

QUARTERLY PHYSICAL REPORT OF OPERATION
as of 4th Quarter 2023

BAR No. 1

Department: DEPARTMENT OF SCIENCE AND TECHNOLOGY
Agency: INDUSTRIAL TECHNOLOGY DEVELOPMENT INSTITUTE
Operating Unit: _____
Organization Code: 190050000000

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Current Year Appropriations
 Supplemental Appropriations
 Continuing Appropriations
 Off-Budget Account

Particulars	UACS CODE	Physical Targets					Physical Accomplishments					Variance as of Q4	Remarks
		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
I. Industrial Technology R&D Program Outcome Indicators 1. Number of partnerships with public and private stakeholders and international organizations		5	3	4	3	15	8	13	10	5	36	+21	Q4 2023: 1. UERMMMC (R&D: Development of Printable BioLiner for Prosthetic Devices) 2. Tsukuba University, Japan (R&D: Cooperation and Development and Testing of Energy Materials and Fuel Cell Components) 3. Blessed Pamana Peanut Butter Mfg, SJDM, Bulacan (R&D: Valorization of Post-Processing By-Products Generated from Industrial-Scale Production of Peanut Butter) 4. BFAR-DA (R&D: Chemical Residue Profiling of Milkfish using XRF Technology) 5. Zamcor Detergents (R&D: Development of Pet Shampoo and Pet Deodorizer) Q3 2023 1. International Center for Environmental Technology Transfer (ICETT) (Technical Cooperation: Implementation of an Effective Solid Waste Management Program for ITDI: Part 1 - Assessment and conduct of Waste Analysis and Characterization Study (WACS)) 2. Packaging Institute of the Philippines (Technical Services: MOU on Packaging Education) 3. Taha M. Basman Memorial Islamic Foundation, Inc. (TAHA Foundation PH) (Cooperator: Test Marketing Implementation and Soft Launching of Thermally Processed Randang Sauce) 4. Dr. Quail Farm (MOU supplier for raw material: Scale-up Production and Technology Validation of DOST-ITDI's Ready-to-Eat Boiled Quail Eggs) 5-6. BAMI Corporation and DOST-NCR(Field Testing of the Plastic Waste Pyrolyzer and Trial Production of Pyrolytic Oil using Catalyst) 7. Arthrologic Inc. (Technical Collaboration : Development and Testing of Materials for Medical Devices) 8. Angeles City Science Highschool (Technical Assistance: Sol-gel Synthesis and in vitro study of Bioglass derived from Pemaviridis (Green Mussel) shells Bambusablumeana (Bamboo Leaf Ash) for Bone Tissue Regeneration) 9-10. DOST PNRI and Envirotech Waste Recycling Inc. (Technical Collaboration: Post-radiation Reactive Extrusion of Plastic Waste (PREx Plastic)) Q2 2023: 1. Lechon ni Timo Romano (R&D : Pilot Testing of the Developed Packaging Technology for Pork Lechon)

