

# NEWSLETTER

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Intellectual Property Group

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## The MOTIE Amends Public Notice on Designation of NCT

The Public Notice on Designation of NCT (the **NCT Public Notice**) provides a detailed list of National Core Technology (NCT) protected under the Act on Prevention of Divulgence and Protection of Industrial Technology (the **Industrial Technology Protection Act**). Recently, the Ministry of Trade, Industry and Energy (MOTIE) amended the Public Notice, which has been in effect since **July 5, 2024**.

Under the Industrial Technology Protection Act, technologies that, if and when leaked overseas, could adversely affect national security and economy are designated as NCT and regulated. The goal is to prevent Korean companies' technologies in need of protection at the national level from leaking overseas and to protect such technologies. Prior to this recent amendment, 75 technologies in 13 fields, including semiconductors, displays, and automobiles, were designated as NCT. Now with the latest amendment to the NCT Public Notice, 4 technologies in the fields of nuclear energy, machinery, and automobiles & railways have been newly designated as NCT whereas 3 technologies in the nuclear energy field have been de-designated. Also, 24 technologies in 8 fields, including semiconductors, electrical & electronic, and automobiles, have been renamed.

Companies that own NCT come under the purview of the Industrial Technology Protection Act, which include, among others, **(i) implementation of protective measures** (Article 10 of the Industrial Technology Protection Act), **(ii) government review in the case of technology export** (Article 11 of the same Act) and **(iii) government review in the case of overseas mergers and acquisitions** (Article 11-2 of the same Act). Technology-centric companies should exercise added vigilance when dealing with technologies designated as NCT under the NCT Public Notice.

### 1. Technologies Newly Designated as NCT

4 technologies in the fields of nuclear power, machinery, and automobiles & railways have been newly designated as NCT in recognition of the need to protect them as NCT, given their competitive advantage and growth potential.

Field	Name of Technology Newly Designated as NCT
Nuclear Power	Rubber-based seismic isolation technology of nuclear power plant structure design for mitigating seismic forces in excess of the design
	Atmospheric pressure sintering and high temperature oxidation resistance enhancement technology for TRISO-SiC nuclear fuel
Machinery	Hydrogen combustion design and manufacturing technology of gas turbine for power generation
Automobiles & Railways	Body design, analysis and manufacturing technology for high-speed railway vehicles

## 2. Technologies De-Designated from NCT

A total of 3 technologies in the nuclear power field, which have been deemed to not require protection due to their becoming common and generally known, have been de-designated from NCT.

Field	Name of Technology Prior to De-designation
Nuclear Power	Nuclear passive auxiliary water supply system technology
	Telecommuting visual inspection technology on secondary side of nuclear steam generator
	Reactor output control system technology for new-type light water reactor

## 3. NCT that Have Been Renamed

To clarify the scope of the technology, the names of 24 technologies in 8 fields, including semiconductors, electrical & electronic and automobiles, have been changed. This renaming is a response to comments consistently raised by the relevant industries that the names lack clarity and ambiguous.

Field	Pre-Amendment	Post-Amendment
Semiconductor (1)	Design, process, and device technologies applicable to multi-layer 3D NAND flash or 30 nanometer or less	Design, process, and device technologies applicable to multi-layer <b>of 64 or more layers</b> 3D NAND flash
Electrical & Electronic (2)	Design, manufacture and process technology of cathode material with nickel content exceeding 80% for lithium secondary battery	Design, manufacture and process technology of cathode material <b>(including precursor)</b> with nickel content exceeding 80% for lithium secondary battery
	Design, process, manufacture and assessment technology of ultra-high performance electrode or solid electrolyte-based lithium secondary battery of 600mAh/g or higher	Design, process, manufacture and assessment technology of <b>next-generation lithium secondary battery (including ultra-high performance electrode of 600mAh/g or higher)</b>

Automobiles & Railways (3)	Design and manufacturing technology of diesel engine fuel injection unit, supercharge system and exhaust gas post-treatment unit (DPF, SCR only) of Euro 6 standard or higher	Design and manufacturing technology of diesel engine fuel injection <b>system</b> , supercharge system and exhaust gas post-treatment <b>system</b> of Euro 6 standard or higher
	Design and manufacturing technology of high speed train power system with speed of 350km/h or higher (limited to AC induction motor, TDCS control diagnosis and main power converter technology)	<b>Design and manufacturing technology of power system and control diagnosis for high speed trains (limited to technology for controlling general control system of towing motor, main power converter, vehicle, train comprehensive control device)</b>
	Design and manufacturing technology of core parts and systems of autonomous vehicles (limited to camera systems, Radar systems, Lidar systems and precision location detection systems)	Design and manufacturing technology of core parts and systems of autonomous vehicles (limited to camera systems, Radar systems, Lidar systems and precision location detection systems <b>with commercialization of less than 3 years</b> )
Steel (3)	Rebar/formed steel manufacturing technology with a yield strength of 600 MPa or more [only for low carbon steel (0.4% C or less) manufactured by electric furnace method].	Manufacturing technology for rebar with a yield strength of <b>700 MPa or higher</b> and for formed steel with <b>a tensile strength of 650 MPa or higher</b> [only for low carbon steel (0.4% C or less) manufactured by electric furnace method]
	Manufacturing technology for TWIP steel with manganese (> 10% Mn) for high machining applications	Manufacturing technology for <b>special</b> steel with manganese (> 10% Mn) for high machining applications
	AI-based ultra-precise plating control technology (0.1 μm resolution)	Ultra-precise plating control <b>facility and design and control</b> technology (0.1 μm resolution)
Shipbuilding (5)	Design technology for high value-added vessels (mega container ships, cryogenic liquefaction tankers, mega cruise ships, vessels sailing through ice-covered waters, gas-fueled and electric-powered propulsion vessels, etc.) and for offshore systems (offshore structures and offshore plants, etc.)	Design technology for high value-added vessels (mega container ships, cryogenic liquefaction tankers, vessels sailing through ice-covered waters, <b>green-fueled propulsion vessels</b> , electric-powered propulsion vessels, etc.) and for offshore systems ( <b>offshore workboats</b> , offshore structures and offshore plants, etc.)
	Design and manufacturing technology of liquefied gas cargo hold and fuel tank	Design and manufacturing technology of liquefied gas cargo hold and fuel tank ( <b>design, manufacturing, maintenance and repair technology of barriers, insulation systems and pump towers</b> )
	Block mounting technology for ships and offshore structures of at least 3,000 tons and construction technology of ships and offshore structures on land	Block mounting technology for ships and offshore structures of at least 3,000 tons and construction technology of ships and offshore structures on land ( <b>precision control, safety control, and interlocking control technology</b> )

