metals industry
TRENDS & EVENTS
MIRDC
September - December 2011 vol. 25 no. 3 - issn 1908-9988

# MIRDC Strives for Performance Excellence via the Philippine Quality Award Framework

The impetus to intensify productivity and quality improvement efforts in the country was provided by the adoption of the National Action Agenda for Productivity (NAAP) in 1996 as a comprehensive strategy to sustain socio-economic growth. Increasing globalization, which is raising quality standards all over the world, further hastened the need for productivity and quality improvement intensification. With the need that drove the whole nation to promote quality excellence in private and public sector organizations, the NAAP established the Philippine Quality Award (PQA) to provide an internationally comparable framework and criteria for assessing organizational performance and recognizing quality excellence.

The issuance of Executive Order No. 448 by former Pres. Fidel V. Ramos on October 3, 1997 saw the establishment of the PQA, which is the highest level of national recognition for exemplary organizational performance. The signing of Republic Act No. 9013, also known as the Philippine Quality Award Act, institutionalized the PQA. The Award is a template for competitiveness based on the principle of Total Quality Management and is equivalent to the very prestigious Malcolm Baldrige National Quality Award in the US. It is an award for a role-model organization which ensures continuous improvement in the delivery of products and/or services. The PQA focuses on results, including customer satisfaction and promotes sharing of information and benchmarking of best practices among organizations pursuing quality improvements.

It is in this light that the Department of Science and Technology (DOST) engaged in a project entitled

*Continuation on p3*


# MIRDC Intensifies Projects in Region II

One of the approaches of the MIRDC in line with the National Science Technology Plan 2002-2020 is to develop the M & E industry through clustering. Hence, the Center has been extending numerous technical assistance and consultancy advice to the metalworking firms particularly in Region II with the objective of helping the M & E industry adapt to global economy by optimizing comparative and competitive advantages, gaining broader specialization, establishing strong business partnerships, and focusing on R & D and innovation to improve global competitiveness.

On 20 May 2009, the Equipment Manufacturing Cluster in Region II (EMC-II) was formally established with 10 bonafide and two ex-officio members - a representative each from MIRDC and DOST Region II. The primary purpose of the cluster is to strengthen the linkage of firms engaged in the supply, fabrication,

*Continuation on p3*

## In this issue

# From the Executive Director .....

**Arthur Lucas D. Cruz, CESO IV**
Executive Director

The last four months of 2011 kept us all at the Metals Industry Research and Development Center on our toes and ever ready to roll up our sleeves and carry on with things that truly matter. We found ourselves abuzz with quite a number of remarkable activities as we concluded the last segment of 2011. In our deep commitment to the consistent realization of our mandate, we have been providing services to the best of our abilities and I believe that our efforts have gone a long way in contributing to nation-building.

The MIRDC continues to hold on to the fierce determination to be of great significance to the industry it is mandated to serve. As part of the active pursuit of our mandate, the MIRDC is currently working on a project entitled "Capability Development for Computer Numerical Control (CNC) Machine Tool Refurbishment." Related to this project is the conduct of a Focus Group Discussion held last 01 September 2011 wherein relevant CNC maintenance issues were raised. The attendance and active participation of company presidents, top management and representatives made the activity a fruitful endeavor. The Center also pursues development of the M&E industries through the conduct of industry clustering. Training on Production Planning and Control was conducted in the month of October as part of the intensification of the Equipment Manufacturing Cluster in Region II (EMC-II). The strengthening of our clustering initiatives is also evident on the fabrication and delivery of several equipment to EMC-II members. Continued efforts of our team of consultants and engineers helped create a harmonious relationship among technology-based businesses which in turn led to a more vibrant business atmosphere in Region II, and soon in other regions as well.

Also in the month of October was the conduct of "Verification of Common Laboratory Instruments and Technology and Training Needs Assessment." This was a Technology Forum designed for various industries which are into lab testing and calibration of industrial instruments – an activity that surely enhanced the industry players' capabilities and competitiveness.

Amid all the busy activities of the Center, we have remained compliant with all laws and regulations in the promotion of quality and environmental awareness. The MIRDC has just recently been granted Permit to Operate by the Environmental Management Bureau-NCR of the Department of Environment and Natural Resources. The granting of the permit serves as a reminder for us all to work with nature and to act as ambassadors of sustainable development.

We have also engaged in the fabrication of very important equipment: the Pandanus Leaves Slitter-Presser and the Water Hyacinth Harvester. The rich availability of plants such as the pandan and the water lily have again tickled the Filipino genius. MIRDC engineers, experts and staff once again proved that skill, determination and the willingness to serve are what it takes to come up with successful outputs that will address some of the nation's pressing problems.

An organizational vision of being internationally recognized is the Center's motivation to push for performance excellence. Initiatives have been carried out regarding the Center's Philippine Quality Award (PQA) application. It is a Center-wide effort that involves the commitment of all employees. Orientations were conducted to strike awareness among MIRDC staff. This collective effort has proven effective for the Center had every employee's support and cooperation during the preparation and actual conduct of the mock assessments, site visits and assessors' interviews. Unity and love for service has brought us together in our desire to bring the MIRDC to the higher level of organizational excellence.

2011 has been one fulfilling year. Our partners and stakeholders have continuously and steadfastly supported us along the way. We now look forward to the coming year with positivity and an even more powerful determination to uplift the metals and engineering industries.

metals industry MIRDC
TRENDS & EVENTS



**Metals Industry Trends and Events** is a triply newsletter of the Metals Industry Research and Development Center (MIRDC), an agency of the Department of Science and Technology (DOST).

**Editorial Office:**

MIRDC Compound, General Santos Ave.
Bicutan, Taguig City, Philippines
P.O.Box 2449 MCPO, Makati
1299 M.M., Philippines

Tel. Nos.:
(MIRDC Trunklines) (632) 837-0431 to 38
(DOST Trunklines) (632) 837-2071 to 90
locals 2400 to 2407

Fax No.: (632) 837-0430/837-0764

Website: http://www.mirdc.dost.gov.ph

Printed in-house

*MIRDC Launches...from cover*

"Organizational Transformation of DOST Agencies Towards Performance Excellence" with the DOST Regional Office IX, Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD), and the Metals Industry Research and Development Center (MIRDC) as implementing agencies. Following the framework of the PQA, the project aims to expand the adoption of quality management systems and provide mechanisms for the alignment and integration of various approaches and systems that are already in place at the DOST agencies.

