





# MAKING MORE PROGRESS

Daewoo E&C has established a history of trust built on superior technology and passion. We have increased the value of land through the creative utilization of harsh environments around the world, and have made history in the areas of engineering and construction by embracing changes in energy, industrial topographies and lifestyles. We will continue to transform the world for the future.

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# **CIVIL WORKS**

### Making history by building the future.

Daewoo E&C began to build roads and bridges in 1978, and has built many major national infrastructures since then. We have contributed to the balanced development of land through the construction of roads and railways - connecting life, economies and cultures between regions - while paving the way for global trade by opening sea routes through new harbor facilities. Our advanced civil engineering and building capabilities are making a considerable mark in the history of construction at home and abroad. Such experiences and expertise are now providing the foundations for luxury lifestyles and industries all over the world. Our business territories are now expanding into Asia, the Middle East, South America and Africa.



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# **Highways**

As the main arteries connecting major cities and facilities, highways are strong contributors to economic development. Daewoo E&C changes and enriches lives by leading the construction of large-scale highways in South Korea.

Daewoo E&C has participated in the construction of major highways in South Korea since 1978, beginning with the Busan-Masan Highway, Section 3, which was also notable for its reduction of logistics expenses. In addition to national projects, we have built the Cheonan-Nonsan, Daegu-Busan, Yongin-Seoul Highways as well as other privately-financed roads, contributing to the invigoration of regional economies and the balanced development of land.

We are also world leaders in the use of tunnel construction to maximize the efficiency of land. The Inje Tunnel of the Donghongcheon-Yangyang Highway is the longest such facility in South Korea and provides the fastest connection between the Metropolitan Area with the east coast. It was completed in 2017, and won the 'Civil Structure of the Year' award in recognition for its minimal environmental impact. We have also carried out grand-scale overseas projects such as the world's largest-ever highway project undertaken by a single company in Pakistan, making us a global powerhouse in the highway sector.





### Donghongcheon-Yangyang Highway, Korea

- Total length: 71.7km, 4-lane highway, featuring the nation's largest and the world's 11th longest Inje Tunnel (10.965km) - 2018 'IRF Global Road Achievement Awards'

#### 2 Guri-Pocheon Highway, Korea

-Total length: 50.6km, with 4~6-lane Included Yangju line, tunnels, service area, toll gates

#### 3 Daegu Outer Ring Highway, Korea

- New construction of total length of 14.660km (main line: 5.650km)/4 lanes

#### Yongin-Seoul Highway, Sections 1 and 4, Korea - Total length: 22.9km,

with 6-lane Included bridges, underpasses, tunnel

#### Cheonan-Nonsan Highway, Korea

- Total length: 80.96km, with 4-lane Included bridges, tunnels, IC, service area

#### New Orbital Highway, Qatar

- Total length: 42km, with 14-lane Included civil engineering, bridge, pavement work

#### Seoul Outer Ring Highway, Korea

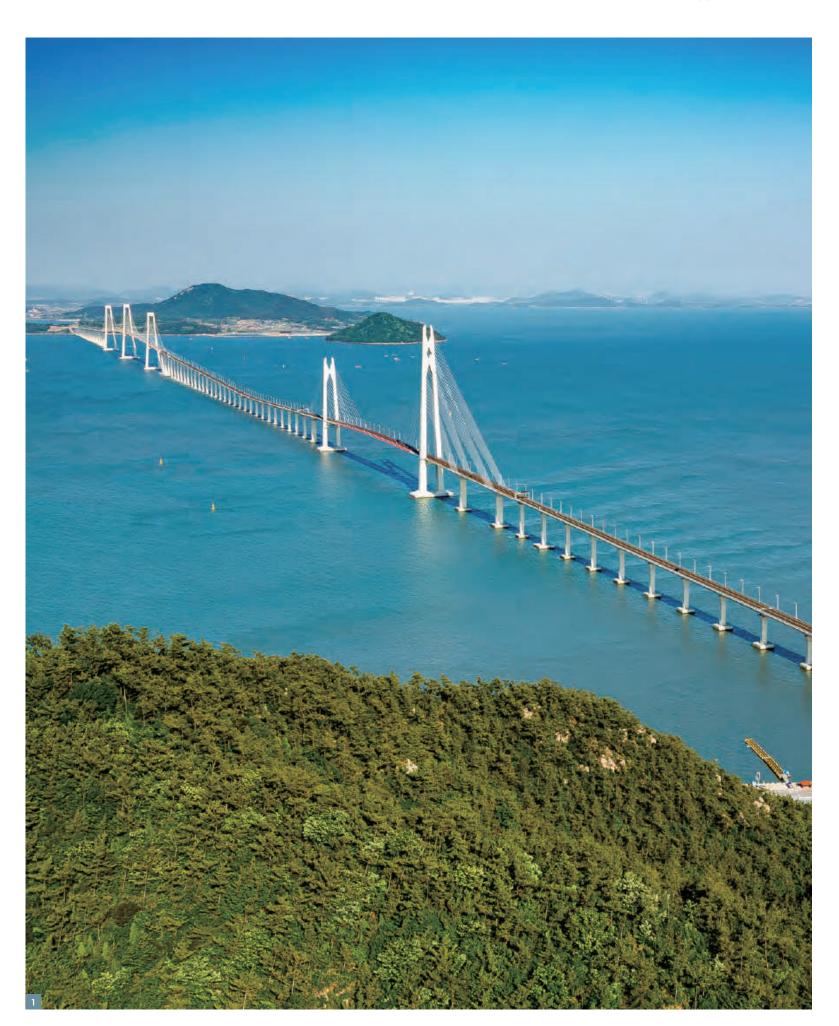
- Total length: 5.1km, with 8-lane Included bridges

#### Second Seohaean Highway, Section 2 (Pyeongtaek -Siheung), Korea

- Total length: 42.6km, with 4~6-lane Included bridges, underpass, service area

#### Suwon-Gwangmyeong Highway, Korea

- Total 29.3km, with 4~6 lanes both ways (bridges, tunnels, etc.) DAEWOO E&C PROFILE 06 17 THE PROGRESS CIVIL WORKS



# **Roads & Bridges**

Roads and bridges are invaluable facilities that allow for movement and connection of human and material resources.

Daewoo E&C is committed to applying our advanced technology to build convenient yet beautiful roads and bridges.

In 1984, Daewoo E&C completed the construction of Dongjak Bridge, the nation's first such structure designed to carry both road and subway traffic. We also built the Gwangan Bridge in Busan, the nation's largest double-layered bridge over water, spanning 7.4km. The 8.2km-long Geoga Bridge, which connects Geoje and Busan, drew international acclaim as being the world's longest structure also built at the world's deepest underwater depth.

We showed differentiated technical skills overseas by constructing sea bridges in Bihar and Mumbai in India and a composite bridge connecting Botswana and Zambia in Africa. Especially, Kazungula Sea Bridge that dramatically changed the logistics industry of Africa received Grand Prize in the 'Korea Civil Engineering and Architecture Awards' in 2021.





#### Cheonsa Bridge(Apae-Amtae Section 1), Korea

- Total length: 10.8km (Apae - Amtae, Sinan, Jeollanam-do), with 4-lane

#### Kazungula Marine Bridge, Botswana

- Total length: 0.9km An extra-dosed bridge (Botswana - Zambia) 2-lane roadway (1-lane railway)

#### 3 Geoga Road & Bridge, Korea

-Total length: 8.2km (Geoje-si, Gyeongsangnam-do-Gangseo-gu, Busan) Included a 3.7km-long undersea immersed tunnel, a 4.5km-long Cable-stayed bridge

#### Jeonju National Road Bypass, Korea

- Total length: 11.3km (Yeongjeong - Yongjin) Included bridges (cable-tayed, beam, IC, etc.)

#### Multifunctional Administrative City Access Road, Korea

- Total length: 4.9km, with 3-lanes each way, Included bridge and traffic safety facilities

#### Gimhae National Road Bypass, Sections 1 and 2, Korea

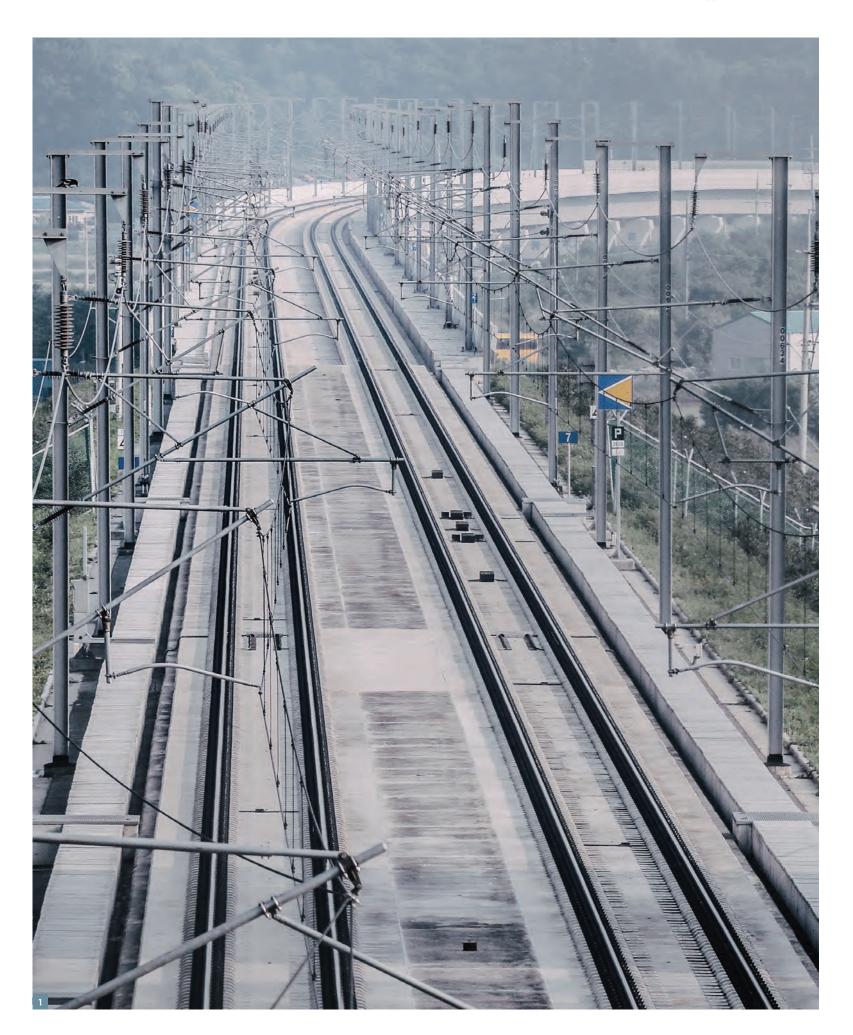
- Total length: 19km (Busan-Gimhae), with 4~6-lane Included bridges, tunnels

#### Mumbai Trans Harbour Link Pkg2 (Marine Bridge), India

- Total length: 7.8km, with 3 lanes each way (Mumbai Sewri- Nhava Sheva) Included access roads

### **Bihar New Ganga Bridge, India** - Total length: 22.76km,

- Total length: 22.76km, crossing Ganges River, with 6-lane Included access roads DAEWOO E&C PROFILE 08 09 THE PROGRESS **CIVIL WORKS** 



# Railways & Subways

Daewoo E&C is actively involved in major railway network and subway construction projects. We maximize the convenience of life and the efficiency of industries by drawing on our extensive experience and leading-edge design and construction capabilities.

Daewoo E&C boasts industry-leading technology and construction experience in the high-speed railway area. With a track record of having undertaken the largest number of sections of high-speed railway projects in South Korea, we have contributed greatly to South Korea being fifth in the world in total number of HSRs, by combining advanced mechanized construction technology with safe construction technology. We are also recognized for our leadership in subway construction. We have participated in the construction of almost all subway lines in Seoul and other major centers. We have demonstrated our technological prowess by employing the nation's largest diameter shield tunneling method to construct the extension of Bundang Line, and through the the wide area express railway in the metropolitan area (GTX-A) project, featuring a 50m underground road linking Paju, Seoul, and Dongtan. We are also actively exploring overseas markets including the Singapore Mass Rapid Transit.





#### Honam High Speed Railway, Phase 1 (Sections 1-1 and 1-4),

- Total length: 182km (Osong Station, Chungcheongbuk-do-Songjeong Station, Gwangju) Included bridges and tunnels

#### 2 Stevens Station and Tunnel, MRT Thomson-East Coast Line, Singapore

- Total length of 3.2km connecting Woodland District and Marina District

#### 3 Yeongdong Line Railway (Dongbaeksan - Dogye), Korea

- Total length: 17.7km Included the nation's longest loop-type tunnel for Taebaek-Samcheok line in Gangwon-do

#### Gyeongbu High Speed Railway, Sections 8-1 and 8-2, Korea

- Total length: 11km for 8-1, 16.9km for 8-2 Included tunnels, bridges

#### Gyeongbu High Speed Railway, Sections 10-2, 13-3, and 14-2, Korea

- Total length: 5.5km for 10-2 (including tunnel), 8.8km for 13-3(including tunnel and culverts), and 9.9km for 14-2 (including tunnel, shaft, shelter)

#### MRT, Section 216, Singapore

- Total length: 3.2km (1 station)

#### Seoul Subway Line No. 9, Sections 901, 903, 905, 911, and 914, Korea

- Total length: 25.5km (Gimpo International Airport - Sinnonhyeon Station)Included 7 stations

#### Gimpo Urban Railway Section 1, Korea

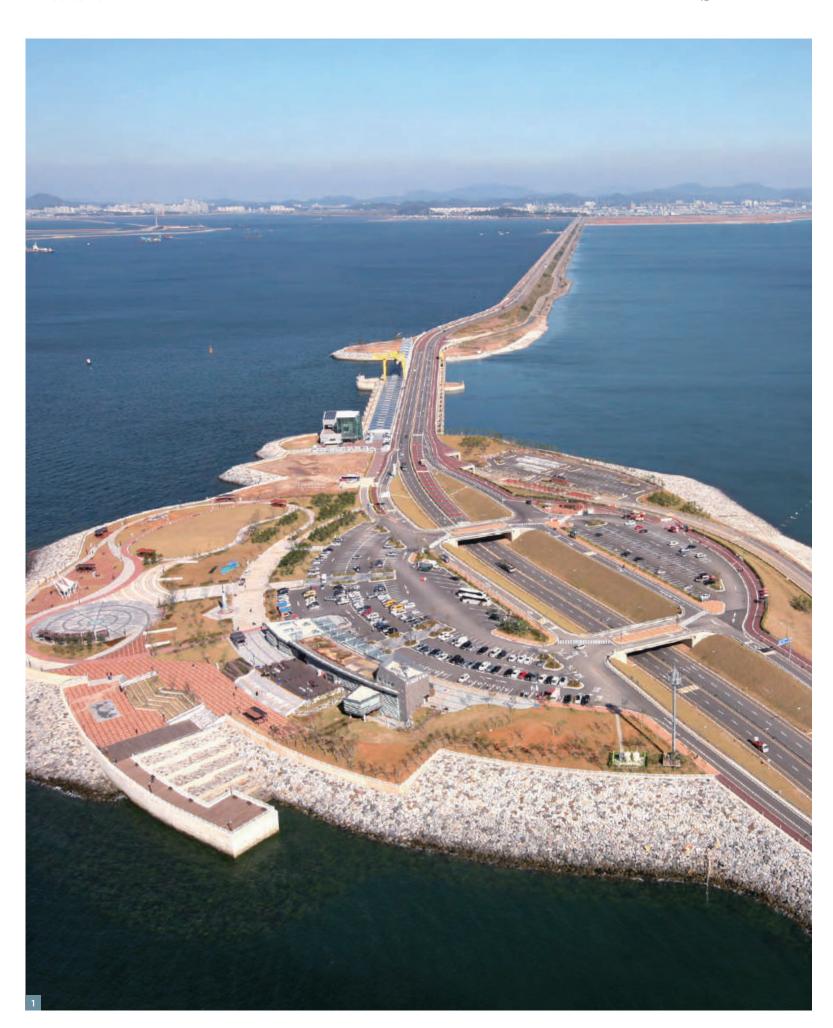
- Total 4.64km (station, garage, etc.) around Gimpo Yangchon~Gimpo Hangang New Town in Gyeonggi-do

#### Sinbundang Line Double-Track Railway Phase 1. Section 4, Korea

- Total 18.5km (railway station, etc.) between Seoul Gangnam~ Seongnam Jeongja

#### Sosa-Wonsi Double-Track Railway, Korea

- Total length: 28.3km (Sosadong, Bucheon - Wonsi-dong, Ansan in Gyeonggi-do) Included 12 stations DAEWOO E&C PROFILE 10 THE PROGRESS **CIVIL WORKS** 



# **Harbors & Reclamation**

Infrastructure that enables the efficient use of harbor facilities and other water resources plays an integral role in invigorating national economies and energy efficiency through exports. Daewoo E&C has garnered international recognition for its technology in this area, with a solid track record in developing harbors, shipyards and dams at home and abroad.

