

QUARTERLY PHYSICAL REPORT OF OPERATION
as of 2nd Quarter 2021

Department
Agency
Operating Unit
Organization Code

DEPARTMENT OF SCIENCE AND TECHNOLOGY
INDUSTRIAL TECHNOLOGY DEVELOPMENT INSTITUTE
190050000000

☒ Current Year Appropriations
☐ Supplemental Appropriations
☐ Continuing Appropriations
☐ Off-Budget Account

Particulars	UACS CODE	Physical Targets			Physical Accomplishments			Variance as of 2nd Quarter	1st
		1st Quarter	2nd Quarter	Total	1st Quarter	2nd Quarter	Total		
1	2	3	4	7	8	9	12	13	14
I. Industrial Technology R&D Program Outcome Indicators 1. Number of partnerships with public and private stakeholders and international organizations		2	3	5	7	11	18	+13	Q2 2021: 1. DM Wenceslao and Associates (Contract R&D: Bench Scale Fluidized Bed Gasification (FBG) of Lignite Coal for Indirect Coal Liquefaction) 2-3. Ms. Raphie Amat and Ms. Hannah Laya Resurreccion (Project Cooperator: Thermal Process Validation of Traditional and Ethnic Bottled Products- Acidified-Pasteurized Vegetables) 4. Kasama HALAL Cooperative (Project cooperator for ongoing GIA project: Development of Emulsified Meat Products) 5-6. Mr. Jojo L. Aquino and Mr. Alvin Causing (Project cooperation: Establishment of Halal assurance System for Selected food Ingredients) 7. Kim Bagundang (Project cooperator: Development of Halal Compliant Dehydrated Food Products from Selected Food Materials) 8. Dr. Dave Centeno (Technical Collaboration/ Market Research: Bench-scale Production, Safety Assessment and Market Research of Halal Cosmetics and Toiletries) 9. DOST Reg. II (Training and Consultancy on Lab Quality Management System: Compliance to PNS ISO/IEC 17025:2017 of DOST-II RSTL) 10. Palaya Corporation (Technical Service: Evaluation of Bactericidal Activity of Ozon OZ-500 Ozone Air Purifier Model AP500.SD as Water Purifier Against E. coli and K. aerogenes) 11. PUP Manila (Technical Service: Physico-chem Analysis and Anti-Microbial Activity Test for the 70% Alcohol Solution with Virgin Coconut Oil) ---000--- Q1 2021: 1-2. Fruit Magic and DOST-NCR (Ongoing PCIEERD Project: Development of a Compact Wastewater Treatment System for Restaurants and MSMEs Discharging to Manila Bay) 3-6. Orich International Traders, Fenor Foods, Bagundang Enterprises, and PCIEERD (Project cooperator for the PCIEERD Project: Development of Halal Compliant Dehydrated Food Products from Selected Food Materials (Dried Fruits, Dried Vegetables and Dried Root Crops) 7. Techgreen (Project cooperator for the GAA project "Development of Alternative Techniques for Okra Flakes/Sheets Processing")

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2. Amount of revenue generated from partnerships		25 M	25 M	50 M	45.7 M	134.9 M	180.6 M	+130.6 M	<p>Received funds for 18 GIA-funded projects:</p> <ol style="list-style-type: none"> 1. Towards Leveling-Up Onelab for Research, Development and Innovation 2. Developing the Capability of Micro and Small-Scale Processors in the Manufacture of Quality Food Products from Philippine Cocoa Beans 3. Development of Draft Standards and Recommended Code of Practice (RCP) Processing of Peanut Butter 4. Pilot Implementation of ITDI's Pre-Commercialization Tools/Strategies for Effective Transfer and Commercialization of Generated Technologies and Intellectual Properties - Y2 5. Development and Field Testing of Retort Foods as Food Ration for Men in Uniform During Combat and Other High Risk Operations 6. Technical Support for DOST Regional Food Innovation Centers (rFICs) 7. Dietary Fiber using Sugarcane Bagassa from Raw Sugar Manufacturing 8. CRADLE: Pilot testing of Packaging Technology Developed for Frozen Durian Using Locally Produced Packaging Materials 9. Scale-up Production, Stability and Application of natural Colorants for Cosmetics 10. Deployment of Energy Monitoring Application and Network at DOST (DEMAND) as Demonstrations Sites 11. Development Competency on Establishment and Validation of Adequate Processes for Thermally Processed Food 12. Development of FIC Competency in Moving New Products from Concept to Market Launch 13. ADMATEL Expansion Towards Long Term Competitiveness and Sustainability Phase 2: ADMATEL Geared for PHIL Industry 4.0 14. DOST-MOST China Joint Research Program - Green Oil and Phytochemicals from Cashew 15. Development of Mobile Modular Food Processing Facility (MFPF) 16. Technical Support for DOST Regional Food Innovation Centers (rFICs) 17. Upgrading the Capability of Existing Distribution Centers/Trading Posts in the Delivery of Fresh and Semi-Processed Agricultural Products in the Supply Chain: Focusing on Packaging Technology and Logistics (ITDI Component) 18. Development Competency on Establishment and Validation of Adequate Processes for Thermally Processed Food
Output Indicators 1. Number of projects completed		3	3	6	7	6	13	+7	<p>*Some projects were carry-over from 2020 due to COVID-19</p> <p>Q2 2021: 6 GAA projects were completed:</p> <ol style="list-style-type: none"> 1. RDR-FPD-2020-01 - Development of Alternative Techniques for Okra Flakes/Sheets Processing 2. RDR-FPD-2020-03 - Establishment of Food Safety System for High Risk Bakery Products for Public Consumption 3. RDR-FPD-2020-05 - Improving the Quality of Deep-Fat Fried Cassava Chips 4. RDR-FPD-2020-06 - Natural Flavorings from Local Sources as Food Additive <p>Study 1: Optimization of Spray Drying of Flavors from Fermented Fish and Shrimps</p>