The MIRDC, being one of the project's implementing agencies, has strongly adhered to the vision of achieving performance excellence. The Center has engaged in activities relevant to the PQA application such as awareness building which involved the participation of the Top Management and all employees for the PQA overview/orientation/awareness sessions; study visits that gave the participants first-hand information on various quality management approaches of PQA-winning organizations, and provided them with the opportunity to learn from the sharing of experiences, best practices, and journey to performance excellence; capacity building which covered the conduct of relevant trainings such as PQA Assessment, PQA Application Development, Balanced Score Card, Benchmarking and Competency Development Training; assessment of existing Quality Management practices, which entailed the conduct of self-assessment, assessment results validation, consolidation and analysis, and initial feedbacks report preparation and presentation; submission of Eligibility Determination Report; technical guidance from the Development Academy of the Philippines (DAP); conduct of mock assessment; and submission of PQA Application Report. Technical assistance for implementation of action plans and institutionalization of new initiatives and enhancement of approaches and measures, mock assessments and drills, and preparation for site review/assessment conducted on 25-26 October 2011, have been successfully undertaken.

All of these efforts were done with the MIRDC's fervent commitment to its vision of becoming an internationally recognized institution. The Center is not only aiming for the prestige of being a PQA recipient, but also positioning itself to be consistent in providing quality products and services to the Philippines and to other countries as well. The whole preparation for the site assessment has been both a challenging and a satisfying experience for we took the journey together.


Engr. Fred P. Liza, OIC of the Prototyping Division of MIRDC's PQA project leader, delivers a talk regarding the PQA application

*MIRDC Intensifies...from cover*

design and development of agricultural/industrial equipment, spare parts and other commodities related to the manufacture of finished products and also to undertake research and development projects, economic and feasibility studies, disseminate technical and statistical information and undertake activities, such as training and consultancy as may be needed to promote the development of the industry in Region II.

Significant to the achievement of the project's goals is the conduct of trainings on Machine Shop Operation and Metal Classification last 24-26 August 2011 and Production Planning and Control held last 25-27 October 2011. Aside from the said trainings, several units of equipment were fabricated and delivered by EMC-II members to the corresponding recipients: a) one unit Pineapple Decorticating Machine, b) one unit Oil Extractor, c) three units Nata Cutter, d) one unit Decorticating Machine with Conveyor, and e) two units Mechanized Biolog Extruder. Recently, Engr. Adonis Marquez of the Technology and Business Development Section (TABDS) visited the EMC-II, Echague, Cagayan, Isabela in coordination with DOST Region II Office to monitor the development of the said project. At the moment, the EMC-II is awaiting the final result of the Technology Transfer Agreement of the Coconut High Impact Program Machineries between the MIRDC and DOST Region II in order to carry out additional activities.

Meanwhile, the development of the coconut industry and its by-products has been identified as a high impact program of the DOST. As such, DOST II has drafted its regional roadmap on organic fiber development following the clustering concept. A community-based coco coir processing plant has also been established in Cagayan State University (CSU) located in Sanchez-Mira which showcases MIRDC-developed technologies. The main beneficiaries of this program are the Cagayan State University (CSU), Local Government Unit (LGU) Sanchez Mira, the Magacan Rural Worker Association (MRWA), and the coconut growers/farmers. With this initiative, a seminar on Bioengineering was conducted in DOST-II while actual demonstration took place in CSU Sanchez-Mira with DPWH-II to address the immediate concern on soil erosion problem in Cagayan areas. This is in support of the road development projects of DPWH. Likewise, this project will be a good opportunity for the EMC-II to intervene in the fabrication of the required coco high impact equipment in the production of geotextiles and biologs.

# MIRDC Holds Technology Forum

In pursuit of the Center's mandate to provide support and services to the metals and engineering and allied industries, the Metals Industry Research and Development Center regularly conducts technology forum to assess the needs and present capabilities of the sectors of the industry.

In this regard, the MIRDC conducted a techno forum on 28 October 2011 entitled Verification of Laboratory Instruments and Technology & Training Needs Assessment (2TNA).

Participants to this forum came from various industries and from private and government institutions engaged in laboratory testing and calibration of industrial instruments. This techno forum on verification of laboratory instruments provides participants with more in-depth knowledge on

*Continuation on p12*

Executive Director Arthur Lucas D. Cruz delivers his inspiring message

# MIRDC Complies with Clean Air Act

The MIRDC continually improves the effectiveness of its Quality and Environmental Management Systems (QEMS). Along with its commitment to promote quality and environmental awareness and health practices and comply with all applicable laws and regulations in the country, the Center exerts efforts to comply with the Clean Air Act (RA 8749) in pursuit of improving air quality by reducing air pollution.

Pursuant to the implementing rules and regulations of the Clean Air Act, the MIRDC was granted Permit to Operate Air Pollution Source Installations in its laboratory/research building by the Environmental Management Bureau-National Capital Region (EMB-NCR) of the Department of Environment and Natural Resources (DENR) under Application No. 11-0562 N (TG-18N). Likewise, having substantially met all the requirements, Engr. Nelson L. Tumibay and Engr. Joey G. Pangilinan, both from the MIRDC's Materials and Process Research Division, obtained accreditation to become Pollution Control Officers (PCOs). Their accreditation as PCO was issued by the Laguna Lake Development Authority (LLDA), a line bureau of the DENR.

The MIRDC and its PCOs shall strictly comply with the Self-Monitoring Report (SMR) on the operation and maintenance of the laboratory air pollution source installation. They shall be responsible for ensuring that any emission of air pollutants from the permitted installations, including fugitive or uncontrolled emissions and releases of air pollutants from abnormal or unexpected events, will neither cause air pollution in the surrounding air environments nor have adverse effects on the persons in that environment. Hence, the Center will properly handle, control and dispose chemicals to prevent accidents and spillages in support to the Clean Air Act.

