

Packing A Digital Punch

Nothing short of an impressive feat, Thong Guan Industries Berhad has come a long way from being a small family business to becoming one of the leaders of digital transformation in Malaysia. *Fireflyz* has a chat with *Dato' Ang Poon Khim*, the Group's Executive Director who shares Thong Guan's remarkable digital journey.



*Dato' Ang Poon Khim,
Executive Director, Thong
Guan Industries Berhad.*

THE company started out as a humble family-owned trading business in 1942. Their initial products included tea and coffee to the local market under the 888™ brand.

Over the years, the business began to boom and the company expanded their operations as well as diversifying their offerings. As such, they shifted from manufacturing and trading beverages towards entering the plastic industry.

Initially, they started out with manufacturing simpler plastic products such as raffia strings and drinking straws, but soon expanded their product lines to more complex plastic items, thus setting up TG Flexible division.

TG Flexible ventured into the field of flexible plastic packaging and services. The growth of this division would play a pivotal role in the birth of TG Stretch in 1997, which strategically moved into stretch film production for industrial pallet packaging.

In 2010, all TG Flexible and TG Stretch operations were consolidated under a single unit with the goal of reducing cost and wastage.

"My grandfather, who founded the company used to sell tea using a bicycle back in the small town of Sungai Lalang. I don't think he could have imagined that his company is now one of the largest manufacturers of plastic packaging products in Malaysia. It's really humbling to look back at the company's roots to appreciate how far it has come," said Dato' Ang.

The company has over 70 years of experience and unparalleled track record in manufacturing, trading and innovation.

Birth Of Newton

In the logistics industry, an estimated US\$2.6 Billion in losses are due to palletised load damages. What's even more jarring is that there are approximately 1.25 million fatalities as a result of road accidents each year - many of which can be attributed to lorries carrying goods or cargos.

In 2017, the Newton Research and Development Centre - a subsidiary of Thong Guan - was set up with the goal of addressing these issues. Newton serves as an innovation centre for load securing and safety, offering services such as consultancy on pallet load securing; training and education; validation and certification; and technical testing and analysis.

"The great thing about Newton is that it was the first dynamic simulation lab in Asia Pacific. The unique dynamic lab offers land, sea, air and rail simulations in order to deliver "Real Life" packaging solutions in addition to value-added consultancy and training services. I firmly believe that through Newton, we are able to help customers to reduce injuries in warehouses and across the logistic chain, lower the packaging costs, minimise damages to products as well as decrease the carbon footprint," he said.

Digital Journey

To achieve the targets above, the company has adopted various emerging technologies such as Internet of Things (IoT), Robotic Process Automation (RPA), Big Data Analytics (BDA), and simulation technology. Thong Guan will also be working closely with the Malaysia Digital Economy Corporation (MDEC) through their Digital Transformation Acceleration Programme (DTAP), which helps companies kickstart their road to digitalisation. The awareness spread by MDEC regarding the benefits of digitalisation through their various mediums have inspired Thong Guan to embark on this digital journey.

"In the conventional method of manufacturing plastic, all processes are not integrated, which leaves many loopholes for problems to arise. By using IoT and BDA, we are able to collect data from the entire plastic-making process online. Every roll of plastic produced is then tested using a film production tester.

Data from both stages are then compiled under a QR code and attached onto the plastic roll.

"Each roll has its own unique QR code which contains all the operating parameters of the corresponding extruder and also show the properties of the film which was tested. Through this, clients are able to know every stage of the process and ensure quality is top notch, without any wastage," said Dato' Ang

However, Thong Guan goes one step further by attaching a black box at the back of each plastic wrapper produced. Similar to a black box on a plane that records every move made in the cockpit, the black box on the plastic wraps record the stretch ratio, amount of film used to wrap a pallet, and number of pallets wrapped under an hour, day or month. Data collected would then be uploaded to the cloud for decision makers to analyse.

To address the problems of damaged goods during transportation, the company also uses a data logger - a sensor that is able to track all the vibrations of the pallet on the truck. The sensor collects data on a particular route and is then uploaded into a pitch and roll machine, which would then accurately simulate the entire journey of the pallet. By doing so they are able to determine if the problem lies in the road condition or drivers themselves.

A Helping Hand

"I'm really excited to announce that we are also at the tail end of implementing RPA within the plastic shrink wrap line. Though currently semi-automated, the handling of plastic rolls will soon be

carried out via robotic arms. The vision is to be fully automated across our entire chain within the next three years in order to reduce labour costs and increasing productivity," he said.

"We are at the cusp of the fourth industrial revolution and like it or not, that wave is coming. By spearheading digital innovation, I believe that this goes beyond securing my company's future but brings us to the forefront of our industry. I'm also looking forward to working together with MDEC on pushing the envelope when it comes to digital transformation and ensuring that the legacy of Thong Guan lives on!"

From the implementation of RPA, Dato' Ang has seen a significant increase in productivity. Less products are damaged, and he would no longer need to worry about downtime as the machines are able to operate 24 hours a day. This further ensures consistent results and boosts clients and stakeholder confidence.

Concluding the interview, Dato' Ang had this to say: 'We are at the cusp of the fourth industrial revolution and like it or not, that wave is coming. By spearheading digital innovation, I believe that this goes beyond securing my company's future but brings us to the forefront of our industry. I'm also looking forward to working together with MDEC on pushing the envelope when it comes to digital transformation and ensuring that the legacy of Thong Guan lives on.' 

