

PCIEERD R&D Priority Thrusts

Engr. Raul C. Sabularse

Deputy Executive Director and OIC, Office of the Executive Director

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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)

Mandate and Function

VISION

The PCIEERD envisions to be recognized for the quality of its people, leadership and performance and contribute to the nation's productivity and competitiveness.

MISSION

To lead and partner with public and private institutions in generating S&T policies, strategies and technologies that will contribute significantly to national development.



Formulate policies and provide R&D directions, plans, programs and strategies for S&T – based delineated sectors



Coordinates, evaluates and monitors R&D programs, projects and activities



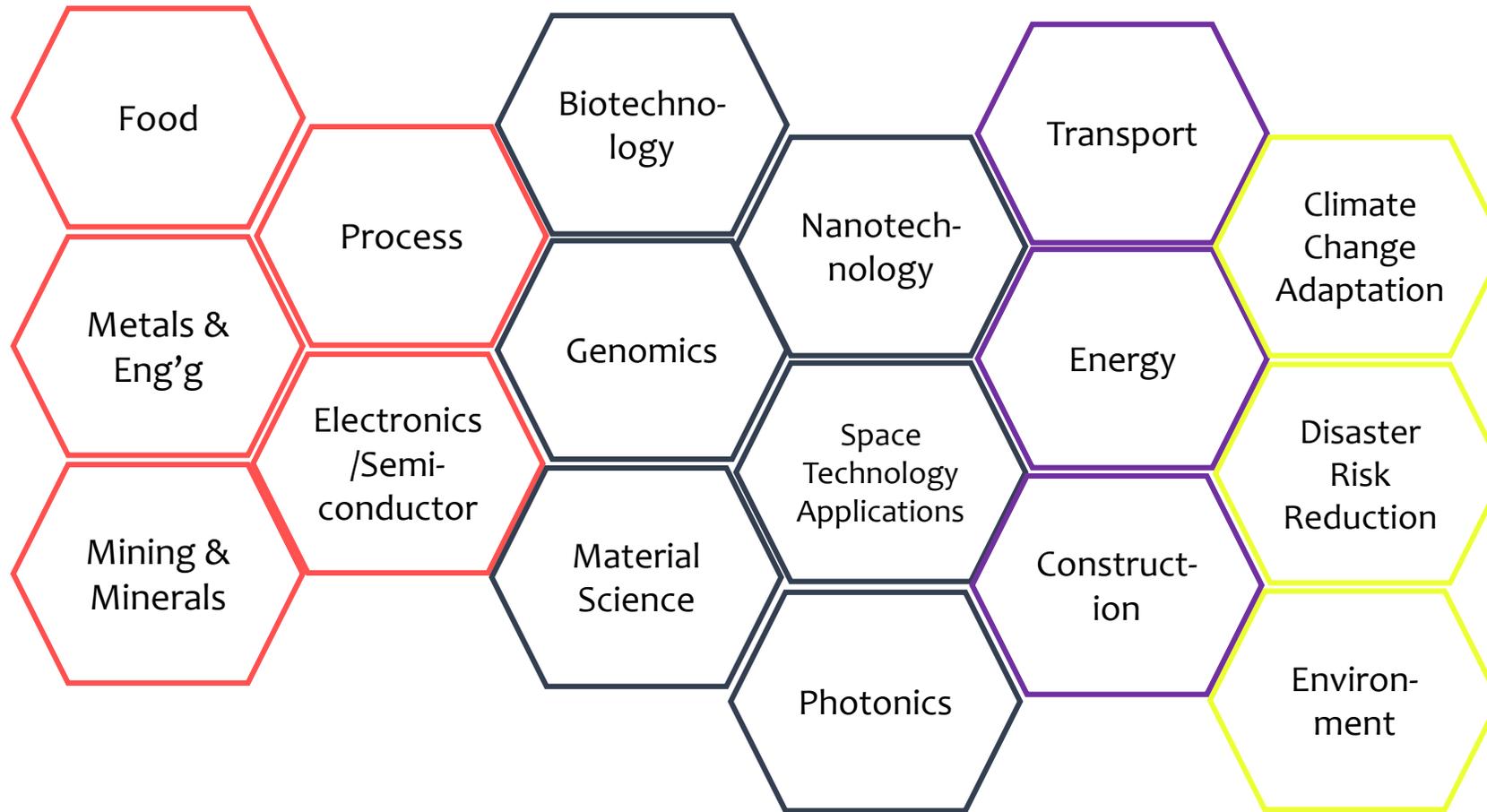
Programs and allocates government and external funds for R&D and generates external resources to support its programs



