To the World, For the Future

Construction engineering is basically having big change as periodic requirements from “The 4th Industrial Revolution”. SAMBO ENGINEERING is trying hard to change and innovate in order to satisfy clients and react actively to the change of engineering market.

SAMBO ENGINEERING provides total solution for the entire process of engineering such as plan, design, CM/PM, O&M in roads, railways, civil structures, tunnels & underground space development, transportation infrastructure & environmental treatment, new & renewable energy, urban & architecture planning for land development, water and sewage resource.

Recently, from natural disaster such as earthquakes and ground settlement, in order to create motivation for stable profit system, we adapt BIM, perform topographical survey using Drones, design automation using AI, underground safety impact assessment as well as active investment for new & renewable energy such as solar and wind power plant.

We accumulate lots of technologies and experience from R&D participation which develops and applies new technology and patent as well as technical exchange with academies and technical cooperation with major globalized engineering companies.

SAMBO ENGINEERING will be one of the leading engineering companies in the future by overcoming “The 4th Industrial Revolution”.

SAMBO ENGINEERING is establishing a global network to build construction worldwide for a better future.

Better than the Best
Worldwide
To the World, For the Future

SAMBO's Global Network

Cambodia Branch (Phnom Penh)
- Master Plan for Railway Network Development in Cambodia
- Detailed Design and Construction Supervision for Improvement of NB31, NB33, PR117 and Kampot Bypass Road Project
- Detailed Design and Construction Supervision for Rural Road Improvement Project
- Review of Feasibility Study for Rural Road Improvement Project
- 1st Detailed Design and Construction Supervision for Rural Road Improvement Project
- 2nd Detailed Design and Construction Supervision for Rural Road Improvement Project
- Feasibility Study for Phnom Penh City Interim Road Project
- Basic and Detailed Design for Mekong River Bridge Project
- Feasibility Study for Phnom Penh City Interim Road Project

Georgia Branch (Tbilisi)
- Adjarra Bypass Road Development Project
- Preparation of Detailed Design and Preparation of Bidding Documents for Kobuleti Bypass Road, Kobuleti-Batumi Section and Batumi Bypass Road

Indonesia Branch (Jakarta)
- Feasibility Study for Sentaram—Tanjung Benoa Road Project
- The Establishment of a Master Plan for the Arterial Road Network in Sumatra Island
- Feasibility Study for Toll Road PPP Project for 10 Routes
- Feasibility Study for Cikampek—Palimanan Road Construction Project
- Feasibility Study for ORR Ring Road II Project
- Feasibility Study for Yogyakarta—Kulonprogo Toll Road Construction Project

Pakistan Branch (Islamabad)
- Feasibility Study for Indus River Crossing Bridge Construction Project
- Feasibility Study for Mard Transit Project
- Construction Supervision for Hyderabad—Mipurkhas Dual Carriageway Road Project
- Detailed Design for Hyderabad—Mipurkhas Dual Carriageway Road Project (Section 1, 2)
- Feasibility Study for Hyderabad—Mipurkhas Road Construction Project
- Basic Design for Peshawar—Kot Adda Expressway
- Feasibility Study for Khyber—Dera Ismail Khan Road

Philippines Branch (Quezon City)
- Detailed Design for Gapan—San Fernando—Olongapo (GSO) Road
- Pedestrian Overpass Construction Project
- Feasibility Study for Patawa Clean Energy Enter Construction Project
- Detailed Design for Access Road of Lubao Bypass
- Detailed Design and Construction Supervision for Widening for Gapan—San Fernando—Olongapo (GSO) Road
- Emergency Dwelling Project
- Feasibility Study for Patawa MSW Recycling Facility Project
- Feasibility Study for Bata—Gapan Road Improvement Project
- Feasibility Study for the Pangalay Bridge Project

Turkey Branch (Istanbul)
- North Marmastra Highway Construction Project (Proposed Project)
- Detailed Design for Istanbul Strait Tunnel Crossing Project
- Basic Design for Istanbul Straits Tunnel Crossing Project

USA Branch (Los Angeles)
- Feasibility Study for Los Angeles Highway Private Participation in Infrastructure Construction Project
- Feasibility Study for USA Florida State Tampa—Orlando—Miami High-Speed Rail Project
- Feasibility Study for LA expressway PPP Project
- Feasibility Study for Tampa—Orlando—Miami rapid transit railway Project in Florida
- Old bridge performance check Project

Uzbekistan Branch (Tashkent)
- A550 Road Improvement Project
- Construction Supervision for Central Asia Regional Economic Cooperation Corridor 2 Road Investment Program Project 1
- Construction Supervision for Central Asia Regional Economic Cooperation Corridor 2 Road Investment Program Project 2

Vietnam Branch (Ho Chi Minh City)
- Feasibility Study for Ho Chi Minh—Long Thanh—Dau Giay Expressway Project
- Feasibility Study and Basic Design for Tan Van—Nhon Trach Road Construction Project
- Detailed Design for Thanh Hoa City Comprehensive Socio-Economy Development Project
- Detailed Design and Construction Supervision for Vinh Tinh Bridge Construction Project
- Feasibility Study for Dong Thanh Landfill Gas CDM Project
- Feasibility Study and Basic Design for Thu Duc—Nhom Trach Road and Bridge Project
- Feasibility Study for Phuoc Hoa Landfill Gas Power Generation Project
- Feasibility Study for Bac Lieu—Uy Thanh Road Construction Project
- Detailed Design Consulting Services for the Ho Nao—Lang Son Expressway Project
- Construction Supervision Consultant Service for Vam Cong Bridge Connecting Road Construction Project
- Consulting Services for Detailed Design and Construction Supervision for Phu Yen (Long) Bridge Construction Project
- Ho Chi Minh City Third Ring Road Project

