FORMOSA PLASTICS GROUP

2019 Annual Report

Mailiao Harbor Fulfills Co-Prosperity of Ecology and Industrial Growth

CONTENTS

Mailiao Harbor Fulfills Co-Prosperity of Ecology and Industrial Growth

In line with the global trend of developing green ports, Mailiao Port has commenced an application for the EcoPort designation from European Sea Ports Organization (ESPO) since 2016 and successfully achieved the designation in 2018, thus achieving the business philosophy of sustainable management from FPG in practice. By monitoring various environmental factors including air quality, water quality, marine ecology, landscape ecology, soil and groundwater, noise vibration, and traffic flow, the ideal synergistic environment that integrates industrial growth and ecology has been fulfilled.

Formosa Plastics Group | 2019 Financial Highlights

(In Thousands of USD, persons)

Company	Capital	Assets	Equity	Sales	Income Before Income Tax	Number of Employees
Formosa Plastics Corp.	2,114,443	15,427,010	11,597,466	5,508,003	1,388,166	6,239
Nan Ya Plastics Corp.	2,634,299	17,211,379	11,445,289	5,141,825	815,899	12,545
Formosa Chemicals & Fibre Corp.	1,946,850	15,263,366	11,841,981	6,583,739	1,059,541	5,003
Formosa Petrochemical Corp.	3,164,140	12,855,821	10,968,679	21,385,270	1,491,407	5,338
Nan Ya Technology Corp.	1,020,848	5,483,739	5,049,211	1,709,808	372,297	3,246
Nan Ya PCB Corp.	214,630	1,199,161	970,726	854,655	12,838	5,774
Formosa Sumco Technology Corp.	128,828	759,694	677,432	386,502	88,392	1,321
Formosa Taffeta Co., Ltd.	559,578	2,503,826	2,133,105	912,403	185,790	4,636
Formosa Advanced Technologies Corp.	146,888	440,939	379,661	314,152	53,219	2,437
Mai-Liao Power Corp.	728,493	1,678,713	1,471,647	808,556	95,667	412
Subtotal of Public Companies	12,658,996	72,823,649	56,535,198	43,604,914	5,563,216	46,951
Other Domestic Companies	1,450,224	18,887,848	16,364,708	5,383,411	856,899	31,064
Subtotal of Domestic Companies	14,109,220	91,711,497	72,899,906	48,988,325	6,420,115	78,015
Companies in U.S.A	1,155,281	14,012,938	11,305,615	5,231,598	727,264	4,288
Companies in China	5,814,476	10,846,293	7,264,467	9,119,012	358,799	18,836
Other Foreign Companies	6,588,605	15,950,136	6,471,201	4,804,027	-668,024	14,790
Subtotal of Foreign Companies	13,558,362	40,809,367	25,041,283	19,154,637	418,039	37,914
Total of Formosa Plastics Group	**27,667,582**	**132,520,863**	**97,941,188**	**68,142,962**	**6,838,154**	**115,929**

*NOTE:The financial data shown above is extracted from the individual financial statements of each company.

Preface

FORMOSA PLASTICS GROUP Profile
Scan QR code to watch the video

Maintaining green energy wind turbines

Chairman
WenYuan Wong

In 2019, global attention still focused on the trade war between China and the United States. That brought worldwide uncertainty and affected the investment confidence of enterprises. As China and the US continued to negotiate and release goodwill, the market became optimistic. In May, the Brent crude oil price rose from its lowest point at the beginning of 2019 to the highest point of the year at USD 74 per barrel. However, as China-US trade talks fell apart in mid-May, the two sides formally announced an increase in tariffs and a series of mutual sanctions, causing market confidence and oil prices to fall simultaneously. In the second half of the year, the world economy continued to suffer from the China-US trade war, Brexit disruptions, Japan-South Korea trade tensions and other interference from geopolitical risks.

In Taiwan, the gross domestic product (GDP) grew every quarter and the annual economic growth rate reached 2.71%.This increase was attributed to the transfer of orders triggered by the US-China trade war and the returning investments from Taiwanese companies. However, Taiwan has an island economy that is deeply linked with international trade. The US-China trade war not only put global businesses on a conservative outlook, it also impacted all industries in Taiwan severely since trade with mainland China, Hong Kong, and the US accounted for more than 50% of Taiwan's exports. Furthermore, a new incremental output of petrochemical raw materials from China and US plants had been introduced, causing a significant increase in the petrochemical market supply and surplus in production. Consequently, market trends of oversupply and narrower price spreads were seen, not only in Taiwan's petrochemical industry, but in China's as well. This resulted in a sharp decline in profits starting the third quarter of 2019. China's petrochemical industry saw the lowest revenue and profit growth rates in the past four years.

Overview of Business Operations

The 2019 consolidated revenue of Formosa Plastics Group was NTD 2,051.5 billion, a decrease of 14.7% compared to 2018, and its profit before tax was NTD 205.9 billion, a significant decrease of 44.3% compared to 2018.

1. Taiwan Region

In 2019, the total revenue of FPG in Taiwan was NTD 1,474.8 billion, a decrease of 16.6% compared to 2018. The net income before tax was NTD 193.3 billion, a decrease of 41.4% compared to 2018. The declines in revenue and profit were mainly caused by the China-US trade war, lack of market confidence, and customers rising unwillingness to pick up goods. Especially, the demands for petrochemical and plastic goods declined significantly in the third quarter. In addition, new incremental output from China and US plants had been put into production making the market expectation even more conservative. This also affected the overall pricing of petrochemical and plastic goods, narrowed price spreads, and eroded profit margins. Consequently, the Group's 2019 profits significantly declined compared with the previous year.

Facing the challenges of volatile international situations and the impact of new production capacities from China and US, the Group proactively adjusted production models, sales plans and product mixes on the basis of the price spreads of oil and petrochemical goods. Meanwhile, the Group continues to develop highly-valued and differentiated products and integrate AI-driven production, quality testing, and process optimization to enhance product value. The Group is also dedicated to reducing energy consumption and production costs as well as enhancing industrial safety and environmental protection to create value despite economic downturn.

In terms of product marketing, the Group continues to develop customized solutions to customer's needs in product technology and application services and diversify market risks by actively expanding internal and external sales channels in various regions. Furthermore, the Group continues to invest in overseas expansions to locate production and sales closer to target markets. Through several proactive business activities, the Group strives to overcome various business disadvantages and potential risks to mitigate the impact of economic uncertainties in the petrochemical industry.

2. United States Region

FPG has several petrochemical and plastic processing plants with vertically integrated supply chain capacity in the US. In 2019, the total revenue of all FPG's businesses in US was NTD 157.5 billion, a decrease of 20.1% compared to 2018, and the net income before tax was NTD 21.9 billion, a decrease of 39.2%. The declines in revenue and profit were mainly caused by the China-US trade war and the new incremental output from other peer companies in US. As the supply increased, the demand fell short, resulting in price decline and profit margin erosion.

3. Mainland China Region

In 2019, the total revenue of FPG's businesses in mainland China was NTD 274.5 billion, a decrease of 7.7% compared to 2018. However, by combining advantages of the cost reduction from the price drop of raw materials ethylene and propylene and the completion of debottlenecking program in Ningbo complex, the Group was able to expand market share and improve customer confidence in product quality resulting in greater sales volume in 2019 than in 2018. Despite the glooming China-US trade war, the Group's profit grew year-over-year, and the net income before tax was NTD 10.8 billion, an increase of 20.8% from 2018.

4. Vietnam Region

Formosa Plastics Group has been operating in the Vietnam for many years. In addition to the secondary processing of textiles, fibers and plastics in KCN Dong Nai, two blast furnaces located in Ha Tinh Province were commissioned on schedule in May 2017 and May 2018. The completion of Ha Tinh steel plant phase I project was completed and put into full operation.

In 2018, FPG's combined revenue for all plants in Vietnam was NTD 127.3 billion, an increase of 2.2% from 2018. However, because of weak market demand for nylon and textiles and sales of low-cost BOPP filmin China, the market supply greatly exceeded the demand, resulting in low sales volume. In addition, after Ha Tinh steel plant was put into production, market demand for steel was weakened by increase in the prices of metallurgical coal and raw iron ore due to the China-US trade war. Nations across the world dumped excess productions in Vietnam, resulting in significant decline in steel sales price. Consequently, the steel plant dialed back in production and a significant level inventory of raw material was retained. As a result, the net income before tax of all FPG's controlling entities in Vietnam was still in decline.

Mailiao Harbor
Building highly automated pipeline transmission system & high-pressure shore power system

Materializing Circular Economy

FPG has always been committed to the spirit of "inquiring into the root of the matter" and "to aim the sovereign good". FPG is committed to promoting "circular economies" for energy conservation, emission reduction and recycling. FPG is committed to the four pillars of sustainability: raw materials, water resources, energy and waste. Therefore, we promote continuous improvement for energy conservation, emission reduction as well as group-wide energy and resource integration. In terms of the resource integration during the production processes, efficient emission reduction control, recycling and waste reduction are important pillars to FPG. Information on the effectiveness of FPG's initiatives in the "circular economy" are included below.

1. Water Conservation

Even though the water from the Jiji weir was intended to supply FPG's Mailiao Industrial Complex, Ministry of Economic Affairs statistics show that FPG industrial water consumption uses only 5%. The agricultural water supply for Yunlin County and Changhua County accounted for 93%. FPG has proactively reduced process water consumption through reducing evaporation losses and many other measures. Water use at the Mailiao Industrial Complex has been reduced to 280,000 tons per day.

In accordance with the calculation of water usage under "Directions for Application Review on Proposal of Water Usage" announced by the Ministry of Economic Affairs, the water recycling rate (R1) for Mailiao Industrial Complex exceeds 98.8%; in other words, each drop of water is reused up to 7.3 times. Mailiao's R1 is better than those of its peer companies in the Taiwan's petrochemical industry which have an R1 range from 70% to 90%.

In addition to water conservation, the Group is also actively collecting rainwater. Through increasing rainwater collection surface and modifying rainwater storage pipelines, rainwater is effectively stored for reuse. As a result, the collection rate has raised to 99.9%. That is an average 19,323 tons of rainwater each day.

The Group clearly makes full use of precious water resources. In addition, the Group has invested NTD 5.4 billion to build a seawater desalination plant with a daily output of 100,000 tons at the Mailiao Complex. It passed the environmental impact assessment in August 2018 and is currently under construction, which is expected to be completed in 2022.

