



Doing business in the Middle East for Korean Contractors : lessons learned from a European Contractor



Main Topics

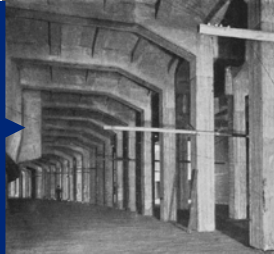
1. Short presentation of BESIX
2. BESIX past experiences with South Korean Contractors
3. BESIX approach for a successful project
4. The specifics of the MENA markets
5. Recommendations for South Korean contractors in MENA markets

1. Short presentation of BESIX

Empowered by our legacy of over 100 years Created in 1909

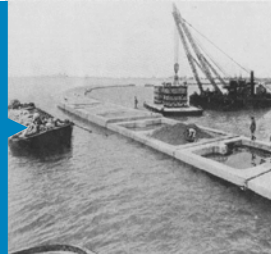
1911

Rue Courbe in Brussels
(today Rue Ravenstein)
first large reinforced
concrete works



1925

Port of Valencia, Spain,
marine works in open
sea



1958

Central Bank in
Luluabourg, building
works in Africa



1965

Abu Dhabi 'Corniche',
first Middle East contract



1978

The Zeebrugge
Inner and Outer Harbour



1991

Sheremetyevo Novotel
in Moscow, first activity
in Eastern Europe



2010

Burj Khalifa Tower, the
world's tallest building



2011

Wheatstone Breakwater
& Marine Offloading
Facility,
first Australian project



2016

Roskilde Fjord Link,
Denmark,
first Scandinavian project



Empowered by our legacy

A new era for BESIX

2004

Leverage Management
Buy-Out
Launch of new Corporate ID



2009

BESIX celebrates 100 years of
expertise



2010

Inauguration of the
Burj Khalifa,
the world's tallest building

828 meters



Empowered by our legacy

The road to diversification

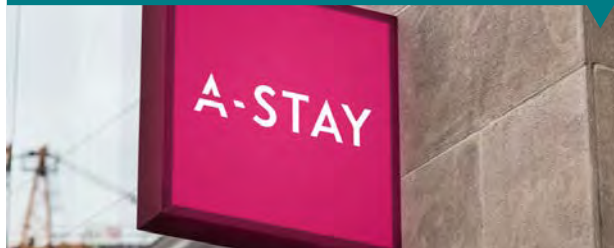
2018

Waste-to-Energy contract awarded to BESIX (Dubai)



