

Types of Business for Tax Reduction or Exemption from Corporate Tax etc. for Foreign Investment

July 20, 2015

Restriction of Special Taxation Act

Article 121-2 [Reduction of or Exemption from Corporate Tax, etc. for Foreigner's Investment]

① A foreigner's investment to carry on a business falling under any of the following subparagraphs (referring to the foreigner's investment under Article 2 (1) 4 of the Foreign Investment Promotion Act; hereafter in this Chapter, the same shall apply), which meets the standards as prescribed by the Presidential Decree, shall be eligible for the reduction of or exemption from each of corporate tax, income tax, acquisition tax, registration tax and property tax under the provision of paragraphs (2) through (5) and (12) (Amended effective Jan. 1, 2010)

1. Business of industrial support service that is vital to the strengthening of the international competitiveness of domestic industries and business accompanying a high-level technology;

- further list omitted -

Enforcement Decree of the Restriction of Special Taxation Act

Article 116-2, [Standards, etc. for Tax Reduction and Exemption]

(1) The foreigners' investment eligible for the reduction or exemption of the corporate tax, income tax, acquisition tax and property tax pursuant to Article 121-2 (1) 1 of the Act shall be the cases in which factory facilities (in the case of other businesses than the manufacturing on the Korea Standard Industrial Classification, referring to the business places; hereafter in this Chapter, the same shall apply) are established or operated in order to carry on an industry-supporting service business or business accompanying high technology that is determined at least once a year by the Minister of Strategy and Finance after deliberation of the Foreign Investment Committee prescribed in Article 27 of the Foreign Investment Promotion Act. (amended Feb. 2, 2012)

(2) The business (excluding the industry-supporting service business that falls under the research and development business listed on the Korea Standard Industrial Classification) under Article 121-2 (1) 1 of the Act shall be the business accompanying technologies falling under any of the following subparagraphs: (amended Feb. 2, 2012)

1. Technology that has a great economic or technical diffusive effect on the national economy, and that is essential to enhance the industrial structure and strengthen the industrial competitiveness;

2. Technology for which three years have not elapsed since the date of its initial introduction into Korea from a foreign country (referring to the date which arrives earlier of the date on which a report on foreigner's investment accompanying the relevant technology is filed or the date on which a foreign-invested enterprise will pay the first consideration for using the relevant technology to the owner of the relevant technology under technology introduction contract, under the Foreign Investment Promotion Act) or for which three years have elapsed, and that has an economic effect or technological capacity much excellent than the already introduced technologies;

3. Technology for which the process requiring it is carried out mainly in the country.

- further list omitted -

Regulation of Tax Reduction or Exemption for Foreign Investment

Article 4 [Type of Business for Tax Reduction or Exemption]

Tax Reduction of Foreign Investment for High Technology Business and Industrial Support Services

Part 1. High Technology Business

1. Electronics, Information and Electricity

<Electronics and Information>

1-1. Manufacture and Design of Computer (exceeding 64-bit)

- High-performance workstation (limited to Office and Engineering) (Ministry of Knowledge Economy)
- Intelligent multimedia computer (Ministry of Knowledge Economy)
- High speed parallel processing computer (exceeding 1-GIPS) (Ministry of Knowledge Economy)
- Optical computer and neuro computer (Ministry of Knowledge Economy)
- Mid-/large sub/parallel vector processing computer (Ministry of Knowledge Economy)

1-2. Manufacture of Computer Memory, In-/Output Device, Peripheral Equipment and Parts

- Computer memory (Ministry of Knowledge Economy)
 - hybrid storage, NV-RAM, SCM, etc.
- Input devices (Ministry of Knowledge Economy)
 - High-resolution high speed image scanner
 - C-pen
 - Tablet (Digitizer)
 - Touch panel
 - 3D mouse
 - Voice/character/image recognition devices
- Analysis devices (Ministry of Knowledge Economy)
 - High-speed high-resolution A/D
 - D/A Board
 - Parts of data analysis devices including GPIB interface board
- Technology and ASIC such as wire/wireless data communication technology and the key parts (IEEE1394), Ird, image radar and radio wave (Ministry of Knowledge Economy)
- CPU chip set (exceeding 200 MIP) (Ministry of Knowledge Economy)
- Engine and head for output devices (Ministry of Knowledge Economy)

1-3. Manufacture of Broadcasting Devices, Wireless Communication Devices and the Key Parts

- Satellite-based system such as Galileo and earth observations, terminals and the key parts (Ministry of Education, Science and Technology, Ministry of Knowledge Economy)
- Satellite-based System, terminal testing/measuring equipment and the key parts (Ministry of Education, Science and Technology, Ministry of Knowledge Economy)
- Optical communication system and the key parts (Ministry of Knowledge Economy)

- Digital broadcasting system (e.g. Digital/Wireless CATV system, HDTV sending/receiving system, Satellite broadcasting system), terminals (e.g. Subscriber receiver) and the key parts, Internet broadcasting system (Ministry of Knowledge Economy)
- High speed information and communication system, Optical transmission equipment (e.g. High speed and large data communication equipment, High-speed/intelligent data exchange equipment) and Software platform (Ministry of Knowledge Economy)
- Satellite multimedia system (including satellite communication and broadcasting convergence system), terminal and the key parts (Ministry of Knowledge Economy)
- Network interface units (e.g. Power line communication, High Performance Switch, Router, Gateway, etc) (Ministry of Knowledge Economy)
- Digital information and communication equipment interface technology (Ministry of Knowledge Economy)
- High frequency fixation, Mobile communication system and the key parts (Ministry of Knowledge Economy)
- Broadband smart antenna technology (Ministry of Knowledge Economy)
- Manufacturing technology of 3D TV broadcasting equipment (Ministry of Knowledge Economy)

1-4. Manufacture of Semiconductor Devices, Materials, Equipment and Parts

- Semiconductor device manufacturing and design (Ministry of Knowledge Economy)
 - Individual devices {e.g. Diode (for small signal and power exceeding 800V), Transistor (for single electron transistor of small signal, carbon nano tube and power exceeding 600V), Thyristor (exceeding 1200V), Intelligent power module}
 - Integrated circuit {e.g. Bipolar, Analog, Logic (e.g. ASIC, Standard Cell, Cell Library and System On Chip), Micro component, Memory}
 - Compound semiconductor (e.g. Optical devices, High speed electronic devices)
- Semiconductor materials (Ministry of Knowledge Economy)
 - Silicon wafer (e.g. epitaxial wafer, Wafer larger than 12 inches)
 - Wafer for compound semiconductor
 - Special wafer (e.g. plastic, glass, ceramic)
 - TAB tape
 - BGA tape
 - Sputtering target
 - Polycrystalline silicon material
 - Photomask (with wavelength shorter than 248 nm such as KrF)
 - Photo resister and chemicals for sensitometric process
 - Die attach adhesive
 - Lead frame (BGA or more)
 - Bonding wire (limited to Cu)
 - Process chemical
 - Harmful substance clean-up technology
 - Special gas
 - Abradant for semiconductor manufacturing (limited to Cu and Al)
 - Solder ball (shorter than 500 μm and Pb-free)
 - Process material
 - Process tools (e.g. Wafer Carrier, Bath, Tweezer)

- Special gas production (including mixing, purifying, charging and analysis) equipment and parts (Ministry of Knowledge Economy)
 - Fill manifold (charging equipment)
 - Manifold controls (charging equipment)
 - Life safety system (limited to Toxic gas detector)
 - Gas Purifier
 - R.G.A vacuum gauge
 - Gas Analyzer
 - Analyzer
 - Plumbing parts (e.g. EP-processed plumbing parts)
 - STS Valve (more than 316L)
- Semiconductor production, inspection and analysis equipment and parts (Ministry of Knowledge Economy)
- Scanning Probe Microscope (SPM) equipment and parts technology (e.g. PZT, Laser diode) (Ministry of Education, Science and Technology)
- Manufacturing technology such as Cr-coated photomask (Ministry of Education, Science and Technology)

1-5. Manufacture of Precision Testing/Measuring Devices, Parts and Equipment (Ministry of Knowledge Economy)

1-6. Manufacture of Broadcasting Reception Devices and other Audio/Visual Devices

- Flat panel display, parts, materials and equipment (Ministry of Knowledge Economy)
- 3D image restoration and real time image processing technology (Ministry of Education, Science and Technology, Ministry of Knowledge Economy)
- Digital signal recoding technology (e.g. HDD, DVD application technology) (Ministry of Knowledge Economy)
- Digital amplifier (Ministry of Knowledge Economy)
- Digital hearing aid (e.g. Inner ear implantable ultra-small hearing aid and application technology) (Ministry of Knowledge Economy)
- Ultra-thin speaker (Ministry of Knowledge Economy)
- 3D audio restoration and sound holography (Ministry of Knowledge Economy)
- Sound sensor (e.g. Microphone for measurement, Microphone for recording, Microphone for special signal sensing, Acoustic sound sensor) (Ministry of Knowledge Economy)
- Thermal&optical materials of LED, Manufacturing technology of equipments and substrate for LED (Ministry of Knowledge Economy)

1-7. Manufacture of Musical Instrument (limited to Advanced Musical Instrument)

- Key parts of electric musical instrument (e.g. Sound generation parts, Digital sound effect equipment, Keyboard mechanism parts) (Ministry of Knowledge Economy)
- Key sound technology (e.g. Sound sampling technology, Sound analysis and generation technology, New algorithm technology for sound generation), Computer music program (Ministry of Knowledge Economy)
- Digital signal processing sound source module (Ministry of Knowledge Economy)

1-8. Manufacture of Home Appliance

- Home networking system (e.g. Utilization of wire/wireless communication media and semiconductor) (Ministry of Knowledge Economy)
- Compressor for refrigerant substituting CFC (Ministry of Knowledge Economy)

- Detergent-free washing machine (Ministry of Knowledge Economy)
- New mechanism compressor (Ministry of Knowledge Economy)
- Inverter application devices (Ministry of Knowledge Economy)
- Infrared application technology, Purification technology (e.g. Air purification, Sterilization, Deodorization) (Ministry of Knowledge Economy)

<Electricity>

1-9. Manufacture of Ultra-High Voltage Electrical Devices and Electrical Application Devices

- Suspension insulator strings for 765KV (Ministry of Knowledge Economy)
- Circuit breaker for generator protection (Ministry of Knowledge Economy)
- Superconductivity application equipment (e.g. Superconducting generator, Transformer, Cable, Current limiter) (Ministry of Knowledge Economy)
- Annealing device (Ministry of Knowledge Economy)
 - Direct current arc furnace
 - New material processing furnace
 - High frequency induction furnace (30KHz-500KHz)
 - Surface mounting component soldering and cutting machine
 - Surface treatment induction heating machine
 - Far infrared heating machine (e.g. Heater, Dryer)
 - Microwave dryer
 - Ultrasonic application equipment

