

Department of Science and Technology - Philippine Council for Industry, Energy and Emerging Technology Research and Development
(DOST - PCIEERD)

Physical Report of Accomplishments (as of 2nd Quarter)

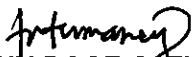
Program: National Industry, Energy and Emerging Technology Sectors R&D Program

Organizational Outcome: Increased benefits to Filipinos from scientific knowledge and technological innovations for productivity and competitiveness


| Output/Outcome Indicators | Targets | Accomplishments | Remarks |
|--|----------------|------------------------|---|
| Output Indicators | | | |
| Number of projects funded | 100 | 122 | The figure includes DOST and PCIEERD funded projects. PCIEERD – GIA – 102 DOST – GIA - 20 |
| Number of projects monitored | 330 | 48 | There are 226 projects being handled and monitored by the Council as of 2 nd Quarter. |
| Percentage of projects completed which are published in peer-reviewed journals, presented in national and/or international conferences, or with IP filed or approved | 50% | 46% | Out of 307 completed projects from 2014 – 2017 there were 142 projects with publication in peer-reviewed journals, presented in national and/or international conferences, or with IP filed or approved technologies. |
| Outcome Indicators | | | |
| Percentage of priorities in the Harmonized National R&D agenda (HNRDA) addressed | 90% | 86% | As of this quarter, the Council is assisting/monitoring research and development (R&D) projects of 6 PCIEERD priorities under HNRDA out of the 7. |

| Output/Outcome Indicators | Targets | Accomplishments | Remarks |
|---|---------|-----------------|---|
| Number of partnerships with public and private stakeholders and international organizations | 20 | 70 | The figure comprises of 50 Higher Education Institutes (HEIs) and 20 other local and international public and private organizations gearing towards science and technology (S&T) initiatives. |

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**List of Funded Projects
(January – June 2018)**

| | Project Title | Implementing Agency |
|---|---|--|
| PCIEERD-GIA Projects | | |
| 1 | Geopolymerization and its Potential Application in Artisanal Gold Mine Tailings | Central Mindanao University (CMU) |
| 2 | Establishment of Common Service Facility (CSF) for Artisanal Small-Scale Gold Mining in Northern Mindanao | Mindanao State University -Iligan Institute of Technology (MSU-IIT) |
| 3 | Sustainable Wastewater Treatment Systems with Nutrient (SWAN) Recovery | De La Salle University (DLSU) |
| 4 | Development of Data Analytics-Ready Info Unified System (DARIUS) for Agile Delivery of Regional Services | DOST IV - A |
| 5 | Binary Gels- Rheology of Two-Component Biopolymer Hydrogels Investigated using Optical Tweezers and Non-Linear Rheometry | University of San Carlos (USC) |
| 6 | Improvement of Food Security on Poultry Products by Upgrading Farm Yield and Efficiency through the Introduction of Highly Tailored Farm-Specific Improvements | Farmwatch Solutions, Inc. |
| 7 | Development of an Enhanced Radio Frequency Mesh Network to Track and Monitor Boats at Sea Using Fame Transponder | Futuristic Aviation and Maritime Enterprise, Inc. |
| 8 | Human Resource Development Program (Financial Grants to: Visiting Professorship and Sandwich Programs, Attendance to Conferences, and the like related to the sectors of the Council) | Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD) |
| 9 | Improvement of Gong Fabrication Processes Through S&T Intervention at Mankayan, Benguet | DOST Region CAR and Metals Industry Research and Development Center (MIRDC) |
| 10 | Package Development of Bakery Product and Field Testing of Ready-To-Eat (RTE) Smoked Fish Rice Meal and Sweet Potato as Disaster/Relief Food-Phase 2 | Industrial Technology Development Institute (ITDI) |
| 11 | Standards & Testing Automated Modular Platform (STAMP) | UP Diliman |
| 12 | Characterization of Tailings and Monitoring of the Integrated Gold-Copper Mineral Processing Pilot Plant in Benguet | DOST Region CAR |
| <i>Processing of Bio-based Polyols and Polyurethanes for Industrial Applications</i> | | |
| 13 | Development of Polyurethane -Based Packing Materials and Anti-Corrosive Coatings from Vegetable Oils | Mindanao State University -Iligan Institute of Technology (MSU-IIT) |
| 14 | Characterization and Separation of Heavy Minerals in the Alluvial and Beach Sands in San Vicente, Northwestern Palawan: Phase 1 | Philippine Nuclear Research Institute (PNRI) |
| 15 | Design and Development of an Automated Multi Commodity Heat Pump Dryer | Adventist University of the Philippines (AUP) |
| 16 | Techno-Economic Feasibility Study of Micro-Grid in A Remote Community | Mindanao State University -Iligan Institute of Technology (MSU-IIT) |
| 17 | Development of Philippine Structural Integrity Monitoring System for Critical Infrastructure in Metro Manila -Phase 1 | Mapua Institute of Technology (MIT) |
| <i>Development of a Fixed-Wing Short Take Off and Landing (STOL) Unmanned Aerial Vehicle (UAV) With Cooperative Capability for DRRM</i> | | |

