

Department of Science and Technology  
METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER  
**LIST OF 2016 DOST-GIA PROJECTS**

Item No.	Title	Duration	Project Objectives	Beneficiaries	Implementing Division	Amount (PhP)	Status of Implementation (as of June 30, 2016)
<b>I. MACHINE BUILDING (AGRICULTURAL EQUIPMENT)</b>							
1	Design and Development of Forage - Blades & Chopper for Goat Production	1 Aug 2015 to 31 Jul 2016	Produce the basic equipment for baling and chopping of Indigofera Zollingeriana	Cental Luzon State University; Goat Farmers	Prototyping Division	370,752.00	- Engr. F. Dime and Engr. M. De Lumen conducted inspection of E.A. Rañola Machine Shop Inc. last May 5, 2016 for the on-going fabrication of the developed Forage Chopper.
2	Design and Development of Superheated Steam Treatment System for Stabilized Brown Rice	1 Aug 2013 to 31 July 2016 For Extension until 31 Dec. 2016	Design and develop batch and continuous type of superheated steam treatment system (SSTS) that will extend the shelf life of brown rice from 1-2 months to 5-9 months.	Agricultural sector; M&E industry	Prototyping Division	(2013) 3,747,876.00 (2014) 2,472,308.00 (2015) 609,351.00 (TOTAL) 6,829,535.00	- Batch Type SSTS - Conduct of economic viability study is still ongoing. - Ongoing debugging of Continuous Type SSTS. - Requested for project extension from June 1, 2016 to December 31, 2016 to PCAARRD.
3	Development of a Fluidized Bed Dryer for Production of Stabilized Brown Rice (SBR)	1 Jul 2013 to 30 June 2016 For Extension until 31 Dec. 2016	Design and fabricate a prototype batch type fluidized bed dryer in the production of stabilized brown rice; design and fabricate a prototype continuous type fluidized bed dryer based on the prototype batch type fluidized bed dryer for higher capacity; evaluate the performance of the developed prototype batch and continuous type fluidized bed dryers.	Agricultural sector; M&E industry	Prototyping Division	(2013) 3,666,386.00 (2014) 3,723,888.00 (2015-TL) 1,395,442.00 (TOTAL) 8,785,716.00	- Performed observation run together with FNRI and results comparison of the 1st and 2nd analysis for improvement of FBD - Completed 90% CAD concept design of Continuous Type FBD - Submitted request for project extension.



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4	Retrofitting of a Compact Rice Mill for Brown Rice Production	1 Jul 2013 to 30 Aug 2015	Retrofit an existing compact rice mill and attach a paddy separator to facilitate convenient production of both brown rice and well milled rice.	Agricultural sector; M&E industry	Prototyping Division	3,130,788.00	- Submitted terminal report to PCAARRD for comments and approval.
5	Design and Development of Handtractor Attachments (Harvester and Transplanter)	1 Aug 2013 to 30 Mar 2016	Design and develop a harvester and a transplanter that can be readily mounted and dismounted to typical hand tractors.	Agricultural sector; M&E industry	Prototyping Division	(2013) 3,774,770.00 (2014) 2,882,084.00 (2015-TL) 1,427,639.00 (TOTAL) 8,084,439.00	- Ongoing terminal report writing
6	Piloting of the Hand Tractor - attached Harvester in Selected Rice Growing Regions	1 Feb 2015 to 31 July 2016 For Extension until 31 Dec. 2016	Conduct field testing of three (3) harvester-attached hand tractor and three (3) transplanter-attached hand tractor prototypes in demo farms of various regions.	Agricultural sector; M&E industry	Prototyping Division	3,526,960.00	- Ongoing monitoring/inspection for the fabrication of hand tractor-attached transplanter - Preparation of the Bid Evaluation Report and Notice to Proceed for the fabrication of 3 unit hand tractor-attached harvester. - Submitted request for project extension.
7	Design and Development of Sugarcane Harvesting Equipment for Small-Scale Sugarcane Farm	1 Jan 2015 to 31 Dec 2016	Develop locally fabricated sugarcane harvesting equipment (cutter, stripper and loader) for small farms.	Agricultural sector; M&E industry	Prototyping Division	5,334,956.00	- Awarded the contract for the fabrication of sugarcane cutter to E.A. Rañola Machine Shop Inc. Fabricated sugarcane cutter is expected to be completed by August 2016. - Application for patent is being prepared.

