

GLOBAL CORPORATION DYNAMIC KORPEC

2018. 09



KORPEC
KOREA PORT ENGINEERING Corp.

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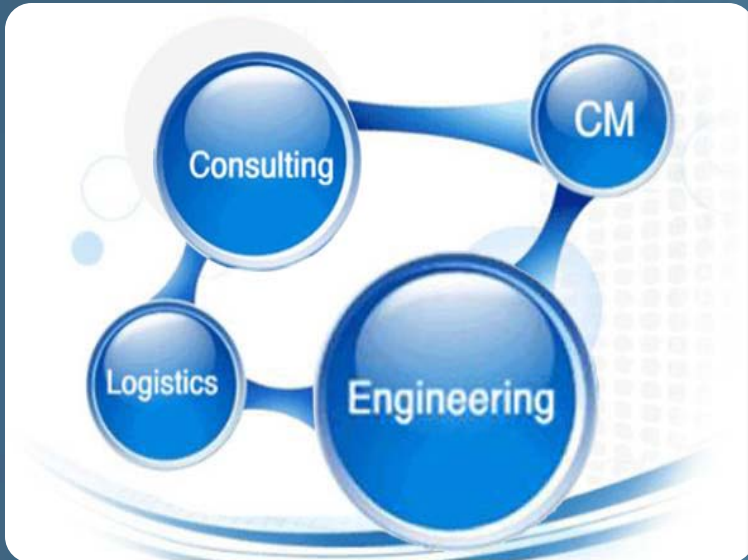
I. Company Profile



I. Company Profile



1. Introduction of KORPEC



- **KORPEC has been first established as KCTA** (Korea Government) subsidiary in order to perform the responsible inspection for quality enhancement and technological improvement of the port construction in February, 1994. **It is the professional design & inspection company** which was privatized based on the government plan for downsizing the public company in February, 2000.
- **KORPEC is expediting the development of new technology by establishing the technological research institute** in order to improve the design technology and to develop the construction technology. As aiming at exporting the advanced engineering and its globalization, **KORPEC has been enlarging its business area to the various countries** such as China, Vietnam, Greece, Russia, India, Azerbaijan and Cameroon, Oman Dry Dock etc. and preparing for the renewal as a combined consulting company with a form of the future advanced engineering.

KORPEC IS PROUD WITH A FUTURE ORIENTED TARGET WHICH SHALL BE FOUND IN SUCH KORPEC MOTTO AS THE "21C GLOBAL PORT LOGISTICS CONSULTING GROUP" IN ORDER TO MAKE KORPEC THE WORLDWIDE TOP FIRM IN THE FIELD OF CM, CONSULTING, ENGINEERING AND LOGISTICS

1. Company Profile



2. KORPEC Overseas branches

CAMEROON

- PO BOX 5141 Yanounde Bastos Cameroon
- Tel : 001-237-7624-8632 / 070-7519-7115
- E-mail : mansugy@korpec.co.kr
- Atten: Choi , Man Serk

CHINA

- NO.A1305 Baihe Digital Plaza , #33 Changjiang Road, ETDZ, Yantai Shandong Prov., CHINA
- Tel : 001-86-535-639-7114 • Fax : 001-86-535-639-7522
- E-mail : Yim-99@korpec.co.kr
- Atten: Lim, Dong Sup

3. Global Engineering Technical Cooperation

FRANCE

- EGIS BCEOM INTERNATIONAL
- SOCOTEC INTERNATIONAL

CHINA

- Joongyo 2nd port Affairs Construction Process design inspection designing institute Yantai Branch

I. Company Profile



4. Quality control and Environmental Operation System of KORPEC

- KORPEC acquired Certificates of ISO 9001 in March 2001 and ISO 14001 in September 2001 in order to establish quality control and environmental operation system and to display the eco-friendly image of the enterprise.

With the acquiring the said ISO certificates as a momentum of enhancing the sense of quality control and eco-friendly spirit KORPEC established the system to meet the satisfaction of the customers and that in preparation to meet opening the kind construction eco-friendly technological development of the nation.



I. Company Profile



5. Organization



- The organization of KORPEC consist of business development field, technology field, support team, Office of Planning & Coordination.

II. Accomplished Consultantancy Services



// Accomplished consultantancy services



1. Achievements of Overseas Projects



● KORPEC is doing business all over the world including Asia, Europe, Africa and America.

- Location of subsidiary Co
- On-going Port Development Project site
- Area to set up a JVC For Port Development
- Logistics Project Proceeding Area
- Pre-Contacted Area For Project Development.

// Accomplished consultancy services



CHINA

- Design Management Service for Construction of STX(Dalian) Company, Ltd.(2007)
- Lianyungang Port Container Terminal & Logistics Complex Construction Project(2007)
- Design Service on Heavy Zone and Front Quay wall for Daewoo Shipbuilding & Marine Engineering (Shan Dong) Co., Ltd.(2007~2008)
- Design Service on Pre-Erection Area Construction for Daewoo Shipbuilding & Marine Engineering (Shan Dong) Co., Ltd.(2006~2007)
- Design Service on Block Production Factory Civil Engineering and Port Design of Daewoo Shipbuilding & Marine Engineering Co., Ltd.(2006)
- Design Service on Phase 3 Expansion Project for Samsung Heavy Industries (Rong Cheng) (2007~2008)
- Design Service on Block Production Whole Process for Samsung Heavy Industries (Rong Cheng) Co., Ltd. (2006)



STX (Dalian) Shipbuilding Engineering Co., Ltd, China



Samsung Heavy Industries Rong Cheng Co., Ltd.

Lianyungang Port



Deawoo Shipbuilding Shandong Co., Ltd.



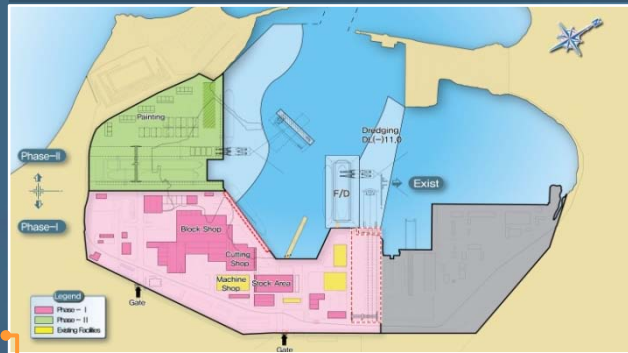
● The following are design services performed in China, and they are mainly design services such as STX Shipbuilding, Samsung Heavy Industries and Daewoo shipbuilding as main business.

// Accomplished consultancy services

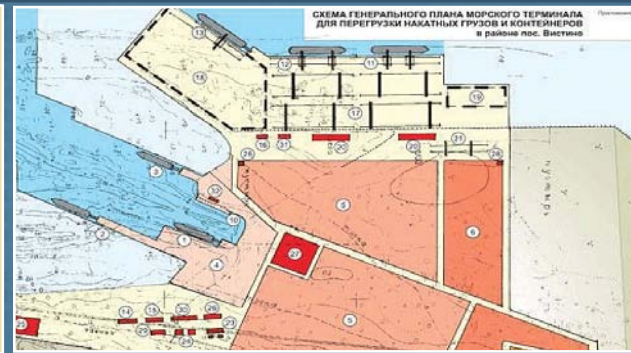


RUSSIA & CAMEROON

- New Zvezda Shipyard Development Plan (2010~)
- Feasibility Study Service For Russian Port Zarubino (2008)
- Feasibility Study Service For Port Novaya Gavan Development(2008)
- Master plan Development Service For National Railroad (2009~)
- Feasibility Study Service For Port Limbe(2008~2009)
- Took Part in International Bid For Port Kribi Consultant Service (2008)

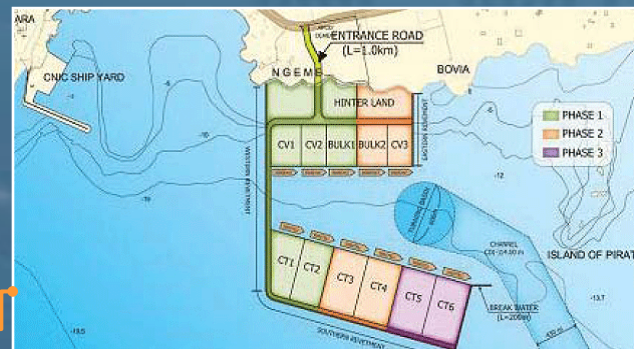


Zarubino New Port

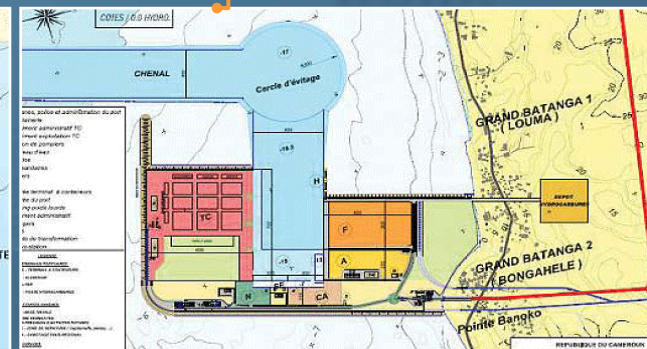


Novaya Gavan Terminal

Port Kribi



Port Limbe



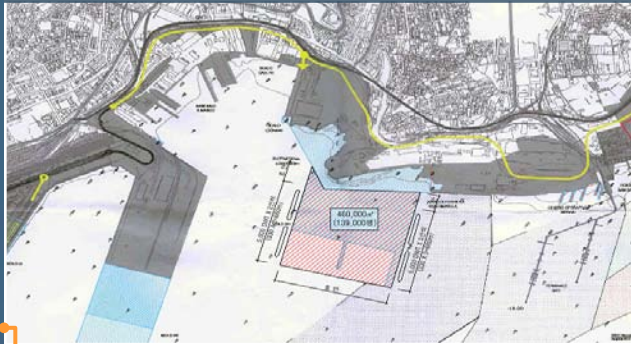
The following are design services performed. and they are mainly design services such as New Zvezda shipyard , Novaya Gavan terminal in Russia and Port Limbe , Port Kribi in Cameroon as main business

// Accomplished consultancy services



Overseas

- Feasibility Study Service for Italian Trieste Port Development (2008)
- Port Tanjung Api Api Development Project (2007)
- Port Rijeka Development Project (2007)
- Transference Business Project for Baku Port & Baku Port Shipyard (2007)
- Port Cai-Mep Container Terminal Development Basic Plan (2007)
- Design Service on Three(3) Berths(Each for 50,000 D/W ton Vessel) for Vung Tau Container Terminal (2006)
- Feasibility Studies Service on Three(3) Berths (Each for 50,000 D/W ton Vessel) for Vung Tau Container Terminal(2006)
- Angola Port Development Project (2007)

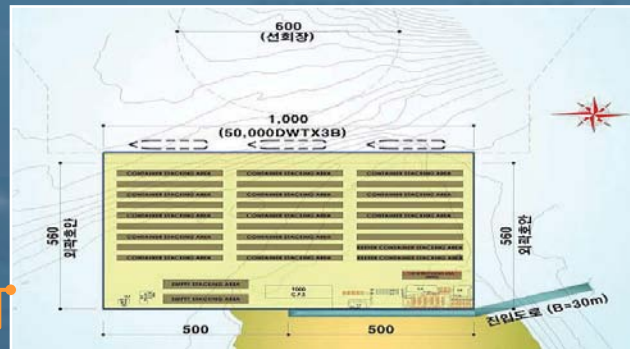


Trieste Port



Port Rijeka

Angola Port Development Project



Vung Tau Container Terminal



- Other overseas projects include Trieste Port in Italy, Port rijeka in Croatia, Vung Tau Container Terminal in Vietnam and Angola Port Development Project

// Accomplished consultancy services



2. Achievements of Domestic Business

Type	Number of items	Type	Number of items
Container Terminal	44	Breakwater	13
Shipyard	19	Fisheries	27
Ro - Ro Terminal	3	Port Accessibility (Revetment Rebuilding)	21
Material Product Terminal (Liquid, Cement, Wooden, Grain)	27	Supervision	101
Conventional etc.	38	Consultancy Services/Researches	5

Total 298

There are 10 types Achievements of domestic business. and 298 items in total. Supervision has the top position with 101, followed by container terminal with 44 and Conventional with 38.

