



New Global Leader, STX ENGINE

NEW GLOBAL LEADER, STX ENGINE

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







## Dream & Future

We look towards the future  
Because we have a grand dream for tomorrow,  
We STX Engine will become the Global Top engine maker  
and a Global Leader in Electronic Communication field.



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# Global Top Engine Maker World best **STX Engine**

With spirits of creativity and challenge,  
based on our amassed technology  
and experience, we, STX Engine,  
will take a big step to be the  
World Best corporation in Diesel Engines  
and Marine Equipments manufacturing

**stx**Engine





## About STX Engine

- Messages / CEO
- History of Transformation





# CEO Message

- About STX Engine
- Messages / CEO
- History of Transformation
- Our Business
  - Marine Diesel Engine
  - Military Diesel Engine
  - Power Plant
  - Electronic Communication Equipment
  - Engine Parts & Service
- Technology Development
  - R&D
  - Quality Management
- Corporate Social Responsibility
- Business Location



STX Engine started in 1976 as a manufacturer specializing in diesel engines and played a central role in the development of the shipbuilding and the machine industry in Korea after being designated as a defense contractor in 1977, and both the marine engines and motor engines are seen as having a competitive edge globally.

STX Engine has met customers’ various requirements on their component and service businesses based on its accumulated experience and technological power in the field of engines. In addition, the company’s electronic and communication business, equipped with original technologies in underwater systems and radio wave detection, is expanding to the global market by performing R&D and quality innovation.

Currently, even amidst a rapidly changing management environment, STX Engine follows the mental attitude of “establish basic rules and everything else will naturally fall into place” as it prepares for a new launch. The company thoroughly confirms the basics of all categories from the start, and holds customer satisfaction, stockholder satisfaction and social responsibility as its highest priorities through faithfulness to the basics of the work it pursues with individuals and in each category.

Even now, all employees of STX engine are working very hard to launch based on creativity with a challenging mindset to achieve the goal of becoming a comprehensive engine heavy electric machine maker by 2020.

We will work even harder to transcend Asia and take center stage in the world economy. We ask for your unchanging interest and support as STX Engine continues to take on challenges to create the dreams and a future for customers and to become a sustainable company that is respected globally.