# MIRDC Holds A Focus Group Discussion on CNC Machine Tool Refurbishment

The Department of Science and Technology (DOST) through the Metals Industry Research and Development Center (MIRDC) is carrying out initiatives for the project entitled "Capability Development for Computer Numerical Control (CNC) Machine Tool Refurbishment." A Focus Group Discussion (FGD) regarding the said project was held last 01 September 2011 at the MIRDC Auditorium. The FGD was facilitated by Dr. Danilo N. Pilar, OIC Deputy Executive Director for Research and Development. In attendance were presidents, general managers and members of the top management of companies and representatives of government agencies whose operations involve the use of CNC machine tools.

The FGD focused primarily on maintenance-related areas of concern, namely: organizational structure, preventive maintenance (PM) and corrective maintenance.

It was said that some small and medium enterprises cannot afford to have a formal organizational structure for maintenance. In this set-up, a technician is on-call for certain maintenance jobs. "We just send it to somebody," said Sankei Phils., Inc. President and General Manager, Mr. Eduardo Chua Co Kiong. Small companies usually delegate the maintenance jobs to only one person while other companies normally would need a maintenance team of

about four personnel. An in-house maintenance group, for some, is headed by an engineer who is assigned exclusively to CNC machines. According to Mr. Robles of Famous Secret, "the maintenance engineer is dedicated to the CNC, but other members of the group also do some maintenance aside from CNC."

It was also revealed during the FGD that local companies generally have a one-year preventive maintenance plan that is broken down into quarterly or monthly targets. PM is outsourced by some companies. "In our case, we have Clean, Inspect and Lubricate procedure, broken into terms like weekly, semi-annually, annually," shared Mr. Jojo Benauro of Plastmann Industrial Corp. The participants mentioned that operators are commonly tapped to do PM work. Dr. Pilar informed the participants that the MIRDC has ball bar testing capabilities that will definitely help the industry players implement a more effective PM.

With regard to breakdown repair of CNC machine tools, the breakdowns are equally divided between those mechanical in nature and on the electronics side. When breakdowns occur, trouble-shooting becomes a major concern especially when the machine is already beyond warranty. Shop owners and company officers agreed 50% of CNC machine tool problems can be solved by simply doing cleaning of the PC board and mechanical parts, 25% of the problem is addressed by replacement of parts, while the remaining 25% is still related with PC board repair but remains categorized as "cannot be done" since capability has yet to be developed. According to Mr. Rolando Tan of Nito Seki Manufacturing, "repairs usually cost P100,000 while it takes about P200,000 to P300,000 for replacement works." Reliability of local repair services is not satisfactory. According to the FGD participants, a three-month warranty is usually given after the repair. This is another aspect to consider because the occurrence of another breakdown is commonly encountered before the warranty ends. Major mechanical breakdowns entail outsourcing of repair work, which can range from a week to three months. Competent people who are into CNC machine tool repair happen to work outside of the Philippines. Aside from the high cost of repair and replacement, waiting time for ordered products proves to have a large effect on the company's operations since spare parts are commonly outsourced from China, Taiwan and Singapore.

From the inputs gathered, the project team now has a clearer and more concrete vision of how to better achieve their goals. Through the information shared by the group, members of the team can more effectively focus their efforts in order to meet project targets on time. In line with DOST Secretary Mario Montejo's vision of developing the Filipino's capability for machine tool building, the MIRDC is open to all avenues for opportunity and refurbishment skills for CNC machine tools is clearly the first step towards achieving this grand vision. As what Mr. Ceferino V. Arquiza, Jr., General Manager of Microcontrol Design Technology said, "there are some skills that need to be developed and the more important one is trouble-shooting skills."

MIRDC Exec. Dir. Arthur Lucas D. Cruz gives his welcome remarks


Dr. Danilo N. Pilar facilitates the Focus Group Discussion


Mr. Eduardo N. Chua Co Kiong, President and General Manager of Sankei Phils., Inc., participates in the group discussion

# MIRDC Celebrates Christmas 2011

The Center celebrated the Yuletide season last December 14-16, 2011 at the MIRDC Compound. Along with the 3-day celebration were different events that made the occasion more festive. It started on the first day with a Thanksgiving Mass and opening of the bazaar. It was followed by a Fun Run and Bingo Social on the second day. The celebration culminated on the third day with great fun and enjoyment with musical presentations from each Division, awarding of winners for the different contests (Division Presentation, Fun Run, and Christcyled Tree Making) and Raffle Ticket Draws. Deserving employees were also given recognition and awards by the Program on Awards and Incentives for Service Excellence (PRAISE).

Each of the contests had three winners, except for the Fun Run where a total of six (6) winners were named from the men's and women's division. The event was participated in by all interested officials and employees. An added attraction to this contest were the colorful costumes worn by the participants. Joel Eligue got the first prize, Simplicio Morla and Mark Tabudlong got the 2nd and 3rd prizes, respectively. On the other hand, Dolly Talaron took the lead in the women's division, Florale Galicha finished at 2nd place and Zalda Gayahan got the 3rd place. Special awards like the lightest weight, heaviest weight, early bird and the most number of contingents were also given. In the Division's Christmas Musicale Presentation contest, Finance and Administrative Division got the first prize, while Prototyping Division earned the award for the most number of contingents. Additionally, the Analysis and Testing Division garnered the first prize in the Christcycled Tree Competition.

The celebration of the Christmas season is not only the time to brace the friendship of the old and new employees but an opportunity to rediscover the old employees' talents and find a star in the new breeds.