2. Energy Conservation and Emission Reduction

Each plant in the Group has improved on its energy and resource utilization, waste heat recovery, equipment efficiency, and other energy management measures for its production processes. Aiming at further improving energy and resource utilizations, the Group established a dedicated task force in 2006 to promote energy conservation and carbon reduction. The Group's Chairman serves as the chairperson and is committed to implement cross-company and cross-plant integrations of energy and resources. The Chairman hosts monthly meetings and set annual goals to reduce energy consumption by 3% and water consumption by 5%.

In the past decade, statistics indicated that daily production capacity of Mailiao Industrial Complex has increased by 11% on average but the power and steam consumptions per product unit on average decreased by 24% and 26%, respectively. We conclude that the energy-saving efforts have paid off.

In terms of air pollution prevention and control, the Group complies with Taiwan's statutory standards, which are more stringent than European countries, the US, and Japan. In addition, local governments continue to impose even stricter requirements. The Group continued to optimize control techniques on environmental protection including adding wet electrostatic precipitators in the steam and power symbiosis plant to reduce PM2.5 emissions from the boiler to meet ultra-low emission standards. Furthermore, the boiler's waste heat is recovered and reused without extra energy consumption to eliminate white smoke coming out of the chimney and reduce the public's concern regarding pollution. These two improvement measures have been implemented consecutively and the Group expects to complete them by 2022. Upon completion, the plant's emissions are expected to be reduced to the standards for natural gas power plants.

In addition, in accordance with the International Maritime Organization regulations, all ships entering into the port of Mailiao are required to reduce speed and use low-sulfur fuel or other energy-saving fuels, and the port is equipped with a high-voltage shore power system so that ships can use electricity for power and not burn fuels. Overall, the port is able to effectively reduce sulfide emissions. In September 2018, the port of Mailiao was awarded with the EcoPorts Certification by the European Sea Ports Organization for its efforts in environmental protection and is the only awarded industrial port in Asia.

3. Overall Investment and Results

FPG always upholds the philosophy of balancing industrial development and environmental protection and actively invests in pollution control, energy conservation, emission reduction, greenhouse gas reduction, industrial and fire safety, and other environmentally friendly measures. For a long time, the Group maintained the emission of various pollutants far below national standards, and even standards of other developed countries, because we believe environmental protection is not only the result of business management but also an important corporate social responsibility.

For example, up till the end of 2019, the Group has invested in Mailiao Industrial Complexa cumulative amount of NTD 28.4 billion for energy conservation, emission reduction, and

WenYuan Wong, Chairman of FPG,
was invited as the guest of honor at the 14th "Charity Award"

circular economy implementation, completed 2,082 projects on water conservation which are estimated to reduce water usage by 101.94 million tons, and completed 7,079 projects on energy conservation which are estimated to reduce carbon dioxide emission by 10.89 million tons. The overall annual economic benefit of these water and energy conservation projects reached NTD 30.2 billion, which is quite impressive. In the future, we will continue to conduct various projects on energy conservation and emission reduction and lead the Group towards the mission in building a sustainable Taiwan.

Social Care and Feedback

While actively developing businesses, FPG has committed to uphold the spirit of "What is taken from the society is used on the society." Other than establishing three universities and Chang Gung Memorial Hospital, the Group also set up several foundations and charitable trusts. The charitable programs which Group has engaged in for many years are as follows:

1. Campus reconstruction: Since the 921 earthquake, the Group has adopted the reconstruction projects of 76 damaged or destroyed or old and in danger school buildings all over Taiwan. Through these projects, the Group has rebuilt more than 900 classrooms.

2. Senior Citizens' Welfare: The Group has donated more than 1.15 million doses of pneumococcal vaccines with a market value of nearly NTD 990 million to the elderly over 75 years old. According to the research of Chang Gung Hospital, the vaccines can reduce the infection rate by 76% and the mortality rate by 91%. In other words, these donations help the Government save a total amount of NTD 14.3 billion in medical expenses for pneumonia treatments.In addition, the Group also promotes a number of elder assistance programs including subsidies for elderly's housing improvement and appliances as well as senior health and activity centers.

FPG reinforces philanthropic efforts in providing lunch meals for elementary and junior high school students in Yunlin County

Comprehensive and diversified Group operations

3. Rainbow Project (inmates with drug addiction and AIDS) and Sunshine Project (drug offenders): Assisted the skill training, psychological counseling and health education of inmates with drug addiction and AIDS, as well as regular follow-up counseling after they are released from prison in order to help them return to society. The programs reduced the rate of recidivism from 60~80% to below 10%. For this reason, FPG Chairman received the 11th "Charity Award" from HK & Macau Taiwanese Charity Fund; besides donating all of the prize money, an equal amount of money was donated by the Chan-yang Wang Trust to expand the scale of the project and spread the warmth of love.

4. Women and Children Welfare: The Group provides several welfare programs to women and children, such as medical and financial assistance for patients with rare diseases, education support and counseling in child and youth welfare institutes (92 institutions in total), professional services of early interventions and treatments for children with development disability (over 20,000 children in total), financial assistance for families affected by domestic violence, scholarships for low income students, and work studies in social welfare institutes, grants for students in remote areas, grants for student lunches in elementary and middle school of Yunlin County, English courses for students in remote areas of Hualien and Taitung Counties, and support for the development of preschool children in vulnerable families.

5. Other social welfare: The Group provides funding for the training of young tennis athletes and table tennis athletes. The Group also actively promotes local artists and cultural and performing groups, provides a variety of arts and cultural events to the people in remote areas, and cultivates the local artists and cultural and performing groups.

Among the various charity programs launched by the Group, many set a precedent in Taiwan and were widely acclaimed. The charity programs help the Group achieve the objectives to enhance service quality and practice sustainable business. Under the Chairman's leadership, Formosa Plastics Group put into practice the two founders' original passion to give back to the society.

Future Operating Environment

With the global economic slowdown in 2019, nations across the world expected that the global economy could see light at the end of tunnel when the China-US Phase 1 Trade Agreement was signed on January 15, 2020. However, unexpectedly, the COVID-19 pandemic broke out, spread across the world, and caught nations off guard. To prevent further spread of the coronavirus, nations across the world issue stay-home orders, closure of businesses, lock down of cities and country borders, and other strict quarantine orders. As a result, business activities were frozen suddenly, consumption momentum was blocked, and the global supply chain was interrupted. Both the global supply and demand as well as the global economy have been severely impacted. The degree and extent of impacts are hard to be estimated. International forecasting agencies have substantially revised down the global and national economic growth forecasts for 2020.

Oil prices have plummeted as the demand dropped rapidly. In the meantime, as OPEC+ production cut agreement was broken (Organization of Petroleum Exporting Countries (OPEC) led by Saudi Arabia and non-OPEC oil-producing countries such as Russia collectively are referred to as "OPEC+"), Russia and Saudi Arabia increased production output, and consequently, oil prices plummeted even further. Brent crude oil plummeted from about USD 70 per barrel at its highest point in January

Aerial Bird View of Point Comfort Complex, TX

2020 to about USD 22 per barrel in just 3 months, reaching the lowest point in the past 18 years and exacerbating the energy market already hit by the pandemic. The global economy is deteriorating and the financial markets worldwide are in panic. At the beginning of 2020, the global economy is facing a new wave of crisis. In order to prop up the current deteriorating economy, nations across the world announce several monetary and fiscal policies including rate cut, large-scale quantitative easing, and other rescue and revival measures, with the hope to stimulate the economy and mitigate the impact of COVID-19 pandemic on economy and financial markets.

Neither the internal circumstances in Taiwan nor the external environment of Taiwan is optimistic. Other than issues with internal investment circumstances and the uncontrollable and volatile external environment, Taiwan has also had to deal with tariff issues. In recent years, international business and trades have gradually developed into regional integration. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) was signed and came into effect at the end of 2018, and the Regional Comprehensive Economic Partnership (RCEP) will be formally signed by all member states except India in 2020. When the RCEP comes into effect, the member states will enjoy lower tax rates and in some cases will be tax-free. However, Taiwan is not a member of either partnerships and hence goods exported from Taiwan will pay higher taxes.

Furthermore, due to poor cross-strait relations, the ECFA early harvest list might be prematurely terminated. Taiwan relies heavily on exports. If the Taiwanese government cannot proactively lead the breakthrough in international trade barriers, the future development of international business and trade will be limited and the Taiwan industries will face more crashes and challenges. The incremental petrochemical production, including ethylene and propylene, in China and the US will rapidly increase in the next few years; especially, the incremental production in China will exceed 10 million tons. As the Group's businesses are mainly engaged in petrochemical industry, the entire international situations are detrimental to the Group.

