National Science and Technology Council

Department of Life Sciences and Department of Engineering and Technologies
” AI-Enabled Accelerated Drug Development Program”
2026 Call for Proposals

I. Program Objectives

In response to the accelerating integration of the global biopharmaceutical industry with artificial intelligence (AI), this program aims to leverage AI to accelerate preclinical drug development, thereby enhancing the efficiency and success rate of drug R&D. In addition, by independently developing domestic AI software tools, it seeks to promote innovation and the integrated application of key technologies. Ultimately, the program aims to build internationally competitive R&D capabilities and strengthen Taiwan’s influence in the global biomedical R&D and innovation landscape.

II. Research and Development Directions Key Focus Areas

This program, centered on AI, integrates cross-domain and cross-industry resources to promote innovative applications in drug development. It aims to strengthen the independent R&D capabilities of domestic academic and research teams in AI-driven drug development tools, thereby enhancing Taiwan's overall competitiveness in biomedical R&D and industrial applications.

The two main domains of this program are as follows:

(I) AI-driven Drug Development Project: The project aims to leveraging domestic academic and research institutions’ capabilities in drug discovery and preclinical development, applying AI-related technologies and platform tools to address key challenges in drug development, including high costs, lengthy development cycles, and low success rates. By doing so, the project seeks to accelerate the overall new drug development process. AI-assisted molecular design, target identification, bioactivity simulation, and ADMET prediction technologies will be employed to identify and optimize lead compounds, thereby enhancing development efficiency and reducing uncertainties during early-stage research. Priority will be given to preclinical development for major diseases highly relevant to the Taiwanese population, such as cancer, neurodegenerative disorders, and metabolic diseases. The project aims to obtain ADMET assessment results for selected lead compounds within two years—via animal studies or AI-based validation—to generate critical data supporting their

developmental feasibility. The overall objective is to advance candidate compounds to IND application within four years. Through the integration of AI technologies, the project is expected to effectively shorten the R&D timelines, strengthen domestic drug development capabilities and international competitiveness, and align with industry needs, thereby accelerating the translation and application of research outcomes.

(II) AI Software Technology Development Project: The project aims to build an AI-driven drug development software platform with independent R&D capabilities and advanced, innovative functionalities. It addresses key gaps in current domestic drug-development workflows, including limitations in AI toolchains, data platforms, model accuracy, scalability, and cross-system integration. The project includes three major directions: end-to-end platform architecture design, covering data management, scalable computing modules, and cross-domain integration mechanisms; core AI algorithm development, including modules for molecular design, molecular characteristic prediction, bioactivity assessment, and preclinical decision support; and the establishment of model validation and accuracy evaluation processes, featuring multi-source data benchmarking and cross-stage validation testing. Within two years, the project aims to complete the development, integration, and initial technical validation of each core module, achieving quantifiable performance indicators, such as prediction accuracy, recall rate, and model robustness, and reducing the performance gap between domestic capabilities and state-of-the-art international AI drug-development platforms. Within four years, the project will deliver a prototype AI-assisted decision-support platform supporting the preclinical drug development process. The outcomes will strengthen Taiwan's autonomy in AI-driven drug development, accelerate the R&D process, improve the efficiency of result translation, and enhance the industry's long-term capacity for sustainable technological advancement and expansion.

III. Eligibility

(I) Applicant Institutions: Applicant institutions must be the approved subsidized entities by The National Science and Technology Council (hereinafter referred to as “NSTC”).

(II) Applicants: The qualifications of the principal investigators (PIs) and co-investigators must be in accordance with the "NSTC Directions for Research Project Subsidization."

(III) Team Composition: Interdisciplinary teams are encouraged. The project leader must have academic standing in the relevant field and is responsible

for planning, coordinating, monitoring progress, and managing the outcomes of the research project, and must also actively participate in its execution.

(IV) Project Participation Limitation: Each PI may apply for only one project under this program. Projects with the same or substantially similar topics or content that have already received funding from other organizations are not eligible for resubmission to NSTC. The project leader must ensure that all project members comply with the above requirements.

