

Your Faithful Partner♪



**SCT E&C**

***Your Faithful Partner***

**July 1, 2015**

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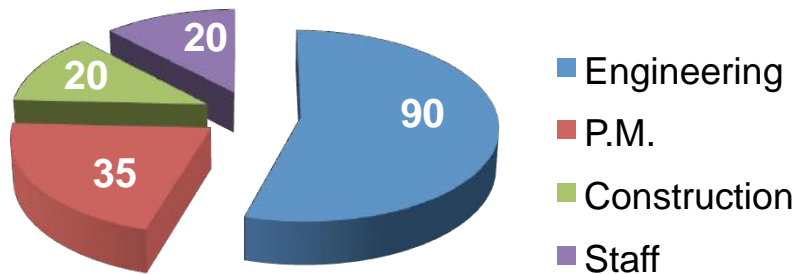
# 1. Company Profile

## ■ SCT E&C Co., Ltd.

**Established on** Feb. 17, 2003

**Annual Turnover** USD 40 Million

**Employee** 165 (Permanent)



◀ HQ Office / Cheongwon

EPC Center / Seoul ▶



◀ SCT-Thai / Thailand

## 2. Overall Business Area

### Oil & Gas Plant



Refinery / Petrochemical



Gas



Utilities

### Industrial Plant

System Facility



(Chemical / Clean Room UT/  
Air Separation System)

Water Related



(Industrial Water/Pure Water/RO  
/UDI System)

High-Tech Utility



(Piping and Hook-up for  
Semiconductor and Display Facility)