2018

Launch of BESIX STAY, an innovative concept for short-stay urban housing



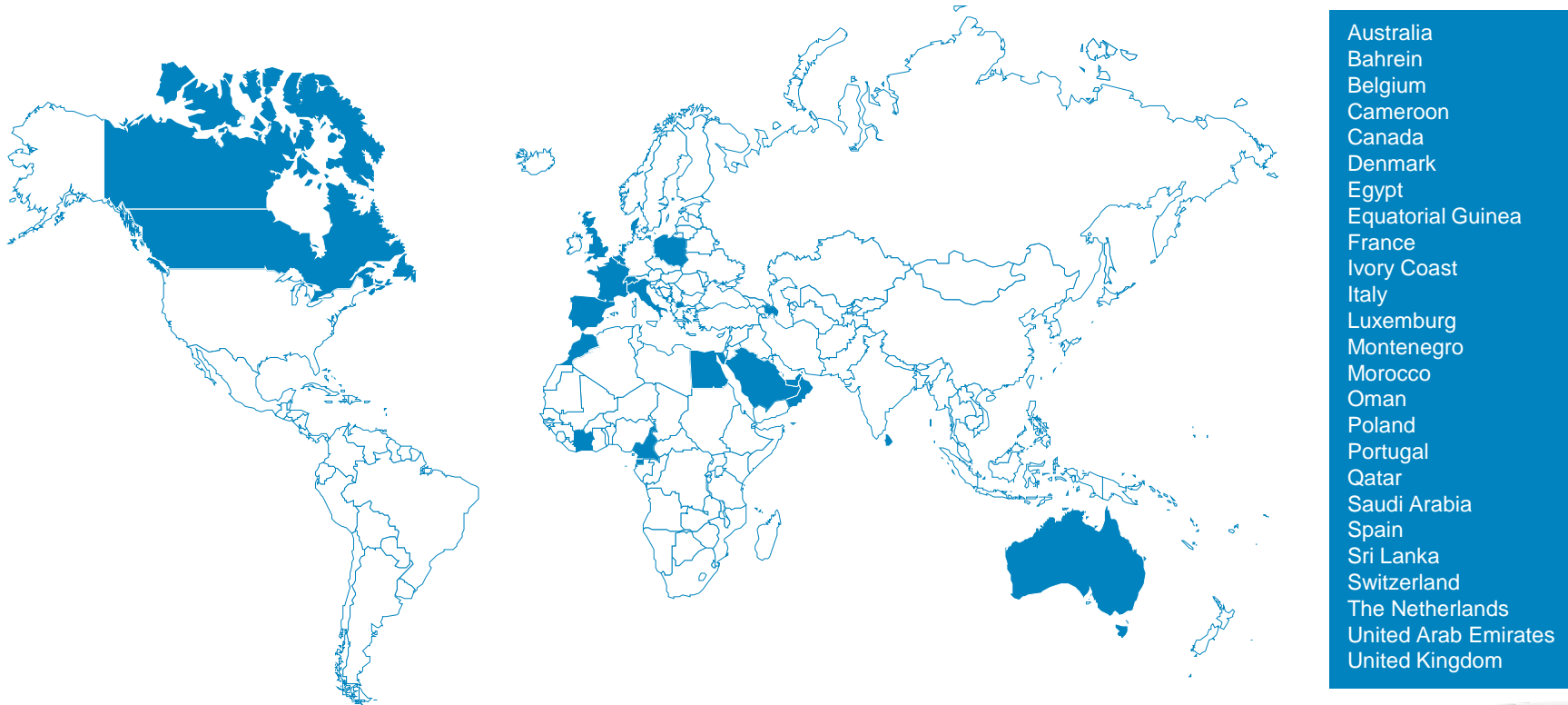
2018

Acquisition Australian contractor Watpac



A strategy of diversification

Our geographical spread reinforce our service offerings and mitigate risk



A strategy of diversification

Our large activity scope reinforce our service offerings and mitigate risk

1

CONCESSIONS
& ASSETS

2

REAL ESTATE

3

CONTRACTING



BUILDINGS



MARINE WORKS



INFRASTRUCTURE



INDUSTRY



ENVIRONMENT



SPORTS & LEISURE



N°1
in Belgium



N°69
TOP 250
International
Contractors



65%
activities abroad



25 countries



+95 years
international activity



+55 years
experience
in the Middle East



**Privately
Owned**
50% MIC with casting vote
50% OC



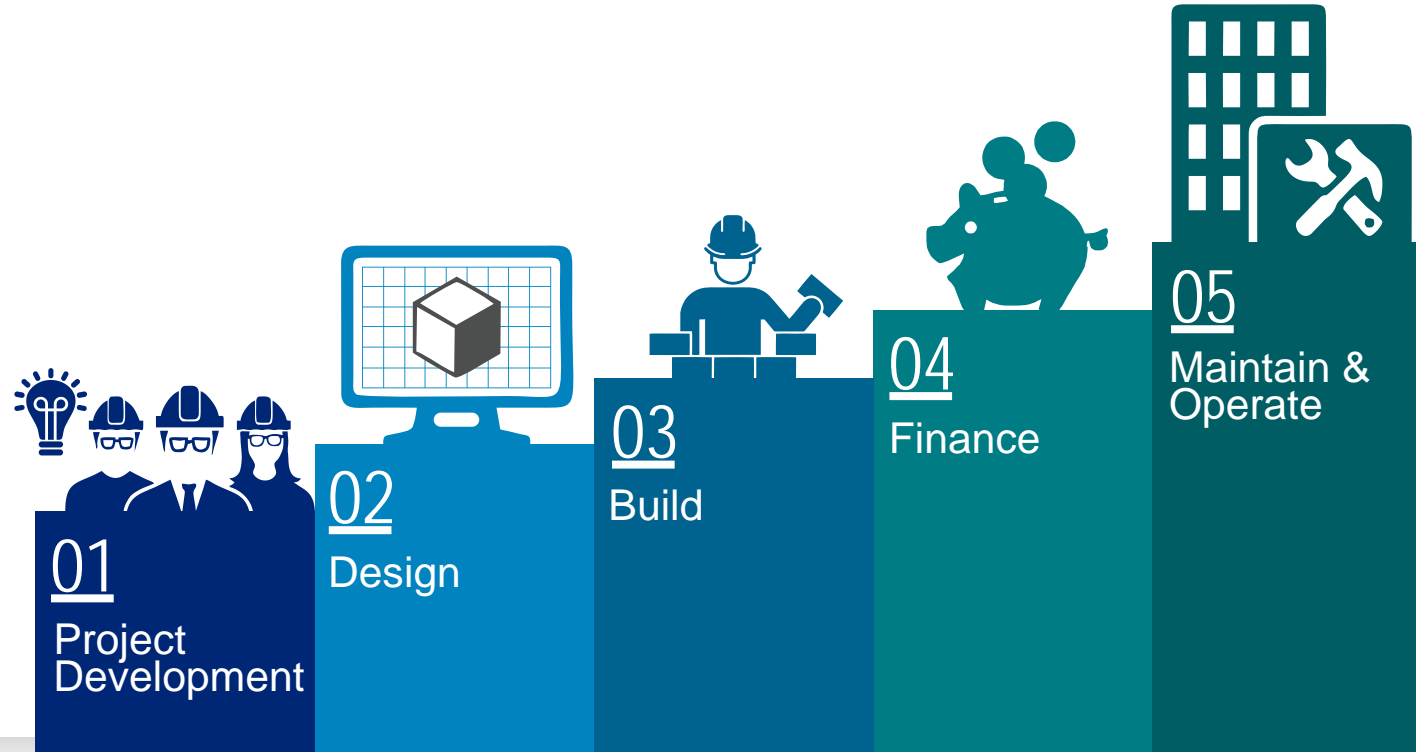
+4,500
white collars



+10,000
blue collars

Full Life Cycle Asset Management

Expertise - Integration



Fully equipped for the job



Tower Cranes & Mobile Cranes



Crawler Cranes
70 ton up
to 400 ton



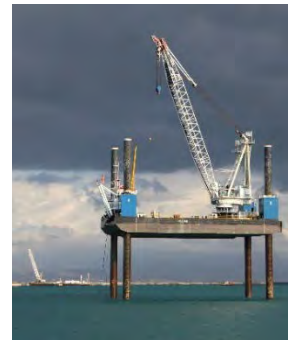
Concrete Batching Plants
including Chillers,
Ice Plant, etc.



Excavation Plant:
Excavators, Wheel
Loaders, Trucks,
Graders, etc.



All types of Small Tools
including
Generators,
Compressors, etc.



Marine:
Jack-up barges,
Tugs, Split Barge,
Speed Boat,...

Value of equipment
in excess of



€ 315 million

Safety: always on our mind



SAFETY AWARENESS
is a key performance indicator

- The **Toolbox** meeting
- **Life Saving** Rules
- **Safety** Time Out
- **High Standard** Procedures

Our **10**
Life Saving
Rules



Building Corporate Social Responsibility

Assisting our customers to obtain environmental certificates



Green
building



Biodiversity



Carbon
footprint



Waste
management



**Post X offices,
Antwerp**
(Passive buildings)



**'Docks Bruxsel'
shopping center,
Brussels**
(BREEAM very good)



**EDF Lab Center,
Paris**
(HQE - BREEAM
Excellent)



Mall of Egypt, Cairo
(LEED Gold)



**Yas Mall,
Abu Dhabi**