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1. Number of projects completed (continuation)									<p>5. RDR-PTD-2019-06 - Development of Intelligent Packaging Colorimetric Sensor as Total Volatile Base Nitrogen (TVBN) Indicator</p> <p>6. RDR-TSD-2020-01 - Market Testing of FIC Technologies/Products through collaboration with existing adopters</p> <p>---000---</p> <p>Q1 2021: 8 projects were completed:</p> <p>1. RDR-CED-2019-01 - Natural Hydrocolloid as Alternative Emulsifier and Stabilizing Agent from Okra (Hibiscus esculentus) Pods</p> <p>2. RDR-CED-2020-02 - Processing of Anti-freezing Agent for Biodiesel</p> <p>3. RDR-CED-2020-03 - Development of Uninterruptible Power Back-Up System Using Motor Control for Lighting Applications as Sample Electrical Load</p> <p>4. RDR-CED-2020-04 - Catalytic Hydrogenation and Transesterification of Highly Unsaturated Fatty Acids from Rubber Seed Oil</p> <p>5. RDR-CED-2020-05 - Bench-scale Production of Curcumin from Philippine Turmeric using Different Extraction Methods</p> <p>6. RDR-PTD-2020-02 - Establishment of Shelf Life and Safety of Chilled Ready to Heat and Freshly Cooked Ready to Eat Foods Sold in Convenience Stores and Delivery Service</p> <p>7. RDR-EBD-2020-01 - Development of a Fermentation Product (Kimchi-Filipino adaptation) from locally-grown vegetables using indigenous LAB isolates as starter culture</p>
2. Percentage of projects implemented within the approved timeframe		100%	100%	100%	100% (46/46)	97.44% (38/39)*	97.83% (45/46)*	-2.17%	<p>Not cumulative.</p> <p>*37/38 GAA-funded projects and 1 Downloaded program (Metrology program) were implemented within the approved timeframe. One project was suspended in Q2 2021 due to unavailability of needed chemicals.</p> <p>One newly approved GAA project was added while one project was withdrawn and the funds for this project was requested to be transferred to another project.</p>
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%	36% (45/126)*	38% (48/126)*	38.09%	+33.09%	<p>Not cumulative.</p> <p>*48 out of 126 completed GAA projects from the last 5 years (2016-2020) were published/ presented/ filed for IP as of Q1 2021</p>

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II. Industrial Technology Transfer Program									
Outcome Indicators									
1. Percentage of clients that rate the technology transfer as satisfactory or better		90%	90%	90%	100% (5/5)	0%	100% (5/5)*	+10%	No technology transfer for the quarter
Output Indicators									
1. Number of knowledge/technologies diffused		8	12	20	78	35	113	+93	Q2 2021: 35 knowledge/technologies were diffused through different online platforms and media: 1. Salt Iodization (Process) 2. Ube Snack Food 3. Butterscotch 4. Ube Powder 5. Halaya 6. Drum Dried Makapuno 7. 3D Printed Valve Chamber 8. Banana strings 9. Banana ketchup 10. Banana flour 11. Breadfruit chips 12. Breadfruit flour 13. Coconut Flour 14. Coconut Burger 15. Coconut Macaroons 16. Halal Lipstick 17. Halal Shampoo 18. Halal Soap 19. Liquid Hand Soap Production 20. Plastic Densifier 21. Retort Egg 22. VF Okra 23. VF Squash 24. VF Sweet Potato 25. Abaca Fibre Reinforced Composite for Boat 26. RTD Coconut Mungbean 27. Bioremediation technologies to fix heavy metal contamination