Daewoo E&C has become a leader in South Korea in the construction of harbor facilities - including revetments, breakwaters and seawalls. By building the Busan Port - the nation's largest container port - we supported the emergence of Busan as a globally competitive logistics base. Overseas, we have completed the repair of many shipyards, including in Oman and Qatar. We have also introduced top of the line harbor construction technology, exemplified by our container terminal in Algeria and our global-scale breakwater project in Iraq. We also take pride in our differentiated technology expertise.

A prime example is South Korea's Sihwa Lake Tidal Power Plant, the largest such facility in the world, which is now producing electricity that can be used year-long by 500,000 people.





#### Sihwa Lake Tidal Power Plant, Ansan, Korea

- 'South Korea's first and the world's largest tidal power plant Capacity: 550,000MW/year

#### 2 Al-Faw Breakwater, Iraq

- Construction of a 15.952kmlong riprap breakwater - Ranked as the Longest Break water in the world by Guinness on April 2nd, 2020

#### Qatar Repair Shipyard Nakilat Ship Repair Yard Project, Qatar

- LPG carriers and other large ship repair and maintenance facilities Included dry docks, quays, piers

#### Busan Port Phase 4 Container Terminal, Korea

- Included container cranes and transfer cranes Capacity: 1.28 Million TEU/year

### Patrind Hydropower Plant, Pakistan - Included major structures

 Included major structures (weir, headrace tunnel, power house, bypass). Installed Capacity: 150MW

#### Ulsan New Port Development Phase 1-1 Privately Financed Facilities, Korea

- 2-wire container pier, 2-wire multipurpose pier, 2-wire ore pier

#### Busan New Port Container Terminal Construction and Backland Land Development, Korea

 Included container terminal and a 14km-long quay for berthing Handling capacity: 13.25 Million TEU/year

#### Ship Repair Yard and Dry Dock Complex at Dugm Port, Oman

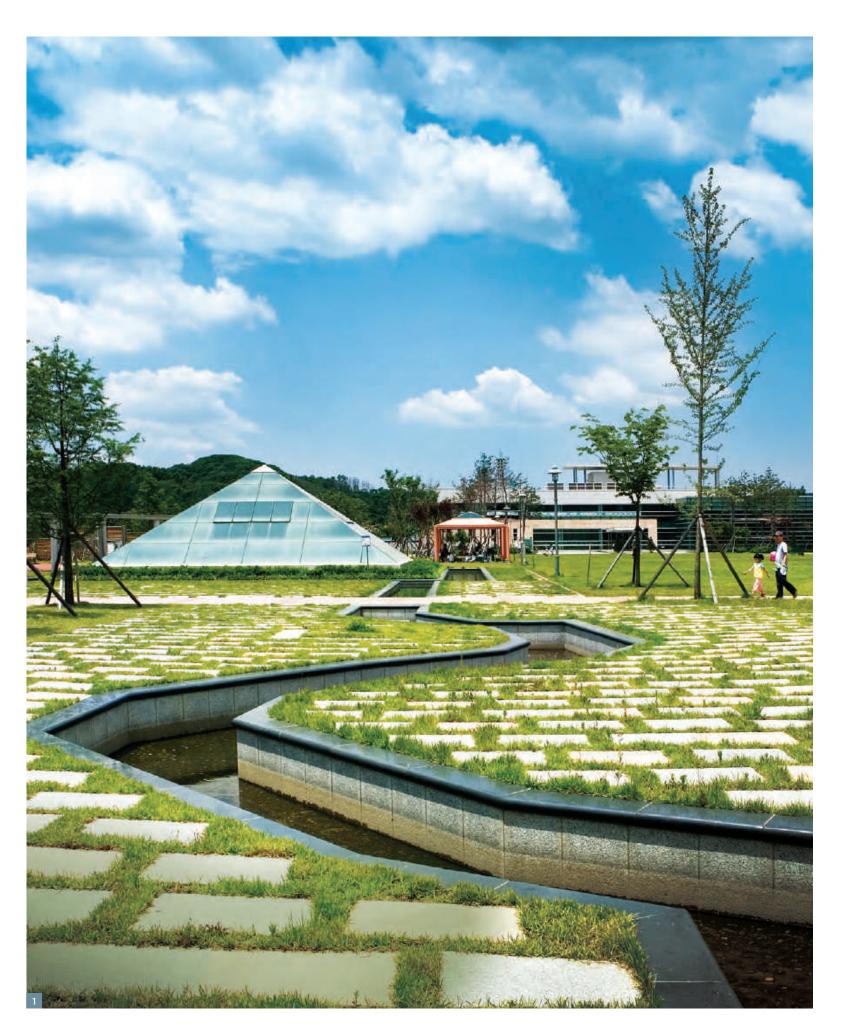
 VLCC repair and maintenance facilities Included large dry docks, breakwater

#### Gwangyang Port Phase 2 Container Terminal, Gwangyang, Korea

- Capable of servicing two 50,000-ton ships and two 20,000-ton container ships simultaneously Capacity: 815,000 TEU/year

#### Djen Djen Port Container Terminal, Algeria

 1.6km Quay wall and 33ha container site development, dredging and reclamationstations DAEWOO E&C PROFILE 12 13 THE PROGRESS\_CIVIL WORKS



# **Environment**

The environmental industry requires proactive action and investment to allow for the sustainable development of our global human society. Daewoo E&C invests in innovative technology development that is leading the way in future energy generation and supply.

Daewoo E&C has consistency proven itself to be South Korea's top performer in the innovative construction of water treatment facilities, including sewage treatment, water purification plants and sewage pipelines. By developing new technologies such as eco-friendly designs and Daewoo Nutrient Removal (DNR) sewage treatment, we have taken the ground-breaking approach of moving all treatment facilities underground, creating parks above the ground and improving public amenities. We are also becoming a recognized leader in the green energy business. For example, we have secured New Excellent Technologies, patents and the ability to carry out projects in the field of biogas power generation.

We have also successfully completed the Jeju solar power generation project through ongoing investments in solar power, wind power and other forward-looking businesses.





# Nambu Water Resources Ecology Park (Yeokgok Sewage Treatment Plant), Bucheon, Korea

- Included sewage treatment facility, recreation/amusement park Capacity: 50,000 tons/day

#### 2 El Harrach River Restoration, Algeria

- First overseas river restoration project undertaken by a South Korean construction company Included pipeline construction, park, pumping station Total length: 18km

# Bukbu Water Resources Ecology Park (Gulpocheon Sewage Treatment Plant), Bucheon, Korea

 Included sewage treatment facility and a recreation/ amusement park
 Capacity: 150,000 tons/day

#### Dubai Sewage Treatment Plant, UAE

- Included a 91km-long pipeline and a pumping station Capacity: 130,000 tons/day

#### Guui Water Purification Plant, Seoul, Korea - Capacity: 250.000 tons/day for

standard water purification and 450,000 tons/day for advanced water purification

#### Jeju Solar Power Plant, Jeju, Korea

- Included 87 solar power systems Installed Capacity: 47.5 MW

#### Ulsan Thermal Power Plant Desulfurization Facility, Units 4 to 6, Korea

 Waste water treatment capacity: 200 tons/day

#### Constantine River Restoration, Algeria

- Included 8.35km river maintenance, 8.35km trail on the terrace land

#### Daegu DBS (Daewoo Biogas System), Korea

- The first biogas plant ever built in South Korea Treatment capacity: 300 tons/day DAEWOO E&C PROFILE 14 15 THE PROGRESS CIVIL WORKS

# Leisure

The creation of modern leisure facilities requires a proactive anticipation of and response to the ever-changing consumer trends and desires.

Daewoo E&C is committed to meeting this challenge by constructing a wide range of leisure facilities that allow for enjoyment and play amidst our hectic modern lifestyles.



Daewoo E&C entered the leisure facility sector by completing the construction of Suyeongman Bay Yachting Center in 1986. Today, our highly regarded construction approaches seamlessly integrate nature into our designs.

The golf courses we have constructed have solidified our reputation as forerunners in the leisure culture sector.

We have greatly increased the quality of construction of golf courses in South Korea, which include the Yeongcheon Country Club - whose development was designed and supervised by Vijay Singh - and the Adonis CC in Pocheon, Gangwon Land, which is located 1,150 meters above sea level. Overseas, we built the LaoLao Bay Golf & Resort in Saipan.





#### 1 Masan Robot Land, Korea

- Robot-themed theme park and comprehensive research encouragement complex with lot area of 1,259,890 m<sup>2</sup>

#### 2 Siheung Marine Leisure Complex, Korea

- First in Asia and largest in the world artificial surfing park (about 178,513㎡) and largest artificial beach in Korea, living accommodations

#### 3 LaoLao Bay Golf & Resort, Saipan

- Size: 1.6 millionm, Best golf course and resort

#### Adonis CC, Korea

- Size: 1.85 millionm Included sports facilities

#### Paganica CC, Korea - Size: 1.4 million m<sup>2</sup> Included

forest bathing area, village

#### Yeongcheon CC, Korea - Size: 1.3 million m<sup>2</sup> Designed

and supervised by Vijay Singh **A-One CC, Korea** 

- Size: 1.68 millionm², attracting various international competitions

#### High1 CC, Korea

- Size: 1.09 millionm Involved redevelopment of an abandoned mine area with Jeongseon-gun and casino in Gangwon-do

#### Suyeongman Bay Reclamation and Yachting Center, Busan, Korea

- Size: 231,000㎡ Included international standard yachting center, public recreational facilities Mooring capacity: 1,500 yachts

# **PLANTS**

### Sustaining growth built on advanced technology and trust.

The construction of industrial plants is a knowledge-based, high value-added sector that combines technologies in repair and maintenance, from the procurement of machinery and equipment to engineering competence, construction, supervision and trial operations. Daewoo E&C has been leading the construction of thermal power, cogeneration, tidal power, and nuclear power plants, LNG storage, and other facilities with our outstanding technology and passion. In addition, Daewoo E&C is making good records in high value-added plant construction competing with global companies in overseas plant markets. Recently, we are adjusting to changes in the energy paradigm, promoting commercialization in new renewable and clean energy sectors by R&D and investment in those sectors.



DAEWOO E&C PROFILE 18 19 THE PROGRESS **PLANTS** 



# LNG, Oil & Gas

Daewoo E&C has unrivaled technical skills in oil and gas transmission and storage equipment including oil and gas refining plant. Especially in LNG liquefaction plant sector, it is leading overseas markets with high-level competitiveness and experience, including performing LNG Train 7 Project in Nigeria as the first main contractor of EPC among Korean construction companies.

LNG plants have been in the spotlight for its sustainable growth in business following a rise in LNG demand due to worldwide GHG emission reduction efforts and increased shale gas production. Daewoo E&C has constructed approximately 50% of LNG regasification plants and storage tanks in South Korea. These include Tongyeong, Incheon and Pyeongtaek LNG receiving terminals. Based on such experience and technology, we have successfully performed construction of LNG processing plants, transmission equipment and pipelines in overseas markets including Nigeria, Algeria, Russia, Papua New Guinea and Indonesia.

Furthermore, we will lead in developing new markets with knowhow and technical skills accumulated through various results including LNG liquefaction plant in Nigeria and Tangguh LNG Train 3 in Indonesia.





#### LNG Liquefaction Plant Train 7, Nigeria

- Capacity: 7.8 MTPA\*

#### 2 Ulsan North Port Terminal Phase 1,2,3, Korea

- Vaporization equipment, 3 LNG tanks with 215,000kl capacity and supplementary facilities
- 3 Tangguh LNG Train 3, Indonesia

- Capacity: 3.8 MTPA\*

#### Papua New Guinea LNG Liquefaction Plant, Papua New

- Capacity: 3.15 MTPA\* × 2 trains

#### Central Area Field Complex(CAFC), Algeria

- Capacity: 32,000 barrels/day associated oil processing and other facilities

#### Gbaran-Ubie Gas Processing Plant, Nigeria

- Capacity: 1BMscf/day

#### Hout Gas Facility, Saudi Arabia

- Associated gas collection, compression, dehydration and delivery from existing crude oil facilities

#### Arzew LNG Liquefaction Plant, Algeria

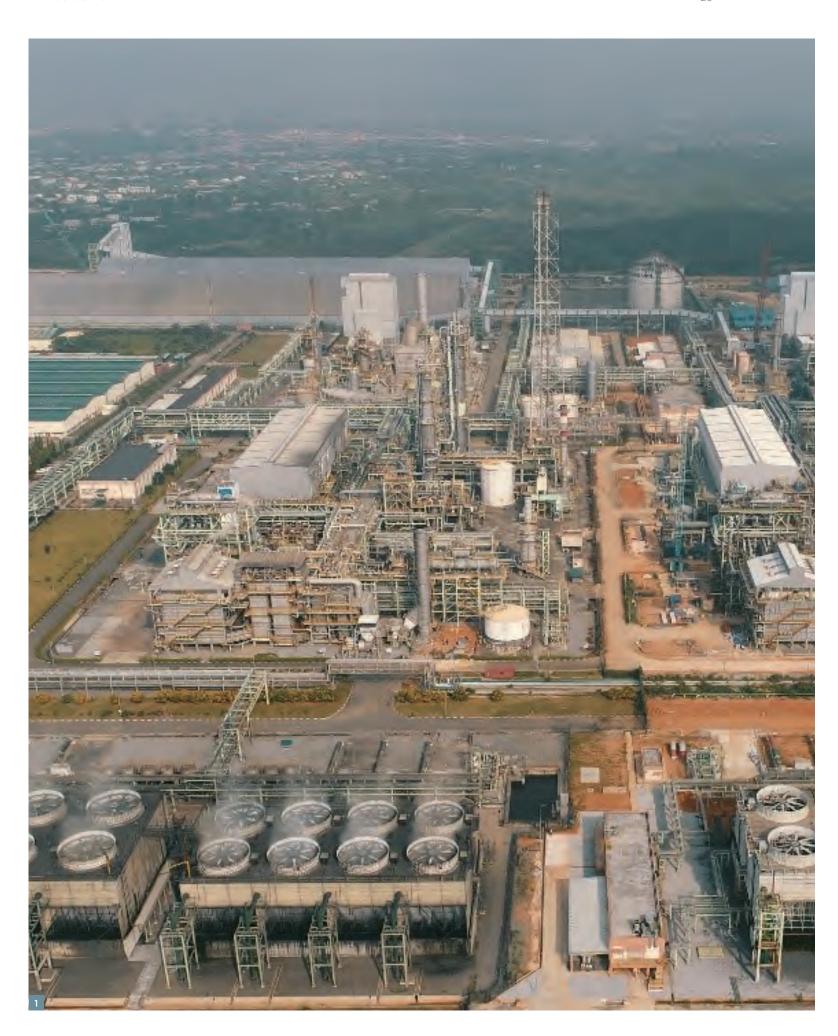
- Capacity: 4.7 MTPA\*

#### Sakhalin LNG Liquefaction Plant, Russia

- Capacity: 9.7 MTPA\*

\*MTPA (Million Tons Per Annum)

DAEWOO E&C PROFILE 20 THE PROGRESS\_**PLANTS** 



# **Refinery & Petrochemical**

Daewoo E&C maximizes the value of the refinery and petrochemical industry by applying our comprehensive construction capabilities across all facilities.