Outlook

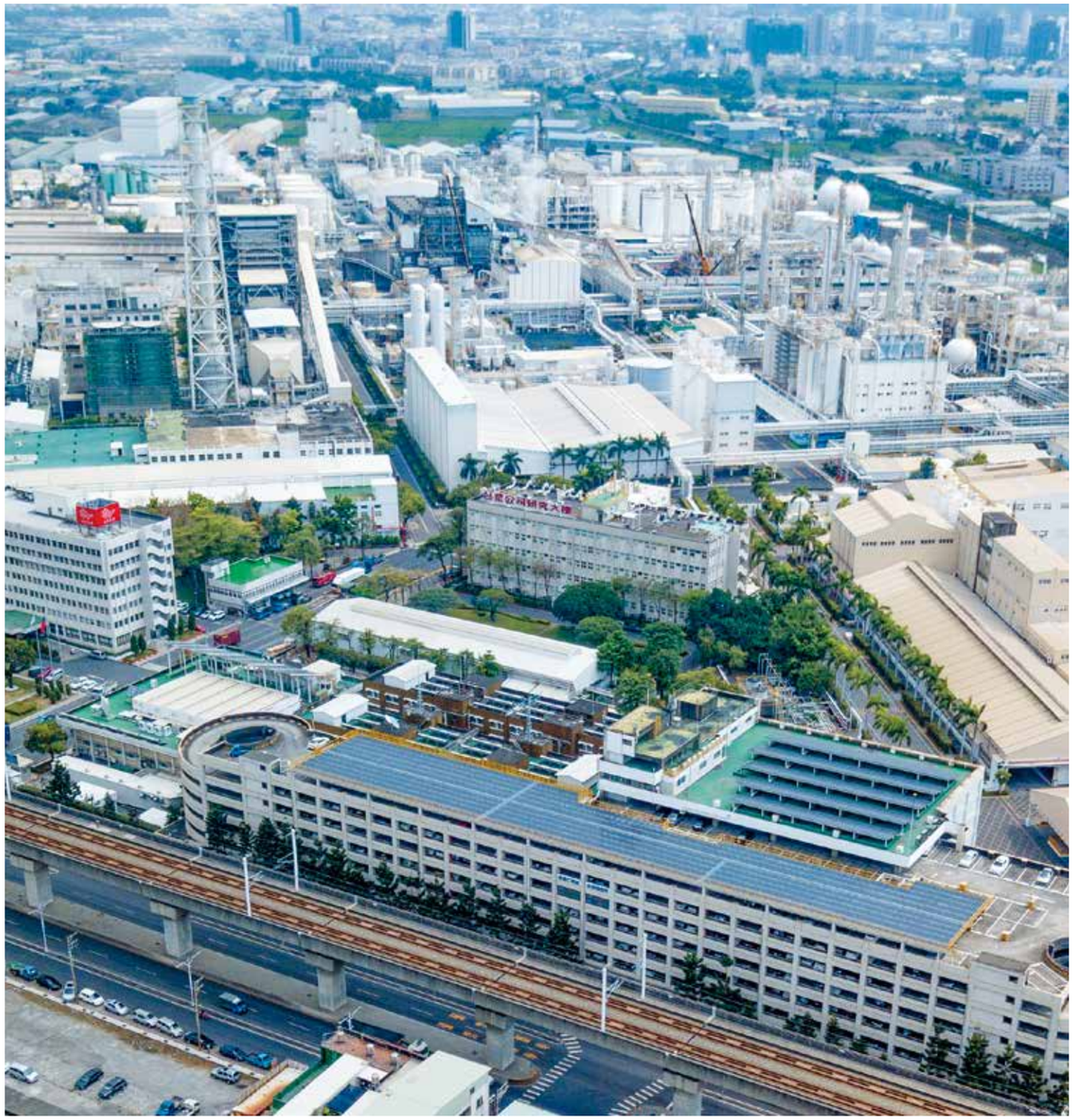
Although the 2020 outlook is pessimistic because of the COVID-19 outbreak, Taiwan and nations across the world consecutively proposed stimulating monetary and fiscal policies such as expansion of infrastructure and public work, large-scale interest rate cuts, quantitative easing, and capital injections, in order to prop up weak economy and market confidence. Given that Taiwan's economy faces several internal and external challenges as described above, the Group takes precautions in safeguarding our businesses. We always believe while we cannot change the environment, we can sagaciously bolster our capacities in response to the challenging environment.

Formosa Plastics Group tenaciously upholds the spirit of "to aim at the sovereign good" in advancing R&D, increasing production ratio of highly-valued and differentiated products, and optimizing internal management efficiency and effectiveness. In relation to industrial safety and environmental protection, the Group is self-motivated to excel at emission controls, optimization of energy conservation, maximization of resource utilization, and implementation of cyclic economy, exceeding not only the national standards but also international standards of more advanced countries. Furthermore, we have actively expanded the depth and breadth of AI supplication and big data in various areas, striving to improve business efficiency and maintain sound business through shortening production to sales cycles, optimizing production processes, and enhancing predictive diagnosis of industrial safety.

Regarding the external environment, we closely watch developments of global markets and actively pursue potential markets besides China and Hong Kong in order to diversify market risks. Meanwhile, the Group continues to invest in several overseas expansions. On-going investments in China include the cold-rolled stainless steel plant in Fujian Province, the petrochemical plant in Ningbo City, and the electronic material plant in Huizhou City. In terms of the on-going investments in the US, the environmental impact assessment on the large petrochemical project in Louisiana was officially approved in January 2020 and site preparation will begin soon. The construction of the third ethane cracking plant and downstream petrochemical plants in Texas are about to be completed. In the future, we will pay close attention to market supply and demand and adjust procurement, production and marketing plans accordingly, in order to secure cost advantage and boost business momentum.

For the past sixty years, Formosa Plastics Group has kept a sense of urgency and guards the businesses vigilantly whether in good times or in bad times. We are not discouraged by economic downturn or business difficulties and, regardless of the economy's cyclical nature, persistent upholds our spirits in pursuing all reasonable tasks in a practical manner, focusing on the objectives of developing stronger business core, and enhancing competitive advantages. In facing the current volatile business climate, we have taken a firm and positive attitude towards leading all personnel towards turning threats into opportunities for prosperous business.

Formosa Plastics Corporation



Renwu Complex

The Company (Formosa Plastics Corporation) generated consolidated sales of NTD 207.84bn in 2019, reaching 94% of its target of NTD 221.88bn and was down 10% from NTD 230.37bn generated in 2018. Consolidated pretax profit came in at NTD 42.21bn in 2019, reaching 92% of its target of NTD 45.93bn and declined by 26% from NTD 57.09bn generated in 2018.

Chairman
Jason Lin

Due to the uncertainties brought by US-China trade tension in 2019, global economy has been slowing down and led to the prices decline in ethylene and propylene. The lackluster auto and real estate markets have resulted in a shrinking demand in aluminum, coating, textile and home appliances. The wave of new supply from China and the United States has dragged down the prices of petrochemical products. Except for Ethylene Vinyl Acetate (EVA), product prices have fallen by 6-30% in 2019 from 2018 and spreads have narrowed. Capacity utilization rate of 90% in 2019 was lower than 91% in 2018, impacted by the unplanned shutdown in Linyuan Utility plant on 28 November. Despite the efforts in product differentiation, which sales volume increased by 1% in 2019 and the start of FIC's new high-density polyethylene (HDPE) plant at the end of August, the lower capacity utilization rate has led to a lower consolidated sales and operating profit of NTD 20.19bn dropped by 20% compared to 2018.

In addition, the total cash dividends from investees including Nan Ya Plastics Corp., Formosa Chemicals & Fibre Corp. and Nan Ya Technology Corp. were NTD 8.18bn in 2019, although increasing by NTD 674.4m on a yearly basis, the equity income from investees including Formosa Petrochemical Corp., FPC-USA and Formosa Sumco Technology Corp. were NTD 14.73bn in 2019, which was NTD 9.34bn significantly lower than 2018. The decrease has led to a 26% decline of the Company's pre-tax profit in 2019.

Looking back at 2019, the uncertainties from the US-China trade war has weakened investment confidence among corporates. The political disputes such as Brexit, Japan-South Korea trade tensions, and geopolitical risks have deteriorated the economy growth momentum among developed countries and slowed down the economy expansion in emerging countries, which have dragged down the global economy. Despite the easing of monetary policy from worldwide governments, international agencies have been revising down their global GDP growth forecasts, of which the International Monetary Fund (IMF) tuned down its global GDP growth forecast to 2.9%, the lowest level since the financial crisis in 2009.

As benefiting from order reallocation and investment repatriation that drove domestic demand and consumption, Taiwan GDP has been growing sequentially in 2019, reaching 2.71% of growth in 2019 and returned to the first place within The Four Asian Tigers. Taiwan government's commitment to attracting overseas Taiwanese enterprises and foreign capitals, and encouraging

The 4th Innovation Presentation Event

the investments from local companies has played a positive role in boosting the economic growth momentum in Taiwan. However, the society has been long brimming with the ideology of environmental protection and unreasonable EPA review system, along with the stringent environmental regulations, which has hindered many investment projects. In addition, the government's energy policy of "replacing nuclear power with green energy; replacing coal-based power plant with natural gas-based power plant" is aiming to abandon nuclear power and limit the use of coal, which will lower the diversity of power generation methods, casting out industry concerns over a stable electricity supply going forward and will adversely affect the long-term development of Taiwan's industry and economy.

Nevertheless, while Taiwan's domestic market size is limited, exports is the key driver for Taiwan's economic growth and accounts for more than 60% of GDP. Facing the rising trend of regional economy and trade integration globally, the preferential tariffs enjoyed by ASEAN 10 plus one, the effective of "Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)", and the upcoming formation of "Regional Comprehensive Economic Partnership Agreement (RCEP)" in Asia in 2020, of which Taiwan has been excluded in the discussion. Moreover, owning to an unimproved cross-strait relations, there is concern over an early termination of ECFA (Economic Cooperation Framework Agreement) early-harvest list. As an export-oriented country, if Taiwan is not able to actively seeking for solutions on the breakthrough for the obstacle on trade tariff, Taiwan will be marginalized, and our industries will find it very difficult to survive and develop.

Thus, the Company expects the government to focus and solve the problem of business and development in industries. Aside from grasping the opportunity of industry restructure brought out under US-China trade war, the governments should also roll out a fiscal tax with investment incentives, amend the irrational environmental assessment process and loosen the environmental regulation restrictions. Meanwhile, the government should revisit the energy policy, formulate electricity allocation pragmatically and propose reasonable supporting measures for energy transition to provide stable, abundant and clean electricity and to build a friendly investment environment. The government should not prohibit the coal-fired approach hastily, while the current technology on pollution prevention of coal-fired boilers can remove visual pollution (prevent from emitting white smoke from chimney), and the air emission quality is not inferior to that of natural gas-fired units. Therefore, the choice of electricity allocation should not reply on the type of fuels. The key is the back-end pollution prevention measures. In addition, the government should actively participate in regional economic and trade integration, such as joining CPTPP, RCEP and the discussion of free trade agreements (FTAs) with key trading partners, in order to resolve the unequal tariff environment suffered by Taiwanese companies. This will enhance the confidence and attract domestic and foreign investors in investing in Taiwan, and to build a friendly and sustainable investment development environment.

In view of the uncertainties brought out by US-China trade tension and the difficulty in an oversupplied market under the supply addition wave, the Company has deepened its artificial intelligence (AI) technology to enhance operational efficiency in five aspects "optimization of production and sales, quality assurance, intelligent maintenance, digital inspection, and cost reduction". In 2019, 46 out of 100 AI projects have been completed with an estimated annual benefit of NTD 180m, while the remaining 54 projects are ongoing.