### Energy / Environmental



MVR



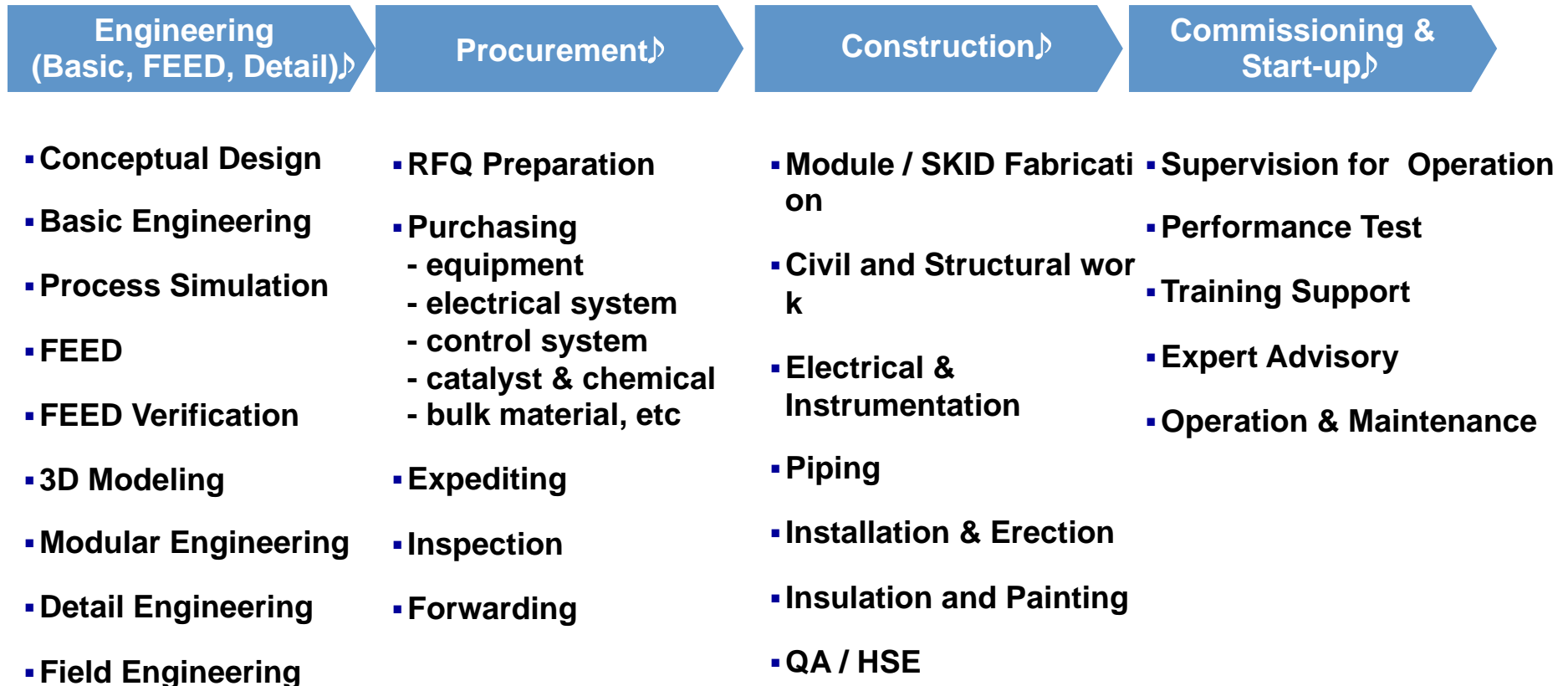
Renewable Energy



Waste Treatment

## 3. Oil & Gas Plant

### (1) Scope of Service



## 3. Oil & Gas Plant

### (2) Packages♪

#### Wet Air Oxidation System

SCT has several experiences in LGC WAO (2007), Lotte Chem WAO (2008), LGC M3 WAO (2010), UGCC Spent Caustic WAO (2014) & many others

#### Flue Gas Desulfurization System

SCT has been focusing on a FGD technologies used to remove sulfur dioxide (SO<sub>2</sub>) from exhaust flue gases of fossil-fuel power plant.

#### Tail Gas Catalytic Incinerator (TGCI)

This System is intended to oxidize H<sub>2</sub>S gas existing among Tail Gas from SRU and TGTU at catalyst oxidation system so that a significant energy saving can be achieved ♪



UGCC WA  
◀ O Package♪



◀ S-Oil TGCI Pac  
kage♪

## 4. Industrial Plant

### (1) System Facility♪

#### Chemical Supply / Injection System

SCT has supplied more than 20 packages of Chemical Supply / Injection System to the clients for the last 10 years.



◀ Chemical Supply System in Korea♪

#### Air Separation System

SCT has supplied N2 Liquefaction Facility to the client in Thailand and participating in many other projects worldwide.



◀ N2 Liquefaction Plant in Thailand♪

#### Hot Oil System

Hot oil system is the utility to transfer heat to end users such as tanks, dryers, reactors, steam generators, or other equipment.



◀ Hot Oil Unit in Gas Separation Plant in Thailand♪

## 4. Industrial Plant

### (2) Water Related

#### Water Supply / Treatment System

We are the most competitive player in the water business with our experience in raw water treatment, demineralized water system, reverse osmosis system, ultra pure water system and waste water recycle system on EP or EPC turn-key basis.

#### Core Competence

##### 1) Optimized Engineering Service

We supply optimized engineering service to the client who needs engineering service and to meet their various technical requirements.

##### 2) Package & Skid Base

To minimize work in site, we can provide our system with package & skid basis. It contributes to reduce both project period and cost.

##### 3) High Performance & Low Cost



R/O System / UGCC



UDI System / LG Micron



DI System / KCC



UDI System / LG Innotek

## 4. Industrial Plant

### (3) High-Tech Utility ♪

#### Piping and Hook-Up Service

SCT provides professional piping and hook-up service for the high-tech utility in the semiconductor and display facilities.

#### Major Experience ♪

- LG Display / LG Innotek
- Samsung Electronics
- OCI Polysilicon
- Woongjin KCC Polysilicon
- ELK
- Morning High-Tech

#### Registration in Major Company ♪

- Samsung Engineering
- Samsung C&T
- Samsung Heavy Industries
- LG Display
- LG Innotek
- GS Engineering & Construction



FAB Equipment Hook-Up



Utility Piping



Scrubber Hook-Up



LN2 Piping

# 5. Core Competence

SCT, as a Total Service Provider, provides comprehensive range of services to cover any client's requirements from Business Planning to E.P.C. and Commissioning.