(Estidama)



BUILDINGS

Thursday, August 29, 2019



Concourse A, B and Terminal Building

Brussels - Belgium



1999 - 2002



Build - 221,9 million euro



Concourse A: 3-storey building, 650 m long and 30 m wide, for handling passengers departures and arrivals (Concourse A - 31 gates)

Concourse B: a 5-storey terminal building, 140 m long and 90 m wide, connected to Concourse A

A tunnel: 400 m long and 50 m wide, to connect the terminal building with the terminal at Concourse B.



Brussels International Airport Company



Group 2000 (Bontinck, Jaspers, Montois, Van Campenhout, Willox)



Renovation of the Atomium

Brussels - Belgium



2004 - 2005



Build - 19 million euro



Renovation and refurbishment of the steel structure including stainless steel with self-cleaning properties when raining. Complex replacement of the cladding and glass surfaces of the spheres and linking tubes, especially in bad weather. Installation of exterior and interior lighting, fire protection and detection, sanitary installations and other amenities.



A.S.B.L. Atomium



Amb-Group & Geocal



Grand Egyptian Museum

Cairo - Egypt



2012 - 2017



Build - 810 million euro



Construction of the new building to house the state Egyptian artefacts as replacement of the actual Cairo Museum.

The project is located over the Pyramids' plateau of the Giza pyramids and it will include exhibition galleries, a conservation center, a conference center as well as landscaping and commercial retail and restaurants and adjacent buildings.



The Ministry of State for Antiquities



Henegan Peng Architects



Mall Of Egypt

Cairo - Egypt



2011 - 2016



Build - 400 million euro



The Mall of Egypt will be the dominant super regional mall serving the western half of the greater Cairo metropolis.

The shopping mall, built on 399 400 m² of land, will include 380 shops, a Carrefour hypermarket, a 17 screen cinema complex, an open air plaza, an amusement park and an indoor ski resort.



