



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

005

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**DOST-TAPI Administrative Order Number 2023-
Series of 2023**

**SUBJECT: Revised Implementing Guidelines for Honing Innovations,
Research, Agreements and Negotiations of the Government-
Funded Technologies (HIRANG) 2.0 Program**

Section 1. Background

- 1.1. The Department of Science and Technology-Technology Application and Promotion Institute (DOST-TAPI), created by virtue of Executive Order (EO) No. 128, s. 1987, is one of the DOST's service agencies whose primary responsibility is to promote the commercialization of technologies and market the services of other operating units of the Department. Further, DOST-TAPI's function was expanded by virtue of Republic Act (RA) No. 7459 otherwise known as the "Inventors and Invention Incentives Act of the Philippines". The law provides various assistance to Filipino Inventors aimed at accelerating the development and commercialization of their viable inventions.
- 1.2. The DOST agencies including the DOST-TAPI implements several programs to assist the development of technologies that are geared toward market readiness. DOST-TAPI promotes the commercialization of technologies which can further be attained through programs that would assist startups and spin off companies to boost their investment readiness level.
- 1.3. In general, access to finance by startup and spin off companies is constrained by demand-side weaknesses. Most businesses are not investment ready to further the commercialization of the technology. Their owners are willing to seek external equity finance, however, they do not understand what equity investors are looking for or how to "sell" themselves and their businesses to potential investors. These weaknesses, in turn, compromise the effectiveness of supply-side interventions, such as initiatives to stimulate business angels or which create public sector venture capital funds.
- 1.4. The same is true to technology-based enterprises' startups and spin-offs. DOST's and its partners' home-grown technologies are also experiencing the same dilemma when offering their businesses to potential investors. The experience of having difficulty with the low rate of technology adoption and transfer is evident in almost all of the small businesses in the Philippines.
- 1.5. For years, the Investment and Business Operations Division (IBOD) of DOST-TAPI has been implementing programs of assistance to micro, small and medium enterprises (MSMEs) supporting the commercialization of technologies. In the course of its evaluation of project proposals, there were businesses that are not yet investable however, have potentials to flourish if appropriate assistance to improve investment readiness will be provided.

- 1.6. A higher investment readiness level builds confidence and trust by the investors to the startups and spin-offs companies. The higher the investment level, the higher the investors partake of resources for the business. This has led to the emergence of investment readiness programs which seek to increase the pool of investable businesses.
- 1.7. Through the Honing Innovations, Research, Agreements and Negotiations of the Government-Funded Technologies (HIRANG) 2.0 Program investment readiness level will be improved and potential for funding support can be assured.
- 1.8. This Order is formulated to come up with prescribed policies and implementing rules relevant to the implementation of the HIRANG 2.0 Program and in order to facilitate the efficient, expeditious, and practical way of accomplishing the same.

Section 2. Program Description

2.1. The Program provides assistance through consultancy services, capacity building and other forms of financial assistance to increase the investment readiness level of the spin-offs and startups of the DOST-generated and funded technologies. Below are specific interventions of the HIRANG 2.0 Program:

| No. | Activities | Short Description | Areas of Concerns | Output |
|-----|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| 1 | Investment and Business Development Seminars | The activity aims to empower startup and spin off companies by providing knowledge about alternative sources of financing, investment readiness awareness, financial planning, etc. | General Information on Business Development and Financing | Awareness on Investment Readiness |
| 2 | Assessment of Investment Readiness Level | Identify beneficiaries through business needs assessment. The potential beneficiaries will be assessed based on the set IRL stage of business development | Investment Readiness Level | Investment Readiness Level of identified beneficiaries |
| 3 | Consultancy Services | Identify the current status of intellectual property (IP) asset/s of the beneficiaries through the conduct of IP audit, as well as identify IP-related problems and generate IP-based solutions. | Existing and Potential IP Assets of the beneficiary | IP Business Portfolio |
| | | Identify the current status of the business model of the beneficiaries and formulate strategies to streamline activities, improve value propositions, strengthen partnerships and expand business operations. | Business Model | Business Model Canvas |
| 4 | Mentoring | Based on the diagnosis of its investment readiness, and the status of its IP and business strategies, the identification for a | Management of team, intellectual property, market analysis, market positioning and market validation, | Mentoring of Beneficiaries |

