



صندوق العلوم والتنمية التكنولوجية
Science & Technology Development Fund



وزارة البحث العلمي
Ministry of Scientific Research

STDF Grants for

Targeted Program

Artificial Intelligence

Science and Technology Development Fund

www.stdf.org.eg

Call for Proposals

January, 2020



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I. Introduction

The Science and Technology Development Fund (STDF) was established by Presidential decree number 218/2007. Its mandate is to promote science and technology (S&T) through funding scientific research and technological development in a way that supports the complete cycle of innovation.

STDF's specific objectives are to improve Egypt's research and development (R&D) environment, to fund S&T activities and to develop the innovation capacity in Egypt. STDF implements its objectives within the context of the national S&T development strategy, which is established by the Higher Council for Science & Technology. The Egyptian ministries with the strongest impact on Egypt's national economy are represented in the council to direct the research activities towards the S&T activities which have a direct influence on the national development plans.

Since its establishment, STDF has disbursed tens of millions of pounds to researchers in universities and research institutions to improve the research and development capacity in these institutions. The current program reflects STDF's intention to build upon what has been achieved so far in a more focused and efficient manner, to maximize the benefits, and to better utilize and develop the available national research capabilities in applications that meet the needs of society.

In the current stage, the STDF administration would like to act as a catalyst for giving the opportunity to the national Science, Technology and Innovation (STI) institutional and human assets to positively contribute in the increase of the nation's GDP. STDF administration, thus, urges all and every fellow researcher who can play a role in the fulfillment of national societal needs to act via proposal submissions in STDF related calls.

II. Grant Objectives:

STDF's targeted Artificial Intelligence program has been introduced to address national priority needs with the ultimate goal of building Egyptian competence in this field. The objectives of this call are proposed to encourage scientists to respond to societal and governmental needs highlighted by Egypt's vision 2030, and to apply innovative and applicable solutions to urgent and pressing problems facing the society and needed for welfare.

Artificial Intelligence is the branch of computer sciences that emphasizes the development of intelligence machines, thinking and working like humans. For example, speech recognition, problem-solving, learning and planning.

The main objective of AI targeted call is to Build Egyptian competence in the AI science and engineering topics and develops future smart application.

AI industry has witnessed tremendous growth worldwide in the past two decades. Access to the latest technology shall be addressed through technology transfer in the field of AI applications

through industry. The current targeted call shall address low manufacturing cost and shorter development cycle of AI research outcomes which shall play an important role in country development. The main objective is to allow Egyptian researchers to gain knowledge in the field of AI, enabling Egypt as a developing country to utilize AI research outcomes and to get benefit of future technologies in solving actual existing problems.

The targeted objective is not limited to government agencies of a country, but may address private companies support for completion of mission of the grant. **International collaboration for technology transfer is highly encouraged in the methodology and tools of design and the synthesis of fundamental aerospace disciplines necessary to carry out the design of an aerospace vehicle or system. STDF encourage proposals submission involving multi-disciplinary teams, which will be highly supported through the evaluation process.**

III. Priority areas:

The current Artificial Intelligence Targeted call focuses on the assembly, manufacture, integration and testing of **AI applied research outcomes in the following areas;**

Analytics and classification of large data	
Engineering Sciences	Machine vision
ICT	Natural language/speech recognition and Language translation
Application domains	
Engineering Sciences	Autonomous and semi-autonomous robots/cars
	Manufacturing automation
	Nanotechnology applications
	Image recognition
	Generating region specific data (images, voices)
	Autonomous vehicle research
	Brain machine interface
ICT	Smart Cities
	Big data
	Internet of things
	Web services
	Cyber security
	Security and monitoring applications
	Security and surveillance
	Human behavior monitoring for marketing
Agriculture	Improve agriculture production yields
	Control Irrigation
	Robotics in Agriculture/Smart Agriculture
	Genetic Engineering
Medical Sciences	Health diagnostics
	Diagnostics and early failure predictions
Natural Language Processing (NLP)	Machine translation/ learning

	Information retrieval
	Sentiment analysis
	Information extraction
	Question answering
Natural Language Generation/ Developing of open source platform to be available online	Arabic Natural language processing
	Text to speech software
	Personalize learning
Natural Language Understanding/ Developing of open source platform to be available online	Phonology
	Pragmatics
	Morphology
	Syntax
	Semantics

The main objective of the current call is manufacturing of AI research applied outcomes and their application for the developments of health, agriculture, energy, industry and other sectors.