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													2. The Healing Basket Food Store (R&D: Development of Rice Alternative from Hearts of Coconut Palm) 3. Former Sec. Fortunato T. dela Pena (R&D: Product Development of Shelf-stable Ground Pet Food from Pork Liver) 4. Hi-Las Marketing Corporation (MOU: Halal Spa Skincare Project) 5. Leonie Agri Corporation (MOU : extraction of essential oil for the Halal Spa Skincare Project) 6. FARMEL Batangas (MOU : extraction of essential oil for the Halal Spa Skincare Project) 7. Line Seiki (R&D) 8. FPRDI (R&D) 9. Iba Botanicals Inc.(R&D) 10. D&L Polymers and Colours(R&D) 11. Manly Plastics(R&D) 12. Vision College of Jeonju (International Cooperation with Leading University and KOICA Civil Society Cooperation Project) 13. Nestle Philippines, Inc. (R&D and Technical Services) Q1 2023: 1. ALPHA DDSI (MOU for the Natural Fiber Reinforced Composite) 2. University of San Carlos (Research Collaboration: NICER project) 3. DOST Regional Office 1 (R&D: UPEDS) 4. Kalakal Universal Ventures, Corp. (Contract R&D: Upscaling of the Developed Electric Plastic Densifier) 5. Coycoy's Lechon (R&D: Pilot Testing of the Developed Packaging Technology for Pork Lechon) 6. Daily Baker (R&D: Development of Brand Name and label Design for Unique Phil. Products) 7. BF Industries (R&D: Co-oduction of Activated Carbon and Bio-oil from Spent Coffee Grounds) 8. Universal Robina Corp. (Technical Assistance: Pyrolysis of plastic wastes)
2. Amount of revenue generated from partnerships		25 M	75 M	40 M	10 M	150 M	44,942,934.32	207,816,682.42	92,326,590.28	166,422,137.60	511,508,344.62	+361,508,344.62	Received funds from DOST and attached agencies and other government agencies for the conduct of assisted projects.
Output Indicators 1. Number of projects completed		5	2	3	15	25	5	4	3	31	43	+18	Q4 2023 1. Development and Pilot Scale Production of Shelf Stable Food Products as Ready Food Reserve 2. Development of Shelf Stable Intermediate Moisture (IM) Products (Jerky and Chinese Style Sausage) Using Hurdle Technology 3. Test Marketing Implementation on Soft launching of Thermally Processed Randang Sauce 4. A Preliminary Study on the Exposure Assessment of Filipino Consumers to Phthalates migrated from plastic-based materials used as packaging for food and Beverages 5. Fabrication and Characterization of Fiber-Based Cushion Pad and Partition Board Derived from Pineapple Waste for Transport Packaging of Fresh Produce

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													<p>6. Validation and Optimization of the Developed Packaging Technology for Pork Lechon</p> <p>7. Microbial and Chemical Profile of Kombucha Tea made from Different Symbiotic Colonies of Bacteria and Yeasts (SCOBYs) in the Philippines Phase 2. Chemical Profile and Antioxidant Activity of Kombucha (Year 2)</p> <p>8. Carbon Capture using PDMS/PVDF thin film Composite Membranes</p> <p>9. Operation of the DOST Sewage Treatment Plan (STP) and Development of Strategies for Water Reuse</p> <p>10. Qualitative and Quantitative Assessment of Microplastics along the key sites of Laguna de Bay, Philippines</p> <p>11. Utilization of Septic Sludge for Biogas and Compost Production using a Portable Biogas Digester</p> <p>12. Application of 3D Printing in Arts and Designs for Creative and Handicraft Industries: 3D Printing Application for Bespoke Designs in Baked Products</p> <p>13. Application of 3D Printing in Arts and Designs for Creative and Handicraft Industries: 3D Printing Application in Designing Products for the Pottery Industry</p> <p>14. Laboratory Scale Production of Porous Bi-phasic Calcium Phosphate Bioceramic Orbital Implant (Phase 1)</p> <p>15. Stereolithography-Fabricated All Ceramic Dental Crown using Locally Available Materials (Year 1)</p> <p>16. Recycling of Postconsumer Multilayer Plastics Packaging (PMPP) - Phase 1</p> <p>17. Cellulose Nanocrystals (CNC) derived from Ananas Comosus leaves for Industrial and Medical Applications: Phase 2-Functionalization and Applications Testing</p> <p>18. Design, Optimization and Prototyping through Simulation and 3D Printing with PVD/PES Membrane Development of a Hollow Fiber Membrane Module for Emergency Water Supply Treatment</p> <p>19. Microbial and Chemical Profile of Kombucha Tea made from Different Symbiotic Colonies of Bacteria and Yeasts (SCOBYs) in the Philippines Phase 2. Chemical Profile and Antioxidant Activity of Kombucha (Year 2)</p> <p>20. Carbon Capture using PDMS/PVDF thin film Composite Membranes</p> <p>21. Operation of the DOST Sewage Treatment Plan (STP) and Development of Strategies for Water Reuse</p> <p>22. Qualitative and Quantitative Assessment of Microplastics along the key sites of Laguna de Bay, Philippines</p> <p>23. Utilization of Septic Sludge for Biogas and Compost Production using a Portable Biogas Digester</p> <p>24. Screening of Biological Activities and Secondary Metabolites from Two (2) Endemic Species of Vanoverberghia (Zingiberaceae) and their Application as a Topical Product</p> <p>25. Production of Fish Oil from by-products of Local Fish Processors and its Application in Personal Care Products</p> <p>26. Optimization Study on the Co-production of Activated Carbon and Bio-oil Spent Coffee Grounds</p> <p>27. Utilization of Okara byproduct from Taho/Tofu Production through the Development of Stabilizer/Emulsifier for Personal Care Products</p> <p>28. Capacity Building for Preservative Efficacy Test (PET) for Cosmetics</p>