// Accomplished consultancy services



Container Terminal



Busan New Port South Container Quay wall (2-4stage) Construction work

● This is the container terminal that Korpec performed in Korea.

// Accomplished consultancy services



Shipyards



Hyundai Heavy Industry Marine H-Dock Construction work

● This is the shipyard that Korpec performed in Korea.

// Accomplished consultancy services



Ro-Ro Terminal



Pyungtaek-Dangjin Ro-Ro Terminal Construction work

● This is the Ro-Ro terminal that Korpec performed in Korea.

// Accomplished consultancy services



Material Product Terminal



Construction of Berth No.2 in Ulsan New port
(liquid exclusive port)

● This is the Material product terminal that Korpec performed in Korea.

// Accomplished consultant service



Breakwater



● This is the caisson type breakwater that Korpec performed in Korea.

// Accomplished consultancy services



Fisheries



Gyeokpo Multi-Function Fishing port Construction work

● This is fisheries that Korpec performed in Korea.

// Accomplished consultancy services



Water accessible facilities



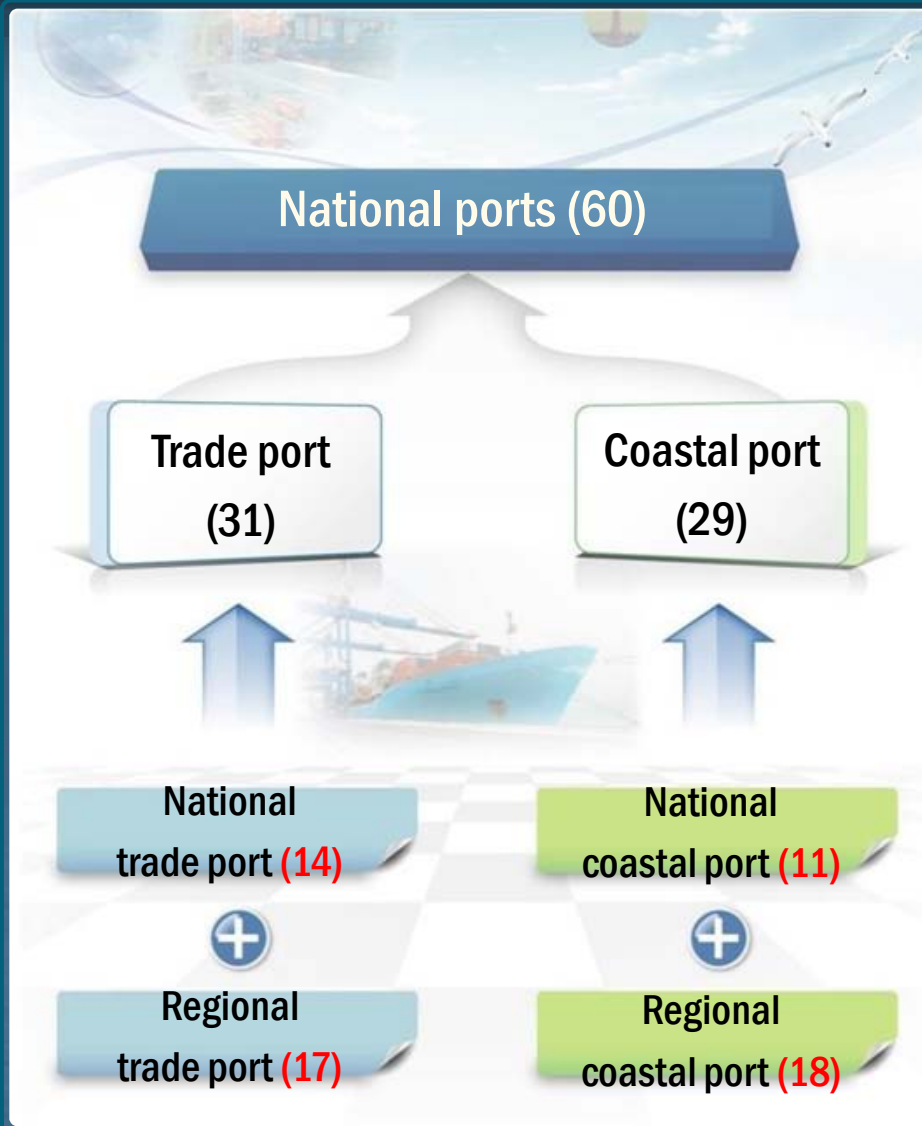
Tongyeong-GangGu port hydrophilic facilities
Construction work

● This is the Water accessible facilities that Korpec performed in Korea.

III. Current status of major ports in south korea



III. Current status of major port in south korea



● In south korea, there are a total of 60 ports with 31 trade ports and 29 coastal ports, and Busan, Gwangyang, Ulsan and Incheon ports are located in major areas.

III. Current status of major port in south korea



1. Busan New Port

40 berths dedicated to containers operated



● There are 40 berths operated by container quay wall, and expansion work is proceeding to the west side.

III. Current status of major port in south korea



2. Busan port

pan-Pacific hub port leading the 21st century



● Busan port is pan-Pacific hub port leading the 21st century

III. Current status of major port in south korea



3. Gwangyang Port

Strengthening the industrial functions as a complex logistics hub



● Gwangyang Port strengthens the industrial function as a complex logistics hub

III. Current status of major port in south korea



4. Incheon Port

Promotion as a base port for China-Korean trade



● Incheon Port is promoted as port of Korea-China trading base.

III. Current status of major port in south korea



4. Ulsan New Port

Creating new marine ports and realizing the most advanced ports



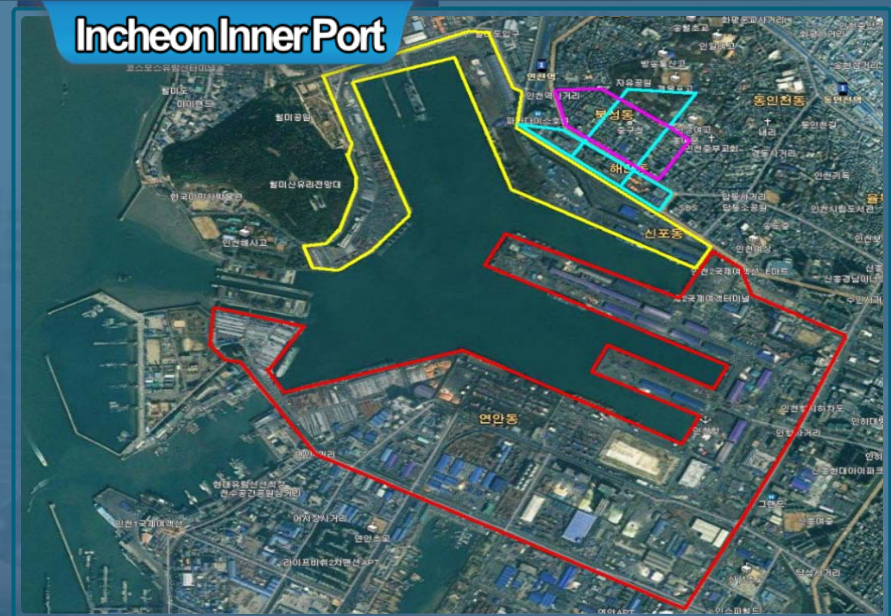
Ulsan New Port is create new marine ports and realizing the most advanced ports

III. Current status of major port in south korea



5. Redevelopment of Deteriorated and idle Ports as a New Growth Base

- **Development of Busan North Port as the International Maritime Science Center**
 - Completed construction of site for Busan North Port Redevelopment Phase 1-1('16.12)
- **Initiated a 10 trillion won re-development of ports**
 - Yeongjongdo-Myodo('17 construction), Donghae-Mukho Recreation('16. 6 construction), Kohyeon Port('15. 9 construction) etc.
- **Converting the low-profit Incheon Port 1 ~ 8 port redevelopment project/ into public development('16.12)**





IV . Proposed Port Development Projects in Sri Lanka

✓. The role of KORPEC in the development of ports in Sri Lanka



The role of KORPEC

- The KORPEC has gained advanced technology know-how for overseas port development by abundant business results not only in domestic but also overseas. ➔ A world's best technology and expertise were built.
- The KORPEC provides engineering services including Feasibility study, Design, Construction Management etc.
- The KORPEC promises a successful Business based on its professional know-how and the best technology and will provide a bridgehead for Sri Lanka's advance into globalization.



The World's Best Technology

Port Design

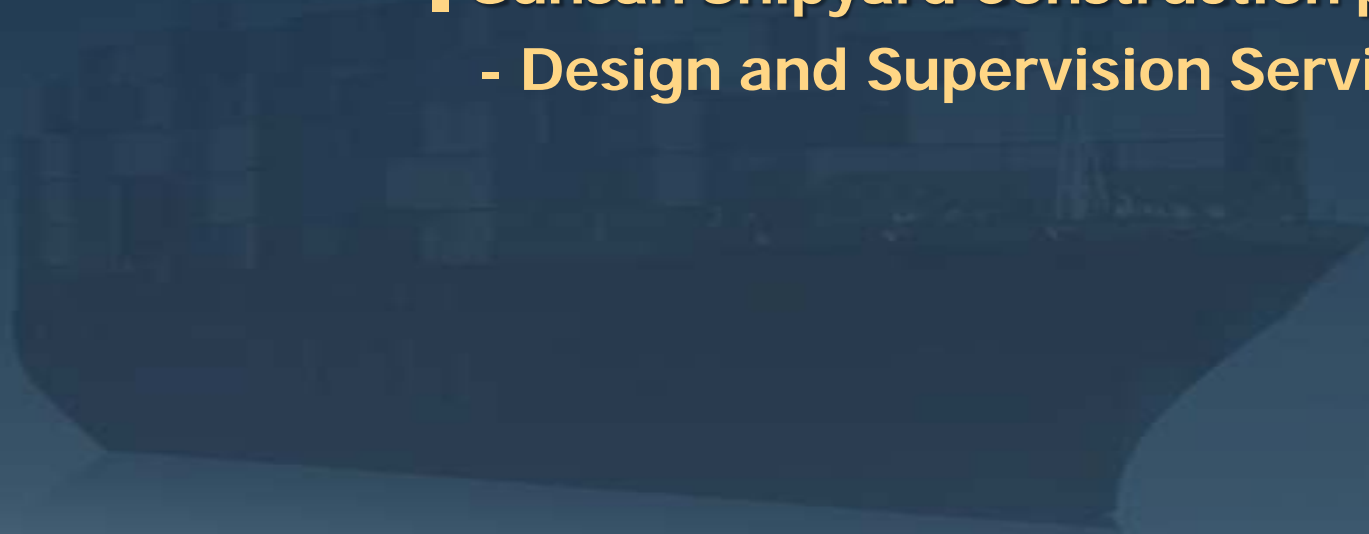
Construction Management

New Excellent Technology

● Sri Lanka Port Development ➔ The KORPEC's technology is essential.