Algeria
- Bi-Touf-Zerka Railway Project

Armenia
- Project Management for South-North Expressway Project

Azerbaijan
- Feasibility Study for Agdam—Lak, Arzum—Kusman—Balramtepe Road
- Feasibility Study for Bakur—Sumgait Downtown Railroad Construction Project

Kyrgyzstan
- Feasibility Study for Bukhtarma Bridge Project

Bolivia
- Feasibility Study for Beni River Bridge Construction Project

Canada
- Conceptual Design for South Fraser Perimeter Road Project

DR Congo
- Pre-Feasibility Study for DR Congo Highway Modernization Project

Ghana
- Pre-Feasibility Study for Lake Volta New Bridge and Dodokpoe—Katsaba Road PPP Project

Libya
- Detailed Design for Qubbah 2000 Units Housing Infrastructure Construction Project

Mongolia
- Project for Development of New Water Supply Sources for Yarmag Area of Ulanbator City

Myanmar
- Feasibility Study for ASEAN Highway Network Development Project
- Feasibility Study for Korea—Myanmar Friendship Bridge Construction Project

Paraguay
- Feasibility Study for Construction of President Franco—Curupayu Railway

Saudi Arabia
- Al-Mishnaa—Al-Muqaddasah Railway Project

Si Lanka
- Colombo—Kandy Highway PPP Project
- Detailed Design for Low Cost Housing Project

Tunisia
- Implementation of Pilot Project for Collection, Recycling and Valorization of Electrical and Electronic Equipment in the Republic of Tunisia

Mozambique
- Consulting Services for Detailed Design and Construction Supervision for Rehabilitation of National Road N104 between Nampula and Namibe

Kazakhstan
- Feasibility Study for Baku—Sumgayit Downtown Railroad Construction Project
- Feasibility Study for Agdas—Lak, Arzum—Kusman—Balramtepe Road
- Project Management for South-North Expressway Project

Azerbaijan
- Feasibility Study for Agdam—Lak, Arzum—Kusman—Balramtepe Road
- Feasibility Study for Bakur—Sumgait Downtown Railroad Construction Project

Kyrgyzstan
- Feasibility Study for Bukhtarma Bridge Project

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- Feasibility Study for Beni River Bridge Construction Project

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- Project Management for South-North Expressway Project
SAMBO ENGINEERING creates the best synergy effect by close cooperation and harmony between departments as to become a global engineering & consulting company with expanding domestic & international market share and improvement in technology.

**SECTORS & SERVICES**

- Roads & Highways
  - Highways & Arterial Roads
  - National & Provincial Roads

- Railways
  - High-Speed & Conventional Railways
  - Subways
  - LRTs / PRTs
  - System Operation & Maintenance

- Civil Structures
  - Road Structures
  - Railway Structures
  - Auxiliary Civil Structures

- Tunnels & Underground Space Development
  - Tunnels
  - Soil Mechanics and Foundation
  - Underground Space Development

- Transportation Planning
  - Railway Structures

- Electrical & Mechanical Services

- Environment
  - Water Treatment
  - Waste Treatment
  - Environmental Management

- Energy
  - Power Plant
  - Heat Recovery System
  - Bio-Energy Plant
  - New & Renewable Energy (Solar Power Plant)

- Overseas Project Development
  - PF Project Development
  - Project Management
  - VE & ICE

- Urban Planning
  - Strategic Planning & Coordination
  - General Affairs & Human Resources
  - Finance & Accounting
  - Technical Support

