

2016 SAMSUNG ENGINEERING PROFILE



SAMSUNG ENGINEERING



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Samsung Engineering has been growing on a global scale over 40 years. We will continue to stay the course through a steadfast pursuit of excellence in engineering, project management, and corporate citizenship, in order to generate higher and more sustainable value.

| | |
|---------------------------------|----|
| Key Numbers | 04 |
| CEO Message | 10 |
| Samsung Engineering at a Glance | 12 |
| Business | 16 |
| Sustainability | 59 |



we build
the world

Over 1,000
Projects

Extensive project experience accumulated over 40 years

Solid Global Standing

Samsung Engineering has been growing in partnership with clients since its founding in 1970, helping them to build a better future in areas such as hydrocarbon, power, industrial and environmental plants. Despite uncertainties in the global economy, mainly caused by low oil prices and slow economic growth, we have generated growth momentum by improving our systems and underlying fundamentals of our business. Backed by a spirit of creative innovation and challenge, we will expand in areas where our expertise is globally recognized, always looking to exceed client expectations.



built on
our expertise

120,000,000
Accident-free
Man-hours

Achieved at the Saudi Aramco, Shaybah NGL project in Saudi Arabia

Top Safety Record

At Samsung Engineering, safety is the foremost goal and a non-negotiable principle. Thanks to such priority on safety, Samsung Engineering was able to clock 120 million accident-free man-hours at the Saudi Aramco, Shaybah NGL project. To maintain a high level of safety awareness throughout the project, Samsung Engineering identified and eliminated more than 43,000 potential safety issues through daily safety checks, and conducted safety trainings, campaigns and other various programs.

We will continue to hold safety as our paramount value to pursue in all future projects.



to build a
better tomorrow

125 Countries

Where the 'Eco-generation' is growing

Green Leaders of Tomorrow

Based on the belief that education is the key to conservation, we run a website dedicated to environmental education in partnership with the United Nations Environment Program (UNEP). Reaching out to green leaders of tomorrow throughout the globe, since 2006, the Eco-generation website has made available educational materials, lectures, and events to a growing membership from 125 countries.

CEO Message



We never stand still – instead, we seek challenge and innovation, so that we can create value for the future and grow in partnership with all our stakeholders.

Samsung Engineering has been a pioneer in the engineering business in Korea ever since its establishment in 1970. We have been able to successfully carry out over 1,000 projects around the world in areas such as hydrocarbon, power, industrial and environmental plants. By undertaking these projects, Samsung Engineering has developed a wealth of project management capabilities and technological prowess, which in turn have helped us to build strong partnerships with our clients and partners in the global market. Our technological and project management abilities have led to many achievements, including receiving multiple MEED Quality Awards and reaching 120 million accident-free man-hours at the Shaybah NGL project in Saudi Arabia.

To ensure continued growth, we will focus on diversifying target markets and improving project management capabilities. We will further strengthen our competitiveness in areas such as EO/EG, ethylene, fertilizers, and GSP/GOSP, where we have extensive experience so that we can build a firm foundation for stable growth. We will also look to develop sources of future revenue by preparing our entry into the North American market as well as the revamping, LNG and bio products.

To support this plan, we have built an Enterprise Resource Planning (ERP) system, which is optimal for our business model, and promoted data-based company management. This system will help us carry out projects by managing our experiences, capabilities and risks in an integrated way.

In addition, we are committed to being a model global corporate citizen by partnering with all our stakeholders, including clients, partners and local communities, to grow together while keeping the Earth sustainable. We will continue to share our vision with local communities around the world by expanding the 'Hope Library' project, and by helping the next generation of environmental citizens through the 'Eco-generation' program.

We will continue to innovate so that we can respond proactively to the fast-changing global market environment. We will also encourage open dialogue with our stakeholders, so that shareholders, clients, partners and local communities can grow together. Your continued support and encouragement will be greatly appreciated as Samsung Engineering makes a concerted effort to become a stronger and more sustainable corporation.

Thank you.

Samsung Engineering at a Glance

(As of December 31, 2015)

Samsung Philosophy

We will devote our human resources and technology to create superior products and services, thereby contributing to a better global society.

Electronics

- Samsung Electronics
- Samsung Display
- Samsung SDI
- Samsung Electro-Mechanics
- Samsung SDS
- Samsung Corning Advanced Glass

Heavy Industries

- SAMSUNG ENGINEERING**
- Samsung Heavy Industries
- Samsung C&T Engineering & Construction Group

Financial Services

- Samsung Life Insurance
- Samsung Fire & Marine Insurance
- Samsung Card
- Samsung Securities
- Samsung Asset Management
- Samsung Venture Investment

Services and Others

- Samsung C&T Trading & Investment Group
- Samsung C&T Fashion Group
- Samsung C&T Resort Group
- Hotel Shilla
- Cheil Worldwide
- S-1 Corporation
- Samsung Medical Center
- Samsung Economic Research Institute
- Samsung Biologics
- Samsung Bioepis
- Samsung Welstory

Founded

1970

Employees

6,977

Countries

38

Revenue

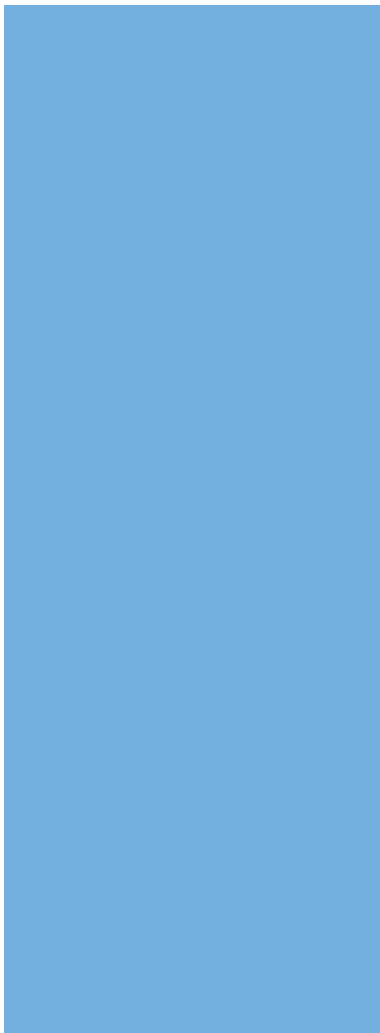
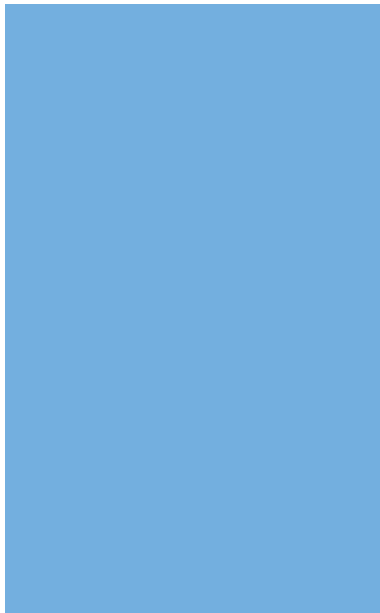
55.5

(Unit: Billion USD)

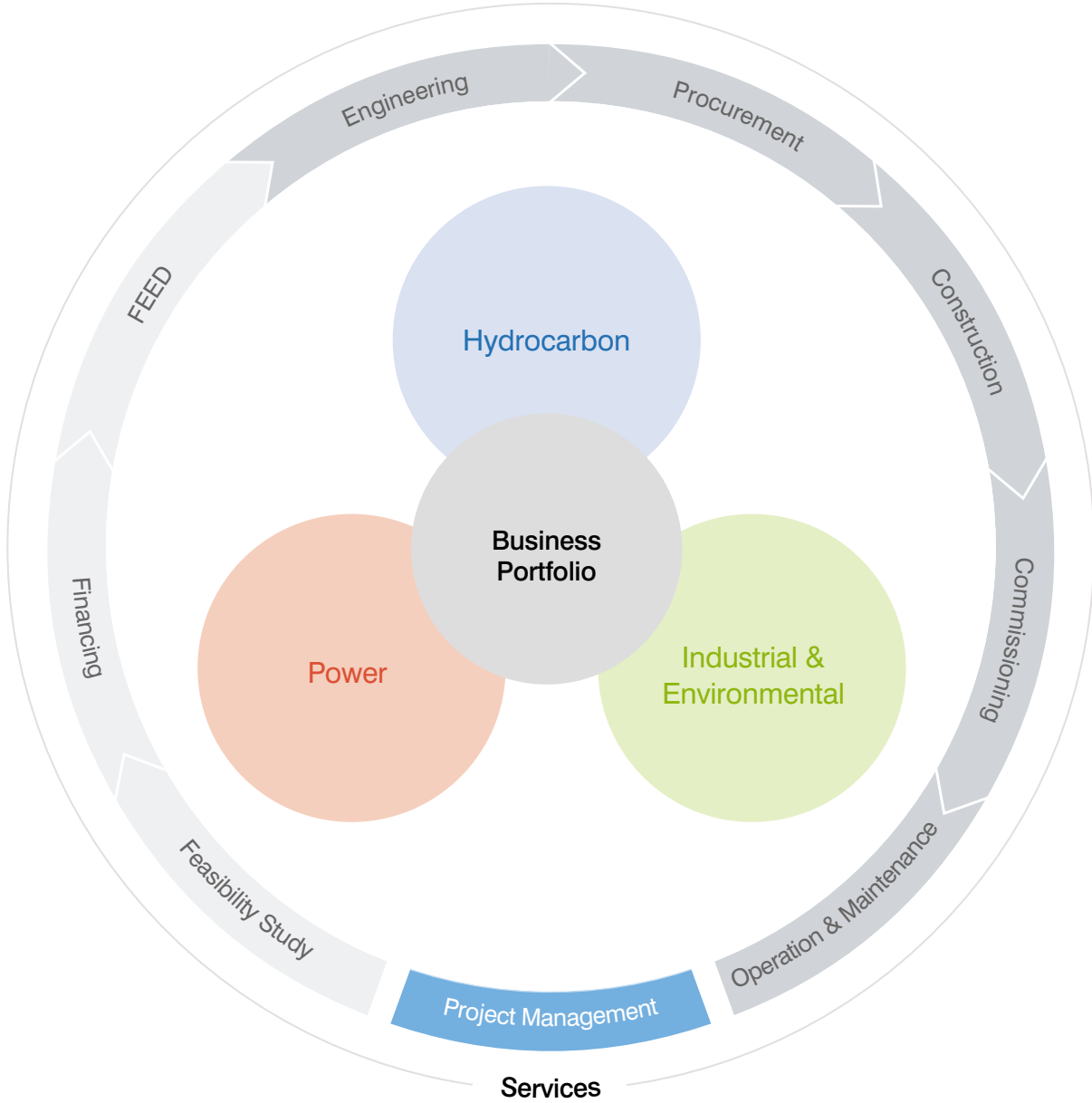
Order Backlog

10.2

(Unit: Billion USD)



Business Portfolio & Services



In expanding its global presence, Samsung Engineering pursues excellence in balancing exact engineering and flexible management with a focus on safety; thus we render our growth more sustainable.

Business

| | |
|----------------------|----|
| Global Experiences | 18 |
| Business at a Glance | 22 |
| Oil & Gas Processing | 24 |
| Refinery | 28 |
| Petrochemicals | 32 |
| Power | 40 |
| Industrial | 44 |
| Environmental | 50 |
| Safety Management | 56 |
| Global Operation | 58 |

Global Experiences

2015 Order Backlog by Region
(As of December 31, 2015)

Americas

0.9 Billion USD



Total Number of Projects
(As of December 31, 2015)

1,026

- O&G Oil & Gas Processing 44
- RE Refinery 42
- PE Petrochemicals 131
- PO Power 27
- I N Industrial 459
- EN Environmental 323

46 Projects



| | O&G | RE | PE | PO | IN | EN |
|---------------------|-----|----|----|----|----|----|
| Bolivia | | | 1 | | | |
| Brazil | | | 1 | | 1 | |
| Canada | 2 | 2 | | | | |
| Chile | | | | 1 | | |
| Cuba | | 1 | | | | |
| Mexico | 1 | 4 | | 3 | 9 | 1 |
| Trinidad and Tobago | | 2 | | | | |
| USA | 3 | 2 | 8 | | | 1 |
| Venezuela | | 2 | 1 | | | |

Middle East/Africa

5.2 Billion USD



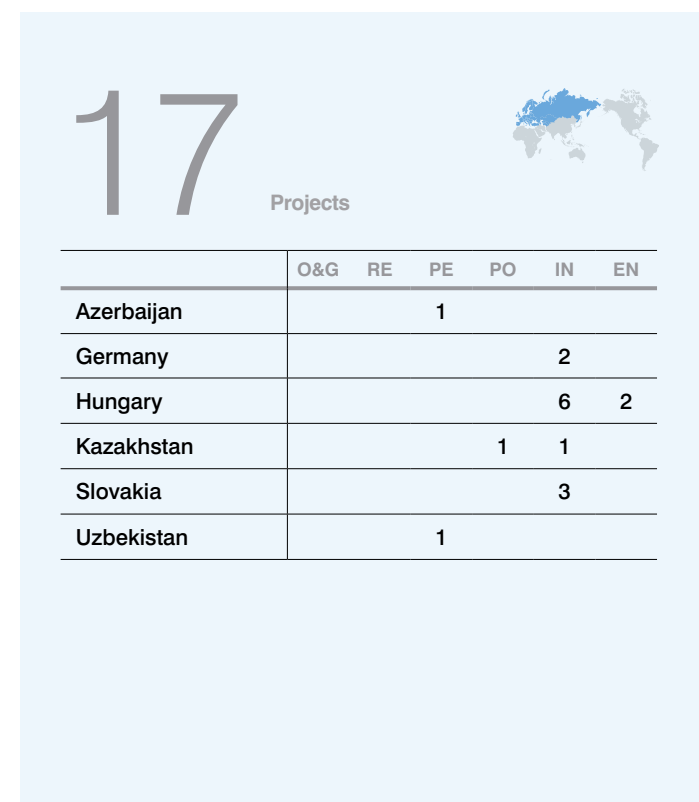
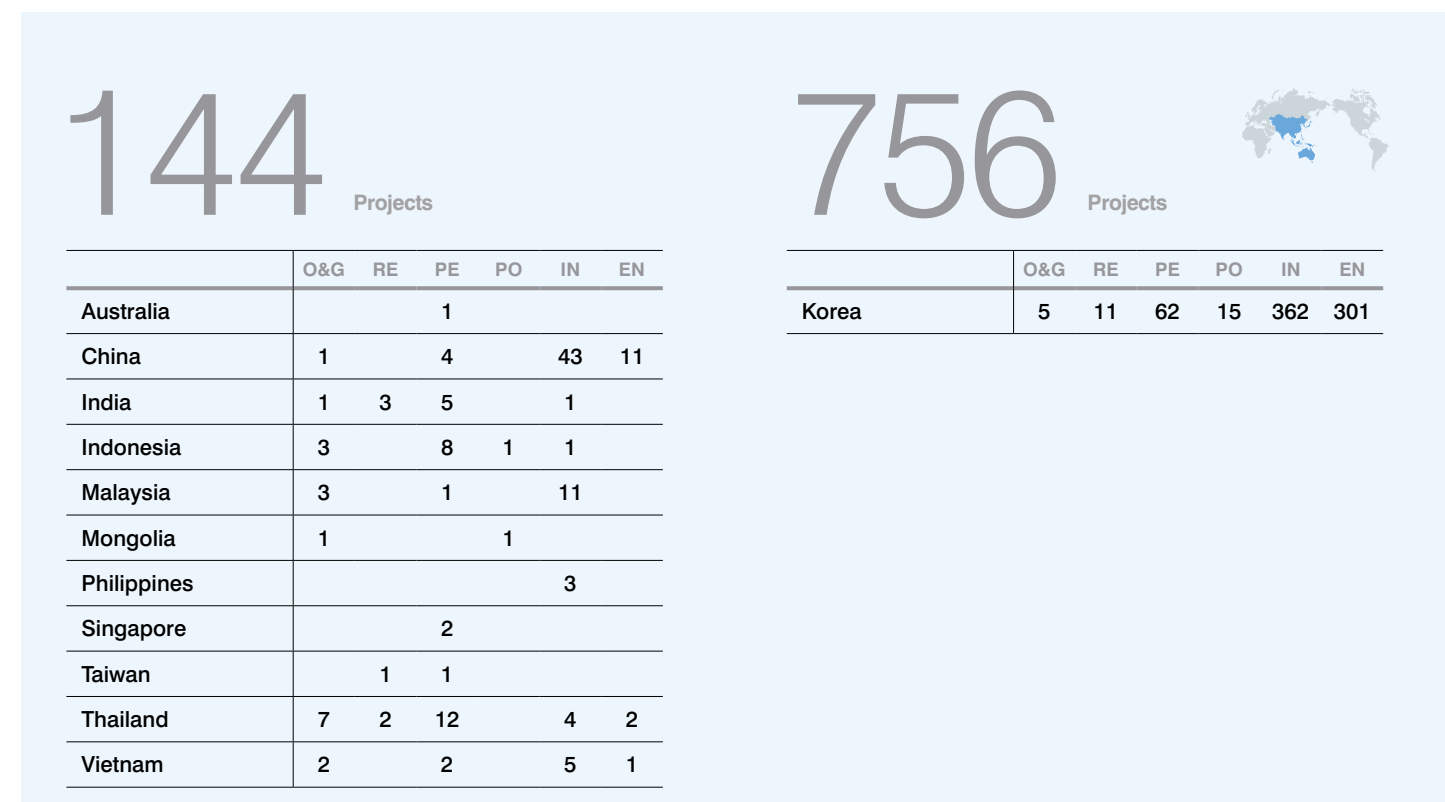
11 Projects



| | O&G | RE | PE | PO | IN | EN |
|------------|-----|----|----|----|----|----|
| Algeria | 1 | 1 | | | | |
| Angola | | | | | 2 | |
| Iran | | | 1 | | | |
| Iraq | 3 | | | | | |
| Egypt | 1 | | 1 | | | |
| Mozambique | 1 | | | | | |