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1. Number of knowledge/technologies diffused (continuation)									28. Halal Emulsified Chicken Meat Processing 29. Dragon Fruit Processing 30. Collapsible Toilet 31. Utility Tent 32. Ceramic Water Filter 33. Emergency Disinfection System 34. Filter in wastewater in fruit plant 35. Freeze Dried Products (Mango and Pineapple) ---000--- Q1 2021: 78 knowledge/technologies were diffused through different online platforms and media: 1. Calamansi Dietary Fiber 2. Vinegar Production using ITDI Acetator Kit 3. Alcohol Making 4. Banana Chips 5. Cacao Roaster 6. Cacao Desheller 7. Cacao Grinder 8. Calamansi Processing 9. Compact wastewater treatment system for QSRs 10. Dried Fish Processing 11. Ebulliometer 12. Fish Paste Processing (Fermented Fish) 13. Fish Sauce Processing (Fermented Fish) 14. Freeze Dried Products (Mango and Pineapple) 15. Fruit Puree and concentrates 16. Ginger Candy 17. Guyabano Tea and Capsule 18. Hand Sanitizer Production 19. Household Tumbling Composter 20. Liquid Dishwashing Detergent 21. MOSYMU 22. Nipa Sap Sugar 23. OL Trap 24. Portable Biogas Digester 25. RTE Chicken Arroz Caldo 26. Sagip NutriFlour 27. Salt Iodization Machine 28. Salt Washer 29. Soap Making

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1. Number of knowledge/technologies diffused (Continuation)									30. Trickle Filter System for Removal of Nitrates and Phosphates from Wastewater Effluent 31. Vacuum Fried Langka 32. Virgin Coconut Oil (VCO) Processing 33. Waste Analysis and Characterization Study (WACS) Plan Preparation 34. Wine Kit 35. Bangus in Oil Processing (Thermal Processing) 36. DOST Tablea Processing 37. Drum Dried Mango 38. Nanoclay 39. Natural Fiber Thermoplastic Composite 40. Smoked Fish in Oil Processing (Thermal Processing) 41. Tuyo in Oil Processing (Thermal Processing) 42. 3D Printing Services 43. Basil Sauce with Pili Peels and Pulp Oil 44. Bioreactor 45. Bottled Bangus and Potato Chips 46. Dual Drum Composter 47. Emergency Food Reserve 48. Extraction of Essential Oils 49. Ginger Tea Processing 50. Gourmet Salt Spice Mix 51. Herbal Milk Tea - Banaba Leaves 52. Herbal Milk Tea - Mangosteen Rind 53. Herbal Milk Tea - Moringa Leaves 54. Herbal Milk Tea - Soursoop Leaves 55. Herbal Tea - Banaba Leaves 56. Herbal Tea - Bitter Melon Leaves 57. Herbal Tea - Mangosteen Leaves 58. Herbal Tea - Moringa Leaves 59. Herbal Tea - Soursoop Leaves 60. Isotonic Drink 61. Mango Peel Dietary Fiber 62. Massage oils using VCO with Essential oils 63. Mayonnaise with Pili peels and Pulp oil 64. Mayonnaise with VCO 65. Mixed Fruit Peel Dietary Fiber 66. Mouthwash with Calamansi Seed Oil 67. Nutribun Making 68. Pili Pulp Dietary Fiber 69. Pili Pulp Oil 70. RTD Tablea 71. RTE Smoked Fish 72. RTE Sweet Potato 73. Tomato Pomace Dietary Fiber 74. Tomato Sauce with Pili peels and Pulp Oil

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1. Number of knowledge/technologies diffused (Continuation)									75. Tomato Sauce with VCO 76. Tomato-garlic sauce with VCO 77. Toothpaste with Calamansi Seed Oil 78. Turmeric Tea Processing
2. Number of technologies transferred/commercialized through technology transfer agreement		1	1	2	6	0	6	+4	No technology transferred within the quarter. Currently, negotiations with ten (10) potential adopters are ongoing. Draft MOAs/TLAs are for review.
3. Percentage of request for technology transfer that have been provided within the required time frame		95%	95%	95%	100% (5/5)	0%	100% (5/5)*	+5%	*No technology was transferred this quarter.
III Industrial Technology Technical Services Program Outcome Indicators 1. Percentage of customers that rate the technical services as satisfactory or better		90%	90%	90%	99.86% (736/737)*	100.00% (596/596)*	99.92% (1332/1333)	+9.92%	Not cumulative. *1,332 out of 1,333 clients rated the technical services as satisfactory or better
Output Indicators 1. Number of technical services rendered		5,000	5,000	10,000	4,594	4,168	8,762	-1,238	Limited workforce and working time during the implementation of community quarantine affected the service of the laboratories.