- Land Development

- Transportation Infrastructure

- Environment & Energy

- New Business
  - Construction Supervision
  - Construction Management

- Research & Development Institute

- Construction Supervision
  - Underwater Safety
  - Impact Assessment

- PF Project Development

- Project Management

- VE & ICE
Manpower

Total: 540 employees
※ As of December 2017

Sales
Unit: One Million Korean Won

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History

Grand Prize in ‘The 20th Civil Engineering Day’ • Commendation Award of Gyeonggido • Presidential Award in ‘Construction Engineer’s Day’ [2016] • Commendation Award by Minister of Land, Infrastructure and Transport in ‘Construction Engineer’s Day’ • Commendation Award by Minister of Land, Infrastructure and Transport in ‘The 20th Civil Engineering Day’ • Awarded Gold, Silver, Bronze at Civil Structure of the Year Competition [2015] • Best Award Cambodia Prime Minister • Commendation Awarded by the Secretary of Ministry of Construction and Transportation [2014] • Commendation Awarded by the Secretary of Ministry of Construction and Transportation • Received “Bronze Tower Order of Industrial Service Merit” [2013] • Commendation Awarded by the Secretary of Ministry of Construction and Transportation • Commendation for Becoming Superior Design Company* Awarded by Korea Rail Network Authority [2012] • Awarded “Gold Prize in Contest for Civil Structure of the Year” by Korean Society of Civil Engineers [2011] • Commendation Awarded by Korea Expressway Corporation [2009] • Received “President’s Award” from the President of the Republic of Korea • Received “Prime Minister’s Award” from the Prime Minister of the Republic of Korea • Awarded “Seoul Sarang Citizens Award of the Year” by Seoul Mayor [2008] • Awarded “The Grand Prize in Korea Construction Culture Award of the Year” by Korea Land Daily [2007] • Opening of Jincheon Hidden Valley G.C • Awarded “Silver Prize in the Structure of the Year” by Korean Society of Civil Engineers [2006] • Establishment of Sambo IDEA Co. • “Commendation for Becoming Superior Design Company” Awarded by Korea Rail Network Authority • Commendation Awarded by the Secretary of Ministry of Construction and Transportation [2005] • Licensed in Air Quality Management • Received “The Best Road Engineer Award” on the 14th Commemoration Day of Roads • Received “The Grand Prize in Civil Engineering Division” from Korean Society of Civil Engineers [2004] • Acquisition of ISO 14001 Certification • Namdo Grand Bridge: “Structure of the Year”, the Second Prizewinner of the Contest by Korean Society of Civil Engineers [2003] • 10th Anniversary of the Foundation • Licensed as an Overseas Construction Company, Acquisition of Saegil Engineering [2002] • Received “Iron Tower Order of Industrial Service Merit” • Licensed in Construction Supervision of Electrical Facilities • Licensed as a Comprehensive Construction Supervision Company [2001] • Licensed in Fire Defense System Design • Licensed in Electrics and Machinery (Construction Division) • Licensed in Water Quality Maintenance (Environmental Division) • Licensed in Public Surveying [2000] • Designation of New Technology • Licensed in Electrics Design [1999] • Commendation Awarded by the President of the Republic of Korea, Daejung Kim [1998] • Licensed as a Traffic Impact Assessment Agency • Acquisition of ISO9001 Certification [1997] • Designation of New Technology, Technical Alliance with Norconsult/NMT Construction Method [1996] • Licensed as a Construction Supervision Company [1995] • Training Company for Future Civil Engineers (Appointed by the Office of Military Manpower Administration) • Licensed in Applied Geology in Engineering • Licensed in Railway Construction • Foundation of Research and Development Institute [1994] • Licensed in Harbor and Bay Construction • Licensed in Urban Engineering • Licensed in the Development of Water Resources, and Water Supply and Drainage System [1993] • Licensed as a Civil Engineering Company • Licensed in Structure Design, Soil & Foundation Design, and Road and Airport Design • Foundation of Sambo Engineering.
Projects by Sector

SAMBO Engineering provides customized services and outstanding technology for clients in the world.
With continuous participation in the design of arterial national roads, the department plays a significant role in the establishment of national road network. In particular, the department leads the engineering market in Turnkey and Alternative design fields with superior technology and passion. The department plays the role of a pioneer in Public-Private Partnership engineering market by achieving the highest efficiency and providing creativity.

**Establishment of Master Plans and Public Investment Guidelines**
- Review of Comprehensive Development of Seoul Metropolitan Region Expressway
- Research on Basic Plan of Smart Interchange
- Highways Network Master Plan for National Happiness Promotion and Future Growth
- Solar Power Expansion Plan Applying to Upper Space of Highway
- General Industrial Complex Access Road for Kumho Water-Polis, Daejeon Wadong-Sintanjin Wide-Area Road, Pohang-Yeongdeok Highway, Daesan-Dangjin Highway, Ansan-Daebudong West-South Connection Road, Dasa-Dasan Province Road

**Basic Design, and Detailed Design for Government-Issued Projects**
- Basic Plan and Design for Arterial Road Network
  - Basic Plan: Eastern Arterial Subterranean Road, Hyeongsan River Yurim Grand Bridge Construction Project
  - Basic Design: Yeongdong Expressway (Ansari-Bukhansan) Expansion, Jungbu Line (Seocheon-Daejeon) Expansion
  - Detailed Design: Saemangeum-Jeonju Highway (Lot 7), Seoul-Sejong Highway (Lot 6, 7, 8)
- Improvement for Traffic Environment and Transportation of Goods
- Installation for Structural Landmarks (Sea-crossing Bridges and Seabed Tunnels)

**Turnkey and Alternative Bidding Projects**
- Asan-Cheonan Highway (Lot 3) Construction Project
- Daegu Outer Ring Road Seongseo-Seongak Construction Project
- Cheongju-Sangju Highway (Lot 3) Construction Project
- Boryeong-Taean Road (Lot 2) Construction Project
- Taebaek-M_IRQ Road (Lot 2-1) Construction Project

**Successful PPP Projects of Project Development and Management**
- First Public-Private Partnership Project: Seoul-Chuncheon Expressway Construction Project (Under Operation)
- 4th Daegu Outer Ring Road (Sangju-Bummul) Construction Project (Under Operation)
- 2nd Yeongdong Expressway (Ganghwa-Yongju) Construction Project (Under Operation)
- 2nd Gyeryong (Anyang-Seongnam) Construction Project (Under Operation)
- 2nd Busan New Port Connector Expressway Construction Project (Under Operation)
- East-West Axis 5 (Dongsan-Daehang) Highway Construction Project (Under Operation)
- Seoul Jemulpo Tunnel Construction Project
- 2nd Outer Circular Highway (Iksan-Icheon)
- U-Smartway
- Busan Metropolitan Inner Circular (Mandang-Santum) Urban Highway
- Western Inland Expressway

The department of Roads and Highways carries out customer-oriented engineering services complying with environment and user-friendly design concepts. The department provides the highest quality engineering services in the fields of planning, design, construction implementation planning and maintenance of road projects including urban, regional and national highway systems.
Our integrated engineering capability can be applied to all kinds of railway projects with various customer requirements. Our highly qualified professionals have highly technical expertise in all phases of railroad engineering services from initial planning to final design.