Majid Al Futtaim Group



Tarek Beshir



Doha International Airport – Passenger Terminal

Doha - Qatar



2010 - 2013



Build - 593 million euro



Construction of north node and concourse D and E in the passenger terminal complex with a total building gross area of 128,000m².



New Doha International Airport Steering Committee



HOK



Qatar National Convention Centre

Doha - Qatar



2009 - 2011



Build - 373,8 million euro



The expansion of the Qatar National Convention Centre includes

- 7 large exhibition spaces totalling 35,000 m²;
- 44 meeting rooms;
- 7 guest suites with the latest audiovisual technology.

LEED Gold certified



Qatar Foundation



Yamasaki | Burns & Mc Donnells | KEO



Emirates Palace

Abu Dhabi - United Arab Emirates



2002 - 2004



Build - 110,8 million euro



Construction of a building with 10 storeys, a conference hall, 16 Ruler's suites of 1175m² each, arcades, offices, domes and skylights.

Construction of marina consisted of the dredging of the marina area and beach accommodation as well as the construction of a quay wall, pontoons and breakwater.



Conference Palace Hotel Executive Committee



KEO



Sheikh Zayed Grand Mosque

Abu Dhabi - United Arab Emirates



2004 - 2007



Build - 274 million euro



Final completion of the existing concrete structure, all architectural exterior and interior decoration, building services, arcades marble fixings and associated external works.



Emirate of Abu Dhabi



Halcrow - ch2m





HIGH-RISE BUILDINGS

Thursday, August 29, 2019



Constructing the World's Highest Tower



Duration: **59 months**
(01/02/2005 - 30/12/2009)
on average one floor per 5/6 days

930 million USD

Height **828 meter**
165 floors

Dismantling last crane & spire
lifting: technical '**tour de force**'

All tubes and joints flexible
because of **sway**

Windtunnel tests (exposed to winds
of 200 km per hour/hurricane speed)

Vertical transportation: tower
cranes - construction lift - jump lifts

Coordination of **4000 workers on
site** and about 30 subcontractors

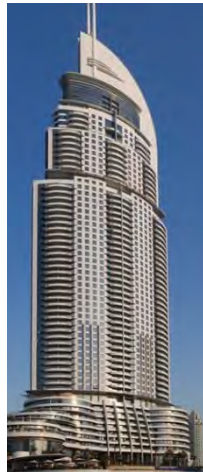
EXPERIENCE in High Rise Buildings



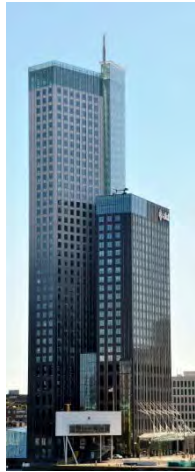
Aspire
Doha
318m
2006



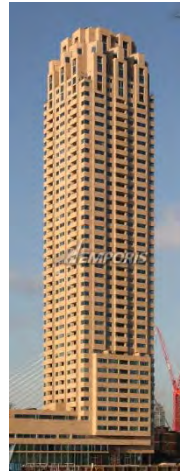
Tornado
Doha
200m
2008



Address Hotel
Dubai
306m
2008



Maastoren
Rotterdam
164m
2009



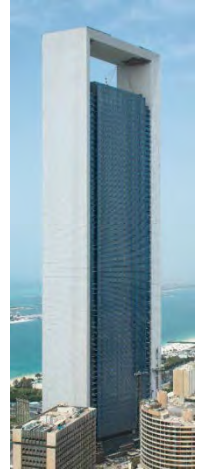
New Orleans
Rotterdam
158m
2010



Sofaz
Bakou
140m
2014



Four Seasons
Bahrein
202m
2015



Adnoc HQ
Abu Dhabi
342m
2016



MARINE WORKS

4th Lock of Lanaye

Lanaye - Belgium



2011 - 2015



Build - 110 million euro



The massive 225x25-m lock, extending over a 14m drop, is the largest civil engineering project carried out in Wallonia in the last ten years.

The lock allows the circulation of convoys of 9000 ton on the Albert Canal, instead of the former 2000 ton.



SOFICO



Greisch



LNG Terminal Facilities

South Hook - United Kingdom



2005 - 2008



Design & Build - 250 million euro



The project consisted of the refurbishment & retrofit of the 910 meter long access jetty of the Marine Terminal of the former Esso Refinery at Milford Haven in South Wales; the demolition of the existing structures of the berthing line, and the construction of a new 200 meter jetty extension and a 1,000 meter long double berth.

The design of the entire structure, including seismic loadings, was carried out by the BESIX Design Department.



South Hook LNG Terminal Company Ltd.
(Qatargas & Exxon Mobil JV) Main Contractor:
CB&I – U.K.