| | Project Title | Implementing Agency |
|---|--|---|
| 18 | Project 1. Design and Fabrication of an Airframe for Medium-Range, Short Take-off and Landing UAV | FEATI University |
| 19 | Project 2. Development of a Flight Controller for A Modular UAV | De La Salle University (DLSU) |
| 20 | Project 3. Cooperative UAV-UGV Missions and Applications with Custom Communications and Imaging Capabilities | Ateneo de Manila University (ADMU) |
| <i>High Throughput Processing of Functional Thin Films using Gaseous Discharges</i> | | |
| 21 | Project 1. Development of Direct Current (DC) Plasma System for Ti-Al-C Thin Film Synthesis | Ateneo De Manila University (ADMU) |
| 22 | Project 2. Development of Radio Frequency (RF) Plasma System for Ti-Al-N Thin Film Synthesis | UP Diliman |
| 23 | Ionic Liquid Assisted Electrospinning of Conductive Nanofibers as Solid Polymer Electrolyte/Separator Membrane of Solid State Supercapacitor | UP Diliman |
| 24 | Generalized Automated Microfluids And Micro-Actuator Assembly (GAMMA) | UP Diliman |
| 25 | Filipinnovation Entrepreneurship Corps: Enabling Researchers to Assess Commercial and Societal Value of their Research | De La Salle University (DLSU) |
| 26 | Development and Social Media Reading Tool for Filipinos | Senti Techlabs Inc. |
| 27 | Beta Testing of Biotechnology Kits for Stem Education | Kinovette Scientific Solutions Co. |
| 28 | Design and Development of a PLC-based High Capacity Tissue Culture Growth Chamber | Cavite State University (CavSU) |
| 29 | BCDA | |
| 30 | Young Innovators Program (YIP) | Multi-Agency |
| 31 | Design, Prototyping of Salt Processing Equipment (Washer, Dryer, Iodizer, Crystallizing Pan, Furnace, Concentrator (Ion -Exchange Membrane) | Industrial Technology Development Institute (ITDI) |
| 32 | Performance Evaluation of Dipstick Assay Format for Detection of Salmonellae in Selected Food Matrices | UP Los Baños |
| 33 | Optimization of Ready-to-Drink Sweet Potato Leaf Extract (SPLE) Beverages through the UP-DOST Food Innovation Facility | UP Diliman |
| 34 | Cyber-Physical Transportation System | UP Diliman |
| 35 | Modification of Road Train Energy Storage System using Lithium Ion Battery | Metals Industry Research and Development Center (MIRDC) |
| 36 | Recycling and Recyclability Index for End-Of-Life Jeepneys | University of Asia and the Pacific |
| 37 | Development of a HFDR Ship Tracking Algorithm Software for Maritime Surveillance, Search and Rescue | Mapua Institute of Technology (MIT) |
| 38 | Ultrafast Mbe-Grown Terahertz Photoconductive Antenna Devices | UP Diliman |
| 39 | Development of a Passive Neutron Spectrometry System (PNSS) | Philippine Nuclear Research Institute (PNRI) |
| 40 | Uncooled Carbon Nanotube Microbolometers | UP Baguio |
| <i>Smart Plant Production in Controlled Environments (SPICE)</i> | | |
| 41 | Project 1. Standalone Urban Farm | UP Diliman |
| 42 | Project 2. Sensor-Based Monitoring and Analytics for Smart Hydroponics (SMASH) | UP Diliman |

| | Project Title | Implementing Agency |
|----|--|---|
| 43 | Project 3. Establishment of Soilless Culture Technology for Urban Food Production) | UP Diliman |
| 44 | Project 4. Ex-Situ Conservation through Micropropagation Cryopreservation of Native Plant Species | UP Diliman |
| 45 | Embedding of Functional Materials onto Paper for Antimicrobial and Electromagnetic Shielding Applications | UP Los Baños |
| 46 | Pulp-To-Print: Development of Print-Ready Cellulose Composites from Paper Mulberry | UP Diliman |
| 47 | Angular Goos-Hanchen Shift: An Optical Phenomena for Ultra-Thin Film Thickness Measurement | UP Diliman |
| 48 | Development of a Raman Microscopy and Spectroscopy (RMS) Setup | UP Diliman |
| 49 | Fringe-Area Data Access by Transient Altitude Provision | De La Salle University (DLSU) |
| 50 | One Click: Android/Web-based Student Response and Understanding Visualizer | Mapua Institute of Technology (MIT) |
| 51 | Fabrication of Metal Oxide Thin Films for Optical Coatings with Plasma Assisted Deposition using a Plasma Enhanced Chemical Vapor Deposition (PECVD) System | Ateneo De Manila University (ADMU) |
| 52 | Flood Risk Assessment for Mitigation and Effective Response (FRAMER) of Riverine Towns in Selected River Basins in Cavite, Batangas and Quezon Provinces using Most Recent Lidar DEM | Mapua Institute of Technology (MIT) |
| 53 | Original Content Development Project | Toon City Academy |
| 54 | Development of Data Analytics, Big Data, and Artificial Intelligence to Build a Smart Restaurant Management Platform | Restograph Inc. |
| 55 | Production of Nanocellulose Crystals: Powder, Advanced and Derivative Products for Various Industry Applications | Nanotronics Inc. |
| 56 | Development of an Alternative Credit Scoring Model Applying Machine Learning in Financing Farmers | Cropital Enterprises Corporation |
| 57 | Capability Building on Energy Efficiency and Conservation (EE&C) for State Universities and Colleges of Six (6) Regions as Demonstration Sites | Industrial Technology Development Institute (ITDI) |
| | <i>Infrastructure Development Program (IDP)</i> | |
| 58 | Establishment of an Additive Manufacturing Research Laboratory | Bataan Peninsula State University |
| 59 | Strategic Communication Approaches to Boost the Philippine Nuclear Research Institute (PNRI) Promotions | Philippine Nuclear Research Institute (PNRI) |
| 60 | DIWATA-2 Interactive Exhibit | Bonifacio Art Foundation, Inc. |
| | <i>Wastewater Treatment System Upgrading Program (WATSUP)</i> | |
| 61 | Enhancing the Applicability of the Vertical Helophyte Filter Systems for Small Communities, Local MSMEs and Public Entities | DOST Region XI/University of the Immaculate Conception |
| 62 | Pilot Scale Production of Nickel Pig Iron from Low Grade Laterite Ore | Department of Environment and Natural Resources - Mines and Geosciences Bureau (DENR - MGB) |
| | <i>SCALE: Synergistic Capacity Advancement in the Management of Laguna Lake</i> | |
| 63 | Endocrine Disruptors, Antibiotics and Heavy Metals in Laguna Lake Water: Impacts on Food and Water Security | UP Diliman |