1-10. Manufacture of General Lighting Equipment

- 3-wavelength/5-wavelength fluorescent substance (Ministry of Knowledge Economy)
- Discharge lamp light emitting board (including LCD) (Ministry of Knowledge Economy)
- Electrodeless discharge lamp light, LCD backlight lamp (Ministry of Knowledge Economy)
- Metal halide lamp, Low-/high-pressure sodium lamp (Ministry of Knowledge Economy)
- Optical halogen lamp, Xenon lamp (Ministry of Knowledge Economy)
- Digital signal processing flash system (Ministry of Knowledge Economy)
- Electric neon transformer, HBO mercury lamp (e.g. Light exposure device for semiconductor stepper) (Ministry of Knowledge Economy)
- Automatic lighting control system (Ministry of Knowledge Economy)
- Light sensor control system (Ministry of Knowledge Economy)
- DIMMER SYSTEM for stage lighting equipment (Ministry of Knowledge Economy)
- COMPUTER CONSOLE, Plasma application lighting (Ministry of Knowledge Economy)

<Electronic and Electrical Component and Material>

1-11. Manufacture of Optical and Magnetic Recording Medium (limited to digital and disc), Material and Equipment (Ministry of Knowledge Economy)

1-12. Manufacture of High Performance Transformer

- Rotary transformer (Ministry of Knowledge Economy)
- High Frequency (exceeding 150KHZ) transformer (Ministry of Knowledge Economy)

1-13. Manufacture of Precision Motor (including industrial motor) and the Key Parts

- AC, DC servo motor (Ministry of Knowledge Economy)
- Stepping motor (Ministry of Knowledge Economy)
- Brushless DC motor (Ministry of Knowledge Economy)
- Geared motor for electric vehicle and train (Ministry of Knowledge Economy)
- Linear motor (Ministry of Knowledge Economy)
- High efficiency electric motor (Ministry of Knowledge Economy)
- Ultrasonic motor (Ministry of Knowledge Economy)
- Scanner motor (Ministry of Knowledge Economy)
- Galvanometer motor (Ministry of Knowledge Economy)
- Micro DC motor (Ministry of Knowledge Economy)
- DC Coreless Motor (Ministry of Knowledge Economy)

1-14. Manufacture of Electronic Ceramics Materials and Parts

- Piezoelectric ceramic materials and parts (e.g. Piezoelectric actuator) (Ministry of Knowledge Economy)

1-15. Manufacture of Advanced Sensor

- Semiconductor sensor (e.g. Pressure, Acceleration, Flux/Flow velocity, Temperature, Gas, Hole element) (Ministry of Knowledge Economy)
- Non-contact, non-destructive and multifunctional ceramics (Ministry of Knowledge Economy)
- New function organic sensor and materials (Ministry of Knowledge Economy)
- Rapid light-emitting/receiving device, High efficiency photoconductive cell, Uncooled thermography sensor (Ministry of Knowledge Economy)
- CDD/CMOS-type image sensor (1 million or more pixels) (Ministry of Knowledge Economy)
- Radiation sensor, Ion, Bio-sensor (Ministry of Knowledge Economy)

1-16. Manufacture and Design of Nano-Processing Technology Component and Equipment

- Supre micro-processing and related technology (Ministry of Knowledge Economy)
- Supre micro-processed element parts and the key parts (Ministry of Knowledge Economy)
- Supre micro-processing design, Process technology, Evaluating apparatus (Ministry of Knowledge Economy)
- Hyper-fine pattern and forming technology (Ministry of Knowledge Economy)
 - High-density disc storage medium, Micro lens array
- Nano device application technology (Ministry of Knowledge Economy)
 - Nano-semiconductor electronic device
 - Nano-photoelectric device
 - Nano metal electronic device
 - Molecular device
- Nano-based technology (Ministry of Knowledge Economy)
 - Nano-electronic simulator
 - Nano-level evaluation analysis
 - Nano-structure process/materials
 - Nano-lithography

1-17. Manufacture of Other Electronic/Electric Components, Parts and Materials

- High performance secondary battery and their materials, components, equipments with non-pollution (Ministry of Knowledge Economy)
- Control equipment and system components (Ministry of Knowledge Economy)
- SMD and chip-type component (Ministry of Knowledge Economy)
- High precision switch, Connector, Relay, High-dense quartz crystal (e.g. VCO, TCXO) (Ministry of Knowledge Economy)
- Core component of identifier (e.g. Optical paper money recognizing apparatus by using coin mechanism and image sensors) (Ministry of Knowledge Economy)
- Print circuit board and their materials and equipments (Ministry of Knowledge Economy)
 - Opto-electronics circuit board
 - Circuit board using BCB polymer
 - COF board using sputtering technology
 - RF or Microwave multiple circuit board in using dielectric substrate (dielectric constant 3.0 below)
 - 3-dimensional circuit board
- Movement for electronic analog watch (Ministry of Knowledge Economy)
- High-performance magnetic-head (Ministry of Knowledge Economy)

2. Precision Machinery and New Process

2-1. Manufacture of Textile Machinery

- Printing machine, Dyeing machine, CCK, CCM (Ministry of Knowledge Economy)
- Intelligent preparatory machinery (Ministry of Knowledge Economy)
- Waving machine and knitting machine (Ministry of Knowledge Economy)
- Textile logistics automation system (Ministry of Knowledge Economy)
- Clothing for paper-making machine (limited to Forming fabrics) (Ministry of Knowledge Economy)
- Polymerization machine (limited to Synthetic textile manufacturing) (Ministry of Knowledge Economy)
- Spinning machine (Ministry of Knowledge Economy)
- Optimized configuration cutting machine (Ministry of Knowledge Economy)

2-2. Manufacture of Printing Machinery

- Single water process offset printing machine (Ministry of Knowledge Economy)
- Printing roll exposure technology {e.g. Computer applied manufacturing process (software)} (Ministry of Knowledge Economy)
- Peripheral equipment (e.g. Barcode system and testing equipment) (Ministry of Knowledge Economy)

2-3. Manufacture of Plastic Operation Machinery

- Key parts of numerical control plastic machinery (Ministry of Knowledge Economy)

2-4. Manufacture of Metal Cutting Machinery

- Numerical control metal cutting machinery and the core parts (Ministry of Knowledge Economy)
- Ultra-precision machine (ultra precision lath and grinding machine) (Ministry of Knowledge Economy)

2-5. Manufacture of Metal Cutting Machine

- Numerical control metal cutting machine and the key parts (Ministry of Knowledge Economy)

2-6. Manufacture of Applied Electronic Process Machinery and Parts

- Numerical control discharge/electric discharge machine (Ministry of Knowledge Economy)
- Laser generator (e.g. Gas, Solid state, Semiconductor, Chemical, Free electron laser) and parts (Ministry of Knowledge Economy)
- Laser application equipment (e.g. Cutting, Welding, Drilling, Marking, Micro fabrication, Laser CVD, Laser etching machine) (Ministry of Knowledge Economy)
- Laser application measurement (e.g. Laser scale, Encoder, Interfero-meter) (Ministry of Knowledge Economy)

2-7. Manufacture of Industrial Robot

- HRI(Human-Robot Interaction) device and software (Ministry of Knowledge Economy)

2-8. Manufacture of Industrial Process Control Equipment

- Industrial process automatic control machine (Ministry of Knowledge Economy)

2-9. Manufacture of Construction/Mining Machinery and Equipment

- Construction/mining machine and the core parts (Ministry of Knowledge Economy)

2-10. Manufacture of Industrial Material Handling Equipment

- Industrial cargo handling machine and peripheral equipment (Ministry of Knowledge Economy)

2-11. Manufacture of Air Conditioning

- Manufacture of air conditioner and the core parts (Ministry of Knowledge Economy)

2-12. Manufacture of Metal Casting and other Metallurgical Machinery

- Manufacture of metal rolling mill and rolls for rolling mill (Ministry of Knowledge Economy)
- Die casting machine (Ministry of Knowledge Economy)

2-13. Manufacture of Pump and Compressor

- Liquid pump, Diaphragm pump, Vacuum pump (Ministry of Knowledge Economy)

2-14. Manufacture of Unsorted Special-Purpose Machinery

- Coil winding machine (limited to metal processing) (Ministry of Knowledge Economy)
- Dryer (except dryers used for agricultural products, timber and paper) (Ministry of Knowledge Economy)
- Coating machine (Ministry of Knowledge Economy)
- Micro machine and peripheral equipment, Manufacturing equipment, Technology (Ministry of Knowledge Economy)
- Ultra high pressure water-jet machine and peripheral equipment (Ministry of Knowledge Economy)
- Micro filter and disk type filter (for chemistry and textile chemistry) manufacturing equipment and technology (Ministry of Knowledge Economy)
- Filter, dryer and mixer for chemical engineering (Ministry of Knowledge Economy)
- Printed circuit board manufacturing equipment (Ministry of Knowledge Economy)

2-15. Manufacture of Liquid Filter

- Industrial liquid filter and purifier (Ministry of Knowledge Economy)

2-16. Manufacture of Bearing (Ministry of Knowledge Economy)

2-17. Manufacture of Interchangeable Tool

- High performance grinding tools (e.g. Diamond tool, Carbide tool, High speed steel tool, Cermet tool, Ceramic tool, CBN tool, PVD, CVD coated tool) (Ministry of Knowledge Economy)

2-18. Manufacture of Mold and Die

- Precision die (for automobile, electronics, semiconductor, optical, aircraft and medical equipment) manufacturing technology (Ministry of Knowledge Economy)

2-19. Manufacture of Gear and Power Transmission Device

- Power transmission shaft, gear and gear box (Ministry of Knowledge Economy)
- High reduction ratio precision reducer (Ministry of Knowledge Economy)
- High precision ball screw and LM guide (Ministry of Knowledge Economy)
- High frequency spindle (Ministry of Knowledge Economy)
- Actuator, sensor and power transmission device based on new theory (Ministry of Knowledge Economy)
- Ultra-precision hydraulic/pneumatic parts (Ministry of Knowledge Economy)
- AC servo controller, Inverter, PLC (Ministry of Knowledge Economy)

2-20. Manufacture of Internal Combustion Engine

- Design and manufacturing technology of industrial diesel engine and parts (Ministry of Knowledge Economy)
- Design and manufacturing technology of diesel engine for auto vehicles and parts (Ministry of Knowledge Economy)
- Design and manufacturing technology of natural gas engine {e.g. CNG engine, Dual fuel engine} (Ministry of Knowledge Economy)