| | | | | |
|---|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| | | more thorough consultancy assistance through mentoring will be provided in order to accelerate companies to become easier to sell to investors than those that are still at the ideas stage. | business models, competition, differentiation and barriers to entry, future products/services, and financial planning. | |
| 5 | Business Portfolio Presentation Assessment and Review | The startups and spin off companies will be capacitated on the presentation of investment portfolios. The importance of knowing how to present an opportunity effectively to potential investors can be regarded as one specific aspect of being „investor ready“ as it requires an understanding of what (different types of) investors look for in an opportunity and an ability to anticipate and address the concerns of investors. | Review and Assessment of the Business Portfolio prepared by the startups and spin off participants | Presentation for Investment Networking |
| 6 | Investment Networking | Linkage between the businesses that have completed the program and potential investors will be the culmination of the programs of assistance since the proponents will be connected to possible investors. | Investor-entrepreneur networking events | New Linkages |
| 7 | Negotiations and Licensing | The Program would also intend to facilitate negotiation and licensing activities to identified investors | Investor Negotiation and Licensing | Licensing Agreements |

The consultancy and mentoring activities will be done in a span of three to four months depending on the complexity of the topics. Beneficiaries will have to undergo and finish the courses included in the topics under these activities.

Section 3. Definition of Terms

The terms used in the Implementing Guidelines shall mean as follows:

- 3.1. **Business Development** – refers to the activity of pursuing strategic opportunities for a particular business or organization, for example by cultivating partnerships or other commercial relationships, or identifying new markets for its products or services.
- 3.2. **Business Management** – refers to the managing the coordination and organization of business activities.

- 3.3. **Commercialization** – refers to the process of deriving income or profit from a technology, such as the creation of a spin-off company, or through licensing, or the sale of the technology and/or Intellectual Property Rights (IPRs).¹
- 3.4. **Critical Technology Elements (CTE)** – refers to when the system being acquired depends on the technology element to meet operational requirements (with acceptable development, cost and schedule; and with acceptable production and operations costs) and if the technology element or its application is either new or novel. Said another way, an element that is new or novel or being used in a new or novel way is critical if it is necessary to achieve the successful development of a system, its acquisition, or its operational utility.²
- 3.5. **DOST – Generated or Funded Technologies** – refers to technologies which are outputs of Research and Development activities funded by the DOST and any of its attached agencies.
- 3.6. **DOST-TAPI Executive Committee (EXECOM)** – refers to the DOST-TAPI Division Chiefs, and Head of Legal Unit including the Director or the Officer-In-Charge that facilitate the recommendation and approval of the project proposal.
- 3.7. **Financial Management** – refers to the planning, organizing, directing and controlling the financial activities such as procurement and utilization of funds of the enterprise. It means applying general management principles to financial resources of the enterprise.
- 3.8. **Government Funding Agency (GFA)** – refers to any government agency or instrumentality, or government owned and/or controlled corporation that provides research grants and other technical and material support, from government appropriations and resources and those sourced from government-managed Official Development Assistance (ODA) funds.³
- 3.9. **Higher Education Institutions (HEI)** – refers to an educational institution, private or public, undertaking operations of higher education program/s with an organized group of students pursuing defined studies in higher education, receiving instructions from teachers, usually located in a building or group of buildings in a particular site specifically intended for educational purposes⁴. Private HEIs include not only universities and colleges but also various private professional schools such as, but not limited to, Ateneo de Manila University,

¹ Rule 3(d).

<https://www.dost.gov.ph/phocadownload/Downloads/Resources/IRR/IMPLEMENTING%20RULES%20AND%20REGULATIONS%20OF%20REPUBLIC%20ACT%20NO.10055.pdf>

² Item 3.0. <https://www.directives.doe.gov/directives-documents/400-series/0413.3-EGuide-04-admchg1/@images/file>

³ Rule 3(g).

<https://www.dost.gov.ph/phocadownload/Downloads/Resources/IRR/IMPLEMENTING%20RULES%20AND%20REGULATIONS%20OF%20REPUBLIC%20ACT%20NO.10055.pdf>

⁴ Section 5(16). <https://ched.gov.ph/wp-content/uploads/2017/10/CMO-No.40-s2008.pdf>

De La Salle University, University of Santo Tomas, etc. that conduct scientific researches.