52 Projects

| | O&G | RE | PE | PO | IN | EN |
|--------------|-----|----|----|----|----|----|
| Bahrain | | 1 | | | 1 | 1 |
| Kuwait | | 1 | | | | |
| Qatar | | 1 | | | | |
| Saudi Arabia | 7 | 6 | 14 | 5 | 3 | |
| UAE | 2 | 2 | 4 | | 1 | 3 |



Business at a Glance

Business Portfolio

Hydrocarbon

Gas Processing & Treating(GOSP, GSP),
LNG(Liquefaction, Regasification), Pipelines,
Offshore, Distillation(CDU, VDU), Hydro Treating,
Cracking & Coking(Hydrocracker, Delayed Coker),
Naphtha/Ethane/Propane Cracking, Ethylene,
Propylene, Aromatics, Fertilizers, Polymers, U&O

Power

Coal-fired, Oil-fired,
Gas-fired(Simple Cycle, Combined Cycle),
IGCC(Integrated Gasification Combined Cycle),
CHP(Combined Heat & Power Plant)

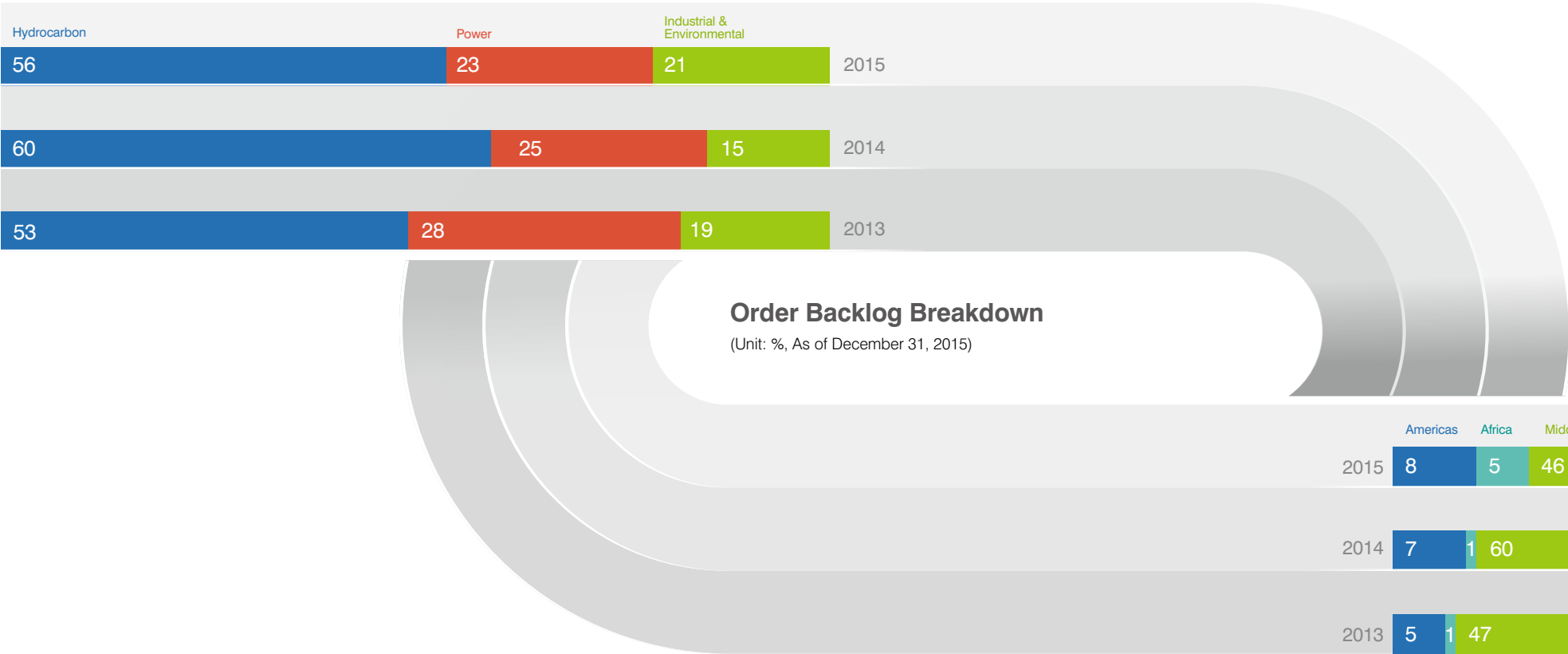
Industrial & Environmental

IT, Manufacturing, Pharmaceutical(Bio),
Sewage Treatment, Wastewater Treatment,
Water Treatment, Water Reuse, Desalination,
Ultra-pure Water, Air Pollution Prevention,
Waste Treatment

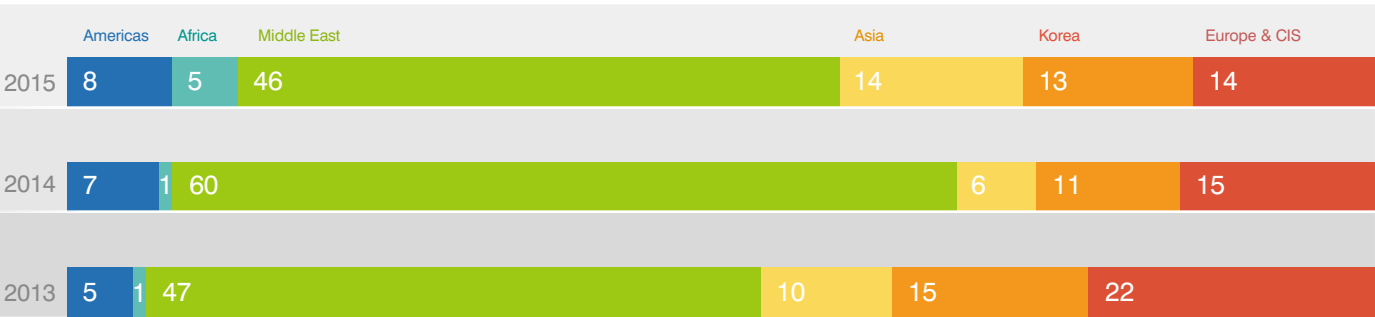
Samsung Engineering is an EPC leader in the hydrocarbon, power, and industrial & environmental plants, providing services from feasibility study, financing, engineering, procurement, construction to O&M. About 1,000 projects we have built worldwide bear witness to our competitiveness, particularly in quality, cost and delivery.

We are expanding our business presence to the Americas and other regions in step with global market trends, diversifying and stabilizing our business portfolio.

By Product



By Region



Oil & Gas Processing

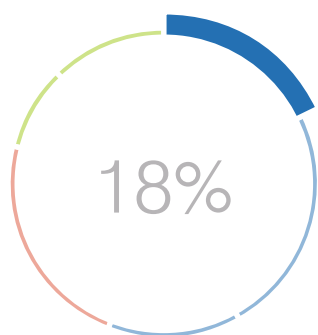
A global leader with expertise and experiences

Samsung Engineering has executed numerous gas-related projects worldwide, including the world’s largest gas separation plant. We also have been enhancing our capabilities in the overall business area of oil & gas processing since 2012 when we advanced into GOSP and upstream operations.

In 2016, Samsung Engineering successfully completed the Shaybah NGL project. Commissioned by Saudi Aramco, the state oil company of Saudi Arabia, the project involved building a plant to produce 750,000 barrels of oil, process 2,400 MMSCFD of NGL and handle more than 200,000 barrels of gas oil every day. We also executed the West Qurna GOSP project, our first Iraq project awarded by Russian oil company, Lukoil. These achievements have helped us to build strong trust-based relationships with new clients and in new markets.

Despite current low oil prices, demand for gas processing-related facilities is expected to grow steadily. We, therefore, plan to expand our product portfolio to include shale gas extraction and LNG liquefaction. In addition, armed with proven project management knowhow in onshore, we are well positioned to excel in a broad range of offshore products, including fixed platforms, FPSO vessels, FLNG facilities and pipelines.

% of Total Order Backlog
(As of December 31, 2015)



Product

- Gas Processing & Treating(GOSP, GSP)
- LNG(Liquefaction, Regasification)
- Pipelines
- Offshore

Saudi Aramco Shaybah NGL Project
Saudi Arabia



PTT GSP-6 Project
Thailand



Project Experiences

| GOSP | | | | | | | |
|------------|---|--------------------------------|---------------|---|--------------|---------|-----------------------------|
| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE | LICENSOR |
| 2017 | TIMIMOUN Gas Field Development GOSP Project | Condensate | 423.5 BPD | Groupement TIMIMOUN (Sonatrach, Total, Cepsa) | Algeria | E, P, C | |
| | | Gas | 177.5 MMSCFD | | | | |
| 2017 | ENI Zubair Oil Field Development GOSP Project | Oil | 200,000 BPD | ENI, Missan Oil, KOGAS | Iraq | E, P, C | |
| 2016 | Saudi Aramco Shaybah CPF Expansion GOSP Project | Oil | 250,000 BPD | Saudi Arabian Oil Company(Saudi Aramco) | Saudi Arabia | E, P, C | |
| 2015 | MCL Banyu Urip GOSP Project | Oil | 185,000 BPD | Mobile Cepu Limited(MCL) | Indonesia | E, P | Shell |
| | | Gas | 125 MMSCFD | | | | |
| | | Solid Sulfur | 30 MTPD | | | | |
| 2015 | Pertamina Senoro Gas Development GOSP Project | Condensate | 13,500 BPD | Pertamina, Medco E&P | Indonesia | E, P | BASF, Haldor Topsoe, Plinke |
| | | Gas | 310 MMSCFD | | | | |
| | | H ₂ SO ₄ | 1 Ton/Hr | | | | |
| 2015 | LUKOIL West Qurna Phase-2 GOSP Project | Oil | 460,000 BPD | LUKOIL, STATOIL, NOC | Iraq | E, P, C | |
| | | Gas | 305,000 m³/Hr | | | | |
| 2014 | PCSB SOGT Project | Oil | 260,000 BPD | Petronas Carigali Sbn Bhd(PCSB) | Malaysia | E, P, C | |
| | | Gas | 1,250 MMSCFD | | | | |

| Gas | | | | | | | |
|------------|---|--------------------------------|--------------|--|--------------|---------|-----------------------------|
| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE | LICENSOR |
| 2016 | Petronas Terengganu Gas Terminal Project | Gas Processing | 700 MMSCFD | Petronas Carigali, HESS | Malaysia | E, P, C | Cameron |
| 2016 | Gazprom Badra GSP Project | Gas Processing | 200 MMSCFD | Gazprom, KOGAS, Petronas, TPAO, Iraqi Government | Iraq | E, P, C | Jacobs |
| 2015 | UGCC Package#B GSP Project | Gas Processing | 476 MMSCFD | Uz-Kor Gas Chemical LLC. (UGCC) | Uzbekistan | E, P, C | UOP |
| 2015 | GASCO Nitrogen Gas Injection Project | N ₂ | 600 MMSCFD | Abu Dhabi Gas Industries Ltd. (GASCO) | UAE | E, P, C | |
| 2015 | Saudi Aramco Shaybah Package#4 Increase Gas Handling Capacity Project | Oil | 300,000 BPD | Saudi Arabian Oil Company(Saudi Aramco) | Saudi Arabia | E, P, C | |
| | | Gas | 1,250 MMSCFD | | | | |
| 2015 | Saudi Aramco Shaybah Package#1 Inlet & Gas Treat Facilities Project | Gas Processing | 2,400 MMSCFD | Saudi Arabian Oil Company(Saudi Aramco) | Saudi Arabia | E, P, C | |
| 2015 | Saudi Aramco Shaybah Package#2 NGL Recovery & Utilities Project | NGL(Natural Gas Liquids) | 2,400 MMSCFD | Saudi Arabian Oil Company(Saudi Aramco) | Saudi Arabia | E, P, C | |
| 2015 | Saudi Aramco CO ₂ Capture & Injection Project | CO ₂ | 45 MMSCFD | Saudi Arabian Oil Company(Saudi Aramco) | Saudi Arabia | E, P, C | Technip, Saudi Consult |
| 2014 | Al Hosn Gas Shah Gas Development Package#4 U&O Project | Gas Processing | 1,000 MMSCFD | Abu Dhabi Gas Development Company Ltd. (Al Hosn Gas) | UAE | E, P, C | |
| 2014 | PTT PHR-3 Gas Project | GTG(Gas Turbine Generator) | 25 MW | PTT Public Company Ltd. | Thailand | E, P, C | |
| | | WHRU(Waste Heat Recovery Unit) | 105 MW | | | | |
| 2011 | NIGC Gas Phase-8 Project | O ₂ | 3,550 MTPD | National Industrial Gases Company(NIGC) | Saudi Arabia | E, P, C | Air Products PLC |
| | | N ₂ | 3,600 MTPD | | | | |
| | | Argon | 50 MTPD | | | | |
| 2011 | PetroVietnam CO ₂ Recovery Project | CO ₂ | 240 MTPD | PetroVietnam Fertilizer and Chemicals Corporation | Vietnam | E, P, C | Mitsubishi Heavy Industries |