2-21. Manufacture of Micro Machining Parts and Equipment

- Electron beam, laser, ion (plasma), molecular and atomic beam technology and 3D micro structure equipment (Ministry of Knowledge Economy)
- Micro-fabricated key parts (for Microsensor, Information equipment, Wireless/Optical communication, Biochip, Ultra-small precision parts) (Ministry of Knowledge Economy)
- Micro cutting process (Ministry of Knowledge Economy)

2-22. Manufacture of Heat Exchanger

- Low noise heat exchanger (43dB or lower) (Ministry of Knowledge Economy)

2-23. Manufacture of Non-Electric Cooking and Heating Ware

- Low-nox technology (exceeding 30,000 kcal/h and below 60ppm) (Ministry of Knowledge Economy)
- Gas governor (for low pressure and lower than 330 mm H₂O) (Ministry of Knowledge Economy)
- Heat resistant tempered glass (ceramic material, heat-proof up to 800 °C) (Ministry of Knowledge Economy)

2-24. Manufacture of Agricultural Machinery

- Combine harvester-thresher and parts (Ministry of Knowledge Economy, Ministry for Food, Agriculture, Forestry and Fisheries)

- Mechatronic cultivator/soil preparation machine and parts (Ministry of Knowledge Economy , Ministry for Food, Agriculture, Forestry and Fisheries)
- Unmanned autonomous insect control machine and parts (Ministry of Knowledge Economy, Ministry for Food, Agriculture, Forestry and Fisheries)
- Agricultural robot operated by computer/sensor and the parts (Ministry of Knowledge Economy, Ministry for Food, Agriculture, Forestry and Fisheries)
- Agricultural process machine controlled by a computer/sensor and the parts (Ministry of Knowledge Economy, Ministry for Food, Agriculture, Forestry and Fisheries)
- Advanced milking robot for automatic milking system (Ministry of Knowledge Economy, Ministry for Food, Agriculture, Forestry and Fisheries)
- Development of sensor to assess crop environment (Ministry of Knowledge Economy, Ministry for Food, Agriculture, Forestry and Fisheries)
- Nutrient solution supply and water distribution system utilizing computer/sensor-controlled auto nutrient and water supply technology (Ministry of Knowledge Economy , Ministry for Food, Agriculture, Forestry and Fisheries)
- Sterilization system used at agricultural facility (recycling nutrient solution facility) (e.g. UV lamp, Sand filter, Ozone sterilizer) (Ministry of Knowledge Economy, Ministry for Food, Agriculture, Forestry and Fisheries)
- Vegetable transplanter and the key parts (e.g. Transmission, Decelerator, Planting device, Transplanting device, Hydraulic device) (Ministry for Food, Agriculture, Forestry and Fisheries)

2-25. Key Machinery and Parts for Manufacturing Food, Beverage and Medicine

- Pump and valve (Ministry of Knowledge Economy)
- Centrifuge (Ministry of Knowledge Economy)
- Emulsion machine (Ministry of Knowledge Economy)
- Homogenizer (Ministry of Knowledge Economy)
- Automatic sterilization and aseptic pack filling machine (Ministry of Knowledge Economy)
- Other new food manufacturing and processing machine/equipment (Ministry of Knowledge Economy)

2-26. Manufacture of Packaging Machine and Container Washer

- Weighing and counting machine (Ministry of Knowledge Economy)

2-27. Manufacture of Machine Parts and Mathematical Technology Using Machine Parts

- Manufacture of specialty screw and metal bonding technology using specialty screw (Ministry of Knowledge Economy)

3. Material

<Metal Material>

3-1. Manufacture of New Metal

- Metal magnetic materials (except Ferrite, Alinco system, Bond magnet) (Ministry of Knowledge Economy)
- Superconducting materials (Ministry of Knowledge Economy)
- Dielectric materials (Ministry of Knowledge Economy)
- Functional materials (Ministry of Knowledge Economy)
- Structural materials (e.g. Aerospace materials) (Ministry of Knowledge Economy)
- Rare metal (Ministry of Knowledge Economy)

- Heat resisting materials (e.g. parts and materials of Gas turbine) (Ministry of Knowledge Economy)

3-2. Manufacture of Rolled, Drawn and Folded Product

- New molding/rolling technology (Ministry of Knowledge Economy)
- New processing technology (e.g. Extrusion, Can) (Ministry of Knowledge Economy)
- Seamless pipe manufacturing technology (Ministry of Knowledge Economy)
- Thixocasting technology (Ministry of Knowledge Economy)
- Heat continuous rolling technology (Ministry of Knowledge Economy)
- Rolling technology (except steel products) (Ministry of Knowledge Economy)
- Ultra-thin stainless steel cold rolling technology (Ministry of Knowledge Economy)

3-3. Heat Treatment, Plating and other Processing Business

- High-tech surface treatment equipment and technology (Ministry of Knowledge Economy)

3-4. Manufacture of Iron and Steel

- Valuable metal recovery and recycling technology (Ministry of Knowledge Economy)
- Analysis technology of trace element in liquid (Ministry of Knowledge Economy)
- Equipment for metal recovery and recycling with Arc/Plasma/Induction technology (Ministry of Knowledge Economy)

<Chemical Materials>

3-5. Manufacture of Synthetic Resin, other Plastic Material and Synthetic Rubber

- Polymer composite materials (Ministry of Knowledge Economy)
- Polymer membranes (Ministry of Knowledge Economy)
- Medical polymer (Ministry of Knowledge Economy)
- Polymer for Information industry (Ministry of Knowledge Economy)
- Conducting polymer (Ministry of Knowledge Economy)
- High-functional polymer (Ministry of Knowledge Economy)
- Multicomponent polymer (Ministry of Knowledge Economy)
- Engineering plastic (Ministry of Knowledge Economy)
- Environment-friendly polymer (Ministry of Knowledge Economy)
- Silicon-based polymer (Ministry of Knowledge Economy)
- Special rubber materials (Ministry of Knowledge Economy)
- Polymer and organic chemicals based on new process technology (Ministry of Knowledge Economy)

3-6. Manufacture of Material Recycling Non-Metal Waste and Scrap

- Tyre and rubber recycling technology (heat and electric power generation and utilization, material recovery and pulverization) (Ministry of Knowledge Economy)

3-7. Manufacture of Recycled Plastic Resin and Recycling Non-Metal Waste and Scrap

- Plastic recycling technology (Ministry of Knowledge Economy)
- Waste-plastic sorting and recycling technology (Ministry of Knowledge Economy)

3-8. Manufacture of Glass Fiber and Optical Glass

- Photo-functional ceramics (Ministry of Knowledge Economy)

3-9. Manufacture of Industrial Ceramic ware (Pottery) (including fine-ceramics)

- Electronic functional ceramics (Ministry of Knowledge Economy)
- Mechanical functional ceramics (Ministry of Knowledge Economy)
- Multi-functional ceramics (Ministry of Knowledge Economy)
- Biochemical/Bioceramics (Ministry of Knowledge Economy)
- Energy/Environmental ceramics (Ministry of Knowledge Economy)

3-10. Manufacture of Structural Refractory Ceramic Product

- Thermo-functional ceramics (Ministry of Knowledge Economy)

3-11. Manufacture of Plastic Product

- Engineering plastic product (Ministry of Knowledge Economy)
- Engineering plastic film, sheet and tube (Ministry of Knowledge Economy)
- Hygiene engineering plastic product (Ministry of Knowledge Economy)
- Construction engineering plastic product (Ministry of Knowledge Economy)
- Engineering plastic product for machine assembly (Ministry of Knowledge Economy)
- Micro replication technology, fastener or hook product and related product based on micro replication technology (Ministry of Knowledge Economy)

3-12. Manufacturing of Carbon Materials and Products

- Manufacturing of Carbon Materials and Products
 - Artificial Graphite
 - Activated Carbon
 - Conductive Carbon Black
 - Graphene
 - Carbon NanoTube

<Fiber/Textile Material>

3-13. Manufacture of Fiber/Textile Products and Materials

- High strength fiber (Ministry of Knowledge Economy)
 - High strength polyester fiber (exceeding 9g/d)
 - High strength polyacrylonitrile fiber
 - High strength polyethylene fiber (exceeding 30g/d)
 - High strength polypropylene fiber
 - PBO (polybenzoxazole fiber (exceeding 40g/d))
- Special functional fiber (Ministry of Knowledge Economy)
 - Boron fiber
 - Silicon nitride fiber
 - Silicon carbide fiber
 - Polyamide fiber (260℃ or higher continuous operating temperature)
 - Acetal fiber

- Aluminum oxide fiber
- Aramid fiber (240℃ or higher continuous operating temperature)
- Bio-degradable fiber
- Shape memory fiber
- Conducting fiber (longer than 10-2S/cm)
- Nano fiber and nano-composite fiber
- Multifunctional fiber (Ministry of Knowledge Economy)
 - Polyphenylene sulfide (PPS) fiber (190℃ or higher continuous operating temperature)
 - 3D laminated hybrid fiber
 - Industrial plasma process technology (1.0 torr or higher process vacuum level)
 - Tri-axial woven fabric for composite material
 - Washable acetate
 - Bio-degradable Polylactic acid (PLA) fiber (within 2 years of biodegradation)
 - Supermicro fiber (0.001d or less)
 - Natural crimp fiber
 - Fiber by ultra high speed spinning (5,500m/min or faster)
- Specific functional fiber

3-14. Manufacture of Clothing

- 3D body measurement technology (application of virtual reality) (Ministry of Knowledge Economy)
- Product design technology (e.g. Emotional evaluation and analysis technology, 3D CAS applied technology, 3D cutting technology) (Ministry of Knowledge Economy)
- 3D sewing technology (Ministry of Knowledge Economy)
- High-tech sewing technology (Ministry of Knowledge Economy)
 - Special attachment development technology
 - Smart clothing manufacturing technology

3-15. Manufacture of Non-Woven Fabric

- High performance non-woven fabric (Ministry of Knowledge Economy)
 - Flashspun
 - Melt Blown
 - Spunlace technology
 - Spunbond/Meltblown multi-component non-woven fabric
 - Uni-direction non-woven fabric
 - Electro-static non-woven fabric
 - Air laid non-woven fabric

3-16. Dyeing and Finishing

- Deep coloring technology of super fine wool fabric (L-value below 10) (Ministry of Knowledge Economy)
- Flame retardant technology for multi-component textile product (Ministry of Knowledge Economy)
- Non-engraving ink jet textile printing technology (Ministry of Knowledge Economy)
- Energy resources/saving dyeing technology (Ministry of Knowledge Economy)
 - Energy-saving dyeing technology
 - Ultrasonic dyeing technology
 - Low temperature dyeing technology