Aside from this, in an effort to popularize AI concept to all employees, the Company continues to provide the five-stage systematic training courses from the basics, practice, project practice, "Taiwan Artificial Intelligence School" and management, and requires all employees to join the training courses related to their job. By the end of 2019, employees with at least college degrees received basic AI training reached nearly 100%. In the meantime, by interacting and cooperating with other companies, professional institutions, international experts, and establishing an AI exchange platform to hold competitions, the Company is looking forward to enhancing the AI capabilities and stimulating more ideas into application.

Furthermore, the Company continues to promote Industrial 4.0 and the automatic selling system into more application towards other products, and promotes 32 improvement projects to increase the product quality, optimize the operation and formulation and dispatch the power

The 5th Innovation Presentation Event

units through instant and historical production data analysis. In 2019, the Company has completed 28 improvement projects, and the implementation of the rest 4 projects are expected to be completed by 2020 with an annual benefit of NTD 87m.

Moreover, in order to promote the transformation plan of the Renwu complex, the establishment of the composite material center, the industrial 4.0 and artificial intelligence research and development center, and the dye-sensitized battery mass production plant, a 12.3 hectares of part of the land in Renwu Complex has passed by the Ministry of the Interior in July 2019 to change to A kind of industrial zone. At the same time, 13 office buildings, including the 2 founders' offices in the Kaohsiung plant, the birthplace of Formosa Plastics Group, were registered as monumentby the Kaohsiung City Government. The "Wang Yung-ching and Wang Yung-tsai Park" will be established in the 2.5 hectares original site. The restoration and reuse plan was reviewed and approved by the Kaohsiung City Government in December 2019, which is expected to be completed by the end of 2022. After that, the park will be opened to public.

In an attempt to develop circular economy, promote project improvements, reduce the consumption of water, energy, and the utility usage volume per unit, the Company accomplished 1,076 projects in 2019 with an annual benefit of NTD 770m. The Company also established an innovation platform to hold seminars from time to time to boost up the innovation atmosphere. There have been 202 ideas proposed on an accumulated basis so far with an estimated annual benefit of NTD 430m. By the means mentioned above, the Company is able to gradually pursue the rationalization, strengthen the business essence, and overcome the operating difficulties during industry downcycle.

The Company and its China Ningbo and United States subsidiaries mainly produce

Mailiao HDPE Plant

plastics and chemical fiber raw materials. In 2019, sales volume of PVC increased 2% to 1,690K tons mainly due to the continued market diversification, the strict implement of environmental protection in China, which has increased the cost of coal-based PVC producers and drove up the market price, and the cessation of anti-dumping duties on imported PVCs since 29th September 2019 also improved the domestics demand in China. Sales volume of caustic soda was 1,506K tons in 2019, grew by 5% than 2018 owning to the incremental caustic soda sales in Southeast Asia and spot selling of Australia aluminum customers.

As the Company has been actively expanding into Southeast Asia, South Asia and Africa, and increased the selling of the differentiated products such as bottle blowing grade, pipe grade and blow molding grade HDPE, along with the start of the new HDPE plant by the Company's US subsidiary since the end of August 2019, the Company's sales volume in HDPE was 512K tons in 2019, grew by 5% than 2018. The Company's EVA sales volume was 284K tons in 2019, up 3% from 2018 as there was no new capacity from peers along with an steadily growth in demand for solar packaging driven by China's green energy policy. The Company's LLDPE sales volume was 211K tons in 2019, up 30% from 2018 given the aggressive expansion into Bangladesh market, and promotion of the injection grade and rotation molding grade differentiated products, coupling with the conversion of LLDPE from the US subsidiary's HDPE plant.

As impacted by the US-China trade tension, industry downcycle in auto and housing markets in China, the strict investigation of the environmental inspection, massive capacity expansion by peers, the downstream demand for tapes, coatings and resins has been weakened and market has been oversupplied with higher competition, the Company's AE sales volume of 499K tons in 2019 has declined by 7% from 2018. The Company's carbon fiber sales volume was 5.7K tons in 2019, up 4% from 2018 due to the stable incremental demand for wind power and the recovery demand from customers due to an easing competition from Japanese peers. The Company's sales volume of NBA, which is mainly for captive use by AE plants and bonded customers in China, decreased 4% from 2018 to 223K tons in 2019 due to US-China trade tension and falling demand from downstream for butyl acrylate and butyl acetate due to the price decline in upstream raw materials. Sales volume of SAP lowered by 7% from 2018 to 170K tons in 2019 due to decreasing price in an oversupplied market resulted from the massive capacity expansion from China peers and the shrinking number of newborns by about 2 million in 2019 comparing with 2018.

Sales volume of PP declined 3% from 2018 to 927K tons in 2019 given the unplanned shutdown in Linyuan Utility plant coupled with the annual maintenance shutdown of Linyuan PP plant and the renewal of the granulator. Sales volume in AN of 278K tons in 2019 was similar to 2018. While the downstream demand was not strong, overall market condition was still better than expected given the unexpected plants shutdown of the world's largest AN producer Ineos in US, Germany and UK which had declared force majeure. Sales volume of MMA of 82K tons in 2019 was down by 1% from 2018 due to a weak demand of downstream end product, an unimproved oversupplied market, and the intensifying market competition. Sales volume of ECH of 95K tons in 2019 increased by 6% from 2018, which was benefited from the booming development of the wind energy and 5G industry and the stronger demand from downstream epoxy product.

In terms of capacity expansion, in order to strengthen its competitiveness, the Company has been aggressively expanding its capacities and conducting debottleneck projects, including the debottleneck project of PVC plant in Linyuan, which will raise its PVC capacities by 37K tons to 1,302K tons per annum and is expected to be completed and start production by 2Q20. And in Ningbo, the PP plant debottleneck project has increased its PP capacity by 30K tons to 522K tons after the project was completed in 3Q19; the AA plant debottleneck project, which increased AA capacity by 20K tons to 340K tons, was completed in 1Q20. And the SAP plant debottleneck project, will increase its SAP capacity by 10K tons to 100K tons after construction completed in 3Q20. The project of the new PDH plant will have 600K tons propylene capacity and is expected to complete and start production in 3Q21. The new HDPE plant in Texas, US has completed construction and started production since 3Q19.

Furthermore, in Kaohsiung, the Company's storage tank in Qianzhen District will be moved to the Phase II intercontinental petrochemical zone. The Company has rent the land and dock from Port of Kaohsiung Taiwan International Ports Corporation for petrochemical usage and

2019 China International Import Expo in Shanghai

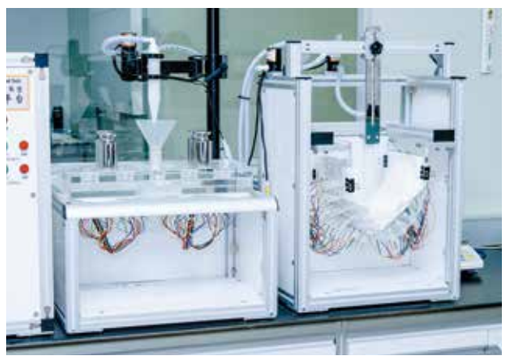
will build 12 storage tanks and 1 salt warehouse, which are expected to be completed in 2Q21.

In terms of equity investments, FPC-USA (22.66% owned by the Company) generated pretax profit of USD 750m in 2019, down 26% from 2018, mainly due to the slowdown of economic growth in major economies such as the United States and the European Union, as well as a number of new capacity in olefins and polyethylene capacities in North America, resulting in an oversupply market and the sequentially falling product prices. In 2020, while the US economy is expected to remain stable, business should decline comparing to 2019 given (1) the continued oversupplied market condition that leads to lower profitability, (2) a significant decline in China's economic growth hampered by COVID-19 could post risk to a further downside to its economic growth. However, following the completion of No.3 olefin plant (OL-3), the new PE packaging plant, and the pipelines for ethane and ethylene since 2H19, under a relatively low raw material cost advantages of ethane, propane and electricity, the FPC-USA's petrochemical products are still competitive. Moreover, other than the profit contribution from the new LDPE plant after its completion in 1Q20, the PE product line will be more complete and can fully meet downstream customers' needs with different products.

In addition, profit loss of Fujian Fuxin Special Steel Co., Ltd. (29.16% owned by the Company) in 2019 has further expanded from 2018 given (1) the rising tariff barriers due to US-China trade tension in 2019, (2) the slowdown in economic growth in China with shrinking demand and (3) market oversupplied due to pricing competition from Indonesia peers that led to poor ASPs in finished goods. Fujian Fuxin expects the global steel market demand should continue to decline as a result of the impact from COVID-19. However, Fujian Fuxin is expected to decrease profit loss as Fujian Fuxin will expand the sales in super ferritic stainless steel differentiated products, increase the hot rolling OEM for Formosa Ha Tinh Steel Corporation and sells under full production. In order to enlarge the synergy of vertical integration and enhance the competitiveness, Fujian Fuxin is conducting the new cold rolling mill plant project with 300K tpa capacity, and expects the plant to start production by end of 2020.

In response to global plastic restriction policies and rising environmental protection trends, the demand for biodegradable plastics continues to increase, but only a few manufacturers are producing upstream raw materials globally. In order to achieve social responsibility on a sustainable development, the Company has invested in a Taiwan leading manufacturer Minima Technology Co. Ltd. in 2019 with a 19.15% of shareholding. Minima Technology Co. Ltd. produces 4K tons of decomposable compound rubber particles annually. It mainly produces disposable consumer products such as tableware, paper cups, straws and other decomposable plastic products which are exported to Europe and the United States. It is expected to turn profitable as benefited from the rising trend of plastics restriction globally and the increase of its capacity to 20K tons after its Huwei plant in Central Taiwan Science Park commences production in 2Q20.

In terms of research and development, the Company spent NTD 2.2bn on R&D in 2019,



SAP Diapers Testing Machine

accounted for 1% of the Company's revenues. These R&D expenses were mainly spent on developing new formulation, improving production process, increasing product quality, conserving energy consumption, and developing human resources, in order to increase production capacity and lower cost. Meanwhile, the Company conducted R&D on industrial production technique and to commercialize specialty products including PVC emulsion for medical gloves, urinary system sensor test kit, HDPE cap & closure grade and for floating solar platform application, odorless SAP and applied to ultra-thin diapers with low pulp content, carbon fiber manufactured by dry-jet wet spinning technique, low-dissolution PP material for medical applications and impact copolymer grade for film grade.In 2019, the Company launched 48 R&D projects with an annual benefit of NTD 150m.