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<b>II. MACHINE BUILDING (FOOD PROCESSING)</b>							
8	Roll-out of DOST Developed Food Processing Equipment to the Regions	1 Oct 2013 to 31 Dec 2016	Roll-out the DOST-developed food processing for product quality and productivity improvement of food processors in the regions.	Metals and Engineering Industry, Food Processors in the regions (Manufacturers)	Prototyping Division	(2013 SET UP) 15,299,000.00 (2013 ADDT'L FUND) 7,384,500.00 (2014) 860,610.00 (2015) 28,486,548.00 (TOTAL) 52,030,658.00	Deployed locally developed equipment for food processing industry sector: - WATER RETORT: 7 units deployed; 1 unit for performance test; 1 unit ready for deployment. - SPRAY DRYER: 8 units deployed; 1 unit ready for deployment. - VACUUM FRYER: 8 units deployed; 1 unit for performance Test. - FREEZE DRYER: 2 units deployed; 3 units for functional test; 4 units for performance test.
<b>III. MACHINE BUILDING (DISASTER MITIGATION)</b>							
9	Development of Tent Systems for Emergency Applications	1 Jan 2014 to 30 Nov 2015	Develop cost effective and easily manufacturable tent systems for emergency use.	Public, Housing Sector, Metals and Engineering Industry	Materials and Process Research Division	1,500,000.00	- <b>Terminal report for finalization</b>
<b>IV. MACHINE BUILDING (INDUSTRIAL / SPECIAL PURPOSE EQUIPMENT)</b>							
10	Prototyping and Pilot Production of Eyelet Rivetter/Eyelet Machine	1 Jul 2015 to 30 Jun 2016 For Extension until 31 Dec. 2016	Develop an eyelet riveter that could bind documents as required by the Department of Foreign Affairs' Authentication Division - Office of Consular Affairs (ADO - CA).	Department of Foreign Affairs' Authentication Division - Office of Consular Affairs	Prototyping Division	1,300,000.00	- Ongoing machining of remaining parts. - Ongoing casting of other parts. - Assembly and testing for completed components. - Powder coating of 20 sets.




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<b>V. FACILITY UPGRADING (GEAR MAKING AND ASSEMBLY FACILITY)</b>							
11	Establishment of a Gear Making Assembly Facility	1 Jul 2014 to 30 Jun 2016 With approved extension until 30 June 2017	Enhance local capabilities for gear design and prototype production, and develop gear assembly manufacturing industry for transport.	Metals and Engineering Industry, Transportation Sector	Prototyping Division	(2014) 72,190,126.00 (2015) 120,296,809.60 (TOTAL) 120,296,809.60	-MWS I - Phase III renovation is 97% completed -MWS I - Phase V renovation is 80% completed -Attendance to machine operation and maintenance training for Okuma Machine MU6300V Model in Okuma Corporation, Thailand in May 2 to 7, 2016 -CNC Gear Hobbing Machine was delivered last week of June 2016. 5-axis CNC machine to be delivered on the second week of July 2016. -Ongoing electrical system upgrade for the Gear Making Facility
<b>VI. ADVANCED TRANSPORTATION SYSTEMS (AUTOMATED GUIDEWAY TRANSIT - AGT)</b>							
12	Study on the Viability of Deploying DOST Developed Mass Transportation Technologies in Baguio and La Trinidad	1 Jul 2014 to 30 Sept 2015	Assess the feasibility of deploying the Automated Guideway Transit System developed by MIRDRC in several routes pre-determined by Local Government Unit of Baguio City	Local Government of Baguio City, Transport Sector, Public	Materials and Process Research Division	1,000,000.00	- Terminal report for finalization.
<b>VII. CAPABILITY BUILDING (TRAINING AND CONSULTANCY)</b>							
13	Fabrication of the 3D Print Prototype Scale Model of the Continuous - Type Food Processing Equipment (Vacuum Packaging, Vacuum Fryer, Immersion Freezer)	1 Oct 2015 to 30 Sept 2016	Promote the locally fabricated equipment, thereby give information as substitute to imports as well as appropriate and affordable for use by the food processing firms.	Agricultural Sector, Food Manufacturers, M&E Industry (Fabricators)	Technology Diffusion Division	143,000.00	- Ongoing fabrication of continuous-type immersion freezer and continuous-type vacuum fryer scale models. - Completed fabrication of continuous-type vacuum packaging machine.