- Dyeing technology in ultra-low liquor ratio (1:3 or less)
- High frequency dyeing technology
- Plasma process technology
- Laser-applied engraving technology (Ministry of Knowledge Economy)
- Tension free hot-air finishing technology (Ministry of Knowledge Economy)
- Resist-discharge technology for silk ((Ministry of Knowledge Economy)
- Transfer printing technology (Ministry of Knowledge Economy)

4. New Chemical, Fine Chemistry and Biotechnology Industry

<New Chemical and Fine Chemistry>

4-1. Manufacture of Pharmaceutical Substance and Drug

- New synthesis technology of pharmaceutical ingredient and intermediate (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Technology for new substance development (new drug screening and design technology) (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Technology for orphan drug synthesis and manufacturing (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Technology for drug dosage form development and formulation(DDS, etc.) (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Diagnostic reagent (Ministry of Knowledge Economy, Ministry of Health and Welfare)

4-2. Manufacture of Cosmetics

- New synthesis technology for cosmetic materials and intermediates (Ministry of Knowledge Economy, Ministry of Health and Welfare)

4-3. Manufacture of Insecticide

- Technology for new synthetic pesticide manufacturing(prerequisite to material patent) (Ministry of Knowledge Economy, Ministry of Health and Welfare)

4-4. Manufacture of Inorganic Pigment, Dye, Softner and Coloring Agent

- Pigment (e.g. Condensation polycyclic organic pigment, High-class inorganic pigment) (Ministry of Knowledge Economy)
- Dye (e.g. Quinoxaline multi-functional reactive dye, Anthraquinone dye, High fastness metal complex dyes) (Ministry of Knowledge Economy)

4-5. Manufacture of Paint and Related Product

- Paint (e.g. Silicon elastomeric waterproof paint, Fluororescein, Electrical insulation paint, Ceramic paint, Elastomeric urethane pain, Solvent-free paint, Water-based paint, Nontoxic paint, Functional paint) (Ministry of Knowledge Economy)

4-6. Manufacture of Industrial Gas

- Electronic industrial chemicals (e.g. High purity gas) (Ministry of Knowledge Economy)

4-7. Manufacture of Chemicals for Photograph and Sensitized Material

- Preparation materials for photograph (materials and chemicals) (Ministry of Knowledge Economy)

4-8. Manufacture of Essential Oil and Related Product

- Compound perfume (e.g. Fragrance solvent, Musk, Macrocyclic fragrance Synthetic fragrance) (Ministry of Knowledge Economy, Ministry of Health and Welfare, Ministry for Food, Agriculture, Forestry and Fisheries)
- Technology to manufacture fragrance (Ministry of Knowledge Economy, Ministry of Health and Welfare, Ministry for Food, Agriculture, Forestry and Fisheries)
 - Flavor element analysis technology
 - Natural aroma development and synthesis technology
 - Enzyme modified flavor and development technology
 - Savory flavor development technology using reaction
 - Supercritical CO₂ extraction technology
 - Sustainable high molecular fragrance development technology
 - Fragrance synthesis technology (e.g. Menthol, Artificial musk)
 - Aromacalogy on using technology

4-9. Manufacture of Petrochemicals and Organic Chemicals

- Raw material and intermediate of dye, pigment, perfume, surfactant, additive and adhesive (Ministry of Knowledge Economy)
- Industrial biocide (Ministry of Knowledge Economy)

4-10. Manufacture of Inorganic Chemicals

- CFC and Halon substitutes (Ministry of Knowledge Economy)

4-11. Manufacture of Surfactant

- Surfactant (for textile industry, cosmetic industry and food industry) (Ministry of Knowledge Economy)

4-12. Manufacture of Adhesive and Gelatine

- Ultraviolet neutralization adhesive (Ministry of Knowledge Economy)
- Polyurethane and epoxy resin adhesive (Ministry of Knowledge Economy)
- Reactive hot melt adhesive (Ministry of Knowledge Economy)

4-13. Manufacture of Compound and Chemical Product

- Chemical intermediates and materials requiring high(-level) technology (Ministry of Knowledge Economy)

4-14. Manufacture of Unsorted Chemicals

- Laboratory reagents (e.g. chemical products, biological products) (Ministry of Knowledge Economy)
- Catalyst technology (e.g. Catalyst synthesis, Catalyst loading, Cocatalyst) (Ministry of Knowledge Economy)
- Additives (Ministry of Knowledge Economy)
 - Low toxic rubber accelerator
 - Viscosity modifier
 - Phenol and phosphite antioxidant
 - Anti-static finish for plastic
 - Ultraviolet stabilizer and flame retardant

- Anti-fogging agent
- Fuel oil, engine oil and industrial lubricant additive
- Chelate agent
- Impact modifier
- Heat sensitizer for thermal paper
- Developer
- Electronic industrial chemicals (e.g. High purity organic/inorganic chemicals, Plating chemicals)(Ministry of Knowledge Economy)

<Biotechnology Industry>

4-15. Biological Drug Technology

- New protein/carbohydrate/peptide/nucleic acid drug (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Gene therapy drug (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Drugs used to treat and diagnose diseases and disorders such as immune disorder drug, cancer therapeutics using antibody and etc. (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Drugs using materials from animal/plant, microorganism and strain (Ministry of Knowledge Economy, Ministry of Health and Welfare, Ministry for Food, Agriculture, Forestry and Fisheries)
- New screening technology for useful substances and stability evaluation technology (Ministry of Knowledge Economy, Ministry of Education, Science and Technology, Ministry of Health and Welfare)

4-16. Advanced Production Technology in Biotechnology Industry

- Synthetic enzyme and artificial organ (Ministry of Knowledge Economy)
- Bioelectronics (e.g. Biosensor, Biochip) (Ministry of Knowledge Economy)
- Transgenic animal/plant production and utilization technology (Ministry of Education, Science and Technology)
- Gene expression analysis and gene regulation technology (Ministry of Knowledge Economy)
- Microbial pesticide (Ministry of Knowledge Economy, Ministry for Food, Agriculture, Forestry and Fisheries)
- Pollution free biological pesticide (Ministry of Knowledge Economy)
- Technology for the development of new material food(including additives) using biotechnology (Ministry of Knowledge Economy, Ministry for Food, Agriculture, Forestry and Fisheries)
- Bio-remediation (Ministry of Knowledge Economy)
- Bio-energy (Ministry of Knowledge Economy)

4-17. Bio-related Converging Technology

- Bioinformatics (Ministry of Knowledge Economy)
- Human interface technology (Ministry of Knowledge Economy)
- On-body bio electrical device (Ministry of Knowledge Economy)
- Molecular electronics production technology (Ministry of Knowledge Economy)
- Intelligent drug products (Ministry of Knowledge Economy, Ministry of Health and Welfare)

4-18. Biometrics Technology (Ministry of Knowledge Economy, Ministry of Health and Welfare)

4-19. Biomedical Information Technology (Ministry of Knowledge Economy, Ministry of Health and Welfare)

5. Optical and Medical Device

5-1. Manufacture of Camera, Motion Picture Projector and Equipment

- Image Recording Equipment (Ministry of Knowledge Economy)
 - Instant print camera
 - 35mm roll film camera
 - Still video camera
 - Infrared camera
 - Cinecamera
 - VTR camera
 - Camcorder
 - Digital Still Camera (Digital image processing technology)
 - 24mm roll film camera (Advanced photo system camera)
- Image playing equipment (e.g. Indirect method electrostatic copying machine among electronic copying machine, Minilap machine, Motion picture projector) (Ministry of Knowledge Economy)

5-2. Manufacture of other Optical Instrument

- Image observation and inspection instrument (e.g. Zoom binoculars, High resolution microscope) (Ministry of Knowledge Economy)

5-3. Manufacture of Optical Parts, Materials and Equipment

- High-tech optical parts, materials, equipment and appliances (Ministry of Knowledge Economy)
- Optic application technology (Ministry of Knowledge Economy)
- Holography (Ministry of Knowledge Economy)

5-4. Manufacture of Medical Devices

- Biological phenomena observation and recording equipment (except electrocardiograph and patient monitor) (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Electric/electronic medical devices and machine (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Artificial joint, human tissue and organ substitute (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Artificial internal organ apparatus (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Medical devices for orthopedics and restoration (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Small pump for electronic blood pressure measuring devices (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Machine and equipment related to cardiovascular system and equipment (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Medical information system (e.g. Remote image treatment equipment) (Ministry of Knowledge Economy, Ministry of Health and Welfare)
- Core component of advanced imaging medical device (Ministry of Knowledge Economy)
 - Magnet component(at least 3.0T) of MRI System
 - Computer Tomography System(except Dental CT)
 - Positron Emission Tomography System
- Medical robot (Ministry of Knowledge Economy)

6. Aviation and Transport

<Aviation, Space and Defense Industry>

6-1. Manufacture of Aircraft, Spaceship and Support System

- Aircraft and spaceship (Ministry of Knowledge Economy, Ministry of Education, Science and Technology, Ministry of Land, Transport and Maritime Affairs)
- Support system, testing equipment and tools for aircraft and spaceship (Ministry of Knowledge Economy, Ministry of Education, Science and Technology, Ministry of Land, Transport and Maritime Affairs)
- Aircraft and spaceship flight control and manufacture/repair/operation technology of avionics system (Ministry of Knowledge Economy, Ministry of Education, Science and Technology, Ministry of Land, Transport and Maritime Affairs)

6-2. Manufacture of Aircraft and Spaceship Engine and Parts

- Technology to manufacture, repair and rebuild engine for aircraft and spaceship (including engine parts and materials) (Ministry of Knowledge Economy, Ministry of Education, Science and Technology, Ministry of Land, Transport and Maritime Affairs)
- Technology to manufacture, repair and rebuild parts and materials of aircraft and spaceship (Ministry of Knowledge Economy, Ministry of Education, Science and Technology, Ministry of Land, Transport and Maritime Affairs)

6-3. Manufacture of Weaponry and Bullets/Shells

- Defense industrial product (Ministry of Knowledge Economy)

<Vehicles>

6-4. Vehicle Parts

- Power unit or engine (Ministry of Knowledge Economy)
 - Electronically controlled engine
 - Lightweight engine using new materials
 - Alternative fuel engine
 - Hybrid Vehicle Engine System
 - Fuel injector (including electric pump)
 - Automotive emissions control equipment
 - Turbo charger system
 - Waste Heat Recovery Technology
 - Fuel cell stack and fuel throttle valve to generate power
 - Secondary Battery for Automobile (Use)
 - Diesel Particulate Filter (DPF)
 - Motor & Controller for EV
- Power transmission parts (Ministry of Knowledge Economy)
 - Automatic transmission with 6-speed and beyond
 - Self Adjusting Clutch
- Suspension system (electronic control suspension system) (Ministry of Knowledge Economy)
- Driving safety information equipment (Ministry of Knowledge Economy)