| | Project Title | Implementing Agency |
|----|---|---|
| 64 | Microbial Source Tracking in Selected Tributaries of Laguna de Bay | UP Diliman |
| 65 | Trace Organics and Metals in Commodity Fish: Method Optimization, Extent of Contamination and Health Risk due to Fish Intake | UP Diliman |
| 66 | Field-testing of the Integrated Gold-Copper Mineral Processing Pilot Plat in the Regions (Bicol) | DOST Region V/UP Diliman |
| 67 | Field-testing of the Integrated Gold-Copper Mineral Processing Pilot Plat in the Regions (Caraga) | DOST Region XIII/UP Diliman |
| 68 | Field-testing of the Integrated Gold-Copper Mineral Processing Pilot Plat in the Regions (Compostela Valley) | DOST Region XI/UP Diliman |
| 69 | How Do We Feed One Hundred Million IEMAGINEERING Systems for Food Security | UP Industrial Engineering Alumni Association Inc. |
| 70 | Establishment of the Asian Institute of Management-Dado Banato Incubator | Asian Institute of Management, Inc. |
| 71 | Smart Vision: Artificial Intelligence-Guided Vision System for the Blind | Grayscale Marketing Consultancy |
| 72 | Assessment of DOST Technology Business Incubators and Road Mapping | TT12 Technology Forum Inc. |
| 73 | Design and Development of Processing Machineries for Honeybee and Intermediate Products | Don Mariano Marcos Memorial State University |
| | <i>Assessment of Metal Content of Food and Water Resources in Volcanic Impacted Areas</i> | |
| 74 | Project 2. Metal Content of Water Supplies in Volcanic Impacted Area and its Impact to Vegetations | Industrial Technology Development Institute (ITDI) |
| 75 | Project 3. Household and Community Based Filters for Metals in Water | Industrial Technology Development Institute (ITDI) |
| 76 | Support to the Rehabilitation of Boracay Island through the Upgrading of Material Recovery Facilities (MRFS) | DOST Region VI |
| | <i>Natural Dyes and Colorants R&D Program</i> | |
| 77 | Project 2. Development of Natural Colorants for Cosmetics | Industrial Technology Development Institute (ITDI) |
| 78 | Project 3. Extraction, Characterization, and Application of Natural Colorants in Nutritional Food Products | Food and Nutrition Research Institute (FNRI) |
| 79 | Project 4. Natural Food Colors from Local Sources as Food Additive | Industrial Technology Development Institute (ITDI) |
| 80 | Fire Check: Urban Fire Hazard Mapping and Fire Spread Modelling | UP Cebu |
| 81 | Specific Earthquake Ground-Motion to Help Enhance the Seismic Resiliency of Residential and Medium-to-High Rise Buildings in Metro Cebu and Metro Davao | Philippine Institute of Volcanology and Seismology (PHIVOLCS) |
| 82 | Development of Earthquake Intensity Monitoring System | Mapua Institute of Technology (MIT) |
| 83 | Development of a Low-Energy Ion Source for the Synthesis of Diamond-Like Carbon Films | UP Diliman |
| 84 | Mobile Application Venture Capital Competition | DOST Region VII |
| 85 | Financial Assistance for the Conduct Of 44th FNRI Seminar Series | Food and Nutrition Research Institute (FNRI) |
| 86 | Extraction of Radionuclides, Rare Earths and other Valuable Industrial Elements from Phosphogypsum Tailings | Philippine Nuclear Research Institute (PNRI) |

| | Project Title | Implementing Agency |
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| 87 | Recycling and Reprocessing of Siltation Sediments from Selected Nickel Laterite Mining Areas in the Philippines as Raw Materials for the Synthesis of Iron- Based Novel Adsorbents | Central Mindanao University |
| 88 | Comparison of Different Enzyme Preparations for Productions of Oligofructose and Inulin from Sugarcane Juice | Cavite State University |
| 89 | Recycling of Silt and Spent Residue from Reprocessing as Raw Materials For Geopolymer | De La Salle University |
| 90 | Design and Development of UP Bike Share System | UP Diliman |
| 91 | Development of Information Gathering and Utilization Systems using Small Unmanned Airborne Vehicles (UAVs) for Disaster Risk Assessment, Monitoring and Response | Philippine Institute of Volcanology and Seismology (PHIVOLCS) |
| 92 | Fabrication of Highly C- Axis Oriented YBCO Superconducting Thin Films by Sedimentation Deposition | UP Diliman |
| | <i>μC-IC: Design of Microcontroller Integrated with Energy Harvesting and Power Management</i> | |
| 93 | Design of Indoor Light Energy Harvesting for Wireless Sensor Network Applications | Mindanao State University- Iligan Institute of Technology (MSU-IIT) |
| 94 | Power Management Unit Using Low Drop-Out Regulator and Switched Capacitor DC-DC Converters | Mindanao State University - Iligan Institute of Technology (MSU-IIT) |
| 95 | Development of Microprocessor for Wireless Sensor Network Applications | Mindanao State University - Iligan Institute of Technology (MSU-IIT) |
| 96 | Up-Scaled Solution-Phase Synthesis of Metal Nanowires and its Application in Transparent Metal Nanowire Touch Panel | UP Diliman |
| | <i>Geo-SAFER Mindanao: Geo-informatics for the Systematic Assessment of Flood Effects and Risks for a Resilient Mindanao</i> | |
| 97 | Project 1. Geo-Safer Zamboanga: Systematic Assessment of Flood Effects and Risks in the Zamboanga Peninsula, Mindanao Philippines | Ateneo De Zamboanga University |
| 98 | Project 2. Geo-Safer Northern Mindanao/Cotabato: Systematic Assessment of Flood Effects and Risks in Northern Mindanao ad Cotabato, Philippines | Central Mindanao University |
| 99 | Project 3. Geo-Safer Agusan: Systematic Assessment of Flood Effects and Risks in the Agusan River Basin, Caraga Region, Mindanao, Philippines | Caraga State University |
| 100 | Project 4. Geo-Safer Western Mindanao: Systematic Assessment of Flood Effects and Risks in the Western Mindanao, Mindanao Philippines | Mindanao State University - Iligan Institute of Technology (MSU-IIT) |
| 101 | Project 5. Geo-Safer Southeastern Mindanao: Systematic Assessment of Flood Effects and Risks in the Southeastern Mindanao, Philippines | UP Mindanao |
| 102 | Support to Regional Consortia | DOST - NCR |
| -DOST-GIA Projects | | |
| <i>Electronics Product Development Center (EPDC) as Platform for Innovation and Collaboration (EPIC) Program</i> | | |
| 103 | Project 1. Electronics Product Development Center Upgrade and Operation | Electronic Industries Association of the Philippines, Inc. (EIAPI) |
| 104 | Project 2. Electronics Product Inclusive Innovation Center | Advanced Science and Technology Institute (ASTI) |