Daewoo E&C has a wealth of experience and technology for constructing refining facilities separating crude oil by the range of boiling point and storage facilities as well as plants producing various petrochemical products. We have advanced our technology and knowhow with construction (SPM) of S-Oil's No.1 and No. 2 crude oil unloading facilities and Nitric Acid (NA) and Mono Nitro Benzene (MNB) plant of Huchems in Yeosu, and successfully completed construction of S-Oil's RUC, the largest scale as a single plant and olefin production plant.

We are currently constructing the largest scale refinery in Oman and Al-Zour refinery in Kuwait overseas, and we especially demonstrated our ability after completing Indorama fertilizer plant 2 subsequently after plant 1 in Nigeria, which is the largest scale in the world.

Based on the above, we are further strengthening trust with customers and continuously proceeding with subsequent plant projects.





#### Indorama Fertilizer Plant II,

- Capacity: 2,300 tons of ammonia and 4,000 tons of urea per day

#### 2 Duqm Oil Refinery, Oman

- The country's largest refinery Capacity: 230,000 barrels/day

#### 3 Al-Zour Oil Refinery, Kuwait

 Oil refinery for low sulfur fuel production Capacity: 620,000 barrels/day

#### Warri Quick Fix, Nigeria

- Work to urgently repair including commissioning stage in order to produce petroleum products of existing Warri refinery facilities

#### Ulsan S-OIL RUC,, Korea

 RUC, MFC (the largest-scale single plant ordered in South Korea)

#### Clean Fuel Project (CFP), Kuwait

- Establishment of 2 oil refining units, performance improvement Capacity: 800,000 barrels/day, Sulfur content: 10ppm

#### Jazan Oil Refinery, Saudi Arabia

- Oil refinery, terminal Capacity: 400,000 barrels/day

#### Morocco Jorf Lasfar Fertilizer Plant, Morocco

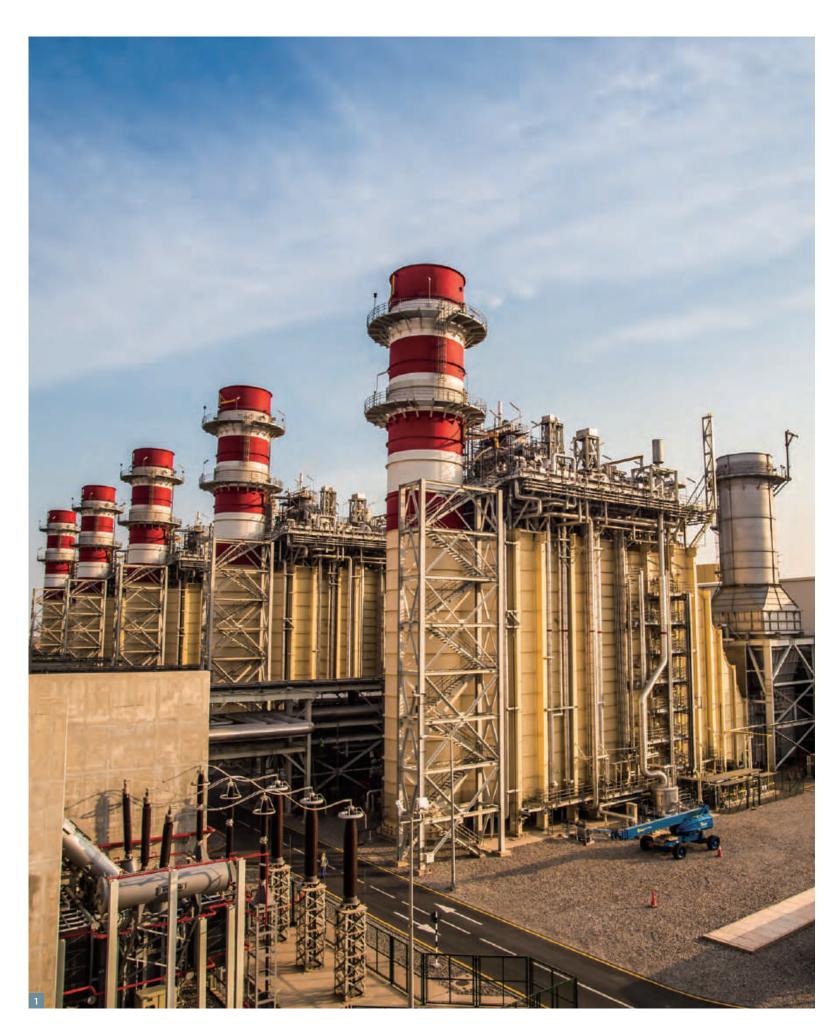
- Capacity: 1 million tons/year phosphate fertilizer plant, and 62MW/year waste heat recovery and power generation facility

#### Algeria-Oman Fertilizer Plant, Algeria

- Capacity: 4,000 tons of ammonia and 7,000 tons of urea fertilizer per day

#### Qatar Q-Chem II, Qatar

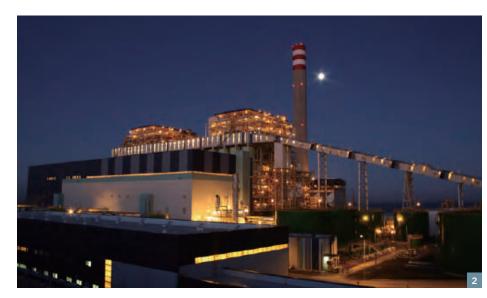
- Capacity: 350,000 tons each polyethylene and olefin production plants DAEWOO E&C PROFILE 22 THE PROGRESS\_**PLANTS** 



# **Power Plants**

Daewoo E&C has accumulated technology and experience in various power plant sectors including thermal power, tidal power, hydropower, and cogeneration since the successful completion of the Ulsan Thermal Power Plant in 1981. Now, we are extending our interests into the new and renewable energy sector by applying our expertise to carry out large-scale EPC projects at home and abroad.

Daewoo E&C played a leading role in constructing domestic large-scale power plants including Paju Cogeneration Plant, Samcheok Green Power Plant, Pocheon Natural Gas Power Plant, starting with Ulsan Thermoelectric Power Plant. Based on such experience, it has advanced to overseas markets in Nigeria, Libya, Algeria, Morocco, etc. and its technical skills are recognized across the world. Recently, we are contributing to energy independence as it has accumulated various achievements in LNG combined cycle power plant such as Namjeju Combined Cycle Power Plant, Sinsejong Combined Cycle Power Plant and Bucheon Cogeneration Plant, as a part of conversion of energy for carbon neutrality. Furthermore, we are also expanding its business sectors into new business sectors including wind power, fuel cells and hydrogen energy, in line with expansion of global market by new renewable energy.





#### 1 Sur Power Plant, Oman

- A combined-cycle power plant (CCPP) with 5 gas turbines, 5 exhaust gas waste heat recovery boilers, 3 steam turbines Daewoo E&C's largest capacity CCPP EPC project Capacity: 2,000MW

#### 2 Safi Power Plant, Morocco

- A coal power plant Daewoo E&C's first USC coal power plant EPC project Capacity: 1,386MW (two 693MW units)

### Pocheon Natural Gas Power Plant, Unit 1, Pocheon, Korea

- A CCPP with 2 gas turbines, 2 exhaust gas waste heat recovery boilers, 1 steam turbine Capacity: 904MW

#### Afam VI Power Plant, Nigeria

- A CCPP with 3 gas turbines, 3 exhaust gas waste heat recovery boilers, 1 steam turbine Capacity: 650MW

#### Jorf Lasfar Power Plant, Units 5 and 6, Morocco

- A coal power plant Capacity: 700MW (two 350MW units)

#### RDPP Plant, Algeria

- A CCPP with 3 gas turbines, 3 exhaust gas waste heat recovery boilers, 3 steam turbines Capacity: 1,200MW

#### Shuweihat 3 Power Plant, UAE

- A CCPP with 4 gas turbines, 4 exhaust gas waste heat recovery boilers, 2 steam turbines Capacity: 1,600MW

#### Benghazi Power Plant, Libya

- A CCPP with 2 gas turbines, 2 exhaust gas waste heat recovery boilers, 1 steam turbine Capacity: 750MW

#### Misurata Power Plant, Libya

- A CCPP with 2 gas turbines, 2 exhaust gas waste heat recovery boilers, 1 steam turbine Capacity: 750MW

#### Zwitina Power Plant, Libya

- A CCPP with 750MW capacity
Additional Construction of
2 exhaust gas waste heat recovery
boilers and 1 steam turbine to
2 existing gas turbines

DAEWOO E&C PROFILE 24 25 THE PROGRESS **PLANTS** 

### **Nuclear Power**

Nuclear power is known to be the most economical and efficient energy source. Daewoo E&C is gaining global recognition in this area based on its knowledge and track record in developing many different nuclear power-related projects.



Daewoo E&C has proven to be at the top of the industry in terms of nuclear power plant (NPP) construction capabilities since the Wolsong NPP Units 3 & 4 that recorded the shortest construction period in the world. We successfully built the Shin-Wolsong NPP, Units 1 & 2 by applying immersed structure and other advanced construction methods, as well as the Jordan Research and Training Reactor which marked the first NPP EPC export in South Korea. Our business portfolio has also diversified. We are the first certified company in South Korea's construction industry to offer NPP operation and design services (Q Grade). We have also provided technical assistance to NPP projects in China and Taiwan. Other projects we have carried out include low and intermediate level radioactive waste disposal facilities and water tritium removal facilities. Daewoo E&C will lead the industry as a top-tier total provider through securing achievements in overall areas of the life cycle from design to front-end/back-end of the fuel cycle in the nuclear power sector.





#### Shin-Wolsong NPP, Units 1&2,

- 2 units of 1,000MW capacity, PWR, Zero possibility of radioactive leakage by adopting PWR method Capacity: 2,000MW/hour
- 2 Low & Intermediate Level Radioactive Waste Disposal Facility, Phase 1,2, Korea
- Asia's first subterranean cave disposal facility for radioactive waste

#### 3 Wolsong NPP, Units 3&4, Korea

 Included two 700MW units and two 700MW PHWR units Recorded the world's shortest construction period, the world's shortest period and lowest SIT/ILRT

#### Jordan Research & Training Reactor, Jordan

 - 5MWt research and training reactor EPC South Korea's first export of nuclear power system on turnkey basis

#### Hanbit NPP, Units 3&4, Korea

- Included two 1,000MW units, a PWR, Replaced steam generators

#### Facility, Korea - WTRF construction and trial

Wolsong NPP Tritium Removal

operation, reducing tritium generation by 65% annually

#### Proton Accelerator Research Center, Korea

- Included 100MeV proton accelerator and the largest linear accelerator facility in South Korea

#### Qinshan NPP, China

- Included two 700MW units South Korea's first nuclear technology export

#### Lungmen NPP, Taiwan

- Two 1,350MW ABWR units Offered technical advice and acquired ASME certificate in the civil engineering and construction sector

#### Wolseong Modular Air-Cooled Storage, Korea

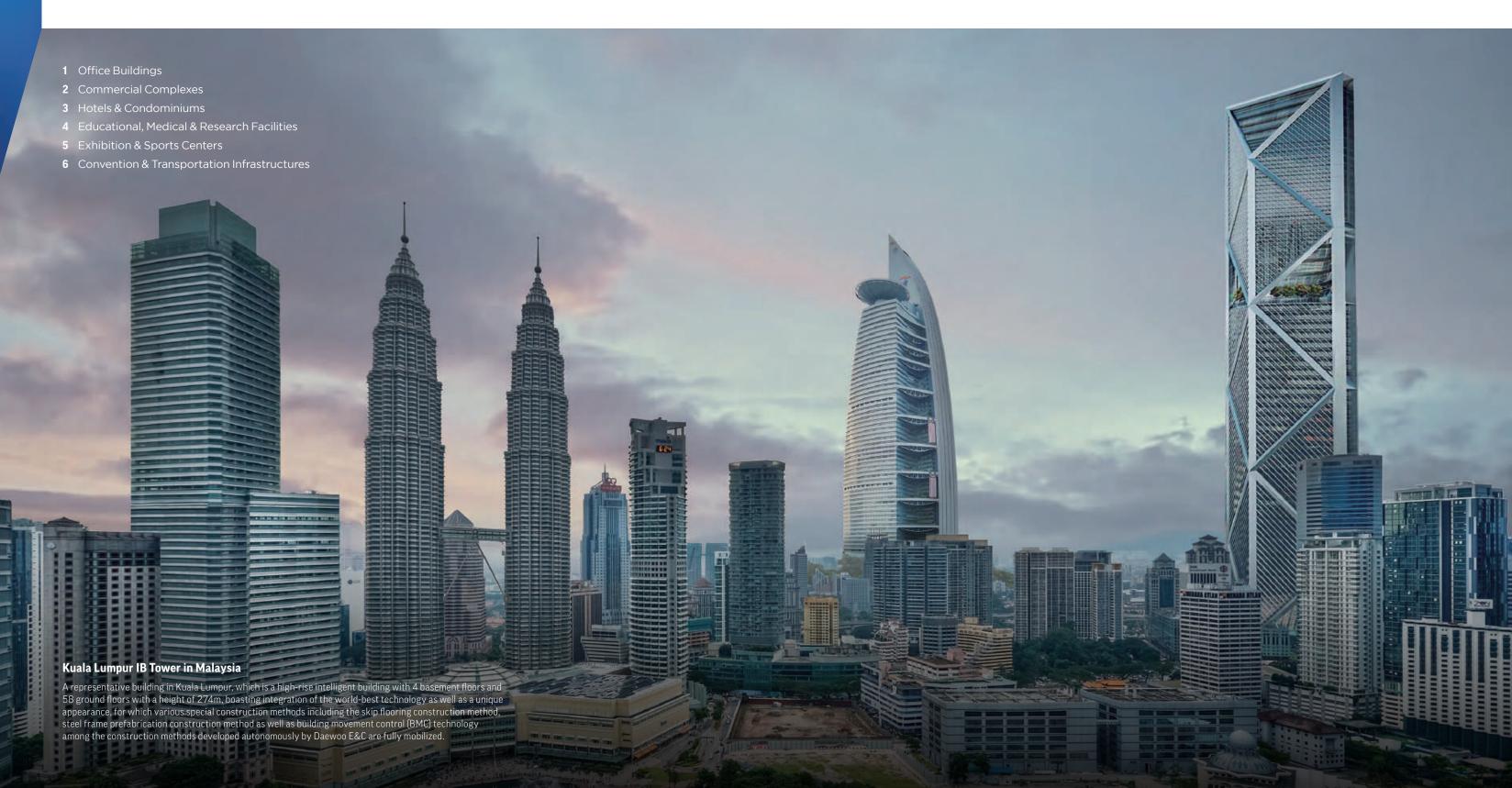
- 7 dry canister modules (168,000 bundles of spent fuel from heavy-water reactor),construction work to add storage for spent fuel (high-level waste) of Wolseong Nuclear Power Plant