**Pre-feasibility Studies and Industrial and Academic Cooperation Projects**
- Basic Planning of Railway Network in Gyeonggi Province
- Pre-Feasibility Study for Wolgot-Pangyo Double Track Subway
- Pre-Feasibility Study for Jungang Line (Gidanam-Yeongcheon) Railway Construction Project
- Pre-Feasibility Study of Wonju-Gangneung Railway Construction
- Pre-Feasibility Study of GTX(Great Train Express) Line A PPP
- Feasibility Study and Basic Plan of KTX(Korea Train Express), Departing Incheon
- Technical Part for Feasibility Study of New Ansan Double Track Line PPP

**Feasibility Studies, Basic, and Detailed Design of Government-Issued Railway Projects**
- High-Speed Railway : Detailed Design of Gyeongbu High-Speed Railway Lot 13-4, Gyeongbu High-Speed Railway Lot 14-2, Basic Planning of Honam High-Speed Railway, Basic Design of Honam High-Speed Railway Lot 6
- Detailed Design of Susa-Pyeongtaek High-Speed Railway Lot 4, 3-2, 5
- Design Supervision of Honam High-Speed Railway, Capital Region High-Speed Railway(Lot 3)
- Subway : Seoul Metro Subway Line No.3, No.7, No.9, and Busan Metro Subway Line No.2
- Samsung–Dongtan Metropolitan Express Railway Master plan

**Railway Public-Private Partnership Projects**
- New Bundang Subway (Gangnam-Geongja), ‘First Subway BTO Project to be Proposed by Private Sector in Korea’
- Jolli Line (Iksan-Simbun), ‘First Railway BTL Project in Korea’
- New Bundang Subway Extension (Geongja–Gwanggyo / Gangnam–Yangsan) BTO Projects
- Sosa-Wonsi BTL, Bujeon-Masan BTL, Daegok-Sosa BTL
- Private Proposal of GTX Project
- Dongbuk LRT PPP Basic Design(Civil) & Create Business Proposal
- Basic Design of Daegok-Sosa Double Track Railway PPP
- New Ansan Line Double Track Railway PPP

**Future-Oriented New Transit System**
- Pre-Feasibility Study of LRT102 (10 lines)
- 3rd Party Suggestion of Ulsan-LRT PPP
- First Proposal of Sinwol-Dangsan LRT PPP
- Suggested Design of Gimpo LRT PPP
- Detailed Design of Gwangmyeong LRT PPP
- Alternative Design of Pilot Project of Magnetic Levitation Train for Urban Area
- Technical Suggestion of Magnetic Levitation Train in Incheon, Gwangju
- Basic Design of Dongbuk LRT
- Basic and Detailed Design of Gwangju City Railway Line 2, Phase 2(Civil/Construction Lot 4)
- Improvement for Public Transportation System Using New Transportation System
Civil Structures

The department of Civil Structures carries out the structural design of roads, railways, subways, high-speed railways and light rail transit based on the accumulated engineering expertise. In particular the department has superior technology and abundant experience in the design of cable-stayed bridges, suspension bridges, arch bridges, extra-dosed bridges, long-span bridges and other unconventional types of bridges.

Road Bridges
- Solvit Grand Bridge: Steel Composite Cable-Stayed Bridge (Main Span = 240m)
- Geumgang 4th Bridge: Concrete Cable-Stayed Bridge (Main Span = 250m)
- World Cup Grand Bridge:
  - First Asymmetric Composite Single Cable-Stayed Bridge with Mono Tower in Korea, “Award Winner of an International Prize Winning Contest” (2001)
  - Namdo Grand Bridge
  - Longest Basket Handle Type Nielsen Arch Bridge in Korea (Span Length = 160m), “Received the Second Prize in Structure of the Year” (2004)
- Gyeongancheon Bridge:
  - First Extra-Dosed Bridge with Mono Tower in Korea
- Gumgang 2nd Bridge:
  - Asymmetrically Curved Cable-Stayed Bridge with Mono Tower
- Ulsan Grand Bridge:
  - Short Span Suspension Bridge, Grand Prize in “Structure of the Year” (KSCE, 2016)
- Ungcheon-Soho Connected Bridge:
  - Cable-Stayed Bridge with 1-Sided Hybrid Curved Pylon

Railway Bridges
- Northern Han River Bridge:
  - First Extra-Dosed Bridge in Korea (Steel Railway Bridge)
- Balheun Bridge:
  - Arch Railway Bridge "Jeolla Line Turnkey Bidding Winner" (2002)
- Mangyeonggang Bridge:

Subway and Light Rail (LRT)
- Detailed Design of New Bundang Line BTO (Yongsan-Gangnam)
- Detailed Design of New Bundang Line BTO (Jeongja-Gwanggyo)
- Detailed Design of New Bundang Line BTO (Gangnam-Geongja)
- Detailed Design of Gwangmyeong LRT BTO
  - Basic Design of Ui-Sinlou LRT BTO
  - Basic Design of Gimpo LRT BTO
  - Basic and Detailed Design of Seoul Metro Line 9
  - Basic and Detailed Design of Busan Metro Line 1 extension
  - Basic and Detailed Design of Incheon Metro Line 2
  - Detailed Design of Daegu Metro Line 3 Lot 8
  - Detailed Design of Byuilae Line (Amsa-Byuilae) Double Track Train Lot 4

Better than the Best

Global Company  SAMBO ENGINEERING
We have innovated engineering technology which able to apply underground space development such as subway, roads and railway tunnel, TBM construction, underground tunnel stations, urban underpass as well as domestic and overseas undersea tunnels based on accumulated experiences and technologies. Also, we are trying hard to maintain the best tunnel and underground space design technologies by R&D participations on double deck tunnel in deep underground space, technology independence for pole undersea tunnel with high resistance of water pressure, TBM development.