V. Similar Cases

- **Gunsan Shipyard Construction project**
- Design and Supervision Services



Ongoing Projects



1. Project Summary



Dock Size	<ul style="list-style-type: none"> •700m×115m×18m •Goliath Crane (1,650ton) •Jib Crane 	<ul style="list-style-type: none"> 856m×2row 850m×2row 	Rigging Quay Wall	<ul style="list-style-type: none"> •1,380m (DL(-) 9.5m, 4Berth) - Target vessel 300,000 VLCC, FPSO - Jib Crane 640m×2row
Hinterland	<ul style="list-style-type: none"> •840,000m² 		Construction Period (Including Design period)	<ul style="list-style-type: none"> •2008.5 ~ 2010.4(24months)

● Dry dock size is 700m by 115 by 18m, Goliath crane is 1,650ton and Hinterland is 840,000 m² (square meters)
 Rigging Quay wall size is 1,380m and Construction period is 24months

Ongoing Projects



- In carrying out this project, the soil investigation and soft soil improvement cost accounted for the considerable amount of the total construction cost, and it was also very important in terms of structural stability.
- Therefore, in Sri Lanka, the geotechnical issues will be very important when carrying out port development projects.



● This picture shows the operation after construction. There is dry dock at sea and Goliath crane is working. And There are 11 Wind turbines along bulkhead.

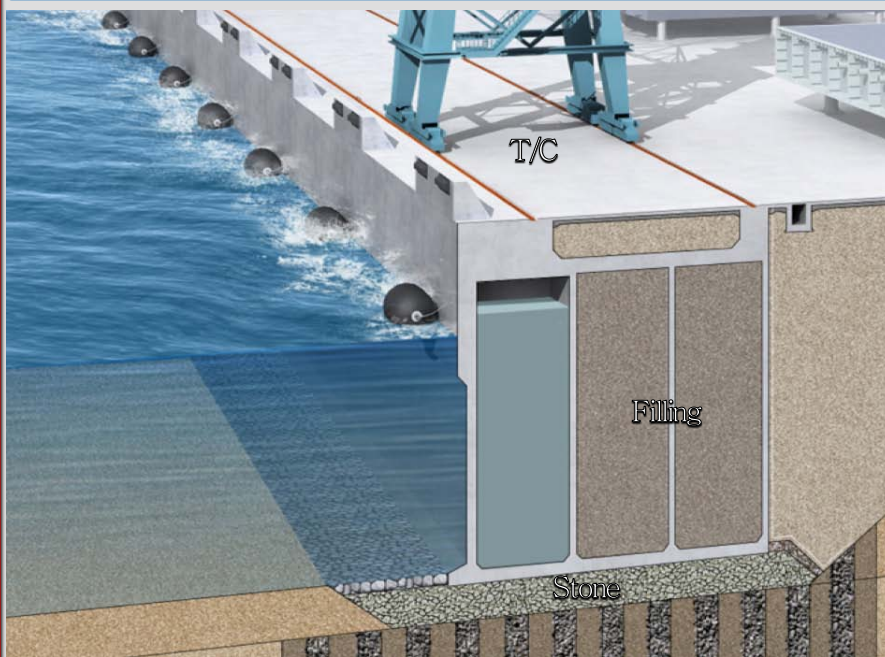
Ongoing Projects



2. Quay wall

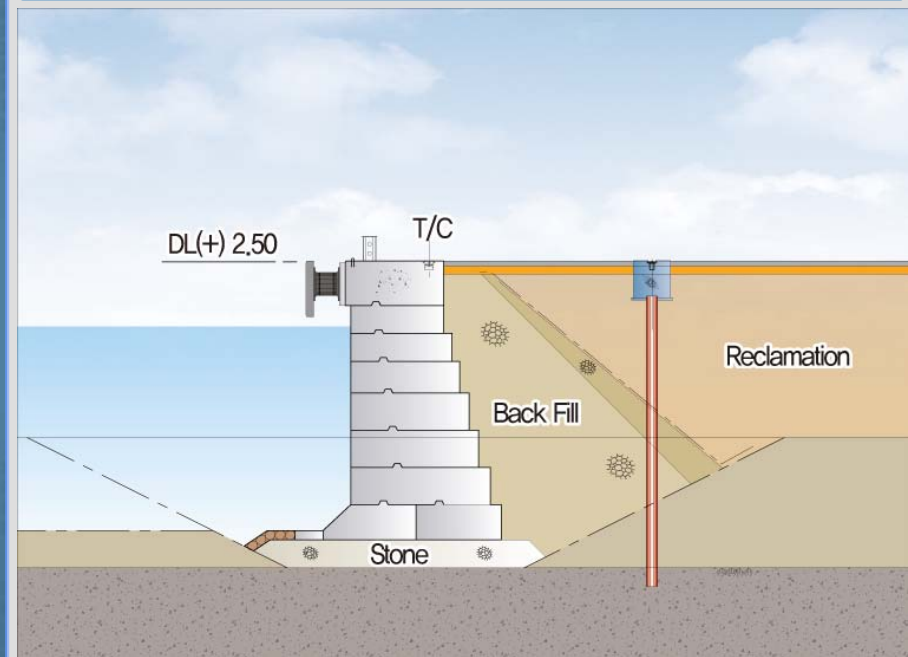
I Type of quay wall

Caisson Type



- High stability and less maintenance cost
- Construction by using large scale floating facilities

Block Type



- Gravity type/ Cost effective
- Construction by using small scale floating facilities

● We chose the caisson type, The advantage of the caisson type is High stability and less maintenance cost

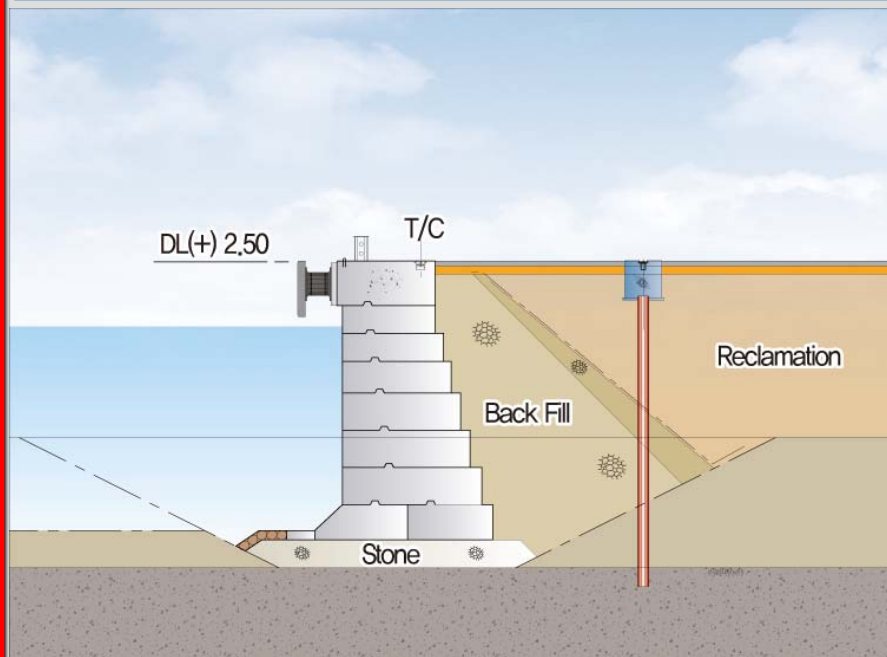
Ongoing Projects



3. Wharf

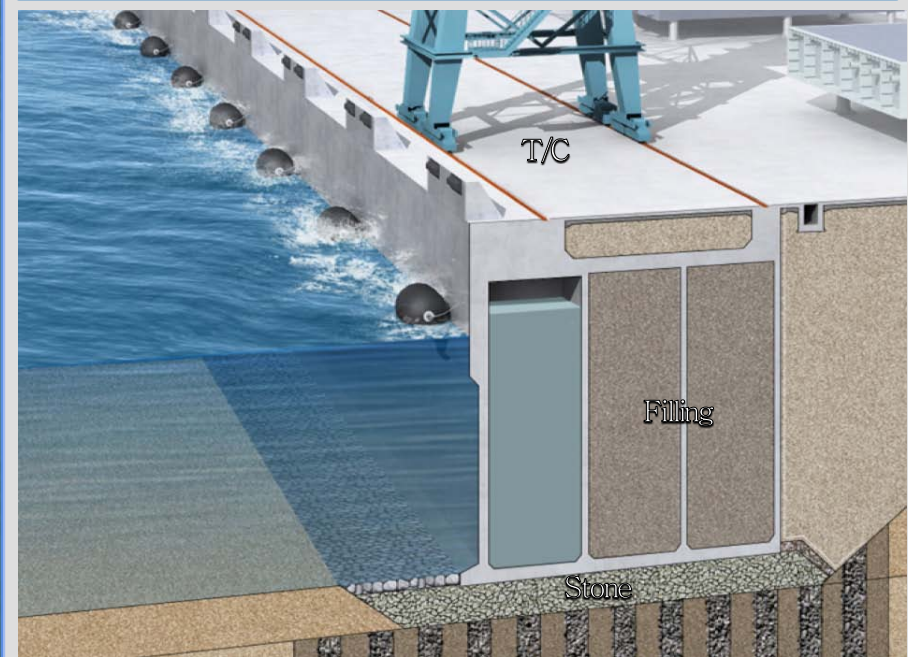
I Type of Wharf

Block Type



- Gravity type/ Cost effective
- Construction by using small scale floating facilities

