

Integrated Manufacturing by Local Staff, Aiming for the Advancement of Progressive Die Stamping for the Future

~ Utilizing the Support by C&G Systems in the Enhancement of Design Capability ~

PT. RHYTHM KYOSHIN INDONESIA has its factory in MM2100, an industrial park near Djakarta. It deals with the switching devices of two-wheeled and four-wheeled vehicles, gearshifts, electric equipment for brakes, relay switches, and electrical parts of home electric appliances. It is a big advantage for the company that the local staff manages from design to the manufacturing of the progressive press dies used to manufacture those products. Not to mention the continuous steady supply of high quality products to the existing customers, the company aims for the further improvement of the stamping technique, bringing the possibility of expansion of receiving orders of the 3D shape parts requiring a deep draw into the realm of possibility.

74 Stamping Presses are running.
Insert Molding has been also started.

The company was originally founded in 1995 as an Indonesian factory of Umeda Industry whose headquarters are in Saitama. Initially the domestic work flows out overseas by the influence of the high yen rate due to Japan's economic bubble burst. The management



Mr. Kazumi Funayama; President

of Umeda Industry chose Indonesia as its target country, where it was still rare to have Stamping Presses, and found customers of Japanese transplant companies. They started the manufacture of pressed parts in 1996, then had steadily expanded. After the factory was established, they expanded their building twice.

In 2013, they joined RHYTHM WATCH, which was then strengthening its global development and expanding overseas networks. They changed the name to the current one in 2014. RHYTHM WATCH holds 49% of the shares and its subsidiary PT. RHYTHM KYOSHIN holds the remaining 51%. The products they handle are unchanged, and its customers number about 50 companies. The sales of 2016 was about 2 billion and 700 million yen; about 60% of which are used by two-wheeled vehicles, 20% by four-wheeled vehicles, and another 20% by electrical parts. "Thank God, though the management system has changed, the trust from our customers is deep and many customers have been doing their business with us over years," says Mr. Kazumi Funayama, who became the president in June 2017.

There are about 380 employees and five of them are Japanese. A number of local staff members who love working for the company, report to managers whose careers span 10~20 years, and that is the motive force of the company. The size of the company property is 16,703 m² and the building covers 11,411 m². Inside the factory, 74 machines are running. Progressive press machines by Aida Engineering and others of 25t~250t are manufacturing pressed parts on a three-shift and 24 hours a day basis.

To increase the added value of the products, at this time they have started to deal with insert molding of the electrical equipment. Under President Funayama, they started preparing for it about two and a half years ago. Now, included in the mix are four 75t molding machines. One is running mass production, and two are preparing for it. "We'll make it possible to undertake the next process of the manufacturing, so as not to be beaten by the competition including local companies," says President Funayama, focusing on the establishment of a system. Currently, plastic injection molds are made in Japan, but he aims for the self-manufacturing in the future.



Mr. Kazuhiko Daikuhara; Advisor

Under the local manager, the company makes efforts to enhance design capabilities.

As to stamping dies, the company produces about 60 tools a year, and five workers are engaged in die design. Mr. Kazuhiko Daikuhara, the advisor of the design department and expert designer, joined the company about 10 years ago after working as a mold & die maker. Mr. ELFIN A.SETIAWAN, the design manager who has 18 years' in the company, manages design work, supervising the other three members.

Before Mr. Daikuhara joined the company, stamping dies were provided from Japan. Mr. ELFIN was appointed as one of the members when the company promoted localization of die design, and he had been in charge of manufacturing of pressed parts and maintenance of dies for eight years. He was taught by Mr. Daikuhara the way to create transfer layout and fundamentals of die construction, and acquired



Mr. ELFIN A.SETIAWAN; Design Manager

experience at OJT. Mr. Daikuhara talks highly of Mr. ELFIN who has about a ten-year career as a designer: "There are very few designers who are as capable as he is, even in Japan."

A few years ago, a project of square shaped deep drawing press parts that other Japanese companies had given up was brought in, and Mr. ELFIN tried the die design. He cooperated with local experts of die manufacture, struggling with the layout and balance adjustment when the parts are pressed, finally completed the project. "Die design is interesting and it suits me," says Mr. ELFIN, talking about his goal. "I want to be a design expert in the future, acquiring the skills by trying various ideas." On the other hand, as the manager, he plans to improve the capabilities to design with each member improving the others' lack of skills and abilities.

The exchanges among the group companies are also active. "The Improvement Presentation" is held at the parent company RHYTHM KYOSHIN in Japan every year, and the gatherings of mold & die engineers are held too. From overseas, besides the mold & die designers from PT. RHYTHM KYOSHIN INDONESIA, the ones from KYOSHIN VIETNAM and RHYTHM KYOSHIN HANOI join the gatherings. They try to share the information and enhance their technical abilities by discussing the efforts and problems of each base.

Making design operation effective by vendors' strong support

In mold & die designing, it is important to decide which CAD/CAM software and which company to choose to materialize ideas, optimize operations, and improve the quality of design. PT. RHYTHM KYOSHIN INDONESIA has been using "EXCESS" by C&G SYSTEMS since its Umeda Industry years; and have implemented seven seats now. Since RHYTHM KYOSHIN group also utilizes the same software, exchange of data can be done smoothly.



