

Stable and Sustainable R&D Funding

**Saudi Applied Research & Technology Initiative**

**Project-level Funding**

**Technology Breakthrough Grant (TBG)**

**Proposal Template**

# Saudi Applied Research & Technology (SART) Initiative for Project-level Funding

# Technology Breakthrough Grant (TBG)

## Proposals should tackle research and development problems in the applied research domain. The focus should be to demonstrate potential to advance current accumulated knowledge towards technology breakthrough which eventually lead to innovative and economic impact. The applicant should provide all details on the methodology which will be utilized to quantify and apply the knowledge accumulated from early or advance stages of applied research (i.e. publications, patents, concepts and innovative ideas, feasibility analysis, and proof of concept). In particular, developing a novel technique or profoundly improve current existing cutting-edge technology at the national or global level.

## Researchers are encouraged to use the same techniques as that of applied research, but with different objectives which includes designing, implementing, testing, feasibility analysis and prototyping for commercialization potentials and breakthrough. Proposed analytical and laboratory-scale studies should provide new insight and understanding on how the problem under investigation will be applied in its relevant environment. Research outputs of successful proposals should contribute to practically advance current cutting edge scientific activities to solve one or more challenges in the four areas of national research priorities. Refer to the program’s guidelines for additional details.

## Proposals submitted under the Saudi Applied Research & Technology (SART) initiative, specifically in the technology breakthrough grants (TBG) should propose projects in advanced stages of applied research (i.e. prototyping and MVPs) that have the potential to lead to future innovation, development and breakthrough. In general, through the SART initiative, RDIA is seeking to support research that will realize the following initiative objectives:

## Developing innovative technologies, solutions, and interventions to address KSA current challenges.

## Advancing sustainable technologies to support KSA’s goals and global indicators.

## Developing and commercializing innovative technologies to support economic diversification.

## Supporting the kingdom’s economy through emerging technologies and their application to various industries.

## Fostering entrepreneurship and innovation through investment in research and development, technology transfer, and commercialization of research outcomes to support the development of an innovation-based economy.

## RDI activities and initiatives must achieve the goals of the country’s 2030 vision through stimulating researchers to discover and develop new technologies and accelerating efforts towards prototyping or product development and building the necessary scientific skills and foundation.

**Budget and duration:** Grant cap SAR 20,000,000 for a duration of 5 years.

 **Document Format**

* **Research Narrative page limits**: 100 pages maximum. Excluding all graphs, images, tables, management plan, Gantt chart, and references. Save as PDF before uploading to the portal.
* **Fonts and font size**: Arial, Courier New or Palatino: 10 points or larger; Times New Roman, Calibri: 11 points or larger.
* **Margins:** At least 1.5cm on all sides. Single line space or larger.
* **Footer**: Include proposal title (smaller font size can be used) and page number (outside right corner)
* **References**: Use numbered referencing styles which is characterized by references indicated in-text by superscript numbers, or numbers in brackets.

**Project Proposal Template:**

Primary Principal Investigator (PPI) Name:

PPI Institution & Country:

Secondary Principal Investigator (SPI1) Name:

SPI1 Institution & Country:

Secondary Principal Investigator (SPI2) Name:

SPI2 Institution & Country:

…

**Section 1: Proposal Title**

Title of the proposal

**Section 2: Public Summary**

Provide a non-confidential overview of the research results to be translated (or technology). The quality of this summary should be of a standard that is suitable for publication. The audience for this summary includes non-academics and should not necessarily be limited to scientific principles and technical expertise, avoid the use of jargon. Summarize how the technology is unique/better/differentiated from existing technologies in the market and clearly state the unmet need/market gap/opportunity/challenge which the technology addresses.

**Section 3: Proposal Keywords**

List 6 Keywords that describe the main activities of the proposal topic.

**Section 4: Research Team Summary**

List the name of research team members and the name of the institution if any.

**Section 5: RDIA’s Focus Areas**

Select one of the RDI national aspiration and priorities, namely:

* Health & Wellness.
* Sustainability and Essential Needs.
* Energy and Industrials.
* Economies of the Future.

**Section 6: Budget and Timeline**

Translation Funding Program:

Project Budget: $

Project Duration (maximum 5 years): XX Months

Project Budget: Include the value of the grant application in SAR.

Project Duration: Specify project duration in months, 60 months is the maximum duration.

**Section 7: Intellectual Property**

Provide a list of all relevant IP with reference number(s) and Title: -

1. Ref Num, Title

2. Ref Num, Title

3. …

Ensure you include the following:

* Explain how the listed IP relates to the project objectives.
* Provide details of any IP which is licensed/assigned/encumbered/co-owned to or by a third-party.
* Is the project likely to produce new IP (patents, copyright, trade secret, trademark …)?

**Section 8: The Technology to Be Developed/Deployed**

Provide a summary of the background technical results, this should include, but not limited to:

* Abstract/Summary of Research carried out.
* Results achieved and technical advances to date and their impact.
* Uniqueness or novelty.
* Process / Methodology used.
* Graphical illustration (Graphs and pictures).
* Comparative analysis with state-of-the-art/other research.
* Current limitations of the technology/research.
* Potential to scale the technology.
* Potential users and stakeholders.
* Proof-of-concept, validation of a lab-scale prototype or system.