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2. Percentage of request for technical services that have been provided within the required time frame		90%	90%	90%	100% (4,594/4,594)*	100% (4,168/4,168)	100% (8,762/8,762)*	+10%	*8,762 out of 8,762 technical services were completed within the required time frame	
3. Number of clients benefitting from technical services		500	1,000	1,500	899	6,463	7,362	+5,862	The use of online-based platforms aid in the delivery of different technical services.	
LOCALLY-FUNDED PROJECTS (LFP)					Physical accomplishment	Budget Utilization	Physical accomplishment	Budget Utilization		
1. Repair/Renovation & Maintenance of ITDI Buildings and Facilities		12%	28%	40%	51.28%	0% 0M / 40M budget utilized	26.00% 16.09M/40M budget utilized	40.23% Budget utilization: 40.23% 16.09M/40M budget utilized	+37.28%	Accomplishments as of Q2 2021: 1. Centralized gas line - 5% 2. Main cold water - 36.95% 3. Repair/renovation EBD - 10% 4. Repair and improvements NML - 29.68% 5.repair/renovation FPD - 25% 6. Biosafety Laboratory EBD - 20% 7. ITDI Engineering Facility - 18.53% 8. Common areas in the metrology - 53.37% 9. Sewage Treatment Plant and Sewer Line System EBD - 15% Problems encountered and action taken - Some activities were delayed due to the implementation of community quarantine. A request for extension was filed.
2. Enhancement of the Competence and Capabilities of the National Metrology Laboratory of the Philippines		20%	25%	45%	22.74%	33.43% 14.78M/44.21 M utilized	20.36% 5.81M/44.21 M utilized	13.14% 43.10% Budget utilization: 46.57% 20.59 M / 44.21 M utilized	-1.90%	Accomplishments as of Q1 2021: Project 1: - Submission of final report for histamine in dried fish to PT participants - Completion of GC-MS/MS method validation for chlorpyrifos and phentoate in mango Project 2: - Preparation of draft interim and draft final report for (1) Cobalt, Manganese, and Nickel in drinking water PT and (2) Arsenic and Mercury in drinking water PT - Completion of cobalt method validation for direct titration method - Preparation of Reference Material (RM) for (1) nickel and (2) Arsenic, Mercury, Cadmium, and Lead in Tuna and (3) Arsenic, Lead, and Cadmium in Rice

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2. Enhancement of the Competence and Capabilities of the National Metrology Laboratory of the Philippines (Continuation)											Project 3: - Provision of PT Scheme – ICSM – 2021 – 01 for 2 test parameters: (1) Salmonella sp. Detection in milkfish and (2) APC in milkfish - Conducted Orientation for PT participants - Prepared and distributed PT Materials - Established Homogeneity and Stability Project 4: - Preparation of PRs for 28 units of equipment - On-going repair and improvements of NML Building - Enhancement of 64 services Problems encountered: •Equipment scheduling conflict - Sharing of equipment between RMs; Scheduling of activity •Delay in building construction - Regular meeting with contractor to fast track conduct of activities •Delay in bidding process; Awaiting the release of approved LIB - Submitted request for forwarding of 2020 funds which consists of savings and unexpended balances to C.Y. 2021 and realigned line-item-budget (subject to approval by the DOST-EXECOM)
3. ITDI Information Technology Capability Enhancement and Sustainability		15%	20%	35%	15.00%	46.79% 6.49 M/ 13.87 M utilized	20.00%	14.13% 1.96 M/ 13.87 M utilized	35% Budget utilization: 60.92% 8.45 M / 13.87 M utilized	0.0%	Major Accomplishments for Q2 2021: - Configuration of Wireless Access Points - Implementation of Synology Office - Re-connection of network fiber optic at MMIC - Network Structured Cabling of STD, CED, PTD, MSD & FPD Building - Re-designing of ITDI Customer Portal (Including TSD – BDS, STD and NML Services) - Development of TSD – BDS Information System and ITDI Electronic / online Room Problems Encountered: • Difficulty in data gathering for system design due to lack of detailed process documentations - Created a process flow with system graphics user interface to provide visual overview to the end-users

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3. ITDI Information Technology Capability Enhancement and Sustainability (continuation)									<ul style="list-style-type: none"> • Difficulty during testing and implementation due to the conflict of schedule of end-users (Skeletal and WFH setup of Schedule) - Conducted online training, meetings and presentation to end-users • Additional workload on e-Payment implementation to other agencies - Hiring of additional COS

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Date: July 12, 2021

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Date: July 12, 2021

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Director, ITDI

Date: July 12, 2021