STX Engine CEO Song Jong-Geun



## A History of Transformation

- 2000's**
  - 2018 Mar. Recognition of Workplace that Achieved Goal of zero hazard (x 18) (Korea Occupational Safety & Health Agency)
  - 2014 Oct. Recognition of Workplace that Achieved Goal of zero hazard (x 25) (Korea Occupational Safety & Health Agency)
  - Jul. Awarded the Excellence Award for an outstanding case of implementing the zero hazard movement (Korea Occupational Safety & Health Agency)
  - 2013 Aug. Recognition of Workplace that Achieved Goal of zero hazard (x17) (Korea Occupational Safety & Health Agency)
  - 2012 Oct. DJSI Being Named by DJSI Korea For the Four Year in a Row
  - Jun. Received Minister of Health and Welfare Award from the National Social Welfare Volunteer Conference
  - 2011 Oct. DJSI Being Named by DJSI Korea For the Third Year in a Row
  - Aug. Received Forbes Management Quality Award (Growth Sector)
  - Jun. Received Gold Prize at the 6th Korea Weather Information Competition (Korea Meteorological Administration)
  - 2010 Oct. Chosen as best company in the industrial engineering sector by DJSI Korea for 2 consecutive years
  - Sep. Produced the 1,000th MT881 for the new K9 self-propelling guns
  - Jul. Completed building the STX Institute of Technology
  - 2009 Oct. Newly listed in DJSI Korea, Selected as Best Company in the Industrial Engineering Field for 2 consecutive years
  - Jun. Awarded the "Ministry of Environment Award" for environmental activities
  - Jan. STX Dalian Engine commenced full operation, produced first engine for ships
  - 2008 Dec. Chosen as the "Best Company for Security" (Ministry of Defense)
  - Nov. Awarded the "800 million dollars export award"
  - Nov. Awarded the "34th Quality Management Convention, Quality Award"
  - Sep. Yongin Branch Acquired ISO 14001 Certification
  - Jul. Re-chosen as one of the environmentally friendly corporation
  - 2007 Nov. Awarded the "700 million dollars export award"
  - Oct. Acquired the Defense quality system (KDS0050-9000) Certification for Electronic Communication Equipment
  - 2006 Dec. Awarded the "1st Environmentally Friendly Corporate Management Award"
  - Nov. Awarded the "500 million dollars export award"
  - The CEO, Kang Sik Rhee received the "Gold Tower Medal for Industrial Excellence"
  - Nov. Awarded the "Ministry of Knowledge Economy, Minister's Award" for the Precision Calibration field in the "36th Precision Calibration Technology Convention"
  - Jul. Acquired the OHSAS 18001 Certification
  - 2005 Dec. Awarded the "400 million dollars export award"
  - Nov. Acquired the ISO 14001 Certification
  - Oct. Awarded the Defense Quality Award for Excellence
  - May. STX Engine and STX Radarsys established a merger
  - 2004 Nov. Awarded the "Excellence in Global Management Award" (JMAC)
  - Jun. Acquired the World's Best Product Certification (Ministry of Knowledge Economy)
  - Apr. Changed the company name to STX Engine Co.
  - 2003 Nov. Awarded the "200 million dollars export award"
  - 2002 Nov. Acquired STX Energy Co.
  - Mar. Acquired the KOLAS Certification
  - 2001 Nov. Awarded the "70 million dollars export award"
  - Oct. Acquired STX Ship Building Co.
  - Aug. Acquired the EM Mark for low NOx type engine
  - Jun. Divided the company by business divisions - established Enpaco Co. (Current STX heavy industry)
  - May. Change the company name to STX Co.
  - Feb. Acquired the Defense quality system (KDS0050-9000) Certification for Diesel Engine
  - Jan. Announced the second business (Ssangyong Subsidiary Division, approved by Fair Trade Commission)
  - 2000 Jul. Re-chosen as one of the environmentally friendly corporation
- 1990's**
  - 1998 Dec. Chosen as one of top 30 companies in Information Technology (Ministry of Information & Communication)
  - 1996 Dec. Chosen as one of the environmentally friendly corporation
  - 1996 Apr. Acquired ISO 9001 International Quality Certification
  - 1993 Feb. Acquired ISO 9002 International Quality Certification
  - 1990 Sep. Company Disclosure
- 1980's**
  - 1989 May. Established the Engine Research Center
  - 1988 Nov. Built the manufacturing plant exclusive for special engines
  - 1980 Oct. Chosen for exclusive diesel engine manufacturer
- 1970's**
  - 1978 Dec. Built the Manufacturing Plant
  - 1977 Jul. Chosen as one of companies for defense
  - 1976 Dec. Company Establishment

About STX Engine  
Messages / CEO  
History of Transformation

Our Business  
Marine Diesel Engine  
Military Diesel Engine  
Power Plant  
Electronic Communication Equipment  
Engine Parts & Service

Technology Development  
R&D  
Quality Management

Corporate Social Responsibility

Business Location



## World Best

STX engine is the one of world's best diesel engine manufacturers.

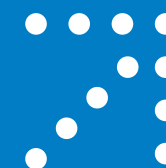
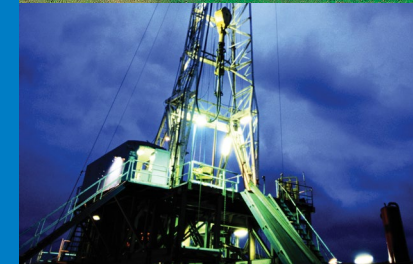
While we had been strengthening our business in diesel engines for ships and military and growing continuously in our Electronic Communication Equipment business, we had also entered the market for power plants, environmental equipment and other futuristic industries, through which we established the platform for future growth. We are determined to realize our vision of becoming the Global Top engine maker.



The diesel engine manufacturer STX Engine is showing prominence in power plants and Electronic Communication Equipment. These businesses are actively being nurtured for them to become sources of new growth for the corporation's future. This is based on the technology and know how STX Engine had accumulated in 30 years of manufacturing the diesel engines for ships and military.

## Our Business

- Marine Diesel Engine
- Military Diesel Engine
- Power plants
- Electronic Communication Equipment
- Engine Parts & Service





## Marine Diesel Engine

STX Engine – “Marine Diesel Generator Engine” was selected as one of world’s best products.  
We are firmly establishing ourselves as the Global Top Engine Maker.

