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NEWSLETTER

Industrial Technology Team

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Designation of New NCT and NAST

••• Amendment to MOTIE Public Notice

On May 7, 2025, the Ministry of Trade, Industry and Energy (**MOTIE**) issued a legislative notice to the proposed amendment to its Public Notice on the Designation of NCT (**NCT Public Notice**), which specifically defines the national core technologies (**NCT**) protected under the Act on Prevention of Divulgence and Protection of Industrial Technology (**APDPIT**). MOTIE is currently receiving public comments on the proposed amendment **until May 27, 2025**.

In addition, the Public Notice on the Designation of National Advanced Strategic Technologies (**NAST Public Notice**), which specifies the national advanced strategic technologies (**NAST**) protected under the Act on Special Measures for Strengthening and Protecting Competitiveness of National Advanced Strategic Industries, was recently amended and came into effect on May 12, 2025.

Prior to this amendment, the NCT Public Notice designated a total of 76 technologies across thirteen fields, including semiconductors, electrical and electronics, and automobiles & railways, as NCTs. With the latest amendment, three new technologies in the fields of electrical and electronics, metals, and aerospace have been newly designated as NCTs. In addition, the names of 15 technologies across six fields, including semiconductors, metals, shipbuilding, and automobiles & railways, have been changed.

1. Technologies Newly Designated as NCT

3 technologies in the fields of electrical and electronics, metal, and aerospace have been newly designated as NCTs in recognition of

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their impact on national security, the economy, and market share both domestically and internationally.

Field	Name of Technology Newly Designated as NCT
Electrical/ Electronics	Design, process, and manufacturing technology for MLCCs with ultra-high capacitance density of 21μF/mm³ or higher
Metals	Low-temperature and low-pressure hematite process technology in zinc smelting
Aerospace	Manufacturing and signal processing technology for SAR payloads having a resolution of 1m or lower

2. NCT that Have Been Renamed

To reflect the evolving technological landscape and recent advancements, as well as to more accurately represent current terminology, the names of 15 technologies across six fields, including semiconductors, metals, shipbuilding, and automobile & railways have been updated.

Semiconductors (1)

Pre-Amendment	Post-Amendment
Design technology for LTE/LTE_adv/5G baseband modem	Design technology for LTE/LTE_adv/5G/**5G_adv** baseband modem

Automobiles & Railways (1)

Pre-Amendment	Post-Amendment
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 with commercialization of less than 3 years)	Design and manufacturing technology of core parts and systems of autonomous vehicles (limited to **camera, radar, lidar and precision location detection systems and control systems** with commercialization of less than 3 years)

Metals (4)

Pre-Amendment	Post-Amendment
Manufacturing technology for reinforcing bars with a yield strength of 700 MPa or higher and structural steel with a tensile strength of 650 MPa or higher [limited to those made from low-carbon steel (with 0.4% C or less) produced by the electric arc furnace process]	Manufacturing technology for reinforcing bars with a yield strength of 700 MPa or higher and structural steel with a tensile strength of 650 MPa or higher [limited to those made from low-carbon steel (with **0.4wt%** C or less) produced by the electric arc furnace process]
Manufacturing technology for special steel containing high manganese (10% Mn or more) for high workability application	Manufacturing technology for special steel containing **high manganese** (**10wt%** Mn or more)
Manufacturing technology for giga-grade high strength steel sheets with a total alloying element content of 4% or less	Manufacturing technology for giga-grade high strength steel sheets with a total alloying element content of **4wt%** or less
Manufacturing technology for low-nickel (3% Ni or less), high-nitrogen (0.4% N or more) stainless steel	Manufacturing technology for low-nickel (**3wt%** Ni or less), high-nitrogen (**0.4wt%** N or more) stainless steel

Shipbuilding (3)

Pre-Amendment	Post-Amendment
Design technology for high value-added vessels (mega container ships, cryogenic liquefaction tankers, cargo ships sailing through ice-covered waters, green-fueled propulsion vessels, electric-powered propulsion vessels, etc.) and for offshore systems (offshore work vessels, structures, and plants, etc.)	Design technology for high value-added vessels (cryogenic liquefaction tankers, cargo ships sailing through ice-covered waters, electric-powered propulsion vessels, **WIG vessels** etc.) and for offshore systems (offshore work vessels, structures, and plants, etc.)
Manufacturing technologies for core ship equipment (BWMS manufacturing technology, WHRS manufacturing technology, and manufacturing technologies for air pollutant emission reduction equipment such as SCR and EGCS)	Manufacturing technologies for core ship equipment (BWMS manufacturing technology, WHRS manufacturing technology, and manufacturing technologies for air pollutant emission reduction equipment such as SCR, EGCS and **OCCUS**)

