

HU PAO Moves to New Plant

Reinforcing Digitalization and Making Early Preparations for Carbon Neutrality

Specialized in manufacturing customized automotive, special, and locking nuts, Hu Pao Industries Co., Ltd. is not the largest manufacturer in Taiwanese fastener industry though, but is one of the exemplary companies most active in optimizing its competitiveness on the int'l stage. In 2021 it moved to the 26,445 sqm new plant in Guiren Dist. with the total investment of NT\$ 0.6 bn and simultaneously optimized various software/hardware/manufacturing procedures/systems and upgraded forming/tapping/optical sorting equipment. The bright, ventilated, non-sooty, tidy, and well-organized production lines as well as the installation of solar panels not only have completely solved the issue of limited space in the old plant restricting capacity expansion and are expected to increase the capacity by 50%, but also make it easier for Hu Pao to meet global customers' demands and offer them service from the new plant.

Upgraded Manufacturing Procedures Innovative Renovation and Optimized Procedures

Hu Pao has been implementing digitalization for years. In addition to ERP, MES, the installation of pressure sensors on formers, remote tapping machine monitoring, and new 3D graphics software, many other eye-catching optimization and upgrade have been also completed in 2021. For example, in order to enhance and stabilize the integral manufacturing quality, an intelligent energy control system has been also introduced into the new plant. On the one hand, stable voltage output can prevent equipment from being interfered; on the other hand, around 15% of energy can be saved, thus making early preparations for the upcoming EU's Carbon Borders Adjustment Mechanism (CBAM).

Vice President Bill Wang said, "CBAM will come into force soon, so the energy control in manufacturing is quite important. So far, we've installed pressure sensors on formers, which are also synchronized with MES to collect electricity consumption data, and have an alert mechanism for parts repair & maintenance. Moreover, we also plan to introduce ISO 14000 and ISO 14067 (the Carbon Footprint of a Product) and expect to submit the application this year or next year."

Furthermore, for accelerating standardization and digitization, Wang added, "This has been the 3rd version of ERP we adopt, which shows clear info of our quotations, orders, material purchases, machine/die control, as well as product code tracking, delivery, batch inspection, and labeling, keeping customers promptly updated with their order statuses. In addition to regular annual upgrade of the data system, for creating a smart-factory environment, we also expect to introduce online task appointment, measuring systems, and monitoring center that can avoid the risk of manual data management, helping achieve a more efficient operating data standardization and procedures control."

Complete Development Capabilities The Ability to Provide "Low-Volume Batch of Diverse Items"

The IATF16949 certified Hu Pao receives around 80% of its orders for high value-added customized automotive nuts, which are required to be of very high quality. With over 3 decades of die development capabilities, it can almost produce every size from M5 to M20. And, different from other large manufacturers requiring min. quantities, Hu Pao even accepts orders for "one bundle of wire rod". With the advantage of short lead time (one month), it can help customers reduce their inventory. Adopting materials from Taiwan CSC, Hu Pao also utilizes computer inspection, pressure/torque sensors, and power monitoring devices in manufacturing to ensure full compliance of every manufacturing procedure with standards. Sometimes when a few defective items are detected before shipment, the whole batch will be even returned for re-inspection to ensure no defective item is delivered to customers.

Active Introduction of External Resources The Invisible Champion of Taiwanese Nut Manufacturing

Different from other 2nd generation in the fastener industry, Hu Pao, under the leadership of Vice President Wang, has been quite active in recent years in introducing external resources from inside and outside the industry, strengthening interaction with academies and governments, and learning from the experience of many successful companies in northern Taiwan to help Hu Pao improve and optimize in various perspectives. It is also one of the only 5 companies from Taiwanese fastener industry that have received the honor of Taiwan Mittelstand Award.

Wang noted, "Carbon neutrality, digitalization, and so on have been carried out by companies outside the fastener industry for so long, and the fastener industry has been left far behind. I, with non-technical background, have been active in interaction with companies in northern Taiwan and participated in activities of New Generation College in anticipation of introducing external resources to make Hu Pao grow stronger. I should be a very unconventional new generation! Facing the emerging trend of EV, Hu Pao still achieved an around 30% sales growth in 2021 from 2020. With the support of the new plant, Hu Pao will accelerate steps to create higher capacity and sales. In the future, we may also extend business reach to semiconductor, bike, or solar power and other precision industries. The reserved 4,958 sqm unused space of the new plant also offers possibilities for our future business expansion."

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