- Automatic driving devices
- HUD (Head up display)
- Navigation/Multi-information System
- Lane departure warning system
- Rear impact acceleration control Head Rest
- Tyre pressure monitoring system (TPMS)
- Compressed Hydrogen Storage & Fuel System
- Stack Monitoring System
- Battery Management System
- Body system (Ministry of Knowledge Economy)
 - Body made with high-safety new materials
 - Parts for light-weight car body (e.g. parts made with aluminium, plastic and light alloy)
- Intelligent vehicle parts (Ministry of Knowledge Economy)
- Balance of Plant for fuel cell
 - Fuel Processing System
 - Air Processing System
 - Thermal & Water Management System

6-5. Electronic and Electric Equipment

- (Control, intelligent or brushless) motor (Ministry of Knowledge Economy)
- Electronic control unit (ECU) (Ministry of Knowledge Economy)
- Secondary battery quick charger for vehicles (Ministry of Knowledge Economy)
- Emission reduction and auto test system (Ministry of Knowledge Economy)
- Electric Regenerative Braking System (Ministry of Knowledge Economy)

6-6. Design and Manufacture of Low Emission Vehicles

- Electric, Solar, Hydrogen vehicles (Ministry of Knowledge Economy)

<Train>

6-7. Design and Manufacture of Train and Parts

- Bullet train and parts (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Magnetic levitation train and parts (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Bullet train repair/maintenance, testing and track equipment and parts (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)

6-8. Design and Manufacture of Electric Locomotive and Parts

- Electric locomotive (exceeding 5,000 kW) and parts (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)

6-9. Design and Manufacture of Light Rail System and Parts

- Articulated bogie and parts (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Unmanned automatic operation system (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)

- Wireless Low-Floor Tram System(Ministry of Land, Transport and Maritime Affairs)

6-10. Design and Manufacture of Train Operation System and Parts

- Personal rapid transit system and parts (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Railway signalling system (e.g. ATO, ATC) and parts (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Tilting system of railway vehicles and parts (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Steerable bogie and parts (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)

<Elevator>

6-11. Design and Manufacture of Elevator/Escalator and the Parts

- High speed elevator (240m/min or faster) linear elevator, Ultra high speed elevator, Elevator with distributed control by module network and the key parts (Ministry of Knowledge Economy)
- Low noise escalator (55db or lower) and the key parts (e.g. Driving gear, Safety system) (Ministry of Knowledge Economy)

<Shipbuilding and Maritime Transport>

6-12. Design and Manufacture of Ships/Vessels and Offshore Structures Requiring High Technology

- Liquefied gas carrier (limited to -150℃ or lower) (Ministry of Knowledge Economy)
- Super-high-speed (50 knots or faster) and next generation ships/vessels (e.g. Super conductive electric propulsion ships/vessels, Fuel cell propulsion ships/vessels) (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Special ships/vessels (e.g. Midget submarine, Bathyscaphe, Waste cleaning ships/vessels), Nuclear-powered ships/vessels (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Welding machine for shipbuilding automation or painting robot controller and body, Laser welding machine for steep plate, Hybrid welding machine (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Essential machinery and materials of marine structures including Rig, Drillship, FPSO, LNG-FPSO, FSRU (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Source technology of LNG carrier cargo tank and Topside engineering technology (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Marine development equipment (e.g. Bathyscaphe, Resource collector) and related technology (e.g. Underwater measurement, Instrumentation apparatus, Underwater navigation system, Underwater communications) (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Big cruise ship (10,000 tons or more of total weight) (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Ice breaker, Drillship technology for Antarctic resources development, Design material winterization technology (Ministry of Knowledge Economy)
- Carbon Capture System of Ship (Ministry of Land, Transport and Maritime Affairs)

6-13. Design and Manufacture of Major Parts of High-Tech Engine

- Fuel cell engine (Ministry of Knowledge Economy)
- Hybrid engine (limited to fuels) (Ministry of Knowledge Economy)
- Electric control engine (Ministry of Knowledge Economy)
- Gas turbine for ships/vessels (Ministry of Knowledge Economy)

6-14. Design and Manufacture of High-Tech Ship/Vessel Materials and Parts

- Loading/unloading facilities for LPG carriers, control system and related parts/materials (Ministry of Knowledge Economy)
- Special propeller (e.g. Changeable pitch propeller, Duct propeller, Contrarotating propeller) and auxiliary equipment (Ministry of Knowledge Economy)
- High efficiency power system technology for ships/vessels (Ministry of Knowledge Economy)
- Automatic navigation, communications and high-tech control/measurement equipment (Ministry of Knowledge Economy)
- Automatic control and high-tech adjustment equipment (Ministry of Knowledge Economy)

7. Environment, Energy and Resources

<Environment and Safety>

7-1. Equipment and Technology for Air Pollutant Treatment

- Dust collector using high temperature ceramic filter technology (Ministry of Environment)
- Manufacturing technology of desulfurization catalyst and catalyst for treating waste gases from desulfurization facilities (Ministry of Environment)
- Technology to abate and recycle CO₂ from discharging facilities in large quantity (except biological/chemical CO₂ immobilization technology, CO₂ sequestration/capture technology and hydrogen production technology) (Ministry of Environment)
- Electron beam and plasma technology for hazardous gas treatment (Ministry of Environment)
- Desulfurization and denitrification technology by using absorbent and catalyst (Ministry of Environment)
- Catalyst technology for emission control of vehicles (Ministry of Environment)
- High-speed air current smoke consumer (Ministry of Environment)
- Integrated facility technology for collection-desulfurization-denitrification (Ministry of Knowledge Economy)
 - Integrated treatment facility for clearing air pollutant (fine dust particles, sulfur oxides, nitrogen oxide)

7-2. Equipment and Technology for Water Quality and Flow Discharge Management

- Unmanned automatic water sampling apparatus (Ministry of Environment)
- Manufacturing technology of osmotic membrane for waste water treatment/water purification, technology for ion separation and manufacturing membranes (Ministry of Environment)
- Medical controller of hydrogen ion concentration (Ministry of Environment)
- Biological and physicochemical purification technology of underground water (Ministry of Environment)
- Technology for leak detection and water detection device (Ministry of Environment)
- Surface water and ground water management technology (Ministry of Knowledge Economy)
 - Surface water flow and quality modeling
 - Ground water flow and quality modeling
 - Surface-ground water integrated modeling
- Water treatment technology by utilizing photooxidation catalyst (Ministry of Knowledge Economy)

- Advanced physico-chemical water treatment technology(Ministry of Knowledge Economy)

7-3. Waste Treatment (including development of facility), High-Technology for Recycling and Related Products

- Anaerobic digestion technology for organic waste (Ministry of Environment)
- Highly efficient ammonia stripping system with horizontally rotating blades and multi-staged counter-current flow method (Ministry of Environment)
- Low emission incineration technology (Ministry of Environment)
- Radioactive waste treatment technology (Ministry of Environment)
- Waste sulfuric acid technology (Ministry of Environment)
- Recycling equipment and technology including landfill gas capture, refining and power generation (Ministry of Environment)
- Gasification technology for melting by thermal decomposition (Ministry of Environment)
- Technology for restoration and stabilization of illegal landfills (Ministry of Environment)
- Recycling technology for mixed waste plastics (Ministry of Environment)
- Management technology for efficient treatment of domestic waste by crushing, selection, packaging and biological degradation (Ministry of Environment)
- Treatment technology of hazardous industrial waste (Ministry of Environment)
- Recycling technology and management system of waste (Ministry of Environment)
- Sludge treatment technology (Ministry of Environment)
- Co-combustion technology of dehydrated and dried sludge with waste treatment facilities (Ministry of Environment)

7-4. Petroleum Refining

- Petroleum degradation, desulfurization, vacuum distillation, hydrogenation and alkylation technology, Dimerization and aromatization technology, Sulfur and waste gas collecting technology, Oxygen compound production technology, Aromatic compound extraction technology (Ministry of Knowledge Economy)

7-5. Other Environment-friendly Products and Process Technology

- On-site aromatic measuring equipment and related technology of phytoplankton and technology (Ministry of Environment)
- Pollution measurement/monitoring/treatment technology and related products (Ministry of Environment)
- Conservation technology of earth environment (e.g. technology to develop and use CFC substitutes) (Ministry of Environment)
- Manufacturing technology of De-NOx facilities for boiler and NOx reduction technology (Ministry of Environment)
- De-Sox technology for the flue gas from boiler (Ministry of Environment)
- Technology for high efficiency combustion, process for utilization and efficient utilization of petroleum cokes or petroleum vacuum residue (Ministry of Environment)
- Fluidized bed incineration technology such as incineration of domestic waste or sewage sludge (Ministry of Environment)
- High efficiency coal combustion technology (e.g. Bituminous coal) (Ministry of Environment)
- Technology for process and utilization of coal (e.g. Bituminous coal) (Ministry of Environment)
- Technology for efficient use of coal fly ash (Ministry of Environment)
- Technology for efficient use of oil soot (Ministry of Environment)
- Separation technology of mixed waste plastic (Ministry of Environment)
- Dioxin reduction technology (Ministry of Environment)
- Sorting technology of glass by color (Ministry of Environment)

- Products and facilities for spreading natural gas vehicles (NGV) (Ministry of Environment)
- Other air, water and waste-related technology patented within 5 years (Ministry of Environment)
- Olefin/aromatic compound reduction technology (Ministry of Knowledge Economy)
- Equipment for continuous automatic measurement of colon bacillus (Ministry of Environment)
- Catalyst regeneration and treatment technology (Ministry of Knowledge Economy)
- Technology to treat/use solid and liquified state sulfur (Ministry of Knowledge Economy)
- Technology to recover/reuse for development/application of PFC and SF6 substitutes (Ministry of Knowledge Economy)
- Development of substances for replacing very high concern (SVHC) materials and parts (Ministry of Knowledge Economy)
- Eco-friendly acoustic absorbent technology for low frequency noise reduction (Ministry of Knowledge Economy)
 - Eco-friendly acoustic absorbent technology(preventing dust, increasing durability & thermal endurance) (Ministry of Knowledge Economy)
- Sampling machine or analyzer of metal contents for urban mine (Ministry of Knowledge Economy)
- Automation technology for sorting or dismantling of urban mine (Ministry of Knowledge Economy)