Item No.	Title	Duration	Project Objectives	Beneficiaries	Implementing Division	Amount (PhP)	Status of Implementation (as of June 30, 2016)
14	Enhancing Tool and Die Industry Competitiveness by Expanding the Pool of Trained and Highly Skilled Die and Mold Designers and Makers (D2M2)	1 April 2015 to 1 May 2016 For Extension until 31 Dec. 2016	Enhance the competitiveness of the local tool and die sector in support of the automotive industry through manpower development and project output assessment activities.	Tool and Die Industry; Automotive Industry	Prototyping Division	6,717,884.00	<ul style="list-style-type: none"> <li>- BATCH 3 : Continue the machining of 2 mold projects, canisters, and 2 die projects, Ground Terminal Plate and Blanking Die using CNC machines such as milling, wirecutting, drilling and others, with the assistance of machine shop technical personnel.</li> <li>- BATCH 4 : Continue the BOM and started the detailed drawing of die project (W-Clip) given by Mr. Virgilio F. Lanzuela of PDMA,, Inc.</li> <li>- BATCH 5 : Started the lecture on CNC Turning topic facilitated by Mr. Manuel F. Ascano. Provided exercises and activities on CNC Turning to D2M2 trainees.</li> </ul>
<b>VII. OTHERS</b>							
15	Setting-up of a One-Stop Laboratory Services for Global Competitiveness (ONELAB)	31 Aug 2014 to 31 Dec 2016	Develop and establish a DOST-wide Unified Laboratory Information System (ULIMS) with a comprehensive database of each agency's testing services and real time status of each laboratory.	Metals and Engineering Industry	Analysis and Testing Division	(2014) 286,615.00 (2015) 5,757,564.00 (TOTAL) 6,044,179.00	<ul style="list-style-type: none"> <li>- Local mock run operation for PLS and CLS scheduled in July including the "Pilot Run of the System" scheduled for the 4th Quarter CY2016 was conducted in May 2016</li> </ul>

Prepared by:

  
**ALEXANDER P. GONZALES**  
 Planning Officer III, PMD

Reviewed by:

  
**MERCEDITA G. ABUTAL**  
 Chief, PMD

Approved by:

  
**ROBERT O. DIZON**  
 Executive Director



Department of Science and Technology  
METALS INDUSTRY RESEARCH AND DEVELOPMENT CENTER  
**LIST OF 2016 DISAGGREGATED GIA PROJECTS**

Item No.	Title	Duration	Project Objectives	Beneficiaries	Implementing Division	Amount (PhP)	Status of Implementation (as of June 30, 2016)
<b>I. MACHINE BUILDING (INDUSTRIAL / SPECIAL PURPOSE EQUIPMENT)</b>							
1	Development of 12-Hp Single Cylinder Diesel Engine	1 Jan 2014 to 31 Dec 2016	Design and develop a 12 hp single cylinder diesel engine for different applications	Metals and Engineering Industry	Prototyping Division	(2014-DGIA) 12,000,000.00 (2015-TL) 7,890,400.00 (TOTAL) 19,890,400.00	<ul style="list-style-type: none"> <li>- Assembly of prototype 12HP single cylinder diesel engine.</li> <li>- Testing of 12HP single cylinder diesel engine.</li> <li>- Ongoing machining of engine components at MIRDC.</li> <li>- The prototype 12HP single cylinder engine was exhibited in MIRDC 50th Anniversary.</li> </ul>
2	Development of Heavy Duty DC Inverter SMAW-GTAW Welding Machine	1 Jan 2014 to 31 Dec 2015	Localize heavy duty DC SMAW-GTAW Inverter welding machines for Small and Medium Enterprises (SMEs)	Metals and Engineering Industry (M&E), Small and Medium Enterprises (SMEs)	Prototyping Division	4,398,000.00	<ul style="list-style-type: none"> <li>- Submitted terminal report to PCIEERD for comments last June 30, 2016.</li> </ul>
3	Testing with Training of Process Equipment for Food Processing Firms	1 Jan 2014 to 31 Dec 2015	Assess the compliance of prototype food processing equipment to quality and performance standards	Agricultural Sector, Food Manufacturers, M&E Industry (Fabricators)	Prototyping Division	2,000,000.00	<ul style="list-style-type: none"> <li>- Ongoing terminal report writing.</li> <li>- Project accomplishments were presented to PCIEERD last June 14, 2016. Awaiting for PCIEERD's comments and evaluation.</li> </ul>
<b>II. FACILITY UPGRADING (INNOVATION CENTER FOR MOTOR VEHICLE AND PARTS DEVELOPMENT)</b>							
3	Establishment of a Finite Element Analysis (FEA) Design Center	1 Jan 2013 to 31 Dec 2015	Establish a FEA Design Center in support to the Customized Local Road Vehicles (CLRV) Industry.	Automotive and Parts Manufacturing Sector, M&E Industry	Prototyping Division	13,652,496.00	<ul style="list-style-type: none"> <li>- Completed data gathering for jeepney</li> <li>- Submitted data needed for the conduct of four (4) crash testing to supplier <ul style="list-style-type: none"> <li>• front impact</li> <li>• front offset</li> <li>• side impact</li> <li>• roof crash analysis</li> </ul> </li> </ul>