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													<p>29. Development and Validation of Ion Chromatographic Method for the Determination of Water-Soluble Anions in Concrete and Related Materials</p> <p>30. Program: Enhancement of ITDI-STD Fuel Testing Services</p> <p>Phase 2: Development of Charcoal In-house Quality Control Material for Proximate and Ultimate Analysis in Solid Fuels</p> <p>31. Upgrading High-capacity Manual Mass Comparators through Development of an Automated Rotary Multi-Position Weighing System</p> <p>Q3 2023</p> <p>1. Utilization of Biochar as green active packaging in prolonging the overall freshness of high-value agricultural produce (Cavendish Banana and Okra)</p> <p>2. Implementation of an Effective Solid Waste Management Program for ITDI: Part 1 - Assessment and conduct of Waste Analysis and Characterization Study (WACS)</p> <p>3. Safety and Quality Evaluation and Testing of DOST-ITDI Developed Cacao Roaster Equipment</p> <p>Q2 2023: 4 projects were completed:</p> <p>1. Development of Brand Name and Label Design for Unique Philippine Products (Phase 3)</p> <p>2. Development of random vibration test procedures/methods using Acquired shock and vibration data in the last leg delivery of small products within Metro Manila</p> <p>3. Preliminary Study on Epoxidized Soybean Oil Migrating from Metal Closure into Bottled Spanish-Style Sardines</p> <p>4. Development of Shelf Stable Randang Sauce</p> <p>Q1 2023: 5 projects were completed:</p> <p>1. Ultrasonic Assisted Extraction (UAE) and Microencapsulation of VCO: Phase 2: Validation of microencapsulation processes for VCO</p> <p>2. Improvement of Exterior Features of Existing Horizontal Water Spray Retort with Timing Control System Upgrade</p> <p>3. Development of Three (3) New RTE Disaster Relief Foods for Vulnerable Groups (elderly and children)</p> <p>4. Development of Intelligent packaging colorimetric sensor as total volatile basic nitrogen (TVBN) indicator (Phase 2)</p> <p>5. Development of Mini-Computer and Micro-Controller Based Programmable Logic Controller (PLC) Applications for a Selected MMIC Equipment and a CED Laboratory Equipment</p>
2. Percentage of projects implemented within the approved timeframe		100%	100%	100%	100%	100%	100% 39/39	100% 40/40	100% 39/39	100% 36/36	100%	0%	Not cumulative