IV. Grant Amount and Eligible Expenses

A successful proposal will receive STDF funding supporting the implementation of the tasks needed to fulfill the grant objectives. Full justification of the fund requested shall be clearly identified in the proposal. The fund requested shall cover the objectives of the proposal and allow valid expected outcomes according to the call guidelines.

A successful proposal will receive STDF funding of up to LE 3 million over a maximum period of three years.

PI should carefully have a real budget estimation to be executed in certain time frame. Over estimation or under estimation of both budget and time will have a negative impact on the overall assessment of the proposal.

V. Eligibility Criteria

The following eligibility criteria apply to this grant:

- Any Egyptian researcher (PhD/MD holder) affiliated to an Egyptian research entity (university, research institution/center...etc.) is eligible for funding in accordance with governing rules and regulations of governmental funding. The applicant and research team shall have well-documented scientific research in the field of application. The applicant will act as the project's Principal Investigator (PI).
- The proposed activities must include a well-planned applied research project which has clearly defined technical and economic objectives and the desired outcomes, as well as a

detailed methodology shall lead to an **applicable and feasible approach to fulfill the objectives addressed by the call.**

- The proposed project should not be funded by any other STDF funding grant or any other funding agency. Otherwise, **any other sources of funding should be clearly stated and explained in the proposal with full specification of each funding agency role and outputs without repetition of fund addressing same objective.**
- If more than one research institution is involved, it has to be clearly stated which institution is in charge and the role of each institution has to be specified.
- Proposals which do not fulfill the eligibility criteria will not be evaluated.

VI. Proposal Submission and Evaluation Process

All proposals must use the exact formatting requirements for the current call given in the relevant Application Form (*Please refer to the unified application form*). All proposals must then be uploaded to the STDF website (www.stdf.org.eg), to which registration is required. The proposals will be evaluated by independent experts, and STDF will ensure that the process is transparent, impartial and applicant-supportive. Proposals submitted to this grant will be subjected to different levels of evaluation:

Assessments will be undertaken by independent scientists, industrialists, economists, and policy makers with special expertise in technology development. Applicants have to note that, if a proposal passes the scientific and technical evaluation, the PI of the proposal might be requested to deliver an oral presentation of the proposal.

Evaluation criteria

Generally speaking, funds are awarded to proposals that are:

- Competitive.
- Innovative.
- Having the settlement of the S&T in Egypt as one of its main outcomes
- Having a clear impact on industry and/or research.

The evaluation of proposals is carried out by STDF with the assistance of national / international independent experts. STDF staff ensures that the evaluation process is transparent, robust and fair, and in alignment with its rules and regulations.

Independent experts performing technical evaluation are expected to be: acting on their own will, independent, impartial and objective.

Evaluation criteria applied to proposals

- S&T QUALITY (Scientific and/or technological excellence)
- Applicability (Quality and efficiency of the implementation and the management)

- IMPACT of the project on socioeconomic indicators (Potential impact through the development, dissemination and use of project results)

Before the evaluation

- Proposals received by STDF are registered, acknowledged, and their contents entered into a database to support the evaluation process.
- Eligibility criteria for each proposal are also checked by STDF staff before the evaluation begins.
- Proposals which do not fulfill the eligibility criteria will not be considered for technical evaluation.
- Proposals which are not in alignment with the Guide for Proposal Writing available at the website will be considered ineligible

VII. Disbursement of Funds

When a project is approved by STDF, a contract will be signed by STDF, the Principal Investigator (PI), and the legal representative of the endorsing institution/center/university.

Please note that for targeted project STDF allocated funds are dedicated to support all academia/researcher centers activities (compensation, equipment, etc.). Foreign consultation and contractors are not supported by STDF fund.

(Indicative Budget for two years proposal refers to the filling budget format table announced on the STDF website (www.stdf.org.eg) and in the Application form).

- The budget will be disbursed on subsequent installments. The first installment will be disbursed at the beginning of the project. The following installments will be paid after the receipt and approval of the technical and financial progress reports.
- The disbursement of the final installment of the project (10% of the budget) is conditioned by the delivery of the outputs mentioned in the proposal in the scheduled time and subject to the internal rules and regulations of STDF.
- **The condition of acceptance of final report is to have an efficient and feasible outcome ready to use and applied.**

VIII. Project Monitoring and Follow-up

Technical progress reports:



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Semi-annual progress reports should be submitted by the PI during the execution of the project, starting after 6 months of project start date. In general, all technical reports should be written using the standard STDF templates.

In cases where modifications in the research team and/or original work plan are necessary, such modifications must be pre-approved by STDF, and the progress reports should include a modified (updated) Gantt chart that takes the approved modifications into consideration.