**Section 9: Technical Development Plan and Deliverables**

In this section clearly articulate the development plan describing how the technology will be translated and validated. The technical development plan should include a clear statement of what you propose to accomplish with the grant funds. It should include clear milestones (including go/no-go decision points) and unambiguous deliverables. Include details of how the outcomes and deliverables will be achieved.

Provide a clear project plan including:

The development you propose to undertake including motivations for each objective (scale-up, advancement, new process, validation, registration/certification, pilot, etc)

* A Gantt chart to summarize Work Packages, tasks, personnel, milestones and deliverables, Go/No-go decision points and timeline.
* Ensure all milestones and deliverables are quantifiable and measurable.
* A breakdown of the technical feasibility of the project, this should indicate the availability of practical/ technical resources and skills to carry out the project on time and within the budget. During the planning phase, external technical expertise/resources is strongly encouraged.
* Include a risk and mitigation plan, ensure you address any expected development challenges and pitfalls and the corresponding mitigation strategy.

Your technology development plan should clearly link the intended commercial plan with the outcome of the plan including:

* Desired level of maturity (reference TRL scale provided), including a motivation of your current estimated TRL and the desired TRL.
* Commercial validation plan
* Industry specifications or applicable standards

**Section 10: Commercialization Strategy - Outcome, And Market Opportunity**

Provide a basic commercialization plan, this should include:

* The particular problem/challenge/need which the technology addresses.
* An indication of the commercial viability of the technology (note: Market Readiness Levels are different to TRLs) - What is the technology value proposition?
* What problem does it solve? Why would someone pay for your proposed solution?
* An indication of who the customers are, and the market size is - List/tabulate the competitors in this space and indicate the competitive advantage in each case (please note it is unwise to think there are no competitors for a novel technology, research the state of the art carefully).
* Indicate any initial commercial interest in the technology (provide letters of interest/support if available).
* Include a preliminary business model canvas.
* Describe your plan to commercialize the technology. This is most likely one of two options:
1. Create / Build a company.
2. License the technology to a company.

**Section 11: Use of Funds/Resource Allocation**

Outline the proposed work and related budget:

Provide a summary of expenditure, including:

Outsourced rapid prototyping firms/other service providers = $

Consulting services on design/development or regulatory = $

Materials and consumables = $

Personnel = $

Equipment = $

Translation projects must be concluded within the allocated years; therefore they should have all the necessary resources in place to commence the project within 1-2 months of award notification. Any delays from award notification to the project commencement may result in your proposal not passing the final stage of approval and/or the award offer will be withdrawn.

Provide a summary of the expected use of funds:

* Outsourced rapid prototyping firms/other service providers.
* Consulting services on design/development or regulatory.
* Materials and consumables.
* Reallocation of existing personnel.
* Equipment.

Consider the following when setting budget:

* Access to existing resources necessary to meet the project deliverables within the allotted time.
* The extent of technical expertise in-house to deliver the project versus key external services.
* Are all the necessary resources (human, capacity, equipment, facilities) already in place?
* The space requirements to complete all phases of the project (be sure to indicate in your proposal the required space, size of the space, nature of the space, infrastructure, and capacity requirements).
* If resources are required, can these be procured in time to manage project timelines.

**Section 12: Success & Impact**

In this section the value and impact that will be created by a successful project will be evaluated. Explain the expected successes and increased potential of your technology if funded. Elaborate on your impact statement (See Section 9b) and how this plan will achieve your impact. What value will be achieved during the course of the proposed project. You may use the questions below to guide you:

* Will the conclusion of the project, as you have designed it, result in a clear level of commercial readiness or
* market acceptance?
* What is the potential impact and benefit to the Kingdom and beyond? (e.g., economic, societal, technical).

**SECTION 12a: Impact Statement on Current Status (Max 50 Words)**

Provide a succinct statement on the current status of the research/technology, this can include social, reputational and/or technical achievements to date.

Example:

IMPACT: Sleep lab research led to the discovery of a biological agent, removing the need for humans to sleep. The patented drug puts the Kingdom at the forefront of sleep research.

**SECTION 12b: Potential Impact Statement (Max 50 Words)**

Provide a statement that highlights the potential impact upon completion of the grant. The technology must be on a path towards impact in accordance with the vision, mission, key attributes, and values of the Kingdom. Impact is not the completion of the grant or the development of the technology but rather the social, technical, reputational, or economic value realized from the use of the technology by the intended market. Ways to demonstrate such impact could be encapsulated by a headline in a local newspaper describing the impact and benefit for the reader.

Example:

POTENTIAL IMPACT: "This technology development program will be the first to develop and deploy a revolutionary medication which removes the need for sleep, this will increase human productivity throughout the Kingdom and the world. The earning potential generated by this discovery equates to 500M SAR additional annual revenue for KSA residents.”

**Section 13: References**

* Add all relevant references.