IV. Research Project Type, Implementation Period, and Funding Scale

(I) Research Project Type

This program is organized as a Integrated Research Projects and is divided into the following three categories:

1. Category One, "Collaborative Projects": A collaborative project that simultaneously covers "AI-driven Drug Development" and "AI Software Technology Development." The project must meet the respective requirements of Categories Two and Three. The proposing team must include two principal investigators (PIs) who jointly prepare the submission and separately lead the “AI-driven Drug Development” and "AI Software Technology Development" components. This category emphasizes cross-disciplinary integration, collaborative innovation, and the coordinated advancement of technological development and practical application.
2. Category Two, "AI-Driven Drug Development Projects": Projects in this category utilize AI technology platforms to optimize and accelerate the progression of lead compounds into drug candidates with clear development potential and therapeutic value. The aim is to substantively advance subsequent stages of drug development and enable the research outcomes to reach the IND application stage within four years.
3. Category Three, "AI Software Technology Development Projects": Projects in this category focus on developing locally developed and innovative AI-driven drug development tools, including overall platform architecture design, core algorithm development, and validation and performance assessment. Within four years, the project should deliver an AI tool suitable for practical application in drug development and make it available for use by academic institutions or industry.

(II) Implementation Period

1. This Program has a total duration of 4 years, divided into two phases for project application and execution. Each phase lasts 2 years.
   Phase 1 Execution Duration: Expected to be from June 1, 2026, to May 31, 2028
   Phase 2 Execution Duration: Expected to be from June 1, 2028, to May 31, 2030
2. Phase 1 applications must include a plan covering the full four-year duration. Approved proposals will receive two-year funding, with each year's allocation determined based on the results of the mid-term annual performance evaluation.
3. Projects whose Phase 1 implementation results meet the program objectives may submit applications for Phase 2 continuation. Approved Phase 2 projects will proceed to implementation.

(III) Funding Scale

Funding will be allocated based on the actual needs of each project. Category One, "Collaborative Projects," aims to encourage joint research and development between teams in the pharmaceutical and engineering fields. These projects must simultaneously include an "AI-driven Drug Development Project" and an "AI Software Technology Development Project," and may receive an annual subsidy of up to NT$30 million per project. Category Two, "AI-driven Drug Development Projects," and Category Three, "AI Software Technology Development Projects," may receive an annual subsidy of up to NT$10 million per project.

The actual funding amount shall be determined by NSTC in accordance with the review results and relevant budgetary regulations. If the annual budget required for this program is not approved by the Legislative Yuan, or is approved with reductions, NSTC may adjust the subsidy amount based on the review results and will proceed in accordance with Article 54 of the Budget Act.

(IV) To encourage the project leader to focus on project execution, NSTC may grant a research leadership fee of up to NT$30,000 per month. Each project leader may receive only one research leadership fee during the implementation period. If conducting two or more projects funded by NSTC concurrently during the same period, the highest fee amount shall apply, and the difference may be granted across different projects.

(V) This project will be counted toward the total number of research projects funded by the NSTC. Once the subsidy is approved, it will be included in the number of projects undertaken by the project leader.

V. Application Deadline, Application Method, and Proposal Preparation Instructions

(I) Application Deadline

February 3, 2026 (Tuesday)

(II) Application Method

1. PI who is the project leader must complete the online submission of their project proposals in accordance with the "NSTC Directions for Research Project Subsidization" and within the timeframe set by their respective institutions. Each applying institution shall compile and submit **two hard copies** of the application roster. After verification by the relevant personnel, the roster must be sent to the NSTC by **February 3, 2026 (Tuesday)**. **Late submissions will not be accepted.**
2. Applicant Institutions must thoroughly review and verify the eligibility of PIs, and indicate the confirmation in the remarks column of the application roster for each proposal. Only qualified applicants may submit proposals. A written statement confirming the eligibility of the project leader shall be submitted to the NSTC after verification.
3. Project proposals must be submitted online. PIs should follow the procedures for general research projects, log in to the "Academic Research Service Portal", and under "Online Application for Researchers", select “Research Project” to complete the submission process.

(1) For Category Two: “AI Drug Development Project” (Department of Life Sciences)

- Select the following options in the system:
- Project Category: Special Project – On-Demand Review
- Project Type: General Strategic Project
- Research Type: Integrated
- Affiliated Department: Department of Life Sciences
- Discipline Code: B90 – Project
- Sub-Discipline Code: B90D004 – AI-Enabled Drug Development Project

  Complete the proposal in the sequence above.

(2) For Category Three: “AI Software Technology Development Project” (Engineering Department)

- Select the following options:
- Project Category: General Strategic Project
- Research Type: Integrated

- ♦ Affiliated Department: Engineering Department
- ♦ Discipline Code: E98 – Project
- ♦ Sub-Discipline Code: E9882 – AI-Enabled Accelerated Drug Development Project – AI Software

  Complete the proposal in the sequence above.