Above : MIRDC employees don their costumes as they ran for fun
Bottom: Joel Eligue (left) made it first to the finish line

Finance and Administrative Division rendering their winning presentation

MIRDC Employees enjoying the bingo social

# MIRDC Supports "Juan Time"

Time is gold, as the saying goes. But it often brings confusion if it is unsynchronised. Time will also become wasted because of "Filipino time" that always describes the Filipinos' habit of starting or arriving at events some 15 to 30 minutes later than the set time. To sync all time pieces nationwide (in more than 7,100 islands) and to promote time-consciousness among Filipinos, the Department of Science and Technology (DOST) launched "Juan Time" on September 30, 2011 at the Music Hall of the SM Mall of Asia. Dubbed as "Juan Time" ("Juan Time" is a word play on "One Time" and "Juan" being the common name for Filipinos), the DOST together with several partners unveiled a clock prototype that displays the Philippine Standard Time (PST).

The PST is available online at the DOST-PAGASA website (http://www.pagasa.dost.gov.ph). It is set by DOST's Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), the country's official timekeeper since 1978 as mandated by Section 6 of Batas Pambansa Blg. 8.

"With Juan Time, Filipino time will come to mean 'on time' and no longer late," said DOST Secretary Mario G. Montejo.

To help reinforce the message that Filipino time is now on time, the


MIRDC joins DOST's campaign of promoting the nationwide use of the PST and sync timepieces with the PST.

*Reference: dost.gov.ph*

# MIAP has New Chapter

Aimed at achieving development and growth of the Philippine metalworking industry sector, the Metalworking Industries Association of the Philippines, Inc. (MIAP) undertakes initiatives to further explore the possibilities of strengthening the capability of the metalworking industry in Region VI. This is one of the plans and programs of the MIAP which was discussed during its 24th National Convention held last 25 March 2011 in Cebu City. As to its mandate, the Metals Industry Research and Development Center (MIRDC) constantly supports the MIAP's initiatives. "Collaboration among stakeholders is very much vital in strengthening the metalworking industry. The MIRDC assures our full support to our stakeholders to strengthen and enhance the technological capabilities of the local metalworking firms, making them viable players both locally and globally," was the clear message delivered by the MIRDC Executive Director Arthur Lucas D. Cruz during the said event.

Aligned with MIAP's plans and programs, the association's Organizational Meeting held last 18 October 2011 in Capiz led to the formation of the MIAP Capiz Chapter. Mr. Virgilio F. Lanzuela, MIAP National President and also Owner and General Manager of V.L. Industech Corp., administered the oathtaking ceremony of the newly-elected board of trustees and officers of the newly-formed chapter. Occupying the board seats are: President - Engr. Cornelio D. Miralles of MIROLA Hardware, Vice-President - Engr. Rolly D. Degala of Capiz State University (CapSU) Main, Secretary - Engr. Corazon D. Ditarro of CapSU Pont., Treasurer – Ms. Wennie Legario of CapSU Main, Auditor - Mr. Mario Ramos of AVR Furniture, and other Trustees – Messrs. Jose Marcelino, Rolando Francisco, Braulio A. Reyes, Marty C. Delfin, Josue Ajera, Remar Apolinario, Lee C. Bangcayo, Mesdames Juanifer Borres and Grace Mon.

MIAP officials were very grateful for the unified efforts of Engr. Nicolas B. dela Cruz of HOMMA Industries and Mr. Gerbe B. Dellava, Provincial Director of DOST-Capiz for the success of the meeting. The meeting was attended by a total of thirty participants representing metalworking firms in the Capiz province, CapSU, DTI, TESDA and Capiz Provincial Government Office, and the MIRDC as well as MIAP officials.

The meeting was graced by Hon. Governor Victor A. Tanco, Sr. He conveyed his earnest gratitude for the insights shared by some participants about the possible opportunities the MIAP-National could offer to the metal workers of Capiz. He mentioned that this is a good start for the success of the metalworking industry in the province, a perfect chance of expanding their horizon on the technology innovation and market aspects. With determination, Gov. Tanco pledged full support from the provincial government office for any upcoming projects of MIAP-Capiz.

It was also during the meeting that Mr. Virgilio F. Lanzuela presented the MIAP organizational overview including brief information regarding benefits of joining the organization, among which are: availment of local and foreign trainings/seminars to countries such as South Korea, Japan and Germany for free or with very

Launching of MIAP Capiz Chapter (L-R): Provincial Director Victor G. Gallego, TESDA Capiz; Hon. Governor Victor A. Tanco Sr.; Mr. Virgilio F. Lanzuela, President-MIAP National; and Dr. Bernabe Q. Sanchez of MSU-IIT.

minimal fees; participation in local and international conventions as well as symposium and trade fairs related to metalworking; cooperating and working with government instrumentalities in the formulation of policies that will promote the development of the metalworking firms; and boosting up good camaraderie not only among MIAP members but with members of other organizations as well.

Dr. Bernabe Q. Sanchez of the Mindanao State University- Iligan Institute of Technology (MSU-IIT) attested based on his experience about the benefits of joining the said organization. He happily informed the group that he was sent to South Korea for researches and he was able to learn technologies utilizing alternative or green energy, waste materials, and maximizing scarce resources for survival. Likewise, he made use of the materials for his graduate studies. While Engr. Felipe G. Pachoco, Jr., MIRDC extension officer in Region VI, emphasized the role of the MIRDC in assisting the metals and engineering industry in the country to pursue global competitiveness. He further said that MIAP Capiz can tap government's assistance and support through the programs initiated by MIRDC and other relevant government entities.

Moreover, Mr. Lamberto B. Jos, TESDA Lanao del Norte Provincial Director, discussed the TESDA Co-management Project with the Iligan Regional Training Center. The project aims to promote the development, efficient allocation and utilization of the middle level human resources of the country to accelerate economic and social growth. Mr. Jos wanted to impart the hand in hand partnership of the government agencies with private groups in the promotion of industrial and advance technology for the improvement of the condition of the metal workers and the industry itself. Also in full support to the metalworking industry, Engr. Rolly D. Degala of (CapSU) and TESDA Capiz Provincial Director Victor G. Gallego mentioned that the two institutions are working in the same direction in producing skilled workforce which is what the industry truly needs.