Tanger MED II

Tangiers - Morocco



2010 - 2014



Design & Build - 223 million euro



New berthing structures (Terminal 4) of the extension of the Tangiers Mediterranean Harbour (Tangiers MED 2).

1,230 m of quay wall

The quay wall is made of 45 to 80 tons concrete blocks prefabricated on site.

These works also include the dredging of the basin and access channel to the port.



Tanger Med Engineering (TME)



Structural design: BESIX



Quay 51

Douala - Cameroon



2015 - 2016



EPC - 14,7 million euro



BESIX built Quay 51 in the port of Douala, the country's main hub for gas imports.

The 165-m landing in the estuary of the river Wouri connects to Quay 52, which was refurbished by BESIX in 2011.



Port Autonome de Douala



BESIX



Wheatstone Breakwater and Marine Offloading Facility

Onslow - Australia



2011 - 2015



Design & Build - 250 million euro



Building the construction harbor of the Chevron-operated Wheatstone Liquefied Natural Gas project, which consists of 420 m of quay walls for the Marine Offloading Facility (MOF) protected by a 1 km long breakwater

Innovative underwater ground improvement works were used for the breakwater, installing 2000 stone columns to stabilize the liquefiable soil and to form a solid foundation for the rock structure.



Chevron, USA and Bechtel



LWI





INFRASTRUCTURE

OVT Terminal Utrecht

Utrecht - The Netherlands



2010 - 2016



Build - 94,9 million euro



The works include adaptations to the structure of the existing station and complete construction of a new station building including commercial areas.

These works are performed while keeping the station in activity with his daily 284,000 passengers



Prorail



Bentham Crouwel



Riaba Bridges

Bioko - Equatorial Guinea



2008 - 2010



Design & Build - 60 million euro



Construction of three pre-stressed reinforced concrete bridges of 192m, 139m and 181m long, situated on the national road of Ela Nguema-Kope near Riaba City.

The highest pile is 59m, the longest span is 94m.

BESIX was also responsible for the project management.



Ministerio de Obras Publicas e Infraestructuras



BESIX



Al Maqta Bridge

Abu Dhabi - United Arab Emirates



1997 - 1999



Build - 27,3 million euro



Construction of a new bridge linking Abu Dhabi island to the main land.

The 426m long bridge consists of a steel box superstructure with a tied arch span of 91.4m and two anchors spans.

The bridge is 19m to 22m wide.



Abu Dhabi Municipality and Town Planning Department



Parsons



Sheikh Zayed Bridge

Abu Dhabi - United Arab Emirates



2010 - 2011



Build - 53,4 million euro



Construction of a 912 m long bridge with 2 x 4 lanes, linking Abu Dhabi with the mainland with a central span of 234 m.

The main bridge is a hybrid structure consisting of central steel asymmetric arch ribs supporting prestressed concrete box girder decks.



Abu Dhabi Municipality



Zaha Hadid Architects



Al Sufouh Transit System - Dubai Tram

Dubai - United Arab Emirates



2008 - 2011



Design & Build - 961,3 million euro



The works included the design, geotechnical investigations, topographical surveys, site survey, utilities relocation and protection, construction, supply and installation of the transit system.

The project also included **18 bridges**, the construction of roadway signage and pavement marking, landscaping, street lighting, irrigation ducts, diversion and protection of services such as DEWA-ED, DEWA Water, Etisalat, storm drainage and irrigation systems.



Roads & Transport Authority (RTA)



Systra





INDUSTRY

Jebel Ali Desalination Plant 'K'

Dubai - United Arab Emirates



2000 - 2002



Build - 21,5 million euro



Onshore Civil Works:

Construction of sea water screening and pumping station, switchgear building for pumping station, foundation for desalination units and auxiliaries, switchgear building for desalination plant, roads and landscaping work, etc.

Offshore Civil Works:

Installation of sea water intake pipes, intake riser, oil boom, navigation light and outfall structure.



Dubai Electricity & Water Authority - DEWA



Fichtner Consulting Engineers



Fujairah Cement Plant

Fujairah - United Arab Emirates



2005 - 2007



Build - 42,6 million euro



The civil sub-contract scope of work covers the construction of a Greenfield Cement Plant of a capacity of 7,500 ton/day.

The works include: earthworks, concrete works, reinforcement steel bars & pre-stressing, formwork & slip form, finishing works, road works and site utilities.



Emirates Cement Company LLC



F. L. Smidth & Co. A/S





ENVIRONMENT

WWTP 's Hertogenbosch

's Hertogenbosch - The Netherlands



2015 - 2018



Build & Design - 40 million euro



Design (preliminary design, final design and executive design), going through an EIA (Environmental Effects Report) procedure, taking care of the necessary permits, renovation and construction of the waterline WWTP Den Bosch with application of systems engineering and system-oriented contract management.