# ARCHITECTURE

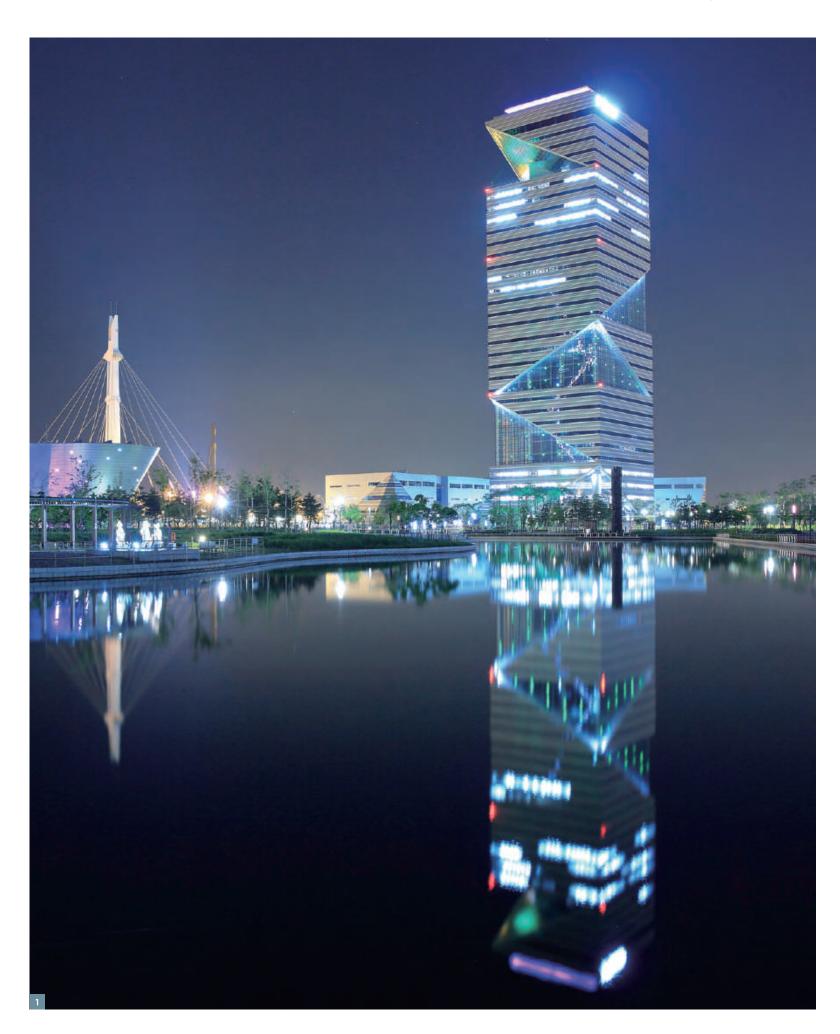
### Maximizing the value of spaces for customers.

Daewoo E&C has been a leader in the architectural sector in various fields, from office buildings to hotels, exhibitions, and medical and sports centers. The safe and comfortable spaces and efficient and beautiful buildings we have created have become landmarks and a source of pride for people in many parts of the world. Daewoo E&C is a global pioneer in the engineering and construction of skyscrapers and intelligent buildings with our advanced R&D and innovative spirit.

We will keep building on our innovative approach to architecture and city building by inventing even smarter and more eco-friendly technologies and construction methods.



DAEWOO E&C PROFILE 28 29 THE PROGRESS\_ARCHITECTURE



# **Office Buildings**

Daewoo E&C has established an unparalleled reputation in the domestic and overseas markets by building skyscrapers with high-tech features and office buildings that have quickly become iconic local landmarks. Through the convergence of ICT technologies, we will continue to build our reputation for offering some of the most advanced, sophisticated and intelligent office buildings in existence.

Daewoo E&C emerging as a big player in the office market as it constructed Yonsei Foundation Building, the first intelligent building in Korea, acquired a good reputation as it constructed the head office of Korea Development Bank and Seocho Gyobo Tower, a landmark around Gangnam Station. In addition, Seoul Square which was remodeled into a cutting-edge building from the previous Daewoo Center Building and afforestation on outer walls, and Eulji Twin Tower to which specialized designs such as solar power system, etc. were applied are recognized as representative intelligent office buildings.

We have also been actively engaged in the construction of skyscrapers overseas, building on our strong reputation and customer trust. This includes the KLCC Tower in Kuala Lumpur, Malaysia, which was built using our independently-developed Building Movement Control (BMC) technology, as well as the Telekom Malaysia headquarters building, now a notable local landmark.







#### Songdo G Tower, Korea

- Total floor area: 86,165 m<sup>2</sup> 2 stories below the ground and 33 above
- Cutting-edge intelligent building utilizing new renewable energy

#### 2 Gyeongsangbuk-do Provincial Government, Korea - New office building of

- Gyeongbuk Provincial Government having Korean look and international refinement - A building leading green
- architecture of the highest grade green building with the ratio of new rewable energy of 30%

#### Telecom Malaysia Headquarters Building, Malaysia

- 1 story below the ground and 77 above
- A cutting-edge, high-rise intelligent building, erected using the pre-stressing beam method

#### 4 KLCC Tower, Malaysia

- 5 stories below the ground and 58 above
- A high-rise intelligent building

#### Northeast Asia Trade Tower, Korea

- Total floor area: 104,425 m, 3 stories below the ground and 68 above
- A landmark in Songdo International City, Incheon

#### **Eulji Twin Tower, Korea** - Total floor area: 146,675.9㎡

- 8 stories below the ground and 20 above
- Cutting-edge intelligent building to which a specialized green premium design is applied

#### Seoul Square, Korea - Total floor area: 132,865 m<sup>2</sup>,

- 2 stories below the ground and 23 above
- Introduced the world's largest LED media canvas on its facade

#### IB Tower, Malaysia

- 4 stories below the ground and 58 above
- A high-rise intelligent building

#### New KEPCO Office Building, Korea

- Total floor area: 98,629㎡ - Grand Prize at 2015 'Korea Green Building Award'

#### Korea Development Bank Headquarters, Korea

- Total floor area of 99,838 m with 4 basement floors and 8 ground floors DAEWOO E&C PROFILE 30 THE PROGRESS\_ARCHITECTURE

# **Commercial Complexes**

Commercial complexes are evolving into multifunctional facilities that combine shopping, living convenience and cultural infrastructure.

Daewoo E&C has built commercial complexes that satisfy the various needs of customers and visitors, contributing to the invigoration of local economy and improving local culture.



Daewoo E&C is building commercial complexes that provide added value for customers and extra convenience for visitors.

Commercial complexes we have built include Migliore shopping malls (in Dongdaemun, Myeongdong, Sinchon, Busan, and Daegu), which have become local landmarks, and Sindorim Techno Mart, an electronics shopping center.

We were also the first South Korean construction company to enter the Japanese construction market, where we completed Fukuoka Canal City, now a leading landmark in Fukuoka.





#### High1 Resort, Korea

- Total floor area: 136,715㎡, 3 stories below the ground and 10 above
- Included a casino and a theme park

#### 2 Canal City Hakata, Japan

- Total floor area: 234,460 m, 1 story below the ground and 5 above
- A futuristic urban-style cultural complex including a shopping mall, theaters and hotels

#### 3 Acloud Gamil, Korea

- Total floor area: 38,564 m², 1 storie below the ground and 2 above for 257 retail spaces
- A large-scale shopping center including a large-size open space and an experiential square

#### Sindorim Techno Mart, Korea

- Total floor area: 283,043m, 7 stories below the ground and 40 above
- A shopping complex specializing in electronic goods

#### Migliore Myeongdong, Korea

- Total floor area: 34,799m²,
   7 stories below the ground and 17 above
- A fashion Mecca in Myeong-dong, Seoul

#### Migliore Dongdaemun, Korea - Total floor area: 49,771㎡,

- 7 stories below the ground
- and 20 above - A multi-use shopping mall

#### Maxtyle, Korea

- Total floor area: 49,938.92m, 7 stories below the ground and 18 above
- The first multi-use shopping mall for both retail and wholesale in Dongdaemun - Redeveloped from the former Heungin Market

#### Migliore Sinchon, Koreaa

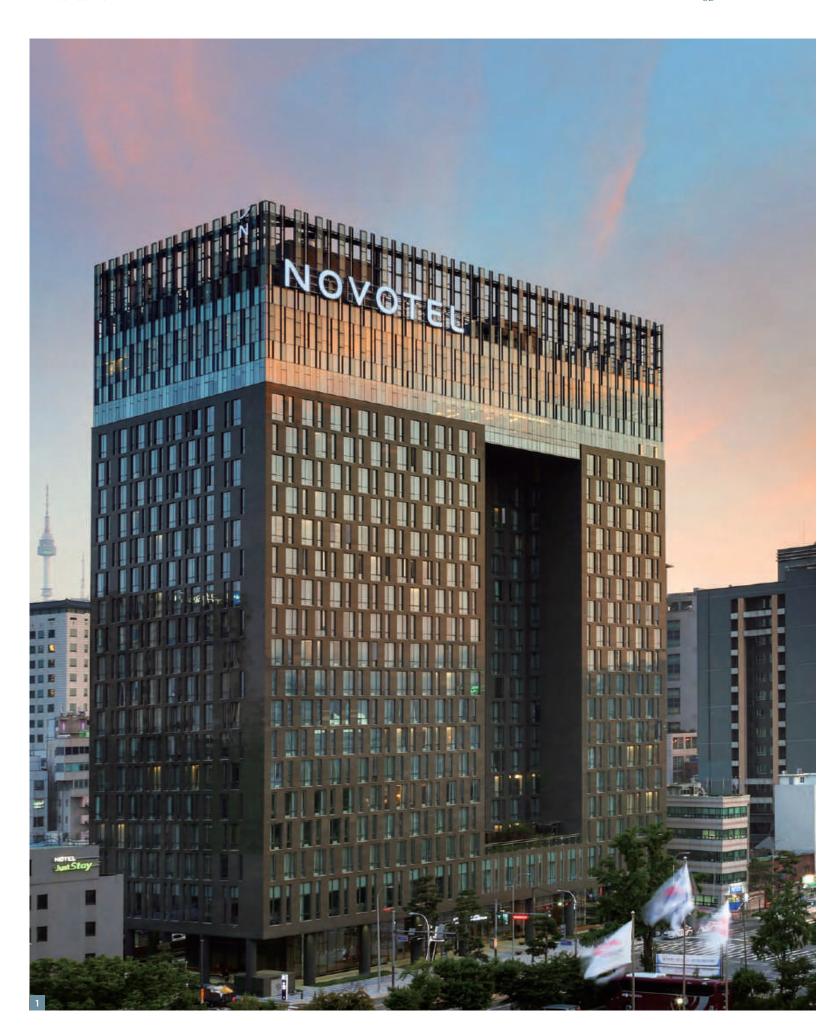
- Total floor area: 29,991m, 2 stories below the ground and 6 above
- A multi-use shopping mall

#### Sinchon Station Complex, Korea

- Total floor area: 29,812 m, 2 stories below the ground and 6 above

#### Busan International seafood wholesale market, Korea

- Total floor area: 83,000 m², 7 stories above the ground for 56 fisheries processing factories and research support facilities DAEWOO E&C PROFILE 32 THE PROGRESS\_ARCHITECTURE



# **Hotels & Condominiums**

Daewoo E&C is renowned as a global developer of hotels and condominiums, a field that requires customer-centered quality management, user convenience-oriented designs and construction, and aesthetics that reflect modern sensibilities and trends.

Daewoo E&C has established an impressive portfolio in the construction of hotels and condominiums. This includes the Millennium Seoul Hilton, Gyeongju Hilton, Hotel Lotte, High1 Grand Hotel (Main Tower) and Seoul Dragon City, which boasts the largest number of guestrooms in South Korea. We were also able to minimize the environmental impact of the Sheraton Grand Incheon Hotel by employing eco-friendly materials throughout its construction phase and recycling more than 75% of waste generated during the construction period. The hotel acquired a Leadership in Energy and Environmental Design (LEED) certification from the US Green Building Council, a first for a South Korean five-star hotel.

We are also expanding into the hotel markets in Malaysia, Singapore and other Southeast Asian countries, by building such high-end hotels and condominiums as the Hilton hotels in Algeria and Morocco, and Vietnam Hanoi Daewoo Hotel in Vietnam.





# Novotel Ambassador Dongdaemun Hotels & Residences, Seoul, Korea

- 5 stories below the ground and 20 above, 532 rooms (331 hotel guestrooms, 192 residences)

#### 2 Sheraton Grand Incheon Hotel, Korea

- 3 stories below the ground and 22 above
- Named the World's Leading Green Hotel at the 2012 World Travel Awards

#### 3 Seoul Dragon City, Korea

- Total floor area: 185,482m², 4 stories below the ground and 40 above, A hotelplex comprising the largest number of guestrooms(1,700) in South Korea, restaurants, and shopping and cultural spaces

#### The St. Regis Hotel, Malaysia

- 48 stories standing 212m high Malaysia's first six-star hotel

### **Tripoli JW Marriott Hotel, Libya** - 36 stories and 370 guestrooms

A five-star hotel built using the curtain wall system

### Pasir Condominiums, Singapore - 12 buildings and 912 households

- 2017 'Good Landscape Design Certification from National Parks
- Singapore Bendemeer Condominiums, Singapore

- Four 29-30 story buildings and three 2-3 story terrace houses

#### Pale De CZ, Korea

Board'

- 3 stories below the ground and 17 above, 4 buildings, 116 guestrooms, High-class, hotel-type condominiums with Haeundae sea view

#### Hanoi Daewoo Hotel, Vietnam

- 18 stories, 411 guestrooms, 193 fully-furnished and serviced apartments DAEWOO E&C PROFILE 34 35

# **Educational, Medical & Research Facilities**

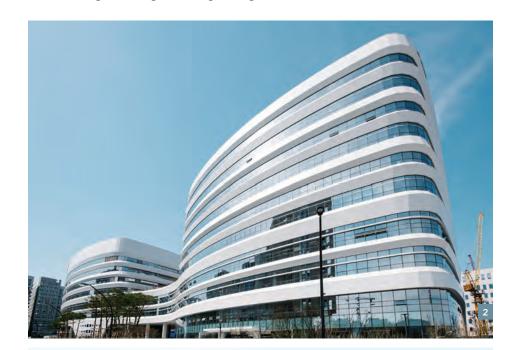
Daewoo E&C is building educational facilities that will foster the development of future leaders, as well as state-of-the-art medical facilities that will allow medical professionals to provide the best care possible.