**Road Tunnels**
- Design Services for Privately Funded Seoul Jemulpo Tunnel BTO Project (First Diverging Road Tunnel in Korea)
- Longest 3 Lane Road Tunnel (Misiryeong Tunnel, Length 4.9km)
- First Application of NMT and PCL Methods in Korea (Jangseong Tunnel, Length 3.5km)
- Inner Circular Highway (Mandeok-Santum) PPP, the First Urban Underpass Tunnel (Santum Tunnel, Length 9.6km)
- Basic & Detailed Services for Seokdong-Sosa Road Construction Project
- Anyang-Seongnam Expressway (Anyang Tunnel), Taebaek-Miro National Road (Dogae 1, 2 Tunnel), Gyeongju-Gampo National Road (Yangbuk Tunnel)
- Hamyang-Ulsan Highway (North-South tunnel), etc.

**Railway and Subway Tunnels**
- Longest Single Track Railway Tunnel in Korea (Solan Tunnel, Length 15.6km)
- First Application of Single Shell Method (Inclined Shafts of Wonyo Tunnel)
- Bujeon-Masan PPP (Applied NATM Tunnel Station and EPB Shield TBM)
- Daewon-Sosa PPP (Passing Under Han River, Applied EPB Shield TBM)
- Hwasu-Gangneung Railway Construction (Passing Urban Area, Applied Slurry Shield TBM)

**Seabed & Riverbed Tunnels, Underground Space Development**
- Application of Earth Pressure Balance (EPB) Shield TBM Method for Han River Section Which Requires High Level of Resistance Against Water Pressure
- Design of Istanbul Strait Road Tunnel Crossing (Double Deck) Project
- Research Study for Korea-Japan Strait Subsea Tunnel (Daema Island-Geojje Island, Length 200~230km)
- Deep Underground Road U-Smartway Construction (Shield TBM)
- Underground OIOCinated Center Design (Designing Underground EMP Protection Facility)
- Numerous Industrial-Academic Cooperative Research Projects on Underground Space Development with Large Diameters IR&D Participations on Double Deck Tunnel in Deep Underground Space, Technology Independence for Pole Undersea Tunnel with High Resistance of Water Pressure, TBM Development, etc.

**Soft Ground Improvement in Shallow Tunnel Sections, and Basic Design of Bridge and Harbor Structures**
- Design of Soft Ground Improvements in Deep Depth (SCP, GCP, PBD, Preloading etc.)
- Design of Cast-In Situ Piles and Open Caisson
- Foundation and Lot Design of Busan New Port (1,550m / 600m), Design of 4 Quay Walls for 50,000 Tons, Design of Revetment with Length of 280m
- Busan New Port Design Lot 2-4, Quay Wall Design, Revetment Design
- Youngsan River Estuary Lot 2, Saemangeum East-West Zaxis Road, Aphae-Amtae Lot 2

The department is the market leader in tunnel and underground space development technology in Korea. The market areas of the department services include underground utilities, underground buildings and transportation tunnels. The department’s engineering expertise encompasses the full spectrum of state-of-the-art tunnelling technology, including the New Austrian Tunnelling Method (NATM), Mechanized Tunnelling Method (TBM tunnels) and Norwegian Method of Tunnelling (NMT).
Transportation Planning

Traffic Impact Assessment
- Traffic Impact Assessment for Yangjae-dong Shift Construction
- Traffic Impact Assessment for Hidden Valley G.C Construction
- Traffic Impact Assessment for Suwon-Chuncheon Double Track Train Construction
- Traffic Impact Assessment for Gyeongbu Line Suwon-Chuncheon Infill Station Construction
- Traffic Impact Assessment for Dae-Suwon Railway Construction

Research
- Traffic Situation Analysis and Toll Fee Adjustment for Seoul Outer Circular Highway
- Establish Traffic System Connected to Saemangeum Region
- Basic Plans for Establishing East-West Peace Highway
- Basic Research for Activation of Asian Highway Network
- Technical Part for Establishing Highway Construction Management Plan, Daegu Metropolitan City

Overseas Project
- Master Plan for Sumatra Arterial Road Network, Indonesia
- Feasibility Study for NR33, Cambodia
- Participated in International Bidding for Turkey Eurasia Undersea Tunnel
- Feasibility Study for Paraguay Railway Construction
- Master Plan for Railway in Cambodia

The department has prepared transportation planning for many major Metropolitan areas in Korea and a lot of other cities in the world. The experts in the department concentrate on providing efficient, constructible and convenient transportation infrastructure to the public. Major service field are traffic volume forecast for establishment of road and railway network, master plan and analysis of feasibility study for development of private participation in the public infrastructure project. Research activity of new transit system, traffic impact assessment for road and railway construction are the other parts of main service field.

Electrical & Mechanical Services

Research
- We have variety of techniques from accumulated experience based on urban underpass, undersea tunnels, high-speed railways, deep underground tunnels, subways, etc.

Project Performed
- Gimhae New Airport Highway PPP
- Substitutional bypass of Dongducheon National Road
- Lift Facility for 3 Stations in Bundang Line Excluding Seonreung Station
- Installation Plan for Foundation Facility in Saemangeum
- Substitutional Bypass of Andong National Road
- 2nd Busan New Port Connector Expressway Construction PPP
- Dunnae-Mui2 Road Construction

The department of Electrical & Mechanical Services carries out design of lighting, ventilation and disaster prevention system that ensure passenger safety and comfort for road, seabed and riverbed tunnel. Also, we are contributing for green growth by applying high-tech ITS facilities, new technologies and designing renewable energy in order to reduce traffic congestion, improve drivers’ mobility and safety, use energy efficiency and to reduce air pollution.
SAMBO Engineering has experiences in conducting individual studies focusing on a single issue, as well as with broad-based environmental research projects that integrate multiple issues from many areas. This flexibility, coupled with the breadth and depth of our scientific knowledge, allows us to provide clients of comprehensive and qualified technical expertise.