Shipbuilding (5)	Autonomous operation (economic operation, safe operation, etc.), navigation automation and integrated control system technology for ships	Autonomous vessel operation (Situational awareness, intelligent navigation, digital bridges and integration platforms, onboard and offboard communication and security, etc.), and integrated control and management system technology for ships
	Manufacturing technology of fuel supply system, re-liquefaction and re-gasification system for gas fuel propulsion vessel	Design, process and manufacturing technology of fuel supply system for transportation of eco-friendly fuel (low-carbon and zero-carbon) and eco-friendly fuel propulsion vessel, cargo management system, re-liquefaction and re-gasification system
Aerospace (2)	Design technology of ultra high resolution (50cm at 500Km altitude) optical satellite high speed start-up posture precision control system	Ultra high resolution (50cm or less at 500Km altitude) optical satellite high speed start-up posture precision control and determination technology
	Technology for assembling, aligning, and inspecting electronica optical cameras having diameter of 1m or more installed on a satellite	Technology for manufacturing and assembling electronic optical cameras having diameter of 1m or more installed on a satellite
Machinery (5)	Reliability design and manufacturing technology for medium and large excavators	Reliability design, verification and manufacturing technology for medium and large excavators of 20 tons or more
	Design technology of diesel engine and post-treatment system satisfying Tier 4F exhaust regulation for off-road	Design technology of industrial diesel engine and post-treatment system satisfying Tier 4F and Stage-V exhaust regulation for off-road
	Design and manufacturing technology of load sensitive hydraulic transmission for tractors	Design and manufacturing technology of load sensitive hydraulic automatic transmission for tractors
	High efficiency turbo compressor technology for low GWP refrigerants	Oil-free turbo compressor-based industrial high temperature heat pump technology for low GWP refrigerants
	Human-friendly elevator system design and operation technology with low vibration, low noise and dynamic stability	Human-friendly high-speed elevator system design and operation technology
Robotics (3)	Design and manufacturing technology for laparoscopic, endoscopic and image-guided surgical robotic systems	Design, manufacturing and control technology for laparoscopic, endoscopic and image-guided surgical robotic systems
	Robotic operation and control technology for high-density process operations with shared workspaces	Multi-manufacturing robotic operations software technology with shared workplaces during manufacturing process
	Video surveillance-based robotics integrated control technology	Integrated control technology for video surveillance-based robotics, multi-movement robots

#### 4. Implications

Companies that own technologies newly designated as NCT pursuant to the amended NCT Public Notice are now subject to regulations under the Industrial Technology Protection Act, as they are treated as NCT-owning companies from the effective date of the amended Public Notice. These companies need to familiarize the related regulations and undertake necessary preparations.

In other words, NCT-owning companies need to implement protective measures on NCT and comply with the approval<sup>1</sup> or reporting<sup>2</sup> procedures in accordance with the Industrial Technology Protection Act in case they intend to (i) export NCT by way of entering into licensing agreements or technology transfer agreements with overseas entities or (ii) proceed with cross-border mergers and acquisitions. In this regard, the related agreements should reflect requirements related to the approval or reporting procedure to avoid violating Industrial Technology Protection Act and breaching the agreements. A need for thorough preparation cannot be overstated.

Lee & Ko's Trade Secret & Company Information Protection Team renders professional assistance with respect to various NCT and National Advanced Strategic Technology (NAST) matters, including, investigations on NCT/NAST leak, approval for cross-border mergers and acquisitions and approval for technology export, drawing from our accurate understanding of such technologies and extensive work experience with the National Police Agency's Security Investigation Unit, the National Intelligence Service and MOTIE. If you need any legal assistance, please contact us.

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<sup>1</sup> When a company that owns NCT, which has been developed with government subsidies for research and development, intends to export NCT or proceed with cross-border mergers and acquisitions, it should obtain MOTIE Minister's approval (Articles 11(1) and 11-2(1) of the Industrial Technology Protection Act).

<sup>2</sup> When a company that owns NCT, which has not been developed with government subsidies for research and development, intends to export NCT or proceed with cross-border mergers and acquisitions, it should make reporting with MOTIE Minister in advance. (Articles 11(4) and 11-2(5) of the same Act).

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