Daewoo E&C has contributed to the development of advanced medical services and research centers through the construction of hospitals at home and abroad. This includes the 1,300-bed Seoul National University Bundang Hospital, Busan National University Hospital/Children's Hospital, Ajou University Hospital in South Korea, and Benghazi Central Hospital and Tripoli Central Hospital in Libya. We are also developing a strong reputation in the field of educational and research facilities.

This includes the construction of buildings at Yonsei University, Ajou University, Sogang University, and Seoul National University.

Of particular note was our application of innovative technologies to the construction of the Seoul National University Kwanjeong Library, including the mega truss construction method that allows the lifting and sliding of ultra-high strength steel structures.





#### Seoul National University Kwanjeong Library, Korea

- Total floor area: 27,320 m<sup>2</sup> - Grand Prize in Social Public category at 2015 'Korean Architecture Award' - Gold Prize at 2017 'KIBSE Outstanding Structure Awards'

#### 2 The Osstem Implant R&D Center, Korea

Total floor area: 71,004m, 2 Stories below the ground and 10 above Application of pre-con method (comprehensive simulation of design, cost, process, quality, etc.)

#### Keimyung University Dongsan Medical Center, Korea - Total floor area: 179,217m<sup>2</sup>,

5 Stories below the ground and 20 above - Green medical center certified as a green building grade grafting green environment-friendly factors at the pre-design stage

#### Busan National University Hospital, Children's Hospital, Dental Hospital, Korea

- BNU Hospital: Total floor area of 101,667m<sup>2</sup> 2 stories below the ground and 9 above, and 772 beds

- BNU Children's Hospital and BNU Dental Hospital: Total floor area of 31,696m<sup>2</sup> 2 stories below the ground and 9 above, and 140 beds

### Sogang University Jeong Hasang Hall and Teilhard Hall, Korea

- Total floor area: 9,009 m², 1 Story below the ground and 10 above for lectures and research

# Yonsei University International Campus (Phases 1-2), Korea

- Total floor area: 442,000 m², 1 story below the ground and 7 above with 5 comprehensive lecture buildings, library, study houses and deck parking spaces

# Seoul National University Educational and Research Center, Seoul, Korea

- Total floor area: 16,336 m², 2 stories below the ground and 6 above for Research facilities building

#### Seoul National University Bundang Hospital Extension, Korea

- Total floor area: 51,604m, 3 stories below the ground and 10 above, with 477 beds - South Korea's first hospital to be built with a double-skin façade, increasing comfort and saving energy

#### Benghazi Central Hospital, Benghazi, Libya

Total floor area: 172,400m and 1,600beds
 a main buildings and attached buildings for the highest-scale medical facilities in Libva

#### Yonsei University Gangnam Severance Hospital, , Seoul, Korea

- Total floor area: 18,390 m², 4 stories below the ground and 4 above DAEWOO E&C PROFILE 36 37 THE PROGRESS ARCHITECTURE

# **Exhibition & Sports Centers**

Daewoo E&C creates exhibition and sports centers that bring people together through sport, cultural experiences and special events. We create multi-purpose buildings for rest, relaxation, and health as well as national exhibition centers.



Daewoo E&C has built cultural exhibition centers that are both practical and beautiful.

This includes the Korea International Exhibition Center (or KINTEX), a leading exhibition and convention center in South Korea; the National Museum of Contemporary Art in Gwacheon; the Busan Museum of Art; the National Museum of Korea; and the "Floating Island", the world's largest artificial island and waterside cultural complex.

In the sport facility sector we have constructed Gwangmyeong Cycle Racing Domed Stadium (South Korea's first domed velodrome), Busan Sports Complex, Incheon SK Happy Dream Stadium and Daegu Samsung Lions Park.





#### 1 Floating Island, Korea

- Total floor area: 9,995 m², The world's first aquatic cultural space with 3 artificial islands on Hangang River

#### 2 Ahn Jung-geun Memorial Hall, Korea

- Korea -Total floor area: 3,759 m², 2 stories below the ground and 2 above
- First Prize at 28th 'Seoul Architectural Awards'

#### 3 Daegu Samsung Lions Park, Korea

- 2 stories below the ground and 5 above, South Korea's first octagonal ball park, Capacity: Approximately 29,000

#### KINTEX, Korea

- Total floor area: 116,632 m², 1 story below the ground and 3 above

#### Gwangmyeong Domed Velodrome Korea

- Total floor area: 75,491m², 5 themed domes in addition to the domed stadium itself - Grand Prize at 12th 'Gyeonggido

# Architectural Awards' in 2007 Incheon SK Happy Dream Stadium,

- Total floor area: 18,191㎡, 1 story below the ground and 3 above, with 3,006 seats and the largest swimming pool in Incheon
- Hosted Incheon 2014 Asian Games

#### National Museum of Korea, Korea

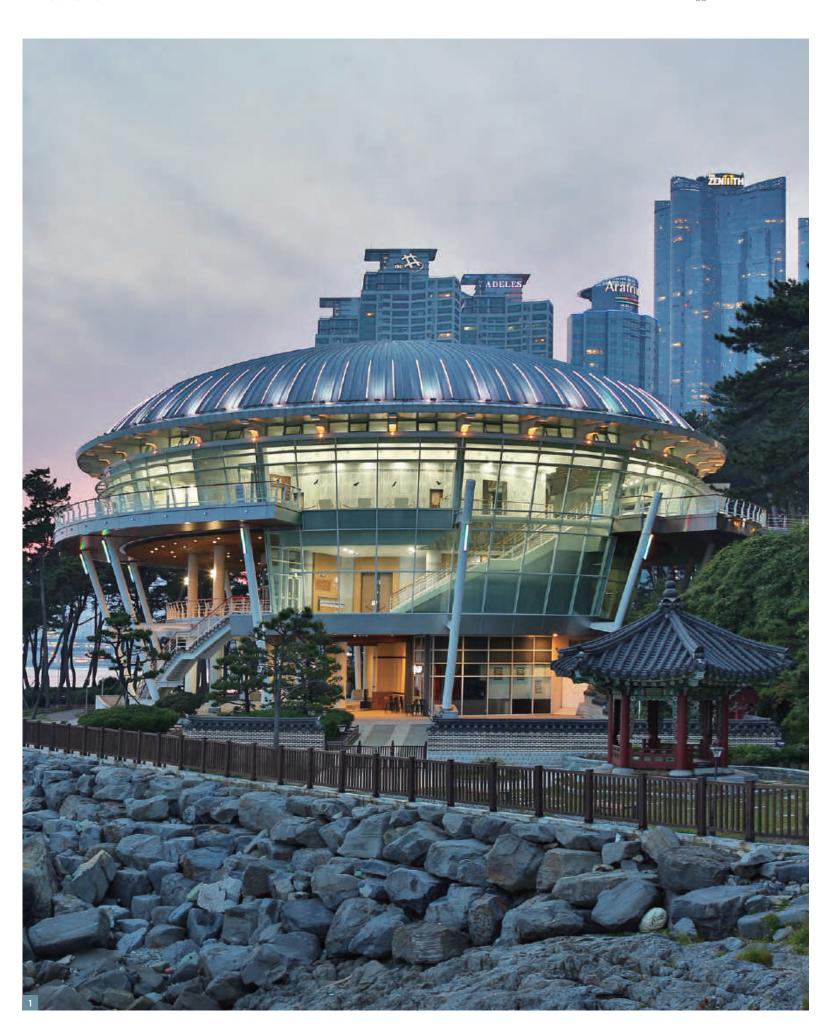
- Total floor area: 131,707㎡, 1 story below the ground and 6 above, Named one of the world's top six museums - Grand Prize in New Construction
- category at 2006 'Seoul Architectural Awards'

#### MEGABOX COEX, Korea

- Total floor area: 21,215㎡, 2 stories below the ground 16 theaters and one 3D theater

#### National Museum of Contemporary Art, Korea

- Total floor area: 33,881m², 1 story below the ground and 4 above DAEWOO E&C PROFILE 38 THE PROGRESS ARCHITECTURE



# **Convention & Transportation Infrastructures**

Daewoo E&C is committed to creating the most cutting-edge international convention and transportation infrastructure available. By keeping ahead of the swift pace of technological and lifestyle changes, we have been able to revitalize the meeting, incentives, convention, events and exhibition (MICE) industry.

The Nurimaru APEC House, which hosts international summits, is a prime example of our proficiency in the area of convention infrastructures.

Designed in the mode of a traditional Korean pavilion but using a modern architectural style, it won First Prize at the Korea Engineering and Construction Technology Awards. It was lauded for reflecting the spirit

and culture of Korea while also serving as a hallmark international convention center.

Other convention and transportation sector facilities we have constructed include the Incheon Airport Passenger Terminal and Concourse, the Incheon Port International Passenger Terminal, the Suwon Complex Terminal and the Cheongju Bus Terminal.





#### Nurimaru APEC House, Korea

- Total floor area: 2,994m², 3 stories above the ground, A modern-style replica of a 'Jeongja', or traditional Korean pavilion

#### 2 Science Technology Creation Center, Korea

- Total floor area: 42,686 m², 14 stories above the ground Included a large-scale convention center, a collaborative industryacademyresearch facility

#### Incheon International Airport, Korea

- Total floor area: 47,428,000m², Included 2 passenger terminals, a concourse, 5 runways, 260 passenger airplane aprons, 107 cargo airplane aprons

#### ASEM Tower, Korea

- Total floor area: 147,061m², 4 stories below ground and 41 above, A cutting-edge international convention center and the site of the Third Asia-Europe Meeting in 2000

#### Jeju International Convention Center(ICC), Korea

-Total floor area: 62,125 m², 2 stories below the ground and 5 above, Included international convention, other event facilities

#### Gwangju Design Center, Korea

- Total floor area: 17,385 m², 1 story below the ground and 7 above, Eco-friendly building with minimized energy consumption and environmental pollution

#### Incheon Port International Passenger Terminal, Korea

- Total floor area: 23,233㎡, 4 terminal buildings and 3 for parking

#### Incheon Airport Public Support Facilities, Korea

- Total floor area: 11,233㎡, 1 story below the ground and 5 above

#### Suwon Intermodal Bus Terminal,

- Total floor area: 63,751m², 1 story below the ground and 6 above

#### Hongseong Passenger Bus Terminal, Korea

- Total floor area: 7,387㎡, 1 story below the ground and 3 above

# HOUSING

### Proudly contributing to our customers' happiness.

In 1994, Daewoo E&C became the first company in South Korea to introduce the concept of eco-friendliness to apartment complexes. The concept involved building a sense of brand trust by presenting potential buyers with the company's vision for PRUGIO and PRUGIO SUMMIT homes as places where people could lead happy, fulfilling, and meaningful lives. We are also contributing to the health and happiness of our customers' lives through the development of innovative urban residential complexes, studio apartments, and redevelopment, reconstruction and remodeling projects. By acting as front runners of the smart home sector, we are modeling a new residential culture that seamlessly blends people, the environment and technology into customers' homes.



DAEWOO E&C PROFILE 42 THE PROGRESS\_**HOUSING** 

# **Apartments**

Apartment buildings are the most efficient and convenient type of living space available; they enhance the value of land while contributing greatly to housing security. Daewoo E&C has been leading lifestyle trends in this area by presenting the most advanced residential culture for apartment buildings since entering the field in 1984.



In 1994, Daewoo E&C raised the standard of South Korea's residential culture to the next level through the introduction of eco-friendly considerations into apartment buildings. In 2003, we made another indelible mark in this field through the launch of our PRUGIO eco-friendly apartment complex brand, which showcases our philosophy of combining premium residential lifestyles with livable cultural spaces and the environment. PRUGIO has proven its brand power by ranking first in supply performance for the eleven years since its launch as well as in the Korea Standard-Premium Brand Index (KS-PBI) survey. It was also the first apartment complex brand to be named "Good Design". We also launched our PRUGIO SUMMIT high-end residential product brand in 2014, creating quality luxury living spaces. Daewoo E&C is continuously developing 'PRUGIO Edition', a PRUGIO product strategy newly composed after reflecting up-to-date residence trends and applying to selected apartment complex.





#### Unjeong New Town Central PRUGIO, Paju, Korea

- 1 story below the ground and 25 above;
- 21 buildings, 1,956 apartments

#### 2 Geomdan New Town PRUGIO The Venue, Incheon, Korea

- 2 stories below the ground and 29 above;
   16 buildings, 1,540 apartments
   Excellence Prize in general large-size sector of the 'Best Apartments To Live'
- of Maeil Business News Korea - Grand Prize in IoT sector of 'Green Construction Awards' of Asia Today

#### Pangyo First Hill PRUGIO, Seongnam, Korea

- 3 stories below the ground and 20 above; 18 buildings, 974 apartments
- Grand Prize in complex landscape sector of the first-half 'Housing Culture Awards'
- of Korea Economic Daily - Grand Prize in housing awards of 'Korea Construction Awards' of Dong-A Daily News

#### Cheongju Technopolis PRUGIO, Cheongju Korea

- 2 stories below the ground and 25 above; 12 buildings, 1,034 apartments - Excellence Prize in general large-size sector of the 'Best Apartments To Live'

#### Geomam Royal Park City PRUGIO 1,2 complex, Incheon, Korea

of Maeil Business News Korea

- 2 stories below the ground and 40 above; 25 buildings, 4,805 apartments

#### Gunsan The Ocean City PRUGIO, Gunsan, Korea

- 2 stories below the ground and 29 above; 11 buildings, 1,400 apartments

#### Gwangju Central PRUGIO, Gwangju, Korea

- 2 stories below the ground and 20 above; 18 buildings, 1,425 apartments

#### Pohang Jangseong PRUGIO, Pohang, Korea

- 2 stories below the ground and 30 above; 11 buildings, 1,500 apartments

#### Chuncheon Central Park PRUGIO, Chuncheon, Korea

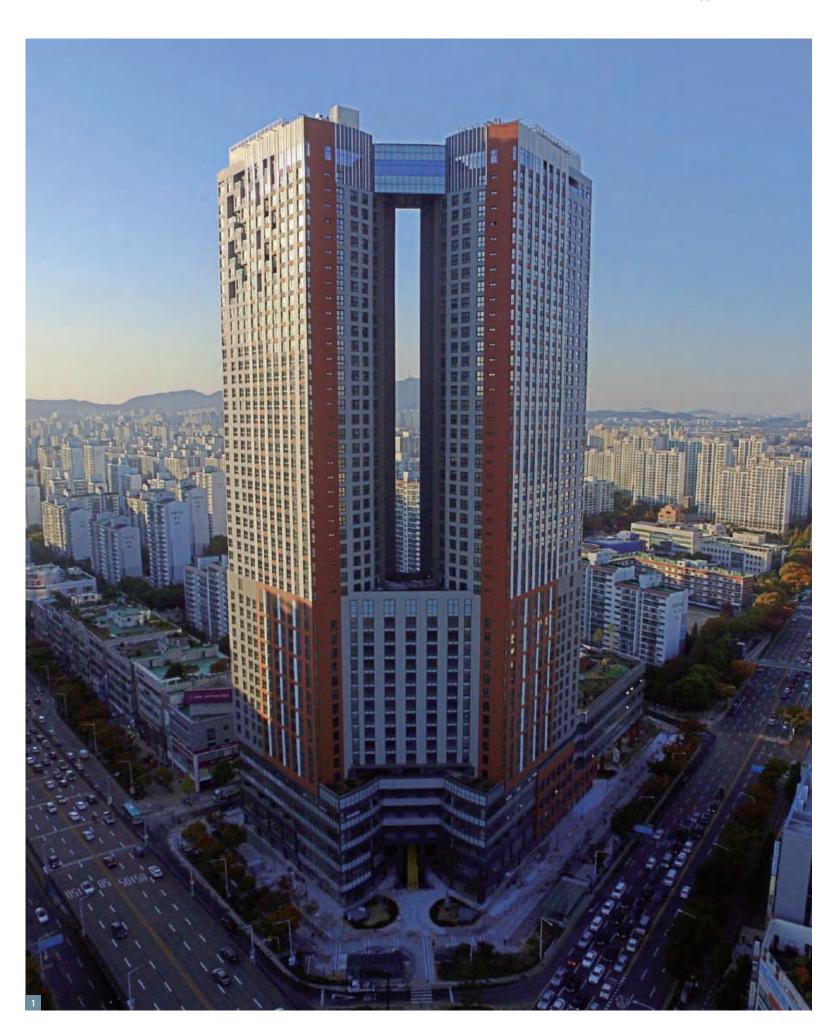
- 2 stories below the ground and 32 above;
  14 buildings, 1,556 apartments
  Grand Prize in environment friendliness
- Grand Prize in environment friendliness of 2nd-half 'Housing Culture Awards' of Korea economic Daily

#### Gyeongju Central PRUGIO, Gyeongju, Korea

- 2 stories below the ground and 25 above; 15 buildings, 1,671 apartments

- Grand Prize in high quality apartment sector of 'Korea Construction Awards' of Dong-A Daily News
- Comprehensive Grand Prize (Prize of Minister of Land, Infrastructure and Transport) of 'Construction Awards' of Aju Business Daily

DAEWOO E&C PROFILE 45



# **Studio Apartments & Urban Lifestyle Homes**

Daewoo E&C is responding to an emerging residential culture that reflects modern changes in demographics and lifestyle. Following a rise in the number of one-person and small-sized households, we are proactively developing "tiny home" residential products that feature practical designs while utilizing minimal space.