Moreover, the Company further enhanced the development of key technology and applied for both domestic and international patent. In 2019, the Company has received approval on 16 patents, and as of the end of 2019, the Company has a total of 162 effective patents. Meanwhile, the Company will continue to work with both domestic and international industry experts, government, and academic area, to strengthen academic fundamentals, R&D, virtual laboratory and talent development on production stimulation, as well as to improve the capability of molecular material design and production stimulation, and introduce the R&D digital management system. Moreover, the Company continues to enhance R&D team; focus on talent selection and sending abroad for training; deepen the cultivation of leading lecturers; accelerate the development of differentiated products and environmentally friendly green materials; and develop the techniques of the capture and reuse of carbon dioxide and water. Among them, the "Capture and Reuse of Flue Gas", which was a joint project with academic research institutions, was qualified to receive the subsidy from "the A+ Industrial Innovative R&D Program" by Ministry of Economic Affairs in January 2019. The automatic production line of dye-sensitized

Linyuan Complex

2019 Taiwan International Plastics, Rubber & Composites Show

battery in Shalun, Tainan, has successfully conducted a steady trial run in January 2020, and the Company will continue to promote the product application going forward.

On the operational safety and environmental protection front, the Company has always been putting equal emphasis on industry developments and environmental protection. As of the end of 2019, the accumulated investments on operational safety, environmental protection, and firefighting has reached NTD 24.2bn, which was mainly spent on controlling pollution, saving energy, reducing waste and greenhouse gases, and improving operational safety and firefighting. The Company's pollution treatment and emissions are better than national regulatory standards.

In 2019, there were 6 business units praised by competent authority. Among them, Mailiao VCM plant, LLDPE plant, AN plant were all praised by Yunlin County and Ministry of Labor for strong performance on occupational safety and health. Mailiao Branch even received the "Occupational Safety 5-Star Award" from Yunlin County given the three consecutive years of praise awarded. Linyuan PP plant obtained the role model award by Ministry of Economic Affairs for strong performance on energy conservation. Also, Renwu plant was praised by Ministry of Health and Welfare for strong performance on creating a safe and healthy working environment.

In term of water and energy conservation and greenhouse emissions reduction, in 2019, the Company accomplished 638 improvement projects. Total water saved amounted to 3,926 tons/day, while greenhouse gas emissions reduction reached 1,194K tons/year. Other ongoing 517 improvement projects would further conserve water by 5,214 tons/day and reduce greenhouse gas emissions by 147K tons/year.

Besides, in order to enhance operational safety, other than applying AI into the development of image recognition system to manage the safety of on-site construction, the Company also establish the GPS system for employee safety, and develop smart wearable devices to assist inspection and maintenance. Moreover, the Company continues to promote "Production Safety Management (PSM)" operations, equipment diagnosis, and continue to promote the "Execution Implementation SOP – Full Participation", "Advanced Simulation", "Night Emergency Drills" and "Production Hazard Analysis (PHA)" to reduce abnormal operation and to secure the operation. In addition, in order to strengthen the fire response capability, each plant has added "fire turret" and "advance smoke detection system". Moreover, in view of increasing environmental regulations, the Company has established short, mid, and long-term improvement plans to strengthen the control on volatile organic compounds (VOCs) leakage, and set up FTIR to monitor air quality instantly, conducted the improvement project on the elimination of white smoke for Renwu and Linyuan Utility plant, promoted zero-wastewater emission and kept PVC compound off the ground.

Looking into 2020, the continued slowdown of economic growth in China and the uncertainty brought by US-China trade tension will weaken global manufacture industry and investment confidence and hamper the global economic recovery. As the first phase trade agreement signed by China and the United States on 15th January 2020, the trade tensions between the two sides has been easing, as well as the worldwide major countries launched the continued monetary easing, the roll-out of fiscal policies and expansion of infrastructure investments to stimulate economy growth. However, the COVID-19 in China has led to a rapid shrinking domestic demand on the lockdown of cities. Besides, production could not be fully resumed due to the shortage of raw materials, logistics disruption, and the lack of labor force. These could all result in global supply chain disruption and the downside on economic growth. As COVID-19 has been spreading to the world, it is difficult to estimate the impact of the "butterfly effect", and the risk of future economic prospects is still high. Thus, global agencies have revised down their 2020 GDP growth forecasts for World and China which is worse than 2019 GDP growth.

Under the demand and supply situation, IHS forecasts that the global ethylene capacity will increase around 13.2 million tons in 2020, and the new capacity from the US and China will increase by 9.67 million tons (73% of total new capacity) to be among the fastest growing countries in terms of new capacity of ethylene. In terms of demand, based on the global ethylene demand growth of 1.3x of GDP growth, incremental demand should be 7million tons in 2020, and global ethylene market will be oversupplied. The ethylene production rate will be down to 87.5% from the upcycle peak of 90.3%.

Under the supply addition wave of shale gas investment, there are a total of 11 new ethylene plant projects with an annual capacity of 12.43 million tons. The peak of production start was during 2018-2019, and there were a total of 7 projects with annual ethylene capacity of 7.63 million tons (including the Company's 33%-owned investment company, Formosa Olefins, L.L.C., in the US with an annual ethylene capacity of 1.2 million tons) have completed construction and came on stream. While the remaining 4 projects with an annual capacity of 4.8 million tons will be completed and start operation in the next three years. As the key downstream products for these new ethylene plants are PE, it is estimated that the new capacity additions in these 5 years will reach 8.2 million tons. Due to the oversupply in PE market in North America, companies have cost advantage on low shale gas feedstock price, and most of the new capacities will primarily be exported. It is expected that the impact on petrochemical market in Asia will become serious increasingly in 2020.

Industrial Industrial Greenhouse Gas Reduction Results Presentation

As for China market, while its ethylene capacity will increase by 5.9 million tons in 2020, it is estimated that China needs to imports 20 million tons of ethylene to meet the growing demand, if imported ethylene and its derivatives are used to calculate the consumption of ethylene. However, in the 13th Five-Year Petrochemical Industry Planning, the refining and chemical investment projects led by private enterprises has accelerated its development towards "go large" and "go scalable". This will lead to an explosive growth in ethylene capacity in the next 3 years with additions up to 16 million tons and could result in a rising self-sufficiency rate for downstream petrochemical products with a narrowing gap between supply and demand in China.

In term of the market conditions of the Company's key product, PVC, as China has been raising their requirements towards environmental protection, controlling stringently over the expansion for coal-based PVC producer (with coal-based production accounting over 80% of total production), and phasing out the coal-based production that use high mercury as catalysts, the cost for coal-base PVC has been growing and even higher than that of ethylene-based PVC. If the price of ethylene falls in the future, the competitive advantage of ethylene-based PVC will further increase. As for PE market, due to the low self-sufficiency rate in China with a more than 40% of external dependence rate, and as impacted by the substantial incremental in ethylene capacity, it is estimated that the new PE capacity will reach 10.8 million tons in the next 3 years, accounting for 46% of the global new capacity addition of 23.5 million tons. Asia will become the Red Sea market going forward given the declining demand on the slowdown of GDP growth and the significant export volume of low-cost PE from North America. Furthermore, as impacted by the massive expansion of propane dehydrogenation (PDH) and naphtha crackers in China, it is estimated that the new capacity will be up to 9.8 million tons in the next 3 years, accounting for 57% of the global new capacity addition of 17 million tons. Although China's self-sufficient rate has increased year by year and has exceeded 80%, its downstream products are mainly the fiber grade and general purpose PP, which will not affect the sales of the Company's high-end differentiated products. Nevertheless, the rapid increase in supply addition will still pressure PP price and narrow the product spreads.

In terms of export, while China market accounts for 40% of the Company's exporting volume, it is not favorable for the sales of petrochemical products given the weakening exports and the production shift outside of China for downstream processing companies due to US-China trade tension and the spreading of COVID-19, as well as the slowdown in economic growth due to the serious problem of debt default. However, in order to alleviate the impact on the economy, China government continues to roll out policies such as tax cuts, monetary easing, and the promotion of infrastructure investments to achieve the goal of "expanding domestic demand and stabilizing investments." Therefore, the demand for petrochemical products in China should not diminish significantly.

Besides, the upcycle of petrochemical industry normally lasts for only 2-3 years in a 10-year industry cycle, which is evidenced by the booming periods during 1993-1995 and 2003-2005. The upcycle this time was driven by the economic and demand growth in China since 2015, which has lasted for 4 years and marked the longest period within the upcycle period. However, as the wave of supply additions globally in the next 3 years will be greater than demand growth, the outlook for the petrochemical industry in 2020 is not so positive.

In the new year, facing the gloomy global economic growth and the massive wave of new supply additions, the Company has prepared for the long resistance war to overcome the incoming challenges. In addition to deepening AI applications, the Company will continue to develop the R&D of forward-looking and high value-added products, aiming to become the No.1 player in the world. In the meantime, to strengthen long-term competitiveness, the Company has combined the foundations in the past on automation and digitalization and applied new technologies such as AI, 5G, quantum computers and block chain to promote the digital transformation of optimization in selling and production, the innovation of management, and improve the service quality.

Aside from this, there will be more days of maintenance shutdown for ethylene capacity in Taiwan in 2020 than that in 2019. The Company will seek for imports to cover the shortfall in raw material, aiming to reach the target of "full production and sales". Also, in response to COVID-19, and to match the demand for customer that has shift its production outside of China, the Company will implement flexible sales strategies, diversify market into emerging markets such as South Asia, Southeast Asia, Africa, New Zealand and Australia, set up overseas warehouses in Bangladesh and the Netherlands to strengthen the function of overseas technical service offices, and at the same time expand differentiated products market to improve business performance.

In addition, as taking the sustainable development of industry and environment into account, the Company will continue to promote circular economy, energy saving and carbon reduction, and develop the key upstream raw materials for green plastic materials, in order to fulfill corporate social responsibilities. In addition, the Company will aggressively promote the transformation program of Renwu Complex, other capacity expansion and debottleneck projects. Through the efforts above, the Company expects to strengthen its business, reverse the business downturn and to make the breakthrough of the challenges in 2020 and maintain a steady performance.

Nan Ya Plastics Corporation

2019 Taipei International Building Show

In 2019, Nan Ya Plastics Corp. (NPC) recorded a consolidated revenue of NTD 286.30 billion, 14.0% lower than NTD 333.06 billion in 2018; and a consolidated pre-tax income of NTD 26.69 billion, a reduction of 56.6% compared to NTD 61.53 billion in 2018.