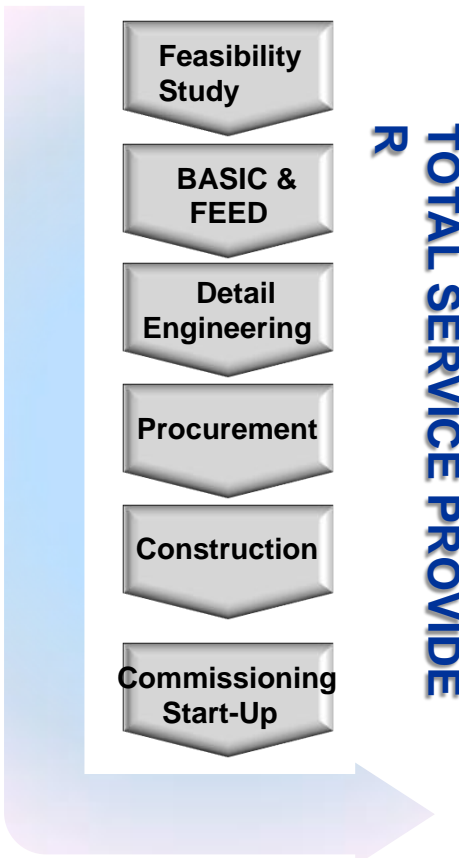
## 1. Total Service Provider



- EPC for**
- Oil & Gas Plant
  - Industrial Plant
  - Energy/Environment



- Package supply of**
- Chemical Injection System
  - Water Supply/Treat System
  - Various Packages



# 5. Core Competence

SCT provides professional engineering service through using various engineering software and utilizing many of engineering specialist.



## 2. Engineering Capability

### Engineering Tools

- PRO-II, ASPEN Plus – Simulation Program 
- PDMS/ PDS – 3D Modeling Tool 
- COMPRESS – Pressure Vessel 
- HTRI – Heat Exchanger Thermal Rating
- AFES – Foundation Design
- TRI 650 – Tank Design

### Engineering Specialist (Over 20 year Experience)

|                       |    |
|-----------------------|----|
| Process Fire Fighting | 10 |
| Mechanical Piping     | 7  |
| Civil Architecture    | 5  |
| Electrical Instrument | 5  |