Daewoo E&C has supplied a number of studio apartment brands since the early 2000s, such as I-VILLE and THE 0-VILLE series. These products meet the needs of small household customers, while capitalizing on the advanced technologies we have developed through the construction of apartments and high-rise intelligent buildings.

In 2008, we introduced the PRURIO CITY small residential product that combines studio apartments with urban lifestyle homes, leading the markets for both studio apartments and urban lifestyle homes.

We will continue to develop our industry-leading reputation in the small-sized housing market backed by our insightful analysis of changing lifestyles, planning power, thoughtful product mix, and superior brand power.





### Sinjungdong Station Landmark PRUGIO CITY, Bucheon, Korea

- 7 stories below the ground and 49 above; 2 buildings, 1,050 units
- 2 Songdo Landmark PRUGIO CITY, Incheon, Korea
- 4 stories below the ground and 36 above; 2 buildings, 1,990 units
- 3 Gwanggyo PRUGIO CITY, Suwon, Korea
- 4 stories below the ground and 10 above; 2 buildings, 1,712 units

#### Wirye Unam Station First PRUGIO CITY, Seongnam, Korea

- 6 stories below the ground and 19 above; 1 building, 434 units

#### Yeoksam Station Central PRUGIO CITY, Seoul, Korea

- 7 stories below the ground and 18 above; 1 building, 736 units

#### Yeongdeungpo Central PRUGIO CITY, Seoul, Korea

- 3 stories below the ground and 24 above; 1 building, 494 units

#### Gasan Central PRUGIO CITY, Seoul, Korea

- 3 stories below the ground and 20 above; 1 building, 1,454 units

#### Dongtan Station PRUGIO CITY, Hwaseong, Korea - 6 stories below the ground and

- 6 stories below the ground and 23 above; 2 buildings, 609 units

#### Misa Station MyUm PRUGIO CITY, Seoul, Korea

- 6 stories below the ground and 23 above; 2 buildings, 1,090 units

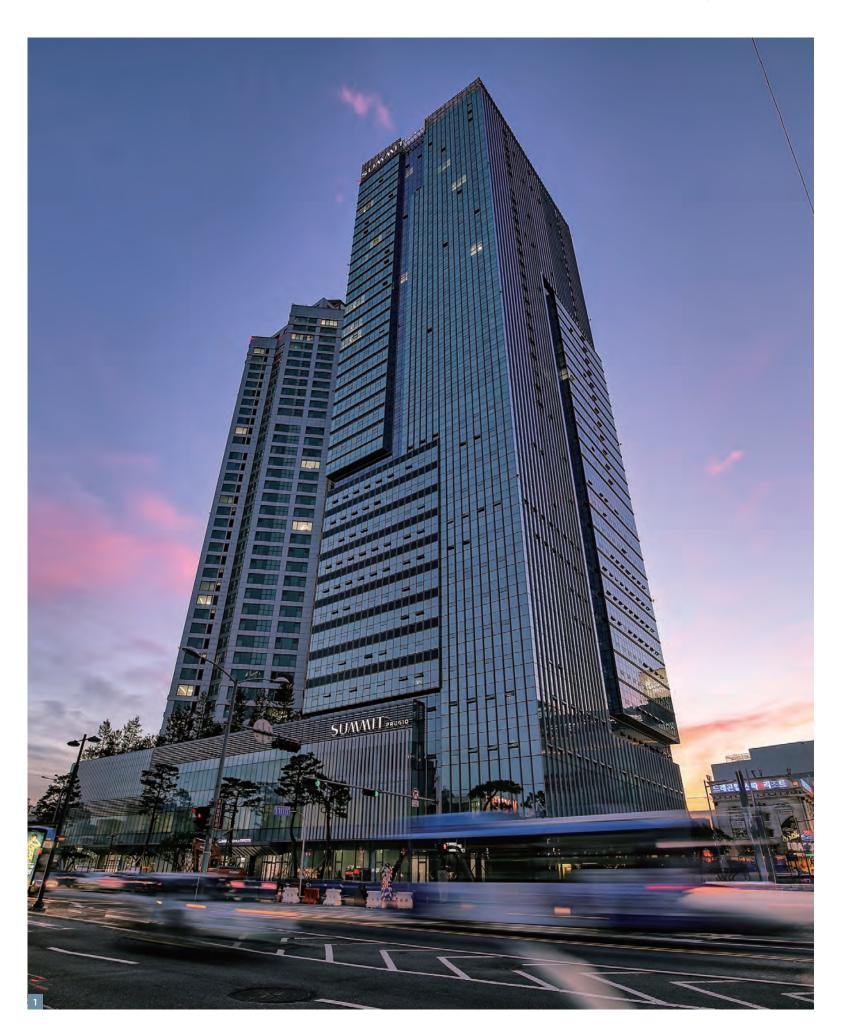
#### Samsong Wonheung Station PRUGIO CITY, Goyang, Korea

- 5 stories below the ground and 49 above; 4 buildings, 1,192 units

#### Idae Station PRUGIO CITY, Seoul, Korea

- 6 stories below the ground and 19 above; 1 building, 362 units

DAEWOO E&C PROFILE 46 THE PROGRESS\_**HOUSING** 



# **Urban Residential & Commercial Complexes**

At Daewoo E&C, we believe that living spaces should offer quality as well as convenience. To deliver on this, we are introducing sophisticated residential and commercial complexes for customers who desire multi-purpose residences.

 $People's \ tastes \ for \ housing \ are \ becoming \ increasingly \ diversified \ and \ sophisticated.$ 

To meet these trends, Daewoo E&C provides special high-end residential complexes such as the DAEWOO TRUMP WORLD in Yeouido, the Yongsan CITY PARK Apartments and the DAEWOO TRUMP WORLD Centum in Busan. Their designs have instilled great pride as local landmarks. The DAEWOO TRUMP WORLD in Yeouido and the DAEWOO TRUMP WORLD Centum in Busan are considered exceptional examples of high-end commercial-residential buildings, incorporating leading edge technology and expertise gained through our partnership with the Trump World Tower business in Manhattan, New York.

The Yongsan PRUGIO SUMMIT has also emerged as the highest-end commercial-residential facility in its area, delivering an unparalleled luxury lifestyle.





#### 1 Yongsan PRUGIO SUMMIT, Seoul, Korea

- 9 stories below the ground and 38-39 above; 1 building, 650 apartments

#### Jungdong Central Park PRUGIO, Bucheon, Korea

- 4 stories below the ground and 49 above; 6 buildings, 1,051 apartments

#### Mokdong Central PRUGIO, Seoul, Korea

- 5 stories below the ground and 31 above; 2 buildings, 248 apartments

#### Gwangmyeong Station PRUGIO, Gwangmyeong, Korea

- 5 stories below the ground and 42 above; 5 buildings, 640 apartments

#### Songpa Legal Town PRUGIO CITY, Seoul, Korea - 1 story below the ground

and 13 above; 1 building, 619 units

#### Songpa Park Habio, Seoul, Korea

- 5 stories below the ground and 19 above; 5 buildings, 3,636apartments

#### TRUMP WORLD Marine, Busan, Korea

- 2 stories below the ground and 42 above; 2 buildings, 222 apartments

#### WORLDMARK Asiad, Busan, Korea

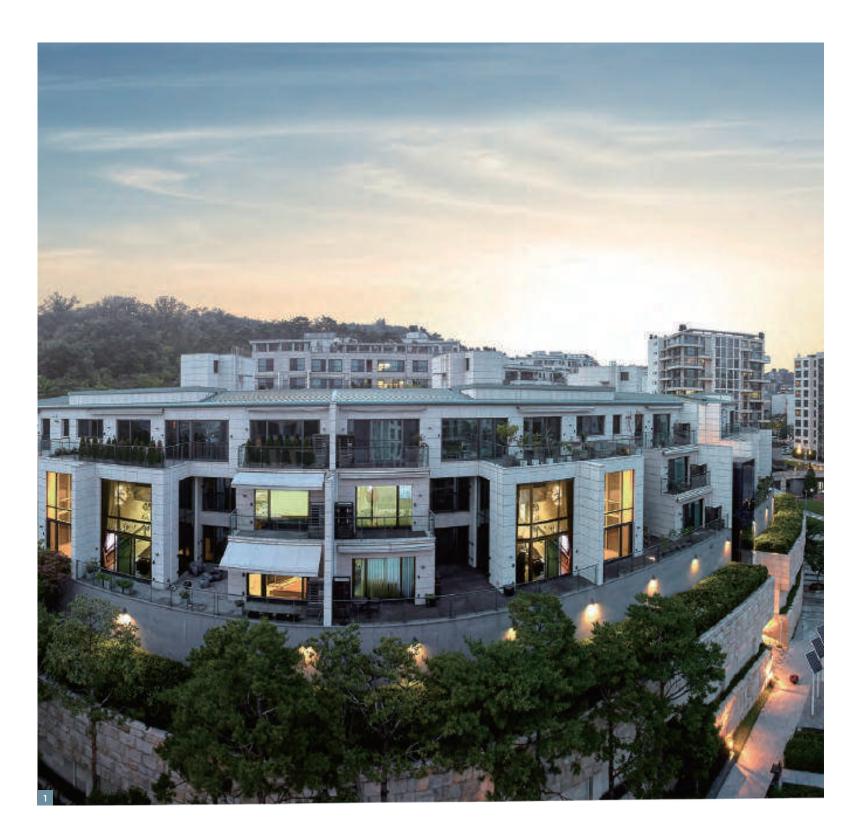
- 3 stories below the ground and 36 above; 2 buildings, 299 apartments

#### TRUMP WORLD Centum, Busan, Korea

- 3 stories below the ground and 38 above; 4 buildings, 564 apartments DAEWOO E&C PROFILE 48 49 THE PROGRESS\_HOUSING

# **Town Houses & Villas**

Daewoo E&C is exploring new business territories emerging within the rapidly changing residential sector. We are creating new-concept living spaces through the construction of townhouses and forward-looking homes that reflect people's increasingly diverse lifestyle preferences.



Daewoo E&C is dedicated to creating innovative living spaces that meet the needs of consumers while leading market trends

Following a rise in demand for townhouses that offer the benefits of natural settings and urban centers while also delivering the convenience of apartments, we are constantly evolving our high-class homes that integrate comfort while meeting these superior lifestyle needs. With this goal in mind, we have taken our high-end villas to the next level with our GREEN COUNTY and ROYAL COUNTY brands.

We are further realizing our philosophy of creating premium residential spaces that allow people and nature to coexist through our PRUGIO HEIM townhouse brand.





#### 1 Hannam THE HILL, Seoul,

- 2 stories below the ground and 12 above; 7 buildings, 600 households

#### Unjungdong PRUGIO HEIM, Seongnam, Korea

- 1 story below the ground and 4 above; 14 buildings, 36 terracetype apartments, 108 flat-type households

### Jaedeok Techno Valley PRUGIO HEIM, Daejeon, Korea

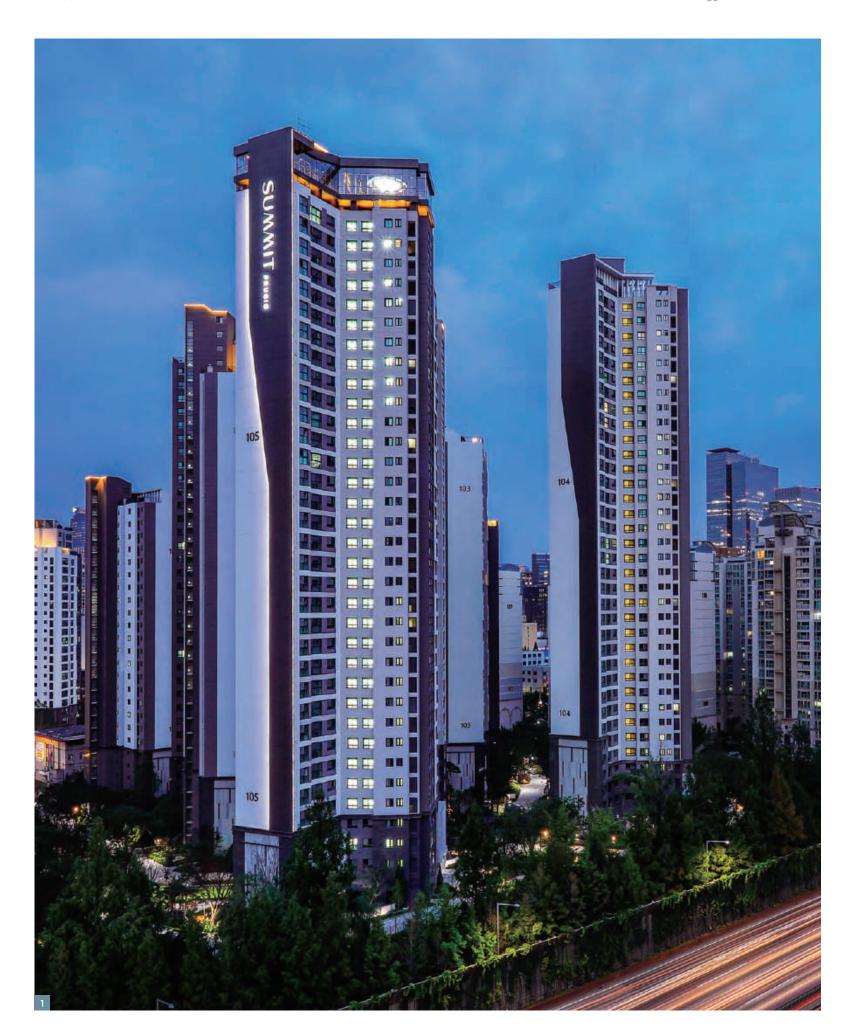
- 2 stories below the ground and 7 above; 16 buildings, 302 households

#### Dongtan PRUGIO HEIM, Hwaseong, Korea

1 story below the ground and 2 above;99 detached households

#### Cheongna PRUGIO LAFIANO, Incheon, Korea

- 3 stories, 34 buildings, 354 households DAEWOO E&C PROFILE 50 THE PROGRESS\_**HOUSING** 



# Redevelopment, Reconstruction & Remodeling

Daewoo E&C is a proactive player in redevelopment, reconstruction, and remodeling projects that seek to provide more comfortable and pleasant living conditions through the improvement of residential environments and the expansion of urban infrastructure. We are adding value to urban housing through our commitment to enriching our customers' lives.