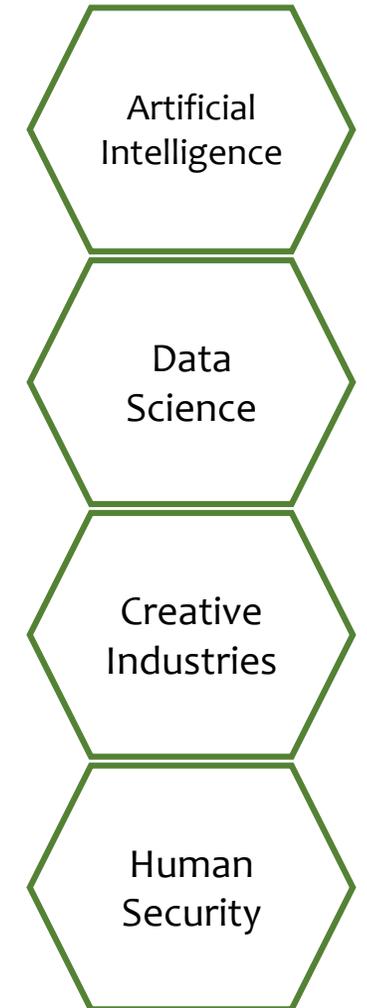
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Sectoral Coverage