Die design team uses "EXCESS" for CAD/CAM.



Pressing parts produced at PT. RYTHM KYOSHIN INDONESIA



Manufacturing of pressing parts on a three-shift and 24 hours a day basis



Progressive stamping die with over 50 processes.



Insert molding machine running for mass production

EXCESS series was developed in 1986 as the first integrated 2D CAD/CAM system for mold & die manufacturing. In 2007, "EXCESS-HYBRID" was released which effectively utilizes both advantages of 2D and 3D features to design by additionally adopting the 3D technology. And in 2015, the wholly renewed "EXCESS-HYBRID II" was released.

At the company, which mainly deals with 2D progressive press parts, creates layouts for estimation and drawings of parts, and designs die structures in 2D. "EXCESS is easy to use because we can do the structure change and die editing on 2D basis," says Mr. EFFIN. "We are especially satisfied with the simple and easy operability."

At the same time that the company is putting an emphasis on 3D shapes like deep draw parts, EXCESS-HYBRID II has greatly improved its modeling functions including the features for Stamping Dies. It is also equipped with many functions which are effective in creating intermediate process models of layouts. And above all, being able to come and go freely between 3D design and 2D design in one system will greatly contribute to the operational optimization.

As well as functionality, the Customer Support System must be considered seriously at the time of software selection. Mr. Daikuhara thinks "When any support for the usage of new functions and daily troubleshooting are needed, it is better to communicate between local staffs, our designer and vendor's engineer, not through Japan,". C&G Systems has a technical center

in Jakarta, and four Indonesian Sales Engineers (SE) are stationed there. The SEs directly deal with questions from customers' local staff, and are ready to visit them in emergency or when it is necessary to check the situation in customer's site. There is no miscommunication as they are all Indonesians, and it is the advantage that problems can be solved quickly.

Also, as a part of support activities, a technical meeting is held once a month. "They willingly accepted our suggestions," says Mr. Daikuhara. Mr. ELFIN and design members make a list of the current problems and requests and send them to the SEs at the technical center. Then the SEs visit the company and give a half day lecture. For instance, if the request is the shortening of the lead time for die design of a certain product, SEs introduce the functions to contribute to it, demonstrating to find an effective usage. The staff members are all local, so they can frankly discuss the issues. The software is developed in-house, so it is an advantage to be possible to offer the customized functions depending on the request.

This relationship is beneficial for the technical center too. SEs understand the functions and the operation of the software, but have few opportunities to learn about the mold & die designer's know-how and understand the potential problems in utilizing the software. SEs can improve their skills, not only during the explanation of version-up contents or troubleshooting but by regularly visiting the customers.

Get adapted to the changing of the times

"The important thing to know is how to achieve both [the expansion of order acceptance by accruing new technologies] and [the enhancement of VE/VA proposals of existing products]," says President Funayama.

Beside the 3D shapes, the next issue to be tackled by both die design and manufacture, will be fine products with the slit width at the level of 1/10 mm in future. The expansion of order acceptance of insert molding will be emphasized too. As to the second issue, especially in two-wheeled vehicles, there are so many parts which have not changed since the foundation. Not only to mention they make sure of the delivery for

products with stable quality, they will also initiative propose to reduce costs by changing the materials or the manufacturing method, not to let the orders go to other companies. Automation has also been promoted at the finishing process like barrel polishing where many workers are involved.

In the future, as the electric motorization and computerization of automobiles are promoted, there will be stamped parts which will become unnecessary. Meanwhile there also will be the parts of which demands increase, like metal connectors. "By knowing the changing of the times, and with a sense of urgency and a wide vision, we are going to manage the company." (President Funayama) There, as the expectation of Mr. ELFIN and his design members who are involved in die design grows, their roles are getting expanded.

Confidence in Customer Support

C&G Systems Indonesia Technical Center

Mr. Ichsan Natakusumah
;Team Leader



Indonesia Technical Center was registered in 2013 and launched under Mr. Atsushi Kashiguchi, director of the center. Today, there are four sales engineers besides Director Kashiguchi, and one accountant and sales support. They also do the business in Philippines and Singapore. The number of customers in Indonesia is about 50, mostly Japanese companies, and "EXCESS" accounts for about 70% of the sales. "Sooner or later, to achieve higher precision, quality and manufacturing efficiency, Indonesia will produce more 3D parts by progressive stamping, and introduce more 5-axis machining centers," emphasizes Director Kashiguchi. "We are going to enhance our business according to that trend."

Mr. Kashiguchi
Director of the center
(on the right)

The team leader, Mr. Ichsan Natakusumah, is 29 years old and fluent in English. After working for a Japanese company, he joined the company in 2013. He is mainly in charge of "EXCESS", but can support "CAM-TOOL" and handle its startup supervising. He plays an important role in the technical meetings with PT. RHYTHM KYOSHIN INDONESIA. "I have learned many things from many users," says Mr. Natakusumah. "From now on, I want to utilize that knowledge in the solutions."