| | Project Title | Implementing Agency |
|-----|---|---|
| | <i>MECO-TECO: Improvement of Forecast Capability on Weather, Marine Meteorology and Short Range Climate</i> | |
| 105 | Project 1. Typhoon Formation, Structure and Intensity Change in Western NP and Wave Observation and Modeling | Philippine Atmospheric Geophysical and Astronomical Services Administration (PAGASA) |
| 106 | Project 2. Heavy Rain Monitoring and Forecasting in the Mountainous Area and Early Warning Landslides | UP Los Baños |
| 107 | Project 3. Observations and Dynamical Down-scaling of Seasonal and Sub-seasonal Forecast | Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) |
| 108 | Effectiveness of 21 st Century Learning Environment Model as a Support System to Teaching and Learning of Science and Mathematics | DOST Region IV-A |
| 109 | Enhancing Onelab for Global Competitiveness | DOST Regional Offices |
| 110 | One Expert (1E): A One-Stop Portal for Science and Technology Consultancy and Technical Services | Technology Application and Promotion Institute (TAPI); National Research Council of the Philippines (NRCP); Science and Technology Information Institute (STII); DOST Region VI; DOST Region CAR; DOST Region NCR |
| 111 | Optimization of the Operational Capabilities of Hydromet Sensors in Line with International Standards (WMO Standards) for Effective Weather, Flood Warning (CBFEWS) and Application to Research | Philippine Atmospheric Geophysical and Astronomical Services Administration (PAGASA) |
| 112 | Development of novel materials as emitters and/or detectors for (sub)-terahertz time-domain spectroscopy carrier dynamic studies | UP Los Baños |
| 113 | NovaSAR Imaging Capacity Share Programme Synthetic Aperture Radar (SAR) and Automatic Identification System (AIS) for Innovative Terrestrial Monitoring and Maritime Surveillance | Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) |
| 114 | Environmental, Health and Safety Research in the Risk Assessment of Nanomaterials (Phase 1) Establishment of a Nano Safety Program in the Philippine | Industrial Technology Development Institute (ITDI) |
| 115 | Utilization of Spent Tea Leaves and Tobacco Dust as Additives for Plywood adhesive | Forest Products Research and Development Institute (FPRDI) |
| 116 | Technology Innovation for Commercialization and Other Technology Transfer Program | Technology Application and Promotion Institute (TAPI)/DOST - Research and Development Institutes (RDIs) |
| 117 | AGT UP End of Project | Metals Industry Research and Development Institute (MIRDC) |
| 118 | The Fusion of Science and Arts: Philippine Biodiversity and Culture | National Research Council of the Philippines (NRCP) |
| 119 | DOST Technology Transfer Day | Technology Application and Promotion Institute (TAPI) |
| 120 | ITDI Participation to IFEX PHILIPPINE 2018 "The Best of the Seas" | Industrial Technology Development Institute (ITDI) |

| | Project Title | Implementing Agency |
|-----|---|--|
| 121 | Processing and Utilization of Senile and Unproductive Rubberwoods (<i>Hevea brasiliensis</i>) Trees for the Production of High Value Furniture, Mouldings and Joineries | Forest Products Research and Development Institute (FPRDI) |
| 122 | Strengthening the DOST Regional Metrology Laboratory Services | DOST – Regional Offices (ROs) |

**List of Monitored Projects
(January – June 2018)**

| | Project Title | Implementing Agency |
|----|---|---|
| | <i>Improvement of Forecast Capability on Weather, Marine Meteorology and Short Range Climate</i> | |
| 1 | Project 1. Typhoon Formation, Structure and Intensity Change in Western NP and Wave Observation and Modeling | Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) |
| 2 | Project 2. Heavy Rain Monitoring and Forecasting in the Mountainous Area and Early Warning Landslides | UP Los Baños |
| 3 | Project 3. Observations and Dynamical Down-scaling of Seasonal and Sub-seasonal Forecast | Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) |
| 4 | System Expansion of the 120-Passenger per Coach Capacity Automated Guide-way Transit System | Metals Industry Research and Development Center (MIRDC) |
| 5 | A Vision-Based Vehicle Counter for Traffic Monitoring (VEMON) | De La Salle University (DLSU) |
| 6 | Tick-Tock Tech Talk | UP Diliman |
| 7 | Development of a functional and durable pervious concrete pavement for local roads and parking lots | Central Mindanao University (CMU) |
| 8 | Setting up a Concrete Petrography Laboratory for Quality Control of Construction Projects | UP Diliman |
| 9 | Ultrafast MBE-grown Terahertz Photoconductive Antenna Devices | UP Diliman |
| 10 | Angular Goos-Hanchen Shift: An Optical Phenomena for Ultra-Thin Film Thickness Measurement | UP Diliman |
| 11 | Engineering the Public Utility Vehicles (PUVs) Using an OEM Vehicle Platform | UP Diliman |
| 12 | Development of a Customized Local Traffic Simulator (LocalSim Phase 2) | UP Diliman |
| 13 | Optical trap-mediated interaction between cancer cells and elucidated compounds from vegetable extracts in PEMF background energy | De La Salle University (DLSU) |
| 14 | Establishment of Renewable Energy Laboratory and Demonstration Park | Isabela State University (ISU) |
| 15 | Development of HFDR Ship Tracking Algorithm Software for Maritime Surveillance, Search and Rescue | Mapua Institute of Technology (MIT) |
| 16 | PNRI Graduate Student Research Grant Program (PNRI-GSRGP) | Philippine Nuclear Research Institute (PNRI) |
| 17 | Specific Earthquake Ground-Motion to help enhance the seismic resiliency of residential and medium-to-high rise buildings in Metro Cebu and Metro Davao | Philippine Institute of Volcanology and Seismology (PHIVOLCS) |
| 18 | Recycling and Recyclability Index for End-of-Life Jeepneys | University of Asia and the Pacific |
| 19 | Development of a Commercial Prototype Automated Guide-way Transit System in UP Diliman | Metals Industry Research and Development Center (MIRDC) |