Chairman
Chia-Chau Wu

In 2019, NPC faced fierce industry competition, with continued increase in competitors' capacity and market supply, and the trade war had also created negative impact in the world' s economy. The market adopted a strong wait-and-see attitude, and the overall performance reflected a difficult operating environment.

The four major product categories of NPC operations are plastics, chemicals, polyesters, and electronic materials.

With regard to plastic products, NPC has accelerated the research and development of new applications, new materials, and products that meet environmental protection trend and have unique specification, and increased the proportion of production and sales of differentiated and high-value products. NPC continues to transform and deploys automated monitoring equipment to ensure quality stability of production process, and together with e-commerce and online marketing, it has expanded into high-end markets such as the U.S. and Japan as well as potential emerging markets. With market expansion, sales increase, capacity utilization increase, cost reduction, the advantages of distributing production domestically and overseas in Taiwan, China, the U.S. ,and Vietnam, and timely adjustment of plants' production and sales, NPC strives to provide customers with satisfied services. The efforts of NPC have enabled plastic processing products to provide stable profitability.

In terms of petrochemical products, in line with vertical integration and division of labor in Sixth Naphtha Cracking Plant in Mailiao, NPC' s products, including ethylene glycol (EG), Bisphenol-A (BPA), 1,4-butylene glycol (1,4BG), plasticizers, phthalic anhydride (PA), 2-ethylhexanol (2EH), and epoxy resin (EPOXY), have been vertically integrated with upstream and downstream industries, thereby forming a complete supply chain, which supports the development of downstream industries such as polyester, electronics, and plastic processing, respectively.

With a slow global economic growth and negative impact of the trade war, the market demand decreased in 2019. With the increasing petrochemical capacity by China, price generally declined, with the prices of main products, BPA and EG, dropped by 30% compared to 2018, resulting in significant decrease in profit. In the future, NPC will respond to the change in raw materials and product prices, flexibly adjust its capacity, continue to drive process optimization, and improve its sales in areas outside China, so as to increase revenue and profit.

2019 China International Import Expo

TPCA Show 2019

In terms of polyester products, China-U.S. trade war and increase in crude oil price have made market competition more intense in 2019. The continued fall in price, and serious price-slashing situation by competitors resulted in sales not meeting expectation and a drop in profit.

NPC will continue to actively research and develop, monitor and control product quality stability, promote environmental protection, PET bottles recycling, biodegradability and green energy, and explore new application areas for products, so as to differentiate the market and expand scope of sales. NPC will enhance customer recognition so as to continue to increase sales and maintain stable profitability.

For electronic materials, with the ongoing development of various electronic product application devices since the fourth quarter of 2016, the active promotion of new energy vehicle in the world and construction of related infrastructure such as charging pile, the demand of electronic materials significantly increases, attracting companies to expand their investments, and resulting in increase in capacity. In addition, with China and the U.S. imposing higher tariffs on each other, decrease in home appliance orders, and increase in uncertainties of electronic product market, customers reduce their inventory and respond to urgent orders, and are more conservative in their placing of orders. However, due to the advance deployment of 5G communications infrastructure, mid and high-end materials demand increased, and 2019 overall revenue is only slightly lower than 2018.

The 5G infrastructure and the Internet will continue to develop in the future. With the related applications, it will drive the demand of electronic materials and upstream raw materials. NPC will actively promote differentiated products, increase sales proportion of mid and high-end materials for high-value-added and high-functionality niche products, to cater to the trend of market development. Also, it will make use of the advantages of complete upstream and downstream vertical integration, to flexibly adjust the capacities in Taiwan and China, driving the increase in revenue and profit.

Nan Ya Printed Circuit Board Corp., which is invested by NPC, has long been focusing on the development and production of circuit boards and IC package substrates. Optimistic with the demand of 5G infrastructure, it has taken advanced move in the development of related products. The sales of high layer and large dimension substrate for the related applications were strong in 2019. In addition, the demand for high-valued products such as System-in-Package for wearable device applications, and interposer for high-end mobile device was promising during the second half of the year, driving increase in profit, and hence successfully turned loss into profit. In response to future development trend of semi-conductor, it actively strengthens its research and development capabilities, recruits more research and development talents, speeds up the development of new products, and expands IC substrate capacity to meet market demand. In the future, the company will work closely with customers, get more niche products orders, and continue to enhance production technologies, improve yield and reduce cost, to improve operational performance.

Nan Ya Technology Corp., another company invested by NPC, is committed to the development, manufacture, and sale of dynamic random-access memory (DRAM) products. Though DRAM industry significantly slowed down in 2019, the company still maintained good profitability, and completed the product development and shipping of low-power 20 nm 4Gb/8Gb LPDDR3, 2Gb/4Gb/8Gb LPDDR4/4X, etc. It has also successfully developed 10 nm DRAM cell design,

enabling future DRAM products to continue to shrink in size for at least 3 generations. In 2020, it will develop first generation 10 nm lead products, DDR4, and DDR5 on its own technology platform, and is expected to gradually go into trial production after the second half of the year, in preparation for mass production the following year. This year, it will continue to focus on 20 nm product portfolio optimization to increase competitiveness, and increase process technologies, product design, and customer services capabilities, to meet market demand, and provide customers with best memory solutions.

Looking ahead to 2020, the environment is still disturbing. The world's economy has been affected by many factors, including trade war, technological war, currency war, and threat of armed conflict of geopolitics in the long run. Also, the virus outbreak that affects human health in the beginning of the year deepens the unrest in the market, suppressing the opportunities for economic recovery through new technologies development and application in the short run. If the various uncertain factors can be reduced in the future, the economy should be able to develop normally.

With the complex international situation, maintaining stable growth and profit is still the most important goal. Therefore, NPC will continue to actively push forward its four business focus:

(1) Market expansion: Based on the physical sales channels with the assistance of online marketing, NPC actively expands and separates the market. With the configuration of domestic and overseas production bases, diversion in sales channels, production capacity allocation, and market expansion, NPC carries out overall production and sales allocation, increases revenue, boosts capacity utilization rate, and reduces cost.

(2) Research and development: Besides developing new products with different characteristics to satisfy customer needs and market trend, NPC makes good use of the features of existing products to explore new application. It expands customer base and explore new markets to increase the proportion of differentiated and high-value products in the hope of increasing profitability continuously.

Synthetic Leather/Flexible PVC Film/Printed Circuit Board

EG Plant, Texas

(3) Circular economy: Implement reduction, reuse, and resource recycling, reduce raw materials and energy consumption from the source, and carry out resource integration across plants and companies, recycle energy, and finally recycle the waste generated, achieving recycling and reuse, and attaining the economic benefits of low consumption, low emission, and high utilization.

(4) Process optimization: NPC will continue to improve and upgrade its equipment, increase the efficiency of existing equipment/production lines, create maximum benefit with minimum investment, and actively implement AI to attain intellectualization in production process.

In the future, we will continue to make AI our priority, and make use of image recognition technologies to carry out product quality inspection and control, and conduct systematic gathering, processing, and application on the massive data, so as to optimize the control of process conditions, increase quality and reduce raw materials and energy consumption. We will also expand it horizontally to domestic and overseas plants to create greater benefits.

In addition, besides participating in the joint venture expansion in US Texas OL-3 and Louisiana at present, our total ongoing investments amount to approximately NTD 68 billion, including 14% in Taiwan, mainly in high-value copper foil, polyester film, PP synthetic paper, etc., and 86% in other countries, mainly in expansions of EG plant in the U.S.,which is about to be completed, as well as copper foil substrate, fiberglass cloth, printed circuit board, aluminum plastic film, and BPA plants in China. When they go into production, it is expected to generate an annual output of NTD 52.4 billion, which will drive the continued growth of NPC.

Formosa Chemicals & Fibre Corporation

2019 TITAS Textile exhibition in Taipei

The consolidated revenue in 2019 was NTD 315.5 billion, a decline of NTD 83.5 billion or 20.9% from NTD 399 billion in 2018. A primary reason for the reduced revenue, the sales reduced by NTD 33.5 billion, is the relatively more annual repairs taking place in production facilities and the accident at the third aromatic hydrocarbon plant. The selling price variance took a slide with NTD 50 billion short resulted from the impacts by the trade friction between China and the US on the market for petrochemical raw materials and the additional production lines for petrochemicals got into production in China as well as the increasingly conservative competition on the market. In terms of profit, the consolidated profit before tax was NTD 37.1 billion in 2019, a decline of NTD 24.9 billion or 40.1% from NTD 62 billion in 2018. Besides the abnormality encountered in the third aromatic hydrocarbon plant, the impacts were not only mainly from the trade friction between China and the US as mentioned above and the commissioning of the new production lines but also markets were thickly on the lookout, and prices of petrochemical products dropped significantly into the margin was far greater than that with the oil price and it led to the reduction in business profits.

Chairman
WenYuan Wong

The international economic situation was unpredictable in 2019. Geopolitical conflicts followed one another in the Middle East and the incessant disputes between China and the US in trade, among other factors, have undermined the growths in global economy and trade. In the first half of the year, the demand on the market for petrochemical products continued with the growing streak from 2018 and was growing steadily. In addition, the Company is known for its one-stop production system that covers the upstream, midstream, and downstream, with the competitive advantage of low cost, and we continue to promote product transformation and optimization of production and distribution towards market segmentation and product differentiation. Sales of petrochemical and plastic products went well. Petrochemical product prices were scaled up that benefited by the rise in the price of crude oil, thus the revenue and profits of the Company in the first half of the year were both stable.

In the second half of the year, however, trade protectionism took prominence in the US. Tariff protective measures against products imported from Mainland China were imposed in different phases. In response, Mainland China introduced protective means on the market, too. The trade friction between Mainland China and the US gradually spread to impact the global economy and seriously undermine the globalization

2019 Taiwan International Plastics, Rubber and Composites Show

inter-dependent production and manufacturing system to significantly impact the foreign trade-oriented economy in Taiwan, particularly the petrochemical industry that targets mainly the market in Mainland China. Meanwhile, under the slow growth of the global economy, therefore, the internal demand in Mainland China also appeared to be sluggish, the prices of petrochemical products plummeted as oil price slid quickly, and downstream customers were waiting and seeing and appeared to be conservative. The Company's margin profit also started to slide as selling prices of products continued to fall in the third quarter. In the fourth quarter, the supply and demand was imbalanced in terms of production and distribution on the market, due to the new built petrochemical production lines were commissioned in Mainland China, thereafter, the downstream companies purchased tenably volume to operate on low inventories, and there were sales on the market prices were not pretty. The Company was under the stress of pass-through of production costs that resulted in profitability turned weak, and the Company had to deal with major challenges in its operation. Although the Company continued to live up to its belief in circular economy by investing in research and development of innovative low-emission production technique-oriented energy-saving operation to try to reduce the cost and enhancing product sales service, the revenue and profitability remained quite harsh.