As a result of ceaseless progress in technology, our Marine Diesel Generator Engine was selected as one of world’s best products. In addition, under technology cooperation with the diesel engine manufacturers, MAN ENERGY SOLUTIONS, we are exporting the main engines which provide ship’s main thrust and supporting parts that supply power to all around the world.

We take up 40% of local marine diesel engine market. We manufacture engines that add up to 5 million horse power per annum, and the flagship products that we export (200-15,000 horse power) are of world class quality and technology that are high output and low fuel consumption. Our engines provide the most optimal Propulsion Package that includes ship location control device and marine navigation communication devices. In doing so, we are proactively taking initiatives in meeting the market demands for cruisers and offshore ships.

We are also manufacturing diesel engines that are used for industrial equipments that include backup power generators, trains, port cranes and POWERPACK, with technology cooperation with Cummins Co of USA and MAN ENERGY SOLUTIONS Co of Germany. Also, in response to the global and national environment regulations, the firm is providing a stable and highly efficient SCR system through its reliable partnership and various superior solutions based on its independent technology.

<b>S35MC</b>  Application • Low Speed 2-ST Main Engine • Oil Chemical Tankers & Etc		<b>L23/30</b>  Application • Mid Speed 4-ST Main/Generator Engine • Container Ships & Etc	
<b>L+V32/40</b>  Application • Mid Speed 4-ST Main engine • Drill Ship, FPSO, LNG Ships & Etc		<b>L27/38</b>  Application • Mid Speed 4-ST Main & Generator Engine • Container Ships & Etc	
<b>SCG-100</b>  Application • High Speed 4 Marine Backup Generator • Container Ships & Etc		<b>L21/31</b>  Application • Mid Speed 4-ST Main/Generator Engine • Container Ships & Etc	
<b>STX-SCR system</b>  Application • SCR system for ship Main & Generator Engine • SCR system for land/sea plants		<b>Duel Fuel (L23/30, L28/32, L35/44)</b>  Application • Mid Speed 4-ST Generator Engine • IMO Tier III	





## Military Diesel Engine

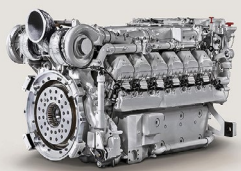
We produce world-class advanced engines, small, lightweight, high output, high performance defence industry engines.

STX Engine's defense industry diesel engines are designed with a focus on being small, lightweight, and having high output. Using engine parts made from aluminum and high strength forged steel materials and that have passed a process of heavy cutting and ultra-precision machining we maintain high horsepower, and high speed rotation, and performance is right on target even in extreme situations. Through a technical cooperation with the German company MTU, STX Engine is producing engines for vehicles including the army's K2 Tank, K1A1 Tank, K1 and rescue tank series, Armored vehicle engines, K9 Self-propelled Artillery, K10 Ammunition Vehicle, K55 Self-propelled Artillery, K56 Ammunition Vehicle, K77 Fire Control Vehicle, and for watercraft including the Korean Navy's New Aegis Ship, High speed boat, Convoy, Patrol frigate, Support ship, Assault Amphibious Vehicle, Submarines and Republic of Korea Coast Guard Vessels.

### MT883 Ka-501

Application

- High Speed 4 Stoke Engine
- K2 Tank



### MB871 Ka-501

Application

- High Speed 4 Stoke Engine
- K1A1 Tank, K1 Tank
- Bridge Tank
- Rescue Tank



### MT881 Ka-500

Application

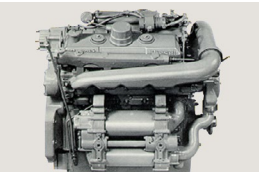
- High Speed 4 Stroke Engine
- K9 New Model Self-Propelled Artillery,
- K10 Ammunition Vehicle



### 8V71T, 8V71T LHR

Application

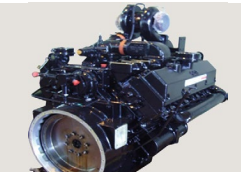
- High Speed 2 Stroke Engine
- K55 Self-Propelled Artillery,
- K77 Fire Control Vehicle
- K56 Ammunition Vehicle



### VT903-T400

Application

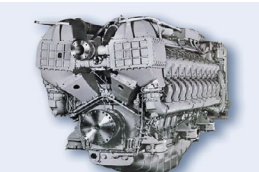
- High Speed 4 Stoke Main engine
- Assault Amphibious Vehicle