## 5. Core Competence

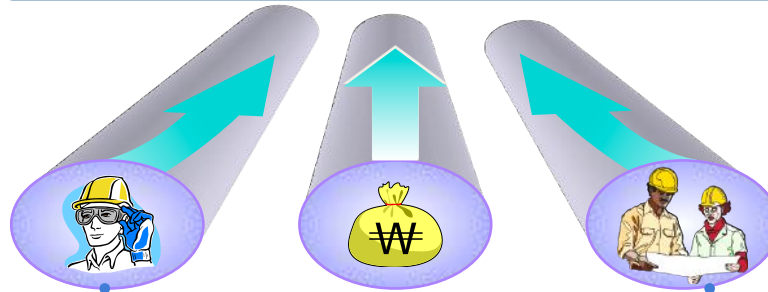
### Available Engineering Manpower

| Capability                 |        | Director/<br>Advisor  | General<br>Manager | Manager<br>& Assistant | Staff | Total |
|----------------------------|--------|---|--------------------|------------------------|-------|-------|
| Basic<br>Engineering       | SCT    | 2   | 1                  | 0                      | 2     | 5     |
|                            | Agency | 30 Engineers for FEED, Thermal rating, Design , Etc.                    |                    |                        |       | 30    |
| Process                    | SCT    | 3   | 2                  | 9                      | 7     | 21    |
|                            | Agency | 30 Engineers for FEED, Thermal rating, Design , Etc.                    |                    |                        |       | 30    |
| Mechanical                 | SCT    | 1   | 5                  | 6                      | 3     | 15    |
|                            | Agency | 51 Engineers for Pressure vessel, Tank, Column, Tower, H/E design, Etc. |                    |                        |       | 51    |
| Piping                     | SCT    | 0   | 6                  | 14                     | 8     | 28    |
|                            | Agency | 120 Engineers for Stress Analysis, 2D, 3D Design and Modeling           |                    |                        |       | 120   |
| Electrical &<br>Instrument | SCT    | 0   | 5                  | 5                      | 4     | 14    |
|                            | Agency | 61 Engineers for Basic design for Electrical and Instrument items       |                    |                        |       | 61    |
| Civil &<br>Arch.           | SCT    | 0   | 2                  | 3                      | 2     | 7     |
|                            | Agency | 69 Engineers for Basic design for Civil and Architecture                |                    |                        |       | 69    |
| Total                      | SCT    | 7   | 21                 | 37                     | 26    | 91    |
|                            | Agency |   |                    |                        |       | 331   |
|                            | Total  | (Total Engineers including Agency)                                      |                    |                        |       | 421   |

# 5. Core Competence

Based on the Project Management System, SCT always concentrates on Quality, Cost and Schedule from the point of client through close coordination with relevant parties.

## 3. Effective Project Management



Who will give project management service efficiently ?



### QA / HSE

<Quality Assurance>



ISO 9001      KEPIC for Power

<Safety and Environment>

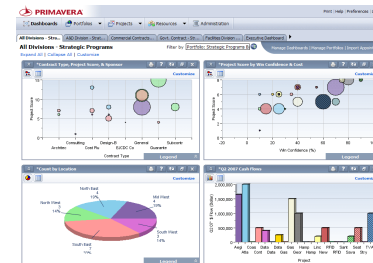
- Applying process safety management regulation
- HSE is always the first priority at site ; TRIR Goal is 0.05 !

### Cost Saving

- Provide value engineering service from proposal stage
- Suggest our own process improvement idea to client
- Executing engineering work considering constructability
- Economic purchasing through worldwide vendor sources.

### Progress Control

#### • PRIMAVERA



- EPC Total Progress Control
- Real time information sharing with client using PMIS

## 6. Benefits to Client

Supplying Packages based on effective project management skill and abundant experiences for process plant, we can provide our client with benefits of cost, schedule and quality.

### SCT provides...

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#### 1) Value Engineering Service

- Optimized plot plan
- Optimized engineering based on constructability
- Economic engineering by deleting unnecessary design

#### 2) Basic & Module(Skid) Design

- High quality of Basic Design considering productivity
- Shorten schedule for minimizing site work
- Effective operation using individual PLC control

#### 3) Fast Tracking Execution

- Early design and Simultaneous fabrication in shop

#### 4) QA & HSE Control

- More systematic quality control in shop
- Better HSE control in shop and field

### Benefits to Client

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Keeping best quality with high productivity