As for the consolidated revenue in 2019, the parent company's net revenue was NTD 151.6 billion, accounting for 48% of the consolidated revenue. Subsidiaries that contributed to the revenue included Formosa Industries Corporation in Ningbo, Formosa Industries Corporation in Vietnam, and Formosa Taffeta Co., Ltd., totaling NTD 163.9 billion, accounting for 52% of the consolidated revenue. It was the first time that these invested companies since their establishment had combined revenue greater than that of the parent company. Main contributors to the parent company's revenue are petrochemical and plastic products. Both combined had a net worth of NTD 137.9 billion, accounting for 91% of the parent company's revenue. Among them, petrochemical products totaled NTD 85.3 billion or 56.3% and plastic products NTD 52.6 billion or 34.7% respectively.

Respective major products were operated in 2019 primarily to ensure total throughput and production under the premise of production safety and water and energy conservation as well as reduced consumption and emissions, among other improvements in circular economy, continued to be promoted. Meanwhile, AI smart production based on big data was greatly promoted to hopefully further realize steady production and reduce the cost.

For aromatic hydrocarbon, SM, and phenol, the first aromatic hydrocarbon plant, the SM plant in Haifong site, and the synthetic phenol plant completed multiple water and energy conservation improvements taking advantage of the annual inspection to effectively reduce energy consumption and enhance production efficiency. The abnormal equipment in the third aromatic hydrocarbon plant has been repaired and multiple energy saving and carbon reduction equipment improvements were completed at the same time to significantly bring down the consumption of steam. In 2020, after that the new built petrochemical production lines are commissioned in Hengli Group and Zhejiang Petrochemical Co., Ltd. in Mainland China, the increase in the supply will further exacerbate the competition. Faced with challenges brought about by the new situation, the Company's petrochemical plant will continue to optimize the process and promote application of big data in AI process management to accordingly enhance production performance in response to the drastic changes on the market.

In terms of PTA and PIA, as production lines are added and commissioned in Mainland China, the supply has increased and selling prices of products took a slide. Despite the construction of new production lines to be commissioned continued for downstream polyester in 2019, the stress brought about by supply surplus on the market could not be covered; profitability bore the brunt. The PTA plant of the Company in Ningbo, with its optimal quality and steady lead time, has been trusted by customers. In addition, the processing cost has been significantly reduced following process transformation in 2018. The operating stress appeared to be not as intense as that in Taiwan facilities. In 2020, the PTA and PIA plants in Taiwan will first satisfy the needs on the domestic market. For exports, besides Formosa Industries Corporation in Vietnam, more markets outside Mainland China will be explored. The utilization rate will be adjusted reflective of changing market intelligence in order to improve the sales. Meanwhile, processes in Taiwan facilities will continue to be optimized to bring down the processing cost.

As far as plastic products are concerned, the globe economic growth slowed down and oil prices fell in 2019; raw materials and plastic pellets had undesirable outlooks. Downstream customers were mainly rigid demand-oriented. Demand on the market was sluggish. The Company took advantage of the low inventories kept by downstream customers and phased

Plastic Pellets

PABS plant in Ningbo, China

inventory replenishments with orders placed by making efforts to expand sales. As a result, the sales of plastic pellets in 2019 grew by 1.5% compared to those in 2018. Looking into 2020, faced with the speedy expansion of plastic product throughput in Mainland China, the Company will increase the development of high-value and differentiated products by creating market segmentation and exploring areas outside Mainland China in response. The ratio of sales of PS special grade pellets in 2019 already reached 43.8% and will further rise to 45.6% in 2020. In terms of ABS products, the ratio of sales of ABS special grade pellets from Taiwan facilities throughout 2019 was 31.5% and the goal is to enhance it to 32.2% in 2020 where high-value special products will be prioritized. The sales of special grade pellets from the PABS plant in Ningbo, Mainland China accounted for 26.5% in 2019. As business operation staff and technicians continue to promote application of the products, the sales will be smooth and are likely to continue with the growing streak. The goal is to enhance the ratio of sales to 28.1%.

In reference to PP products, the ratio of sales of special products in 2019 already reached 51.5%. To further maximize the market share, the goal is to have the product sales to grow by 10%. High-quality and high unit-price medical device materials and development towards high liquidity and light weight will continue to be promoted in order to enhance the value added of the products. As far as the PC products are concerned, the sales of special products accounted for 24% in 2019 and the profitability accounted for 68%; profitability was optimal. In 2020, the Company will continue with the high-value strategy for the PC sector to proactively diversify the market, to extend the optimal reputation of the Company on the market, and to proactively go with the customers demand for production and distribution. The goal is to have a growth of 30% in the sales of special products.

As far as textiles and fiber products are concerned, impacted by undesirable factors, such as the price cut competition in the exportation of textile products from Mainland China and the imbalance between supply and demand, among others, Taiwan facilities and the overseas re-investment Formosa Industries Corporation in Vietnam saw reduced sales of yarn and rayon fibers. In order to enhance profitability, the production ratio of green textile and fiber products will be increased. The niche market for recycled environmentally friendly filament and color filament, among other differentiated products, will be developed. Combining the brand channel along with the production demand of customers in the downstream and the fashionable trend on the market, the production and distribution plan and production model are adequately adjusted to form a marketing system where the upstream, midstream, and downstream are integrated.

In terms of sustainable operation, the Company has been emphasizing co-existence and co-prosperity between environmental protection and social development. Besides the continued adoption of the best available control technology (BACT) that is improving each year in terms of pollution prevention equipment, the Company was the first in the country to realize clean emissions and elimination of white smoke generated by its co-generation units. The emission quality is already comparable to that of a natural gas unit. Meanwhile, there is the real-time bulletin board set up outside each plant

The SM plant in Haifong site was awarded 'Water Resources Agency' by the Ministry of Economic Affairs

to facilitate supervision by residents in the neighborhood. In addition, in honor of the belief in circular economy, energy conservation and emission reduction were promoted to reduce carbon emissions and to make utilization of water resource sustainable, fulfilling the Company's corporate social responsibilities. In 2019, the AI technology was introduced to enhance energy conservation improvement efficiency. By 2019, the Company had invested accumulatively up to NTD 12.2 billion in the promotion of energy conservation and emission reduction; 4,914 projects on improvements were completed, saving a total of 94,200 tons per day of water in total and steam of 1,006 tons per hour, electricity of 117 MWH; the benefits combined totaled NTD 10.5 billion. In 2019, the PTA plant in Longde site received the Gold Medal of the 'Energy-saving Signature Award' from the Bureau of Energy, Ministry of Economic Affairs. The SM facility in Haifong site was awarded by the 'Water Resources Agency', Ministry of Economic Affairs for outstanding water conservation performance in the industrial division.

In light of the fact that the abnormalities having occurred at the third aromatic hydrocarbon plant in April 2019 were caused by undesirable equipment maintenance performance. Therefore, in August, the Company established its Sustainable Safety Mechanism Group to not only take charge of promoting environmental protection but also explore at depth blind spots in industry safety management and eliminate potential industrial safety risks. The improvement projects involving staff, equipment, and environmental safety as promoted in 2019 will be continued in 2020 to further fulfill the goal of safe production. In order to enhance reliability of equipment, the Company also collaborated with NACE anti-corrosion experts in creating the corrosion prevention mechanism. Meanwhile, releasing best examples of periodic PHA, JSA/SOP, MOC, and false alarm accidents and consolidating educational training for contractors and employees, among others, were the highlights.

For sustainable corporate operation, besides sound production equipment and safe production planning as well as optimal operational performance, the most important is to continue expanding investments. The new 200-thousand-ton PIA and the expansion of the existing phenol plant from an annual production of 300 thousand tons to 400 thousand tons were started in Ningbo, China in 2019. In addition, the plastics department expanded three composite plants across the Taiwan Strait increases the annual production to 132 thousand tons. All of these new investments will be completed in 2020. Meanwhile, in 2020, the investment in the ABS plant in Ningbo, China to add 250 thousand tons of production and the PTA plant to add 1.5 million tons of products will be started at the same time in 2020. All the equipment upon establishment features the latest and further refined production technologies that are currently available. The hope is that the newly built PTA, PIA, Phenol, and ABS plants are unparalleled in the industry in terms of production performance, quality, and production safety. The petrochemical plant in Louisiana, USA, a joint venture with Formosa Petrochemical Corporation, was already approved during environmental impact assessment in the beginning of 2020 and construction will be initiated in full force. Hopefully, they can further strengthen the Company's operation once completed.

Looking into 2020, the Company still needs to deal with the operation dilemma. Besides the gradually and steadily commissioned new petrochemical production lines in Mainland China to result in comprehensively more supply than demand, the spread of the novel COVID-19 in January seriously impacted the market order in the first half of the year. In addition, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership and the Regional Comprehensive Economic Partnership that will be signed this year will add to the unfair treatment Taiwan faces in more international free trade tariffs; Taiwan's industries will be in an inferior position while competing with its counterparts. The China-US trade conflicts yet to remit, the unpromising short-term prospects of the global macroeconomics, the slowing economic growths in major countries in Europe and America, and the persistent harsh challenges facing the plastics and chemical industries, on the other hand, have given the Company no choice but cope with the changes on the market seriously. The Company will continue to live up to its belief in circular economy by reducing the production cost and increasing investments in developing high-value, differentiated, and green products on the niche market. Under the premise of safe production, quality of products made better, processes more stable and production efficiency higher. The sales service quality is reinforced and so are the quality and quantity of high-value products in order to decentralize the market and to avoid price competition on the market. Meanwhile, the Company proactively promotes AI smart production and maximizes the application of artificial intelligence in process improvement and equipment safety forecast and diagnosis. Efforts are continued in the development of new AI applications and enhancing process integration and process management efficiency.