### 20V956TB82

Application

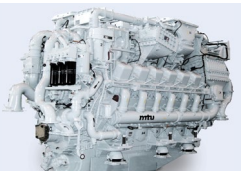
- High Speed, High Power Main Engine
- KDX- I (Korean Destroyer)
- KDX- II (New Korean Destroyer)



### 12V/16V 1163TB83

Application

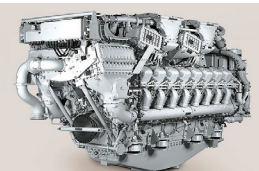
- High Speed, High Power Main Engine
- Coast Guard Vessels (500/1500 ton)
- FFX-II(Next Generation Frigate)



### 16V1163TB93

Application

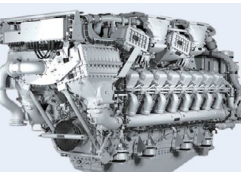
- High Speed, High Power Main Engine
- PKG (Patrol Killer Guided Missile)
- Coast Guard Vessels (1500 ton)



### 16V/20V1163M84

Application

- High Speed, High Power Main Engine
- MLS-II(Next Generation Minelayer)
- Coast Guard Vessels (5000 ton)



### 12V4000M53B

Application

- High Speed, High Power Generator Engine
- FFX-III(Next Generation Frigate)



### 16V2000M90

Application

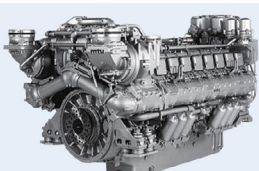
- High Speed, High Power Main Engine
- Coast Guard Vessels (50 ton)



### 8V/12V/16V 396TE54

Application

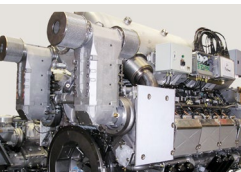
- High Speed, High Power Generator Engine
- FFX-I, KDX-I/II
- AGX-I/II(Communication Ship)



### 8V/16V 396SE84

Application

- Submarine Generator
- KSS-I,II, III(Submarine)



### 20V1163M94

Application

- High Speed, High Power Main Engine
- Coast Guard Vessels (5000 ton)



Military  
Diesel Engine



## Power Plant

### Diversification of Business through development of world class quality engines for power plants

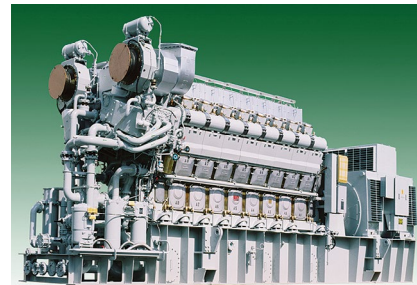
Based on 40 years of experience, technology and optimized customer centric engineering capability in the field of diesel engine, STX Engine's technology and quality in the diesel engine for power plant get due recognition. In addition, STX Engine is fast showing prominence also in gas engine field. With the establishment of technology cooperation with Germany's MAN ENERGYSOLUTION that has one of world best technology in the field, STX Engine is able to put together 1-9MW level of power plant installation per unit with strong durability, low fuel consumption, low operation cost and maintenance.

Equipped with such formidable technology, STX Engine had performed many projects successfully for Korea's main power companies, private power companies and other foreign electrical energy administrations, and mobile engine for power plants that is mobile and easy to install, through which it is able to provide more diversified products and services to its valued customers.

STX Engine also supply gas engines that use LNG and BIO gases to Korean hospitals, banks, research centers and other main Korean customers. We had sold gas turbine power plant engines to major medical and financial institutions including Samsung Medical Center, and we are making ceaseless efforts to expand our market through continuous technology development.

#### Mid, High speeds diesel power plant

- Diesel engine power plants had been in production since mid 70's with the optimal technology gained from cooperating with many engine makers of the world along with STX Engine's power plant system design based on its vast experience. Suitable for isolated islands and areas and resorts where easy power access is not possible, and for those industrial complexes and hospitals that require high quality power source and for plants that are acquiring highly expensive power, STX Engine's system can supply power in limited amount of time with low installation, maintenance and maximized operation rate.