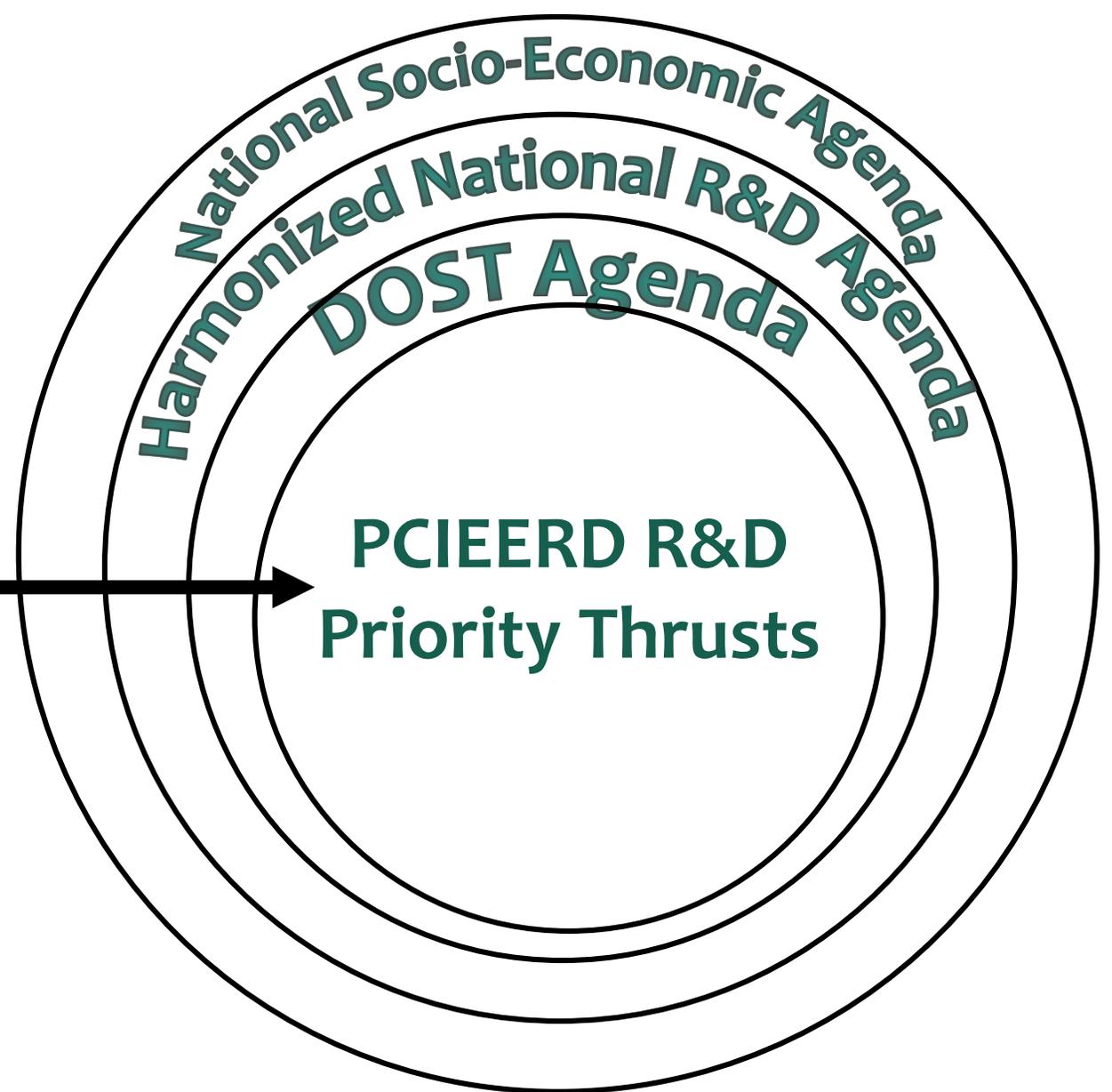


New Priority Areas



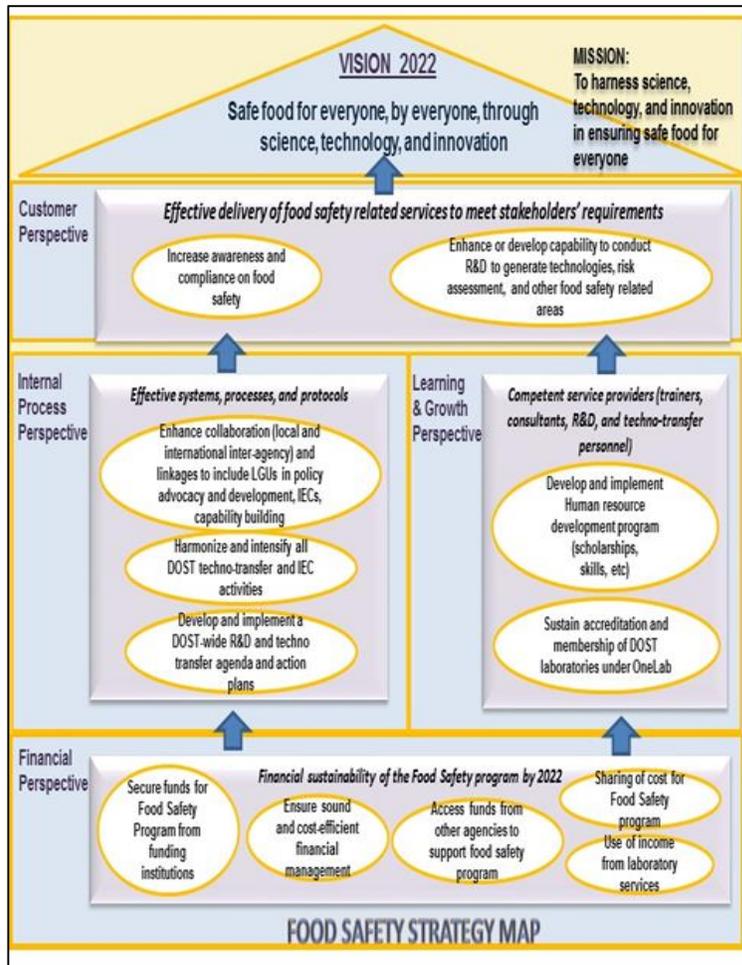
PCIEERD's Alignment to:

- *Appropriate Technologies for Industry Competitiveness*
- *Sustainable Energy*
- *Sustainable Mass Transport*
- *Environment, Climate Change Adaptation and Disaster Risk Reduction*