- 3.10. **Intellectual Property Right (IPR)** – refer to those rights recognized and protected in Republic Act No. 8293, otherwise known as the “Intellectual Property Code of the Philippines”, as amended. IPRs shall also include Plant Variety Protection as the term is defined under Title II, Sec 3(j) of Republic Act No. 9168.⁵ IPR consists of:
- 3.10.1. Copyright and Related Rights;
 - 3.10.2. Trademarks and Service Marks;
 - 3.10.3. Geographic Indications;
 - 3.10.4. Industrial Designs;
 - 3.10.5. Patents;
 - 3.10.6. Layout-Designs (Topographies) of Integrated Circuits; and
 - 3.10.7. Protection of Undisclosed Information (n, TRIPS).⁶
- 3.11. **Investment and Business Operations Division (IBOD)** – refers to DOST-TAPI Division that handles the commercialization assistance of DOST-TAPI to Entrepreneurs/ or MSMEs; Division responsible in providing financial support and business operations' improvement services.⁷
- 3.12. **Investment Readiness Level** –refers to an organization's ability to successfully participate in the social finance market. Please see attached table for the hierarchy of investment readiness.
- 3.13. **Marketing Management** – refers to the organizational discipline which focuses on the practical application of marketing orientation, techniques and methods inside enterprises and organizations and on the management of a firm's marketing resources and activities.
- 3.14. **Micro, Small and Medium Enterprises (MSMEs)** – refers to any business activity or enterprise engaged in industry, agribusiness and/or services, whether single proprietorship, cooperative, partnership or corporation whose total assets, inclusive of those arising from loans but exclusive of the land on which the business entity's office, plant, and equipment are situated, must have value falling under the following categories:

| ASSET VALUE ⁸ | | | EMPLOYMENT |
|--------------------------|--------------|--------------|------------|
| MICRO | less than | P 3,000,001 | 1 to 9 |
| SMALL | P 3,000,001 | P15,000,000 | 10 to 99 |
| MEDIUM | P 15,000,001 | P100,000,000 | 100 to 199 |

⁵ Rule 3(j).

<https://www.dost.gov.ph/phocadownload/Downloads/Resources/IRR/IMPLEMENTING%20RULES%20AND%20REGULATIONS%20OF%20REPUBLIC%20ACT%20NO.10055.pdf>

⁶ Section 4(4.1.). <https://www.officialgazette.gov.ph/1997/06/06/republic-act-no-8293/>

⁷ <http://www.tapi.dost.gov.ph/transparency/about-us>

⁸ Section 3. https://lawphil.net/statutes/repacts/ra2008/ra_9501_2008.html

- 3.15. **Research and Development (R&D)** – refers to creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and to use this stock of knowledge to devise new applications. The aforementioned creative work not only refers to work subject of copyright protection but also to all potential IPRs.⁹
- 3.16. **Research and Development Institute (RDI)** – refers to a public or private organization, association, partnership, joint venture, higher education institution or corporation that performs R&D activities and is duly registered and/or licensed to do business in the Philippines, or otherwise with legal personality in the Philippines. In the case of private RDIs, they shall be owned solely by the citizens of the Philippines or corporations or associations at least sixty per centum of the capital of which is owned by such citizens. This does not include RDIs covered by international bilateral or multilateral agreements.¹⁰
- 3.17. **Spin-off firm or company (Spin-off)** – refers to a juridical entity that is an independent business technology taker with a separate legal personality from the Government Funding Agency (GFA), Research and Development Institute(RDI) and researcher created through the initiative of the researcher-employee who generated the technology.¹¹
- 3.18. **Start-ups** – refers to any person or entity registered in the Philippines which aims to develop an innovative product, process, or business model. A person refers to a natural person who is a Filipino Citizen or a foreign national. An entity refers to a juridical person registered in the Philippines, including but not limited to, sole proprietorship, company, partnership, joint venture, cooperative, or association.
- 3.19. **Technology** – refers to knowledge and know-how, skills, products, processes, and/or practices.¹²
- 3.20. **Technology Readiness Level** – refers to a method of estimating the technology maturity of Critical Technology Elements (CTE) of a program during the acquisition process. Please see attached table for the different Technology Readiness Levels.

⁹ Rule 3(r).

<https://www.dost.gov.ph/phocadownload/Downloads/Resources/IRR/IMPLEMENTING%20RULES%20AND%20REGULATIONS%20OF%20REPUBLIC%20ACT%20NO.10055.pdf>

¹⁰ Rule 3(s).

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¹¹ Rule 3(y).

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¹² Rule 3(z).