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3. Percentage of projects completed which are published in peer-reviewed journals, presented in national and/or international conferences, or with IP filed or approved		5%	5%	5%	5%	5%	4.35% (6/138)	8.70% (12/138)	17.39% (24/138)	20.29% (28/138)	20.29%	+15.29%	* 28 out of 138 completed GAA projects from the last 5 years (2018-2022) were published/ presented/ filed for IP as of Q4 2023. Not cumulative
II. Industrial Technology Transfer Program													
Outcome Indicators 1. Percentage of clients that rate the technology transfer as satisfactory or better		90%	90%	90%	90%	90%	100% (1/1)	-	-	-	100% (1/1)	+10%	*No CSF returned by clients in Q2, Q3 and Q4 2023 *1 out of the 5 clients returned the feedback form and rated technology transfer as satisfactory or better during Q1 2023.
Output Indicators 1. Number of knowledge/technologies diffused		15	20	25	20	80	17	20	29	15	81	+1	Q4 2023: 15 knowledge/technologies were diffused through different online platforms and media: 1. Collapsible Toilet 2. Natural Fiber Composites 3. Modular Rain Water Collection System 4. Household Tumbling Composter 5. Emulsified Chicken Burger Patty 6. Emulsified Chicken Nuggets 7. Emulsified Chicken Sausage 8. Charcoal Briquetting 9. Gourmet Salt 10. Cacao Technology 11. Flavoured Salt 12. Biodegradable Polymers 13. Natural Fiber Thermoplastic Composite AI (Anti-insect) Biodegradable Packaging 14. Electric Plastic Densifier 15. Waste Plastic Bags for Asphalt Concrete Q3 2023: 29 knowledge/technologies were diffused through different online platforms and media: 1. Dried Pineapple 2. Banana Chips 3. Vinegar Processing 4. RTE Chicken Arrozcaldo 5. RTE Mixed Veggies 6. RTE Corn Soup 7. RTE Ginisang Munggo 8. RTE Carrot Soup 9. Beef Randang 10. OL Trap 11. RTD Tablea 12. Salt Harvester 13. Pyrolizer/Pyrolysis 14. Dried Banana 15. ITDI Wine Kit 16. Mango Jam 17. Isotonic Drink 18. Mungbeab Coconut Milk Beverage 19. Ready-to-eat Beef-filled Suman 20. Ready-to-drink Rice Milk 21. High Dietary Fiber from Calamansi Wastes 22. Ready-to-eat Sweet Potato 23. Ready-to-eat Cassava in Syrup 24. Ready-to-eat Chicken Egg 25. Ready-to eat Smoked Fish Meal 26. VCO 27. Power Back-up System

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													28. Ylang-ylang essential oil 29. Ceramic Water Filter Q2 2023: 20 knowledge/technologies were diffused through different online platforms and media: 1. Biogas Digester 2. Mango RTD 3. Nanoclay 4. RTE Bangus Sisig 5. RTE Beef Curry 6. RTE Chicken Adobo 7. RTE Chicken Afritada 8. RTE White Rice 9. Salt Evaporating Set-up 10. Salt Spin Sryer 11. Thermal Processing using water retort 12. Vacuum Frying 13. Sa 14. Upgraded Emergency Disinfection System (UpEDS) 15. Ceramics Production 16. Citronella Essential Oil Extraction 17. Dalandan Concentrateit Washer 18. Dalandan RTD 19. Dried Mango 20. Fabric Conditioner Q1 2023: 17 knowledge/technologies were diffused through different online platforms and media: 1. Mango Puree 2. Waste Analysis and Characterization Study (WACS) 3. Dual Drum Composter 4. Bioreactor 5. Styro-Plastic Densifier 6. Passion Fruit Juice 7. Passion Fruit Jam 8. Dishwashing Liquid Detergent 9. Salt Iodizing Machine 10. Acetator Kit 11. Calamansi Concentrate 12. Calamansi RTD 13. Emergency Food Reserve (EFR) - Sagip Nutriflour 14. Nata de Coco 15. Salt Iodization Processing 16. Liquid Hand Soap 17. Hand Sanitize
2. Number of technologies transferred/ commercialized through technology transfer agreement		1	1	2	1	5	18	10	7	9	44	+39	Q4 2023 1. SafeWaTrs (Rockwell Ent., Bestmark Agro-Industrial Corp) 2-3. Household Tumbling Composter, Portable Biogas Digester (LAMACO) 4. UpEDS (Western Mindanao State University) 5-8. Salt Evap Setup, Bioreactor, Salt Iodizing Machine, Dual Drum Composter (Bestmark Agro-Industrial Corp) 9. Salt Washer (NSB Engineering) Q3 2023 1-3 Dried Mango, Dried Pineapple, Banana Chips (Anandaraj venkidusamy)