Minimizing project schedule

Overall project cost saving

# 7. Major Clients



## 8. Project Experience

### [ Oil & Gas Plant ① ]



➤ BIG Nitrogen Liquefier Plant ▶ 10



➤ THAI Gas Separation Plant ▶ 13



➤ HYUNDAI OIL BANK Alkylation Plant ▶ 18



➤ LOTTE CHEMICAL NCC Plant ▶ 35



➤ SAMSUNG TOTAL HPEO Plant ▶ 36



➤ LOTTE CHEMICAL WAO Unit ▶ 37

## 8. Project Experience

### [ Oil & Gas Plant ② ]

E : Engineering / P : Procurement / C : Construction

| No. | NAME   | PERIOD           | REMARK |
|-----|--|------------------|--------|
| 1   | KUMHO MITSUI CHMICALS _PH Flaker System Basic Engineering  | 2015.07~2015.09  | E      |
| 2   | PTT Gas Mixing Project – Thailand                          | 2015.05~2016.08  | E.P.C. |
| 3   | GS CALTEX BIO Kombinat Basic Engineering                   | 2015.05~2015.09  | E      |
| 4   | HYUNDAI MKAN Water Treatment - Uzbekistan                  | 2015.04~2016.06  | E.P.   |
| 5   | HDGSK JV_Karbala Potable Water System - Iraq               | 2015.03~2015.12  | E.P.   |
| 6   | LG MMA PMMA Basic Engineering                              | 2015.03~2015.07  | E      |
| 7   | LG Chemical EG/SM/BPA/BRU/BD/OS TA Project                 | 2015.01~2015.05  | C      |
| 8   | PTT Gas Mixing Project – Thailand                          | 2014.11~2015.11  | E.P.C. |
| 9   | PTT Infrastructure Project – Thailand                      | 2014.11~2015.11  | E.P.C. |
| 10  | BIG Nitrogen Liquefier Project - Thailand                  | 2014.03~2015.05  | E.P.C. |
| 11  | UGCC Water Treatment Project - Uzbekistan                  | 2013.03~2014.05  | E.P    |
| 12  | UGCC WAO Project - Uzbekistan                              | 2013.01~2014.05  | E.P    |
| 13  | UAC PP(Gas Separation) Project -Thailand                   | 2012.07~2013.04  | E.P.C. |
| 14  | QLC PX Revamp Project - China                              | 2012.06~2013.11  | E      |
| 15  | HYUNDAI OIL BANK LNG Pipeline Project                      | 2012.06 ~2012.09 | C      |
| 16  | LG TOYO B2B Pilot Plant Project                            | 2012.05~2012.09  | E.P.C. |
| 17  | HYUNDAI OIL BANK # 1 Alkylation Revamp Project             | 2012.08~2013.06  | C      |
| 18  | HYUNDAI OIL BANK Alkylation Revamping(Engineering) Project | 2012.04~2013.06  | E      |
| 19  | LG CHEMICAL MS Letdown Facility Project                    | 2012.03~2012.05  | C      |

## 8. Project Experience

### [ Oil & Gas Plant ③ ]

E : Engineering / P : Procurement / C : Construction

| No. | NAME   | PERIOD           | REMARK  |
|-----|--|------------------|---------|
| 20  | LG CHEMICAL Polishing Slurry Recycling Project           | 2012.03~2012.08  | C       |
| 21  | S-OIL Tail Gas Catalytic Incineration Project            | 2011.07~2012.01  | E.P.C.  |
| 22  | SAMSUNG ENGINEERING Eni Zubair DGS South Package Project | 2011.07~2011.08  | E       |
| 23  | HYUNDAI OIL BANK BTX FEED Verification Project           | 2011.06~2011.12  | E       |
| 24  | HMC PP Project - Thailand                                | 2011.04~2012.06  | E.P. C. |
| 25  | LG CHEMICAL No.2 CA/EDC Project                          | 2011.04~2012.12  | E       |
| 26  | GS CALTEX No.1 PX Revamp Project                         | 2011.03~2011.12  | E       |
| 27  | Barzan Engineering Service Project - Qatar               | 2010.09~2010.10  | E       |
| 28  | LG CHEMICAL PE Revamping Project                         | 2010.09~2011.06  | E.P.C.  |
| 29  | LG CHEMICAL COLD BOX Project                             | 2010.09-2010.11  | E.P.C.  |
| 30  | YEOCHUN NCC BTX#1 Sulfolane Unit Revamping Project       | 2010.09-2010.12  | E       |
| 31  | HYUNDAI OIL BANK HDO/ HCP Equipment Project              | 2010.04~2010.06  | C       |
| 32  | LG CHEMICAL BUTENE-1 Project                             | 2008.12~2009.06  | E.P.C.  |
| 33  | LG CHEMICAL CAA Revamping Project                        | 2008.09~2009.05  | C       |
| 34  | CPC Dearomatic Plant Engineering Service Project         | 2008.05~2009.05  | E       |
| 35  | LOTTE CHEMICAL NCC/BRU/BDR Intertray Project             | 2007.12~2008.06  | C       |
| 36  | SAMSUNG TOTAL HPEO Column Revamping Project              | 2007.08~2008.03  | E.P.C.  |
| 37  | LOTTE CHEMICAL Wet Air Oxidation Project                 | 2007.07~2008.04  | E.P.C.  |
| 38  | LG CHEMICAL OS-BOG Unit Project                          | 2007.06 ~2008.04 | E.P.C.  |