Daewoo E&C's leadership in South Korea's redevelopment, reconstruction, and remodeling sector capitalizes on our ongoing product development and advanced technologies.

The PRUGIO SUMMIT we developed in 2014 is becoming a landmark in such major areas as Seocho, Banpo, and Yongsan in Seoul. Notably, the Secoho PRUGIO SUMMIT awarded the Presidential Prize for 2017 the 'Best Apartments to Live', in recognition for its technology and quality. We will continue to take the lead in creating beautiful and livable urban spaces by participating in a wide spectrum of urban redevelopment projects.





#### Seocho PRUGIO SUMMIT, Seoul, Korea

 2 stories below the ground and 35 above; 7 buildings, 907 apartments

#### 2 Banpo Central PRUGIO SUMMIT, Seoul, Korea

- 3 stories below the ground and 35 above; 8 buildings, 764 apartments

#### Gwacheon PRUGIO SUMMIT, Gwacheon, Korea

- 3 stories below the ground and 28 above; 32 buildings, 1,571 apartments
- Prize of president of Korea Institute of Design Promotion in 2021 'Good Design'

#### Daechi PRUGIO SUMMIT, Seoul, Korea

- 3 stories below the ground and 18 above; 9 buildings, 489 apartments

#### Gwangmyeong PRUGIO Centver, Gwangmyeong, Korea

- 3 stories below the ground and 37 above; 12 buildings, 1,335 apartments

#### Lacervo PRUGIO SUMMIT, Seoul, Korea

4 stories below the ground and 35 above; 7 buildings, 958 apartments

#### Gwacheon Central Park PRUGIO SUMMIT, Gwacheon, Korea

- 3 stories below the ground and 32 above; 15 buildings, 1,317 apartments

#### Isu PRUGIO The Pretium, Seoul, Korea

- 3 stories below the ground and 15 above; 11 buildings, 514 apartments

#### Indeogwon PRUGIO Elcentro, Uiwang, Korea

 2 stories below the ground and 43 above; 12 buildings, 1,774 apartments

#### Ansan PRUGIO Bripark, Ansan. Korea

- 3 stories below the ground and 38 above; 10 buildings 1.714 apartments

# DEVELOPMENT

# Opening global opportunities through integrating planning, finance, and technology.

Daewoo E&C is actively challenging into various development projects on the basis of construction, operation and management knowhow accumulated since its foundation and trustworthy financing capability. Through well-structured business planning and detailed risk analysis and mitigation, we will engage in domestic and overseas energy, infrastructure, and urban development projects which are becoming larger and more complex. By doing so, we will continue to diversify our revenue sources and keep the level of South Korea's construction services high in the world.



DAEWOO E&C PROFILE 54 55

# **Energy**

Daewoo E&C keeps proving itself in the areas of project development, financing and construction capabilities in the private energy sector both at home and abroad. We will keep push ourselves to be a global energy developer in the private energy sector, which is globally growing significantly.



In 1994, Daewoo E&C had completed the Houay Ho Hydropower project in Laos, the first BOT (Build-Operate-Transfer) project implemented outside and proved its overseas project development and construction capabilities. More recently, we developed, invested in and constructed the Pocheon Combined-Cycle Power Plant project in South Korea, which has been supplying reliable electric energy to metropolitan area since September 2017.

To expand our energy business area, we won a contract for a 47MW photovoltaic project, which had turned tangerine fields into solar energy production sites in Jeju Island in South Korea as. Overseas, we have jointly invested with K-water and carried out construction work in the Patrind Hydropower Project in Pakistan, which became operational in November 2017. Through these projects, we have not been only enhancing our business capabilities in energy sector, but also expanding our business area geographically.





#### Houay Ho Hydropower Plant,

- 152MW, BOT scheme, main sponsor, EPC contractor Project cost: USD 240 million

#### 2 Patrind Hydropower Plant, Pakistan

- 150MW, B00T scheme, co-sponsor with K-water, EPC contractor Project cost: USD 436 million

#### 3 Pocheon IPP, Pocheon, Korea

- 974MW combined-cycle power plant, co-sponsor with KDB infra, EPC contractor Project cost: USD 917.4\* million

#### Jeju Solar Power Plant, Jeju, Korea

- 47.515MW solar power plant, sponsor, EPC contractor Project cost: USD 64.2\* million

\*Exchange rate(USD/KRW, end of 2017): 1063.83 DAEWOO E&C PROFILE 56 57 THE PROGRESS **DEVELOPMENT** 



# Infrastructure

Daewoo E&C is proud to have amassed a large portfolio of infrastructure projects in public-private partnership (PPP). Beyond our extensive experience in delivering infrastructure PPP projects in South Korea - including roads, railways, and harbors - we will continue to expand our presence in the global PPP market.

Daewoo E&C played a key role in carrying out the Geoga Daero project, from planning and finance through to construction and operation. By constructing the first immersed tunnel in South Korea - the longest and deepest immersed tunnel in the world at that time - we proved our superior ability to undertake major infrastructure projects.

The sea link also reduced travel time between Busan and Geoje from 3 hours to 40 minutes and improved people's quality of life. We also took part in the Yongin-Seoul Highway as lead manager and completed a 22.9km highway connecting Seoul with Yong-in city which contributed to sustainable development and the distribution of traffic demand in the southern part of the metropolitan area. We contributed to the development of the Guri-Pocheon Highway, the Sosa-Wonsi Double-Track Railway and the Cheonmasan Tunnel and the Ulsan New Port in addition to other large-scale infrastructure PPP projects.





#### Guri-Pocheon Highway, Korea

- 50.6km, with 2-3 lanes each way Project cost: USD 1,607.4 million

#### 2 Ulsan New Port Phase 1-1 Privately Financed Facilities, Ulsan, Korea

- 2-wire container pier, 2-wire multipurpose pier, 2-wire ore pier Project cost: USD 243.7 million

#### 3 Yongin-Seoul Highway, Korea

- 22.9km, with 2-3 lanes each way Project cost: USD 982.4 million

#### Geoga Bridge, Korea

- 8.2km (Busan - Geoje) Including 3.2km immersed tunnel Project cost: USD 1,864.1 million

#### Cheonmasan Tunnel, Korea

- 3.23km, with 2 lanes each way Project cost: USD 227.6 million

#### Sosa-Wonsi Double-Track Railway, Korea

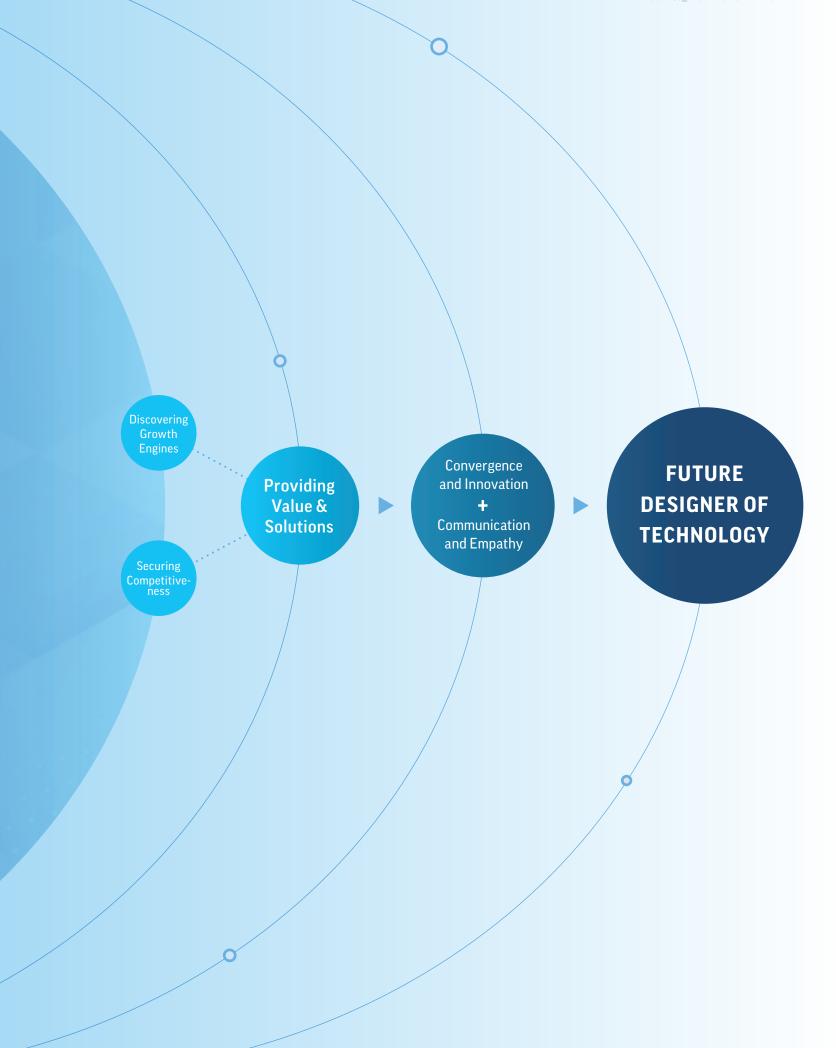
- 22.3km main line, 2.257km access line, with 12 stations and 4 ancillary facilities Project cost: KRW 1,592.6 billion

# RESEARCH AND DEVELOPMENT

Daewoo E&C opened the Daewoo E&C Institute of Construction Technology (DICT), the first research institute in South Korea's construction industry, in 1983.

Since then, DICT has actively engaged in sector research that maximizes the company's design, construction and development capabilities.

DICT is also carrying out large-scale national, future growth and other projects, contributing to the nation's overall construction technological prowess.



THE PROGRESS\_RESEARCH & DEVELOPMENT

60



# CONVERGENCE

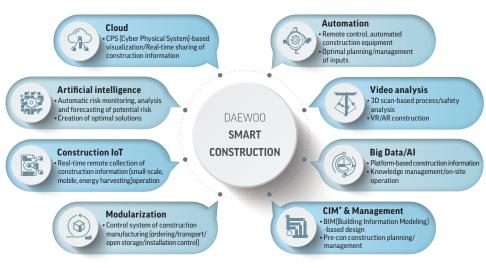
#### Daewoo E&C leads Innovation with Convergence between ICT and Construction.

Daewoo E&C leads a new 'digital transformation in the construction industry' by grafting the core technology of the 4th industrial revolution onto construction technology. We have developed a roadmap to respond to the 4th industrial revolution and is concentrating on discovery of technology to respond to new business through analyzing the future markets.

Daewoo Smart Construction (DSC) System, a Leading Solution in the age of Fourth Industrial Revolution

Daewoo E&C is constructing DSC (Daewoo Smart Construction) System converging construction and ICT technology over the overall stages of planning, design, procurement, construction and maintenance relating to construction. In relation thereto, we are developing the core technology in various sectors including construction IoT, construction automation, simulation of construction based on BIM (Building Information Modeling), analysis of construction information based on AI-big data, construction of model for information on construction by drone, VR/AR virtual construction.

We are thereby intending to maximize safety and efficiency and improve productivity of construction. Especially, it has developed and is applying the Daewoo E&C's unique digital virtual sites that can visualize and share the construction data in safety, process and quality sector occurring real time at the sites in 3D. Digital virtual sites can be easily accessed and utilized by any person by utilizing GIS (Geographic Information System) map information and BIM model. We aer planning to provide the intelligent total solution for construction that can integrate and manage the overall sectors of construction including planning, design, construction and maintenance stages by grafting site data analysis and risk forecasting technology, etc. utilizing AI in the future.



\*CIM Construction Information Modeling & Management

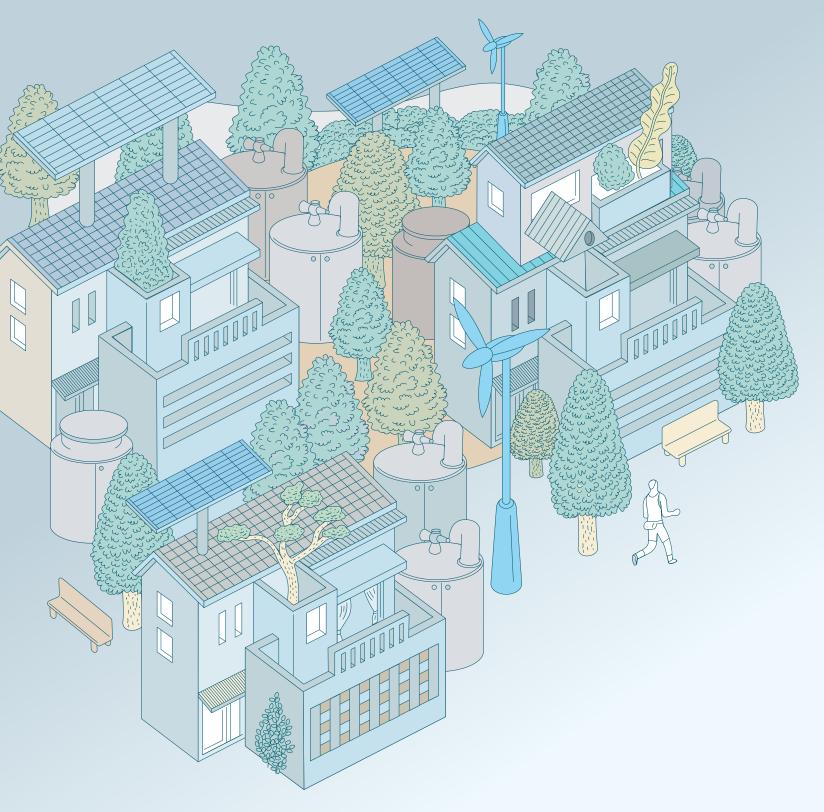
# **Drone Technology** for Efficiency and Accuracy

Daewoo E&C started preemptive research for the areas utilizing drones in construction sites and is leading the relevant technology. Among these, we have concentrated on the 'construction survey' sector and it not only has achieved the outcome of patent application for method of displacement measurement and method of creation of flatland utilizing drones, but also is generating advanced survey results beyond the level of existing human survey thanks to realization of 3D modeling of construction sites. Based on the result of such technology development, we have been utilizing drones in more than 50 sites and working designs since 2016, and also have been utilizing drones in surveying construction status and in the state of bidding design since 2017. Especially, by actively applying the drone surveying technology in analyzing earth-volume at a large-scale industrial complex site, examination of displacement of coast breakwaters, management of quantity of reclamation of reclaimed land by dredging, etc. which were difficult to measure by the existing human survey, we are maximizing the value of customers by saving working time and expenses as well as calculates accurate earth-volume. Daewoo E&C plans to continue R&D to efficiently utilize drones over the overall value chain of the construction industry including repair and maintenance of facilities and management of process for a long term.