Caisson Type



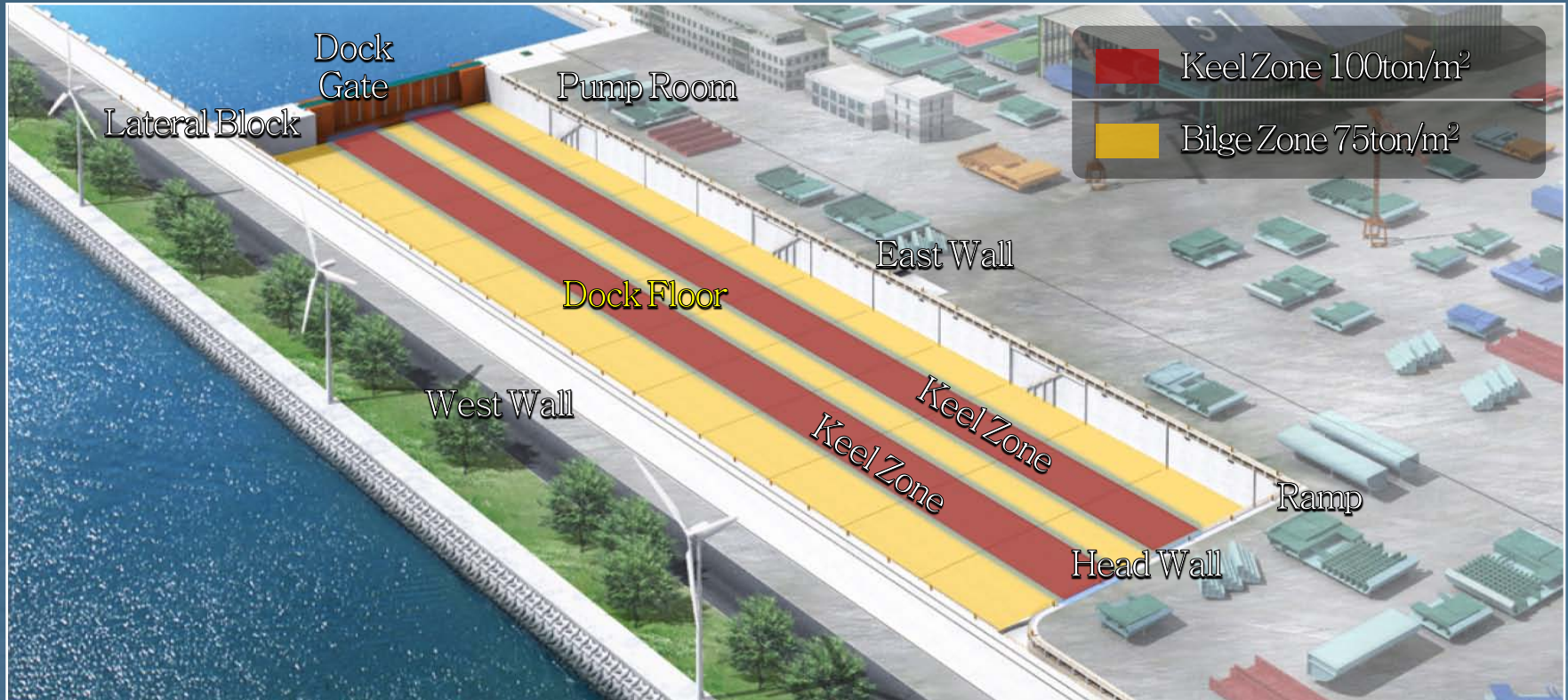
- High stability and less maintenance cost
- Construction by using large scale floating facilities

● We chose the block type, It is Cost effective and suitable for gravity type like a wharf



4. Dock

I Dock Floor



■ High stability structure for heavy load and less maintenance cost

● This is a High stability structure for heavy load and less maintenance cost

Introduction of Domestic project Case



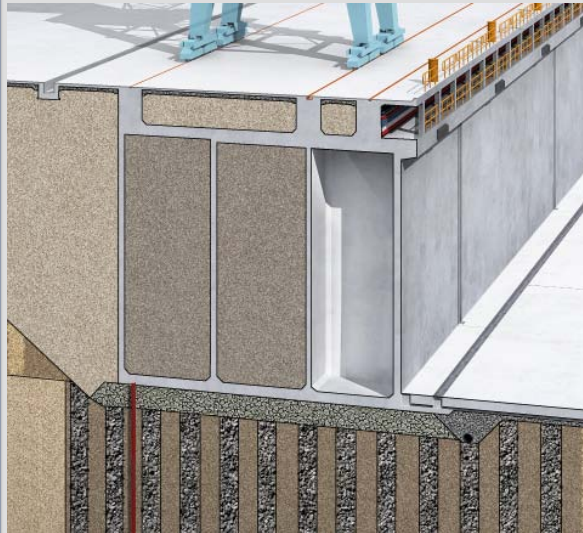
I Type of wall

Buttress Wall



- General type
- Good constructability
- Low cost

Caisson Wall



- High stability in case of large horizontal force
- Less maintenance cost

Steel Pipe Wall



- Method for soft soil layer
- Need large pile driver
- High cost

- The caisson wall type was applied to the East wall and west wall, and its advantages are high stability in case of large horizontal force and less maintenance cost

. Introduction of Domestic project Case



I Section of Wall

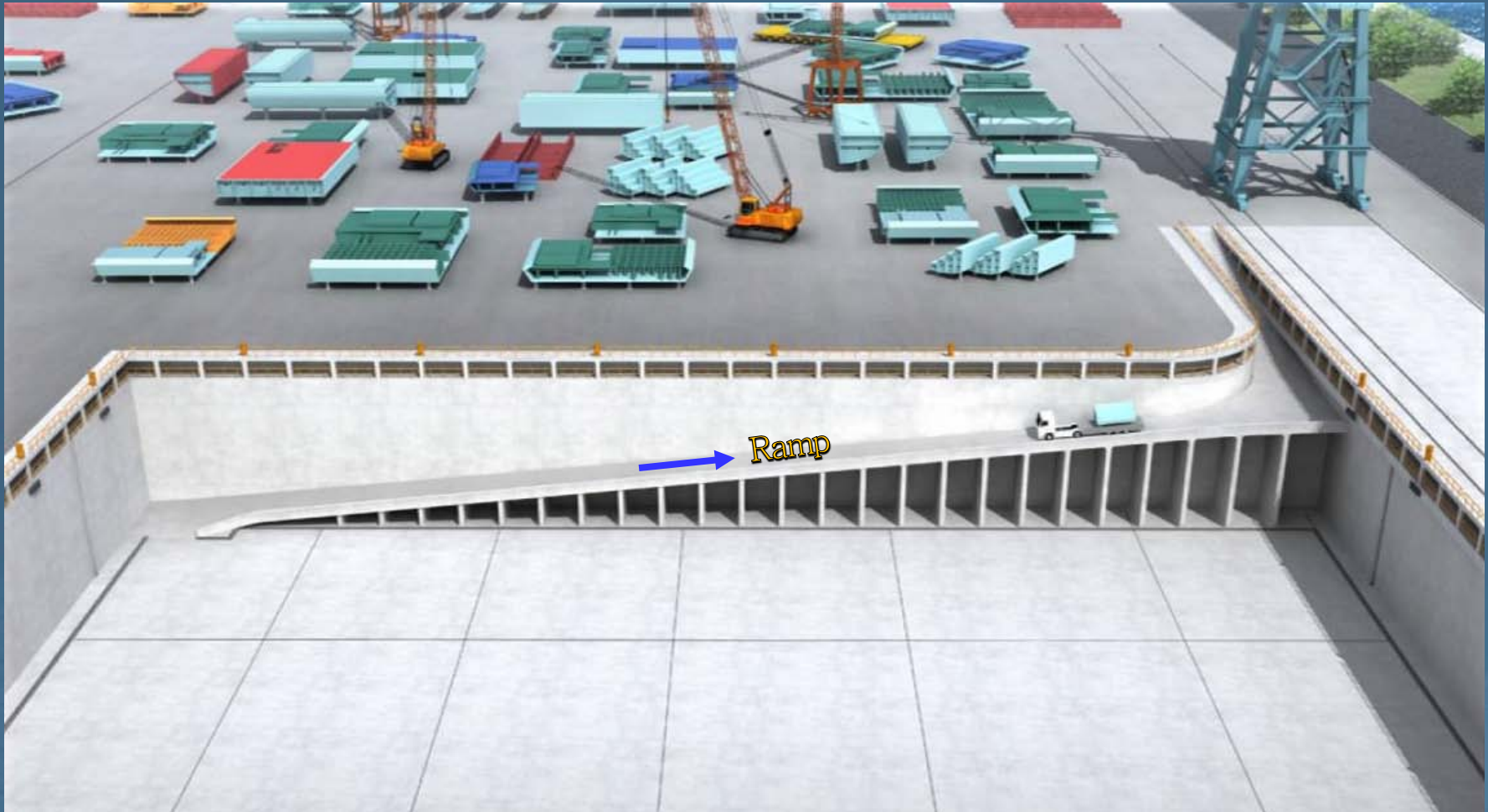


- It is a completed shipyard section and caisson section of east side and west side is seen. There is a Goliath crane installed and quay wall is seen behind drydock

Introduction of Domestic project Case



I Ramp



● This lamp on the head wall is used by construction vehicles.

Gunsan Shipyard Construction Site Pictures



Introduction of Similar Case



Dock

● Step #1



● step#1- Construct the sheet pile along the shore and then excavate it.

Introduction of Similar Case



Dock

Step #2



Step#2- Construct the dock floor and gate sill and make a dock caisson.

Introduction of Similar Case



Dock

Step #3



Step#3- When the dock is formed, construct the Goliath crane.

Introduction of Similar Case



Dock

● Step #4



● step#4- Construct the Pump room. The dock is almost complete.

Introduction of Similar Case



Dock

● Step #5



● step#5- When the dock is completed, and open the gate sill to fill it with seawater.

Introduction of Similar Case



Rigging Quay wall

● Step #1



● step#1- Construct the cofferdam to cut off the seawater.

Introduction of Similar Case



Rigging Quay wall

Step #2



Step#2- When cofferdam is complete, excavate it.

Introduction of Similar Case



Rigging Quay wall

● Step #3



Caisson

Gate Sill

Excavation

● step#3- When excavation is complete, make a quay wall caisson

Introduction of Similar Case



Rigging Quay wall

● Step #4



● step#4- Complete the West wharf.

Introduction of Similar Case



Rigging Quay wall

● Step #5



● step#4- Remove the cofferdam.

Introduction of Similar Case



● This picture shows the construction of a shipyard.