Appropriate Technologies for Industry Competitiveness

Food Safety and Quality



Countryside Development

Natural Dyes and Colorants



Hands-on Laboratory Work on Pigment Extraction



Photo Credits to PTRI

Regional R&D Consortia

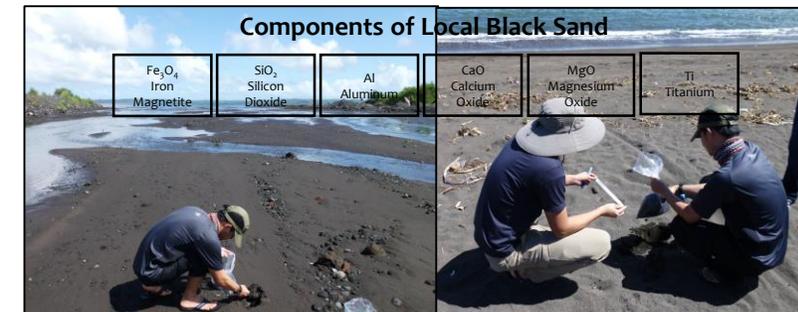


Mining and Minerals

Copper and Gold Pilot Plant in the Regions



Black Sand Mineral Characterization



Appropriate Technologies for Industry Competitiveness

ICT, Electronics, and Semiconductor

Artificial Intelligence and Data Science



**CALL FOR APPLICATION FOR
Data, Connectivity
and Intelligence:
Data Science Track**

The next technological wave involves automated processes (learning on artificial intelligence, interconnected systems and information-driven decision-making procedures). It is both a threat to our existing jobs and at the same time an opportunity to be a player in the emerging field.

The Data Science Track is the third of a series of training programs in Data, Connectivity and Intelligence and the first online learning module. Managed by the DOST-PCIEERD Innovation Council in partnership with Coursera, we invite you to be one of the grantees of this unique training program.

BayanihaNets



Metals and Engineering

Automated Multi-Commodity Heat Pump Dryer



Metrology Program



Sustainable Energy

Renewable Energy and Energy Efficiency Systems

WattSmart Energy Management System



Value Added Functional Materials

Nanostructured Electrocatalyst Composites for Direct Ethanol Fuel Cells (DEFC): Preparation, Characterization, and Performance Evaluation

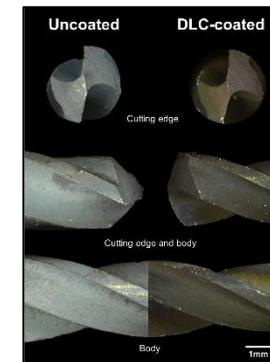
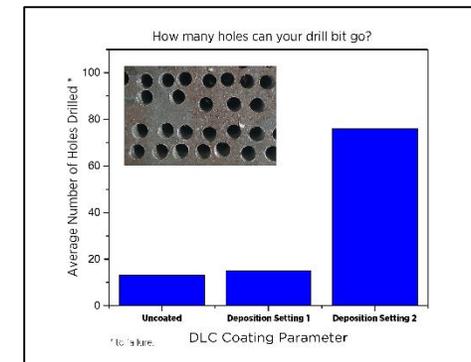


DEFC-LED Performance based on PdNi/C Anode Catalyst
Fuel: 1.0 M Ethanol (7 mL)
Oxidant: Ambient Air
➤ Light intensity lasts for 1.5 hours

Pd- and Pt-based Catalysts
Synthesized alternative anode catalysts materials that are cheaper and more efficient than the commercially available

DEFC-LED Performance based on PtSn/C Anode Catalyst
Fuel: 1.0 M Ethanol (7 mL)
Oxidant: Ambient Air
➤ Light intensity lasts for 2 hours

Development of a Low-Energy Ion Source System for the Synthesis of Diamond-like Carbon Films



Preliminary experimental data on coated and uncoated drill bits



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Sustainable Mass Transport

Alternative Mass Transport Systems and Components

Hybrid Electric Road Train



Hybrid Trimaran

Development of a Hybrid
Trimaran Fast Craft
Passenger Cargo Vessel
Using Multi Engine and
Alternative Energy Source
from Ocean Waves



Sustainable Mass Transport

Traffic/Mobility

Contactless Apprehension of Traffic Violators on 24- Hours Basis and All-Vehicle Detection System (Catch-All)

The screenshot displays a traffic violation detection system interface. It features two camera feeds at the top left showing a street scene with vehicles. Below the feeds are two data tables. The top table lists detected vehicles with columns for Car, Time, and Date. The bottom table lists violations with columns for Violation, Car, Time, and Date. A large camera feed at the bottom shows a street scene with red bounding boxes around vehicles and green letters 'S', 'U', and 'S' overlaid on the image. A text overlay at the bottom of the large feed reads 'GPU MEMORY ACCESS EXCEPTIONS'.