| | Project Title | Implementing Agency |
|----|--|--|
| 20 | Strengthening of DOST Regional Metrology Laboratory Services-Phase 2 | Industrial and Technology Development Institute (ITDI) |
| 21 | Development of a Local Automatic Identification System (AIS) for Ship Tracking and Monitoring | De La Salle University (DLSU) |
| 22 | The Use of Radon Technique in Mapping Geological Faults in the Philippines | Philippine Nuclear Research Institute (PNRI) |
| 23 | Development of Future Building Materials and Structures (FBMS) Laboratory | Northwest Samar State University (NwSSU) |
| | <i>High Throughput Processing of Functional Thin Films Using Gaseous Discharges</i> | |
| 24 | Project 1. Development of Direct Current (DC) Magnetron Plasma System for Ti-Al-C Thin Film Synthesis | Ateneo de Manila University (ADMU) |
| 25 | Development of Groundwater Resource Management Plan and Monitoring System for Zamboanga City and its Surrounding Areas | Ateneo de Manila University (ADMU) |
| | <i>Geo-SAFER Mindanao: Geo-informatics for the Systematic Assessment of Flood Effects and Risks for a Resilient Mindanao</i> | |
| 26 | Project 2. Systematic Assessment of Flood Effects and Risks in Northern Mindanao And Cotabao, Philippines (Geo-SAFER: Northern Mindanao/Cotabato) | Central Mindanao University (CMU) |
| 27 | Project 4: Systematic Assessment of Flood Effects and Risks in Western Mindanao (GeoSAFER: Western Mindanao) | Mindanao State University - Iligan Institute of Technology (MSU-IIT) |
| 28 | Project 5. Systematic Assessment of Flood Effects and Risks in Southeastern Mindanao (Geo-SAFER: Southeastern Mindanao) | UP Mindanao |
| 29 | Remote Sensing and Data Science (DATOS) Help Desk | Advanced Science and Technology Institute (ASTI) |
| 30 | Cyber-Physical Transportation System | UP Diliman |
| 31 | One Expert (1E): A One-Stop Portal for Science and Technology Consultancy and Technical Services [Former title Science and Technology Experts Network | DOST Region VI |
| 32 | Establishment of BatStateU Center for Technopreneurship and Innovation (Technology Business Incubation) | Batangas State University (BatStateU) |
| 33 | Development of a Raman Microscopy and Spectroscopy (RMS) Setup | UP Diliman |
| 34 | Detection and Identification of Legitimate Public Utility Vehicles (PUVs) Along various road netWorks (DILAW) | UP Diliman |
| 35 | Establishment of the USJ-R Center for Energy Harvesting Materials Research | University of San Jose Recoletos (USJ-R) |
| 36 | Development of Information Gathering and Utilization Systems using small Unmanned Airborne Vehicles (UAVs) for Disaster Risk Assessment, Monitoring and Response | Philippine Institute of Volcanology and Seismology (PHIVOLCS) |
| 37 | Development of Bottom Housing System for Abalone Farming | Western Philippines University (WPU) |
| 38 | Trace Organics and Metals in Commodity Fish: Method Optimization, Extent of Contamination and Health Risk Due to Fish Intake | UP Diliman |
| 39 | Optimization of Ready-to-Drink Sweet Potato Leaf Extract (SPLE)-Tropical Fruit Juice Blends through the UP-DOST Food Innovation Facility | UP Diliman |

| | Project Title | Implementing Agency |
|----|---|--|
| 40 | Performance Evaluation of Dipstick Assay for the Detection of Salmonellae in Selected Food Matrices | National Institute of Molecular Biology and Biotechnology (NIMBB), UP Los Baños |
| 41 | Uncooled Carbon Nanotube Microbolometers | UP Baguio |
| 42 | Technical Feasibility of Putting up a Pilot Plant for the Value Adding of Philippine Iron Resources | Metals Industry Research and Development Center (MIRDC) |
| 43 | Enhancing the Hydro-meteorological Hazards Monitoring and Risk Assessment Capabilities of PAGASA through the Adoption and integration of NOAA Operating Systems | Philippine Atmospheric Geophysical and Astronomical Services Administration (PAGASA) |
| 44 | Design and Development of UP Bike Share System | UP Diliman |
| 45 | Establishment of Shelf-Life of Vacuum Fried Okra developed by ITDI Main FIC | Industrial Technology Development Institute (ITDI) |
| 46 | e-Asia JRP: Development of Functional Nanocarbon-Based Catalysts for Biomass Conversion Processes | De La Salle University (DLSU) |
| 47 | Package Development of Bakery Product and Field Testing of Ready-to-Eat (RTE) Smoked Fish Rice Meal and Sweet Potato as Disaster/Relief Foods | Industrial Technology Development Institute (ITDI) |
| 48 | Harmonization of Food Safety Training Modules for Food Manufacturing | DOST Region IV-A |

List of Projects Completed with Peer-reviewed journals, Presented in National and/or International Conferences

1. Design and Development of Aerial Mapping and Imaging Systems and Standards
2. Project e-Bayanihan: A Nationwide Web - Mobile Based System for Participatory Disaster Management
BAYANIHANETS: Building Robust and Sustainable Cooperative Community Networks
3. Project 1. Development of a Multipath Transport Protocol for Cooperative Community Networks
4. Project 2. ARC: An Application Framework for Robust Communications Transport over Community Networks
5. Project 3. Development of Routing Metrics for High Throughput and Congestion Free Routing over Wireless Community Mesh Networks
Chemical Sensors for Mine Site Monitoring
6. Project 1. Mapping of Heavy Metal Contamination in the Philippine Mining Soils Using Laser-induced Breakdown Spectroscopy (LIBS) Field Sensors
7. Project 2. Optical Sensors for the Determination of Zn and Cu in Ambient Water
8. Project 4. Integrated Sensing System Using Mobile and Cloud Technologies for Mining and Nearby Communities
9. Project 5. Data Integration and Visualization of Sensor Output for Mine Site Monitoring
CRAVAT - Coral Reef Assessment and Visualization Advanced Tools
10. Project 1. FISHDROP 360: Development Tools for Improved Monitoring of Reef Fish Communities
11. Project 2. Teardrop Upgrade
12. Project 3. Integration of ARRAS and CRAVAT Tools
13. Developing Capabilities for Biophysics Research at the University of San Carlos
14. SENSLOPE: Development and Deployment of Landslide Sensors and Data Communication System
Development of Nanosensors and Nanostructured Materials from Agricultural By-products for Enhancement of Food and Agricultural Productivity and for Environmental Sensing and Remediation
15. Project 1. Removal of Arsenic from Contaminated Water using Modified Biopolymer-Silica Nanocomposite Materials
16. Project 2. Detection and Analysis of Arsenic in Contaminated Water
17. Project 3. Bench-scale Production of Hand-held Nanosensors for Methane Using Zinc Oxide Film
18. Project 4. Development of a Zinc Oxide Thin Film for Gas Sensing
19. Project 5. Development of a Controlled Release Nanoencapsulated Plant Growth Regulators from Locally Isolated Plant Growth Promoting Bacteria (PGPB) for High Value Crops Production
20. Project 6. Optimization and Bench-scale Preparation of a hemicellulose-chitosan/tripolyphosphate (polyphosphate) Nanocomposite coating and its Use in the Post-Harvest life extension of papaya (*Carica papaya* L.) fruits
21. Project 7. Development of Pectin-collagen/nanocellulose Biocomposite coatings from mango peel and Nata De coco for the postharvest-life extension of mango (*Mangifera indica* L. cv Carabao) and bell pepper (*Capsicum annum*) fruits
22. Project 9. Characterization and performance analysis of nanosilica powder incorporated in biodegradable film based on cassava starch for food packaging applications
Development of Nanosensors and Nanostructured Materials from Agricultural By-products for Enhancement of Food and Agricultural Productivity and for Environmental Sensing and Remediation – Phase 2
23. Project 4. Bench-Scaling of the Production of Cellulosic Nanocrystals from Kawayang-tinik (*Bambusa blumeana*) and Its Utilization for Renewable Nanomaterials