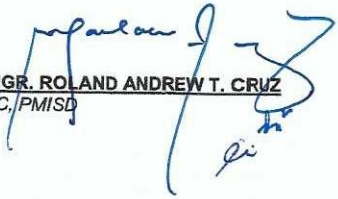
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													4. Vinegar Processing (RLGV) 5. Pyrolysis Installation (Balvi Group Inc.) 6. Basic Thermal Processing (Bataan Peninsula State University) 7. OL Trap (Heritage Veterinary Corp.) Q2 2023: 1-5. RTD Calamansi Juice, Calamansi Puree, Dried Mango, Mango Puree, RTD Mango Juice (Balvi Group Inc.) 6. Sagip Nutriflour (Alcee Catering Food Services) 7. RTD Calamansi Processing Facility (Las Islas Innovation Partners Inc.) 8. Sagip Nutriflour (Arborvitae Farm) 9. UpEDS (LGU Rizal) 10. Dual Drum Composter (BestMark) Q1 2023: 1. Power Back-up System (Grace Yu - UP Manila) 2. Pyrolysis Installation (Universal Robina Corp.) 3- 17. Isotonic Drink, Mungbean Coconut Milk Beverage, Ready-to-eat Beef-filled Suman, Ready-to-drink Rice Milk, High Dietary Fiber from Calamansi Wastes, Ready-to-drink Tablea, Ready-to-eat Sweet Potato, Ready-to-eat Cassava in Syrup, Ready-to-eat Chicken Egg, Ready-to-eat Smoked Fish Meal, Ready-to-eat Chicken Arroz Caldo, RTD Calamansi Juice, Mango Products Puree, Mango Products Dried, and Sagip Nutriflour (Swisspharma Research Laboratories, Inc.) 18. Manual on Thermal Processing with Copyright (LLQC Food Industries Inc. and Agrícola Di Organico)
3. Percentage of request for technology transfer that have been provided within the required time frame		95%	95%	95%	95%	95%	100% (18/18)	100% (1/1)	100% (1/1)	100% (5/5)	100% (25/25)	+5%	*25 out of 25 requests for technology transfer were provided within the required time frame as of Q4 2023
III Industrial Technology Technical Services Program													
Outcome Indicators 1. Percentage of customers that rate the technical services as satisfactory or better		90%	90%	90%	90%	90%	99.89% (5,243/5,249)	99.52% (1,031/1,036)	99.20% (995/1,003)	99.52% (623/626)	99.72% (7,892/7,914)	+9.72%	*7,892 out of 7,914 clients rated the technical services as satisfactory or better as of Q4 2023
Output Indicators 1. Number of technical services rendered		5,000	7,000	6,000	5,000	23,000	5,249	27,006	12,440	23,432	68,127	+45,127	

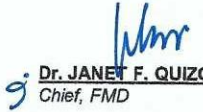
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2. Percentage of request for technical services that have been provided within the required time frame		90%	90%	90%	90%	90%	99.96% (5,247/5,249)	100% (27,006/27,006)	99.78% (12,412/12,440)	99.99% (23,430/23,432)	99.95% (68,095/68,127)	+9.95%	*68,095 out of 68,127 of technical services were provided within the required timeframe
3. Number of clients benefitting from technical services		1,000	1,000	1,000	1000	4,000	1,395	2,576	1,162	1,982	7,115	+3,115	

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