#### Power Plant Gas Engine

- STX Engine had integrated Japan's Nigata Power System's technology to plant engineering technology in meeting the new customer demands to supply environmentally friendly power plant gas engines that use clean LNG to major Korean customer and is also making expansion to foreign markets.



#### Power Plant Gas Turbine

- STX Engine had been power plant gas turbines to Korean customers by combining its engineering technology with Japan's Nigata Power System. STX Engine's gas turbines produce high quality and stable electric power in the case of power failure that will protect the possible damages that may incur due to power failure in special facilities such as hospitals, banks, data center and research centers and sports facilities.



Power Plant



# Electronic Communication Equipment

STX Engine is making independent high technology communication equipments

Radio Detection Devices are an essential defense system for safe navigation and target detection and identification. STX Engine designs and manufactures and supply to the defense force, variety of radio detection devices based on 2-dimensional radar field. Also, STX Engine focuses in developing sonar detection devices and has in possession the technologies for underwater sound signaling and data processing and underwater sonar sensors.

STX Engine not only makes in multi-purpose console for battle system, which is its core hardware but also participate in military satellite system business and develop systems for surveillance unmanned aircraft's wireless wide area data links in conjunction with defense force research laboratory and has these systems in actual live combat positions. Also, the firm is entering the weather radar business.

- 1 Underwater Sonar System
- Towed Array Sonar System: TASS, TASS PIP
  - Torpedo Acoustic Counter Measure: TACM
  - Hydrophone
  - Transducer
  - Large Output Sensor
  - Integrated Ocean Environment Analysis System: IOEAS
  - Next Generation Frigate Sonar System
  - Jang Bo Go-II Sonar System
  - Submarine Sonar

- 2 Radio Detection
- Battle Ship Radar: SPS-95K
  - Coastal Surveillance Radar: GPS-98K
  - Radar Indicator: SPA-99K
  - Naval Vessel Radar: SPS-100K / Next Generation Patrol Killer Tracking Radar
  - Altimeter for Aircraft / Remote Control Network Transmitter
  - Navigation Radar

- 3 Tactical Telecommunication
- Military Satellite Communication System
  - Vessel Satellite Terminal (NS)
  - PAMA Controller (PAMA)
  - General Link Modem
  - Army Unmanned Aerial Vehicle (UAV) Communication System
  - Mid altitude Unmanned Aerial Vehicle (MUAV) Data Link System
  - Naval Tactical C4I System

- 4 Battle System Console
- Multi Function. Control Console
  - Korean Multi Function Console: KMFC

- 5 Weather radar
- Weather radar/ Weather equipment



Electronic Communication  
Equipment



## Engine Parts & Service

We always provide parts & service with minimized delivery time and cost through our global network.

STX ENGINE provides spare parts and technical services with our qualified engineers. We have been running and expanding global network with workshops and spare part warehouses in Korea, U.S.A.(Houston), Singapore, the Netherlands(Rotterdam) to offer our parts and services with the minimized delivery time and cost.

Besides spare parts and maintenance services, we keep developing various solution programs which can improve equipment performances and bring customers benefits in cost and safety. As a result, we will expand our business from manufacturing that have already been concentrated on marine engines to service of equipment, plant and industrial engine with marine engines.



Spare Part Service



Engine Service



Plant Service



Solution

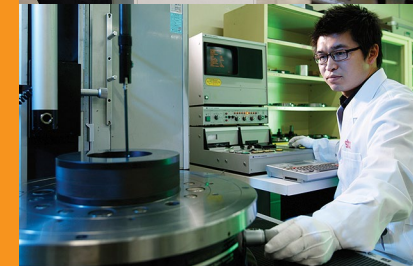
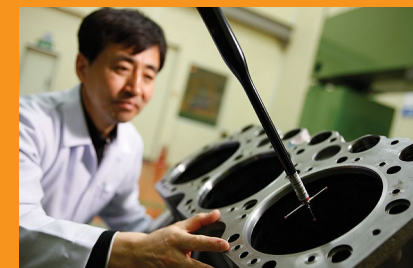


Engine Parts &  
**Service**



## Technology Development

- R&D
- Quality Management





R&D Research & Development

STX Engine is pursuing limitless technology and value.

STX Engine is putting much efforts into research & development to provide the world best diesel engine products and parts, power plant equipments, environmental equipments, engine control system, electronic communication equipments and batteries, centered around the engine technology research center and electronic communication research center.