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- 3.21. **Technology transfer** – refers to the process by which one party systematically transfers to another party the knowledge for the manufacture of a product, the application of a process, or rendering of a service, which may involve the transfer, assignment or licensing of IPRs.¹³

Section 4. Objectives

The Program aims to:

- 4.1. Identify solutions to challenges encountered by the MSMEs (either pre-identified by the MSME or identified by the TAPI/Mentor, or both)
- 4.2. Increase the level of Investment Readiness of technology-based startups and spin off companies
- 4.3. Gender Equality Goals and Outcomes
 - 4.3.1. Increased access of women to all programs and services of the Institute;
 - 4.3.2. Enhanced gender responsiveness in the entire operation of the Institute to ensure that services are participatory, fair, empowering, and sustainable; and
 - 4.3.3. Enhanced equal opportunity principles of men and women beneficiaries of HIRANG 2.0 in their employment process.
- 4.4. Readiness for Funding Proposal to various DOST-TAPI-programs of assistance;
- 4.5. Forge partnerships and linkages with potential investors; and
- 4.6. Facilitate licensing and negotiations with investors

Section 5. Assistance Coverage

- 5.1. The assistance covers the payment of the professional fees of consultants and experts that will conduct consultancy services and training to the qualified beneficiaries; and
 - 5.1.1. The assistance may cover additional cost for production of samples amounting to not more than Two Hundred Fifty Thousand Pesos (Php250,000.00) per project *(to be offered for DOST-RDI GAA-funded technologies)*.

¹³ Rule 3(bb).

<https://www.dost.gov.ph/phocadownload/Downloads/Resources/IRR/IMPLEMENTING%20RULES%20AND%20REGULATIONS%20OF%20REPUBLIC%20ACT%20NO.10055.pdf>

Section 6. Eligibility

To qualify to the Program, the Proponent should satisfy ALL of the following:

- 6.1. Filipino-owned startup companies where the technology generator or researcher is involved in the business operations or act as consultant/s; and/or
- 6.2. Or Spin-off companies of the DOST-RDIs; and

Duly registered Sole Proprietor; or a Corporation or Partnership at least sixty percent (60%) ownership of which belongs to Filipino Citizens.

Section 7. Repealing Clause

- 7.1. All previous DOST-TAPI issuances inconsistent with the foregoing provisions are hereby amended or modified accordingly. This Order shall supersede all contrary provisions of any previously issued guidelines on this service.


Section 8. Separability Clause

- 8.1. In the event that any of the provisions of this Order is held invalid or unconstitutional, the other provisions not affected thereby shall remain valid and subsisting

Section 9. Effectivity

- 9.1. This Order shall take effect after fifteen (15) calendar days from its publication either to the DOST-TAPI Website, Official Gazette or newspaper of General Circulation.

Taguig City, Philippines, _____ 2023.


ATTY. MARION IVY B. DECENA
Director

Technology Readiness Level (TRL)

| TRL Rating Scale | | Key Indicators |
|------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------|
| 9 | Actual technology proven through successful deployment in operational setting | Fully commercial; Production fully operational |
| 8 | Actual technology completed and qualified through tests and demonstrations | Technology validation to meet requirements |
| 7 | Prototype ready for demonstration in an appropriate operational environment | Prototype near / at final form; Field testing |
| 6 | System / subsystem model or prototype demonstration | Fully-functional prototype; Testing in high-fidelity setting |
| 5 | Component and / or validation in a simulated environment | Relevant environment testing; Rigorous lab testing |
| 4 | Component and / or validation in a laboratory environment | Bench-scale testing; component integration |
| 3 | Analytical and experimental critical function and / or proof of concept | Initial laboratory testing |
| 2 | Technology concept and / or application formulated | Application identified |
| 1 | Basic principles of concept observed and reported | Basic research |

Technology Readiness Level (TRL)

| IRL Rating Scale | | Key Indicators |
|------------------|----------------------------------|-------------------------------|
| 9 | Validated metrics | Standard metrics |
| 8 | Validated market and partner | Partnerships |
| 7 | Second prototype | Commercial prototype |
| 6 | Validated revenue model | Financial projections/Revenue |
| 5 | Product-market fit | Market Channels |
| 4 | Prototype / MVP | Sample working product |
| 3 | First pass business model | Business framework |
| 2 | Market size competitive analysis | Market research |
| 1 | Problem-solution fit | Customer Challenge |