Thank You for your attention



EXECUTION CASES

- Execution Cases
-

6. EXECUTION CASES

Execution Cases

National capital region

- Repair and reinforcement work for SORAE Port Pier
- TANDO lighters wharf and rear site reinforcement and etc

Chungcheongnam-do

- Repair and reinforcement work for the docks in the OO island area
- BONGMYEONG rail station Reinforcement Project and many others

Chungcheongbuk-do

- SHINTANJIN factory ground reinforcement and many others

Jeollabuk-do

- GUNSAN harbor seismic reinforcement
- SAEMANKUM 1~4 seawall cap stone reinforcement and many others

Jeollanam-do

- GYEONGBU line SEONGCHUN bridge reinforcement
- JANGWHAN harbor construction and many others

Jeju-do

- SEOGWIPO harbor quay reinforcement and many others

Gangwon-do

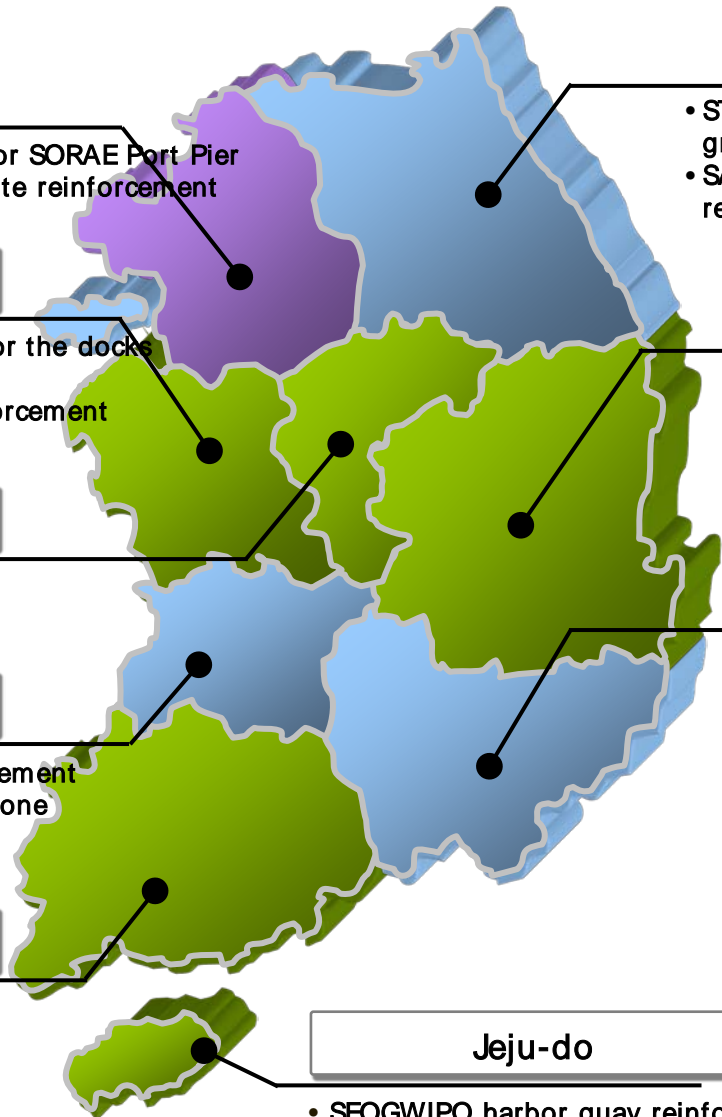
- STX BUKPYUNG fossil power plant ground reinforcement
- SAMCHUCK SAJIK field water drainage repair and many others

Gyeongsangbuk-do

- ULJIN NAMDAE river ecological river development project
- MAKGOK disaster risk zone maintenance and many others

Gyeongsangnam-do

- MASAN harbor seismic performance reinforcement
- Installation of marine decontamination facilities and many others



6. EXECUTION CASES



내진 보강 공사

- 군산항 부두시설 내진보강공사
- 탄도항 물양장 및 배후부지 시설보강공사
- 인천김포(10TK)복측 연결 갑벽 보수공사
- 마산항 내진성능 보강공사

항만공사

- 세제굴 해상인프라 구축사업 지반보강(CGS공법)공사
- OO도서지역 선착장 보수보강공사
- 소래포구 선착장 보수보강공사
- 해사 제염시설 설치공사
- 여수신항 통발파제 보강공사
- 부산항 국제여객터미널 건립공사
- 장항항(지방어항)건설공사 중 보링그라우팅공사
- 새만금 1-4호 방조제 근교공 보강 C.G.S.시험시공 및 모니터링
- 전곡해양 산업단지 조성사업 중 C.G.S.공사
- 탄도항 물양장 및 배후부지 보강공사 중 컴팩션그라우팅공사
- 송지 순호항(지방어항) 개발사업 중 연역지반 개량공사
- 장항항(지방어항) 건설공사 중 보링 그라우팅공사
- 시화호 조력발전소 건설공사 중 오이도 사석부 그라우팅
- 인천북항 목재 및 접합부 축조공사 중 CGS공사
- 새만금 방조제 차수공사
- 인천항 김문지구 친수공간 기초보강
- 광양항 2단계 컨테이너부두 보강공사
- 인천 김포(10TK) 복측 연결 갑벽 보수 보강공사
- 해양 H-DOCK 축조공사 중 CGS보강공사
- 성산지구 수리시설 개보수사업 CGS공사
- 오이도 선착장 보강공사
- 전곡항 테마어항조성사업 연역지반처리공사
- 탄도항 서측호안 보강공사
- 울산 용잠 2부두 돌핀보강공사
- 탄도항 물양장 시설공사 중 CGS Pile공사
- 덕적도항 북측호안 C.G.S 보강공사
- 신산대부두 3.4번 선석증심준설공사
- 전곡항 선착장 지반보강공사
- 2004 도정항 건설공사 중 남방파제 보강공사
- 인천북항 민자사업공사 중 해저관로 호안제제 보강공사
- 인천북항 송수관로 호안보강공사
- 탄도항 물양장 보강공사
- 전곡항 물양장 공사
- 인천연안항 정비물량장(4차) 축조공사 중 C.G.S공사
- 2003 목포북항 물양장 축조공사 중 지반개량 공사
- 탄도항 방파제 축조공사
- 2002 목포 북항 물양장 축조공사

- 서귀포항 안벽부두공사
- 목포외항 일반부두 지반보강공사
- 목포북항 물양장 지반보강공사
- 목포 북항 대반동 지반보강공사
- 목포 북항물양장(17차)지반보강공사
- 목포항대반동호안축조10차공사
- 목포항 호안 축조(9차) 보강공사
- 군산외항 제2부두 배면보강공사 중 보링 그라우팅 공사
- 목포 북항 대반동 호안 축조(8차)공사중 CGS PILE 공사
- 서귀포항 태풍피해복구(2차) 공사중 CGS 그라우팅 공사
- 서귀포항 태풍피해복구 공사중 CGS 그라우팅 공사
- 동해항 북부두 잔교식 안벽 보강 공사중 CGS 공사
- 광양(여천)항 관공선 부두 축조 (6차) 공사중 개량공사
- 군산외항 제2부두 배면보수중 CGS 보강공사
- 목포북항 물양장축조(13차) 공사 중 그라우팅 공사
- 목포항 용담호안 보수공사 중 그라우팅 공사
- 목포 북항 호안 보강(3차) 공사 중 그라우팅 공사
- 울산 제7부두 축조공사 중 COMPACTION GROUTING 공사
- 목호항 제1부두 배면보강공사
- 한국중공업 창원부두 보강공사
- 광양 LNG복합화력 발전소 선양장 지반보강공사
- 부산 신항 150kv전력 인입공사
- 팽택 LNG 부두 통신보강공사
- 현대중공업 H-DOCK 축조공사
- 고성 내산지구 안벽구간 지반보강공사
- 광양항 2단계 컨테이너부두 보강공사
- 95 목포항 카레리 부두 축조(5차) 공사중 기초 보강 공사

차수공사

- 운문역 C.G.S 보수보강공사
- 신금 배수펌프장 차수벽 설치공사
- 목포북항 하수처리장 배수갑문 차수공사
- 하동화력 배수로 차수공사
- 새만금 방조제 차수공사
- 안암도 신배수갑문 파이프 하저보수공사

하천공사

- 순천시 하수중말처리장 설치 공사 지반보강 및 복원공사
- 용인 하수처리장 보강공사
- 내성천 외물제 수해복구 공사중지반보강공사
- 구산제 하천 개수공사중 C.G.S공사
- 시화 하수처리장 기초보강공사
- 가좌하수처리장 고도처리사업 중 CGS 보강

- 성산지구 수리시설 개보수 사업공사 CGS공사
- 금강살리기 2공구 생태하천 조성사업 중 CGS공사
- 삼척사직구장 배수펌프장 설치공사
- 유하천(1공구) 수해복구공사중 기초지반보강공사
- 용대정수장 여과지 보수공사중 배수지 보수공사
- 소양강댐 여수로현장 지반보강 그라우팅공사
- 대청댐 비상여수로 건설공사중 사면보강그라우팅공사
- 옥정배수지 건설공사(2차)중 CGS지반보강공사
- 낙동강수계 삼랑지구 중 거북배수장 보강공사
- 소양강댐 보조여수로 설치공사 중 지반보강그라우팅 공사
- 화제천(화제제) 수해복구공사 중 지반 보강공사
- 북면 하수중말처리장 건설중 토공사(CGS공사)
- 수평빔물펌프장 토출수조 구조물 보강공사
- 유산천 자연하천형 정화사업 어곡교 보강공사

지반개량공사

- STX 북평화력발전소 coal shed 지반보강공사
- 광주선 극락강역-광주역간(유도화)선광기도교 공사
- 김포 현강신도시 택지개발사업 조성공사(1공구)
- 영산강하구둑 구조개선사업1공구 지반보강공사
- 북평화력발전소 1,2호기 본관 지반보강공사
- 하동화력 기린마을 부지조성 및 시설공사
- 시화발전테크노밸리 제5공구 조성공사 중 지반보강공사
- 광주오포1차 1호옹벽 기초지반공사
- 광주역동지구 보강토옹벽하부 지반보강공사
- 경부고속철도 오송역사 CGS보강공사
- 문내 우수영 시설공사 중 지반개량공사
- 포스코파워 LNG복합발전소 5.6호기 공사
- 고대 동곡제방 전용부두 CGS공사
- 송도 신도시 중앙대로 지반보강공사

공동구 채움공사

- 화진지역 지반보강공사
- 막곡 재해위험지구 정비사업
- 장석광산 공동구 채움 그라우팅
- 강원랜드 BASE II 공동구/파쇄채 채움공사

도로 및 교량공사

- 경부선 삼랑진-원동간 승선교 유도상하 공사
- 울산 삼산 지하보도 설치공사 중 CGS공사
- 울산 태화강 나들목 설치공사 중 CGS공사

- 월천교 Box지반 개량공사
- 구미~왜관간 고속도로 Box 보강공사
- 구미~금호간 고속도로 Box 보강 공사
- 부산 우동천교 보수보강공사
- 사직 가도교 지반보강공사
- 하동화력 옹벽구간
- 송도 사이언스벨리 공사 현장 내 PC BOX복원공사
- 송도 신도시 중앙대로 지반보강공사
- 지하철 012공구 이수교차로 하부 지반보강공사
- 구미국가산업단지 제4단지 진입도로 통로암거 복원공사

공장 및 Plant 보강공사

- 10MW 연소후 건식 CO2 포집플랜트 건설 축조공사
- 삼척-동해 2공구 교량하부공동구 그라우팅
- 삼척-동해 3공구 교량하부공동구 그라우팅
- 울산 2공장 폐수처리장 농축조 기초보강공사
- 광양 냉열설비공장 증축 보강공사
- LG화학 여수 SM플랜트 지반보강공사
- LG성유화학 여천 M-Project 기초보강공사
- 삼성코닝 Star Project 기초보강공사
- 울산 삼성정밀 화학공장 기초보강공사
- 군산 K-Project 2차 아스팔트 증축공사
- 당진화력발전소 취수조 보강공사
- 대산(주) 군산 CAP 수지탑 기초보강공사