7-6. Manufacturing Industries of Cleaner Production

- Development technology of environment-friendly products and design with the concept of reducing and recycling pollution/waste considered from the initial designing stage (Ministry of Knowledge Economy, Ministry of Environment, Ministry for Food, Agriculture, Forestry and Fisheries)
- Improvement of processing technology or development of new processing technology to prevent or minimize pollutants from manufacturing process of factories (Ministry of Knowledge Economy, Ministry of Environment, Ministry for Food, Agriculture, Forestry and Fisheries)
- Alteration technology of raw/sub material generating pollutants during the production process (Ministry of Knowledge Economy, Ministry of Environment, Ministry for Food, Agriculture, Forestry and Fisheries)
- Development of technology and facilities for recycling, collecting and reusing by-product/waste generated from manufacturing and disposing processes of products (Ministry of Knowledge Economy, Ministry of Environment, Ministry for Food, Agriculture, Forestry and Fisheries)

<Energy and Resources>

7-7. Alternative Energy Technology and Facility

- Power generation technology and power generator (Ministry of Knowledge Economy)
 - Photovoltaic (e.g. Polycrystalline silicon materials manufacturing and equipment technology, Crystalline silicon solar cell manufacturing technology and equipment, Thin-film solar cell manufacturing and equipment technology, Organic compounds solar cell manufacturing and equipment technology, Solar cell building integrated and building materials technology, Photovoltaic solar power generation system evaluation technology)
 - Wind power (e.g. Wind power generation, Wind power generator)
 - Fuel cell power generation system
 - Small hydro power
 - Coal gasification
 - Current and tidal power (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
 - Wave power

- New fuel production technology (e.g. Bio energy, Hydrogen energy) (Ministry of Knowledge Economy, Ministry for Food, Agriculture, Forestry and Fisheries)
- Heat-using technology and facility (Ministry of Knowledge Economy)
 - Solar heat-using air conditioner/heating and power generation system, Geothermal and waste energy (RDF manufacturing and utilization equipment) (Ministry of Knowledge Economy)
- Coal liquefaction technology
- Bio mass energy-using technology and facility (Ministry of Knowledge Economy)
 - Methane gas/LFG production and facility
- Low-carbon energy(Carbon Capture & Storage)

7-8. Manufacture of other Engine and Turbine

- Combined cycle power generation facility (Ministry of Knowledge Economy)
- Tidal, wind and solar power generation facility (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Hydroelectric power generation facility (Ministry of Knowledge Economy)

7-9. Manufacture of Nuclear Reactor

- Nuclear power generation facility (Ministry of Knowledge Economy)

7-10. Power Generation

- Power generation technology, Fluidized bed combustion power generation technology, Magnetohydrodynamic (MHD) power generation technology (Ministry of Knowledge Economy)

7-11. Nuclear Power

- Creating technology of radioisotope / Design and manufacturing technology of research reactor (Ministry of Education, Science and Technology)
- Design, manufacture and operation technology of fuel for nuclear power generation / Design and manufacturing technology of nuclear power plant facility (Ministry of Knowledge Economy)

7-12. Power Transmission, Power Distribution and Electric Power Storage

- Direct current and ultra high pressure (765kV or more) electric power transmission technology (Ministry of Knowledge Economy)
- Large-capacity electric power storage technology (Ministry of Knowledge Economy)
- Electric power related superconductivity technology (Ministry of Knowledge Economy)
- Information infrastructure for electricity services and charging infrastructure for electric vehicles (Ministry of Knowledge Economy)
- Lithium Ion battery, cell, materials and their applications (Ministry of Knowledge Economy)

7-13. Petroleum Refining and Lubricant Manufacturing

- Lubricant base oil and lubricant (Ministry of Knowledge Economy)

7-14. Manufacture of Energy-Saving Facility

- Technology to manufacture window that controls transmitted light (Ministry of Knowledge Economy)
- Non-contact temperature sensing technology (Ministry of Knowledge Economy)
- Highly efficient transformation technology by reheating cycle (Ministry of Knowledge Economy)

- Manufacturing technology for a compound reactor equipped with high resolution filter (Ministry of Knowledge Economy)
- Aluminium scrap refining technology (Ministry of Knowledge Economy)
- Energy-saving manufacturing technology of fine ceramic material (Ministry of Knowledge Economy)
- 2-component heating medium hybrid power generation technology (Ministry of Knowledge Economy)
- Heat exchanger/heat pump manufacturing technology(Domestic appliances an exception) (Ministry of Knowledge Economy)
- High efficiency energy machinery and material manufacturing technology (Ministry of Knowledge Economy)
- Energy-saving alternative refrigerant cooling technology (Ministry of Knowledge Economy)

7-15. Manufacture of Resources Exploration Machinery Manufacture and Technology

- Groundwater monitoring system machinery (Ministry of Knowledge Economy)
- YBM disk cutter machinery (Ministry of Knowledge Economy)
- Deep geothermal energy exploration machinery (Ministry of Knowledge Economy)
- Remote exploration machinery, Gravity/magnetism and elastic wave exploration machinery, Formation altitude logging machinery such as specific nonresistance/SONIC/neutron/density difference (Ministry of Knowledge Economy)

8. Construction and Social Infrastructure

8-1. New Construction Materials and New Materials

- Ultra high strength concrete manufacturing and construction technology (Ministry of Land, Transport and Maritime Affairs)
- Super flowing concrete manufacturing and construction technology (Ministry of Land, Transport and Maritime Affairs)
- High strength lightweight concrete manufacturing and construction technology (Ministry of Land, Transport and Maritime Affairs)
- Antibacterial building material manufacturing technology (Ministry of Land, Transport and Maritime Affairs)
- Industrial byproduct/construction waste recycling, building material development and construction technology (Ministry of Land, Transport and Maritime Affairs)
- Artificial lightweight aggregate manufacturing technology (Ministry of Land, Transport and Maritime Affairs)
- Fiber reinforced concrete manufacturing technology (Ministry of Land, Transport and Maritime Affairs)
- Polymer concrete manufacturing technology (Ministry of Land, Transport and Maritime Affairs)
- Grass concrete manufacturing technology (Ministry of Land, Transport and Maritime Affairs)
- Transparent sound wall manufacturing technology (Ministry of Land, Transport and Maritime Affairs)
- System window design and manufacturing technology (Ministry of Land, Transport and Maritime Affairs)
- Honeycomb building material technology (Ministry of Land, Transport and Maritime Affairs)
- Artificial wood and processing technology (Ministry of Land, Transport and Maritime Affairs)
- Hot-water heating substitutes and technology (Ministry of Land, Transport and Maritime Affairs)
- Building repair/reinforcement materials and technology (Ministry of Land, Transport and Maritime Affairs)

8-2. Construction Machinery Automation and Robotization

- Automated construction machinery (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Steel beam welding robot (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)

- Plastering robot (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Underwater construction robot (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Bridge inspection robot (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Investigation system of underground structure (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)

8-3. Construction Method and Equipment Technology

- Intelligent building energy-saving system and individual air-conditioning/heating system (Ministry of Land, Transport and Maritime Affairs)
- Unattended security system for apartment buildings (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- CAD and manufacturing automation of steel members (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Construction base isolation system and high-rise building structure system (Ministry of Land, Transport and Maritime Affairs)
- Non-destructive inspection machinery for civil structures and buildings (Ministry of Land, Transport and Maritime Affairs)

9. Food Sector

9-1. Food Resources & Materials

- Manufacturing technologies of new food materials based on fermentation & enzyme treatments (Ministry for Food, Agriculture, Forestry and Fisheries)
- Food additives substitutes (sugar, salt, MSG, etc.) (Ministry for Food, Agriculture, Forestry and Fisheries)
- Nanosizing technologies for food ingredients (Ministry for Food, Agriculture, Forestry and Fisheries)
- Natural food additives to prevent discoloration and quality degradation (Ministry for Food, Agriculture, Forestry and Fisheries)
- Functionality adding technologies using bioconversion (Ministry for Food, Agriculture, Forestry and Fisheries)

9-2. Food Manufacturing & Processing

- Nonthermal food processing technologies (untra-high-pressure, electric field, ultrasound, pulsed light, UV) (Ministry for Food, Agriculture, Forestry and Fisheries)
- Moisture control & restoration technologies of dried and frozen food (Ministry for Food, Agriculture, Forestry and Fisheries)
- Development and application of anti-freezer (Ministry for Food, Agriculture, Forestry and Fisheries)
- Processing & preservation technologies using hurdle concepts (Ministry for Food, Agriculture, Forestry and Fisheries)
- Fresh food processing techniques using light and photooxidation (Ministry for Food, Agriculture, Forestry and Fisheries)
- Quality control of fresh perishable foods (Ministry for Food, Agriculture, Forestry and Fisheries)
- Minimal processing for organic foods (Ministry for Food, Agriculture, Forestry and Fisheries)
- Food quality monitoring sensors (Ministry for Food, Agriculture, Forestry and Fisheries)
- Green & active packaging materials (Ministry for Food, Agriculture, Forestry and Fisheries)

9-3. Food Safety Management

- Sample preparation techniques based on immunomagnetic attraction for detection of risk factors in food (Ministry for Food, Agriculture, Forestry and Fisheries)
- Functional nanomaterial production technologies for high-sensitive detection of risk factors in food (Ministry for Food, Agriculture, Forestry and Fisheries)
- Receptor production & solid surface modification technologies for high-sensitive detection of risk factors in food (Ministry for Food, Agriculture, Forestry and Fisheries)
- Food biosensors & rapid detection kits for risk factors in food (Ministry for Food, Agriculture, Forestry and Fisheries)
- Nondestructive real-time detection technology for risk factors in food (Ministry for Food, Agriculture, Forestry and Fisheries)
- Elimination & reduction technologies of risk factors in food (Ministry for Food, Agriculture, Forestry and Fisheries)
- Risk assessment technologies for food (Ministry for Food, Agriculture, Forestry and Fisheries)

9-4. Food Manufacturing Machinery and Equipment

- Ultrasound emulsifier (Ministry for Food, Agriculture, Forestry and Fisheries)
- Supercritical extraction unit and oil recycling equipment (Ministry for Food, Agriculture, Forestry and Fisheries)
- Food powder and liquid homogenizer (Ministry for Food, Agriculture, Forestry and Fisheries)
- Automated filling machine for aseptic packages (Ministry for Food, Agriculture, Forestry and Fisheries)
- Manufacturing facilities for sterilized & frozen pre-cooked rice (Ministry for Food, Agriculture, Forestry and Fisheries)
- Machinery & equipment for novel food processing (freeze-drying with electromagnetic field and vacuum drying with infrared irradiation, etc.) (Ministry for Food, Agriculture, Forestry and Fisheries)