**Strategic Environmental Impact Assessment**
- Strategic Environmental Impact Assessment for Entry Road of Special Warfare Command
- Strategic Environmental Impact Assessment for Substitutional Bypass of Andong National Road (Yongsang-Gyori)

**Environmental Impact Assessment**
- Environmental Impact Assessment for Chungju-Mungyeong Railway Construction
- Environmental Impact Assessment for 2nd Busan New Port Connector Expressway Construction
- Environmental Impact Assessment for Younggwang-Haeje Road
- Environmental Impact Assessment for Sinni-Noeun Road Construction

**Post-Environmental Survey**
- Post-Environmental Survey for Prevention of Yeonggang River Disaster
- Post-Environmental Survey for Changwon Industrial Complex Construction
- Post-Environmental Survey for Jeolla Line (Iksan-Si4) Double Track Train PPP

Environment department provides the best quality for clients from many environmental projects such as water treatment, waste treatment, pollution treatment, and environmental impact assessment based on accumulated experience and professional R&D. SAMBO ENGINEERING is still working on developing scientific design and evaluation technique.
We are trying to be the best in new & renewable energy field by accumulating expert techniques such as O&M and projects according to worldwide trend and policies.

**Feasibility Study, Basic Design, and Detailed Design**
- Feasibility Study for Development of Carbon Neutral Program
- Feasibility Study for Dong Thanh Landfill Gas CDM Project in Ho Chi Minh City
- Basic Design for Paju DMZ Eco Park Development Project
- Basic Design for In-Situ Renewable Energy Supply System
- Basic Design for Clean Energy Facilities of Multifunctional Administrative City

**Turnkey**
- Basic Design for Kyeongin Canal Lot No.6 CDM Project
- The Low Carbon, Green Growth System Construction Project in Ulsan Newport

**PPP, EPC**
- Waste Recycling Center and Waste Sorting Facility for Each Region in Chechnya, Russia
- Power Plant Project, Ecuador

**Solar Power Plant Project**
- Solar Power Plant for Upper Space of Highway
- Solar Power Plant for Bugan, Yeongcheon
- Solar Power Plant in Water Surface for Hwasung

Most countries including South Korea are preparing against depletion of fossil fuel and putting effort in new & renewable energy in order to diversify the energy source and reduce greenhouse gas exhaustion. Based on technologies in wide range, SAMBO ENGINEERING provides the best energy related techniques to both public and private institutions.
The department of Urban Planning consists of city planning team and site design team. In order to improve people's living standards, the department provides engineering services in a way that can efficiently and economically apply dynamic technologies in the development of various types of land utilization projects.
SAMBO ENGINEERING never stops challenging and improving our passion for the better future and creates new architectural culture with infinite creativity which is able to make human life happier.

**Project Development**
- The Facilities of Huge Agriculture and Fishery Company in Saemangeum
- A Study on the New Conception Transportation in the Metropolitan Capital Area
- Development for Express Railway Area in the Seoul Metropolitan Area

**Private Finance Initiative**
- Seoul-Chuncheon Expressway
- New Bundang Subway Extension
- U-Smartway (Seoul Underground Expressway Project)
- Busan (Manduk-Centum) Inner Circulation Expressway
- Seoul Jemulpo Tunnel (Seoul Underground Expressway Project)

**SOC Design**
- Seoul Subway Metro Line No. 9
- Gwangju-Wonju Expressway
- New Busan Harbor Behind-Road
- Nakane-Sangsang National Road
- Busan Harbor Behind-Road

**Planning & Design**
- Construction of ENF Dormitory in Asan
- Construction of Arte Hotel in Suwon
- Construction of Public Facilities in Gangbuk
- Jong-ro Culture & Arts Center
- Underground Public Parking Lots at Gyeongsang High Schools
- Observatory for the 4th Bridge on the Geumgang
- Hidden Valley Golf Club
- Jeongdongri, Yongin-city Furniture Business Complex
- Yongin-city Project of Jukjeon Town House
- Oksan-Ochang Highway in a Place of Business/Tolgate, New Construction
- Daesan-Imhae Industrial Area Industrial Water Purification Plant Construction

**CM/PM**
- Changwon Science Center
- Ulsan National Institute of Science and Technology

**Feasibility Study**
- A Feasibility Study for the Underground Parking Lots in Gyeongsang High School
- A Feasibility Study for the Underground Parking Lots in Jeong-Dok Library
- A Feasibility Study for the Mixed-use Facilities of Chang-su Elementary School

**International Project**
- Hyderabad-Mirpurkhas Dual Carriageway PPP Project in Pakistan
- Istanbul Strait Road Tunnel Crossing in Turkey
- Adjara Bypass Roads Development Project in Georgia

The department of architecture was founded to provide a solution for multi-use projects which require the ability of architectural and civil technology. According to the complicated and various needs of the client, the department of architecture not only provides services for the SOC, architectural design and construction management area, but also performs public and private development projects with a creative idea and accumulated know-how.

SAMBO ENGINEERING has a goal to lead the market, create new culture of architecture and show the new vision of architecture which goes together with history by challenging views for creating the infinite value for the client.
Water Resources

Water resources department performs various engineering activities such as Basic Plan of the River, pre-assessment of the impacts of natural disasters, river Environment Improvement projects, analysis & assessment of various restoration projects, and Sub-basin rehabilitation master planning.
Water & Sewage

We design, operate, and manage facilities that provide living, industrial and ecological water by combining existing water technologies and IoT technology. Recently, DB and BIM technologies were introduced to diagnose and assess the facility's performance for rebuilding aging and poorly performing facilities.

