



عمادة الاشراف والتنسيق البحثي
Deanship of Research Oversight and Coordination

Proof-of-Concept Research Grant

Innovation & Technology Transfer

Deanship of Research Oversight & Coordination

Technology Advancement & Prototyping Center



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1. Introduction

Universities research funding from traditional sources intended for basic research often result in discoveries that are novel technology concepts necessitating additional development to reach important milestones critical to commercialization. These milestones help de-risk a technology, increasing the potential for licensing to an existing company or enabling the formation of a startup company.

There exists a gap in funding commercialization of technologies from universities that is referred as Proof of Concept Gap or Valley of Death that extends from where the funding of basic research ends to where existing companies or investors are willing to accept the risk to commercialize the technology.

2. Grant Objectives

The proof-of-concept grant program supports the pre-commercialization of state-of-the-art research emerging from the university. The strategic objective of this grant is assisting KFUPM to commercialize such research more effectively and to expedite technology transfer to local and global markets. With this objective, the program seeks to support innovative research aimed at establishing a proof-of-principle, and generating (or enhancing) intellectual property positions.

The objectives of the proof-of-concept grant are:

- To fill the traditional-funding-gap between basic/applied research and market exploitation.
- To push innovative research outcomes through the path of commercialization.
- To improve the level and quality of technology commercialization in the university through the provision of funding for early-stage development activities.
- To initiate appropriate patenting strategy at early stage.

3. Scope of Activities

Following activities fall under the scope of a POC project:

- Development
- Testing



- Prototyping
- Market & Economic Analysis

4. POC Grant Process

The proof-of-concept grant life cycle is composed of the following steps:

1. Call for proposal
2. Proposal submission: Online through [Abhathi](#).
[Proof-of-Concept Grant Application Form](#) (proposal no longer than 20 pages)
3. **Proposal Budget:** SAR 100,000
4. **Project Duration:** six (6) months¹ (maximum 12 months)
5. **Proposal Evaluation:** Screened proposals are evaluated by the Proof-of-Concept Grant Committee (POCC). PI will be invited to give a presentation and interview to the POCC.
6. **Commencement of approved proposals.**
7. **Progress reports:** A progress report after three, six and nine month of the grant starting date to Deanship of Research Oversight & Coordination (DROC) for evaluation by POCC. The report should also include a detailed financial report to verify appropriateness of expenses to the project.
8. **Final report:** the project manager must submit the final report to DROC for evaluation by POCC within 30 days of the project ending date.
9. **Project closure:** DROC will announce the project closure.

The call for proposal shall be conducted twice a calendar year. The POC Grant calendar is shown in Appendix A.

¹ Extensions or renewals may be granted, subject to demonstrated progress, submission of an extension application and approval by POCC.



5. Program Budgeting Guide

A detailed budget needs to be prepared for each project with complete details and justifications as applicable. Following is an estimate of individual budget and operational expenditures of program

Budget Item	Cost (SAR)
Prototyping and/or scale up	50,000 - 100,000
Equipment / instruments/ consumables	25,000 - 100,000
Consulting service ²	25,000 - 50,000
Max. total expenses per project	100,000

6. Application Eligibility

The application will be considered eligible subject to following conditions:

1. **Applicant:** Anyone with rights as a principal investigator (PI) and employee of KFUPM is eligible to apply.
2. **Technological Areas:** The focus of the proposal must be in the areas of, but not limited to, industry 4.0, artificial intelligence & machine learning, water, nanotechnology, environment, energy, petrochemical, oil & gas, and advanced materials.
3. The proposal should be based on KFUPM owned Intellectual Property (IP) either filed/pending patent or issued patent. In case of joint ownership of IP with another organization, an agreement should already be in place with clear terms on technology development, commercialization and ownership of foreground IPs.
4. A maximum of SAR 200,000 can be requested under this program.
5. PI must be a full time KFUPM faculty member. Additional collaborators from KFUPM may be included as co-PIs. Major research activities must be at KFUPM.

² Appendix C: Consultation Service



6. If a previous POC application has been turned down, the PI may submit a revised proposal for reconsideration in the forthcoming POC grant cycle only.
7. PI and co-PI can only be a member in one POC grant proposal per grant cycle.

7. Evaluation Aspects³

Technical Aspects

- a. Quality and scholarship of the proposed concept
- b. Proposal alignment with the Kingdom and KFUPM Strategic research areas.
- c. Clarity and focus of the objectives (ready for development or still at research stage)
- d. Proposal milestones.

Business Aspects

- a. Probability that outcomes can enhance the Technology Readiness Level (TRL) of an existing patent/patent application.
- b. Innovation and novelty of the proposed concept in question (any existing IP)
- c. Significance of market need and opportunity (What is licensing potential?)
- d. Whether and the extent to which, the technology in question offers a competitive advantage over currently available technologies in market.
- e. A relatively clear path to a commercially viable technology.
- f. Potential impact and significance of results to the larger local industry.

Project Management

- a. Ability to achieve project goals within the proposed budget, project duration (6 months) and available resources at KFUPM.
- b. Team or Individual experience in project management (background experience on product development)
- c. Interest in commercialization.

Prototyping Aspects:

- a. Technical feasibility and risk of the project and/or technology in question
- b. Specifications of the prototypes to be developed are clearly defined.

³ Appendix B: Evaluation Sheet



- c. Development of a prototype based on the proposed idea falls under the scope and capabilities (including duration for development) of TAPC.
- d. All necessary recourses (technology/equipment/space/manpower etc.) needed to develop the prototype can be arranged within duration of the project.

