilities have been integrated into the closing balance sheet, increasing the group balance sheet total.

In addition, BESIX Group acquired stakes of 51% in the A-Star Group (renamed BESIX Stay), 50% in Flamant and 33% in Les News 24. Via its subsidiaries, BESIX acquired interests in several companies: Van den Berg took over Uniconnect (100%), Jacques Delens acquired Corebat (100%), Vanhout took over De Bie-Veba (100%).

Some divestments also occurred in 2018. BESIX Group sold 75% of its interest in subsidiary BESIX Park to INDIGO, a world leader in parking management. It also sold its 50% stake in Cofely BESIX Facility Management (CBFM) to ENGIE.

2018 was a very strong year for sales as well. This translated into a record order book of €4.8 billion at the start of 2019, representing a €1.7 billion increase year on year (including €1 billion from the acquisition of Watpac).

## Performance by activity and business unit

### Contracting

BESIX Group's Contracting business generated revenues of €2,395 million and a net result of €14.1 million.

2018 was a solid year for the Middle East with revenues of €771.5 million and a net result of €44.3 million. The group was involved in new and interesting projects in Oman and Bahrain and continued several large-scale projects in Dubai.

The contracting activities of the European and International business units achieved revenues of €562.6 million, but with a negative net result. This was due to the decision to make provisions as a precaution and to file claims for recovery from third parties which are not yet recorded in the result.

The regional entities performed very well, generating revenues of €1,060.9 million and a net result of €13.5 million. An exception to this was Franki Foundations, which also filed recoverable claims against third parties as a precaution, but has not yet included these in its result.

The decision to make provisions and file recoverable claims for a number of challenging projects reflects a proactive approach as part of sound risk management. This safeguards the company's long-term financial health.

### Real Estate Development

BESIX Real Estate Development, the Group's real estate division, had another record year in 2018, with revenues of €156.9 million, a profit of €18.9 million and a ROE of 21.7%.

BESIX RED continued to expand at a rapid pace in 2018, through geographical and sector diversification. This strategy was based on a focus on innovation and the development of synergies with various other BESIX Group entities.

**JAN GESQUIÈRE**  
CFO of BESIX Group

*“The decision to make provisions and file recoverable claims for a number of challenging projects reflects a proactive approach as part of sound risk management. This safeguards the company's long-term financial health.”*

## Balance Sheet

The balance sheet total stood at €2.7 billion in 2018, representing a rise of €321 million year on year, partly explained by the integration of Watpac (€244 million). Non-current assets increased by €43 million and current assets by €237 million, mainly as a consequence of a series of acquisitions. Current liabilities increased due to the integration of Watpac and the financing of this acquisition.

Progress continues to be made in securing the group necessary funding requirements for the coming years. In 2018, two new short-term facilities of €50 million and €30 million were finalized and the Commercial Paper programme was increased from €50 million to €100 million.

## Net Cash Evolution

BESIX Group's consolidated net cash position stood at €135.7 million at the end of 2018, compared to €34.1 million the previous year.

This significant increase is mainly attributable to the positive difference between income from operating cash flow, the sale of BESIX Park, the integration of Watpac's cash and dividends received from associated companies and, on the other hand, expenditure on current investments, acquisitions (including Watpac and support for associated companies) and dividends paid.

Thanks to these advantages and 30 years' experience in complex and large-scale projects, BESIX RED was able to develop strong public and private partnerships and respond to market cycles and client requirements. The company has successfully developed solutions matching people's highest expectations and changing requirements regarding their living and working environments.

### Concessions & Assets

Concessions & Assets were profitable once again, with a net result of €18.9 million, and a very strong, sustainable performance in Europe and in the Middle East.

In Europe, BESIX Concessions & Assets expanded its highly successful portfolio of DBFM (Design, Build, Finance & Maintain) projects in the Netherlands.