Water and Sewage department specialize in wastewater treatment and environmental management. We are responsible for passing on the clean environment to their descendants. SAMBO ENGINEERING is conducting research and development for sustainable development and conservation of natural environment.

Feasibility Studies, Basic Design, and Detailed Design
• Feasibility Study for Payatas Clean Energy Center Construction Project in the Republic of the Philippines
• Basic Design for Effluent Recycling Facilities of Ulsan Yongyeon Sewage Treatment Plant
• Basic and Detailed Design for Advanced Treatment Process of Goyang-Samsung Sewage Project

Turnkey and Alternative Bidding Projects
• Basic Design for Daesan Imhae Industrial Complex Water Facilities
• Detailed Design for Goyang, Samsung Water Quality Restoration Center(T/K)

Proposal Design and Development of Public-Private Partnership Projects
• Implementation of Pilot Project for Collection, Recycling and Valorization of Electrical and Electronic Equipment in the Republic of Tunisia
• Basic Design for Jeju Sewage Pipeline Maintenance(BTL) Project
• Detailed Design for Boryeong-city Sewage Pipeline Maintenance(BTL) Project
The department of overseas project development has accumulated technical competitiveness to compete in the global engineering based on many years know-how, has completed a lot of overseas engineering projects as listed on right side with quality exceeding the expectation of the Client. The department is pursuing ODA projects and carrying out Public-Private Partnership project in Southeast Asian nations.
The department of PF Project Development carries out various fields of engineering services such as master planning of large complexes and new town developments, site development and landscape design of future-oriented new cities with the consideration of residences, environment, culture, medical facility and tourism. The department provides services in a way that can systematically utilize urban space while achieving richness of urban environment.

The department supports other departments by reviewing financial feasibility, planning viability, CM, project financing, lease, sales, and operation of housing lot facilities, commercial facilities, leisure facilities and public facility development projects.

**Planning & Consulting**

- Based on the Abundant Experience in the Planning and Consulting of Development Projects, The Department Satisfies Various Levels of Customer Demands Through the Network of Experts in the Fields of Finance, Law, Architecture, Urban Planning, Landscape, etc.
- New City and Lot Development Master Plan, Vacant US Army Base Utilization Plan, Retired Railway Area Utilization Plan, etc.

**Project Development**

- The main focus is on maximizing utilization of space while reflecting the project's characteristics. This is achieved through the application of either private or public development scheme depending on each project's characteristics

**Marketing & Operation**

- The department enables efficient marketing and sales operation with professional expertise and distinguished planning know-how that have been acquired through various project experiences

The department of PF Project Development regards “mixed use development” as the new growth engine for the future. Through the accumulated experience in design, construction management and construction supervision, the department is actively broadening its market share in “mixed use development”.

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The department supports other departments by reviewing financial feasibility, planning viability, CM, project financing, lease, sales, and operation of housing lot facilities, commercial facilities, leisure facilities and public facility development projects.
The department can manage the full range of activities necessary in a complex multidisciplinary project often worth billions of dollars. The department tailors service to meet each project’s goals based on years of service experience in various kinds of architectural and civil projects. The experts in the department have provided management services to public and private clients in Korea and abroad.

Value Engineering
Value Engineering is a systematic method to improve the “Value” of a project by using an examination of function. The department provides Value Engineering services in a way the value of a project's output is optimized.

Independent Check Engineering
Independent Check Engineering is a technical assessment that provides necessary data for potential investors of PPP projects. The department independently provides fair and technically professional review for the investors to assess feasibility of each project. The scope of Independent Check Engineering includes feasibility study, execution plan establishment, progress assessment of ongoing project.

The department provides unwaivering and independent technical opinion in Value Engineering & Independent Check Engineering. The department carries out Value Engineering(VE) in a way that can preserve basic function while pursuing value improvements. Independent Check Engineering(ICE) provides professional and unbiased project information to the client and stakeholders in order to enhance their understanding on the project.
Construction Supervision

The department of Construction Supervision prevents fraudulent construction work and enhances safety and quality of structures by strictly supervising overall construction process, while providing technical expertise as technical partners.

The department also reviews design drawings and provides best fitting construction method for each project in consideration of environmental preservation and cost efficiency, consequently resulting in the construction of high quality structures and the development of national infrastructure network.

Construction Supervision for Road Projects
- Saemangeum East-West 2 Axis Lot 1
- Yongin-Seoul Expressway
- Yeongdo Grand Bridge, Hwangsan Bridge
- Okseong-Seongsan Road 4 Lane Widening
- Construction Supervision for Busan Newport Construction Project
- Construction Supervision for Dongsucheon City (Sangoae–Cheongsan) Bypass Road Construction Project
- Construction Supervision for Dolsan-Hyeatae Connecting Bridge Construction Project
- Construction Supervision for Suwon-Gwangmyeong Expressway Construction Project
- Construction Supervision for Seoul–Seaelong Expressway Construction Project
- Construction Supervision for Hon-do Bridge Construction Project

Construction Supervision for Railway Projects
- Wonju–Gangneung Railway Lot 4, 5
- Wonju–Gangneung Railway Lot 11-3
- Busan–Ulsan Double Track Railway Lot 5
- Gimpo Urban Railway Lot 5
- Icheon–Chungju Railway Lot 1, 2
- Geongin(Seoul–Incheon) Line, Anchuncheon Bridge in Gul Station Railway
- East Suncheon–Gwangyang Double Track Railway Lot 1
- On–Suwon Double Track Railway
- Construction Supervision for Gyeongui Line (Yongsan–Munsan) Double Track Railway Construction Project (Lot 3)
- Construction Supervision for Honam High Speed Railway Road Bed Construction Project (Lot 4-1, 4-2)
- Construction Supervision for Gyeongbu High Speed Railway Road Bed Construction Project (Lot 10-3A, 10-3B)
- Construction Supervision for Jeonla Line Double Track Railway PPP Project
- Construction Supervision for Icheon–Munyeoeng Railway Project (Lot 9)
- Construction Supervision for Shin–Bundang Line Railway Project (Lot 11-1, 13-2)
- Construction Supervision for Bosing–Imsung Railway Project (Lot 13, 4)