Design, process, and manufacturing technologies for fuel supply systems, cargo handling systems, and re-liquefaction and regasification equipment for eco-friendly (low-carbon and carbon-free) fuel transport and propulsion ships, etc.	Design and manufacturing technology for fuel supply systems and cargo/**BOG management systems** for eco-friendly (low-carbon and carbon-free) fuel transport and propulsion ships

Information and Communication (4)

Pre-Amendment	Post-Amendment
PA design technology for base station miniaturization and power minimization	Power amplifier design technology **applicable to use in wireless devices**
Design technology for LTE/LTE_adv/5G measurement instruments	Design technology for LTE/LTE_adv/5G/**5G_adv** measurement instruments
Core optical communication technology for implementing SDN (Software-Defined Networking)	Core optical communication technology for implementing **next-generation packet optical transport network**
Design technology for 5G systems (beamforming/MIMO and mobile communication networks)	Design technology for 5G and **5G_adv** systems (beamforming/MIMO and mobile communication networks)

Robotics (2)

Pre-Amendment	Post-Amendment
Multi-manufacturing robotic operations software technology with shared workplaces in manufacturing process	Multi-robot operation software technology **for manufacturing and logistics environments**
Integrated control technology for video surveillance-based multi-movement robots	Integrated control technology **for mobile surveillance and reconnaissance robots**

3. Technologies Newly Designated as NAST

Under the pre-amended NAST Public Notice, a total of 17 technologies across four sectors, including semiconductors,

displays, and secondary batteries, were designated as NAST. With this latest amendment, two new technologies in the robotics and defense sectors have now been newly designated as NASTs.

Two technologies in the robotics and defense fields have been newly designated as NASTs to foster the robotics and defense fields as national advance strategic industries through support systems based on the law, such as those for technological innovation, finance and taxation, regulatory improvements, and talent development, and to prevent potential economic damage to the nation in the event of technology leakage.

Field	Name of Technology Newly Designated as NAST
Robotics	Design, manufacturing, and process technology for actuators and frames of humanoid robots capable of moving at speeds exceeding 3.3 m/s and performing whole-body manipulation to transport loads over 20 kg
Defense	Core materials and component technology for advanced aircraft engines with a thrust class of 15,000 lbf or higher for both manned and unmanned aerial vehicles

4. Implications - Need for Technology-Owning Companies to Review the Proposed Amendment to the Public Notice and Advance Public Comments

Under the amended NCT Public Notice (yet to be implemented) and the NAST Public Notice (already in effect), companies that own technologies newly designated as NCTs or NASTs will be subject to NCT or NAST regulations as NCT/NAST-owning companies from the respective effective dates of the applicable Notices. These companies should familiarize themselves with the relevant regulations and take the necessary steps to ensure compliance.

Companies that own NCT or NAST are subject to regulations, including, among others, implementing protective measures for the technologies and undergoing government review when exporting such technologies by way of entering into license or technology transfer agreements with overseas companies or conducting cross-border mergers and acquisitions. In particular, the amended APDPIT, which will take effect on July 22, 2025, will introduce an *ex officio* notification system for NCT determination applications

and a registration system for NCT-owning entities. Accordingly, companies that believe they possess NCTs are now strongly encouraged to promptly initiate the application process for NCT determination and to register as NCT-owning entities, as required under the amended APDPIT.

Therefore, technology companies should review the amended NCT Public Notice and NAST Public Notice and closely analyze whether their technologies pertain to NCT or NAST.

Additionally, the proposed amendment to the NCT Public Notice is currently open for public comment **until May 27, 2025**. Companies that may be affected by the designation of new NCTs or the renaming of existing NCTs are encouraged to actively submit their feedback during this period.

Lee & Ko's Industrial Technology Team renders professional assistance with respect to various NCT and/or NAST matters, including, obtaining approval for cross-border M&A and technology export, responding to investigations on NCT/NAST leak and making foreign investment filings under the Foreign Investment Promotion Act, from our accurate understanding of such technologies and extensive work experience with MOTIE, National Intelligence Service and/or Metropolitan/Provincial Police's Industrial Technology Security Investigation Unit.

If you need any legal assistance, including advancing public comments for the proposed amendment to the NCT Notice, please contact us.

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