# 8. Project Experience

## [ Industrial Plant ① ]



➤ EGIS Rust Preventing Oil Plant ▶ 7



➤ DUPONT Scagliola Facility ▶ 8



➤ LG DISPLAY P9 Facility ▶ 13



➤ SANNOPKO Rust Preventing Plant ▶ 10



➤ LG MICRON Ultra Pure Water System ▶ 30



➤ LG CHEMICAL ELECTROLYTE Mixing System ▶ 31

## 8. Project Experience

### [ Industrial Plant ② ]

E : Engineering / P : Procurement / C : Construction

| No | NAME   | PERIOD          | REMARK |
|----|--|-----------------|--------|
| 1  | KURARAY Korea Basic Engineering for Acoustic Project         | 2015.05~2015.09 | E      |
| 2  | LG INOTEK Chemical Storage Tank Project                      | 2015.05~2015.10 | C      |
| 3  | SAMSUNG C&T LN2 Clean Pipeline Project                       | 2014.08~2015.10 | C      |
| 4  | EGIS NO.2 Rust Preventing Oil Factory Project                | 2014.07~2015.02 | E.P.C. |
| 5  | KORAIL JAECHUN Dust Collecting Facility Project              | 2013.07~2013.08 | C      |
| 6  | CHEONGJU Printing Exhibit Hall Firefighting Facility Project | 2013.05~2013.12 | C      |
| 7  | EGIS Rust Preventing Oil Factory Project                     | 2012.12~2013.04 | E.P.C. |
| 8  | DUPONT Scagliola Facility Project                            | 2012.10~2013.01 | E.P.C. |
| 9  | HYUNDAI OIL TERMINAL Oil Storage Facility Project            | 2012.04~2012.10 | E      |
| 10 | SANNOPOKO Korea Rust Preventing Oil Facility Project         | 2011.07~2011.11 | E.P.C. |
| 11 | KCC Resin Plant Pipeline Project                             | 2011.07~2012.04 | C      |
| 12 | LG DISPLAY Clean Room Project                                | 2011.04~2011.12 | E.P.C. |
| 13 | LG DISPLAY P9 Plant Basic Engineering Project                | 2010.12~2011.04 | E      |
| 14 | WOONG JIN POLY SILICON TCS FBR Project                       | 2010.12~2011.12 | E.P.C. |
| 15 | CAPRO BCHE Removal System Installation Project               | 2010.06~2011.01 | E.P.C. |
| 16 | LG INOTEK UDI SYSTEM Project                                 | 2010.05~2010.08 | E.P.C. |
| 17 | LG INOTEK Utility and Hook-Up Project                        | 2010.05~2010.12 | E.P.C. |