Al Hosn Gas Shah Gas Development Package#4 U&O Project, UAE



PCSB SOGT Project, Malaysia

| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE | LICENSOR |
|------------|---|------------------------------|----------------|-------------------------------------|----------|---------|----------------------------|
| 2010 | PTT GSP-6 Project | Gas Processing | 800 MMSCFD | PTT Public Company Ltd. | Thailand | E, P, C | BASF, UOP |
| 2010 | PTT ESP Project | Gas Processing | 800 MMSCFD | PTT Public Company Ltd. | Thailand | E, P, C | UOP, Ortloff |
| 2005 | TTM Songkhla GSP-1 Project | Gas Processing | 425 MMSCFD | Trans Thai-Malaysia Ltd.(TTM) | Thailand | E, P, C | UOP, Ortloff |
| 2005 | PTT GSP-5 Project | Gas Processing | 530 MMSCFD | PTT Public Company Ltd. | Thailand | E, P, C | UOP, BASF |
| 2004 | SCIPIG HYCO 1 Project | H ₂ | 20,000 Nm³/Hr | SCIPIG | China | E, P, C | Haldor Topsoe, Air Liquide |
| 2004 | KNOC Donghae-1 Gas Processing Facility Project | Gas | 50 MMSCFD | Korea National Oil Co., Ltd. (KNOC) | Korea | E, P, C | |
| | | Condensate | 750 BPD | | | | |
| 2003 | Lotte Chemical No.3 ASU Project | O ₂ | 25,000 Nm³/Hr | Lotte Chemical Corp. | Korea | E, P, C | Kobe Steel |
| | | H ₂ | 25,000 Nm³/Hr | | | | |
| 2002 | Air Liquide No.2 HYCO Project | H ₂ | 35,500 Nm³/Hr | Air Liquide Korea Services | Korea | E, P, C | Air Liquide, Haldor Topsoe |
| | | CO | 11,970 Nm³/Hr | | | | |
| 2000 | Air Liquide HYCO Project | H ₂ | 6,546 Nm³/Hr | Air Liquide Korea Services | Korea | E, P, C | Air Liquide, Haldor Topsoe |
| | | CO | 3,560 Nm³/Hr | | | | |
| 1999 | Hydrogas Malaysia Liquid CO ₂ Project | CO ₂ | 60,000 MTPA | Hydrogas Malaysia | Malaysia | E, P, C | Union |
| 1999 | Vietnam Oil & Gas Utilization Project | Gas Processing | 150 MMSCFD | Vietnam Oil & Gas Corporation | Vietnam | E, P, C | NKK |
| 1999 | Khalda Petroleum Western Desert Gas Development Project | Gas Processing | 333 MMSCFD | Khalda Petroleum Co. | Egypt | E, P, C | ABB Lummus |
| 1999 | Indian Petrochemicals C ₂ /C ₃ Recovery Project | Gas Processing | 320 MMSCFD | Indian Petrochemicals Corp. Ltd. | India | E, P, C | KTI Fish |
| 1996 | PTT GSP-4 Project | LPG(Liquefied Petroleum Gas) | 19,000 MTPA | PTT Public Company Ltd. | Thailand | E, P, C | KTI Fish |
| | | NGL(Natural Gas Liquids) | 30,000 MTPA | | | | |
| | | MP Sales Gas | 1,740,000 MTPA | | | | |
| | | LP Sales Gas | 330,000 MTPA | | | | |
| | | | | | | | |

| Others | | | | | | | |
|------------|--|-------------------------------|-----------|--|------------|---------|-----------|
| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE | LICENSOR |
| 2015 | Texas LNG Liquefaction Project | LNG | 2 MTPA | Texas LNG LLC | USA | FEED | APCI, UOP |
| 2014 | Petronas Pacific Northwest LNG Project | | | Petronas | Canada | E | |
| 2013 | SHI Egina FPSO Project | | | Samsung Heavy Industries Co., Ltd.(SHI) | Korea | E | |
| 2012 | CFE Manzanillo LNG Terminal Project | LPG (Liquefied Petroleum Gas) | 14 MMCMPD | Commission Federal de Electricidad(CFE) (Sponsor: Terminal KMS de GNL) | Mexico | E, P, C | |
| 2012 | Vale Energia Ilmpa Baobab CTL Project | | | Vale Energia Ilmpa, SA | Mozambique | E | |

Refinery

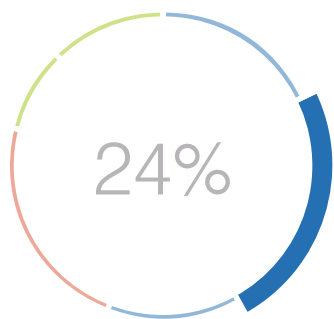
A trusted partner with global expertise and experiences

Samsung Engineering has been building refinery plants at home and abroad since the 1970s. The world-largest aromatic plant for S-Oil, the Delayed Coker in Saudi Arabia, the DHT plant in Qatar, and the on-going clean fuel plant in Kuwait are some of Samsung Engineering’s leading refinery projects.

Our track records include the expansion of the Sonatrach Skikda refinery plant which includes the connection of the new unit to the main plant in the 90 days allowed. Our outstanding technological prowess and project management competency demonstrated in the successful completion of the expansion project have garnered us the top award of the ‘Engineering Project of the Year’ category at the world’s most prestigious Plants Global Energy Awards, and also led to the project award of the Timimoun GOSP in Algeria, turning expectation into customer satisfaction.

The refinery plant business is booming as needs for cleaner fuels are increasing. To capitalize on these growing opportunities, we will continue to expand our capacity to handle bigger and more advanced refinery facilities.

% of Total Order Backlog
(As of December 31, 2015)



- Product
- Distillation(CDU, VDU)
 - Hydro Treating
 - Cracking & Coking
 - U&O



Sonatrach Skikda Refinery Project
Algeria



Ras Laffan DHT Project
Qatar

Project Experiences

| Refinery | | | | | | | |
|------------|---|--|-----------------|--|---------------------|---------|--|
| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE | LICENSOR |
| 2018 | Pemex Salamanca ULSD Project | HDS(Hydrodesulfurization) | 38,000 BPSD | Pemex Recinacion | Mexico | E, P, C | Haldor Topsoe, IMP |
| | | SWS(Sour Water Stripper) | 5,000 BPSD | | | | |
| 2018 | KNPC MAB Package#1 Clean Fuel Project | CDU(Crude Distillation Unit) | 264,000 BPSD | Kuwait National Petroleum Company (KNPC) | Kuwait | E, P, C | UOP, Haldor Topsoe, Shell Global Solutions International B.V, AXENS, Chevron Lummus Global |
| | | ARDS(Atmospheric Resid Desulphurisation) | 150,000 BPSD | | | | |
| | | KHT(Kerosene Hydrotreater) | 39,000 BPSD | | | | |
| | | DHT(Diesel Hydrotreater) | 146,000 BPSD | | | | |
| | | HCR(Hydrocracker) | 120,000 BPSD | | | | |
| | | NHT(Naphtha Hydrotreater) | 23,500 BPSD | | | | |
| 2016 | Saudi Aramco Clean Transportation Fuels Project | CCR(Continuous Catalyst Regeneration) | 18,000 BPSD | Saudi Arabian Oil Company(Saudi Aramco) | Saudi Arabia | E, P, C | UOP, Axens |
| | | Blend of 50% Arabian Light and 50% Khurais Crudes | 124 MBD | | | | |
| | | Hydrogen Unit | 60,000 Nm³/Hr | | | | |
| | | Slurry Hydrotreater | 8,000 BPSD | | | | |
| | | Distillate Hydrotreater | 23,500 BPSD | | | | |
| | | Delayed Coker Unit | 29,500 BPSD | | | | |
| 2016 | TAKREER Carbon Black & Delayed Coker(CBDC) Project | Coke Calcination Unit | 600,000 TPA | Abu Dhabi Oil Refining Company(TAKREER) | UAE | E, P, C | Foster Wheeler |
| | | Carbon Black Unit | 40,600 MTPA | | | | |
| | | Propane Dehydrogeneration Unit | 330,000 TPA | | | | |
| | | LPG Sweetening Unit | 3,000 BPSD | | | | |
| | | | | | | | |
| 2016 | Petrotrin ULSD Project | ULSD(Ultra Low Sulphur Diesel) | 40,000 BPSD | Petroleum Company of Trinidad and Tobago (Petrotrin) | Trinidad and Tobago | E, P, C | CB&I Lummus |
| 2016 | Luberef Yanbu Refinery Expansion Project | Lube Base Oil | 750,000 MTPA | Saudi Aramco, Jadwa Industrial Investment Co. (Luberef) | Saudi Arabia | E, P, C | Chevron Lummus Global, Tecnimont KT, Jacobs |
| 2015 | TAKREER RRE Package#3 U&O Project | CDU(Crude Distillation Unit) | 400,000 BPSD | Abu Dhabi Oil Refining Company(TAKREER) | UAE | E, P, C | Bechtel(FEED) |
| | | RFCC(Residual Fluid Catalytic Cracker) | 127,000 BPSD | | | | |
| 2015 | Sonatrach Skikda Refinery Project | CDU(Crude Distillation Unit) | 18,000,000 MTPA | Sonatrach | Algeria | E, P, C | Axens, GTC |
| 2014 | Ras Laffan DHT Project | DHT(Diesel Hydrotreater) | 54,000 BPSD | Ras Laffan Refinery Company Limited | Qatar | E, P, C | Haldor Topsoe |
| 2014 | Samsung Total Petrochemicals STC No.2 Aromatics Project | Para-Xylene | 1,000,000 MTPA | Samsung Total Petrochemicals Co., Ltd. | Korea | E, P, C | UOP |
| | | Benzene | 400,000 MTPA | | | | |
| 2013 | SATORP Jubail Export Refinery Package#4 Delayed Coker Project | Coker | 103,000 BPSD | Saudi Aramco Total Refining and Petrochemical Co. (SATORP) | Saudi Arabia | E, P, C | Forster Wheeler, UOP |
| | | Merox | 8,353 BPSD | | | | |
| 2013 | SATORP Jubail Export Refinery Package#3 Aromatics Project | CCR(Continuous Catalyst Regeneration) | 67,300 BPSD | Saudi Aramco Total Refining and Petrochemical Co. (SATORP) | Saudi Arabia | E, P, C | Axens |
| | | Benzene | 140,000 MTPA | | | | |
| | | Para-Xylene | 700,000 MTPA | | | | |
| 2012 | NOCL DHDS Project | DHDS(Diesel Hydrodesulfurization) | 1,000,000 MTPA | Nagarjuna Oil Corporation Ltd. (NOCL) | India | E, P, C | Axens IFP Group Technology |
| 2011 | Bapco Lube Oil Project | VHVI(Very High Viscosity Index)Group III Base Oils | 400,000 MTPA | Bahrain Petroleum Company(Bapco), Nogaholdings, Neste Oil Oy | Bahrain | E, P, C | Chevron Lummus, Neste Jacobs Oyj |
| 2011 | S-OIL Aromatics Project | Para-Xylene | 900,000 MTPA | S-OIL Corp. | Korea | E, P, C | Axens |
| | | Benzene | 280,000 MTPA | | | | |
| 2010 | Saudi Aramco DHT Project | DHT(Diesel Hydrotreater) | 105,000 BPSD | Saudi Arabian Oil Company(Saudi Aramco) | Saudi Arabia | E, P, C | Axens, Worley Parsons |
| | | Sulphur Recovery | 200 MTPD | | | | |
| 2009 | Petrotrin NHT & CCR Platformer Project | Gasoline | 28,000 BPSD | Petroleum Company of Trinidad and Tobago (Petrotrin) | Trinidad and Tobago | E, P, C | UOP |



Bapco Lube Oil Project, Bahrain



Saudi Aramco DHT Project, Saudi Arabia

| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE | LICENSOR |
|------------|---|--|--------------|-------------------------------------|----------|----------|------------------------|
| 2008 | Pemex Minatitlan Package#6 Refinery Project | Alkylation | 26,800 BPSD | Pemex Refinacion | Mexico | E, P, C | UOP |
| 2002 | Pemex Tula Refinery Project | Gasoil HDS (Hydrodesulfurization) | 21,350 BPSD | Pemex Refinacion | Mexico | E, P, C | ABB Lummus, IMP, IFP |
| | | Butane Iso. | 25,000 BPSD | | | | |
| 2002 | Pemex Salamanca Refinery Project | Naphtha Reforming | 22,500 BPSD | Pemex Refinacion | Mexico | E, P, C | UOP, IMP |
| | | Naphtha HDS (Hydrodesulfurization) | 25,000 BPSD | | | | |
| 2002 | IOCL Barauni FCC Project | FCC(Fluid Catalytic Cracking) | 26,000 BPSD | Indian Oil Co., Ltd.(IOCL) | India | E, P, C | SWEC, UOP |
| 2002 | IOCL Barauni DHDT Project | DHT(Diesel Hydrotreater) | 48,000 BPSD | Indian Oil Co., Ltd.(IOCL) | India | E, P, C | SWEC, UOP |
| | | Naphtha Treater | 21,000 BPSD | | | | |
| | | CCR(Continuous Catalyst Regeneration) Reformer | 21,000 BPSD | | | | |
| | | | | | | | |
| 1998 | Formosa Aromatics Project | Sulfolane Unit | 28,400 BPSD | Formosa Chemical & Fibre Corp. | Taiwan | E, PS | UOP |
| | | Tatoray | 26,200 BPSD | | | | |
| | | Parex Unit | 56,000 BPSD | | | | |
| | | Isomer Unit | 46,000 BPSD | | | | |
| 1998 | TLBC Lube Oil Project | Lube Oil | 30,000 MTPA | Thai Lube Blending Co., Ltd.(TLBC) | Thailand | E, P, C | |
| 1997 | Thai Lube Base Oil Project | Vacuum Distillation Unit | 20,000 BPSD | Thai Lube Base Public Co., Ltd. | Thailand | E, P, C | Texaco, JGC |
| | | Solvent De-Asph. | 10,000 BPSD | | | | |
| | | Solvent Ext. Unit | 8,000 BPSD | | | | |
| | | Hydrofinishing Unit | 7,000 BPSD | | | | |
| | | Solvent De-wax Unit | 7,000 BPSD | | | | |
| | | Sulfur Plant | 50 MTPD | | | | |
| 1997 | Hanwha No.2 Refinery Revamping Project | Bitumen Plant1 | 150,000 MTPA | Hanwha Energy Co., Ltd. | Korea | E, P, CM | UOP, Chiyoda |
| | | Bitumen Plant2 | 200,000 MTPA | | | | |
| | | CDU(Crude Distillation Unit) | 200,000 BPSD | | | | |
| | | Gas Con. Unit | 10,000 BPSD | | | | |
| 1997 | Samsung General Chemicals Aromatics Project | BTX Plant | 35,000 BPSD | Samsung General Chemicals Co., Ltd. | Korea | E, PS, C | UOP |
| | | Para-Xylene | 870,000 MTPA | | | | |
| | | Benzene | 200,000 MTPA | | | | |
| 1996 | Yukong No.5 Refinery Project | Reformate | 50,000 MTPA | Yukong Ltd. | Korea | E, P | UOP, Comprimo, Chiyoda |
| | | CDU(Crude Distillation Unit) | 200,000 BPSD | | | | |
| | | Gas Con. Unit | 10,000 BPSD | | | | |
| | | Gasoil Hydrotreater | 68,000 BPSD | | | | |
| 1996 | Yukong RFCC Project | Sulfur Plant(ARU/SWS/SRU/TGTU) | 100 MTPD | Yukong Ltd. | Korea | E, PS, C | UOP, Stratco |
| | | RFCC(Residual Fluid Catalytic Cracker) | 40,000 BPSD | | | | |
| | | MTBE(Methyl Tertiary Butyl Ether) | 1,500 BPSD | | | | |
| | | Alkylation | 6,000 BPSD | | | | |
| | | C ₃ Recovery | 286 BPSD | | | | |

Petrochemicals

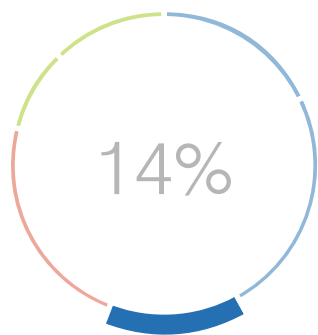
Petrochemical EPC leader redefining superior solutions

Samsung Engineering has been a global player in the petrochemical EPC market since 1988, working side by side with Linde, Shell, Dow, and other premier licensors in building some of the world's most advanced ethylene, poly-ethylene, ethylene glycol, and ammonia/urea plants.

One of our crown jewels is the Fertil-2 ammonia and urea fertilizer plant in UAE, which we designed, engineered, constructed in three years without any safety accidents or lost time incidents. Our impressive performance in project management, which gives top priority to quality and safety, was acknowledged by the MEED Quality Awards 2014.

We will continue to leverage our engineering knowhow and project management competencies and deliver superior solutions to our clients in the petrochemical industry.