Increase hydraulic and biological processing capacity of the installation.



Waterschap Aa en Maas



JV BESIX (BESIX Sanotec)



Sewerage System Treatment Plant & Piping Network

Ajman - United Arab Emirates



2003 - 2007



Build - 138 million euro



BOT contract for a sewerage system and a waste water treatment plant of 48,000 m³/day to serve 380,000 habitants.

BESIX builds and operates both the sewer system and the wastewater treatment plant and reuse of treated water for irrigation, while generating gas produced by the primary effluent treatment.



Ajman Sewerage (Private) Company Limited



Binnie Black & Veatch





SPORTS & LEISURE

Khalifa Stadium

Doha - Qatar



2003 - 2005



Design & Build - 118,3 million euro



Redevelopment of the Khalifa International Stadium

- Bring the seating capacity to 50,000 people after completely demolition of the existing Stadium
- Transform it into the major venue for the Asian Games 2006 in Qatar.
- 25 hectares of surrounding works.



Government of State of Qatar



GHD



Al Wakrah Stadium

Doha - Qatar



2016 - 2018



Design & Build - 587,3 million euro



Six Construct was presented with the opportunity to construct the Al Wakrah stadium, in preparation for the FIFA 2022 World Cup.

Six Construct is responsible for the design and main construction of the stadium, which consists of 40,777 seats and a car park; the masterplan including a community market and retail area; and training pitches.



Supreme Committee for Delivery & Legacy



Zaha Hadid Architects



Ferrari Experience

Abu Dhabi - United Arab Emirates



2007 - 2011



Design & Build - 528,2 million euro



- Structural works: Concrete Structure
- Space frame erection
- Roof structure and aluminium cover
- Facades

The external envelope (facade, cladding, space frame) has been designed by SIX Construct.



Aldar Properties PJSC



Benoy / Whitbybird / Shankland & Cox



2.BESIX experience with South Korean Contractors

Total Value of Projects executed with South Korean Companies: USD 4,095,000,000

Sl.No	Project	Location		Year	Value in USD	Korean Partner	Type of Cooperation
1	Emirates Tower Hotel	Dubai	UAE	1997 - 2000	113,000,000	SsangYong Engineering & Construction Company Limited	Joint Venture
2	Al Taweelah A2 Power & Desalination Plant	Abu Dhabi	UAE	1999-2000	6,000,000	Hanjung Korea Heavy Industries & Construction Co.	Sub Contractor
3	Umm Al Nar Desalination Plant	Abu Dhabi	UAE	2000 – 2001	14,000,000	Hanjung Korea Heavy Industries & Construction Co.	Sub Contractor
4	Fujairah Power & Desalination Plant Main Civil Works For Desalination Plant	Fujairah	UAE	2001 – 2003	56,000,000	Doosan Heavy Industries & Construction Co. Ltd. (formerly HANJUNG)	Sub Contractor
5	Burj Khalifa	Dubai	UAE	2005 - 2010	1,300,000,000	Samsung C&T	Joint Venture
6	Cleveland Clinic	Abu Dhabi	UAE	2010 - 2014	1,300,000,000	Samsung C&T	Joint Venture
7	Integrated Gas Development Das Island	Abu Dhabi	UAE	2011 – 2012	69,000,000	Hyundai Heavy Industries Co. Ltd. South Korea	Sub Contractor
8	Borouge 3 Utility & Offsites Marine Works	Abu Dhabi	UAE	2011 – 2012	52,000,000	Hyundai Heavy Industries Co. Ltd. South Korea	Sub Contractor
9	Jazan Refinery & Marine Terminal Project	Jazan	KSA	2012 – 2016	201,000,000	Hanwah Engineering & Construction Corporation (Main Contractor)	Exclusive Subcontractor
10	Bahrain LNG Import Terminal – Marine Works	Bahrain	Bahrain	2015 – 2018	139,000,000	GS Engg. & Construction Corp.	Exclusive Subcontractor
11	Royal Atlantis Resort & Residences	Dubai	UAE	2016 –2019	845,000,000	SsangYong Engineering & Construction Company Limited	Joint Venture

Emirates Tower Hotel

Dubai - United Arab Emirates



1997 - 2000



Build Only – 113Mio.USD



Construction of the 309 m high tower consisting of 55 floors with 350 rooms, and a composite concrete steel structure above level 50. External works comprise water tanks, a pumping station, a lake causeway, lighting, water supply systems, hard and soft landscaping.