8. Project Progress & Final Reports

The progress reports and final report should specifically address outcomes related to each specific objectives and a statement of any inventions made in the course of the performance of the project.

- The principle investigator will be responsible for preparation and submission of the progress and final reports.

A. Progress Report

- A detailed progress report at every three months from the grant starting date on Abhati for evaluation by POCC utilizing the *Progress Report Template* available on the DROC website.
- The progress report should also include a detailed financial report to verify appropriateness of expenses to the project.

B. Final Report

- The final report will be due within 30 days of the end of grant period.
- Use the *Type B Report* available on the DROC website.

9. Other Requirements: Terms and Conditions

- a. **Time and Effort:** The PI will commit his/her time and effort, as appropriate, to lead and oversee the project.
- b. **Inventions and Intellectual Property:** The PI must report any and all inventions to KFUPM's Innovation & Technology Transfer (ITT) office in advance of any public disclosure or within 30 days of the disclosure, in order to allow ITT to determine if such public disclosure contains new potentially patentable subject matter.

All outcomes (including all IP) of the project are considered a property of KFUPM as per KFUPM's IP policy.



- c. **Research Plan:** Any significant mid-course revisions to the project plan and milestones will require approval by POCC.
- d. **Milestones:** The applicant's proposal must comprise a project plan that includes proposed objective technical milestones, which need to be accepted by POCC. The achievement of such milestones will serve as key decision points for the assessment of progress and the determination of continued funding. A project may be terminated if agreed-upon technical milestones have not been met.

10. POC Grant Operational Plan

The POC grant operational plan comprises following steps:

1. DROC will announce the project. The announcement includes proposal guidelines, proposal submission form and point of contact.
2. The DROC will register the submitted proposal, assign proposal number and provide copies of the proposal to ITT.
3. The proposal will be assessed for market and management aspects by ITT (and if needed, external consultant shall be utilized).
4. DROC and ITT will work closely with principal investigators to provide assistance in the development of full proposals, in particular the identification of sound technical milestones and preparation of appropriate budgets.
5. If required, ITT shall share with TAPC to assess the proposal for prototyping needs.
6. DROC will assess the project proposal for its relevance with the strategic technological areas of KSA and will confirm the project's scope to be beyond basic/applied research.
7. DROC will evaluate whether the project goals are within the proposed budget and available resources at KFUPM.
8. The PI shall have to appear before the POCC for presentation and interview.
9. Based on the overall assessment, decision will be made by POCC
10. DROC will contact applicants with the final verdict and signing of the grant contract.
11. DROC would handle financial and resource management and ITT would monitor the progress.



Appendix A: POC Grant calendar

Start date for proposal submission	First week of semester
Submission deadline	30 days after start date
Proposal evaluation	Eligibility Screening
Announcement of eligible candidates	approx. 3 weeks from submission deadline
Announcement of interview and presentations	approx. 4 weeks from submission deadline
Announcement of successful projects	approx. 6 weeks from submission deadline
Commencement of project	approx. 7 weeks from submission deadline

Appendix B: Evaluation Sheet

	Criteria	Score (1-5) (1-Low, 5-High)	Comment
1	Projects novelty, scientific and technological level		
2	Strategic area relevance		
3	Degree of project readiness		
4	Evaluation of the methodology		
5	Evaluation of expected results		
6	Feasibility of requested funds (on basis of time and budget)		
7	Evaluation of available facilities (equipment, expertise)		
8	Market opportunity		
9	Project Management		
10	Competitive advantage		



Appendix C: Consultation Service

Consultation Service:

The consultation service excludes any kind of technical work and could include the following

- **Economic analysis:**

While university inventions are early stage (TRL 3-5), there is an increasing need where companies/potential licensees like to know the cost of a product/technology before deciding to license university intellectual property. A company would only license if the cost is lower than existing products/technologies. So in this category, a consultant would need to estimate the manufacturing cost of a scaled-up developed product/technology which is based on current stage invention. The analysis should consider the elements that constitutes the subject invention while estimating the cost (e.g. chemical and material ingredients, process used, electronics or other parts used). The deliverable should include a monetary value for the manufacturing cost and details of how the analysis was done by the consultant.

- **Startup Viability Assessment and Business Plan Generation**

A university's invention usually takes several commercialization paths depending on the technology and its position in the targeted market (R&D collaboration with a company, license of IP to an established company, forming a startup). A startup formation is usually decided based on several factors including technology being breakthrough (not incremental), availability of investments, team, technology's potential to compete in the market and startup's ability to get return of investment after few years.

In this type of service, a consultant is expected to assess whether forming a startup for the given invention is a viable option when compared to other commercialization paths. The assessment need to exclude the factor of investments. The deliverable should include go/no-go decision on startup detailing about the several factors considered. If it is a viable option than the consultant should provide a business plan detailing manufacturing costs, potential customers, return-on-investment, details of sellable product / service, financial planning, budgeting and marketing.



Appendix D: Acronyms

POC: Proof-of-Concept

TRL: Technology Readiness Level

POCC: Proof-of-Concept Grant Committee

DROC: Deanship of Research Oversight & Coordination

ITT: Innovation & Technology Transfer

TAPC: Technology Advancement & Prototyping Center

IP: Intellectual Property

PI: Principle Investigator

Co-PI: Co- Principal Investigator