% of Total Order Backlog
(As of December 31, 2015)



Product

- Naphtha/Ethane/
Propane Cracking
- Ethylene
- Propylene
- Aromatics
- Fertilizers
- Polymers
- U&O



Fertil-2 Ammonia/Urea Project
UAE



UGCC Package#B HDPE/PP Project
Uzbekistan

Project Experiences



OPaL DFCU/AU Project, India



SHARQ EG Project, Saudi Arabia

| Ethylene/Propylene | | | | | | | |
|--------------------|---|-------------------------------|----------------|---|--------------|----------|-----------------------------|
| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE | LICENSOR |
| 2016 | OPaL DFCU/AU Project | Ethylene | 1,100,000 MTPA | ONGC Petro-additions Ltd. (OPaL) | India | E, P, C | Linde, Lugri |
| | | Propylene | 340,000 MTPA | | | | |
| | | Pyrolysis Gasoline | 360,000 MTPA | | | | |
| | | Benzene | 135,000 MTPA | | | | |
| | | Butadiene | 96,000 MTPA | | | | |
| 2012 | Lotte Chemical HPCEM2 Project | Ethylene | 250,000 MTPA | Lotte Chemical Corp. | Korea | E, P, C | Lummus |
| 2009 | MOC Cracker Project | Ethylene | 800,000 MTPA | Map Ta Phut Olefins Co., Ltd. (MOC) | Thailand | E, P, C | ABB Lummus, Stone & Webster |
| 2008 | Tasnee Ethylene Project | Ethylene | 1,000,000 MTPA | The National Industrialization Company (Tasnee) | Saudi Arabia | E, P, C | Linde |
| | | Propylene | 300,000 MTPA | | | | |
| 2007 | Samsung Total Petrochemicals Ethylene Expansion Project | NCC(Naphtha Cracking Center) | 818,000 MTPA | Samsung Total Petrochemicals Co., Ltd. | Korea | E, P, CS | |
| | | C ₄ | 39 Ton/Hr | | | | |
| | | BTX(Benzene, Tuluene, Xylene) | 83 Ton/Hr | | | | |
| 2001 | Petronas Olefin Project | Ethylene | 600,000 MTPA | Petronas, UCC | Malaysia | E, P, C | Linde |
| 1997 | TPI Ethylene Project | Ethylene | 300,000 MTPA | Thai Petrochemical Ind. Public Co., Ltd. (TPI) | Thailand | E, P, C | Linde |
| 1996 | Jilin Chemicals EG Project | Ethylene | 300,000 MTPA | Jilin Chemicals Ind. Corp. | China | E, P, CS | Linde, IFP |
| | | Propylene | 165,000 MTPA | | | | |
| | | H ₂ | 2,487 MTPA | | | | |

| EO/EG | | | | | | | |
|------------|--------------------------------------|--|--------------|--|--------------|----------|-------------------|
| COMPLETION | PROJECT | CAPACITY | CLIENT | COUNTRY | SERVICE | LICENSOR | |
| 2019 | RAPID Package #11 - EO/EG Project | MEG (Monoethylene Glycol) | 740,000 MTPA | Petronas | Malaysia | E, P, C | Shell |
| 2018 | Lotte LA MEG-1 Project | MEG (Monoethylene Glycol) | 700,000 MTPA | Lotte Chemical Louisiana LLC. | USA | E, P, C | Scientific Design |
| 2015 | TOCGC EO/EG Expansion II Project | EO/EG(Ethylene Oxide, Ethylene Glycol) | 426,367 MTPA | TOC Glycol Company (TOCGC) | Thailand | E,P, C | Scientific Design |
| 2009 | IOCL MEG Project | MEG(Monoethylene Glycol) | 303,976 MTPA | Indian Oil Corp. Ltd.(IOCL) | India | E,P, C | Scientific Design |
| 2008 | Lotte Chemical SEG Project | MEG(Monoethylene Glycol) | 390,000 MTPA | Lotte Chemical Corp. | Korea | E,P, C | Shell |
| 2008 | SHARQ EG Project | EG(Ethylene Glycol) | 700,000 MTPA | Eastern Petrochemical Company(SHARQ) | Saudi Arabia | E,P, C | Scientific Design |
| 2006 | TOC EO/EG Purification Project | EO/EG(Ethylene Oxide, Ethylene Glycol) | 85,000 MTPA | Thai Olefins Public Company Limited(TOC) | Thailand | E,P, C | Scientific Design |
| 2006 | TOC EO/EG Project | EO/EG(Ethylene Oxide, Ethylene Glycol) | 300,000 MTPA | Thai Olefins Public Company Limited(TOC) | Thailand | E,P, C | Scientific Design |
| 1997 | PT Prima Ethycolindo EO/EG-2 Project | EO(Ethylene Oxide) | 22,000 MTPA | PT Prima Ethycolindo | Indonesia | E,P, C | Scientific Design |
| | | EG(Ethylene Glycol) | 120,000 MTPA | | | | |
| 1997 | Lotte Chemical EO/EG-3 Project | EO(Ethylene Oxide) | 100,000 MTPA | Lotte Chemical Corp. | Korea | E,P, C | Shell |
| | | EG(Ethylene Glycol) | 125,000 MTPA | | | | |
| 1997 | Jilin Chemicals EO/EG Project | EO/EG(Ethylene Oxide, Ethylene Glycol) | 100,000 MTPA | Jilin Chemicals Ind. Corp. | China | E,P,CS | Linde |



APPC PDH/PP Project, Saudi Arabia



SAMCo Acrylic Acid Project, Saudi Arabia

| Polymers | | | | | | |
|------------|---|--|---|--------------|----------|------------------------|
| COMPLETION | PROJECT | CAPACITY | CLIENT | COUNTRY | SERVICE | LICENSOR |
| 2019 | RAPID Package #6A - LLDPE Project | LLDPE(Linear Low Density Polyethylene) 350,000 MTPA | Petronas | Malaysia | E, P, C | Ineos |
| 2016 | OPaL HDPE Project | HDPE(High Density Polyethylene) 340,000 MTPA | ONGC Petro-additions Ltd. (OPaL) | India | E, P, C | Mitsui Chemicals Inc. |
| 2015 | UGCC Package#B HDPE/PP Project | HDPE(High Density Polyethylene) 387,000 MTPA | Uz-Kor Gas Chemical LLC. (UGCC) | Uzbekistan | E, P, C | Lotte Chemical |
| | | PP(Polypropylene) 83,000 MTPA | | | | |
| 2015 | BOROUGE-3 LDPE Project | LDPE(Low Density Polyethylene) 350,000 MTPA | Abu Dhabi Polymers Company Ltd. (BOROUGE) | UAE | E, P, C | Borealis |
| 2015 | BOROUGE-3 PO Project | PE(Polyethylene) 1,080,000 MTPA | Abu Dhabi Polymers Company Ltd. (BOROUGE) | UAE | E, P, C | Borealis |
| | | PP(Polypropylene) 908,000 MTPA | | | | |
| 2012 | Samsung SDI CPC2 Project | PC(Polycarbonate) 65,000 MTPA | Samsung SDI Co., Ltd. | Korea | E, P, C | Asahi Kasei |
| 2010 | BOROUGE-2 OCU Project | Propylene 752,000 MTPA | Abu Dhabi Polymers Company Ltd. (BOROUGE) | UAE | E, P, C | ABB Lummus Global Inc. |
| | | Butene-1 39,000 MTPA | | | | |
| 2010 | Saudi Kayan PP/PH Project | PP(Polypropylene) 350,000 MTPA | Saudi Kayan Petrochemical Company | Saudi Arabia | E, P, C | Basell |
| 2008 | Ibn Zahr OCT Project | Propylene 250,000 MTPA | Saudi European Petrochemical Company (Ibn Zahr) | Saudi Arabia | E, P, C | ABB Lummus Global Inc. |
| 2008 | Ibn Zahr PP III Project | Propylene 500,000 MTPA | Saudi European Petrochemical Company (Ibn Zahr) | Saudi Arabia | E, P, C | DOW |
| 2008 | Lotte Chemical PP Project | PP(Polypropylene) 250,000 MTPA | Lotte Chemical Corp. | Korea | E, P, C | Basell |
| 2007 | Samsung Total Petrochemicals PP Expansion Project | PP(Polypropylene) 250,000 MTPA | Samsung Total Petrochemicals Co., Ltd. | Korea | E, P, C | Basell |
| 2005 | NPC Polyethylene Project | HDPE(High Density Polyethylene) 250,000 MTPA | National Petrochemical Public Co.,Ltd. (NPC) | Thailand | E, P, C | Mitsui Chemical Inc. |
| 2002 | PMPC PVC Project | PVC(Polyvinyl Chloride) 100,000 MTPA | Phu My Plastics & Chemicals Co.(PMPC) | Vietnam | E, P, C | EVC |
| 2002 | TPC ABS Project | | Tabriz Petrochemical Company(TPC) | Iran | E, P, CS | Cheil Industries |
| 2000 | SIDPEC LLDPE/HDPE Project | PE(Polyethylene) 200,000 MTPA | SIDI KERIR Petrochemicals Co.(SIDPEC) | Egypt | E, P, C | BP |
| 1998 | IPCL LLDPE/HDPE Expansion Project | PE(Polyethylene) 140,000 MTPA | Indian Petrochemicals Corp. Ltd.(IPCL) | India | E, P, C | BP |
| 1997 | TPC LDPE Project | Film 24,000 MTPA | The Polyolefin Co., Ltd. (TPC) | Singapore | E, P, C | Hitachi |
| | | Spun Bond 3,200 MTPA | | | | |

| PDH | | | | | | |
|--------------|---|--|--|--------------|----------|---|
| COMPLETION | PROJECT | CAPACITY | CLIENT | COUNTRY | SERVICE | LICENSOR |
| 2008 | APPC PDH/PP Project | PDH/PP(Propane Dehydrogenation, Polypropylene) 455,000 MTPA | Advanced Polypropylene Company(APPC) | Saudi Arabia | E, P, C | ABB Lummus |
| 2003 | SPC PDH/PP Project | PDH/PP(Propane Dehydrogenation, Polypropylene) 455,000 MTPA | Saudi Polyolefins Company(SPC) | Saudi Arabia | E, P, C | ABB Lummus |
| Ammonia/Urea | | | | | | |
| COMPLETION | PROJECT | CAPACITY | CLIENT | COUNTRY | SERVICE | LICENSOR |
| 2017 | SOCAR Ammonia/Urea Project | Ammonia 1,200 MTPD | State Oil Company of Azerbaijan(SOCAR) | Azerbaijan | E, P, C | Hardor Topse, Stamicabon |
| | | Urea 2,000 MTPD | | | | |
| 2016 | YPFB Ammonia/Urea Project | Ammonia 1,200 MTPD | Yacimientos Petrolíferos Fiscales Bolivianos(YPFB) | Bolivia | E, P, C | KBR, Toyo |
| | | Urea 2,100 MTPD | | | | |
| 2013 | FERTIL-2 Ammonia/Urea Project | Ammonia 2,000 MTPD | Ruwais Fertilizer Industries (FERTIL) | UAE | E, P, C | Uhde Stamicarbon Uhde Fertilizer Technology(UFT) |
| | | Urea Synthesis 3,500 MTPD | | | | |
| | | Urea Granulation 3,500 MTPD | | | | |
| 2011 | Ma'aden PAP Project | | Ma'aden Phosphate Company | Saudi Arabia | E | |
| 2010 | Ma'aden Ammonia Project | Ammonia 3,300 MTPD | Saudi Arabian Mining Company(Ma'aden) | Saudi Arabia | E, P, C | Uhde GmbH |
| 2010 | Perdaman Industries Collie Urea Project | | Perdaman Industries | Austrailia | E | |
| 2004 | PetroVietnam Phu My Fertilizer Project | Ammonia 1,350 MTPD | PetroVietnam Fertilizer and Chemicals Corporation | Vietnam | E, P, C | Snamprogetti, SNC Lavaline |
| | | Urea 2,200 MTPD | | | | |
| 1998 | Xinjiang Ammonia NG-Reforming Project | Ammonia 450 MTPD | Xinjiang Fertilizer Factory | China | E, P, CS | GIAP, Samsung Engineering |

| Others | | | | | | |
|------------|--|-------------------------------|--------------|---|--------------|---------|
| COMPLETION | PROJECT | | CAPACITY | CLIENT | COUNTRY | SERVICE |
| 2014 | Samsung Total Petrochemicals STC UTOS#3 Project | | | Samsung Total Petrochemicals Co., Ltd. | Korea | E,P,C |
| 2013 | Samsung Total Petrochemicals STC EVA-2 Project | EVA(Ethylene Vinyl Acetate) | 200,000 MTPA | Samsung Total Petrochemicals Co., Ltd. | Korea | E,P,C |
| 2013 | SAMCo Acrylic Acid Project | Acrylic Acid | 250,000 MTPA | Saudi Acrylic Monomer Company(SAMCo) | Saudi Arabia | E,P,C |
| 2013 | Dow-Mitsui Chlorine Manufacturing Facility Project | Chlorine | 816,000 MTPA | Dow-Mitsui Chlor-Alkali LLC. | USA | E,P,C |
| 2013 | SOCC Aluminium Alkyls Project | TEA(Tri Ethyl Aluminium) | 6,000 MTPA | Saudi Organometallic Chemicals Company (SOCC) | Saudi Arabia | E,P,C |
| 2007 | Samsung Total Petrochemicals SM Expansion Project | SM(Styrene Monomer) | 850,000 MTPA | Samsung Total Petrochemicals Co., Ltd. | Korea | E,P,CM |
| 2005 | Petrokemya Butene-1 Project | Butene-1 | 130,000 MTPA | Arabian Petrochemical Company(Petrokemya) | Saudi Arabia | E,P,C |
| 2004 | IOCL LAB Project | LAB(Linear Alkyl Benzene) | 120,000 MTPA | Indian Oil Corp. (IOCL) | India | E,P,C |
| 2001 | BASF Acronal Project | Acronal | 40,000 MTPA | Shanghai BASF Colorants & Auxiliaries | China | E,P,C |
| 2001 | Samsung Fine Chemicals BTP Project | BTP | 300,000 MTPA | Samsung Fine Chemicals Co., Ltd. | Korea | E,P,C |
| 1998 | PT. GT Petrochem Industries Ethoxylate Project | Ethoxylate | 29,000 MTPA | PT. GT Petrochem Industries Tbk. | Indonesia | E,P,C |
| 1998 | Bangkok Synthetics Butadiene/ Butene-1 Project | Butadiene | 140,000 MTPA | Bangkok Synthetics Co., Ltd. | Thailand | E,P,C |
| | | Butene-1 | 25,000 MTPA | | | |
| 1998 | BST Elastomers BR/SBR Project | BR(Butadiene Rubber) | 40,000 MTPA | BST Elastomers Co., Ltd. | Thailand | E,P,C |
| | | SBR(Styrene Butadiene Rubber) | 60,000 MTPA | | | |
| 1996 | UIC PACOL & Linear Alkylbenzene Revamping Project | LAB(Linear Alkyl-Benzene) | 120,000 MTPA | PT Unggal Indah Cahaya Tbk(UIC) | Indonesia | E,P,C |
| | | PACOL(Olefine) | 80,000 MTPA | | | |
| 1995 | Samsung General Chemicals TA/PTA-3 Project | TA/PTA | 250,000 MTPA | Samsung General Chemicals Co., Ltd. | Korea | E,P,C |
| 1992 | PT Lumbung Sumber Rejeki PAC Project | Polyaluminium Chloride | 20,000 MTPA | PT Lumbung Sumber Rejeki | Indonesia | E,P,C |

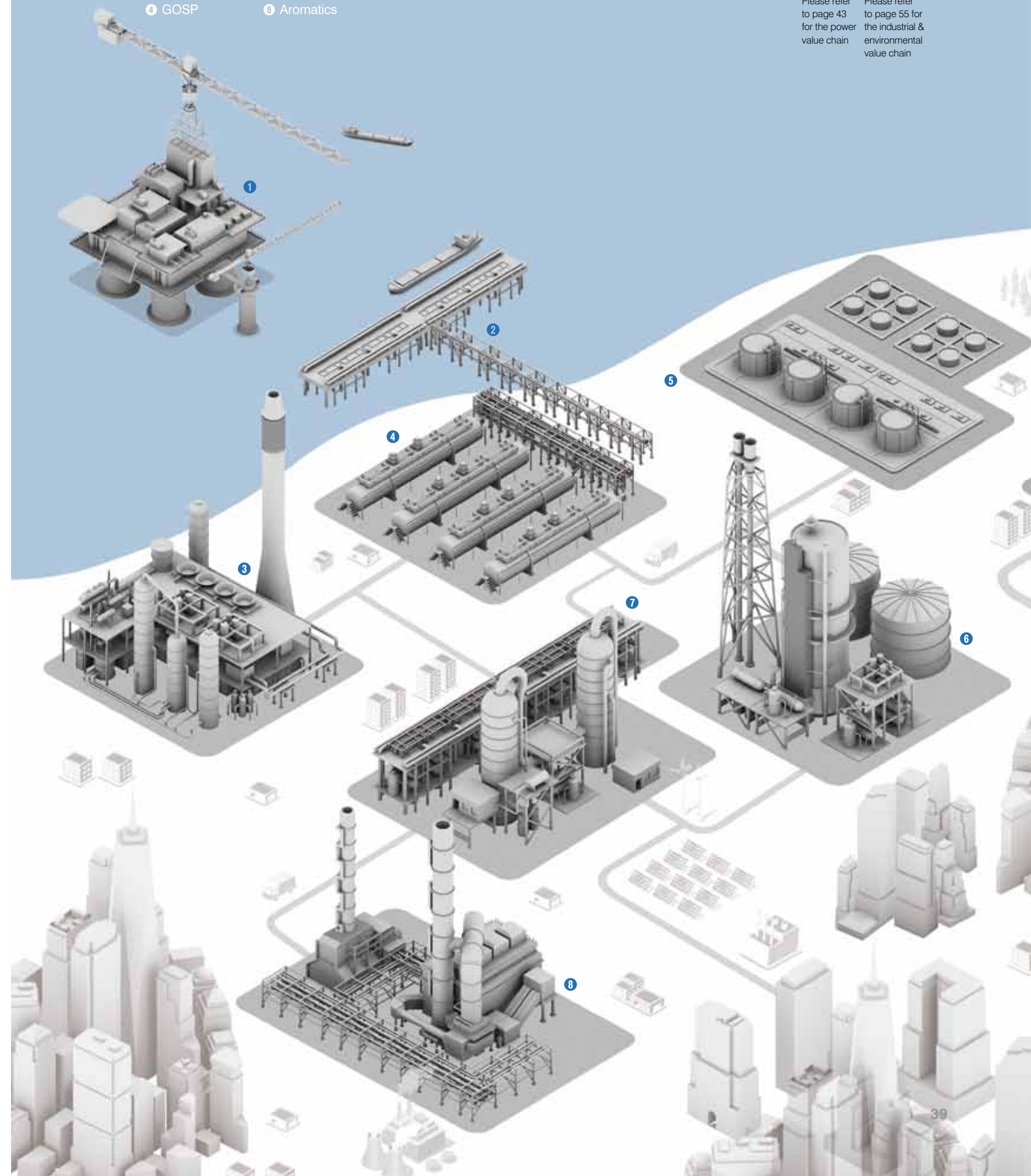
Hydrocarbon Value Chain

- ① Offshore
- ② Pipeline
- ③ Gas Processing
- ④ GOSP
- ⑤ LNG Terminal
- ⑥ Fertilizer
- ⑦ Ethylene
- ⑧ Aromatics



Please refer to page 43 for the power value chain

Please refer to page 55 for the industrial & environmental value chain



Power

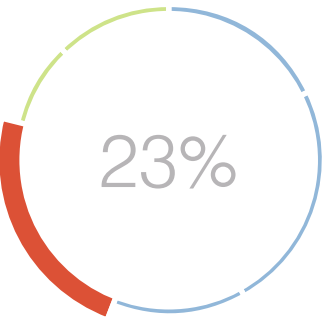
Growing into a total solution provider for the power industry

Samsung Engineering has focused on executing large- and medium-sized fossil fueled power plants. Having completed a number of projects for large and medium cogeneration plants and collective energy facilities in Korea, Samsung Engineering has leveraged the thus-gained experience and knowhow into overseas market expansion, beginning in 2010, and since been building up competencies in coal-, gas- and oil-fired thermal power generation plants.

