

Fostering Innovation for Growth: Insights from the 2021 PIDS Survey of Innovation Activities

August 10, 2023



DEPARTMENT OF SCIENCE AND TECHNOLOGY
PHILIPPINE COUNCIL
FOR INDUSTRY, ENERGY,
AND EMERGING TECHNOLOGY
RESEARCH AND DEVELOPMENT
(DOST-PCIEERD)

INNOVATION  COUNCIL
FOR INDUSTRY, ENERGY AND EMERGING TECHNOLOGIES (DOST-PCIEERD)

Reactions to Recommendations

1. Working with the private sector to foster innovation, enhance digital skills and adoption of data governance frameworks

Establish good governance and digital transformation strategies through:

- Employing **big data analytics** - how data is efficiently generated; maintained well, logically assessed and optimally utilized for making future decisions based on the results produced;
- Data analytics skills and capacities - improved data quality; decreased data management costs; provide avenues to access needed data for **scientists, analysts** and **business users**;
- Establish a concrete policy on strategic public and private partnership to invest in building a **complete data and analytics platform** for social support and alignment, developing mindset and new concepts and ideas to improve government and business processes.



2. **Whole-of-society approach** - Policy directives to **strengthen partnership** with relevant institutions to enhance **mutually reinforcing collaborations** regarding innovation policies and their implementation:

- Revisit institutional arrangements to address the **vertical and horizontal fragmentation** and promote information sharing and cooperative **knowledge management**;
- **Top officials with clearly defined functions** such as advisory and information sharing, policy analysis and development and implementation monitoring and oversight;
- **Expanding network of key stakeholders** to collaborate across departments and agencies, outside of institutional borders to identify shared needs, pinpoint potential gaps and redundancies, lead process redesign efforts, facilitate and articulate best practices, and leverage shared solutions.



Consider future research as proposed by OECD study:

Specific analyses directed to deepening the understanding of certain types of flows in national innovation systems:

- 1) human resource flows;
- 2) institutional linkages;
- 3) industrial clusters; and
- 4) innovative firm behavior.



DOST-PCIEERD

NEXUS of INNOVATION



DEPARTMENT OF SCIENCE AND TECHNOLOGY
PHILIPPINE COUNCIL
FOR INDUSTRY, ENERGY,
AND EMERGING TECHNOLOGY
RESEARCH AND DEVELOPMENT
(DOST-PCIEERD)

INNOVATION  COUNCIL
FOR INDUSTRY, ENERGY AND EMERGING TECHNOLOGIES (DOST-PCIEERD)

NURTURING AN INCLUSIVE INNOVATION ECOSYSTEM

Harnessing S&T Capabilities

- Support to Research Laboratories and Facilities (IDP)
- Support to Regional Networks
- Support to *Balik* Scientist (BSP)
- Building the capacity of Researchers, Scientist and Engineers (RSEs) for IEET

Fusing Technology and Business

- Technology Business Incubation Program
- Startup Development Program
- Technology Transfer Program (FASTRAC and IMPACT)

Establishing an Enabling Policy Environment

- Policy Development & Advocacy

Providing S&T Interventions for Resilient and Sustainable Communities

- Energy
- Transportation
- Utilities
- Environment Sector (Solid, Air, Water Quality)
- Disaster Risk Reduction and Climate Change Adaptation Sector
- Construction
- Convergence of Emerging Technologies (Smart Cities)
- Human Security
- Pandemic related Initiatives

Providing S&T Interventions for Industry Productivity and Competitiveness

- Food Sector
- Textile Sector
- Agro-industrial processing Sector
- Chemical and biological Sector
- Creative Industries – Footwear and Furniture, Game, Film and Animation
- Metals and Engineering
- Mining and Minerals
- Industry 4.0

Enabling/Development of Core Technologies

- Advanced Materials
- Electronics
- ICT Innovations
- Artificial Intelligence
- Data Science
- Unmanned Vehicle Systems
- Nanotechnology
- Optics and Photonics
- Space Technology Applications
- Quantum Computing

**PCIEERD
Sectoral
Roadmaps**

**Impact
Assessment**

Science Communication

Overarching Goal

NURTURING AN INCLUSIVE INNOVATION ECOSYSTEM

The PCIEERD, as one of the Sectoral R&D Councils of the Department of Science and Technology, acts as a **major catalyst** in enhancing government, academe and business sector collaborations, **nurturing innovation ecosystems** that cultivate favorable environments and encourage local innovators to **create knowledge** and **capture business value**.