2018 also saw the grand opening of two hotels – one in Luštica Bay (Montenegro) and one in Andermatt (Switzerland) – co-developed and co-owned by BESIX Group. In June, the business unit also acquired a 51% stake in BESIX STAY. This company develops and operates a new kind of city hotel for short and medium stays under the commercial brand A-STAY.

In the Middle East, where BESIX Concessions & Assets has already been actively involved in municipal water treatment projects for a long time, the focus shifted towards areas such as Waste-to-Energy.

# CONSOLIDATED BALANCE SHEET

(in EUR '000)	31 Dec. 2018	31 Dec. 2017
<b>ASSETS</b>		
<b>NON-CURRENT ASSETS</b>	<b>580,173</b>	<b>496,653</b>
Intangible assets	38,308	35,569
Goodwill	53,211	12,715
Tangible assets	236,745	237,032
Investments in associates	96,932	100,006
Receivables	121,485	94,130
Other assets	14,274	14,058
Deferred income tax assets	19,218	3,143
<b>CURRENT ASSETS</b>	<b>2,102,881</b>	<b>1,865,331</b>
Inventories	29,241	27,061
Construction contracts in progress	108,973	77,698
Real estate held for sale	229,099	217,330
Trade receivables	893,570	907,621
Other receivables and other assets	253,830	275,086
Cash and cash equivalents	588,168	360,535
<b>TOTAL ASSETS</b>	<b>2,683,054</b>	<b>2,361,984</b>
<b>EQUITY AND LIABILITIES</b>		
<b>EQUITY</b>		
<b>SHAREHOLDERS EQUITY</b>	<b>695,132</b>	<b>660,395</b>
Capital	32,000	32,000
Retained earnings	656,018	635,225
Hedge reserves	-10,913	-13,938
Translation differences	18,027	7,108
<b>MINORITY INTEREST</b>	<b>1,204</b>	<b>2,970</b>
<b>TOTAL EQUITY</b>	<b>696,336</b>	<b>663,365</b>
<b>LIABILITIES</b>		
<b>NON-CURRENT LIABILITIES</b>	<b>371,578</b>	<b>387,156</b>
Borrowings	230,060	244,192
Provisions	72,163	75,258
Other liabilities	50,003	45,692
Deferred income tax liabilities	19,352	22,014
<b>CURRENT LIABILITIES</b>	<b>1,615,140</b>	<b>1,311,463</b>
Borrowings and bank overdraft	222,396	82,224
Trade payables	903,573	721,342
Advances received on contracts	117,640	162,647
Billing in excess on construction contracts	136,783	151,050
Current income taxes payable	18,019	20,182
Provisions	46,363	24,877
Other liabilities	170,366	149,141
<b>TOTAL EQUITY AND LIABILITIES</b>	<b>2,683,054</b>	<b>2,361,984</b>