Part 2. Industry Support Services

1. Electronics, Information and Electricity

1-1. Information Process and Computer OS Technology

- System Integration (SI), system management/operation (including outsourcing) and technical advice (Ministry of Knowledge Economy)
- LAN, MAN, WAN and digital communication network technology (Ministry of Knowledge Economy)
- Database management system (DBMS) engine development (Ministry of Knowledge Economy)
- Information technology solution or package development (Ministry of Knowledge Economy)
- Information communication product test and certification technology (Ministry of Knowledge Economy)

1-2. Software Development and Manufacturing Technology

- System software {e.g. Distributed processing technology, Communication processing and operation, Large automatic processing algorithm, Security management program, OS (e.g. Kernel, Device Driver), OS connection to input/output devices, Internet/Intranet technology} (Ministry of Knowledge Economy)
- Application software {e.s. Custom software, Presentation software, Packaging technology, Multimedia software such as game, video and sound, Computational science technology, Natural language dialogue processing technology, Machine language translation technology, Self-inspection/Self-restoration technology, Human interface (voice, letter and image recognition), Analysis software} (Ministry of Knowledge Economy)

- Development tool program (Ministry of Knowledge Economy)
- Cloud-computing, virtualization, big data processing technology (Ministry of Knowledge Economy)

1-3. Computer-Aided Automatic Management System Technology

- Intelligent building communication services and OA system operation/management services (Ministry of Knowledge Economy)
- Logistics automation system and security management system such as POS, automatic identification (Ministry of Knowledge Economy)
- Expert System (Ministry of Knowledge Economy)
- Biometric technology including iris recognition, facial recognition, fingerprint recognition (Ministry of Knowledge Economy)
- Radio Frequency Identification/Ubiquitous Sensor Network System (Ministry of Knowledge Economy)
- Technology related to Data Center
 - Dynamic workload balancing technology for high capacity IT resource Pool
 - Energy control tech for Green Data Center
 - Green Data center operation tech
 - Cloud data center operation tech

1-4. e-Commerce Technology

- e-commerce-based software technology (Ministry of Knowledge Economy)
 - e-Catalog technology
 - Electronic-store development software technology
 - e-payment system technology
 - Digital signature technology
 - Business component technology
 - Electronic cash technology
 - Digital copyright management technology
 - Wireless Internet authoring technology
 - Other home-grown or uncommercialized software technology to establish e-commerce system
- e-Commerce application software technology (Ministry of Knowledge Economy)
 - Product information search technology
 - XML-based e-commerce technology
 - Customer relations management (CRM)
 - Supply chain management (SCM)
 - Digital content distribution technology
 - XML/EDI interlocking technology
 - Contractor integrated technical information service (CITIS)
 - 3-Procurement technology
 - e-Marketplace technology
 - Other home-grown or uncommercialized technology

2. Engineering Services

2-1. Other Engineering Services

- System integration and engineering technology (including business management) (Ministry of Knowledge Economy)
- FMS and CIM operation/control system, FMS and CIM information management system (Ministry of Knowledge Economy)
- Advanced design automation system (e.g. CAD/CAM/CAE), Logistics management system (Ministry of Knowledge Economy)
- Standard communication system and interface satisfying international and domestic requirements (Ministry of Knowledge Economy)
- Technical support for industrial diesel engines and parts, Diesel engines and parts for vehicles and natural gas engine (e.g. CNG engine, Dual fuel engine) (Ministry of Knowledge Economy)
- Technical support for design, test and remodeling of aircraft, spaceship, their parts and testing equipment (Ministry of Knowledge Economy, Ministry of Education, Science and Technology)
- Research and development business on production automation technology (Ministry of Knowledge Economy)
- Research and development business on design and manufacturing process of mechatronics (Ministry of Knowledge Economy)
- Local air-conditioning/heating engineering technology (Ministry of Education, Science and Technology)
- Operation and repair/maintenance technology of test/inspection, measurement and evaluation machinery relating to geotechnical/geological information acquisition (Ministry of Education, Science and Technology)
- Chemical management service (CMS) (Ministry of Knowledge Economy)

3. Fishing

3-1. Aquaculture Services

- Operation and management consulting of advanced aquacultural facility (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs, Ministry for Food, Agriculture, Forestry and Fisheries)

3-2. Aquaculture and Larval Rearing

- Larval rearing technology (promotion/guidance/education of larval rearing technology for a breed undeveloped or uncommercialized in Korea) (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs, Ministry for Food, Agriculture, Forestry and Fisheries)
- Farming technology (promotion/guidance/education of farming technology of a breed undeveloped or uncommercialized in Korea) (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs, Ministry for Food, Agriculture, Forestry and Fisheries)

4. New Materials, Fine Chemicals and Biotechnology

4-1. Technology relating to Pharmaceutical Raw Materials and Research/Diagnostic Reagents

- Technology to support development of new material for pharmaceuticals (including cosmetics) {e.g. New material and synthesis technology, Laboratory animal development and breeding technology, Preclinical trial technology (e.g. New material evaluation technology)} (Ministry of Knowledge Economy, Ministry for Health and Welfare)
- Technology to support development of new pesticide (e.g. New pesticide Screening technology, Safety evaluation method for human, livestock and environment) (Ministry of Knowledge Economy, Ministry for Food, Agriculture, Forestry and Fisheries)
- Clinical trial technology (Ministry for Health and Welfare)

- Technology for process and factory design in pharmaceutical(including cosmetics) industry (Ministry of Knowledge Economy, Ministry for Health and Welfare)

4-2. Biological Product (except Blood Product) Technology

- New useful material screening technology (Ministry of Knowledge Economy, Ministry for Health and Welfare, Ministry for Food, Agriculture, Forestry and Fisheries)
- Technology to support development of biological products {e.g. New biological product screening, culture and formulation technology, Laboratory animal development and breeding technology, Preclinical trial technology (e.g. New biological product evaluation technology)} (Ministry of Knowledge Economy, Ministry for Health and Welfare)
- Biological product clinical trial technology (Ministry for Health and Welfare)
- Bioinformatics technology (Ministry of Knowledge Economy, Ministry for Health and Welfare)
- Production process and factory design technology of biological products (Ministry of Knowledge Economy, Ministry for Health and Welfare)

4-3. Technology for Process and Factory Design and System in Biotechnology Industry (Ministry of Knowledge Economy, Ministry for Health and Welfare)

4-4. Advanced Medical Examination Service

- Medical equipment for remote diagnosis/treatment (Ministry of Knowledge Economy, Ministry for Health and Welfare)
- Electronic medical information management system (Ministry of Knowledge Economy, Ministry for Health and Welfare)

4-5. Bioequivalence Testing Technology (Ministry for Health and Welfare)

5. Optical and Medical Equipment

5-1. Medical Device Technology

- Technology to support development and clinical trial of new medical devices (Ministry of Knowledge Economy, Ministry for Health and Welfare)
- Technology of manufacturing process and process design of medical device (Ministry of Knowledge Economy, Ministry for Health and Welfare)

6. Transport

6-1. Auto Vehicle Test, Inspection and Analysis (Ministry of Knowledge Economy)

6-2. Business of Design and Classification of Offshore Structures and Ships/Vessels requiring High-Technology and Business of Special Test, Measurement, Evaluation, Inspection, Repair and Engineering Analysis of Ships/Vessels and Offshore Structures

- Design and classification technology of ships/vessels requiring high technology defined in 6-13, Part 1. (Ministry of Knowledge Economy)
- Special test, measurement, evaluation, inspection, repair and engineering analysis technology for ships/vessels and offshore structures (Ministry of Knowledge Economy)

7. Environment, Energy and Natural Resources

7-1. Technology for Management of Water Quality and Quantity

- Biological and physicochemical methods for purification of underground water (Ministry of Environment)
- Equipment or technology for detection of water leakage (Ministry of Environment)

7-2. Other Environment related Services

- Prevention and restoration technology for soil pollution (Ministry for Food, Agriculture, Forestry and Fisheries, Ministry of Environment)
- Environment-based technology (Ministry of Environment)
- Marine environment conservation technology (e.g. Technology to improve coastal fishing ground environment, Environmental restoration technology, Red tide control technology, Marine environment monitoring technology, Technology for oil spill pollution management) (Ministry of Environment, Ministry of Land, Transport and Maritime Affairs)
- Ecological environment management technology (e.g. Ecosystem monitoring technology, Ecosystem restoration technology, Wetland preservation technology) (Ministry of Environment, Ministry of Land, Transport and Maritime Affairs)

7-3. Safety Management System (Ministry of Knowledge Economy)

7-4. Power Generation A/E (Ministry of Knowledge Economy)

7-5. Nuclear Power

- Operation, maintenance, dismantlement technology of nuclear power plant and reactor for research (Ministry of Education, Science and Technology, Ministry of Knowledge Economy)
- Transport, storage, process and disposal technology of radioactive waste (including used nuclear fuel) (Ministry of Education, Science and Technology, Ministry of Knowledge Economy)
- Nuclear energy application and testing technology (Ministry of Education, Science and Technology, Ministry of Knowledge Economy)
- Nuclear energy safety measure technology (Ministry of Education, Science and Technology)

7-6. Gas Production and Pipeline Supply

- Technology to design, build and operate LNG receiving terminals and facilities (Ministry of Knowledge Economy)

7-7. Construction of Underground Electricity and Heat Energy Storage

- Underground compressed air energy storage (CAES) and compressed gas energy storage (CGES) (Ministry of Knowledge Economy)
- Heat regeneration technology (Ministry of Knowledge Economy)
- Water-bearing formation storage technology (Ministry of Knowledge Economy)

7-8. Natural Resources Development

- Ground subsidence prevention and underground space utilization technology (Ministry of Knowledge Economy)
- Mine safety technology (e.g. Ventilation, Drainage, Fire prevention) (Ministry of Knowledge Economy)
- Mining machine automation and remote control technology (e.g. Mining, Digging, Transporting and Dressing) (Ministry of Knowledge Economy,

- Ministry of Land, Transport and Maritime Affairs)

8. Construction and Social Infrastructure

8-1. Construction Method and Equipment Technology

- Structure demolition method (Ministry of Land, Transport and Maritime Affairs)
- Expert system to control equipment system (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Building construction automation (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Artificial ground establishment technology (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Building maintenance/reinforcement technology (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Technology for non-destructive inspection and diagnosis of civil structures and utilities (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)

8-2. Advanced Traffic Technology

- Obstacle and lane sensing technology (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- High speed traffic information analysis and sending/receiving technology (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Signal, safety, traffic control and warning system (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Driving information support technology (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Technology for traffic control signaling system establishment (Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)