Three essential pillars contribute to the realization of this goal:

1. **Harnessing S&T Capabilities**: The educational and research institutions are considered as the **prime knowledge generators** in the innovation ecosystem:

- Universities as knowledge creation and diffusion centers
- Articulate and invest in R&D activities that bolster scientific capabilities
- Enhance capabilities through upgraded facilities and Laboratories



2. **Fusing Technology and Business:** The fusion of S&T and the business sector in generating wealth and competitive advantage for the country is essential:

- Enable industries to **respond** to government incentives with **increase** in their **direct** involvement on or **contribution** to R&D and innovation initiatives,
- Enable businesses to provide **knowledge** and **avenues** that support entrepreneurial and business activities.
- Establish strategies with emphasis on **technology adoption and assimilation by industries and businesses.**



3. Establishing an Enabling Policy Environment

Policies and regulations in economic sectors should be well-aligned with national effort to establish an effective and productive innovation ecosystem spearheaded by S&T interventions. The success of every scientific endeavor largely depends upon a nation's policy environment that supports and nurtures the innovative capacities of its institutions.

- R.A. No. 11337 or the “Innovative Startup Act.”
- R.A. No. 7687 or the “Science and Technology Scholarship Act of 1994”
- R.A. No. 8749 or the “Philippine Clean Air Act of 1999.”
- R.A. No. 11035 or the “Balik Scientist Act of 2018.”
- R.A. No. 11363 or the “Philippine Space Act.”
- R.A. No. 8292 or the “Higher Education Modernization Act of 1997.”
- R.A. No. 10173 or the “Data Privacy Act of 2012.”
- R.A. No. 11914 of the “Provincial Science and Technology Act.”
- R.A. No. 8439 or the “Magna Carta for Scientists, Engineers, Researchers, and Other Science and Technology Personnel in Government.”



PROVIDING S&T INTERVENTIONS FOR RESILIENT AND SUSTAINABLE COMMUNITIES

This program provides for the development of scientific and technological interventions that contribute to resilient and sustainable communities by considering and addressing **multiple** human needs; reflecting the **interdependence** of economic, environmental, security and social issues