# CONSOLIDATED INCOME STATEMENT

(in EUR '000)	2018	2017
<b>CONSOLIDATED INCOME STATEMENT</b>		
<b>SALES</b>	<b>2,542,129</b>	<b>2,337,044</b>
<b>COST OF SALES</b>	<b>-2,316,221</b>	<b>-2,084,547</b>
of which depreciation	-42,283	-38,617
of which provisions	-9,428	7,890
<b>GROSS PROFIT</b>	<b>225,908</b>	<b>252,497</b>
<b>GENERAL &amp; ADMINISTRATIVE EXPENSES</b>	<b>-191,862</b>	<b>-177,753</b>
of which depreciation	-5,501	-4,894
of which provisions	3,245	-3,746
<b>OTHER INCOME / EXPENSES</b>	<b>49,618</b>	<b>4,201</b>
<b>OPERATING PROFIT</b>	<b>83,664</b>	<b>78,945</b>
Financial income	11,498	25,697
Financial charges	-11,854	-16,092
Results from associates	19,882	26,955
<b>PROFIT BEFORE INCOME TAXES</b>	<b>103,190</b>	<b>115,505</b>
<b>INCOME TAX EXPENSE</b>	<b>-7,405</b>	<b>-12,466</b>
of which current taxes	-18,293	-17,921
of which deferred taxes	10,888	5,455
<b>CONSOLIDATED PROFIT</b>	<b>95,785</b>	<b>103,039</b>
Minority interest	-487	-481
<b>GROUP CONSOLIDATED PROFIT</b>	<b>95,298</b>	<b>102,558</b>
Earnings per share – basic (in EUR)	33.65	36.21
Earnings per share – diluted (in EUR)	33.65	36.21
<b>CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME</b>		
<b>PROFIT FOR THE YEAR</b>	<b>95,298</b>	<b>102,558</b>
<b>OTHER COMPREHENSIVE INCOME</b>		
Cash flow hedges	2,944	4,019
Fair market value - available for sale	0	0
Actuarial impact provision for employee benefits	497	-1,433
Currency translation differences	11,181	-47,769
<b>Other comprehensive income for the year, net of tax</b>	<b>14,622</b>	<b>-45,183</b>
<b>ATTRIBUTABLE TO</b>		
Owners of the parent	109,918	57,372
Minority interest	0	0
<b>TOTAL COMPREHENSIVE INCOME FOR THE YEAR, NET OF TAXES</b>	<b>109,918</b>	<b>57,372</b>

# CONSOLIDATED CASH FLOW STATEMENT

(in EUR '000)	2018	2017
Operating result	83,664	78,945
Adjustments for:		
Depreciation	47,784	43,511
Result on disposal of (in)tangible assets	-3,935	-4,411
Result on disposal of other long term assets	0	0
Result on disposal of investment in associates	-16,771	0
Provisions	6,184	-4,144
Allowances	302	614
<b>OPERATING CASH FLOW BEFORE CHANGES IN WORKING CAPITAL</b>	<b>117,228</b>	<b>114,515</b>
Income taxes paid (net)	-11,283	-14,517
Changes in working capital	-7,854	-40,718
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>	<b>98,091</b>	<b>59,280</b>
<b>TRANSLATION DIFFERENCE CASH AND CASH EQUIVALENTS FOR ENTITIES REPORTING IN FOREIGN CURRENCY</b>	<b>2,267</b>	<b>-29,606</b>
Purchase of intangible assets	-6,604	-3,416
Purchase of tangible assets	-54,970	-55,588
Purchase of other long term assets	-106	-2,416
Acquisition and capital increase / (decrease) investment in associates	-19,797	-5,417
Proceeds from sale of intangible assets	3	0
Proceeds from sale of tangible assets	10,457	8,513
Proceeds from sale of other long term assets	19	28
Proceeds from sale of investment in associates	46,044	5
Dividends received from investment in associates	21,120	27,189
Change in consolidation scope	93,084	-58,282
<b>NET CASH FROM INVESTING ACTIVITIES</b>	<b>89,250</b>	<b>-89,384</b>
<b>CASH FLOW FROM FINANCING ACTIVITIES</b>		
Proceeds / (repayments) of borrowings	136,844	38,405
(Proceeds) / repayments of long term receivables	-20,518	-16,128
Interest paid (net)	-3,061	-1,963
Fair Market Value - Cash and Cash equivalent	0	0
Change in consolidation methods	0	180
Dividends paid to Group shareholders	-75,000	-50,000
Dividends paid to minority interests	-240	-240
<b>NET CASH FROM FINANCING ACTIVITIES</b>	<b>38,025</b>	<b>-29,746</b>
<b>(DECREASE)/INCREASE IN CASH &amp; CASH EQUIVALENTS</b>	<b>227,633</b>	<b>-89,456</b>
<b>MOVEMENTS IN CASH &amp; CASH EQUIVALENTS</b>		
Cash at beginning of the year	360,535	449,991
(Decrease)/Increase	227,633	-89,456
Cash at the end of the year	588,168	360,535

# STATUTORY AUDITOR'S REPORT

TO THE GENERAL SHAREHOLDERS' MEETING OF BESIX GROUP NV  
ON THE CONSOLIDATED FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2018

In the context of our statutory audit of the consolidated financial statements of Besix Group NV (the 'Company') and its subsidiaries (jointly 'the Group'), we hereby submit our statutory audit report to you. This report includes our report on the consolidated financial statements, as well as other legal and regulatory requirements. The whole is integrated and is indivisible.