JV with SsangYong Engineering & Construction Company Limited



Sheikh Mohammed Bin Rashid Al Maktoum



Turner Constriction International



Al Taweelah A2 Power & Desalination Plant

Taweelah - United Arab Emirates



04/1999 – 06/2000



Build Only - 6 Mio. USD



- Construction of seawater intake channel of 45 lm with connection to the existing channel;
- Construction of seawater pumping station;
- Ancillary works such as structural steel items and miscellaneous foundations;
- Open discharge channel of 450 lm with connection to the existing channel.

Subcontractor to Hanjung Korea Heavy Industries & Construction Co.



Emirates CMS Power Company



Mott MacDonald



Umm Al Nar Desalination Plant



Abu Dhabi - United Arab Emirates



08/2000 – 05/2001



Build Only - 14 Mio.USD



Civil Works for the seawater intake and pumping station for 5 desalination units of 62.5 MIGD, consisting of:

- Outfall channel;
- Temporary Jetty;
- Access road;
- Shore protection;
- Cofferdam;
- Rock works;
- Dredging works.



Abu Dhabi Water and Electricity Authority, U.A.E



Subcontractor to Hanjung Korea Heavy Industries & Construction Co.



Fujairah Power & Desalination Plant Main Civil Works For Desalination Plant

Qidfa, Fujairah - United Arab Emirates



11/2001 – 05/2003



Build Only - 56 Mio.USD



Offshore and Onshore civil works and building works for 100 MIGD Desalination Plant comprising:

- Civil Works for Desalination Plant
- Desalination Area Buildings
- Civil Works for Seawater System

Subcontractor to: Doosan Heavy Industries & Construction Co. Ltd. (formerly HANJUNG)



U.A.E. Offsets Group



Fichtner Consulting Engineers



Burj Khalifa

Dubai - United Arab Emirates



2005 - 2010



Build Only – 1.3 billion USD



Construction of the tallest tower in the world: 828m high.

The tower has a unique mix of functional modernist surfaces & decorative form and contains abstract references to regional & cultural influences.

The Tower's base rises upward in a series of steps, providing a graceful transition as the structure ascends.

JV with Samsung C&T



Emaar Properties PJSC



Skidmore, Owings & Merrill (SOM)



Cleveland Clinic

Abu Dhabi - United Arab Emirates



2010 - 2014



Build Only – 1.3billion USD



Build up Area-400,563 m² with 375 medical rooms with exclusive Royal Suites and 324 exam rooms and ambulatory clinics.

Complexities for this project include the installation of very complex data systems, high degree of environmental control for medical surgery quarters and environmental issues concerning medical waste, among others.

JV with Samsung C&T



Mubadala



AEDES / AECOM



Integrated Gas Development Das Island Project No. 5239

Das Island, Abu Dhabi, U.A.E.



03/2011 – 05/2012



Build Only – 69 Mio USD



The Sub-Contract scope of works consists of:

- Breakwater to the North of the IGD Process Plan;
- Quay Wall installation (Process area and temporary lay-down area L=1,100m);
- Revetment Installation (L=400m);
- Shoreline Protection of existing unprotected area (L=1,400m)



Abu Dhabi Gas Liquefaction Company Ltd.
(ADGAS)



**Subcontractor to Hyundai Heavy Industries Co.
Ltd. South Korea**



Borouge 3 Utility & Offsites Marine Works (Terminal)

Ruwais, Abu Dhabi, U.A.E.



05/2011 – 10/2012



Build Only - 52 Mio. USD



Construction of the following:

- Quay wall of 427 m length at depth of 15 meters, made of precast concrete blocks, with an area reclaimed on the sea of 100,000 m²,
- A sea water intake pumping station, 78 m x 50 m -16 meters deep.
- Marshalling area, by excavation and fill on the sea, with 1200 lm of shore protection.
- Outfall structure and evaporation pond.



Abu Dhabi Polymers Ltd. (Borouge)



Subcontractor to Hyundai Engineering & Construction



Jazan Refinery & Marine Terminal Project – Package 14

Jazan Economic City, Saudi Arabia



12/2012 – 05/2016



Design & Build – 201 Mio. USD



Design & Build contract including:

Liquid Product Berths - Three berths (L1, L2 & L3)

Terminal

This comprises the hydrocarbon import/export facilities, the solid sulphur export (liquid storage, pelletisers & stacker/reclaimer), as well as the SPM service facilities

Single Point Mooring and associated subsea pipelines



Saudi Aramco



Hanwah Engineering & Construction Corporation (Main Contractor)



Bahrain LNG Import Terminal – Marine Works

Muharraq Island, Bahrain



12/5015 – 09/2018



Design & Build - 139 Mio. USD



Contract to design and build the marine structures, which consist of a double berth jetty for FSU and LNG carriers, protected by a 500-m-long and 15-m-deep breakwater.