Mr. Lamberto B. Jos

In his closing remarks, the newly-elected President of MIAP Capiz, Engr. Cornelio D. Miralles, requested full cooperation and support of the board of trustees and officers as well as the members for the success of the newest chapter of MIAP.

MIAP is a trade association of firms engaged in metalworking and was organized in 1978 to answer the need for a body that can represent the metalworking industry sector. It is an association that can provide services and assistance to its members in order to effectively compete both in the local and global industry arena. It now has 17 chapters nationwide: Bohol, Butuan City, Cagayan de Oro, Camarines Sur, Cordillera, Dagupan Region I, Davao, General Santos City, Iligan City, Iloilo City, Kidapawan, Metro Cebu, Metro Manila, Negros Occidental, Surigao, Zamboanga City including Capiz Chapter.

A pose during the launching of MIAP Capiz Chapter, seating from left: Engr. Andres V. Cepe, Vice President - MIAP Iloilo Chapter; Mr. Virgilio F. Lanzuela, President-MIAP National; Ms. Merlie T. Afuang, Secretariat-MIAP National; Mr. Hector D. Malonzo, Treasurer - MIAP National; Mrs. Inesitas L. Palermo, Vice President (Visayas)-MIAP National; Dr. Bernabe Q. Sanchez of MSU-IIT; Engr. Cornelio D. Miralles, President-MIAP Capiz; and Engr. Felipe G. Pachoco, Jr. MIRDC Extension Officer in Region VI. Standing from left: Engr. Nicolas B. Dela Cruz of HOMMA Industries; Engr. Rolly D. Degala, Vice President- MIAP Capiz; Engr. Corazon D. Ditarro, Secretary-MIAP Capiz; Engr. Marty C. Delfin of CapSU Pont; and the rest of the Board of Trustees.

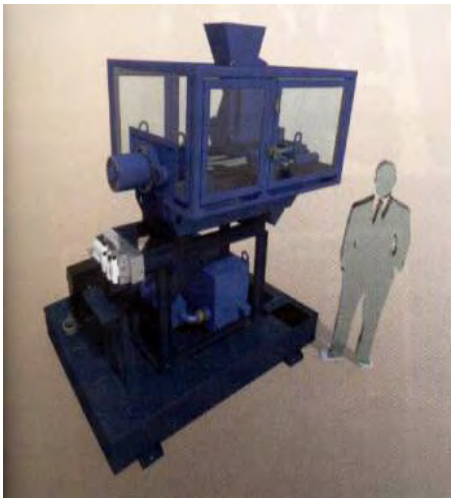
## Briquetting presses with filling variants

A briquetting press transforms ordinary industrial metal chips into dense briquettes, reducing the volume so as to save on storage space, cutting losses during transportation and storage, and making metal chips re-smelting more easy and effective.

The newly developed range of ArnoBrick Series Briquetting Presses from Austrian manufacturer ATM is offered with three filling variants which correspond to the free-flowing properties of the material. Inclined or two-step feeders enable these presses to process both grinding slurry and drilling swarf. Their solid welded construction with two or three columns means that the machines can also be used for heavy, continuous operation. Each machine can be operated manually or automatically.

According to ATM, the presses have a graphic operator panel for visualization of all process sequences and can be integrated easily into fully-automated production lines. Remote maintenance and system adjustments can also be carried out, the company observes.

Source: Recycling International, October 2011, p.21



## Cleaner tyre separation with Cogelme

When shredded tyres are subjected to a separation process using a standard overband magnetic separator, the extracted iron still carries a high proportion of rubber remnants.

In a bid to solve this problem, Cogelme of Italy has developed a separator specifically suited to perform this task automatically, delivering clean iron and clean steel in a single, short pass. The overband magnetic separator is placed cross-wise or length-wise above the con-veyor belt at a fixed working distance. Iron objects are 'captured' from the material flow and, after leaving the magnetic field, these and the rubber fraction automatically drop into appropriate containers or conveyors.

Cogelme boasts more than 30 years of specialization in building separators for sorting ferrous and non-ferrous metals.

Source: Recycling International, October 2011, p.21


## Radiator recycling line from Guidetti

Using its experience in electric cable recycling, Guidetti of Italy has created a line of recycling radiators from cars, household appliances and air/liquid industrial coolers with a capacity ranging from 400 to 1200 kg per hour.

The radiator line consists of a Guidetti PMG N 600 pre-shredder combined with the Sincro 530C granulator. Three models are available to fit the radiator's composition, that is, from copper/aluminum, cop-per/aluminum/plastic and cop-per/aluminum/iron. In order to achieve separation of all the materials present in the radiator, the line can be supple-mented with other accessories according to customer needs. Sincro machines have been on the market for more than a decade and were originally designed for the recycling of electric cable (copper and aluminum) through their granulation and successive separation of metal from the insulation material (PVC, rubber, PE, paper, tissues, etc). When combined with a pre-shredder such as the PMG N 600, the high cutting efficiency makes it particularly suitable for processing radiators.

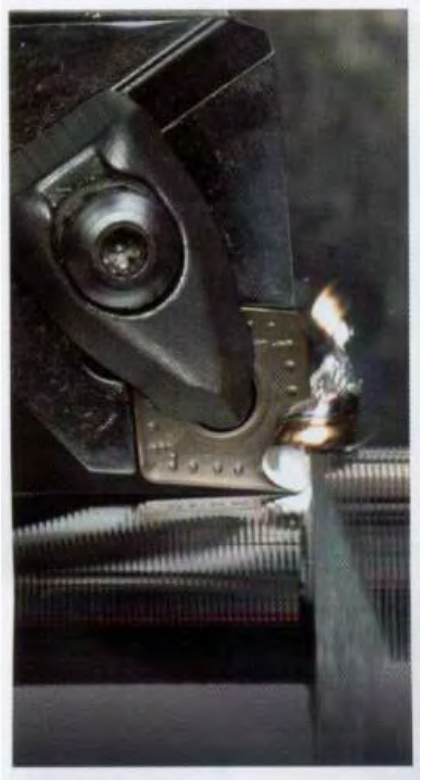
Source: Recycling International, October 2011, p.21


### Fluke: Perform field calibration operations faster

Fluke Corp has developed the 750 Series documenting process calibrators. These field tools calibrate temperature, pressure, voltage, current, resistance, and frequency and have three operating modes - measure, source, or simultaneous measure/source - enabling technicians to troubleshoot, calibrate or maintain instrumentation with just one tool.