Along with successful localized accumulated production of 20million horse power in the field of 4 stroke diesel engine, STX Engine was even chosen as the "World's Best Product" by the ministry of Knowledge Economy in 2004 for its contribution to the country's export performance and its high quality technology. STX Engine's vessel engines are being exported to Germany; quite an achievement considering that Germany is the birth place of diesel engines. This is evidence to the fact that STX Engine's products are being widely accepted for its excellence and quality.

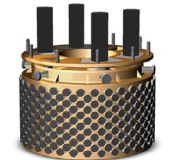
In the area of electronics communication, STX Engine had locally developed vessel radars, the VDR (Voyage Data Recorder), which is known as the black box for vessels, proving its world class technology. In addition, STX Engine is expanding to general vessel automation and offshore package business, effectively providing total solution packages for vessels.

Research Center

The research center was established to obtain technology for diesel/gas engines, power plant/environmental equipments, and it's putting its main efforts into developing technologies for analysis and instrumentation of combustion, heat transfer, vibration noise and structure, post treatment of exhaustion and localization of engine parts. Also, STX Engine is positively reacting to the environmental problems of the world; it not only puts efforts into developing the new sources of energy such as solar and wind but also in gas turbine and SCR system.

Research Center for Electronic Communication

The research center for electronic communication is a system integration organization that had developed independently such systems as underwater sonar system, radio detection system and battle control system. Through continuous investment and technology development, it is focusing heavily on development of Korean high-tech arms and based on the technology acquired in the defense industry, we are also driving our business in the areas of vessel navigation communication equipments and automation.





# Quality Management

STX Engine is pursuing limitless technology and value.

After acquiring the quality management system certification in the field of diesel engine from DNV in 1993 for the first time in Korea, STX Engine had acquired in addition, KDS 0050-9000 certification (quality system for military products) and systems for environment and safety such as ISO 14001 and OHSAS 18001 through which the platform for world class quality assurance was established. By building and managing the socially, economically and environmentally integrated business management system, STX Engine is in plan to build an ever growing management system to realize the corporate vision of becoming the World Best.



## STX Engine's product quality and technology that the world recognizes

Even in quality management, STX Engine acquired the "Process Evaluation System" in its military engine plants. So STX Engine is properly equipped with system that ensures quality for military products. Following from 2001, STX Engine acquired the military quality management system certification (KDS 0050-9000:2002) in the fields of diesels engine manufacture for categories of bullet, maneuverability and vessels.

In the fields of vessels and industrial engines, STX Engine had established MSA with Norway Register of Shipping and had always maintained quality management and security. As a result, STX Engine received ISO 9002 for diesel engine for the first time in Korea in Feb 1993, and in Sep 1994, it was chosen as one of top 100 companies in quality management by Industrial Promotion Bureau. And in Oct of the same year, it received the certification given by Korean Register of Shipping for mass production process for diesel engine. In addition, by acquiring ISO 9001, ISO 14001, OHSAS 18001, International Certification for Certified Calibrator, Military Quality Management Excellence Award (Ministry of Defense) and Ministry of Commerce, Industry and Energy Award in the field of precision calibration, STX Engine had virtually acquired all the international certifications related to quality management.





## Corporate Social Responsibility

○ Social Responsibility





# Corporate Social Responsibility

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- Business Location

## Corporate that is with the local society and which cares for unfortunate members of society

To implement more substantial volunteer work, STX Engine has a volunteer group that was spontaneously created by employees and has been active with volunteer activities in major welfare facilities in the Gyeongnam Region, and also takes part in the regular clean up of mountain areas and stream purification.

STX Engine currently has 17 volunteer groups working to improve the livelihood and living environment of low income people in the local community.

Also, to stimulate in-house volunteer activity, the company actively sponsors regular education and volunteer activity support, and gives this as a motivation for employees to take part.

In the future STX Engine will establish a medium and long term strategy for social contribution activities by developing focused business that is suitable to the characteristics of business with plans to actively practice a management of sharing where local society can develop together with us.





# Business Location

- 01 Changwon HQ
- 02 Military Engine Plant (High Speed Engine)
- 03 Private Purpose Engine Plant (mid, low speed)
- 04 Yongin Branch (Electronic Communication)
- 05 STX Institute of Technology



**stx**Engine

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