With several of overseas projects successfully completed, including its first combined cycle power plant commissioned by CFE of Mexico in 2013 and the Wasit project of Saudi Arabia in 2015, Samsung Engineering is now ready to move on to a larger market. As of today, Samsung Engineering is carrying out various power projects in Kazakhstan, Chile, Saudi Arabia and Mexico, sharpening its global competitive edge.

By further strengthening its ties with major global players and institutional investors, Samsung Engineering will continue to expand its business sphere to include investment, operation, management as well as EPC, in an effort to grow into a total solution provider in the area of power generation.

% of Total Order Backlog
(As of December 31, 2015)



Product

- Coal-fired
- Oil-fired
- Gas-fired(Simple Cycle, Combined Cycle)
- IGCC
- CHP



CFE Norte-II CCPP Project
Mexico



Saudi Aramco Wasit Cogeneration & Steam Generation Project
Saudi Arabia

Project Experiences



Ma'aden Steam Generation Project, Saudi Arabia

Power

| COMPLETION | PROJECT | CAPACITY | CLIENT | COUNTRY | SERVICE | LICENSOR |
|------------|---|----------------------|---|--------------|---------|--|
| 2020 | BTPP JSC Balkhash Thermal Power Project | Electricity 1,320 MW | BTPP JSC(Balkhash Thermal Power Plant Joint Stock Company) | Kazakhstan | E, P, C | Siemens(STG), Dongfang(Boiler) |
| 2016 | BHP CCPP Project | Electricity 517 MW | BHP Billiton Chile (Sponsor: Kelar(KOSPO, Samsung C&T)) | Chile | E, P, C | Alstom(GTG), Doosan(HRSG), Skoda(STG) |
| 2016 | SWCC Yanbu Phase-3 Power & Desalination Project | Electricity 2,708 MW | Saline Water Conversion Company (SWCC) | Saudi Arabia | E, P, C | Alstom(STG, Boiler) |
| 2016 | Saudi Aramco Cogeneration Project | Electricity 886 MW | Power Cogeneration Plant Company(PCPC) (Sponsor: Saudi Aramco, Marubeni/JGC/Aljomaih) | Saudi Arabia | E, P, C | GE(GTG), S&TC(HRSG) |
| | | Steam 1,478 Ton/h | | | | |
| 2015 | InterGen SLP CCPP Project | Electricity 210 MW | InterGen | Mexico | E, P, C | GE(GTG), Siemens(STG), Doosan(HRSG) |
| 2015 | Ma'aden Steam Generation Project | Steam 211 Ton/h | Saudi Ma'aden Company(Ma'aden) | Saudi Arabia | E, P, C | Welcron Kangwon(Boiler) |
| 2015 | Saudi Aramco Wasit Cogeneration & Steam Generation Project | Electricity 750 MW | Saudi Arabian Oil Company (Saudi Aramco) | Saudi Arabia | E, P, C | MHI(GTG), Siemens(STG), Macchi(HRSG, Boiler) |
| | | Steam 1,644 Ton/h | | | | |
| 2015 | Saudi Aramco Shaybah Package#3 NGL Power Generation Project | Electricity 660 MW | Saudi Arabian Oil Company (Saudi Aramco) | Saudi Arabia | E, P, C | GE(GTG) |
| 2013 | CFE Norte-II CCPP Project | Electricity 433 MW | Commission Federal de Electricidad(CFE) (Sponsor: KST Electric Power Company) | Mexico | E, P, C | GE(GTG), Siemens(STG), BHI(HRSG) |
| 2007 | LH Incheon Thermal Power Project | Electricity 85 MW | Korea Land & Housing Corporation(LH) | Korea | E, P, C | |
| 2001 | KG Energy Sihwa Thermal Power Project | Electricity 20 MW | KG Energy Co., Ltd. | Korea | E, P, C | |
| 2001 | Ansan Thermal Power Project | Electricity 183 MW | Ansan City Development | Korea | E, P, C | |

Power Value Chain

- 1

Oil-fired
- 2

IGCC
- 3

CCPP
- 4

Coal-fired
- 5

Co-gen



Please refer to page 39 for the hydrocarbon value chain

Please refer to page 55 for the industrial & environmental value chain

Industrial

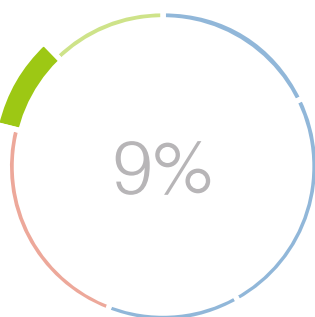
Setting new industry standards in industrial facilities

Samsung Engineering has designed and built advanced industrial facilities, including the world’s largest industrial cleanroom as well as a long list of semiconductor, display, secondary battery, and electronic components manufacturing facilities.

Of late, Samsung Engineering has been expanding into the business of building pharmaceutical plants, including biopharmaceutical plants. We have been particularly striving in the bio plant sector, a new growth industry: We have successfully completed Samsung Biologics’ Edison Phase-1 and Phase-2 projects, of which the latter boasts the world’s largest production capacity. Moreover, by winning Hanmi Pharmaceutical’s Paltan Plant project, Samsung Engineering has further solidified its presence in the pharmaceutical plants area.

Building on our core competencies—client satisfaction, engineering technology and total project management skills—we will grow into a global premier EPC leader in industrial facilities.

% of Total Order Backlog
(As of December 31, 2015)



Product

IT

Manufacturing

Pharmaceutical(Bio)



Project Experiences



SEHC CE Project, Vietnam



Samsung Display A3 Expansion Project, Korea

| Display | | | | |
|------------|--|--------------------------------------|----------|---------|
| COMPLETION | PROJECT | CLIENT | COUNTRY | SERVICE |
| 2016 | Samsung Display A3 Expansion Project | Samsung Display Co., Ltd. | Korea | P, C |
| 2013 | Samsung Display SMD Y(A3) Line Project | Samsung Display Co., Ltd. | Korea | P, C |
| 2012 | Samsung Ube Materials G2 Project | Samsung Ube Materials | Korea | P, C |
| 2012 | Samsung Display SMD A2 Line Project | Samsung Display Co., Ltd. | Korea | P, C |
| 2012 | Samsung Display Tianjin A2 Module Line Project | Samsung Display Co., Ltd. | China | E, P, C |
| 2009 | Samsung Electronics LCD Module Line Expansion Project | Samsung Electronics Co., Ltd. | Slovakia | E, P, C |
| 2007 | Hansol LCD Project | Hansol LCD, Inc. | Slovakia | P, C |
| 2005 | Corning Precision Materials SSG Project | Corning Precision Materials | China | E, P, C |
| 2003 | Suzhou Samsung Electronics TFT LCD Module Line Project | Suzhou Samsung Electronics Co., Ltd. | China | E, P, C |

| Semiconductor | | | | |
|---------------|---------------------------------------|--------------------------------------|---------|---------|
| COMPLETION | PROJECT | CLIENT | COUNTRY | SERVICE |
| 2009 | Intel A9T9 ATM Project | Intel Products Vietnam Company, Ltd. | Vietnam | P, C |
| 2007 | SEMES Semiconductor Equipment Project | SEMES Co., Ltd. | Korea | P, C |

| Precision Glass | | | | |
|-----------------|--|-----------------------------|----------|---------|
| COMPLETION | PROJECT | CLIENT | COUNTRY | SERVICE |
| 2013 | Corning Precision Materials Solar Battery Project | Corning Precision Materials | Malaysia | E, P, C |
| 2012 | Corning Precision Materials Suria Tempered Glass Project | Corning Precision Materials | Malaysia | E, P, C |
| 2011 | Corning Precision Materials KN 13~16 Line Construction Project | Corning Precision Materials | Korea | E, P, C |
| 2008 | Corning Precision Materials KC 21~26 Line Construction Project | Corning Precision Materials | Korea | E, P, C |
| 2005 | Corning Precision Materials BLU Project | Corning Precision Materials | Korea | E, P, C |

| Electric Parts | | | | |
|----------------|---|--|----------|---------|
| COMPLETION | PROJECT | CLIENT | COUNTRY | SERVICE |
| 2016 | Samsung SDI Vietnam Yen Phong Plant Project | Samsung SDI Co., Ltd. | Vietnam | E, P, C |
| 2016 | Samsung Electro-Mechanics Vietnam PBA Layout Renovation Project | Samsung Electro-Mechanics Co., Ltd. | Vietnam | P, C |
| 2016 | Samsung Electronics Thailand ATV Plant Expansion Project | Samsung Electronics Co., Ltd. | Thailand | E, P, C |
| 2016 | Samsung Electro-Mechanics Cheonan S Project | Samsung Electro-Mechanics Co., Ltd. | Korea | P, C |
| 2016 | Samsung Electro-Mechanics China Tianjin Phase-2 Project | Samsung Electro-Mechanics Co., Ltd. | China | E, P, C |
| 2016 | Samsung SDI China Polaroid Film Plant Project | Samsung SDI Co., Ltd. | China | P, C |
| 2016 | Samsung SDI China SAPB Project | Samsung SDI Co., Ltd. | China | E, P, C |
| 2016 | SEHC CE Project | Samsung Electronics HCMC CE Complex Co., Ltd. (SEHC) | Vietnam | E, P, C |
| 2016 | Samsung Electronics Vietnam Component 4 Project | Samsung Electronics Vietnam Co., Ltd. | Vietnam | P, C |

| COMPLETION | PROJECT | CLIENT | COUNTRY | SERVICE |
|------------|---|-------------------------------------|----------|---------|
| 2015 | Toray KPR-1 Project | Toray Advanced Materials Korea Inc. | Korea | E, P, C |
| 2014 | Samsung Electro-Mechanics Busan New Factory Project | Samsung Electro-Mechanics Co., Ltd. | Korea | E, P, C |
| 2013 | Samsung Electro-Mechanics Vietnam Project | Samsung Electro-Mechanics Co., Ltd. | Vietnam | E, P, C |
| 2013 | Samsung Electro-Mechanics K2 Project | Samsung Electro-Mechanics Co., Ltd. | China | E, P, C |
| 2013 | Samsung SDI Tianjin Polymer 17 Line Expansion Project | Samsung SDI Co., Ltd. | China | E, P, C |
| 2013 | Samsung Electro-Mechanics NF Project | Samsung Electro-Mechanics Co., Ltd. | China | E, P, C |
| 2013 | Samsung SDI Battery Line Construction Project | Samsung SDI(Malaysia) Sdn. Bhd | Malaysia | E, P, C |
| 2011 | Samsung Electro-Mechanics TH Project | Samsung Electro-Mechanics Co., Ltd. | Thailand | E, P, C |
| 2007 | Samsung Electro-Mechanics FCB 2 Line Construction Project | Samsung Electro-Mechanics Co., Ltd. | Korea | E, P, C |
| 2006 | Samsung SDI Battery Plant Renovation Project | Samsung SDI Co., Ltd. | Korea | E, P, C |
| 2006 | Toppan Photomasks IC2 Project | Toppan Photomasks, Inc. | Korea | E, P, C |

| Metallurgy | | | | | |
|------------|---|--------------------------------------|----------------------------|--------------|----------|
| COMPLETION | PROJECT | CAPACITY | CLIENT | COUNTRY | SERVICE |
| 2013 | Ma'aden Aluminium Smelter Port Facility & Silos Project | Slios 150,000 (50,000*3 Units) Tons | Ma'aden, Alcoa | Saudi Arabia | E, P, C |
| | | Slios 48,000 (24,000*2 Units) Tons | | | |
| 2013 | Ma'aden Aluminium Smelter Cast House Project | Molten Metal Production 740,000 MTPA | Ma'aden, Alcoa | Saudi Arabia | E, P, C |
| 2013 | Ma'aden Aluminium Rolling Mill Project | Aluminium Coil 380,000 MTPA | Ma'aden, Alcoa | Saudi Arabia | E, P, C |
| 2013 | SULB Steel Mill Project | Meltshop 800,000 Tons per annum | United Steel Company(SULB) | Bahrain | E, P, C |
| | | HSM 600,000 Tons per annum | | | |
| 2013 | Hyundai Steel Gas Holder Project | BFG Holder 150,000 m³ | Hyundai Steel Co., Ltd. | Korea | E, P, C |
| | | LDG Holder 80,000 m³ | | | |
| | | COG Holder 70,000 m³ | | | |
| 2011 | SeAh Steel UAE Pipe Mill Project | LSAW Pipe 50,000 Tons | SeAh Steel UAE LLC. | UAE | E, P, C |
| 2011 | Hyundai Steel Sinter Project | Sintered Ore 1,200,000 Tons per year | Hyundai Steel Co., Ltd. | Korea | E, P, CS |
| | | Main Facility of Unit 2 E+P Supply | | | |



Hankook Tire Manufacturing Project, Hungary

| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE |
|------------|---|----------------------------------|-----------------------|---------------------------|---------|---------|
| 2010 | IISCO Steel Project | | | SAIL IISCO | India | P |
| 2010 | Hyundai Steel By-Product Gas Supply Project | BFG Holder | 200,000 m³ | Hyundai Steel Co., Ltd. | Korea | E, P, C |
| | | LDG Holder | 80,000 m³ | | | |
| | | COG Holder | 70,000 m³ | | | |
| 2009 | POSCO CGL Utility Project | CGL(Continuous Galvanizing Line) | 400,000 Tons per year | POSCO Mexico S.A. de C.V. | Mexico | E, P, C |
| 2005 | SeAh Steel Gunsan Project | | | SeAh Steel Corp. | Korea | E, P, C |

Tire

| COMPLETION | PROJECT | CLIENT | | COUNTRY | SERVICE |
|------------|---|------------------------|--|---------|---------|
| 2011 | Hankook Tire Manufacturing No.2 Project | Hankook Tire Co., Ltd. | | Hungary | E, P, C |
| 2011 | Hankook Tire PCR Tire Manufacturing No. 3-3 Project | Hankook Tire Co., Ltd. | | China | E, P, C |
| 2008 | Hankook Tire Manufacturing Project | Hankook Tire Co., Ltd. | | Hungary | E, P, C |
| 2007 | Hankook Tire PCR Tire Manufacturing Project | Hankook Tire Co., Ltd. | | China | C |
| 2006 | Hankook Tire Manufacturing No.3,4,5 Project | Hankook Tire Co., Ltd. | | China | C |