The equipment features an easy-to-follow, menu-driven display that guides users through tasks. Programmable calibration routines enable technicians to create and run automated as found/as-left procedures to ensure fast, consistent calibrations. The recorded results can then be downloaded to a PC via the USB port, eliminating the need for manual transcription.

Source: Asia Pacific Metalworking Equipment News, October 2011, p. 80



### Seco: Turning of large steel components

Developed specifically for applications requiring a high degree of heat and wear resistance, the TP0500 turning grade by Seco delivers high productivity. As well as being suitable for applications with long engagement times, the Duratomic coating gives long tool life in both wet and dry machining.

The grade extends the Duratomic line up for steel machining. Together with the three basic grades: TP1500, TP2500 and TP3500, the manufacturer now provides performance in every steel turning operation.

Source: Asia Pacific Metalworking Equipment News, October 2011, p.82

### Renishaw: Wireless product with volumetric testing capability

Renishaw has developed successor to its QC10 ballbar system - a tool for the assessment of machine tool positioning and servo control performance.

The QC20-W ballbar features a linear sensor and Bluetooth wireless technology. This design offers benefits in ease of use and enhanced durability and allows the system to be used for testing even in 'closed door' manufacturing, where access for wiring can raise safety and procedural issues.

The design also allows testing in three orthogonal planes through a single reference point. A single, simple hardware set up means quicker testing and the ability to produce a representative volumetric measurement of positioning accuracy.

Source: Asia Pacific Metalworking Equipment News, October 2011, p.82

# Local Manufacturing Roadmap Being Pushed

Domestic industries are asking the Department of Trade and Industry (DTI) to help revive the domestic manufacturing sector with the crafting of a comprehensive roadmap that would focus on agro-industrial sector to push for development in the countryside and employ those unskilled workers in the rural areas.

This was raised by George S. Chua, president of the Federation of Philippine Industries (FPI), during a meeting with Trade and Industry Secretary Gregory L. Domingo for the 1st Philippine Manufacturers and Producers Summit 2011 scheduled on Nov. 24.

"We have to come up with a roadmap to develop the manufacturing capabilities of our domestic industries," Chua said.

Chua said the summit will try to discuss inputs and come up with policy framework for domestic manufacturing. It will gather policy makers, economists, academe, private and labor sectors to raise public awareness of the strategic importance of the manufacturing and producing sectors in creating inclusive and sustainable economic growth for the Philippines.

Speakers from the Asian Development Bank (ADB) and the Philippine Institute of Developmental Studies (PIDS) will be sharing their research and insights on impact of manufacturing and producing to sustaining long-term economic growth for the Philippines. Local and foreign manufacturers and producers in the Philippines will be sharing their success and challenges in the domestic and export markets.

Industry representatives will also share their recommendations and vision for the manufacturing and production sectors of the Philippines.

Once the roadmap is in place, Chua said, "Hopefully, we can attract investors in the manufacturing sector."

Chua stressed that while the government has been very successful with the business process outsourcing sector, this sector employs only those well-educated and highly-skilled workers from the highly urbanized cities.

"But the manufacturing sector does not need the highly skilled, they can employ unskilled workers," Chua said. "The DTI should focus on agro-industry so the countryside can be developed," he said. FPI chairman emeritus Meneleo Carlos Jr. also noted that manufacturing is an ailing domestic industry but there is still hope given the right measures.

"We discussed with Secretary how to survive, how to make it big," Carlos said.

One of the major issues, he said is the high cost of power, which was acknowledged by Domingo.

Aside from power, Chua also said that the government needs to come up with an international policy to enable domestic industries to export competitively.

"We lack agro-processing facilities and technology," he added.

Jesus L. Arranza, FPI chairman, said the upcoming summit aims to generate discussion on advancing the Philippines' manufacturing sector and seeks to create strategic collaboration between the government and private sectors.

"The focus is one enabling manufacturing and production to realize its full economic multiplier potential and drive jobs and growth and prosperity for Filipinos," he said.

FPI is the umbrella organization of manufacturers and producers in the Philippines. It is composed of industry associations, ninety (90) corporate members who are local manufacturers and producers of various products such as agricultural & food products (rice, flour, sugar, beverages & wine, coconut & palm oil, oleo chemicals), meat processors, petroleum and petrochemical products, construction materials (cement, steel products, galvanized roofing, electrical wiring, pipes, nails, wood and glass), packaging & paper products (tinplates, tin cans & paper), textile & garment products, firearms, cars, battery, chemicals & plastics, fertilizers, appliances, tobacco & cigarettes, among others.

*Source: Manila Bulletin, B-1*
*November 18, 2011*

# Local Firm to Invest P1 B on Steel Bar Plant

Filipino-owned New Carcar Manufacturing will be investing P1.044 billion for a steel bar manufacturing plant in Meycauayan, Bulacan.

New Carcar is owned by the Yao family, the same people behind Steel Asia Manufacturing Co.

BOI Officer-in-Charge Lucita P. Reyes said that the group will be establishing a rolling and rebar manufacturing facility which will have a capacity of 400 million metric tons per year.

Early this year, New Carcar announced its investment of P10.570 billion for three billet manufacturing facilities in Luzon, Visayas and Mindanao.

New Carcar will build three manufacturing facilities. One will be in La Union, the other in Cebu, and the Mindanao plant will be in Davao del Norte.

Reyes said the rationale behind the three plants is for easier distribution. "This will make steel billets easily available in Luzon, Visayas and Mindanao."

The three plants will each cost P3.523 billion to construct. It has a total capacity of 1.2 million metric tons per facility.

The steel billets will all be sold to Steel Asia. Currently, the steel billets used by Steel Asia are imported from other countries. New Carcar has a tolling agreement with Steel Asia.