Final Report and Achievements report:

Within one month following the official end date of the project, the “Final Report” together with an “Achievements Report” must be submitted, using the standard STDF templates for “final reports” and for the “Achievements Report”.

Evaluation of technical reports:

All submitted reports are evaluated by STDF, and feedback will be sent to the project’s PI and host institute.

In the event of receiving a progress report that is rejected by evaluators, the PI may be required to present additional follow-up reports (totally independent from the regular progress reports stated before). In the event that the evaluators of progress reports give a justified recommendation to terminate the project (for reasons including scientific misconduct by the PI, plagiarism, lack of seriousness,... etc.), STDF reserves the right to terminate the project, in which case STDF will recover all funds and expenses paid prior to the project termination date.

Financial Reports:

According to the financial regulations of the government of Egypt, a financial report for the project must be submitted every three months. Copies of all expenditure vouchers must be attached. The reports, as well as all the attached expenditure vouchers, must be signed and stamped by the official seal of the endorsing institution.

IX. General Terms and Conditions:

The following terms and conditions apply to the grant:

- All proposals must be uploaded to the STDF website, proposals submitted by e-mail or sent as hard copies will not be considered.

- All proposals must use the exact formatting requirements for the current call given in the attached Application Form. Failure to adhere to the exact format required will automatically deem the proposal ineligible.
- All proposals **MUST** be in English Language, Arabic is allowed only for proposals in the fields of Humanities and Social Sciences.
- The application must include a **signed and stamped Endorsement letter from the institution's legal representative** as shown in the Application Form.
- The application must include a scanned copy of the **signed and stamped beneficiary (cost sharing partner/end user) endorsement letter**.
- Same proposal should not be submitted in more than one grant. (Duplicate submission of the same proposal is not allowed).
- At any time, Each PI can only submit a maximum of two proposals until notified with the evaluation results of his/her submitted proposals.
- At any time, a contracted STDF project team member should only be participating in a maximum of 3 projects (or a maximum of 2 projects as a PI).
- **DO NOT** submit proposals previously funded either by STDF or any other funding agency. Proposals deemed to be funded by other grants will be disqualified & applicants will be banned from submitting proposals to STDF.
- Any publications delivered as a result of STDF funded proposals, should acknowledge STDF funding in the publication.
- STDF's IPR rules and regulations in addition to STDF code of ethics are applied on all relevant cases.
- Foreign partners are allowed in this grant only as consultants given that the relevant security approval has been obtained.
- Equipment purchased using STDF funds must be made available to all Egyptian researchers, provided that the project work is not disrupted.
- If more than one institution is involved it has to be clearly stated which institution is in charge and the role of each institution has to be specified.

- Extending a project's duration is prohibited, only under very strict and justified conditions shall STDF allow any project extension, and any request for project extension will affect negatively STDF future decisions regarding the performance of the research team members.
- Having members from different research institutes in the same research team is allowed and encouraged, however all the team members will adhere to STDF guidelines, IPR rules, code of ethics, ...etc.
- Conflict of interest should be avoided in any proposal application.
- All proposals will be evaluated on a competitive basis.
- In case a proposal is accepted for funding, the PI will be requested to complete the contracting process within a maximum of one month.

X. Ethical Rules:

Applicants to STDF are expected to maintain a high level of scientific honesty and integrity in all aspects of their work. Applicants are expected to refrain from plagiarism, i.e. "the act of taking credit, or attempting to take credit, for the work of another" (quoted from the publication ethics policies for medical journals, at www.wame.org). Applicants are also expected to avoid self-plagiarism or multiple submission of the same content in more than one document. Multiple reporting of the same data or results in various projects is also considered self-plagiarism and is strongly discouraged. Fabrication of data or results, or suppression of unexpected results is not accepted by STDF. STDF expects all research activities involving human subjects to strictly follow the bio-ethical guidelines.

Breaching the rules of research integrity will result in halting all research funding activities to the involved parties after thorough investigation and judgment by a specialized STDF committee.

Multiple Submissions of a Project Proposal:

At the time of submitting a project proposal to STDF, the PI is required to provide a statement (stamped and signed by his/her hosting institution) declaring that the submitted proposal has not been simultaneously submitted to STDF (neither under the same funding program, nor under any other STDF funding program) or to any other funding agency, and that the project proposal will not be re-submitted to STDF for funding (under the same, or any other STDF funding program), or to any other funding agency, until STDF has reached a decision to reject the original project proposal, and has notified the PI of its decision. The above restrictions apply to identical project proposals, as well as project proposals which have similar objectives, methodology, ...etc. as the

current project proposal, and which may differ only in title and/or other minor details. The decision whether any two (or more) submitted project proposals are similar (and therefore constitute a breach of this condition) is solely the right of STDF.