4. For Category One: "Collaborative Project," two proposals must be submitted simultaneously. One proposal under Category Two (Department of Life Sciences): AI-driven Drug Development Project, One proposal under Category Three (Department of Engineering and Technologies): AI Software Technology Development Project.
5. Research projects involving human trials, human sample collection, human embryos, or human embryonic stem cells must upload approval documents from the Institutional Review Board (IRB) or Human Trials Committee. Projects involving recombinant DNA experiments must provide approval letters from the Biosafety Committee; projects involving gene transfer field trials must submit approval from the competent authority; projects involving animal experiments must provide approval from the Institutional Animal Care and Use Committee (IACUC); projects involving infectious biological agents of BSL-2 or above must submit approval from the relevant authority. If approval documents cannot be submitted at the time of application, proof of submission for review must be uploaded first, and official approval documents must be submitted no later than May 31, 2026.
6. Research projects involving human trials or human research must also complete a Gender Considerations Checklist.

(III) Proposal Preparation Instructions

1. This is an "integrated research project." The overall plan and all sub-projects shall be included in a single project proposal. The project must have at least two co-PIs and three to four sub-projects. . The project leader must concurrently lead one sub-project. All sub-project PIs shall actively participate in the research. The proposal must clearly specify the research topics undertaken by each PI. The integrated project shall have a clearly defined overall objective.
2. For Category One "Collaborative Projects," both submitted project proposals must use the same "integrated research project title.
3. Applications must be submitted as single, integrated projects. Please download Attachment 1 from the "Attachment Download" section at the bottom of this solicitation notice webpage (Forms CM03 and CM04) and

follow the required project content format. After completing the 4-year plan, it must be uploaded. The research plan (Form CM03) shall not exceed 50 pages and must include an integrated plan outlining the implementation details and funding requirements of each team. Applications must be submitted by the institution of the overall project leader, according to the specified application category. Applications that do not comply with these requirements will not be accepted for review.

VI. Project Evaluation and Review Focuses

(I) Project Evaluation

1. The NSTC will invite domestic and international scholars and experts from relevant fields to form a review committee to conduct the evaluation. If necessary, the PI may be invited to give an oral presentation and respond to questions from committee members.
2. For Category I "Collaborative Projects," if either the "AI-driven Drug Development Project" or the "AI Software Technology Development Project" is not recommended, the other recommended project may proceed under its corresponding Category II or III for implementation.

(II) Review Focuses

1. Category I "Collaborative Projects": Collaborative projects must simultaneously encompass both AI drug development and AI software technology development. Emphasis will be placed on cross-disciplinary integration and collaborative innovation. The collaboration should be close, complementary, and capable of producing results beyond what either team could achieve independently. Intellectual property rights and collaboration agreements must be properly established.
2. Category II "AI-driven Drug Development Project": Review will focus on the feasibility, verifiability, and clinical applicability of using AI to accelerate drug development, as well as the completeness of intellectual property and collaboration agreements in cross-disciplinary efforts.
3. Category III "AI Software Technology Development Project": Review will focus on the innovation, model reliability, performance improvements, future scalability, and industrial applicability of the AI-driven tools.

(III) The project leader shall submit implementation reports in accordance with the project evaluation and management requirements, within the deadlines specified by the NSTC. These reports shall include progress updates, achievement of performance indicators. When necessary, oral

presentations or demonstrations of research outcomes may be arranged.

VII. Additional Considerations

1. For information about this solicitation, please refer to the latest announcements on the website of the Department of Life Sciences and/or Department of Engineering and Technologies of NSTC. NSTC reserves the right to modify the content of this solicitation.
2. No appeal process is available for this project. This program is a specific initiative and does not have an appeal mechanism.
3. If the project leader has exceeded the maximum number of research projects funded by NSTC, or if the projects do not comply with the relevant specifications in this program, and such non-compliance is confirmed through NSTC's administrative procedures, the application for this program will not be submitted for review.
4. Except under special circumstances, requests to change the project leader or to cancel the project shall not be permitted during the execution period.
5. Other matters not addressed in this program, such as contract signing, funding, extensions and amendments, expense reimbursement, and report submission, shall be handled in accordance with the "NSTC Directions for Research Project Subsidization," "the Principles for the Handling of Subsidized Special Research Project Funds, " "the Special Research Project Subsidy Contract" and Execution Agreement, and other relevant regulations.

VIII. Contacts

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(VI) Online System Inquiries

For questions regarding the online application system, please contact the NSTC IT System Services Hotline: 0800-212-058 or (02) 2737-7590 to 7592.