## 8. Project Experience

### [ Industrial Plant ③ ]

E : Engineering / P : Procurement / C : Construction

| No | NAME   | PERIOD          | REMARK |
|----|--|-----------------|--------|
| 18 | NOF METAL COATING KOREA PLANT Moving Project                             | 2010.03~2010.07 | E.P.C. |
| 19 | DUPONT New facility installation work for 3G CSP delivery system Project | 2009.08~2009.12 | E.P.C. |
| 20 | LG INOTEK LED Plant Process Engineering Project                          | 2009.08~2010.06 | E      |
| 21 | KCC Piping, Mechanical, Electric Project                                 | 2009.01~2010.05 | E.P.C. |
| 22 | OCI P1.5 & P2 Piping Project   | 2008.11~2009.02 | C      |
| 23 | LG MICRON Ultra Pure Water Project                                       | 2007.12~2008.03 | E.P.C. |
| 24 | OCI RW-SYSTEM Installation Project                                       | 2007.04~2007.06 | C      |
| 25 | SH Corporation_ Piping, Mechanical Project                               | 2006.11~2008.11 | C      |
| 26 | SEETEC_ Daesan Port Pipe Line Project                                    | 2006.10~2007.12 | C      |
| 27 | TAEYOUNG CONST_Tank Terminal on ONSAN PROJECT                            | 2006.09~2007.02 | E      |
| 28 | LG MICRON Chemical Supply System Project                                 | 2006.01~2006.05 | E.P.C. |
| 29 | LG MICRON Water Purifying Project  | 2005.12~2006.03 | E.P.C. |
| 30 | LG MICRON PM F4 Ultra Pure Water Project                                 | 2005.05~2005.12 | E.P.C. |
| 31 | LG CHEMICAL Electrolyte Mixing System Project                            | 2004.09~2005.02 | E.P.C. |
| 32 | LG MICRON PDP LINE Chemical Mixing & Supply System Project               | 2003.04~2005.09 | E.P.C. |
|    |  |                 |        |

# 8. Project Experience

## [Energy/Environmental]

E : Engineering / P : Procurement / C : Construction

| No | NAME  | PERIOD          | REMARK |
|----|---|-----------------|--------|
| 1  | Heat Piping Project in Combined heat & Power Plant          | 2015.05~2015.10 | C      |
| 2  | MVR(Mechanical Vapor Recompressor) Project                  | 2014.12~2016.04 | E.P.C. |
| 3  | SEJONG CITY Solar Power Project                             | 2013.04~2013.07 | C      |
| 4  | KHNP ULJIN Rubber Expansion Joint Neck Project              | 2011.09~2012.05 | C      |
| 5  | KHNP YEONGKWANG Piping Project                              | 2012.12~2012.03 | C      |
| 6  | KHNP GORI Contaminated Water Pipeline Replacement Project   | 2011.04~2012.09 | C      |
| 7  | KHNP YOUNGKWANG Mechanical Maintenance Project              | 2011.09~2012.08 | C      |
| 8  | KHNP YOUNGKWANG Heat Exchanger Pipeline Replacement Project | 2011.08~2011.10 | C      |
| 9  | KHNP GORI Pipeline Replacement Project                      | 2011.01~2011.02 | C      |
| 10 | CAPRO BCHE Removal System Installation Project              | 2010.06~2011.01 | E.P.C  |
| 11 | WOONG JIN POLY SILICON TCS FBR Project                      | 2010.12~2011.12 | E.P.C. |
| 12 | OCI P1.5 & P2 Piping Project                                | 2008.11~2009.02 | C      |



➤ Samsung Fine Chemical MVR Project

▶ 2



➤ KHNP GORI Contaminated Water Pipeline Replacement Project

▶ 6



➤ KHNP YOUNGKWANG Heat Exchanger Pipeline Replacement Project

▶ 8

## WHY SCT ?

- **SCT, as a Total Service Provider, provides comprehensive range of services to cover any client's requirements from business planning to E.P.C. and commissioning.**
- **SCT provides professional engineering service through using various engineering software and utilizing many of engineering specialist.**
- **Based on the project management system, SCT always concentrates on Quality, Cost and Schedule from the point of client.**

[www.scteng.co.kr](http://www.scteng.co.kr)

### **SCT E&C (EPC Center)**

5<sup>th</sup> Floor, A-dong, BYC Highcity Bl. Gasan Digital 1-ro,  
Geumcheon-gu, Seoul, Korea.  
Tel. +82-2-860-9600 Fax. +82-2-6947-7800

### **SCT H/Q (Shop)**

615 Checksan-ri, Nami-myeon, Cheongwon-gun,  
Chungcheonbuk-do, Korea  
Tel. +82-43-269-2900. Fax. +82-43-269-2950

### **SCT ENC Thai Co., Ltd.**

155/204 Moo Ban Phloen Jai 5, Moo 2  
T. Tabma, A. Muang, Rayong 21000 Thailand  
Tel. +66-38-024293. Fax.+66-38-024294