24. Project 5. Production of Nanosilica from Rice Hulls and Rice Hull Ash and Bench Scale Verification of the Production of Biodegradable Packaging Using Cassava Starch-RHA Nanosilica
25. Pilot Scale Production of Nanoencapsulated Plant Growth Regulators for the Production of High Value Crops
26. Hemicellulose Extraction, Process Development and Toxicological Evaluation of a Hemicellulose-chitosan/tripolyphosphate (polyphosphate) Nanocomposite Coating for the Postharvest-life Extension of Papaya (*Carica papaya* L.) Fruits
Development of Philippine Scientific Earth Observation Microsatellite (PHL-MICROSAT)
27. Project 4. Calibration and Validation of Remote Sensing Instruments for PHL.MICROSAT
28. Development of Plasma Technology for the Sterilization of Food Products, Packaging, and Contract Surfaces in Food Processing
DOST Nationwide Operational Assessment of Hazards
29. Disaster Management using Web-GIS
30. Enhancing Philippine Landslide hazard maps with LIDAR and High-resolution Imageries
31. System to identify, Quantify and Map the Storm Surge Threat to Philippine Coasts
32. Weather Information Integration for System Enhancement
Enhancement of Biotechnology Products and Services for Food, Feed and other Agro-Industrial Applications
33. Project 1. Improvement and Commercialization of Microbial-based Fertilizers and Plant Growth Promoters
34. Program for Computer Literacy (ComLit)
35. Philippine Languages Database for Mother Tongue-Based Multilingual Education and Applications
Intelligent Transport Systems (ITS)
36. Contactless Apprehension of Traffic Violators on 24-Hour Basis and All-Vehicle Detection System (CATCH-ALL)
37. Advanced Traffic & Pollution Monitoring and Analysis System Based on GPS Trajectory Data, Air Quality Data and Engine Status Data collected from Taxis in Metro Manila (ATPMS)
38. Development of a Customized Local Traffic Simulator - Year 1 & 2 (LOCALSIM)
39. An Integrated and Optimal Scheduling of a Public Transport System in Metro Manila (PUBFix)
40. Prototyping of a Diesel-Electric Parallel-Series Hybrid Vehicle for Public Transportation
Mineral Extraction with Responsibility for Sustainability (MinERS)
41. Project A. Non-Hazardous Methods of Gold Extraction for Philippine Small-Scale Mining Applications
42. Project E. Nanofiber Membrane Adsorption for Third Level Waste Water Treatment Method for Small Scale Mining Operations
43. Project G. The Gold and Copper Chase: Life Cycle Analysis of Sustainable Small-Scale Production System
44. Stealth Assessment of Student Conscientiousness, Cognitive-affective States, and Learning using and Educational Game for Physics
45. GaAs-based Solar Cell Devices
46. Experimental Studies on Thermophysical and Transport Properties Characterization of Industrially Important Solvent System and Process Simulation Studies of Post-Combustion Capture of CO₂ and H₂S using Aqueous Single and Blended Alkanolamine Solutions
Phil - LiDAR 1.2. LiDAR Data Processing and Validation by HEIs
47. Project 1.B.1 LIDAR Data Processing and Validation in Luzon: CAR and Selected Sites in Region 1
48. Project 1.B.2 LIDAR Data Processing and Validation in Luzon: Northeastern Luzon
49. Project 1.B.3 LIDAR Data Processing and Validation in Luzon: Region 3 and Pangasinan (Region 1)
50. Project 1.B.4 LIDAR Data Processing and Validation in Luzon: MIMAROPA and Laguna (Region 4)

51. Project 1.B.5 LIDAR Data Processing and Validation in Luzon: CABARZON (Region 4A except Laguna)
52. Project 1.B.6 LIDAR Data Processing and Validation in Luzon: Bicol (Region 5)
53. Project 1.B.7 LIDAR Data Processing and Validation in Visayas: Western Visayas (Region 6)
54. Project 1.B.8 LIDAR Data Processing and Validation in Visayas: Central Visayas (Region 7)
55. Project 1.B.11 LIDAR Data Processing and Validation in Mindanao: Regions 10, 12, and ARMM
56. Project 1.B.13 LIDAR Data Processing and Validation in Mindanao: Davao Region / Southern Mindanao (Region 11)
57. Project 1.B.14 LIDAR Data Processing and Validation in Mindanao: CARAGA Region (Region 13)
- PHIL LIDAR 2.1 Automation of Feature Extraction from LIDAR Data for the Nationwide Detailed Resources Assessment*
58. Project 2.A.1 Agricultural Resources Extraction from LIDAR Surveys
59. Project 2.A.2 Aquatic Resources Extraction from LIDAR Surveys
60. Project 2.A.3 Forest Resource Extraction from LIDAR Surveys (FRExLS)
61. Project 2.A.4 Development of the Philippine Hydrologic Dataset (PHD) for Watersheds from LIDAR Surveys
62. Project 2.A.5 Philippine Renewable Energy Resources Mapping from LIDAR Surveys
- PHIL LIDAR 2.2 LiDAR Data Processing, Modeling and Validation by HEIs for the Nationwide Detailed Resource Assessment*
63. Project 2.B.1 LIDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resource Assessment in Northern Luzon (Region 1)
64. Project 2.B.2 LIDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resource Assessment in Luzon: Region 2 and Abulog River Basin in Region 1
65. Project 2.B.3 LIDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resource Assessment in Luzon: Region 3 and Pangasinan
66. Project 2.B.4 LIDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resource Assessment in Luzon: MIMAROPA and Laguna (Region 4)
67. Project 2.B.5 LIDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resource Assessment in Luzon: CABARZON (Region 4A except Laguna)
68. Project 2.B.6 LIDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resource Assessment in Luzon: Bicol (Region 5)
69. Project 2.B.7 LIDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resource Assessment in Western Visayas (Region 6)
70. Project 2.B.8 LIDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resource Assessment in Central Visayas (Region 7)
71. Project 2.B.9 LIDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resource Assessment in Eastern Visayas (Region 8)
72. Project 2.B.10 LIDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resources Assessment in Zamboanga Peninsula (Region 9)
73. Project 2.B.11 LIDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resources Assessment in Northern Mindanao (Region 10)
74. Project 2.B.12 LiDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resource Assessment in Selected Sites in Region 10 and ARMM
75. Project 2.B.13 LIDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resource Assessment in Davao Region / Southern Mindanao (Region 11), South Cotabato and Sarangani
76. Project 2.B.14 LIDAR Data Processing, Modeling and Validation by HEIs for the Detailed Resources Assessment in Mindanao: CARAGA Region (Region 13)
- Program for Rehabilitation and Restoration of Mined-Out Areas through Phytotechnologies*
77. Conservation of Native Metallophytes, Phytochemistry of Nickel Hyperaccumulators and Phytostabilization and Restoration of Mined-out Areas in Palawan, Surigao and Zambales
78. Metal Bio-Indicator Plant Species of the Philippines