Car	Time	Date
RQ 4190	15:12:29	5/11/2017
UM 145	15:12:31	5/11/2017
AK2023	15:12:33	5/11/2017
VZ 8871	15:12:36	5/11/2017
NOPLATE	15:12:40	5/11/2017
HTG 859	15:12:43	5/11/2017
UW 205	15:12:47	5/11/2017
MO 322	15:12:47	5/11/2017
VV 9421	15:12:48	5/11/2017
WG 8043	15:12:49	5/11/2017
NOPLATE	15:12:51	5/11/2017
NOPLATE	15:12:51	5/11/2017
MY 411	15:12:59	5/11/2017
NS 807	15:13:56	5/11/2017
AK2023	15:13:59	5/11/2017
NI 8135	15:14:00	5/11/2017
NI 9685	15:14:01	5/11/2017

Violation	Car	Time	Date
Swerving	RQ 4190	15:12:29	5/11/2017
Swerving	UM 145	15:12:31	5/11/2017
Swerving	UW 205	15:12:39	5/11/2017
Number Coding	NS 807	15:13:56	5/11/2017
Swerving	PUF 525	15:17:25	5/11/2017
Swerving	UM 882	15:18:02	5/11/2017
Swerving	SKT 275	15:18:07	5/11/2017
Number Coding	IL 4568	15:19:46	5/11/2017
Swerving	PIP 232	15:24:56	5/11/2017
Swerving	FBI 240	15:24:59	5/11/2017
Swerving	TOP 186	15:25:05	5/11/2017
Swerving	AGN0841	15:28:47	5/11/2017
Swerving	AD7883	15:28:50	5/11/2017

Customized Local Traffic Simulator (LOCALSIM)

The screenshot displays a customized local traffic simulator interface. It features a central map of a road network with a blue highlighted area labeled 'EDSA'. Surrounding the map are various traffic signs and features, including a 'STOP' sign, a 'FASTEN SEATBELT' sign, a '60' speed limit sign, a 'U-TURN SLOT UNDER SANTA ANA FREEWAY 100 MTS. AHEAD U-TURN ALLOWED AT ALL TIMES' sign, a 'Motorcycle Lane' sign, and a 'BUENIA Bus Stop' sign. The interface is titled 'ROAD FEATURES'.

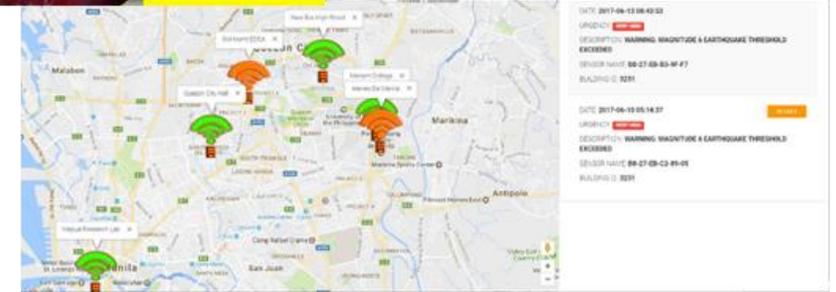
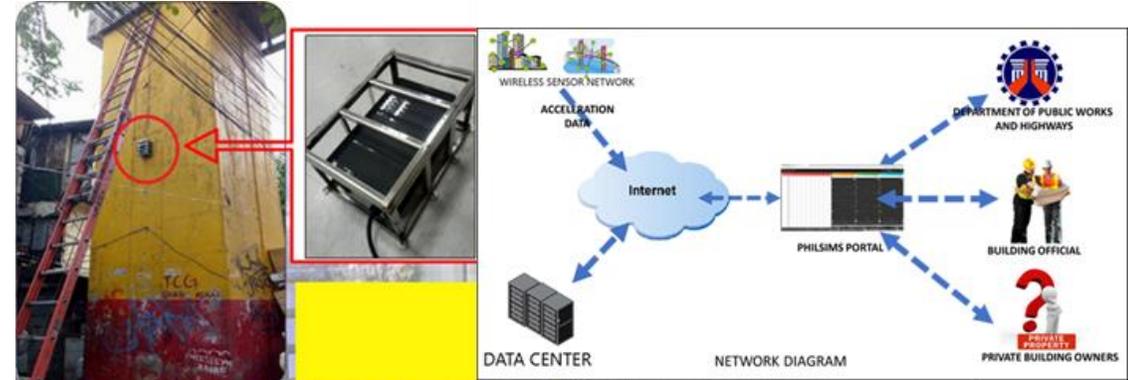