# **Pre-Construction,** a Virtual Project Simulation Technique

Pre-construction (hereinafter 'Pre-con') is a technique that a constructor actually performing the construction work simulates in general the design/cost/process/quality, etc. at the early state of a project, and Daewoo E&C has been conducting the relevant research since 2013. Currently, an organization dedicated for pre-con has been organized within the business headquarter and is performing multiple projects and has won the contract for Osstem Magok Company Building Project. Daewoo E&C plans to support successful performance of pre-con in the future by utilizing the technology already in possession and up-to-date technology such as BIM, laser scanning and VR/MR, and will continuously perform R&D for items such as Modular that can maximize the result of pre-con in the future.

DAEWOO E&C PROFILE 62



# **SMARTGREEN**

#### **Advanced Technology Contributes to Environment.**

Daewoo E&C is achieving the dream of mankind for clean and uncontaminated future.

Daewoo E&C is promoting coexistence of construction and the nature by continuously developing the technology maximizing energy efficiency and the technology for diffusing of new renewable energy.

Hydrogen Society is a Present Matter, not a Future Matter, Fuel Cells and Water Electrolysis-based Hydrogen Production Technology Daewoo E&C is concentrating its R&D capacity on the technology for producing blue hydrogen and green hydrogen, and is preparing the foundation for construction of water electrolysis-based hydrogen production base. In addition, it is preparing for the hydrogen economy era to come by expanding the network in energy sector, establishment of collaboration relationship and advancing to markets, and continuously discovering various hydrogen business models including hydrogen fuel cell power generation business, etc.



# Offshore Wind Power Support Structure Technology

in Compliance with New Renewable Energy Policy Daewoo E&C has been conducting relevant technology development in accordance with the medium-and long-term plan since 2011, strategically targeting offshore wind power which has superior LCOE (levelized cost of electricity) among new renewable energy.

For the fixed offshore wind power sector, Daewoo E&C completed technology development for jacket basic and concrete suction basic, and recently, it is actively responding to offshore wind power projects through self-development of floating offshore wind power models.

# Segmental CFT Girder Bridge Construction Method,

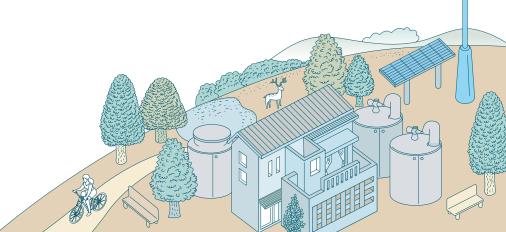
a Green Technology Overcoming
Extreme Environment

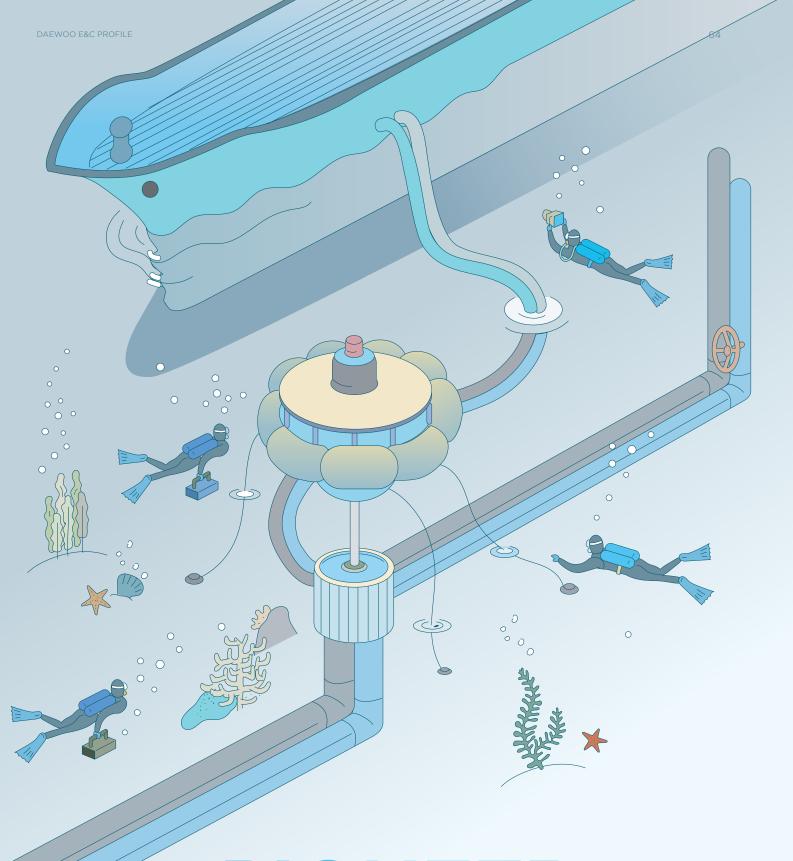
Segmental CFT Girder Bridge Construction Method developed by Daewoo E&C is a system that fabricates standard modules using concrete-filled steel tube, one of major forms of composite elements, and constructs by assembling girders and piers tailored to the bridge located in various topographical conditions after combining them. It not only represents higher strength and deformation capacity by supplying shortcomings of concrete and steel, but also has excellent applicability in construction environment such as any mountainous area and overseas extreme areas in which it is difficult to deposit concrete, thanks to prefabrication and assembly construction.

Furthermore, it is environment-friendly by minimizing works at sites and ensures economical construction by shortening construction period.

Technology for Collection and Utilizing as Construction Material of Carbon Dioxide, to Transform a Global Warming Material into a Resource DECO<sub>2</sub>(Daewoo Elimination of CO<sub>2</sub>) technology successfully developed for the first time in Korea by Daewoo E&C is a technology for collecting  $CO_2$  emitted through chimneys from power plants, cement plants, etc., and at the same time, utilizing collected  $CO_2$  as a construction material, and as a result, safety and permanently storing  $CO_2$ . This technology dramatically reduces emission of greenhouse gas by collecting  $CO_2$  contained in exhaust gas with microbubble reactor of alkaline admixture and reducing from about 15% to about 1%.

In addition, it is possible to utilize the  $CO_2$  collection produced at this time as a construction material such as sidewalk blocks, ground improvement material, etc. by mixing with cement. Daewoo E&C is making various efforts including verification of performance through operation of a demo plant and application as a basic technology to the special district from regulation for recycling of  $CO_2$ , and intends to contribute to substantial carbon neutrality by connecting with development of low-carbon concrete materials.





# **PIONEER**

Daewoo E&C creates the Utmost Construction Value beyond any Extreme Environment.

Daewoo E&C carries out limitless challenges in new sectors.

# Large Capacity LNG Storage Tank Design/Construction Technology Preparing for the Gas Energy Era in the Future

Daewoo E&C has capabilities to autonomously design, construct and inspect storage tanks in order to store bulk LNG in cryogenic state.

#### LNG Storage Tank Design Technology

This technology that has been applied to a number of products in Korea and abroad including Russia and Qatar performs safety facility design through precise analysis of temperature for extremely low temperature and fire, precise structural analysis in preparation for disasters such as earthquakes, and optimization design, etc. in order to prevent excessive design, etc.

#### Technology for Preventing Corrosion of Tanks and Piping

Daewoo E&C provides technology of the method suitable for various materials and usage environment, and provides technology for preventing corrosion especially in order for water necessary for the fabrication test to be used as sea water. Such technology can be a good alternative that can reduce the test period and expenses in the Middle East regions in which water is difficult to obtain.

#### Automatic Welding and Material Selection Technology

Daewoo E&C applies improved welding technology for high efficiency/high quality construction by selecting optimal construction materials and applying appropriate welding method suitable thereto. We are contributing to achievement of accurate and quick construction thereby.

# Modular Construction Technique for linstallation and Assembly of Prefabricated Standardized Modules

Rise in costs and delay in construction period due to increase of the number of non-working days due to aging of skilled manpower in construction and changes in environment is unavoidable.

Thus, Daewoo E&C is reducing construction periods by the efficient construction method after developing a modular construction method which is a technology-intensive factory production method and building up the modules at tie sites after prefabricating standardized modules.

We are currently proceeding with phased technology development, and plan to apply such technology in phases to basement floors and ground floors by gradually expanding the range in the future.

#### Structural Analysis Technology in the Nuclear Power Sector for Improvement of Technology and Competitiveness for Receiving Orders

Daewoo E&C has developed the performance system procedures compatible with the quality assurance procedures in the nuclear power sector and has secured the technical skills for structural analysis of nuclear power.

In addition, We are contributing to improvement of technical skills through seismic analysis and seismic design procedures.

DAEWOO E&C PROFILE 67

# DAEWOO Insititute of Construction Technology

# Creating a prosperous future for all using advanced construction technologies.

In addition to enhancing the technological competitiveness of the company, the DICT has led the development of global construction technology for the sector. We are continually challenging ourselves to apply our considerable experience and capability to create innovative spaces that realize peoples' dreams. We contribute to safer, happier, more livable and more sustainable communities for all by continuously analyzing industrial and lifestyle trends, and integrating this knowledge into every aspect of our work.



No. of Registered Patents

315



No. of New Excellent Technology (NET)

)



**Model Rights for** 



#### **Main Building**

As a super energy-saving green building, it is the R&D management center applying various cutting-edge technologies of 71 kinds including double skin and cool tube.





#### **Large-scale Structure Laboratory**

It is a laboratory for evaluating structural safety against various forms of external forces such as earthquake and typhoon. Experiments for special structure system conducting experiments for various forms of structural system by variably assembled reaction system as well as high-performance and precision experiments including seismic performance experiments for a 3-story building, full-scale experiments conducting bending and dynamic characteristics analysis experiments for 20m girder, and quasi-dynamic experiments and fatigue experiments through digital control of steam power and instrumentation system are conducted in this laboratory.

#### Major Performance Results

Performance evaluation of bending of precast floor plate-CFT girder, Experiment for evaluation of application of SHM (Structural Health Monitoring) to 3-story mockup structure, Evaluation of durability of PS support of NPP structure, Evaluation of performance of seismic retrofit of 2-story reinforced

concrete frame, Performance evaluation of offshore wind power tower, Evaluation of seismic performance of piers, Evaluation of performance of ESR seismic retrofit of subway pillars, Evaluation of seismic performance of PC walls, and others.





#### Wind Tunnel Laboratory

It is a laboratory for evaluating effects of wind on structures. It calculates wind power, wind pressure and wind vibration acting on the structures and evaluates wind resistance safety by analyzing the wind environment of bridges and high-rise buildings, etc. Utilizing the dynamic data obtained through the above process, Daewoo E&C has prepared specialized experimental foundations such as the 'technology specialized for wind-resistant design' forecasting actual wind loads, the 'technology for visualization of air current' for personally checking the flows of winds around structures, etc., and is creating safer and more pleasant space.

#### Major Performance Results

Songdo Northeast Asia Trade Tower (NEATT), Songdo Okay Center, The Landmark Hanoi Hotel in Vietnam, New KEPCO company building in Naju, Gwanjeong Library of SNU, Jeju World Cup Stadium, Geoga Daero, Cheonsa Bridge, and others.





#### **Acoustics Laboratory**

It is a laboratory having an anechoic room and a reverberation room satisfying the standards of the ISO, performing evaluation of performance of sound absorption and sound insulation of building materials and acoustic properties of noise source. It can predict and simulate in advance the acoustic and noise environment of building and conducts evaluation for certification of green buildings in the sound environment sector. It is contributing to development of advanced construction environment and pleasant living environment by proceeding with impact assessment and establishment of measures reduction of noise and vibration of construction sites, design and performance evaluation of architectural acoustics, etc. as well as design for reduction of indoor noise and vibration and performance evaluation thereof.

#### Standards in Possession

KS F 2805:2014

KS F 2865:2012

KS F ISO 10140-2:2016 Acoustics - Method of Laboratory for Measuring Insulation Performance of Building Elements

- Part 2: Method for Measuring Performance of Airborne Sound Insulation Method for Measuring Sound Absorption Performance by Reverberation Method Method of Laboratory for Measuring Reduction of Lightweight Impact Sound by

Finishing Structure on Concrete Slab

KS F 2810-1:2001 Method for On-site Measurement of Floor Impact Sound Insulation Performance

- Part 1: Method by Standard Lightweight Impact Source

KS F 2810-2:2012 Method for On-site Measurement of Floor Impact Sound Insulation Performance

- Part 2: Method by Standard Weight Impact Source



Daewoo Institute of Construction Technology is not only the first construction technology research institute in Korea, but also a cradle of advanced technology that has created space dreamed by mankind.

Based on the accumulated experience and capabilities, Daewoo E&C will contribute to affluent development of our society by continuously discovering the technology and solutions required by the future society to come.



#### **Mechanical & Electrical Laboratory**

It conducts experiments concerning artificial climate, construction environment such as air quality and facilities. While it presents pleasant and convenient residential environment, it also presents practical alternatives for prevention of global warming and sustainable growth of mankind by deriving the plan for reducing greenhouse gas emission and developing technology for saving building energy. Especially, CFD (Computational Fluid Dynamics) technology possessed by Daewoo E&C is a means for forecasting occurrence of condensation and evaluating indoor thermal environment providing the basics for designing air conditioning facilities for creating pleasant indoor environment.

#### Major Performance Results

Analysis of Insulation Performance and Risk of Occurrence of Condensation of Outer Cover of KAL Hotel, Analysis of Insulation Performance of Roof of Gwangmyeong Speedome, Evaluation of Indoor Thermal Environment of Gwangju Design Center, Analysis of Indoor Temperature and Distribution of Air Current of Apartments, Analysis of Flow of Indoor Air Current of Busan APEC Summit Forum, Analysis of Efficiency of Air Conditioning Facilities of Hall of Science, Technology and Creation, Test for Comparison and Evaluation of Insulation Performance of Glass Windows and Insulation Pacers, Analysis of Distribution

and Diffusion Patterns of Indoor and Outdoor Air Currents of Osan No. 2 Sewage Treatment Plant, and others.





#### **Geotechnical Experiment Laboratory**

It conducts model experiments of soil structure and experiments for physical and mechanical properties of soil materials using centrifuge. Its characteristics include a wide spectrum of applicability in various areas such as analysis of characteristics of consolidation and long-term behaviors of soft ground, stability and reinforcement of slopes, examination of stability of dam structures, examination of propriety of design of underground space such as excavation and tunnel, and disposal of wastes and diffusion of pollutants, etc.

#### Major Performance Results

Experiment for Behavior of Tunnel Lining, Analysis of Stability of Multilayer Ground (100g), Self-weight Consolidation (50g) and Shore Cross Section (150g, 200g) of Construction Work for Sinseondae Naval Base, Self-weight Consolidation (40g) and Shore Stability (50g, 100g) of Construction Work for Yeongjongdo Dumping Site in Incheon North Port, Experiment (100g) for Stability of Embankment of Construction Work for Sihwa Tidal Power Plant, Experiment for Stability of SCP of Songdo Coastal Road, Experiment for Stability of Caisson of Construction Work for South

Seawall and Section 2 of Ulsan New Port, Simulated Experiment (40g) for Forced Replacement for Construction Work for Section 5 of Sihwa Techno Valley, Stability (100g) of Cross Section of Inner Wall for Replacement by Riprap, Forced Replacement (100g), and others.





Central Laboratory It is a multi-purpose experiment laboratory, conducting basic experiments in the construction sector including tests for concrete, soil and environment.

DAEWOO E&C PROFILE THE PROGRESS GLOBAL NETWORK

# **Global Network**

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Libya Branch

**ALGERIA** 

Algeria Branch

Alger, Algeria

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Tel 218-21-489-7792 Fax 218-21-489-7795

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Saipan MP96950-8900 CNMI USA

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