79. Copper and Arsenic Recovery as a Post Mining Activity Using Indigenous Plant Hyperaccumulators
80. ROGER- Robust and Rapidly Deployable GSM Base Stations and Backhaul for Emergency Response
Sensors for Agricultural and Fishery Ecosystems and Harvests Safety (SAFEHarvestS)
81. Project 1. Development of Portable Surface Plasmon Resonance MIP-based Sensor for Detection of Histamine in Shrimps
82. Project 3. Development of Potentiometric-MIP Test Kit for the Detection of Clenbuterol in Meat
83. Project 4. Development of Electrochemical Sensor Platform for Meat and Fish Freshness Monitoring
84. Project 6. Molecularly Imprinted Polymer Modified-Carbon Paste Electrodes (MIP-CPEs) as Multi-analyte Sensor for the Detection of Organophosphorus Pesticides Chlorpyrifos and Fenitrothion and Triazine Herbicide Atrazine
Smart Grid Technology for Filipino Household
85. Project 1. Design and Development of a Smart Home Platform
86. Project 2. Design and Development of an Advanced Metering Infrastructure (AMI) Emulator Platform
87. Project 3. Prepaid Metering and Smart Home System: Technology Acceptance and Technology Features Studies
SmartWire Program
88. Project 1. Energy Efficient Data Acquisition and Conditioning for the SmartWire Sensor Node Project
89. Project 3. Energy Ultra-Low Power Computation and Communication for the SmartWire Sensor Node Project
90. Project 4. Resilient Data Transport
91. Design and Development of a Local Microwave Vacuum Dryer (MVD)
92. Voices of Yolanda: Narratives of Risk and Coping Among Survivors of Typhoon Yolanda in Tacloban City, Guiuan Eastern Samar and San Francisco, Cebu
93. 3-D Gestures on 2-D Screen for User Interface
94. Design and Implementation of a Power Distribution System for Data Centers
Program for Responsible Mining
95. Project 3. Alternative Technology for Processing of Chromite and Laterite Ores: Crude Fe-Ni-Cr Alloy Production
96. Project 5. ICT Support for Responsible Mining (Use of GIS, Data Mining and DSS for Analysis of Mining Areas in Mindanao)
97. Project 6. Rehabilitation of Areas Affected by Nickel Mining in Surigao Provinces Towards Eco-Restoration
98. Development of Wireless Sensory Network System for Structural Integrity Monitoring of Bridges (SMART BRIDGE)
99. Drought and Crop Assessment and Forecasting (DCAF)
100. Fabrication of Supercapacitors Using Indigenous Textiles as Electrode Materials
101. Fabrication of a Solid-State Rechargeable Li-ion Battery Using $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ as Solid Electrolyte for Energy Storage Applications
102. Geophysical characterization of an overriding plate: Arc-continent convergence and its implications for natural hazards and resource distribution in the Central Philippine
103. Linking active margin tectonics and overriding plate dynamics: A look at the geochemical nature of the Central Philippines
104. Retracing the Central Philippine Overriding plate motion
105. Synthesis and Characterization of Novel Metal Nanoparticle-doped Electroactive Polymer Materials and Their Possible Application for Gas Sensing
106. Nanostructured Electrocatalyst Composites for Direct Ethanol Fuel Cell: Preparation, Characterization and Performance Evaluation
107. Nanostructured Electrocatalysts Based on Graphene-support Nanoparticles Towards Direct Ethanol Fuel Cell Application