Energy efficiency



Transportation



Climate Change Adaptation



Disaster Risk Reduction & Management



Environment



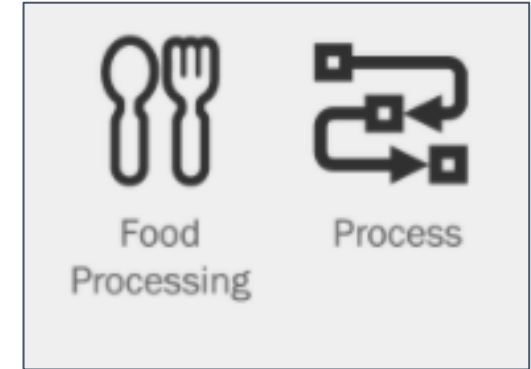
Human Security



PROVIDING S&T INTERVENTIONS FOR INDUSTRY PRODUCTIVITY AND COMPETITIVENESS

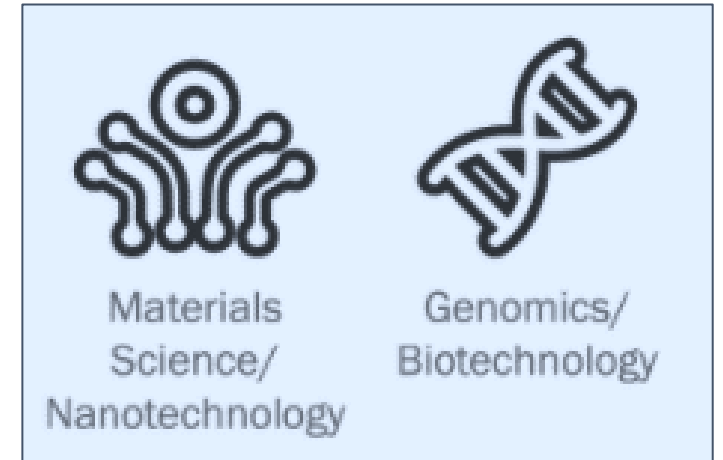
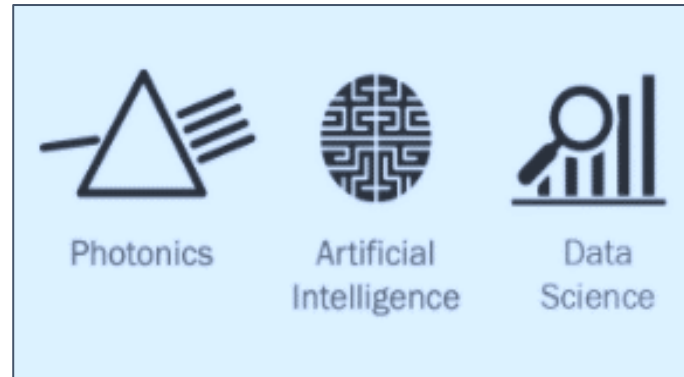
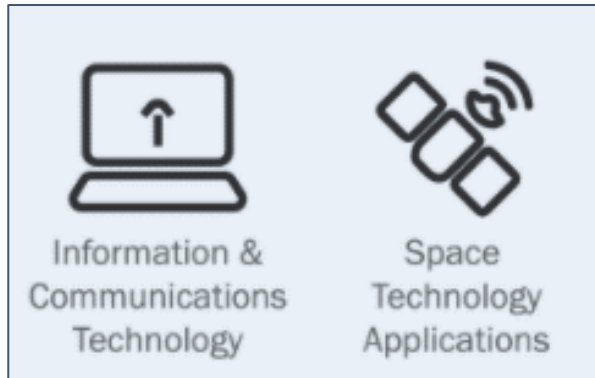
This program provides for the development of scientific and technological interventions that contribute to the industries' **productivity and competitive advantage** through:

- More micro, small and medium enterprises (MSMEs) developing and producing competitive and world-class products and services
- More industries enabled by state-of-the-art R&D, technologies and science-based solutions, moving up the value chain and attracting foreign direct investments
- Food industry to provide nutritious, safe and affordable food for all, at all times.



ENABLING/DEVELOPMENT OF CORE TECHNOLOGIES

Core technologies serve as building blocks that can be combined or integrated for breakthrough innovations that drives many industries and transforms global economy.



IMPACT ASSESSMENT



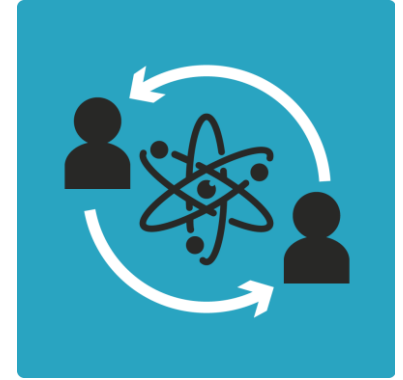
This program provides for the **determination of the effectiveness and success** of the significant **investments** made by the Council on research and development (R&D), information dissemination and technology transfer activities and initiatives, and assessing the significance of changes brought about by those activities, both intended and unintended.



SCIENCE COMMUNICATION FOR INNOVATION

Communication of scientific information with potential users and the public is an important aspect of science and technology. As Science Communication (Scicom) is a rapidly expanding discipline, having both practical and theoretical features that are critical to today's developmental challenges. PCIEERD provides support for undertakings towards an ***integrated, inclusive, and innovative*** approach of the said discipline in the country.

“Making Innovations Work for You”



Thank you



DEPARTMENT OF SCIENCE AND TECHNOLOGY
PHILIPPINE COUNCIL
FOR INDUSTRY, ENERGY,
AND EMERGING TECHNOLOGY
RESEARCH AND DEVELOPMENT
(DOST-PCIEERD)

INNOVATION  COUNCIL
FOR INDUSTRY, ENERGY AND EMERGING TECHNOLOGIES (DOST-PCIEERD)