Environment, DRR, and CCA

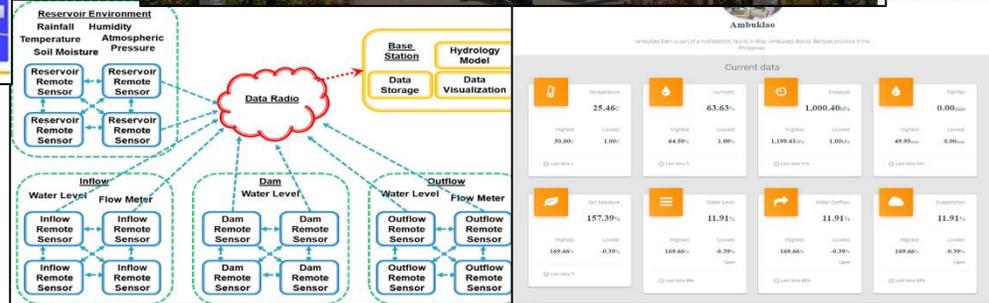
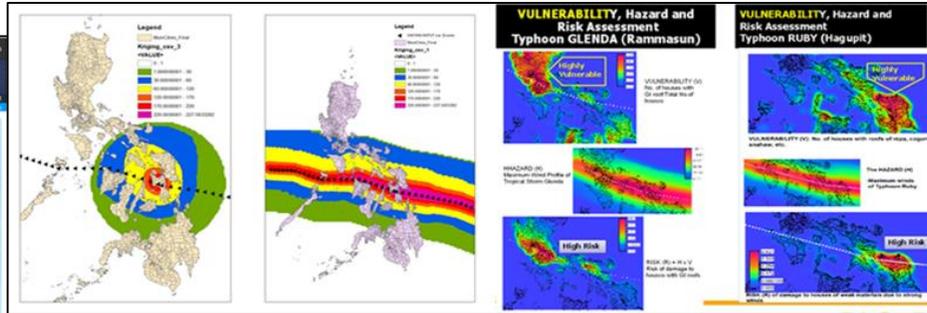
S&T Water Environment Program



Critical Infrastructure Program

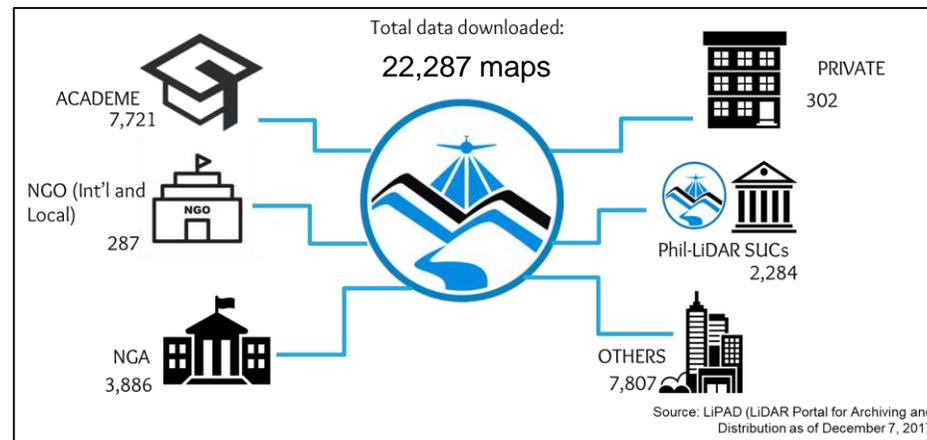


Environment, DRR, and CCA



DRR-CCA S&T-based Decision Support Tools

Space Technology Application



Human Security



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**DOST & DND SIGNS
MEMORANDUM OF UNDERSTANDING**
05 JANUARY 2018



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