일반건축물 보강공사

- 부산 대연혁신지구 공동주택 신축공사 중 CGS공사
- 김해 매햄 사옥 지반보강공사
- 정관1차중 102동 토목옹벽 부등침하 보강공사
- 부산 학당동 인제공장 신축공사 중 사무동 지반보강공사
- 동신성결교회 증축공사 중 기초보강공사
- 강원랜드 하이원 리조트 콘도 증설공사 중 석축보강 공사
- 강릉의료원 본관 증축 건물 부등침하 복원공사
- 대덕전자부품(주)안산공장증축중CGS공사
- 1302동 주출입구 피로티 침하보수건
- 부개교 체육관 증축공사 중 보강공사
- 병명역사 보강공사
- 서초 노인종합복지관 신축공사 중 지중벽 공사
- 구미 형곡동 종교시설 CGS보강공사
- 마포농수산물시장 지반보강공사
- 용동중학교 별관동 기초보강공사

6. EXECUTION CASES

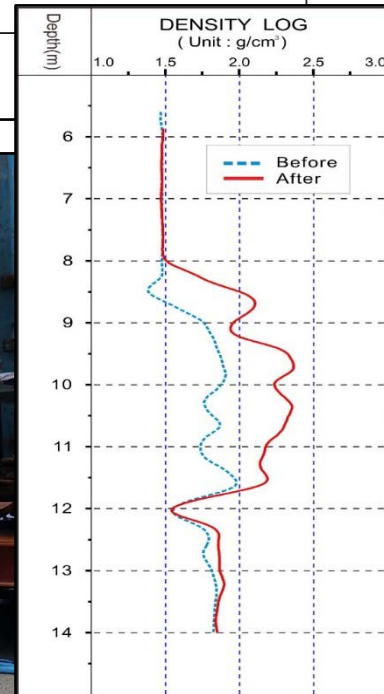
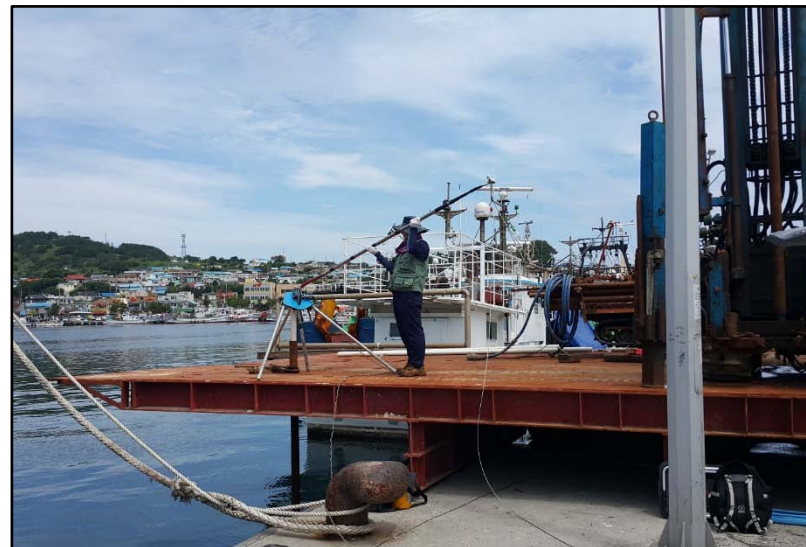
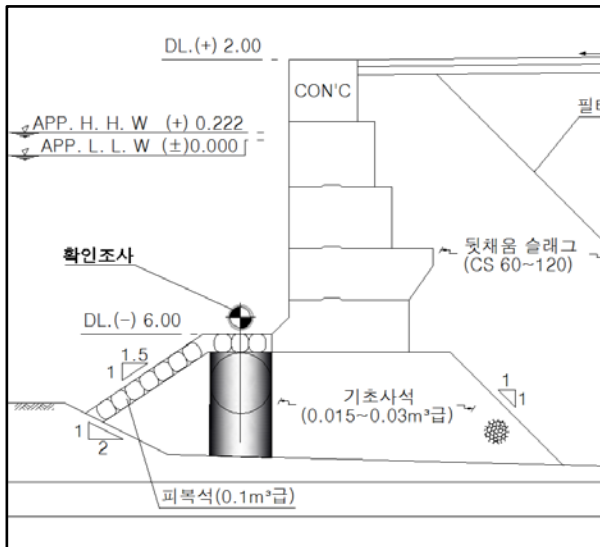
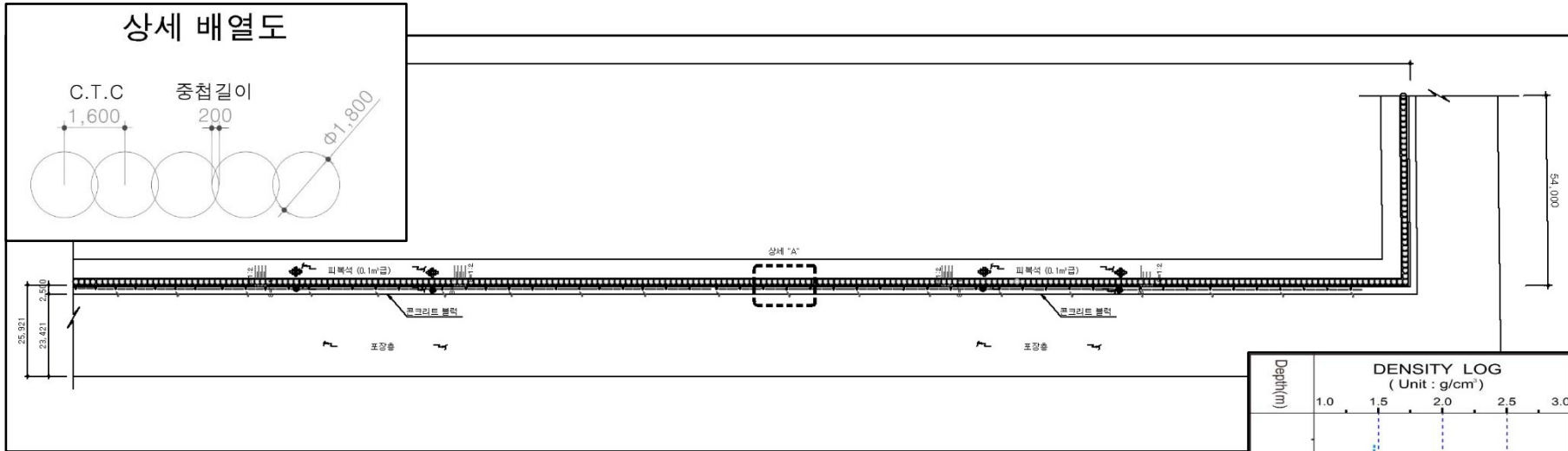
➤ Guryongpo seismic capacity reinforcement project

Employer	Gyeongsangbuk-do government office
Construction Site	Guryongpo port, Nam-gu, Gyeongsangnam-do, Republic of Korea
공 □	2017.05.05 ~ 2017.11□ 05□
□ □	□ □
□ □ □ □	□ □ □ □
□ □	□ □ , □ □
□ □	□ □ □ □
□ □ □ □	1.6m
□ □ □ □ □	1800mm, 600mm



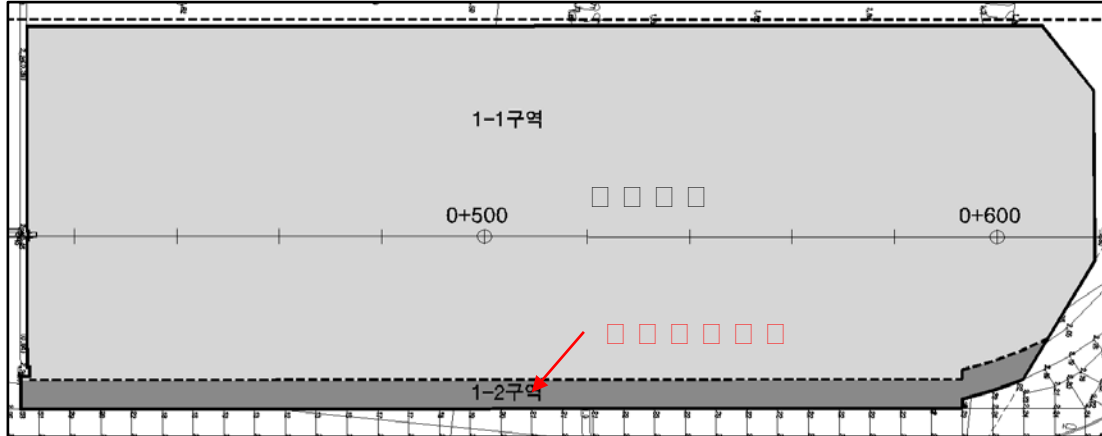
6. EXECUTION CASES

Guryongpo seismic capacity reinforcement project



6. EXECUTION CASES

Gimhae Airport Extension project

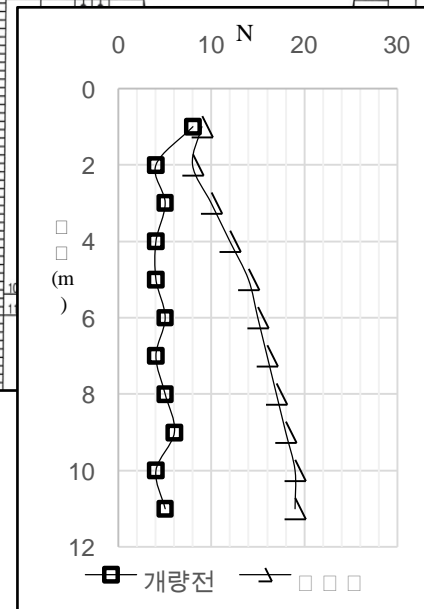
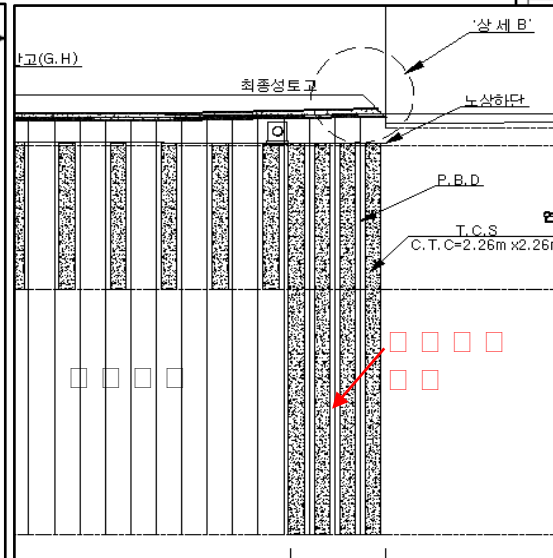
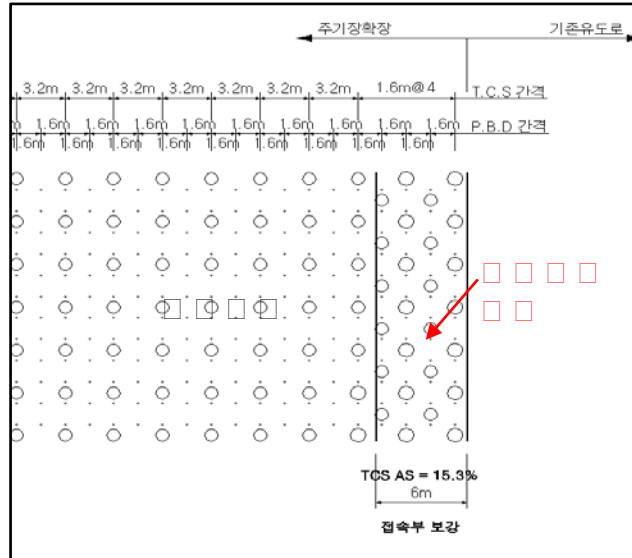