Pharmaceutical

| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE |
|------------|--|-------------|-----------|--|---------|---------|
| 2018 | Samsung Biologics Edison Phase-3 Project | Bio-pharma. | 180,000 ℓ | Samsung Biologics | Korea | E, P, C |
| 2017 | Hanmi Pyeongtaek Global Smart Project | Bio-pharma. | 20,000 ℓ | Hanmi Pharm. Co., Ltd. | Korea | E, P, C |
| 2017 | Hanmi Hwaseong Global Smart Project | | | Hanmi Pharm. Co., Ltd. | Korea | P, C |
| 2015 | Samsung Biologics Edison Phase-2 Project | Bio-pharma. | 150,000 ℓ | Samsung Biologics | Korea | E, P, C |
| 2014 | Dong-A Meiji Bio Project | Bio-pharma. | 7,500 ℓ | Dong-A Socio Group, Meiji Seika Pharma | Korea | E, P, C |
| 2012 | Samsung Biologics Edison Phase-1 Project | Bio-pharma. | 30,000 ℓ | Samsung Biologics | Korea | E, P, C |

Industrial Manufacturing

| COMPLETION | PROJECT | CLIENT | | COUNTRY | SERVICE |
|------------|--------------------------------------|--|--|------------|---------|
| 2015 | Marubeni Textile Phase-3 Project | Marubeni Corporation | | Angola | E, P, C |
| 2014 | Marubeni Textile Phase-2 Project | Marubeni Corporation | | Angola | E, P, C |
| 2013 | Samsung Fine Chemicals M-1 Project | Samsung Fine Chemicals Co., Ltd. | | Korea | E, P, C |
| 2012 | Toray KL-11, CPS-9 Project | Toray Advanced Materials Korea Inc. | | Korea | E, P, C |
| 2010 | USKO Almaty Logistics Center Project | USKO Logistics International JSC | | Kazakhstan | E, P |
| 2006 | KANC National R&D Center Project | Korea Advanced Nano Fab Center(KANC) | | Korea | E, P, C |
| 2006 | KAI Aircraft Assembly Project | Korea Aerospace Industries, Ltd.(KAI) | | Korea | E, P, C |
| 2002 | Lafarge Dangjin Gypsum Board Project | Lafarge Byuksan Gypsum Board Co., Ltd. | | Korea | E, P, C |

Pulp/Paper

| COMPLETION | PROJECT | CLIENT | COUNTRY | SERVICE |
|------------|-----------------------------------|-----------------------------|---------|---------|
| 2001 | Hankuk Paper PM3 Project | Hankuk Paper Mfg. Co., Ltd. | Korea | P, C |
| 1999 | Moorim Paper No.3 Factory Project | Moorim Paper Co., Ltd. | Korea | E, P, C |

Infrastructure

| COMPLETION | PROJECT | CLIENT | COUNTRY | SERVICE |
|------------|--|---------------------------------|---------|---------|
| 2016 | Samsung Electronics Pyeongtaek Utility Building Project | Samsung Electronics Co., Ltd. | Korea | P, C |
| 2016 | Samsung Electronics Seoul National University R&D Center Project | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2016 | Samsung Electronics 154kV Substation Project | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2013 | Seoul Dongdaemun Design Plaza(Electric Work) Project | Seoul City | Korea | P, C |
| 2011 | KORAIL Yongsan Rolling Stock Depot Removal Project | Korea Railway Corp.(KORAIL) | Korea | E, P, C |
| 2011 | KORAIL Pyongnae Rolling Stock Depot(Electric Car) Project | Korea Railway Corp.(KORAIL) | Korea | E, P, C |
| 2009 | Samsung Electronics 345kV Substation Project | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2009 | Samsung SDI 154kV Substation Project | Samsung SDI Co., Ltd. | Korea | E, P, C |
| 2009 | KORAIL Kyoungchun Railway Line No.4 Project | Korea Railway Corp.(KORAIL) | Korea | E, P, C |
| 2007 | Daejeon Metro No.1 Line Rail System Project | Daejeon Metropolitan City | Korea | E, P, C |
| 2002 | KORAIL Busan Rolling Stock Depot(Conventional Car) Project | Korea National Railroad(KORAIL) | Korea | E, P, C |
| 2002 | 2002 Korea-Japan World Cup Main Stadium Project | Seoul City | Korea | E, P, C |
| 2001 | Haewoondae Undersea Aquarium Project | Korea Aquaria 21 | Korea | E, P, C |
| 2000 | KORAIL Ansan Rolling Stock Depot(Electric Car) Project | Korea National Railroad(KORAIL) | Korea | P, C |

Food/Beverages

| COMPLETION | PROJECT | CLIENT | COUNTRY | SERVICE |
|------------|---------------------------------------|---------------------------------|---------|---------|
| 2003 | KT&G Yeongju Tobacco Project | KT&G Corporation | Korea | E, P, C |
| 2002 | Namyang Dairy Product Cheonan Project | Namyang Dairy Product Co., Ltd. | Korea | E, P, C |
| 2000 | Nongshim Gumi Expansion Project | Nongshim Co., Ltd. | Korea | P, C |
| 1998 | HiteJinro Liquor Project | HiteJinro Co., Ltd. | Korea | E, P, C |
| 1995 | Jinro-Coors Beer Brewery Project | Jinro-Coors Brewing Co., Ltd. | Korea | E, P, C |

Environmental

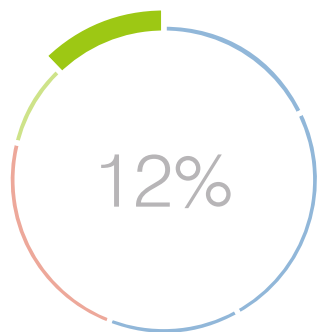
Nurturing one-stop service from planning to operation

In the area of water treatment, including sewage and waste water recycling, seawater desalination, and ultrapure water production, Samsung Engineering has completed over 300 projects in the past 40 years. Moreover, through continued R&D investment it has secured the core technology that is second to none in industrial water treatment. Based on such knowhow and technological competency, Samsung Engineering has grown into an environmental specialist offering quality services from the entire value chain activities ranging from engineering to construction, operation, technology diagnose and business feasibility analysis.

In 2014, Samsung Engineering successfully completed the Muharraq sewage treatment facility in Bahrain, and will be operating and managing the facility until 2040. The facility represents our first overseas BOT (Build-Operate-Transfer) project as well as an overdue recognition of our successful domestic BOT business and in-depth DBO (Design-Build-Operate) experience in overseas HCSEZ ICAD industrial wastewater treatment projects.

In the next few years, we will continue our investment and O&M efforts to grow into a total solution provider capable of all environmental projects of any scale, from planning to financing to operation.

% of Total Order Backlog
(As of December 31, 2015)



Product

- Sewage Treatment
- Wastewater Treatment
- Water Treatment
- Water Reuse
- Desalination
- Ultra-pure Water
- Air Pollution Prevention
- Waste Treatment



MOW Muharraq Sewage Treatment BOT Project
Bahrain



HCSEZ ICAD Industrial Wastewater Treatment DBO Project
UAE

Project Experiences

Water/Wastewater Treatment

| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE |
|------------|---|----------------------|--------------|---------------------------------------|---------|------------------|
| 2017 | Samsung Electronics Pyeongtaek Wastewater Treatment Project | Wastewater Treatment | 25,000 m³/d | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2017 | Asan Sewage Treatment & Reuse Project | Sewage Treatment | 45,000 m³/d | Asan City | Korea | E, P, C, O&M |
| | | Reuse | 27,000 m³/d | | | |
| 2016 | Samsung Electro-Mechanics Cheonan S Wastewater Treatment Project | Wastewater Treatment | 2,500 m³/d | Samsung Electro-Mechanics Co., Ltd. | Korea | E, P, C |
| 2016 | Samsung Electronics S3 Wastewater Treatment Project | Wastewater Treatment | 39,000 m³/d | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2015 | Samsung Display Asan Tangjeong T.C Wastewater Treatment Phase-7 Project | Wastewater Treatment | 60,000 m³/d | Samsung Display Co., Ltd. | Korea | E, P, C |
| 2015 | Samsung Electronics TEN Wastewater Treatment Project | Wastewater Treatment | 8,100 m³/d | Samsung Electronics Co., Ltd. | China | E, P, C |
| | | Reuse | 5,100 m³/d | | | |
| 2014 | Samsung Electro-Mechanics Vietnam Wastewater Treatment & Reuse Project | Wastewater Treatment | 28,440 m³/d | Samsung Electro-Mechanics Co., Ltd. | Vietnam | E, P, C |
| | | Reuse | 10,800 m³/d | | | |
| 2014 | Samsung Electro-Mechanics Kunshan Wastewater Treatment & Reuse Project | Wastewater Treatment | 8,900 m³/d | Samsung Electro-Mechanics Co., Ltd. | China | E, P, C |
| | | Reuse | 14,000 m³/d | | | |
| 2014 | Samsung Electronics M Wastewater Treatment Project | Wastewater Treatment | 25,000 m³/d | Samsung Electronics Co., Ltd. | China | E, P, C |
| | | Reuse | 10,000 m³/d | | | |
| 2014 | MOW Muharraq Sewage Treatment BOT Project | Sewage Treatment | 100,000 m³/d | Ministry of Works(MOW) | Bahrain | E, P, C, O&M |
| 2013 | Anseong West Area Sewage Treatment BTO Project | Sewage Treatment | 50,500 m³/d | Anseong City | Korea | E, P, C, O&M |
| 2012 | Samsung Display Asan Tangjeong T.C Industrial Water Treatment Phase 1~6 Project | Wastewater Treatment | 250,000 m³/d | Samsung Display Co., Ltd. | Korea | E, P, C |
| 2012 | Samsung Electronics Hwaseong Industrial Water Treatment Phase 1~3 Project | Water Purification | 90,000 m³/d | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2012 | Samsung Electronics Integrated Wastewater Treatment Phase-1 Project | Wastewater Treatment | 96,000 m³/d | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2010 | Yongin Sewage Treatment(12 Plants) BTO Project | Sewage Treatment | 167,530 m³/d | Yongin City | Korea | FS, E, P, C, O&M |
| 2009 | HCSEZ ICAD Industrial Wastewater Treatment DBO Project | Wastewater Treatment | 40,000 m³/d | HCSEZ | UAE | E, P, C, O&M |
| 2009 | Osan Sewage Treatment & Reuse#2 Project | Sewage Treatment | 64,000 m³/d | Osan City | Korea | E, P, C |
| | | Reuse | 52,000 m³/d | | | |
| 2008 | Keco Gumi Sunsan Sewage Pipeline Repair Project | | | Environmental Management Corp.(Keco) | Korea | E, P, C |
| 2008 | Hwaseong Sewage Treatment BTO Project | Sewage Treatment | 54,000 m³/d | Hwaseong City | Korea | E, P, C, O&M |
| 2008 | Keco Han River Area#4 Section Sewage Pipeline Repair Project | | | Environmental Management Corp.(Keco) | Korea | E, P, C |
| 2007 | GICO Gugal Sewage Treatment Project | Sewage Treatment | 35,000 m³/d | Gyeonggi Urban Innovation Corp.(GICO) | Korea | E, P, C |
| 2007 | K Water Jeonnam West Area Water Treatment Project | Water Purification | 30,000 m³/d | Korea Water Resources Corp. (K Water) | Korea | E, P, C |
| 2006 | Busan Dongbu Sewage Treatment BTO Project | Sewage Treatment | 135,000 m³/d | Busan City | Korea | FS, E, P, C, O&M |
| 2006 | Incheon Songdo Sewage Treatment Project | Sewage Treatment | 70,000 m³/d | Incheon City | Korea | E, P, C |



Yongin Sewage Treatment BTO Project, Korea



Cheonan Municipal Solid Waste Incineration BTO Project, Kroea

Ultrapure Water/Desalination

| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE |
|------------|--|---------------------|--------------|-------------------------------------|---------|---------|
| 2017 | Samsung Electronics Pyeongtaek P-PJT Ultrapure Water System Project | Ultrapure Water(RO) | 8,000 m³/d | Samsung Electronics Co., Ltd. | Korea | P, C |
| 2016 | Samsung Display Vietnam V2 Project | Ultrapure Water(RO) | 11,000 m³/d | Samsung Display Co., Ltd. | Vietnam | E, P, C |
| 2016 | Samsung Electronics Giheung/Hwaseong Ultrapure Water Retrofit Project | Ultrapure Water(RO) | | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2016 | Samsung Electronics S3 Ultrapure Water System Project | Ultrapure Water(RO) | 32,700 m³/d | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2015 | Samsung Suzhou LCD SSL Phase-2 Ultrapure Water System Project | Ultrapure Water(RO) | 23,000 m³/d | Samsung Suzhou LCD Co., Ltd. | China | E, P, C |
| 2015 | Samsung Electronics TEN Ultrapure Water System Project | Ultrapure Water(RO) | 2,900 m³/d | Samsung Electronics Co., Ltd. | China | E, P, C |
| 2014 | Samsung Electro-Mechanics Kunshan Ultrapure Water System Project | Ultrapure Water(RO) | 21,600 m³/d | Samsung Electro-Mechanics Co., Ltd. | China | E, P, C |
| 2014 | Samsung Electronics M Ultrapure Water System Project | Ultrapure Water(RO) | 20,000 m³/d | Samsung Electronics Co., Ltd. | China | E, P, C |
| 2013 | Samsung Suzhou LCD SSL Ultrapure Water System Project | Ultrapure Water(RO) | 27,000 m³/d | Samsung Suzhou LCD Co., Ltd. | China | E, P, C |
| 2013 | Samsung Electronics 16 Line M3/M4 Ultrapure Water System Project | Ultrapure Water(RO) | 63,600 m³/d | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2011 | SAS CU UPW/IWT Project | Ultrapure Water(RO) | 8,100 m³/d | Samsung Austin Semiconductor (SAS) | USA | E, P, C |
| 2011 | Samsung Electronics SMD A2 Ultrapure Water System Project | Ultrapure Water(RO) | 115,000 m³/d | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2010 | Samsung Display Asan Tangjeong T8 Ultrapure Water System Phase 1~2 Project | Ultrapure Water(RO) | 136,000 m³/d | Samsung Display Co., Ltd. | Korea | E, P, C |

Waste Treatment

| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE |
|------------|---|-------------|---------------|---|---------|--------------|
| 2015 | SLC Sudokwon Landfill Project | Landfill | 86,700,000 m³ | Sudokwon Landfill Management Corp.(SLC) | Korea | P, C |
| 2015 | Cheonan Municipal Solid Waste Incineration BTO Project | Incinerator | 200 t/d | Cheonan City | Korea | E, P, C, O&M |
| 2014 | MOW Muharraq BOT Project(Sludge Incineration) | Incinerator | 132 t/d | Ministry of Works(MOW) | Bahrain | E, P, C, O&M |
| 2009 | GICO Yongin Sewage Sludge Treatment Facility Project | Incinerator | 190 t/d | Gyeonggi Urban Innovation Corp.(GICO) | Korea | E, P, C |
| 2008 | Incheon MSW Incineration Facility Project | Incinerator | 150 t/d | Incheon City | Korea | E, P, C |
| 2001 | Cheonan Municipal Solid Waste Incineration Facility Project | Incinerator | 200 t/d | Cheonan City | Korea | E, P, C |



Samsung Display Asan Tangjeong T.C
Industrial Water Treatment Phase 1~6 Project, Korea

Air Pollution Prevention

| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE |
|------------|--|--------------------------|----------------|-------------------------------------|---------|---------|
| 2017 | Samsung Electronics P-PJT Air Pollution Prevention Facility Project | Air Pollution Prevention | 51,286 m³/min | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2016 | Samsung Electro-Mechanics Binhai Phase-1 Air Pollution Prevention Facility Project | Air Pollution Prevention | 4,150 m³/min | Samsung Electro-Mechanics Co., Ltd. | China | E, P, C |
| 2016 | Samsung Electronics Air Pollution Prevention Facility Retrofit Phase-2 Project | Air Pollution Prevention | | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2016 | Samsung Display A3 Expansion Ultrapure Water & Air Pollution Prevention Facility Project | Air Pollution Prevention | | Samsung Display Co., Ltd. | Korea | E, P, C |
| 2016 | Samsung Electronics S3 Air Pollution Prevention Facility Project | Air Pollution Prevention | 131,383 m³/min | Samsung Electronics Co., Ltd. | Korea | E, P, C |
| 2015 | Samsung Suzhou LCD SSL Phase-2 Air Pollution Prevention Facility Project | Air Pollution Prevention | 17,139 m³/min | Samsung Suzhou LCD Co., Ltd. | China | E, P, C |
| 2015 | Samsung Electronics TEN Air Pollution Prevention Facility Project | Air Pollution Prevention | 2,400 m³/d | Samsung Electronics Co., Ltd. | China | E, P, C |
| 2015 | Samsung Display PFC Gas Removal System & CDM Consulting Project | PFC Removal | 10 m³/min | Samsung Display Co., Ltd. | Korea | E, P, C |
| 2014 | Samsung Electronics M Air Pollution Prevention Project | Air Pollution Prevention | 140,050 m³/min | Samsung Electronics Co., Ltd. | China | E, P, C |
| 2013 | Samsung Suzhou LCD SSL Air Pollution Prevention Facility Project | Air Pollution Prevention | 28,000 m³/min | Samsung Suzhou LCD Co., Ltd. | China | E, P, C |
| 2013 | Samsung Display SDC Y(A3) Air Pollution Prevention Facility Project | | | Samsung Display Co., Ltd. | Korea | E, P, C |
| 2011 | Samsung Electronics 16 Line Air Pollution Prevention Facility Project | Air Pollution Prevention | 222,261 m³/min | Samsung Electronics Co., Ltd. | Korea | E, P, C |