Participation

Sub-contractor

Main Contractor

GS Engg. & Construction Corp.



National Oil & Gas Authority



Worley Parsons



Royal Atlantis Resort & Residences

Dubai, UAE



02/2016 – 12/2019



Build Only – 845 Mio USD (BESIX share: 50%)



- Construction of a Hotel / Residences building of 360,000 m², including:
- 1 storey basement (car park; approx. 76,000 m²)
 - 3 storey podium (hotel amenities & town houses)
 - 43 storey hotel tower (L4-L46) 849 keys
 - 37 storey residences tower (L1-L37) 231 units
 - External works, 3 villas, beach reclamation...

JV with SsangYong Engineering & Construction Company Limited



Atlantis The Palm 2 Development LLC



Faithful+Gould



3. The specifics of the MENA markets

MENA: countries which are totally different

- Morocco: Mature economy with 3 majors contractors but too small for major projects
- Algeria-Egypt: More difficult countries with Army in charge and major Contractors who can undertake large EPC projects – strong Chinese presence. Local currency exchange rate devaluations and delays in payment.
- Libya/Yemen: unstable
- UAE – Qatar – Bahrain – Oman: Mature and stable countries with open competition for any International Contractor
- Saudi Arabia – Kuwait: More difficult to operate (Visas – Taxation – Local Employment). Major delays in payment.

4.BESIX approach for a successful project

Excel in creating
sustainable solutions
for better world



As BESIX Group we develop multiple services **to create value for our clients**, whilst incorporating the evolving expectations of the end users and building on **strong partnership** with all stakeholders

- 1 Leveraging on our **customer centricity**
- 2 Developing a « **one-stop-shop** » solution
- 3 Being a leader in open innovation
- 4 Promoting **openness towards** new ventures & activities for business
- 5 Promotion a **great place to work**
- 6 Synergizing **our ways of working**

Engineering

Enabling flawless execution on-site through a state-of-the art design



**Fully
integrated**
in BESIX Group
Activities

Strong focus on
**Constructability
& Value
engineering**
(best quality-price
balance)

**Close
integration**
between Design,
Methods & Planning
Department and
Construction Site

Dedicated
Engineering offices
**in Dubai &
Brussels,**
working closely
together

**Domains
of expertise**

Engineering

Enabling flawless execution on-site through a state-of-the art design



Innovation, New & Sustainable

Top- notch solutions – appeal to market tendencies – sustainable construction



Design Process support & BIM

Maximize quality and productivity during design phase –minimize 'failure costs' during construction



Soil Mechanics and Concrete Technology

Cost-efficient solutions – risk management



Technicians / Draftsmen

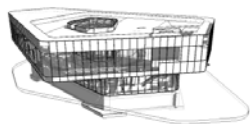
Reliable output as a guidance for the realization phase

**Domains
of expertise**

BIM and BESIX...

1st BIM

with externals
Regiocentrale Maasbracht



2010

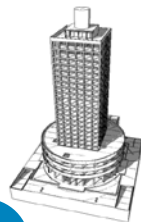


1st project

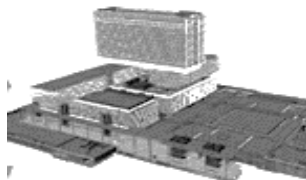
100% home made
Keersluis Heumen

1st tower

built with BIM
Sofaz Tower Baku



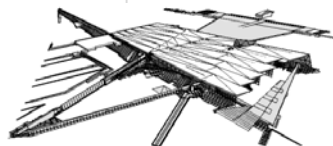
2011



1st Mega Project

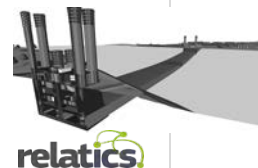
Cleveland Clinic Abu Dhabi

BIM using a **BMP**
Grand Egyptian Museum



2013

BIM using
Laser scan
Velsler Tunnel



2015



69 BIM
projects

2016



Full model

with quantity take-off
Andermatt Hotel

5. Recommendations for South Korean contractors in MENA markets

- **Strength of Korean Contractors:** EPC projects in Oil & Gas, Industrial plants, High rise buildings
- **Weakness of Korean Contractors:** local knowledge of the market, quite often poor knowledge of English, relying too much on Korean subcontractors, difficulties on managing local subcontractors
- Know your Client
- Know the country and their contractors
- Know the way contracting is done in their country
- In many countries it is very difficult to deviate from specifications
- Don't underestimate the Clients. They are usually very well staffed with experienced engineers.



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