동적관입시험 Dynamic Cone Penetration Test

페이지 : 1 중 1 페이지

공사명	김해공항 주기장 확장 및 개량 공사 동적관입시험	공번	DCPT-1	콘	CONE EDGE 60(deg.)
PROJECT		HOLE No.			
위치	X=194,861.238 Y=286,547.648	지반표고	(EL.) 1.84	M	
LOCATION		ELEVATION			
날짜	2018.7.5 ~ 2018.7.5	지하수위	(GL-) 0.00	M	
DATE		시추자	임현길		
		DILLER			

표고 Elev. M	Scale Depth M	심도 Depth M	층수 Thick- ness M	주상도 Column Section	지층 설명 Description	U S C S	시료 Sample		동적관입시험 Dynamic Cone Penetration Test	
							시료 번호	채취 방법	시험 심도	Nd (kg/cm)
-0.86	2.80	2.80			▷매립층 심도:0.0-2.8m 자갈섞인 점토질 모래	SC			1.0	9/30
-1.86	3.50	0.70			▷퇴적층	CL			2.0	7/30
									3.0	6/30
									4.0	7/30
									5.0	8/30
									6.0	11/30
									7.0	9/30
									8.0	8/30
									9.0	8/30
									10.0	6/30
									11.0	4/30



6. EXECUTION CASES

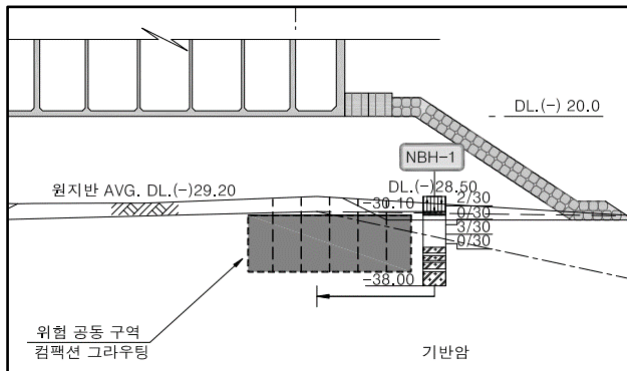
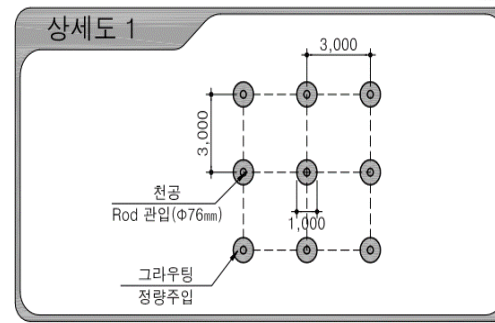
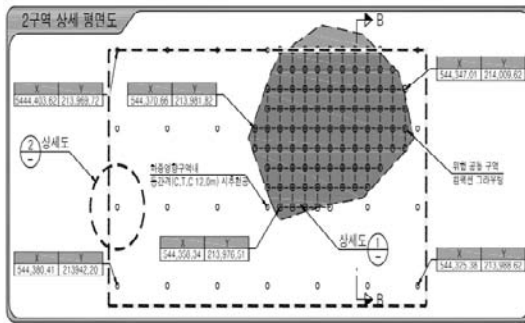
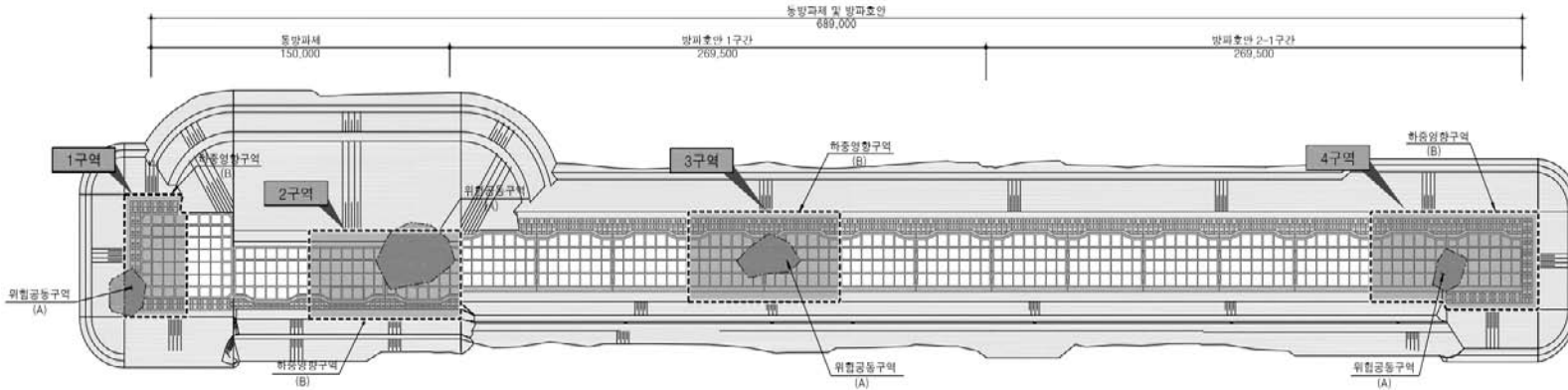
» Donghea Cavity Fill project

발	□ □	□ □ □ □ □ □ □ □ □ □
□ □ □ □		□ □ □ □ □ □ □ □ □ □ □ □
□	□	2018 □ 2 □ 23 □ ~ 2018 □ 7 □ 30 □
□	□	□ □ □ □
□ □ □ □		□ □ □ □ □ □ □ □ □ □ □ □ □ □
□	□	□ □ □ □
□	□	□ □ □ □ □ □
□ □ □ □		2.0m
□ □ □ □ □		1,200mm



6. EXECUTION CASES

Dongheea Cavity Fill project



6. EXECUTION CASES

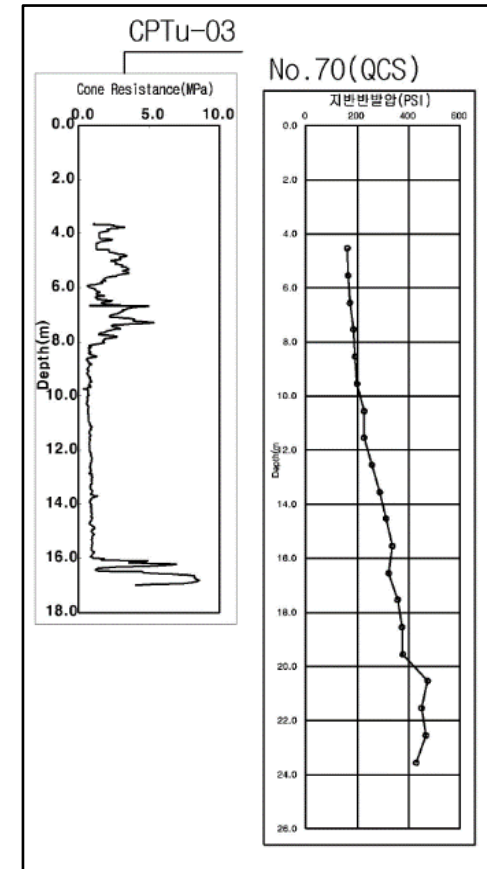
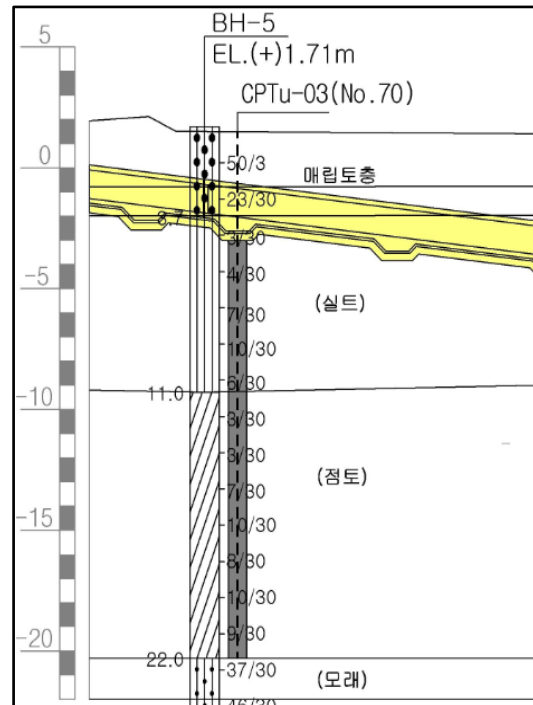
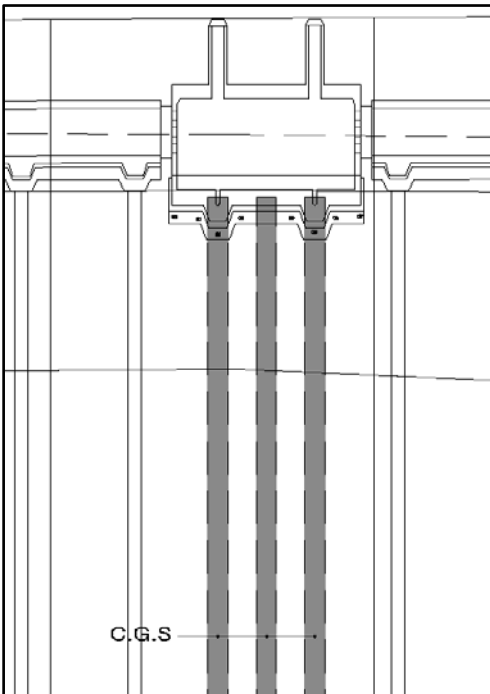
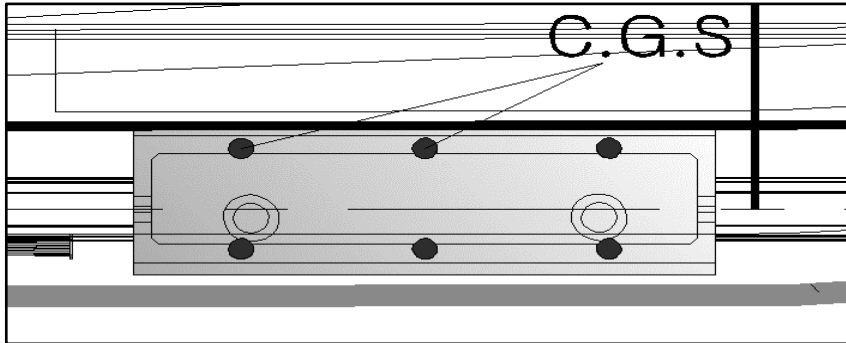
Reinforce soft ground the bottom of pipe connection In Sihwa lake tidal plant site

