Republic of the Philippines
Department of Science and Technology
Technology Application and Promotion Institute

CALL FOR PROPOSAL

Deadline: 15 July 2019

The Technology Innovation for Commercialization (TECHNICOM) Program implemented by the Department of Science and Technology (DOST) thru the Technology Application and Promotion Institute (TAPI) aims to fast-track the transfer, utilization and commercialization of R&D outputs to contribute to the country's sustainable development thru relevant technological platforms.

TECHNICOM Program is now ready to accept proposals for ***pre-commercialization of market and technically-viable technologies*** pipeline for CY 2020 funding.

ELIGIBILITY REQUIREMENTS

A. Proponent/Implementing Agency

The following may apply for this GIA support:

1. Research and Development Institutions (RDIs)
2. State Universities and Colleges (SUCs) and Private Higher Education Institutions (HEIs)
3. Technology Business Incubatees (TBIs) and/or start-up companies with previous DOST assistance on technology development phase

B. Project Leader

The project leader must not have unsettled accountabilities with the DOST System. The TECHNICOM Program Unit will determine the eligibility of the project leader based on his/her technical and managerial capabilities.

C. Collaborator/Technology Adoptor

The Program encourages S&T collaboration to contribute to the realization of DOST outcomes. Applicants are required to have at least one collaborator/cooperating agency/industrial partner who may eventually become a technology adoptor and/or potential investor. Any Filipino entity (public or private) may qualify as collaborator/technology adoptor.

D. Project Activities

The Program provides one-year grant for the following pre-commercialization activities:

1. Commercial Prototype Development
2. Pilot-Scale Testing/ Scaled-up Testing
3. Technology Validation
4. Field/Market Testing

The program does not cover the following:

1. Food formulation unless as functional food product designed for specific health-related problem or industry-solution
2. Establishment of facilities
3. Discovery, development of new products, establishment of proof of concept, and basic research
4. Technologies for extension purposes and not commercialization (i.e. farming/breeding techniques, management protocols, etc.)
5. Technologies without previously conducted and documented R&D output

OFFICE: TAPI Bldg., DOST Compound, Gen. Santos Avenue, Bicutan, Taguig City
Trunk Line: 837-2071 to 82 local 2150 to 67 / Direct Lines: 838-1115, 837-6188, 837-6189, 838-1112, 837-1170
Telefax Nos.: 838-1140, 837-6186, 838-1127, 837-2936
Website: http://www.tapi.dost.gov.ph / e-mail: tapi.dost@yahoo.com

6. Technologies ready for commercialization/market entry (request is geared for commercial production/manufacturing and expansion).

Technologies that are aligned with the Program's Priority Areas will be an advantage (please see Annexes).

COVERAGE OF ASSISTANCE

Financial assistance covers direct and indirect cost including personal services, maintenance and other operating expenses and equipment outlay. Budget details must be reflected in the Line-Item Budget (LIB), pursuant to the DOST-GIA guidelines.

REQUIREMENTS FOR SHORTLISTING

1. Concept proposal following the attached TECHNICOM format
2. Curriculum Vitae (CV) of the project leader
3. Line-Item Budget (LIB)

SUBMISSION

Interested applicants are encouraged to submit their concept proposal via electronic mail with subject title as: **TECHNICOM 2020: *Name of Agency / Project Title*** to tapitechnicom@gmail.com or submit via postal mail or facsimile before the closing date.

For inquiries, applicants may get in touch with the TECHNICOM Program Unit at telephone numbers (632) 837 2071 local 2157 or 2167 or telefax (632) 838 1127.

TIMETABLE/SCHEDULE

Stages	Indicative Period
Call for Proposals	03 June 2019
Deadline for Submission of Capsule Proposals	15 July 2019
Evaluation Period for Capsule Proposals	16 July to 31 July 2019
Information to Proponents on the Results of Shortlisting	1 August 2019
Commercial Viability Evaluation	1 August to 31 August 2019
Technical Evaluation Period of Full-blown Proposals	1 September 2019 to 30 November 2019
Processing of approval documents	1 December to 15 December 2019

Reminder:
Please note that incompletely and improperly filled proposal will be returned to the Proponent Agency.