108. Optimization, Bench-scale Preparation and Toxicological Evaluation of Pectin-Gelatin/Nanocellulose Biocomposite Coatings from Mango Peel and Nata de Coco for the Postharvest-Life Extension of Mango (*Mangifera indica* L. cv Carabao) and Bell Pepper (*Capsicum annuum* L.) Fruits
109. Polymer Electrolyte Systems Based on Carrageenan for Solid State Dye Sensitized Solar Cell
110. Radiation-induced grafting of nonwoven fabrics for waste water treatment to meet Class C effluent heavy metal standards
111. Field Deployment of Telemedicine Devices
112. Synthesis and Application of Novel Nano-Scale Photocatalysts with Different Dopants for the Treatment of A) Dimethyl Sulfoxide, B) Chlorophenols in Aqueous Solutions and C) Gaseous Formaldehyde
113. Synthesis of Metal Nanowires and their Application in Foldable Transparent Conducting Electrode
114. The Geology of an overriding plate: Constraints from field geology, sediment geochemistry and paleontology
115. Tidal Current Energy Integrated Resource Assessment and Spatial Planning Tool
116. Trace and Rare Earth Element Geochemistry of Selected Porphyry-Epithermal Cu-Au Deposits in the Philippines
117. Design, Fabrication, and Evaluation of Monitoring and Sampling Devices for Particulate Matter
118. Developing Capabilities for Biophysics Research at the University of San Carlos
119. Development of Oyster Powder for Use as Ingredient and Condiment
Fuel Ethanol Production from Lignocellulosic Feedstocks
120. Project 4. Optimization of Saccharification, Fermentation and Purification processes for Pilot Scale Ethanol Production from Lignocellulosic Materials
121. Production, Characterization and Application of Red Pigment Produced by *Monascus purpureus* M1018
122. Development and Deployment of Adaptive, Interactive, SMS-Based Modules for English
National R&D Program for Natural Rubber Processing and Rubber Products Manufacturing
123. Project 2. Optimization and Improvement of Process in the Production of Technically Specified Rubber and Demonstration of Improved Facilities in Zamboanga Peninsula
124. Project 3. Enhancing and Increasing Local Content in Rubber for Motorcycle Tire Application
125. Tactical Operative Amphibious Drive (T.O.A.D.)
126. Rainfall Spatial Analysis in Butuan City Using GIS
Support Program for the Productivity and Competitiveness of the M&E Industry
127. Project 1. Simulation and Evaluation of an AGT System Passenger Stations - Phase 2
128. Project 5. Performance Testing of Five-Coach Centrally Powered Hybrid Electric Road Trains for Local Applications - Phase 2
Technological Support for the Upgrading of the Local Cacao and Cocoa Industry
129. Project 1. Improving the Quality of Solid Cocoa Liquor Including Molded Cocoa Nibs and Developing the Capability of Small Scale Processors in the Manufacture of Intermediate Cocoa Products
130. Project 4. Design and Fabrication of Equipment for the Production of Local Cocoa Products
131. A Graphene-Based Electrochemical Supercapacitor for Solar Cells
132. Black Sand Mineral Characterization
133. Deployment and Field Testing of Eco-friendly Septic System (Eco-Sep) in Boracay Island Phase II
134. Development of a Dipstick Assay Format for Detection of Salmonella in Food and Feeds
135. Establishment of Centralized Facility of Ultra High Temperature/High Temperature Short time Pasteurizer for Milk, Coconut Water and Other Juices
136. Gitara ni Juan: Development of Prototype Design and Standardization of the Guitar-making Process for Quality Classical Guitars Using selected Philippine Woods
137. Pilot Scale Standardization of Product and Processes using Drum Drying Technology on Selected Raw Materials (Mango, Banana and Makapuno)

138. Piloting and Market Validation of the UP Technologies on Rapid Electric Vehicle Charging or CharM (Charging in Minutes) in Cauayan City, Isabela for Progressive SMARTER City
139. Rapid Electric Vehicle Charging Station (CharM)
140. Support to the Commercialization of 500 DOST-Generated Technologies (CYs 2015-2017): Creation of an IP Database Management System and Provision of Initial Support to the Fairness Opinion Board for 12 DOST-Generated Technologies - Phase I
141. Synthesis, Morphology and Chemical Modification of Fullerene-Based Nanomaterials for Nano-engineered Structural Materials and Optoelectronic Applications
142. Technology Generation for the Production of Multi-Nutrient Extruded Rice Kernel (MNERK) to Address Malnutrition (1 Year and 9 mos.)

PCIEERD Research Priorities in the Harmonized National R&D Agenda (HNRDA)

| | PCIEERD Research Areas | With New/Ongoing Projects |
|---|---|----------------------------------|
| 1 | Food and Nutrition Security | X |
| 2 | Countryside Development | X |
| 3 | Competitive Industries | X |
| 4 | Delivery of Social Services | X |
| 5 | Intelligent Transportation Solutions | X |
| 6 | Renewable Energy and Energy Storage Solutions | X |
| 7 | Human Security | None yet |

Partnerships with Public and Private Stakeholders and International Organizations

1. Ateneo de Manila University (ADMU)
2. Adventist University of the Philippines (AUP)
3. Asian Institute of Management (AIM)
4. Ateneo de Zamboanga University (ADZU)
5. Ateneo de Davao University
6. Bicol University
7. Batangas State University (BatStateU)
8. Cavite State University (CavSU)
9. Central Mindanao University (CMU)
10. Camarines Sur Polytechnic Colleges (CSPC)
11. Caraga State University (CarSU)
12. Central Luzon State University (CLSU)
13. De La Salle University (DLSU)
14. De La Salle University (DLSU) - Science and Technology Complex (STC)
15. De La Salle Araneta University
16. Don Mariano Marcos Memorial State University (DMMMSU)
17. FEATI University
18. Futuristic Aviation and Maritime Enterprise, Inc. (FAME)
19. Geektown Inc.
20. Grayscale Marketing Consultancy
21. Hiraya Technology Solutions, Inc.
22. Isabela State University (ISU)
23. Ideaspace
24. Mindanao State University - Iligan Institute of Technology (MSU-IIT)
25. Malayan Colleges Laguna (MCL)
26. Mapua Institute of Technology (MIT)
27. Mariano Marcos State University (MMSU)
28. MachiBox Inc.
29. Northwest Samar State University (NwSSU)
30. National Institute of Molecular Biology and Biotechnology (NIMBB), UP Los Baños
31. Pampanga State Agricultural University (PSAU)
32. PhilSurin
33. Polytechnic University of the Philippines (PUP)
34. RestoGraph, Inc.
35. Rurok Industries
36. Southern Leyte State University (SLSU)
37. ToonCity Academy
38. Tekton Geometrix Inc.
39. UP Diliman
40. UP Los Baños
41. UP Cebu
42. University of San Carlos
43. University of Asia and the Pacific
44. UP Baguio
45. UP Mindanao
46. University of Cordilleras
47. University of Santo Tomas (UST)
48. UP Open University (UPOU)
49. University of San Jose Recoletos (USJ-R)
50. University of Caloocan City (UCC)
51. Western Philippines University (WPU)
52. Department of Energy (DOE)
53. Department of Public Works and Highway (DPWH)

54. Mindanao Development Authority (MinDA)
55. MARINA
56. Department of Budget and Management (DBM)
57. National Security Council (NSC)
58. National Water Resources Board (NWRB)
59. Department of National Defense (DND)
60. HUDCC
61. National Irrigation Administration (NIA)
62. Kyushu Institute of Technology (Kyutech)
63. Tohoku University
64. Hokkaido University
65. Revolution Precrafted
66. Newton Agham
67. Research Councils UK
68. e-Asia Program
69. Wave Computing
70. Philippine Advanced Technological Research and Development for Internet of Things (PATRIOT) Consortium