In cases where STDF reviewers decide that, in its present form, the proposal cannot be recommended for funding, or that certain modifications are needed in order for the project to be considered for funding, the PI is allowed to re-submit the revised version of the project proposal only once (after making the suggested modifications, if any) in the subsequent cycle of the same funding program, or of any other STDF funding program. At the time of submitting the revised proposal, the PI is required to declare that an older version of the project proposal has been previously submitted to STDF, and that the revised proposal is the only version of the proposal that is re-submitted for funding by STDF. Also, the revised proposal should include substantial modifications that scientifically distinguish it from the original proposal.

Failure to comply with the aforementioned conditions may result in a decision by STDF to ban any cooperation with the PI and/or the PI's institution.

Applicants are also expected to adhere to the highest standards of integrity within the domains of bioethical, bio-safety and animal protection considerations. The following regulations are to be adopted, whenever needed, based on the field or topic of the proposed research:

Bioethical considerations:

- Projects dealing with human subjects are required to satisfy the STDF requirements of bioethical aspects, and to comply with any other relevant laws. Such projects may include, but are not limited to, experiments on human subjects, testing of new therapeutic, preventive or diagnostic agents, handling human personal information,... etc.
- In such cases, it is mandatory that the PI presents an ethical clearance form approved from the ethical committee or institutional review board (IRB), before finalization of the project contracting process. In the case of absence of an IRB in the PI's institution, obtaining an ethical clearance from a national, regional or collaborating body will be subject to consideration and assessment by the STDF.

Bio-safety considerations:

Projects with bio-safety aspects, such as those dealing with genetically modified organisms (GMOs), should strictly adhere to the national bio-safety policies, which may require obtaining special permits and clearances from the relevant authorities.

Animal protection considerations:

STDF strongly rejects the unnecessary exposure of animals to pain, distress or fatality during scientific experimentation. It is the responsibility of the PI and his/her institute that these principles are adhered to. In the case of unacceptable acts of cruelty against animals, the STDF has the right to immediately terminate/suspend the project activities, and to hold the PI accountable for such acts.

Obtaining permits from relevant authorities:

STDF has the experience that the processing of research proposals involving activities which require special permits from the relevant governmental (or otherwise) authorities may be delayed. In order to speed up the process of handling the applications, the applicants are encouraged to obtain such permits before submitting their applications, and to include them in the project proposal. The following are examples of activities requiring approval from the authorities:

- Conducting surveys,
- Collecting data, or conducting any other research activities near the country's international borders, in the sea or on land,
- Sending genetic and biological resources outside the country,
- Ethical issues related to research on living matter (bio-safety, conservation of biodiversity, research ethics, etc.),
- Involvement of or collaboration with foreign researchers in the research activities,
- Dealing with historical objects, or
- Development of patents that may violate the intellectual property rights of other (existing) patent holders.

XI. Negotiation and Contract Signing

Negotiation and signing of the project's funding agreement will take place shortly after the announcement of the evaluation results. Since the processing and evaluation of the submitted proposals entail significant expenditure of financial and human resources, it is highly discouraged for the PI to decline from continuation of the project after proposal submission. Requests asking for project discontinuation by the PI after proposal submission, following contract signing, or during the project life-time will be thoroughly investigated by STDF. STDF has the right to financial compensation and/or to impose a ban period on the PI from participating in STDF-related activities. Moreover, the PI should clearly state in the application which of the following options he/she prefers in the unlikely event of his/her inability to complete the project:

a- Discontinuation of the project; however, the PI should be aware that, if he/she chooses this option, all funds and expenses paid by STDF must be refunded to STDF upon termination of the project.

b- Transferring all the PI responsibilities and rights to the Co-PI (if any).



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XII. Intellectual Property Rights (IPR)

The applicant and the endorsing institution(s) shall conform to the STDF-IPR regulations, detailed as a separate document on the STDF website (www.stdf.org.eg)

XIII. Submission Timeline

The launching of the call will on the **1st of January, 2020** and the deadline to receive applications via the STDF submission website is on the **31st of January, 2020- 12:00 midnight.**

XIII. Contact

If you have any queries, please contact Ms. Azza Hamdy (azza.hamdy@stdf.eg) or at Science Technology and Development Fund (STDF).