Reyes said this investment will help the Philippines be more competi-

tive because there are many users of steel products in the country.

Steel Asia has another tolling agreement with Harbour Industrial Development Corp. Under said agreement, among other provisions, Steel Asia will provide the raw material like steel billet while the applicant firm will manufacture them into rebars at an agreed tolling fee of P2,800 per MT.

Harbour invested P1.95 billion for a steel bar manufacturing plant in Davao del Norte. This will be operational in January 2012. The plant will have an annual capacity of 400,000 metric tons.

The Davao plant output is intended for the Mindanao market. The applicant firm is also planning to export around 10 to 20 percent to Manado, the capital of the North Sulawesi province of Indonesia.

*Source: The Philippine Star September 14, 2011*

## Manufacturing Sales Up 9.2% in May

Manufacturing sales in May grew by 9.2% from 7.5% in April, the National Statistics Office (NSO) reported.

The NSO attributed the improved sales to the two-digit growth in sales value reported by six major sectors, namely: food manufacturing, petroleum products, footwear and wearing apparel, beverages, chemical products, and publishing and printing.

On a month-on-month basis, the volume of sales for factory output recovered as it registered a 4.5% growth in May. This was contributed by 16 major sectors, with two-digit increases noted in the paper and paper products, publishing and printing, beverages, and machinery except electrical.

The volume of net sales index (VoNSI) also gained further in May registering a year-on-year growth of 7.7%.

On the same note, the volume of production index (VOPI) grew by 0.9% in May, with the expansion in production output observed in furniture and fixtures, tobacco products, petroleum products, beverages, and paper and paper products.

The NSO said the average capacity utilization of these factories stood at 83.2% in May, higher than the 82.8% in April.

The sectors that posted more than 80% capacity utilization rates were basic metals, petroleum products, food manufacturing, non-metallic mineral products, electrical machinery, paper and paper products, chemical products, miscellaneous manufactures, rubber and plastic products, machinery except electrical and textiles.

*Source: Philippine Business Report, Volume 22, No. 09, September 2011 Issue*

*MIRDC Holds Technology...from p4*

verification process and greater understanding of the importance of verification or intermediate checking, thus, will further enhance the capabilities and competitive performance of the industry players.

Engr. Arthur Lucas D. Cruz, Executive Director of the Center, welcomed the participants with his inspiring message. Engr. Rodnel O. Tamayo, Officer-In-Charge, Technology Diffusion Division (TDD), was the Resource Person of the forum. He discussed the verification process of different laboratory instruments and its importance, as well as the use of control charts. Engr. Tamayo toured the participants to the Center's Instrumentation Laboratory. After which, Ms. Aurea T. Motas, Chief, Technology Information and Promotion Section (TIPS), conducted the 2TNA through the aid of a questionnaire distributed to the participants. Information gathered from the 2TNA is vital to MIRDC as it provides input in crafting the Center's plans and programs and interventions for the industry.

Dr. Danilo N. Pilar, OIC, Office of the Deputy Executive Director for Research and Development, awarded the certificates of participation and likewise gave his closing remarks.

Engr. Rodnel O. Tamayo, OIC of MIRDC's Technology Diffusion Division, talks on the verification of laboratory instruments during the techno forum

Dr. Danilo N. Pilar, OIC of the Office of the Deputy Executive Director for R&D, wishes that the in-depth knowledge gained by the participants will enhance their skills and capabilities as he gave the closing remarks

# The Environment-Friendly Harvester

Water hyacinth, whose scientific name is *Eichornia crassipes,* is a free-floating perennial aquatic plant with broad, thick, glossy, ovate leaves. It is native to tropical South America but was introduced to many parts of the world including the Philippines, where it is commonly known as "water lily." Initially, water lilies were used as ornamental garden pond plants but they have gained quite a negative reputation as ten plants could produce over 650,000 offspring within eight months. Their rapid growth is one of the major reasons why these plants of beauty are now considered nuisances.

Water Hyacinth Harvester being tested at the Taguig portion of Laguna de Bay

"These plants now cover 20% of the lake's surface area," shared Edgardo Manda, Laguna Lake Development Authority general manager. Five years ago, Zapote River in Las Piñas was also proliferated with water lilies, a phenomenon which resulted to rising flood waters. This year, a section of the 320-kilometer Rio Grande de Mindanao was smothered by these lilies, thus preventing flow of water into the Moro Gulf after strong rains. Being the second largest river in the country, its tributaries crisscross the vast Cotabato Plains. Continuous pounding rains caused the river to overflow. As a result, 23 municipalities were flooded affecting more than half a million people.

Several control mechanisms for these water hyacinths are currently used, one of which is physical control using mechanical mowers, dredgers or manual extraction methods. In response to the flooding and the tremendous damage it caused to life and property to the people of Cotabato, the Department of Science and Technology tasked the Metals Industry Research and Development Center (MIRDC) to carry out a project entitled "Development of Harvester for Water Hyacinth Management of Major Waterways System." The project, funded by the Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD), aims to come up with a machine that could efficiently remove water lilies proliferating in rivers or swampy areas. The harvester, a utility vessel that appears like a huge boat, has the sole function of removing or collecting floating aquatic plants such as the water hyacinth. It is equipped with cutters and a conveyor that moves the collected water lilies away from the water surface. After collection, these plants will then be transported to where they may be used as raw materials for various products such as shoes, sandals, slippers, wallets, pouches and belts. These water lilies are also used to produce several handicrafts such as placemats, baskets and matting, boxes and tissue holders.

The utility model was pilot-tested at the Taguig portion of Laguna de Bay. The first round of test was conducted last 23-29 August 2011. Modifications were undertaken and the harvester gave a satisfactory performance during the second round of testing conducted last 14 November to 02 December. Adjustments in certain features of the harvester are currently being done to further improve the equipment before the project reaches completion. Once completed, the harvester will not only be helpful as the country prepares to face the coming rainy season, but will also be instrumental in creating livelihood for a lot of Filipinos as well.