We were appointed as statutory auditor by the general meeting of June 8th, 2018, following the proposal formulated by the board of directors. Our mandate will expire on the date of the general meeting which will deliberate on the consolidated financial statements prepared on 31 December 2020. We have been in place since at least 12 years.

## Report on the consolidated financial statements

### Unqualified opinion

We have performed the statutory audit of the Group's consolidated financial statements, which comprise the consolidated balance sheet as at 31 December 2018, the consolidated income statement, the consolidated statement of comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies, and other explanatory information, and which is characterised by a consolidated balance sheet total of KEUR 2.683.054 and for which consolidated income statement and other comprehensive income shows a profit for the year of KEUR 95.785.

In our opinion, the consolidated financial statements give a true and fair view of the group's net equity and consolidated financial position as at 31 December 2018 and of its consolidated financial performance and its consolidated cash flows for the year then ended, in accordance with International Financial Reporting Standards ('IFRS') as adopted by the European Union and with the legal and regulatory requirements applicable in Belgium.

### Basis for unqualified opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) as applicable in Belgium. Our responsibilities under those standards are further described in the Statutory auditor's responsibilities for the audit of the consolidated financial statements section of our report. We have fulfilled our ethical responsibilities in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Belgium, including the requirements related to independence.

We have obtained from the board of directors and Company officials the explanations and information necessary for performing our audit.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Responsibilities of the board of directors for the preparation of consolidated financial statements

The board of directors is responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards as adopted by the European Union and with the legal and regulatory requirements applicable in Belgium, and for such internal control as the board of directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the board of directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the board of directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

## Statutory auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

For the execution of our control, we respect the legal, regulatory and normative framework applicable to the audit of consolidated financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the board of directors.
- Conclude on the appropriateness of the board of directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our statutory auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the

audit evidence obtained up to the date of our statutory auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient and appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the board of directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

## Other legal and regulatory requirements

### Responsibilities of the board of directors

The board of directors is responsible for the preparation and the content of the director's report on the consolidated financial statements and the other information included in the annual report.

### Statutory auditor's responsibilities

In the context of our mandate and in accordance with the Belgian standard (Revised) which is complementary to the International Standards on Auditing (ISAs) as applicable in Belgium, our responsibility is to verify, in all material respects, the directors' report on the consolidated financial statements and the other information included in the annual report, and to report on these matters.



### **Aspects related to the directors' report on the consolidated financial statements and to other information included in the annual report**

After having performed specific procedures in relation to the directors' report on the consolidated financial statements and the other information included in the annual report, we are of the opinion that this report is consistent with the consolidated financial statements for the year under audit and is prepared in accordance with the article 119 of the Companies' Code.

In the context of our audit of the consolidated financial statements, we are also responsible for considering, in particular based on the knowledge acquired resulting from the audit, whether the directors' report on the consolidated financial statements and the other information included in the annual report on the consolidated financial statements is materially misstated or contains information which is inadequately disclosed or otherwise misleading. In light of the procedures we have performed, there are no material misstatements we have to report to you.

### **Statement related to independence**

Our audit firm and our network did not perform any assignments that are incompatible with the legal audit of the financial statements, and our audit firm remained independent of the company during the course of our mandate.

The fees for additional services which are compatible with the statutory audit of the consolidated financial statements referred to in article 134 of the Companies' Code are correctly disclosed and itemized in the notes to the consolidated financial statements.