Item No.	Title	Duration	Project Objectives	Beneficiaries	Implementing Division	Amount (PhP)	Status of Implementation (as of June 30, 2016)
4	Establishment of a Die and Mold Solution Center in Support of the Components and Parts Manufacturing Industry	1 Jan 2013 to 31 Dec 2015	Enhance the competitiveness of the local tool and die sector in support of the automotive industry through the provision of facilities, technology and manpower development.	Automotive and Parts Manufacturing Sector, M&E Industry	Prototyping Division	(2013) 97,931,684.00 (2014) 100,000,000.00 (Total) 197,931,684.00	- Completed oral presentation last June 8, 2016. - Awaiting for PCIEERD's comments and evaluation.
5	Revitalization of MIRDC's Testing Facility in Support of the Automotive Components and Parts Manufacturing Sector	1 Jan 2013 to 31 Dec 2015	Enhance the competitiveness of automotive parts and components manufacturers through the provision of an automotive parts testing facilities.	Automotive and Parts Manufacturing Sector, M&E Industry	Analysis and Testing Division	(2012) 81,535,820.00 (2013) 100,000,000.00 (TOTAL) 181,535,820.00	- Completed oral presentation last June 8, 2016; Awaiting for PCIEERD's comments and evaluation. - Fabrication of Quick Release Mechanism for lifting system of pendulum of the Transport Impact Body Tester is ongoing.
<b>III. FACILITY UPGRADING (SURFACE ENGINEERING)</b>							
4	Capability Development and R&D on Electroplating of Various Non-Conductive Materials	1 Jan 2014 to 31 Dec 2015	Develop processes on surface finishing of various non-conductive materials	Metals and Engineering Industry, Surface Engineering / Electroplating Sector	Materials and Process Research Division	4,000,000.00	- Ongoing Terminal Report writing.
5	Upgrading of Heat Treatment Facility	1 Jan 2014 to 31 Dec 2015	Build the Center's competence in heat treatment technology in support to the Surface Engineering Facility	M&E Industry, Heat Treatment Sector	Materials and Process Research Division	11,450,000.00	- Ongoing Terminal Report writing.
<b>IV. ADVANCED TRANSPORTATION SYSTEMS (AUTOMATED GUIDEWAY TRANSIT - AGT)</b>							
6	Study of Three (3) Potential Automated Guideway Transit System Routes	1 Jul 2013 to 31 Dec 2014	Come up with a detailed design, drawing and cost estimate of elevated test tracks, stations, maintenance depot, etc. of various identified routes by conducting preliminary/preparatory activities in relation to the development of a fully equipped and operation-ready AGT System.	Metals and Engineering Industry (M&E), Transportation Sector, Public	Materials and Process Research Division	4,900,000.00	- Completed PCIEERD oral presentation on April 2015 - Terminal Report for finalization.