Construction Supervision for Overseas Projects
- Widening of GSRO Road Project in the Philippines
- Construction Supervision for NR31, NR33, PR117 and Kampot Bypass Road Project
- Construction Supervision for Rural Road Development Project
- Construction Supervision for Vinh Thinh Bridge Construction Project
The department of construction management services typically begin during design, and include schedule and budget evaluations, constructability reviews, accuracy checks on cost estimates, weighing project alternatives, structuring bid packages for lowest cost construction, monitoring and coordinating daily construction activities. The department has successfully delivered many of the largest and most complex projects built in Korea.

Management of Construction Process / Comprehensive Cost Control
• Through detailed management of construction implementation and cost, projects are more efficiently implemented

Quality Control / Other Control
• Efficient management of construction materials and curing status results in the cost effective and quality ensured construction

Administrative Control
• Best fitting management method in consideration of required safety protocols, contract & claim risk, design alteration is selected for each project

Main purpose of the Construction Management is to minimize construction costs, reduce construction period, enhance quality and safety, and to prevent misunderstanding among the project stakeholders. Construction Management also supports the employer to implement optimal and consistent project management. The department offers professional construction management services that are tailored to the size and complexity of any given project.
Underground Safety Impact Assessment can prevent and reduce subsidence by investigating, predicting and evaluating the impact on underground safety when underground excavation works.

SAMBO ENGINEERING, who executed the first in the industry to conduct pilot projects, and also had the best technology and ability in Underground Safety Impact Assessment by creating relevant laws and detailed guidelines.

Projects Performed:
- Underground Safety Impact Assessment of the Hyupjin Building Construction
- Underground Safety Impact Assessment of the AMC Building Construction
- Underground Safety Impact Assessment of the Daegu Efficiency Apartment Construction
- Underground Safety Impact Assessment of the Pangyo Urban Development Apartment Building Construction

BIM is a system that models planning, design, engineering, and construction in a multidimensional virtual space. It can provide integrated information from various fields such as collaboration, error review, and quality improvement. SAMBO ENGINEERING designs to maintain platform based on BIM and Drone trends.

Underground Safety Impact Assessment can prevent and reduce subsidence by investigating, predicting and evaluating the impact on underground safety when underground excavation works.
Research & Development Institute

R&D institute is invention, adoption and innovation of new civil engineering technologies. Major engineering fields of the research are long span bridges, seabed tunnel, development of new technology, and R&D projects.

In R&D institute, development of new technology and practical products, national research projects, practical design support, publication technical report, etc, have been carried.

Also, 44 industrial-academic cooperation projects, 2 new technologies, 55 patents, 1 practical innovations have been achieved by the institute since the foundation of company.

Super Long Span Bridge National R&D Projects
- Economical design technology for long span cable bridge
- Wind-resistance system for long span cable bridge
- Suspension and cable-stayed bridge cable system utilizing high strength steel cable
- Development & application technology of high performance cable

Cable Bridge Research Group National R&D Project
- Cable Bridge full cycle technology solution development
- Cable Bridge Disaster response technology development
- Cable Bridge substructure design engineering technology development
- Marine bridge foundation circular steel building method development

New technology / R&D project

1. Cable Bridge Research Group
   co-work: Korea Highway Corporation, Korea Institute of Construction Technology, Seoul National University, Pyunghwa Engineering

2. Super Long Span Bridge R&D Project
   co-work: Seoul National University, Korea University, DAEWOO Engineering & Construction, Korea Institute of Construction Technology

3. Development of Design and Construction Technology for Double Deck Tunnel in Great Depth
   co-work: Korea Institute of Construction Technology, Harseo University, Dongguk University, Konkuk University, Hanyang University

4. Underwater Tunnel Research Group
   co-work: Seoul National University, Korea University, Konkuk University, Korea Institute of Construction Technology

5. TBM Design Localization Technology
   co-work: Korea Institute of Construction Technology, KINITEC Korea Information Technology, Kang Nung Construction

6. Development of Long Span Girder Bridge
   co-work: GS Engineering & Construction

7. Development of STA(Steel Tubular Arch) Girder
   co-work: Korea Institute of Construction Technology, Korea University

8. Development of Prestressed Wale and Square Steel Strut (New Technology No. 640)
   co-work: SANGYONG Engineering & Construction, KUKDONG Engineering & Construction, PStech Corporation

9. Next-Generation High-Speed Rail Technology Center
   co-work: HYUNDAI Rotem, Korea Railroad Research Institute, Seoul National University, Korea University

Publication

For the introducing new technology and technical education, technical publications have been published regularly. To find a new technology and products, institute gathers information on the design specification, photography shooting around the world.

Also, published periodicals which contain the research study results carried out in order to contribute to enhancement of civil technology in Korea.
### Project Experiences

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<tr>
<td>2004</td>
<td>Pre-Feasibility Study for Asanman Industrial Railway (Poseung-Gupo-Sanggok)</td>
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Spirited Challenge to the World.
Now, Border is meaningless for us.
SAMBO Engineering steps into the world.
SAMBO ENGINEERING is growing to be a successful partner through various overseas experiences and mutual technology agreement with international firms.