Soil Remediation

| COMPLETION | PROJECT | CLIENT | | COUNTRY | SERVICE |
|------------|---|---|--|---------|---------|
| 2013 | Yongsan Station Area International Business District Development Soil Remediation Project | Yongsan Development Co., Ltd. | | Korea | E, P, C |
| 2012 | Keco TKP Closed Oil Station Soil Remediation Project | Environmental Management Corp.(Keco) | | Korea | E, P, C |
| 2011 | U.S. Army Base Soil Remediation Project | Ministry of National Defense Environmental Management Corp. | | Korea | E, P, C |

Operation & Maintenance

| COMPLETION | PROJECT | CAPACITY | | CLIENT | COUNTRY | SERVICE |
|------------|--|----------------------|--------------|------------------------|---------|---------|
| 2040 | MOW Muharraq Sewage Treatment BOT Project | Sewage Treatment | 100,000 m³/d | Ministry of Works(MOW) | Bahrain | O&M |
| 2030 | Cheonan Municipal Solid Waste Incineration BTO Project | Incinerator | 200 t/d | Cheonan City | Korea | O&M |
| 2030 | Yongin Sewage Treatment(12 Plants) BTO Project | Sewage Treatment | 167,530 m³/d | Yongin City | Korea | O&M |
| 2024 | Incheon Songdo & Mansu Sewage Treatment BTO Project | Sewage Treatment | 100,000 m³/d | Incheon City | Korea | O&M |
| 2021 | Busan Dongbu Sewage Treatment BTO Project | Sewage Treatment | 135,000 m³/d | Busan City | Korea | O&M |
| 2015 | Cheonan Municipal Solid Waste Incineration Project | Incinerator | 200 t/d | Cheonan City | Korea | O&M |
| 2014 | HCSEZ ICAD Industrial Wastewater Treatment DBO Project | Wastewater Treatment | 40,000 m³/d | HCSEZ | UAE | O&M |

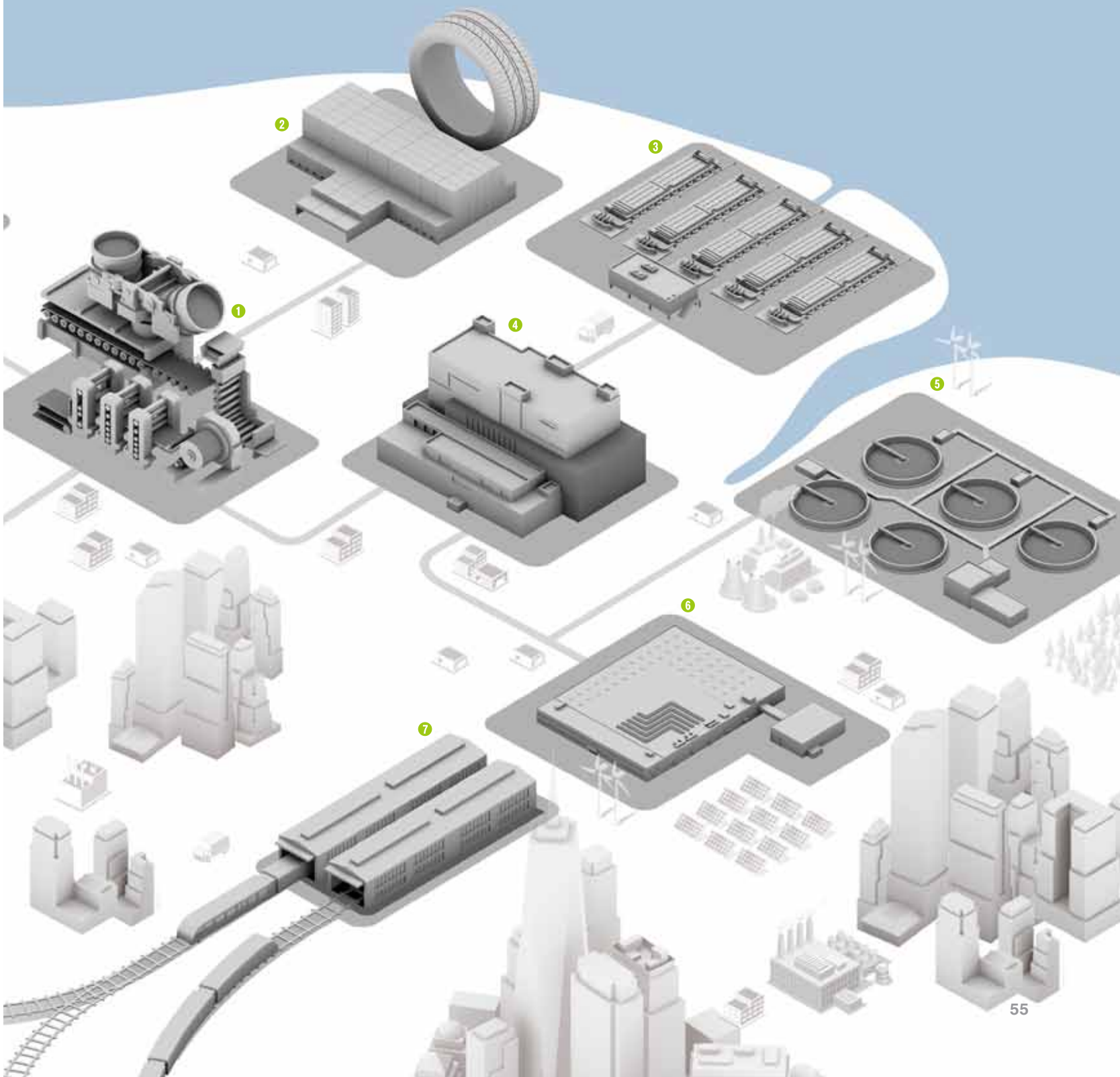
Industrial & Environmental Value Chain

- 1 Steel Mill
- 2 Tire
- 3 Desalination
- 4 Pharmaceutical
- 5 Wastewater Treatment
- 6 IT
- 7 Railway



Please refer to page 39 for the hydrocarbon value chain

Please refer to page 43 for the power value chain



Safety Management

Certificates

Safety

KOSHA 18001 | KOSHA(Korea)
Issue Date: November 8, 2012
Expiration Date: November 7, 2018

OHSAS 18001:2007 | LRQA(UK)
Issue Date: February 28, 2011
Expiration Date: February 27, 2017

Environment

ISO 14001:2004 | LRQA(UK)
Issue Date: February 28, 2014
Expiration Date: February 27, 2017

Quality

ISO 9001:2008 | LRQA(UK)
Issue Date: March 9, 2014
Expiration Date: March 8, 2017

S Certification | ASME(USA)
Issue Date: December 15, 2015
Expiration Date: January 15, 2019

PP Certification | ASME(USA)
Issue Date: December 15, 2015
Expiration Date: January 15, 2019

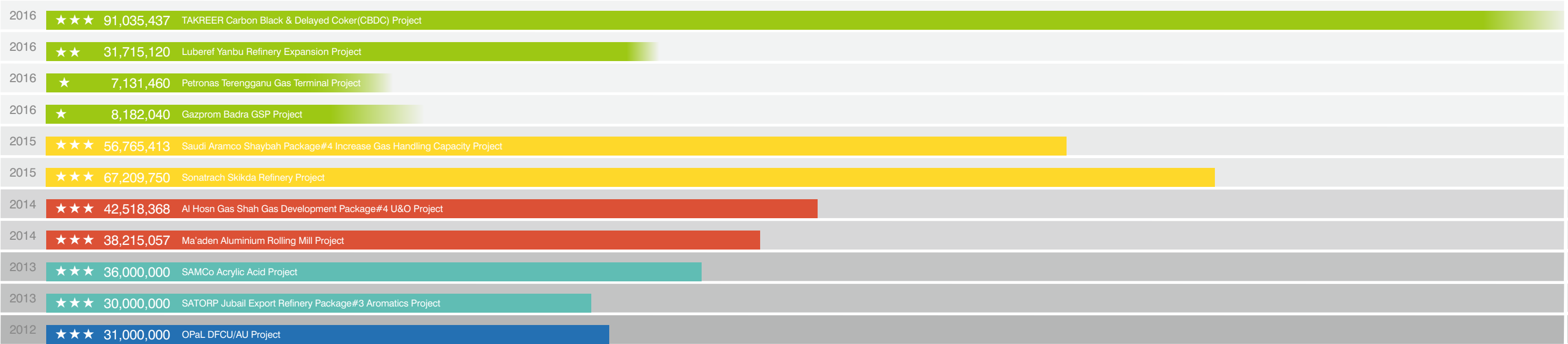
R Certification | NBIC(USA)
Issue Date: December 21, 2015
Expiration Date: January 15, 2019

Safety is the top priority at Samsung Engineering—a core value we live by and demand from our subcontractors for our clients’ interests. Over 40 years, our safety records for about 1,000 projects we have completed worldwide speak for our safety-first work ethics.

We are wholly committed to working safely because we believe it should be a way of life. It also is a fundamental business principle: When safety is fully enforced and observed at the worksite, project quality improves. Safety is costless, but its results are priceless.

Safety Records in Major Projects

(Unit: Safety Man-Hours without LTI, As of May 31, 2016)



★ Grade for Safety Man-Hours

Safety Man-Hours Grade Matrix

(Unit: Man-Hours)

| Amount | ★ (Level 1) | ★★ (Level 2) | ★★★ (Level 3) |
|-------------------------|-------------|--------------|---------------|
| Up to USD 0.5 billion | 2 million | 4 million | 6 million |
| USD 0.5~USD 1.5 billion | 8 million | 16 million | 24 million |
| USD 1.5 + billion | 14 million | 28 million | 42 million |

Global Operation

Samsung Engineering’s EPC specialists, armed with global competence, pursue global management in every corner of the world together with local partners based on excellence and trust.

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Samsung Engineering believes sustainable growth comes from a responsible approach to progress; thus we are steadfast in making relentless efforts to grow together with our stakeholders and create shared value for all.

Sustainability

| | |
|--------------------------|----|
| Human Resources | 60 |
| Ethics & Compliance | 62 |
| Partnership | 64 |
| Environmental Management | 66 |
| Social Responsibility | 68 |

Human Resources

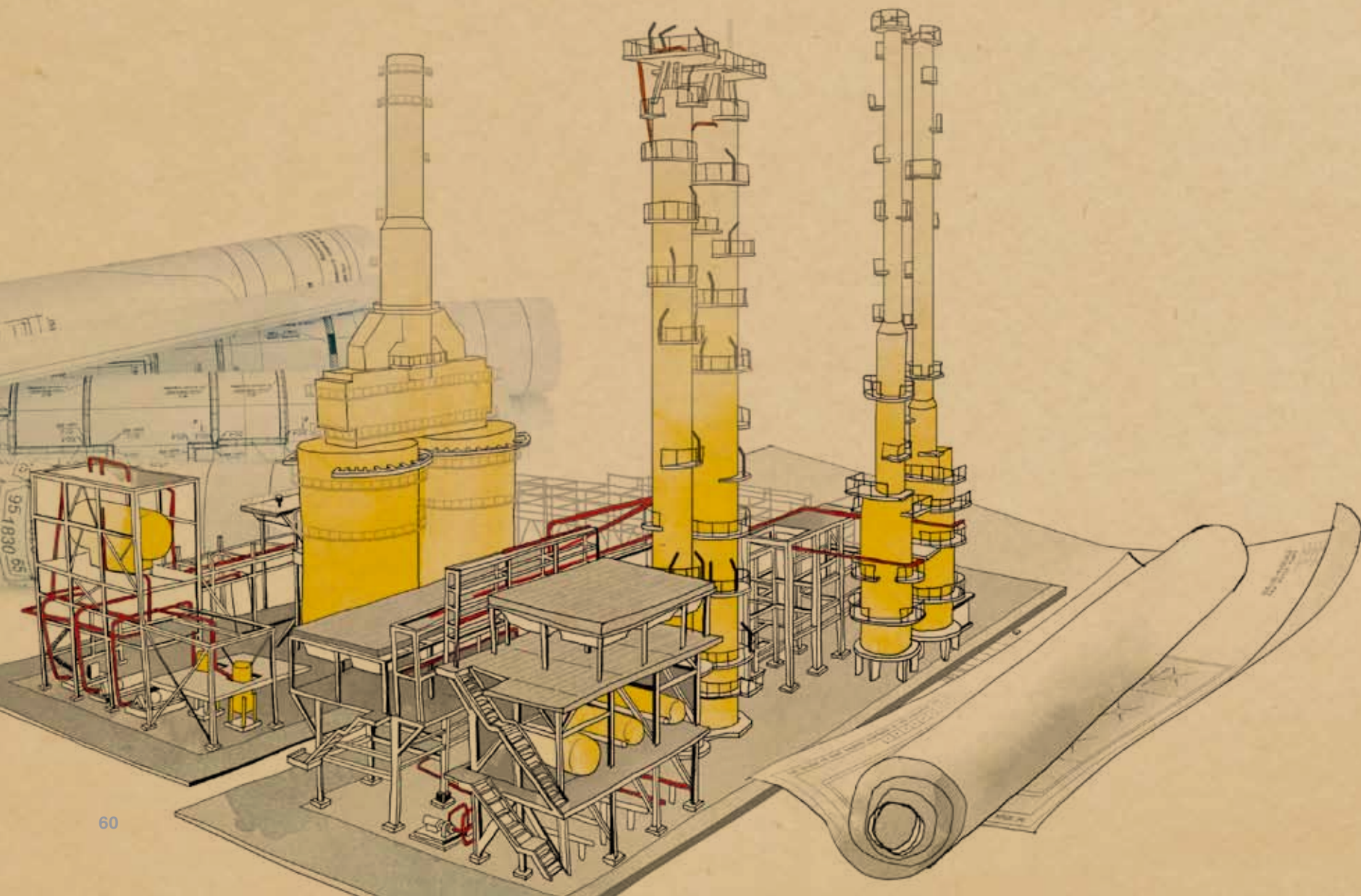
“

I joined Samsung Engineering in 2012, with an aim of developing new knowledge and business fields for the company. I know that I would have never had a chance to achieve anything without the trust and honesty I experienced from the first day on.

”



Samsung Engineering honors the unique talents, teamwork, unity and integrity of our employees. Based on such human resources development philosophy, we provide educational programs to help them plan their career paths and improve job competency, to become experts in their chosen fields.



Training Programs

NEW EMPLOYEE GATE PROGRAM Gate training and promotional training for newly hired entry-level, experienced and foreign national employees

LEADERSHIP PROGRAM Leadership education for executives, regional specialist programs, Samsung MBA

PROFESSIONAL TRAINING PM Academy, training for specialists, programs designed to expedite the training of entry-level employees

GLOBAL CAPACITY DEVELOPMENT Practical business English, training support for overseas offices, 'Global Mindset' program

Ethics & Compliance

“

Samsung Engineering helps its employees work with integrity by offering educational programs, improving processes, and implementing the right systems. We will continue to raise our standards for ethics and compliance through various corporate activities.