# MIRDC Engages in the Fabrication of the Pandanus Leaves Slitter-Presser

Pandanus Leaves Slitter-Presser

The Metals Industry Research and Development Center (MIRDC) forged a contract undertaking with the DOST-VI for the province of Aklan and LGU-Nabas to design and fabricate a prototype Pandanus Leaves Slitter-Presser for slitting and pressing pandan or bariw leaves. This project is aimed at establishing a Common Service Facility (CSF) to four barangays of the town of Nabas, which will then serve as a venue for the process improvement of native pandan/bariw products.

The town of Nabas is blessed with a good abundance of pandan plants. Pandan is a tropical plant that belongs to the screwpine genus and is commonly cultivated since it is used widely as a flavoring in Southeast Asian cooking. This plant goes by the

*Continuation on p16*

# CHORYO TOOLING SYSTEMS, INC.: Moving Forward Through Passion and Determination


Mr. Melchor A. Rivera

***"Passion for work and determination are the driving forces towards fulfillment of one's dream"*** said the owner of Choryo Tooling Systems, Inc. (CTSI), Mr. Melchor A. Rivera. According to him, not one or more frustrations can discourage a person with passion and determination from pursuing a dream.

Determined to go into metalworking, Mr. Rivera strived hard to learn the basic in machining and consequently was able to establish a company, Choryo Tooling Systems, Inc. Eventually, it offers additional services such as welding, stamping, die making, and painting. It also involves metal processes such as metal blanking, metal forming, and metal piercing.

Because of his passion for work, Mr. Rivera fulfills his business plan for expansion by diversifying its products and services with specialization on non-ferrous casting. Even without knowledge about metalcasting, Mr. Rivera's passion and determination drove him to gain technical know-how on metalcasting processes. At the onset, Mr. Rivera availed of MIRDC's Technology Business Incubation (TBI) Program in February 2008, occupying an area of 150 sq.m. The Center provides technical interventions in the metalcasting process as well as development of aluminum products. Through the assistance of the MIRDC's technical personnel at the Metalcasting Technology Division, the transfer of technologies particularly in developing the design of a compactor for a Japanese company was beneficial to CTSI. In addition, CTSI also avails of the timesharing of MIRDC equipment and facilities at minimal rates.

Undeniably, the company grew tremendously when it entered the MIRDC TBI Program. It now has 12 administrative staff and 120 personnel involved in production operations. In due course, the CTSI established its Quality Management System. This helps the company to maintain the quality of products, deliver quality services on time, and be able to move forward to be globally competitive. Further, they continuously conduct training and practice Quality Control Tools, 5S, and KAIZEN (continuous improvement).

As a marketing strategy, Mr. Rivera views international and local trade fairs as an avenue to promote their products. With the recent global economic crisis, he became conscious of the recovering export market as a new business opportunity with the Philippine government actively promoting through bilateral negotiations on trade liberalization. Finally, he was determined to pursue export business while maintaining its local markets. He further sought the services of external advisers on exportation. Until recently, the company is already engaged in the export business as supplier of aluminum casting products, and construction equipment parts in Germany and USA. Also, they are into mass production for its European market.

Mr. Rivera looks forward to more government support for the upliftment of the industry in terms of incentives and promotions to attract investors both in local and foreign markets. He anticipates that CTSI could be a leading firm in the development and production of aluminum gravity casting in the country. Hence, Mr. Rivera leads his staff to work hard in accordance with the company's vision of providing world class products and services for local and international market, taking pride in the Filipino workers' innovativeness and ingenuity.

Aside from passion and determination, "treating your customers as your business partners" is what Mr. Rivera wants to impart to all entrepreneurs as well as MIRDC incubators. He believes that establishing harmonious relationship with the customers is the essence to the success of business endeavors.

Choryo Tooling Systems, Inc.'s sample products


Choryo Tooling Systems, Inc.'s facility at Silang, Cavite

*MIRDC Engages...from p13*

scientific name *Pandanus amaryllifolius*. Long, narrow, bladelike leaves make up the characteristic fan-shape seen in this upright green plant. Propagation is through cuttings. Easy propagation of this plant has led to the scattered pandan plantations which sum up to around 90 hectares throughout the municipality of Nabas, while some are even growing wildly along mountainsides and forested areas. Aside from being used as flavoring, this plant has been discovered to be a raw material for livelihood purposes as well. In fact, the Nabas Farmers' Information and Technology Services (FITS) Center uses bariw as its focus commodity.

Nabas craftsmen make use of pandan for handicrafts. Only the young leaves are selected, sliced into fine strips and sorted for further processing. From these, pandan mats and pandan ropes are produced. Other end-products, such as place mats and jewelry boxes, are also made from these plants. The whole process from harvesting of raw materials to the production of finished goods has truly become a community-based initiative.

MIRDC's project on the design and fabrication of the prototype Pandanus Leaves Slitter-Presser took six months to complete. The prototype development, which involved machining, welding and assembly were all done using MIRDC facilities. The prototype unit successfully passed functional testing and evaluation, both of which were conducted at the MIRDC as well. The field test conducted has proven that the equipment performs satisfactorily and has met DOST-VI requirements. The project objectives, namely: the design and development of a roller press for a slitter machine; the flattening and evening out of the bariw leaf; and the utilization of an alternative low-cost bariw leaf slitting device, have all been successfully achieved within the six-month project duration.

The equipment is already being used in Aklan and is providing a replacement for the conventional and manual means of slitting, making the process faster and more labor-friendly. Three additonal units were ordered and are currently being fabricated.


Engr. Allan John S. Limson of MIRDC (leftmost) demonstrates the use of the Pandanus Leaves Slitter-Presser machine


The Slitter-Presser machine as it is used for another round of demonstration

**Editorial Office:**

MIRDC Compound
Gen. Santos Avenue
Bicutan, Taguig City
Philippines
P.O. Box 2449 MCPO
Makati 1299, M.M.,
Philippines

metals industry MIRDC
TRENDS & EVENTS
September - December 2011 vol. 25 no. 3 - issn 1908-9988