발 □ □	□ □ □ □ □ □ □
□ □ □ □	□ □ □ □ □ □ □ □ □ □ □ □ □ □
□ □	2017 □ 02 □ 10 □ ~ 2017 □ 05 □ 04 □
□ □	□ □ □ □ □ □
□ □ □ □	□ □ □ □ (Box □ □ □ □ □ □ □ □)
□ □	□ □
□ □ □ □	□ □ □ □ □ □
□ □ □ □	7.0m
□ □ □ □ □	1000mm



6. EXECUTION CASES

➤ Reinforce soft ground the bottom of pipe connection
In Sihwa lake tidal plant site



CERTIFICATION OF PUBLIC INSTITUTION & ACADEMIC SOCIETY

- Department of Defense New technology
 - Seminar and Trade Show
 - Government oriented R&D Project
-

7. CERTIFICATION OF PUBLIC INSTITUTION & ACADEMIC SOCIETY

Department of Defense New technology

New Technology Excellent Products Presentation Construction 2016



수신 수신자 정보
(당첨)
제목 2016년 건설분야 신기술 우수제품 업체 설명회 병행 평가참여 안내(합조)

1. 수신: 신기술 우수제품 특별(비밀)계약 제1차 평가회 제1차 제품 설명회 개최에 위한 설명회로 직접 주관 2016년 건설분야 신기술 우수제품 업체 설명회 개최 예정인 업체와 평가 신청을 접수하여 설명회 병행 평가 참여 기회를 제공하고자 합니다.
2. 지원: 평가 신청서 접수 후 평가 신청서 접수 후 설명회 병행 평가 참여 기회를 제공하고자 합니다.
3. 지원: 기술이론(제안서) 제출 후 평가 참여 기회를 제공하고자 합니다.
4. 지원: 기술이론(제안서) 제출 후 평가 참여 기회를 제공하고자 합니다.
5. 지원: 기술이론(제안서) 제출 후 평가 참여 기회를 제공하고자 합니다.
6. 지원: 기술이론(제안서) 제출 후 평가 참여 기회를 제공하고자 합니다.
7. 지원: 기술이론(제안서) 제출 후 평가 참여 기회를 제공하고자 합니다.
8. 지원: 기술이론(제안서) 제출 후 평가 참여 기회를 제공하고자 합니다.
9. 지원: 기술이론(제안서) 제출 후 평가 참여 기회를 제공하고자 합니다.
10. 지원: 기술이론(제안서) 제출 후 평가 참여 기회를 제공하고자 합니다.

당첨
제목 2016년 건설분야 신기술 우수제품 업체 설명회 병행 평가결과 알림

1. 관련근거: 국방부 시설택제기술과-1173(16.6.14) 2016년 건설분야 신기술 우수제품 업체 설명회 병행 평가결과 알림
2. 귀사에서 제출한 제안서 평가 결과는 시범적용이 적정하다고 판단되었으며 추후 국방부 산하 집행기관에서 현장여건 및 적용 가능여부 등을 고려하여 적합한 시 적극적인 활용토록 조치할 계획임을 알려드립니다.

제목 2016년 건설분야 신기술 우수제품 업체 설명회 병행 평가결과 알림

1. 관련근거 : 국방부 시설택제기술과-1173(16.6.14) 2016년 건설분야 신기술 우수제품 업체 설명회 병행 평가참여 안내(합조)

2. 귀사에서 제출한 제안서 평가 결과는 시범적용이 적정하다고 판단되었으며 추후 국방부 산하 집행기관에서 현장여건 및 적용 가능여부 등을 고려하여 적합한 시 적극적으로 활용토록 조치할 계획임을 알려드립니다.

- Defence convention / July 13, 2016
- Introduce disaster prevention technology

Propagation of new Technology-excellent Products (Grouting Technology)

2015-08-18 08:33:12 From:027485819 To:0317068338 http://www.mnd.go.kr 0 / 2/3

함께해요 물지연습! 든든해요 국가안보!



국 방 부



수신 수신자 참조
(경유)

제목 신기술 우수제품(지반보강용 그라우팅 공법) 전파

1. 관련근거
가. 자연재해대책법 제61조
나. 덴버 2015-13(16.8.12.) 방재신기술 제77호 정보 전파 요청

2. 위 관련근거에 따라 신기술 우수제품을 아래와 같이 전파합니다. 해당 인증 제품은 위 관계법에 따라 공공기관에서 우선 구매할 수 있으므로 부대 여건을 고려하여 적합한 시 정부 정책에 적극 협조 바랍니다.

가. 전파품목

명칭	기술/제품명	유효기간	인증기관
방재신기술	통합 품질관리 장치를 활용한 지반보강용 동시주입 컴팩션 그라우팅 시스템 공법	2014.10.23.~ 2017.10.22.	소방방재청

나. 업체소개 : 덴버코리아이엔씨(주) TEL:031)706-7447 FAX:031)706-8338

다. 국방부 인트라넷 국방정보센터(MIP)/부서별 홈페이지(군사시설기획관실)/국방시설연구발전(신기술 우수제품)에 해당 업체에서 제공한 세부적인 자료를 게재하고 있으니 참고바랍니다.

- 붙임 : 1. 신기술 우수제품 인증서 1부.
2. 공법소개서 1부. 끝.

- Defence facility planning division / August 18, 2015
- Propagation disaster prevention technology

7. CERTIFICATION OF PUBLIC INSTITUTION & ACADEMIC SOCIETY

» Seminar and Trade Show

19th International Conference on Soil Mechanics and Geotechnical Engineering



제19차 세계지반공학대회

19th International Conference on Soil Mechanics and Geotechnical Engineering

2017년 9월 17일-22일 / 서울 코엑스



- COEX / September 17, 2017
- Introduce disaster prevention technology (Display booth operate)

3rd Korea International Safety and Security Expo 2017

K-SAFETY EXPO 2017

Korea International Safety & Security Expo 2017

제3회 대한민국 안전산업박람회

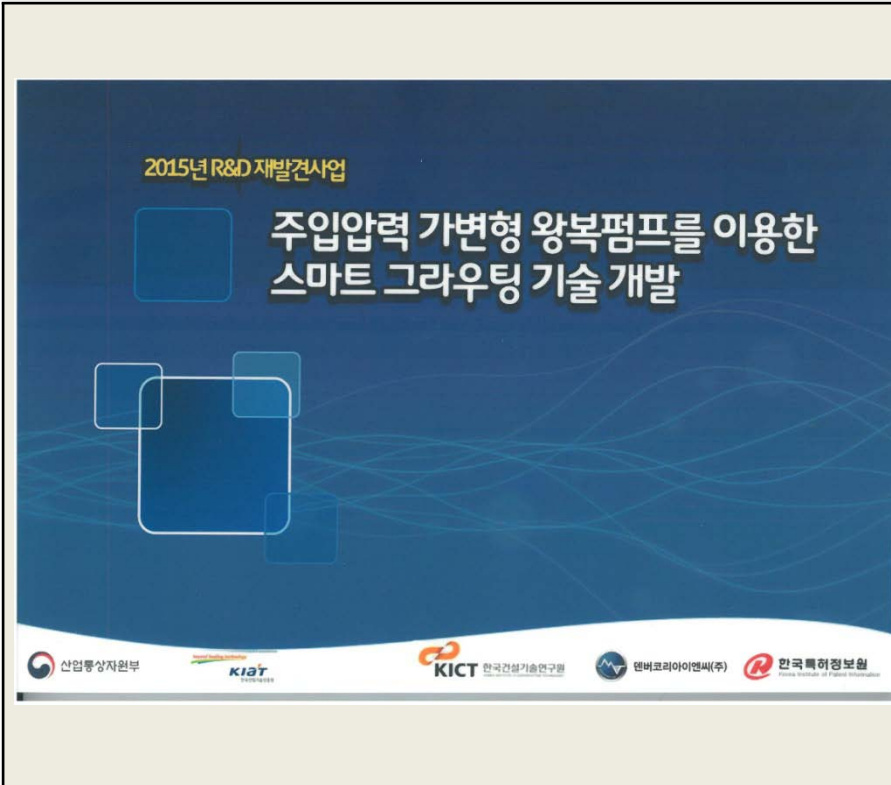
2017.11.15(수) - 17(금) | KINTEX

- KINTEX / November 15, 2017
- Introduce disaster prevention technology (Display booth operate)

7. CERTIFICATION OF PUBLIC INSTITUTION & ACADEMIC SOCIETY

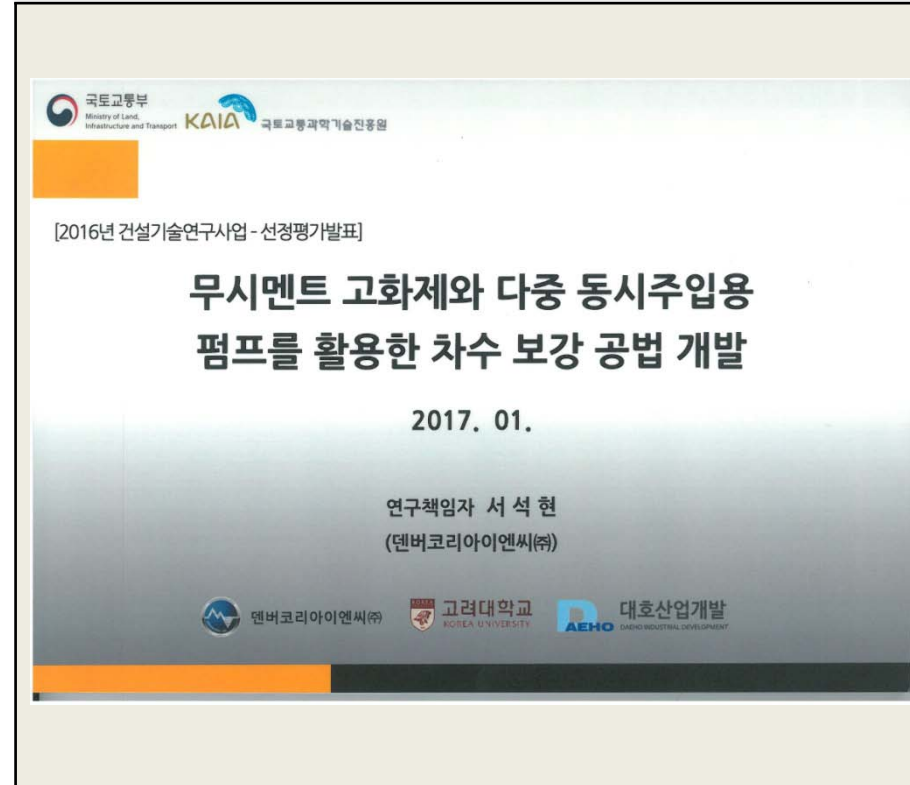
▶▶ Korea Nationally Oriented R&D Project

R&D Rediscovery Project on 2015



- Project : Development of Smart Grouting Technologies using Variable Pressure Reciprocation Pump
- Duration : 2015. 08. 01. ~ 2016. 07. 31

Construction Technology Research Project on 2016



- Project : Development of Reinforcement Method using a Multi Simultaneous Injection Pump for Cut-off Water and Cement-less Additive
- Duration : 2015. 08. 01. ~ 2016. 07. 31

**THANK YOU
VERY MUCH**