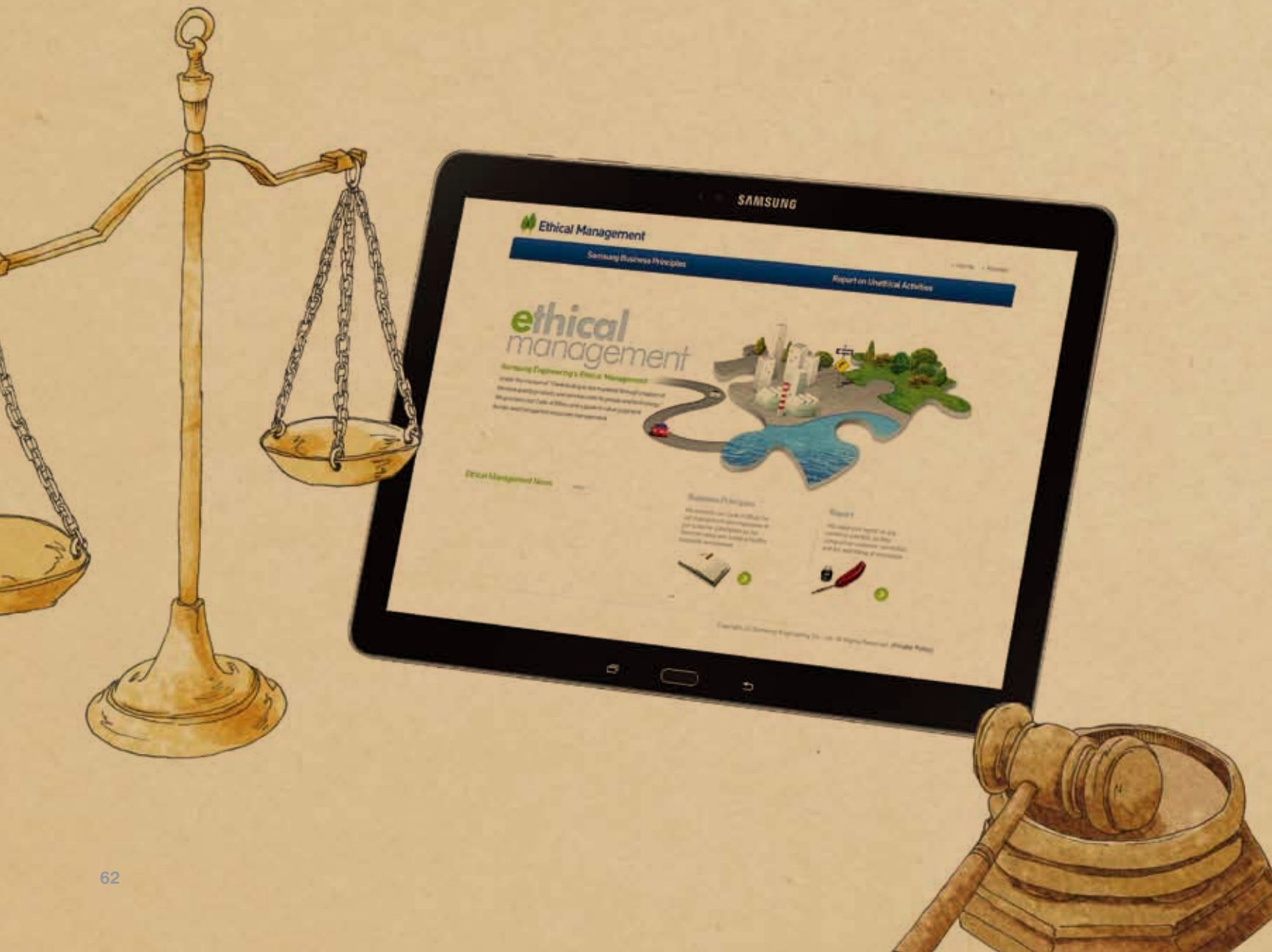
”



Mijin So
Compliance Group



To grow into a company that wins trust from customers and society in an increasingly competitive global market, Samsung Engineering practices the philosophy of the “Samsung Spirit” that focuses on ethical and transparent management; we operate strict compliance programs and constantly educate our employees on the importance of global business ethics, thereby preventing and minimizing legal risks. We also run systems and training programs to safeguard corporate and customer information.



Ethical & Compliance Activities

BUSINESS SUPPORT Establishment of graft and collusion prevention guidelines, operation of compliance systems

EDUCATION PROGRAMS Dissemination of Samsung Engineering Code of Ethics, company-wide execution of mandatory education

MONITORING Operation of internal audit and a whistleblower site

Partnership

“

Samsung Engineering carries out diverse win-win activities for its partners, such as sharing regular business updates and providing training programs that will improve their competitiveness. We sincerely hope to grow together with Samsung Engineering based on such trust.

”



SooHyung Jeon
CEO of Flowcontrol



Samsung Engineering believes its global competitiveness improves with the competency of its partners. Thus, by selecting partners fairly and transparently and educating them continually, we form consensus on a need for growing together. Also by helping them improve their competitiveness through various support measures, we enhance the quality of projects we complete and practice the philosophy of coexistence for our partners and clients.



Support Programs for Partners

FINANCIAL SUPPORT Interest-free loans, Mutual Growth Fund

TECHNOLOGY SUPPORT Open contests for technology development, consultation on technology development, joint R&D

TRAINING SUPPORT Online education, commissioned education by specialized institutions, intensive project managers education

HIRING SUPPORT Job fair, job website operation

Environmental Management

“

I knew environmental standards for projects were becoming stricter worldwide, but I did not know how demanding they were until executing this project. Now I am confident that we can build plants successfully while meeting the standards.

”



Through environmental management, Samsung Engineering respects and practices conservation measures, which have been promoted by global society. Above all, our employees and partners maintain a high environmental awareness through systematic training programs, and we conduct environmental management throughout the entire business process by setting up plans suitable for each project and monitoring them. By continuously improving environmental management system, we create environmental values while actively monitoring and managing environmental risks.

Environmental Management Activities

GREEN MANAGEMENT Performance index management on greenhouse gas, energy and resources, ISO 14001, certification

ENVIRONMENTALLY-FRIENDLY WORKSITE MANAGEMENT Environmentally-friendly engineering/use of material, waste/harmful material management, execution of projects with high environmental risk upon approval, construction machinery and vehicle management, dust/noise/vibration management, pre-operation of environmental management

ECO-FRIENDLY CULTURE PROMOTION Response to climate change, respect for biodiversity, reduction of distribution-related greenhouse gas emissions, waste water management, environmental education for employees, green management encouragement for partners



Social Responsibility

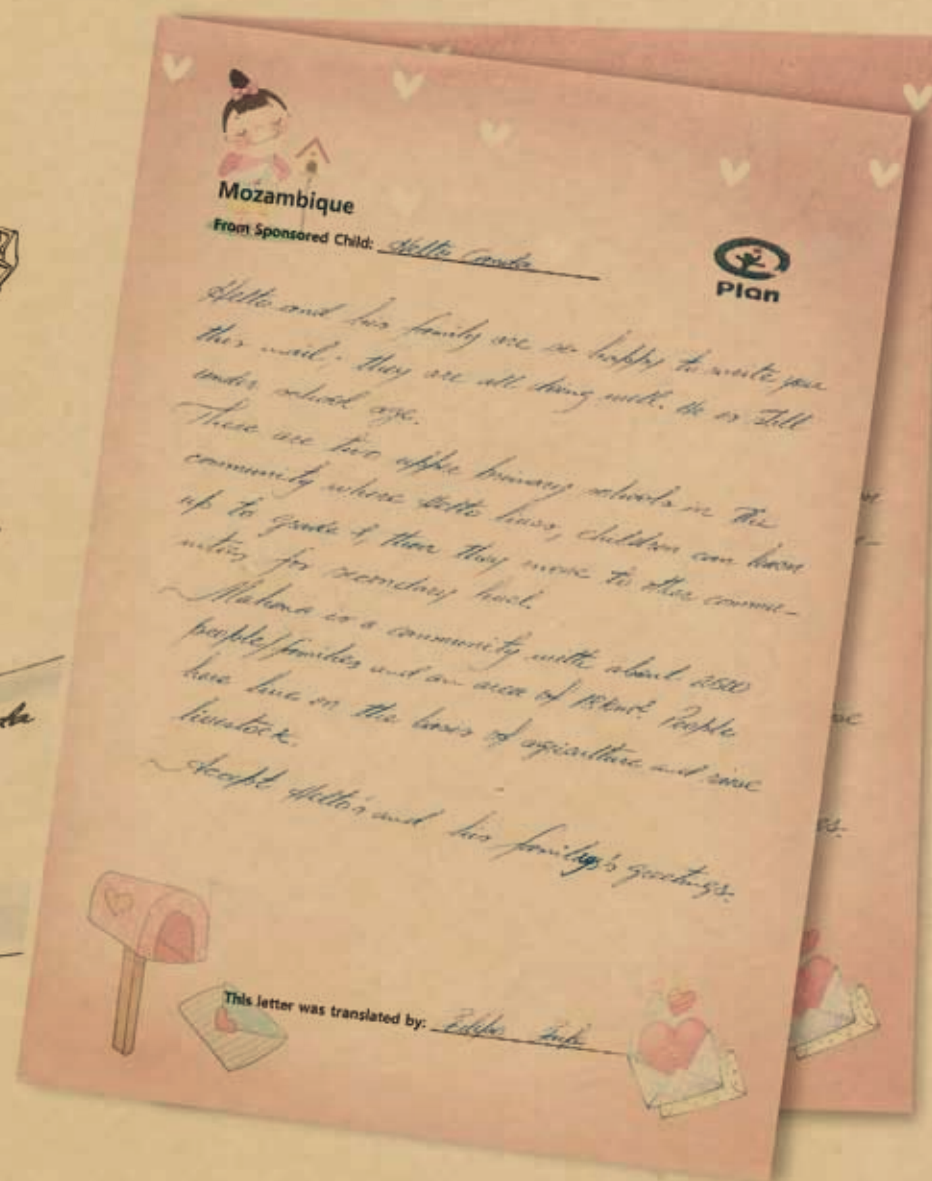
“

I was very excited when I first received a letter from Helto. My hands were shaking with joy. I am so glad to see the photo of Helto growing healthily, and I hope that I can continue to lend a helping hand to children in need.

”



DoHee Lee
Communication Team



Samsung Engineering carries out diverse social contribution activities at home and abroad. Through employee volunteer programs or knowledge-based contribution activities that reflect the characteristics of engineering operations, we help our employees become better global citizens and develop a win-win relationship with our customers of the present and the future. We contribute to global society not only because it is the right thing to do for the others, but because it is the right thing to do for us.

Social Contribution Activities

Education Programs

Eco-generation ❶

Environmental education initiative to raise the environmental awareness among future generations through various programs

Programs

- ENVIRONMENTAL NETWORKING PLATFORM
Tunza Eco-generation(<http://eco-generation.org>)
- PROVIDING CONTENT FOR ENVIRONMENTAL EDUCATION
Eco-generation School Kit and Eco-generation Regional Ambassadors

- ONE-DAY TEACHER'S CLASS
Eco-generation School and Teacher Training on the Environment

- SAMSUNG ENGINEERING GREEN AWARDS
- GLOBAL YOUTH FOR THE ENVIRONMENT FORUM



❶



After-school Education

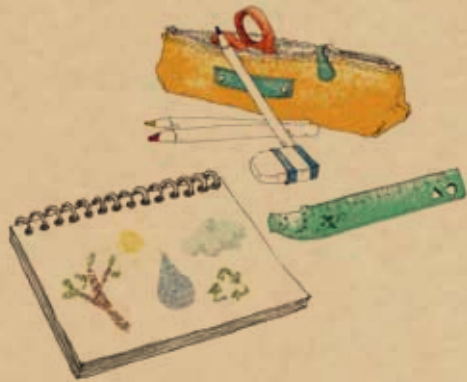
An after-school education program for local children and residents with a variety of subjects including languages and books

- Korea Kazakhstan Myanmar Vietnam Mexico

Mentoring for Job-seekers

A mentoring program for helping students find jobs and develop their careers

- Korea Kazakhstan India



Volunteer Programs

Sisterhood Village ❷

Building strong ties with local communities by supporting sisterhood villages

- Korea



❷



❸



Talent Volunteer

A volunteer program in which Samsung Engineering employees can use their expertise and skills

- Korea

CSR Festivals ❸

Samsung Engineering employees, their family members, and partner companies participate in a wide array of volunteer activities together around the overseas offices and sites



Donation Programs

Water of Life ❹

Digging wells in areas suffering from drinking water shortages



Daddy Long Legs

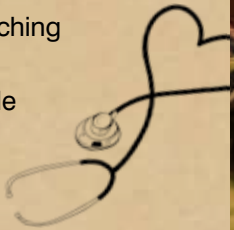
Sponsoring children in need



❹

Donating Handmade Items

Donating toys, pencil cases, pelt teaching aids, wool hats for newborns, solar lanterns, T-shirts and other handmade items for children



❺

Health Care Aid

Offering medical supplies and basic medical examinations and engaging in other medical activities

- Algeria Angola Bahrain

Blood Donation ❺

Promoting blood donation

- Korea India Saudi Arabia UAE

Scholarship Donation

Helping local communities foster future talent by providing support for students from low-income families

- Korea Kazakhstan Myanmar Bolivia

Overseas Relief Activities

Delivering emergency relief and restoration to communities suffering from natural disasters

- Haiti Japan Mexico Philippines Thailand Nepal

Community Outreach

Providing education supplies, clothing, and toys to orphanages and nursing homes located in areas near Samsung Engineering business sites and conducting volunteer activities such as music concerts

- Korea Algeria India Mexico UAE USA Saudi Arabia Iraq Malaysia Vietnam China Angola Azerbaijan Kazakhstan Uzbekistan Chile

Hope Library

Turning old schools and community centers into children’s libraries in order for them to develop a passion for learning

India Iraq Uzbekistan Bolivia Azerbaijan Vietnam



Book Donation

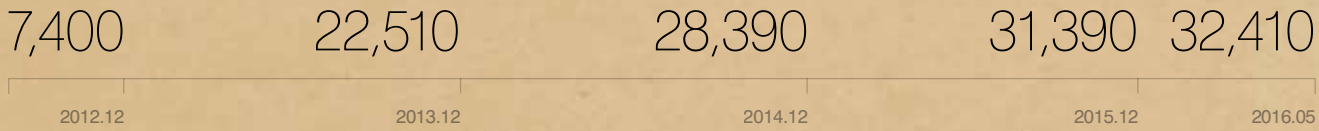
Donating books to the Hope Library and sisterhood schools

India Iraq Uzbekistan Myanmar Bolivia



← Unfold this page to view messages for children who receive books.

Number of Donated Books





Everything you can imagine is real.

The power of knowledge makes us infinite.

Life isn't about finding yourself. Life is about creating yourself.

Learning is a basis of the prosperity of human beings and the advancement of society.

Knowledge in youth is wisdom in age.

Life is the art of drawing without eraser.

Luck is when preparedness meets opportunity.

The future depends on what we do in the present.

If you really love what you do, then the rest follows.

Books are the quietest and most constant of friends.

The wonderful thing about learning is no one can take it from you.

Live as if you were to die tomorrow. Learn as if you were to live forever.

The merit of an action lies in finishing it to the end.

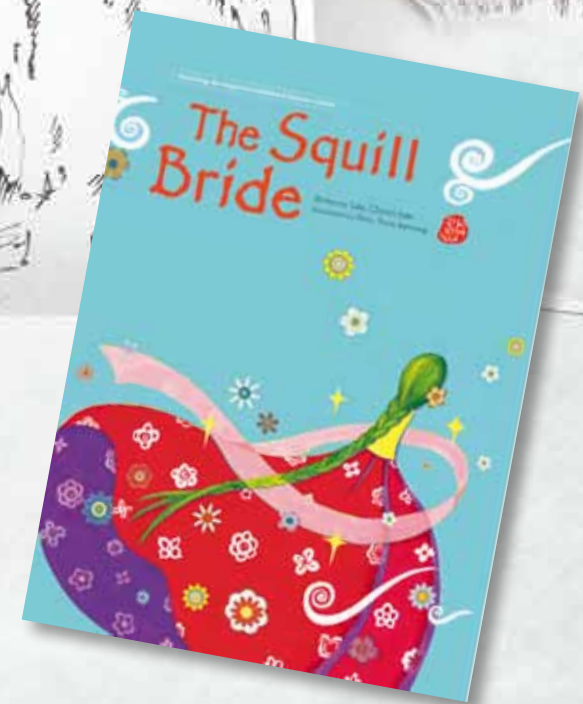
Learn from yesterday, live for today, hope for tomorrow.

If you can dream it, you can do it!!!

HOPE LIBRARY & BOOK DONATION

Children are our future. As a way to invest for a better future, Samsung Engineering has been building libraries and donating books in communities of countries where we operate. Through our book-donation initiative, we will help more children have bigger dreams and create a brighter tomorrow.

* These messages are written by the visitors to Samsung Engineering's PR Hall (engium) and sent to the children.





SAMSUNG ENGINEERING