8-3. Social Infrastructure

- Application system manufacturing technology by satellite navigation system (e.g. GPS, DGPS, NDGPS, WADGPS, Time synchronization side information) (Ministry of Education, Science and Technology, Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Artificial island design and development technology (Ministry of Land, Transport and Maritime Affairs)
- Immersed tunnel design and construction technology (Ministry of Land, Transport and Maritime Affairs)
- Marine ranch and development technology (Ministry of Land, Transport and Maritime Affairs)
- Wave power energy conversion breakwater design and construction technology (Ministry of Land, Transport and Maritime Affairs)
- Integrated structure safety diagnosis system (Ministry of Land, Transport and Maritime Affairs)
- Satellite image, radar image and aerial image processing technology (Ministry of Education, Science and Technology, Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- GIS application technology (Ministry of Education, Science and Technology, Ministry of Land, Transport and Maritime Affairs, Ministry of Knowledge Economy)
- Design and construction technology for base-isolated structure of bridge (Ministry of Land, Transport and Maritime Affairs)

- Low-dust tunnel lining construction technology (Ministry of Land, Transport and Maritime Affairs)
- Precision construction technology for mass concrete structures such as nuclear power plant (Ministry of Land, Transport and Maritime Affairs)
- Road snow melting system using solar heat and stored heat energy (Ministry of Land, Transport and Maritime Affairs)
- Social infrastructure landscape design technology (Ministry of Land, Transport and Maritime Affairs)
- Eco-friendly river design technology (Ministry of Land, Transport and Maritime Affairs)
- Leakage detection and safety evaluation technology for hydraulic structures (e.g. Dam, Water supply tunnel) (Ministry of Land, Transport and Maritime Affairs)

9. Digital Contents Industry

<Game>

9-1. Mobile Game

- Mobile 2D/3D game engines (e.g. Firmware math library for individual mobile device, Basic graphics & sound library, Optimized algorithm for individual hardware) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- Mobile device development tools (e.g. Map editor, Character & Motion editor) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- Online technology for mobile devices (e.g. Connectivity with existing communication network, Wire/Wireless mobile technology, Subnetworking technology, Cloud based mobile game technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)

9-2. PC and Online Game

- PC and online 3D game engines (e.g. 3D graphic, Sound, Animation processing technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- Distributed server-related technology (e.g. Massive game space management technology, Distributed processing system, Simultaneous multiple access management technology, Auto backup and continuity technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- Online 3D space-based map authoring technology (e.g. Game script, Game space editing, Authoring technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- Expression of physical-based game space and interaction technology (e.g. Physics algorithm, Intelligent object processing technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- Special effect production and authoring technology (e.g. Directing and editing technology of special effects such as particle) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)

9-3. Game Console

- 3D game engines for console platform (e.g. Platform 3D game engines released by individual makers, SDK and API development as the middleware for platform 3D game engines) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- Development of online server engines for consoles (e.g. Specific protocol and network technology, Game server technology to support high performance and dilation, Diverse game server integration technology, Game data integration technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)

- Technology of automatic data conversion for console games (e.g. Standard format development to secure compatibility of game data, Technology for data conversion of commercial authoring tool and plug-in development) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)

9-4. Arcade Game

- Universal board and engine production technology for arcade 3D games (e.g. PC-based universal 3D game board production technology, 3D graphic, sound, technology for network processing between appliances) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- IVR interface technology for arcade (e.g. Manufacturing technology of interface device reactive to 5 human senses) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- Arcade game engine production technology (e.g. Contents loading, Interface control, Communication technology between appliances) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)

<Motion and Motion Picture>

9-5. Computer Graphics/Animation

- Modeling technology (e.g. Polygon-/live action-/actual measurement-based modeling technology, Mobile 3D scanning technology, Geometry compression technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- Animation technology (e.g. Motion capture, Motion modification, Non Linear Animation (NLA) technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- Rendering technology (e.g. Live action-based rendering, Color science, Surface style reproduction of object, Non-photorealistic rendering technology, Cineatic rendering) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- Digital character(actor) processing technology (e.g. Digital character acting, Emotion and interaction processing, Digital extra technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- Simulation technology(e.g. Physics based simulation, Environment based simulation) (Ministry of Culture, Sports and Tourism)
- Stereo 3D production (e.g. stereo 3D shooting technique, stereo 3D operating) (Ministry of Culture, Sports and Tourism)

9-6. Post-Production

- Video editing (e.g. Non-linear editing technique, 2D/3D image transition technique, Stereo 3D editing technique, stereo 3D conversion, Human factor based stereo 3D revision technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy))
- CG-live action synthesis (e.g. Virtual studio, Optical compositing, Camera information extraction, Lighting conditions, Color matching technique) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy))
- Sound production (e.g. Special sound effects, Image/sound synchronization technology, 3D sound production technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy))
- Digital Imaging Production Technology (Digital Intermediate) (Ministry of Culture, Sports and Tourism)

<Virtual Reality Contents>

9-7. Immersive/Sensible Virtual Reality (VR) Contents

- Immersive VR contents production technology (e.g. Mixed/Augmented reality technology, Stereophonic motif production technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy)
- Immersive VR display technology (e.g. 3D image processing technology, High-quality image processing technology, Real-time image processing technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy))
- Sensible VR contents production technology (e.g. Biometric signal processing, Wearable computing technology, Five-sense interface technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy))

9-8. Web 3D Contents

- Web 3D browsing technology (e.g. 2D/3D virtual object representation technology, Web 3D space navigation technology, Technology for process interaction with Web 3D object, Massive web contents loading technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy))
- Web 3D contents authoring technology (e.g. Virtual reality/model data building, Virtual object interaction authoring, Web 3D contents production technology, HTML5 based Web 3D contents technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy))
- Web 3D contents service technology (e.g. Flash, ASP, PHP integration technology, Integrated service technology) (Ministry of Culture, Sports and Tourism, Ministry of Knowledge Economy))

<Cultural Contents>

9-9. Cultural Contents Planning and Design Technology

- Cultural content information design technology {e.g. Design technology of visual image, music/sound, texture and aroma (e.g. Virtual space design technology, Digital sound and object design technology, Design integration technology), Emotional design interface technology (e.g. Technology for emotion in-/output, Emotion measurement/Quantification technology, Design trend analysis/prediction technology, Design value assessment technology)} (Ministry of Culture, Sports and Tourism)
- Cultural content authoring tool development {e.g. Authoring technology, Automation technology, Co-authoring technology} (Ministry of Culture, Sports and Tourism)
- Cultural content standardization technology (Ministry of Culture, Sports and Tourism)

9-10. Cultural Content Production Technology (Commercialization)

- Cultural content enrichment technology {e.g. Sound technology (e.g. Stereophonic sound technology, Multi-channeling technology, Sound production and editing technology), Graphics technology (e.g. Photo-realistic modeling and rendering technology, 3D image synthesis and editing technology), Virtual reality technology (e.g. 2D and 3D object creation technology, Five-sense interaction technology)} (Ministry of Culture, Sports and Tourism)
- Cultural content production and application technology development {e.g. Production and application technology development of animation, character, cartoon, music, game, mobile/Internet content, broadcasting, virtual reality, 3D graphics and public performance} (Ministry of Culture, Sports and Tourism)

9-11. Cultural Contents Storage, Transmission and Distribution Technology

- Cultural content storage and computer-search technology utilizing network transmission, package transmission and broadcasting transmission (Ministry of Culture, Sports and Tourism)

9-12. Cultural Content Service Technology

- User interface technology {e.g. Media equipment design technology} (Ministry of Culture, Sports and Tourism)
- Technology for copyright protection, piracy prevention and fee charge (Ministry of Culture, Sport and Tourism)

10. Other Industrial Support Services

10-1. Research and Development Industry

- Research and development business of semiconductor packaging technology (Ministry of Knowledge Economy)
- Research and development on digital mobile communication, satellite communication and satellite broadcasting products (including terminals) Ministry of Education, Science and Technology, Ministry of Knowledge Economy)
- Research and development on digital paging subscriber product (Ministry of Knowledge Economy)
- Research and development on automation of semiconductor production (Ministry of Knowledge Economy)
- Research and development on semiconductor environment safety technology (Ministry of Knowledge Economy)
- Research and development on semiconductor reliability technology (Ministry of Knowledge Economy)
- Research and development on nanotechnology products (Ministry of Knowledge Economy)
- CRO (Ministry of Knowledge Economy)
- Analysis of medicinal effect and safety test for medicine and cosmetics (Ministry of Knowledge Economy)

10-2. Engineering Service Industry (limited to Social Overhead Capital) (Ministry of Knowledge Economy, Ministry of Education, Science and Technology)

10-3. Lease and Maintenance Services for High Technology Business Facilities (Related Ministries)

10-4. Logistics

- Loading/unloading business at container terminals meeting specific standards {quay wall: 300m, frontal water depth: (-12m), total area 120,000 m²} (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs, Ministry of Land, Transport and Maritime Affairs)
- Logistics standardization, automation and informatization (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Joint logistic business that develops and operates logistic facilities to efficiently process cargoes or products from 2 or more companies. {limited to the business using high-tech logistic equipment such as unmanned cart and robot palletizer and a logistic information system such as Warehouse Management System (WMS)} (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)
- Integrated logistics that provides comprehensive logistic services such as transport, storage, loading/unloading, packaging, freight forwarder and logistic consulting {limited to the business operating comprehensive logistics management system such as satellite positioning system and supply chain management (SCM) and using standardized logistic equipment and vehicles} (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)

10-5. Radar-based Precipitation Measurement and Forecast Technology Services (Ministry of Knowledge Economy, Korea Meteorological Administration)

10-6. Private Technical Institutes

- Private institutes which nurture highly educated manpower working in the fields of high technology business and industrial support services. (Ministry of Knowledge Economy)
 - Private institutes teaching technology defined in 1-1, 1-2, 1-3, 1-5, 3-13, 3-14, 3-15, 6-1 and 6-2 of Part 1.

- Private institutes teaching technology defined in 1-1, 1-2, 1-3, 1-4 and 2-1 of Part 2.
- Private institutes teaching computer assisted design (Ministry of Knowledge Economy)

10-7. Airman Education and Training Institutes (Ministry of Knowledge Economy, Ministry of Land, Transport and Maritime Affairs)

10-8. Wholesale Business among Logistics

- Product research and development facility, Product test facility, Headquarter operation system, Electronic ordering system, EDI-based purchase, Product development business (Ministry of Knowledge Economy)
- Retail support business (Ministry of Knowledge Economy)
 - POS data service business for product purchase and display, Shop management program, Pilot operation of a retail store

(Reference: No. 2, 외국투자법인법인세등감명사업업종 \ 외국인투자기업업무사례 \ 신고&세무실무, 기획재정부 홈페이지 (www.mosf.go.kr)의 법령→고지)