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7	Simulation and Evaluation of AGT System Passenger Stations - Phase 2	1 Jan 2014 to 31 Dec 2015	Achieve an AGT system passenger station that is efficient in lay-out and has a well-organized operation through simulation and evaluation	Metals and Engineering Industry (M&E), Transportation Sector, Public	Materials and Process Research Division	15,135,000.00	- Submitted draft Terminal Report to PCIEERD. - Oral presentation for schedule.
8	Test and Evaluation of 120 Passenger Coach Capacity Automated Guideway Transit System - Phase 2	1 Jan 2014 to 31 Dec 2015	Promote the Automated Guide-way Transit System as safe, efficient, and technically viable mass transport system technologies in Bicutan, Taguig	Metals and Engineering Industry (M&E), Transportation Sector, Public	Materials and Process Research Division	19,260,000.00	- Submitted draft Terminal Report to PCIEERD. - Oral presentation for schedule.

#### V. ADVANCED TRANSPORTATION SYSTEMS (HYBRID ELECTRIC ROAD TRAIN)

9	Prototype Development of a Five-Coach Centrally-Powered Hybrid Electric Road Train (CRT)	1 Jan 2013 to 31 Dec 2014	Develop a centrally powered prototype of hybrid electric road train for public transport by harnessing locally available technology geared towards addressing pressing national challenges on urban transport.	Metals and Engineering Industry (M&E), Transportation Sector, Public	Analysis and Testing Division	85,000,000.00	- Submitted draft Terminal Report to PCIEERD. - Awaiting schedule for oral presentation.
10	Performance Testing of Five - Coach Centrally Powered Hybrid Electric Road Trains for Local Applications - Phase 2	1 Jan 2014 to 31 Dec 2015	Integrate, test and evaluate the performance of five-coach centrally powered hybrid electric road train that will serve as alternative mass transport for deployment to regular city roads in the country	Metals and Engineering Industry (M&E), Transportation Sector, Public	Analysis and Testing Division	(2014 DGIA) 13,366,292.87 (2015 TL) 3,535,000.00 (TOTAL) 16,901,292.88	- Submitted draft Terminal Report to PCIEERD. - Awaiting schedule for oral presentation.

#### VI. ADVANCED TRANSPORTATION SYSTEMS (TRAINSET)

11	Development of Prototype Trainset	1 Jan 2013 to Dec. 31, 2016	Design and fabricate 2 units of prototype trainset; 5 coaches each trainset. Develop a control system for the prototype trainset. Conduct a comprehensive material selection process for the local production of train parts.	Metals and Engineering Industry (M&E), Transportation Sector, Public	Materials and Process Research Division	(2013) 109,970,000.00 (2014) 16,300,000.00 (2015-TL) 19,885,000.00 (Total) 146,155,000.00	- Conducted soft launching of the prototype trainset set on June 25, 2016. - Request for project extension up to Dec. 31, 2016 and the use of unexpended budget was approved. - Additional budget of Php 4.9M was submitted to PCIEERD for approval.
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<b>VII. CAPABILITY BUILDING (TRAINING AND CONSULTANCY)</b>							
12	Human Resource Intervention for Sustainable Growth and Competitiveness of the Metals and Engineering Sector: Development and Implementation of Appropriate Training Curriculum Design for CNC Machine Tool Programming and Operation	1 Sept 2012 to 31 Dec 2015	Develop and implement an effective training curriculum design to ensure that competent CNC programmers and operators are made available to meet the human resource requirements of the domestic metalworking firms	Metals and Engineering Industry	Technology Diffusion Division	(2012) 6,959,600.00 (2013) 47,049,788.00 (2014) 58,104,000.00 (Total) 112,113,388.00	- Ongoing terminal report finalization with PCIEERD comments
13	Capacity Building for Competitiveness of the Metals & Engineering Industry Cluster (CAIMTEC) of CAR for Localization of Industrial and High Precision Technology Parts	1 Apr 2012 to 30 Mar 2015	Raise the level of CAR MSE's to produce industrial and high-precision technology parts conforming to technology standards.	Micro, small and medium enterprise in the M&E Sector in CAR	Technology Diffusion Division	(2012) 11,589,490.00 (2013) 1,050,000.00 (TOTAL) 15,639,490.00	- Ongoing terminal report writing.

Prepared by:

  
**ALEXANDER P. GONZALES**  
 Planning Officer III, PMD

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Approved by:

  
**ROBERT O. DIZON**  
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