Antwerp, May 15, 2019

Mazars Bedrijfsrevisoren - Réviseurs d'Entreprises SCRL  
Statutory auditor  
Represented by

Anton Nuttens  
Registered auditor

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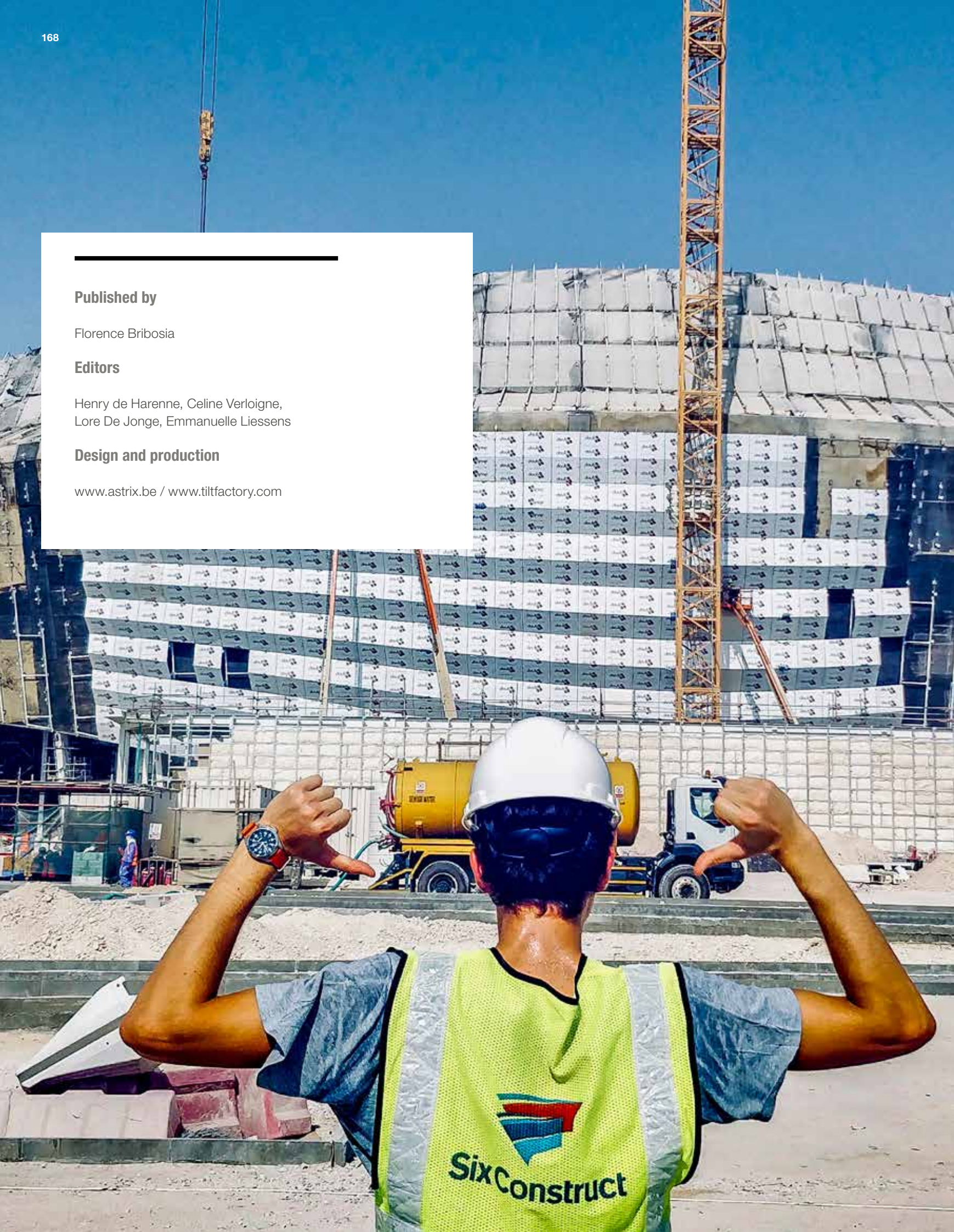
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