EDGAR I. GARCIA
Director, TAPI
and Program Director, TECHNICOM

ANNEXES

Annex 1. Agriculture, Aquatic and Natural Resources (AANR) Priority Areas

Sub-sector	Priority Commodities	Pre-commercialization activities on:
Crops	• Abaca and other fiber crops • Coconut • Rice • Corn and Other Grains • Fruit Crops - Mango - Banana - Other tropical fruits (e.g. durian, jackfruit, pummelo, papaya, pineapple, citrus) • Legumes (e.g. mungbean, peanut and soybean) • Natural Sources of Dye • Pili and Cashew • Ornamentals (e.g cutflowers and foliage) • Medicinal Plants • Plantation Crops - Cacao - Coffee - Oil Palm - Rubber - Sugarcane • Rootcrops (e.g. sweet potato, cassava) • Vegetables (e.g. tomato, white potato, mushroom)	• Postharvest, processing and product development
Livestock	• Livestock - Swine - Goat - Sheep - Cattle (dairy and meat) -Carabao (dairy and meat) -Rabbit • Poultry - Chicken (meat and egg) - Duck (meat and egg) - Quail • Native animals - Chicken - Duck - Swine - Goat • Feed Resources	• Nutrition, feeds and feeding system • Vaccine, biologics and diagnostics • Product processing
Aquatic	• Crabs - Mangrove - Blue Swimming • Shellfish - Abalone - Mussel - Oyster • Finfishes - Milkfish - Tilapia - Endemic species - Sardines - Tuna • Shrimp	• Fish health, disease diagnostics and disease management • Nutrition, feeds and feeding system • Mechanization and automated systems for feeding, water and culture management, and post production • Postharvest handling, processing • Fishkill warning and mitigation systems and environmental

	• Seaweeds • Sea cucumber • Cephalopods - Cuttlefish, Octopus, Squid • Aquafeeds	management for sustainable aquaculture
Environment	• Biodiversity - Ecosystem (e.g. - mangrove, marine, - freshwater) - Microbial - Flora and Fauna - Ecotourism • Climate change adaptation and disaster risk reduction	• Continuous monitoring and managing HABs • Mitigating tools • Real-time Climatic and Weather Information; Stream Monitoring in the Learning Watersheds

Annex 2. Health Sector Priority Areas

Note: For Health-related proposals, to be qualified under the Program and to ensure safety and effectiveness, the technology must have completed human trials (at least Phase II)

Pre-commercialization activities on the following:

A. **DIAGNOSTICS** – for early detection of diseases (must be novel technologies)

Communicable Diseases

- Emerging infectious diseases
- Neglected Tropical diseases
- Organisms associated with Multi Drug Resistance
- Human immunodeficiency virus (HIV)
- Tubercolosis, all forms
- Gastro urinary tract (GUT), Gastrointestinal tract (GIT) and Hepatitis
- Respiratory diseases

Non-communicable diseases

- Malignant neoplasms, all sites
- Neurodegenerative and mental health disorders
- Metabolic Diseases, diabetes & other endocrine-related disorders
- Autoimmune/immunologic diseases or deficiencies
- Cerebrovascular disease
- Diseases of the cardiovascular system

B. **FUNCTIONAL FOOD** – Product development of food components that provide health benefits beyond basic nutrient function (i.e. reduce risk for disease occurrence, specifically lifestyle related diseases such as cardiovascular disease, diabetes, and cancer.)

- Local Fruits (guyabano, tiesa, mangosteen)
- Local Vegetables (malunggay, okra, saluyot)
- Rootcrops, tubers, and starchy food (yacon, sago, sweet potato varieties, purple yam)
- Rice (pigmented)
- Local berries (duhat, lipote, aratiles, bignay)
- Herbs and spices (tanglad, pandan, ginger e.g. turmeric)
- Nuts (pili)
- Seaweeds (lato, red seaweeds)
- Edible mushrooms

C. **HOSPITAL EQUIPMENT AND BIOMEDICAL DEVICES** – Development and Optimization of affordable, safe, and reliable hospital equipment and biomedical devices.

- Respiratory failure support
- Artificial body part replacement (Prosthesis)

- Rehabilitation medicine
- Eye health
- PWD assistive devices
- Hospital waste management
- Personal protective equipment
- Wound care
- Spinal Disorders
- Primary Health care
- Post-operative care
- Orthopedic surgery
- Hemodialysis (consumables)
- Minimally invasive surgical procedures

Annex 3. Industry Sector Priority Areas

Pre-commercialization activities on the following:

<table>
<tr><td colspan="2">Food Security</td></tr>
<tr><td colspan="2">• Migration test kit for various food packaging materials (contamination of the materials/ chemical properties of packaging materials to the food and vice versa)
• Functional/ innovative food products (esp. value-adding of fishery products i.e. fish oil, chitin, collagen)</td></tr>
<tr><td colspan="2">Countryside Development</td></tr>
<tr><td colspan="2">• Agro-processing, value-adding
• Improvement of textile processing</td></tr>
<tr><td colspan="2">Competitive Industries</td></tr>
<tr><td colspan="2">• ICT, Electronics and Semiconductor (i.e. AI for Industry, Transport and Education)
• Value-adding for Copper, Iron, Chromite, Nickel, Chromium and Gold for industrial application
• Metals and engineering (i.e. advanced machine-based or machine aided metalworking and testing and technologies for disposal, recycling and treatment of metal wastes) e.g. cost-efficient manufacturing to increase local content of Automotive, and/or train parts and food processing equipment for MSMEs
• New construction materials
• Smart and green packaging technologies</td></tr>
<tr><td colspan="2">Delivery of Social Services</td></tr>
<tr><td colspan="2">• Air pollution control and management
• DRR/CCA Proofing infrastructure systems
• Instrumentation for early warning, monitoring and rapid assessment
• Human security</td></tr>
<tr><td colspan="2">Intelligent Transportation Solutions</td></tr>
<tr><td colspan="2">Intelligent transport system (e.g. automated parking space detection system)</td></tr>
<tr><td colspan="2">Energy</td></tr>
<tr><td>Solar</td><td>Localization of efficient solar thermal system, i.e. concentrator, collectors, for drying, and potable water production</td></tr>
<tr><td rowspan="2">Biomass</td><td>Biofuel Fuel performance testing, durability, fuel systems and engine components impact assessment
- Higher blend, Combined feedstock</td></tr>
<tr><td>Production of hydrogen gas using environmentally sound technologies like the application of bioreactors and other processes</td></tr>
<tr><td rowspan="2">Micro-Hydro</td><td>Localization of high-efficiency turbines</td></tr>
<tr><td>Upgrading of micro-hydro power performance testing</td></tr>
<tr><td>Ocean</td><td>Ocean energy harvesting device</td></tr>
<tr><td rowspan="2">Enercon</td><td>Building Management Systems</td></tr>
<tr><td>Energy efficiency devices and technologies
- Sensors, integration monitoring software, automation and</td></tr>
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	control systems
Low-Enthalpy Geothermal	Heat pump technology for low-enthalpy application
Energy Storage Solutions	•Energy efficiency/ alternative fuels and conservation (i.e. smart energy efficient systems for low carbon economy) •Renewable energy and Bioenergy technologies (e.g. technologies for off-grid power supply, thermos/electro/ biochemical hydrogen production, solar power concentrators, solar heating and cooling technologies) •Functional materials for alternative energy sources, conservation and storage
Materials Science	
Materials for Sensors	Deployment, evaluation, testing studies and possible scale up studies on sensor materials to make suitable for large scale production
	Sensors lab-scale prototype demonstration (field deployable, integration) a) Potentiometric b) Amphoteric c) Photometric d) Colorimetric e) Spectroscopic f) Touch sensitive material sensor g) sensors for health, water, air, soil, food
Coatings PVD and Plasma Thermal spray and electrodeposition (DC plating and pulse plating)	Optimized and robust coating processes for various applications
	Metal-oxide composite coatings via electrodeposition
	Anti-foul coated materials
	Pilot scale metallic inorganic / alloy coating by electrodeposition
	Superconducting Structures for Magnetic Shielding
Advanced Polymers, Fibers and Composites	Advanced Polymers, Fibers and Composites
	Flexible electronics
Electronics and Semiconductor Materials	Printed electronic devices for target applications: sensors, energy storage, smart labels, etc.
	Semiconductor Materials - demonstrate Logic circuits a) pn diode: silicon, polysilicon, III-V b) Schottky diode: ZnO, TiO2, Si, Ge c) heterojunction diode: ZnO/Si, CuO/ZnO d) Field emission transistor: III-V compound, spin, tunnelling, ferroelectric Electronics Device Fabrication - process demonstration a) Contacts and Interconnects = Industry compatible b) Barriers and Dielectrics = Ultra-thin barrier, low-k dielectric c) Doping = Selective d) Packaging = Thermal management polymer e) Deposition = Printed electronic devices f) Optoelectronics- cost-effective, power-efficient LEDs
	Creation of new organic semiconductor material
	Magnetic imaging device
	Utilization of recovered metal powder for various applications
Materials for Energy – Superconductors	Superconducting Transformer
Materials for Energy – Photovoltaics	Cost-competitive dye-sensitized solar cell (DSSC)
Materials for Energy – Silicon	Cost competitive solar cells bulk
Materials for Energy – Alternative and Renewable	Practical-scale device demonstration Demonstration / Installation of the membrane in an existing Biogas facility—scaling and performance / efficiency monitoring

Materials for Energy – Energy Storage Devices	Practical-scale device demonstration
Materials for Energy – Others	Superconducting transformers
Packaging Materials / Technology for Agri- and Food Products	Biodegradable polymers and composites
Biomaterials	Bioactive material for orthopedic applications; Material for sutures and wound dressings
	Polymer for bio-mimicking
Green Materials / Materials for Remediation	Membrane-based system for water treatment; Materials and processes for desalination