Formosa Petrochemical Corporation

Formosa Oil Gas Station (Linkou)

Revenue reached NTD 646 billion in 2019(-15.8% YoY). Income before tax reached NTD 44.9 billion in 2019 (-39.8% YoY). EPS came in at NTD 3.86.

Chairman
Bao-Lang Chen

Foreword

FPCC suffers from the sluggish economy caused by the trade war in 2019. While the 1st wave of petrochemical expansions in the U.S and China have gradually come online, the oversupply of downstream chemical products contributes to the shrinking margin. To respond, FPCC strictly enforces safety management on every step of the production process. We also pursue high efficiency and low carbon manufacturing by enhancing the energy recovery rate through artificial intelligence (AI). Furthermore, with the success of high-valued development and overseas investment, FPCC will hold positive attitudes toward future operations with no doubt.

Operating Divisions

(1) Petroleum Production Business

To maximize profit, FPCC's refinery manipulates the production rate of each oil product instantly bases on the spread. Daily throughput of crude oil reached 480,000 barrels in 2019(-4.7% YoY). The decrease was mainly resulted from longer turnaround days compared to the prior year.

The domestic oil market remains to be the priority. FPCC is continuously raising market share and increasing customer awareness in Taiwan by building more sales channels, holding marketing events during local festivals and collaborating with taxi unions.

Crude Tank

Olefine III

2019 Award of Excellent Water-saving Performance

For foreign sales, gasoline exported at 3.2 million kiloliters (-16% YoY) and diesel exported at 9.6 million kiloliters (-3.8% YoY). Lower refining margin was affected by the shrinking spread, increasing Official Selling Price(OSP) and soaring transportation cost.

(2) Basic Petrochemical Materials Business

Basic Petrochemical Materials business, deemed as the upstream plants in the vertical production chain which supply raw material to internal downstream units constantly. By utilizing economy of a scale, cost advantage along with flexible feedstock usage to achieve optimized production arrangements, FPCC enjoyed the benefits of inter-group collaboration. In 2019, the production volume for ethylene was 3.002 million MT, 2.5% lower from the previous year due to planned maintenance on Olefins Plant II, which has a greater production capacity.

With regard to the market, owing to the US-China trade war, the demand of petrochemical products decreased. The global new expansion is taking place, therefore additional new capacity leads to price drop then further resulting in profit decline compared to last year.

(3) Utility business

With a total installed capacity of 2,750 MW, the primary mission of our cogeneration units is to offer a stable and sufficient power to all units within the Mailiao complex. In order to reduce carbon emission, FPCC is not only devoting to improve the efficiency of turbine generators but to proactively adopt various kinds of advanced technology against pollution control. In the year of 2019, the utility business generated 19,802 KMT of steam and 14.1 billion KWH of electricity but overall production and sales decreased due to a longer duration of planned maintenance.

Domestic and Overseas Investment

FPCC keeps forming strategic alliances and joint ventures with renowned overseas companies towards high-valued and emerging business development. For high-valued business, a joint venture with Kraton Company in 2017, produces 40,000 MT HSBC (Hydrogenated Styrenic Block Copolymers) now enjoying great profitability.

Another joint venture project with Japan-based Idemitsu Kosan Co. Ltd, establishing a 43,800 MT annual HHCR (Hydrogenated Hydrocarbon Resin) production capacity was completed in 2019. In addition, for emerging business expansion, a joint venture with Japan-based Nikkiso Co., LTD., NKFG Corporation, was established in 2018. NKFG Corporation combines the latest UV technology to develop sterilization for home applications which are launched already.

For overseas investment, FG LA Sunshine Project located in Louisiana received an air pollution permit in January 2020. Now, the construction has started and the project progress will be managed in accordance with the construction plan. We expect this project will be convened as scheduled to successfully expand our scope of overseas business.

Environmental sustainability

FPCC will consistently adopt AI technology to various management and improvement measures to ensure industrial safety and reduce environmental impact. FPCC also strives to achieve a multi-win situation among the environmental sustainability and economic growth through resource recycle and energy conservation.

In 2019, FPCC finished a total of 250 improvement cases regarding water-saving (4,391 tons per day), energy-saving (6,577 KWH per hour) and greenhouse gas emission reduction (180.3 KT per year). In this year, FPCC received awards from Industry Bureau, Ministry of Economic Affairs, R.O.C. for contributions toward reduction of greenhouse gas emission and water conservation. Furthermore, 100 thousand tons per year of seawater desalination is under construction. Construction permit is received in August 2019, and the trial run is expected to be finished in the first half of 2022.

Concerning with air pollution prevention and control, to comply with the IMO 2020 regulation, Mailiao port has required all the vessels either entering or departing shall be LSFO-fueled. The port also completed the construction of shore power system allowing docked vessels to stop burning gasoil, thereby reducing the sulfide emission. Besides, to further control the air pollution, FPCC brought up two improvement projects; the first is the installation of wet electrostatic precipitators to reduce the emissions of PM2.5 and meet the ultra-low emission standards. And the second is the installation of heat recycling to eliminate the white smoke from co-gen units. The above two projects are expected to be commissioned before 2021.

Operating Sales Goals

In 2020, except for regular maintenance, our refinery and petrochemical units will be in full operation all year. And our estimated sales volume for gasoline and gasoil are 5.413 million KL and 10.361 million KL respectively. For export, FPCC proactively cooperates with oil majors and trading houses to expand our gasoline market shares in Singapore, Middle East, and Indonesia. New Zealand and Australia are also included but more incline to raise the gasoil sales.

In respect to petrochemical products, the expected sales volume of ethylene, propylene, and butadiene are 3.084 million MT, 2.475 million MT, and 379 thousand MT respectively. As for the Utility division, the key role is to provide consistent electricity and steam to meet the demand of all units in Mailiao Complex.

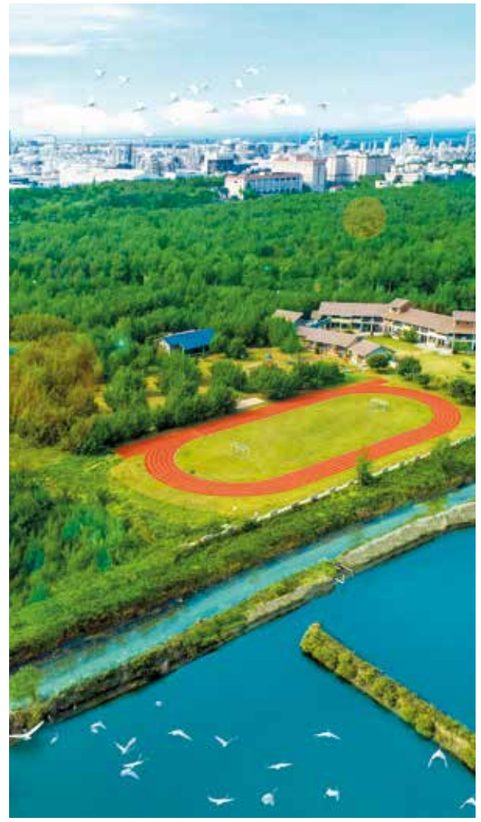
2019 Silver Award in Energy Conservation

Completion of Shore Power System

Outlook

Stepping into 2020, the US and China still have been wrestling with the trade dispute. What's worse, the COVID-19 seriously hits the global economy. Overall economic conditions are unfavorable, not to mention the promotion of renewable energy, the excess supply from the new capacities, and the much stricter environmental regulations. All these factors are shaking the fundamental outlook of the petrochemical industry and these also mean that we are facing a much tougher operating environment.

Under the external challenges, FPCC, together with all employees, will devote more to improving the performance of our core business. Internally, we are trying to expand the application of AI technology across production management so as to shorten the production and marketing cycle, optimize the processes, and finally reduce the cost. On the other hand, we also seek external opportunities to develop a successful global expansion strategy. The ongoing Sunshine Project provides the accessibility to low-cost feedstock and new sales markets. By expanding geographic business footprints, FPCC will step toward a more competitive company.



Local Ecological Conservation

Formosa Plastics Group-US. Operations

New LDPE Plant in Construction

Formosa Plastics Group's (FPG) U.S. operations consists of Formosa Plastics Corporation, U.S.A. (FPC USA), Nan Ya Plastics Corporation USA (NPC USA) and Nan Ya Plastics Corporation, America (NPCA). In 2019, the total revenues for this group of companies were USD 5.1 billion. This represents approximately a 20.0% decrease from the USD 6.4 billion in revenues achieved in 2018. The main reason for the decrease was the expansion of olefin and polyolefin plants in North America which caused the market supply to exceed demand and prices to fall. In addition, the global economy slowed down prompting the U.S. Federal Reserve to issue three interest rate cuts. Even with the slowing economy, sales from U.S. operations are stable and our petrochemical products are still competitive. Our continued competitiveness is due to a more advantageous pricing structure for ethane, propane and electricity resulting from low natural gas prices and reduced production costs. Furthermore, Formosa Plastic Group's vertical upstream and downstream integration provides additional stability for product manufacturing and sales.

Product quality, operational processes and production efficiency continue to improve in all three major product segments, Olefins and Polyolefins, Chlor-Vinyl and PET/Fiber. These efforts contributed to an advantage in cost positions and competitiveness in the North American marketplace.

In the Olefins and Polyolefins segment, our oil & gas operations are supplied with natural gas, ethane and propane by the spot market. In 2019, our olefin crackers produced 1,670,000 tonnes of ethylene and 660,000 tonnes of propylene. Polyolefins operations produced 1,270,000 tonnes of polyethylene (PE) and 920,000 tonnes of polypropylene (PP).

In Chlor-Vinyl segment, FPC USA produced 1,060,000 tonnes of caustic soda and chlorine. These materials were used by our ethylene dichloride, vinyl chloride monomer and polyvinyl chloride (PVC) operations to produce 1,490,000 tonnes of PVC resin. Using a portion of the resin, NPC USA produced 78,000 tonnes of rigid PVC film and NPCA produced 48,000 tonnes of flexible PVC film. The electricity needed to produce products in the Chlor-Vinyl segment was generated by the FPC USA Utility Venture.

In PET/Fiber segment, FPC USA produced the ethylene used by NPCA and NPC USA to produce 360,000 tonnes of ethylene glycol, 860,000 tonnes of polyester derivatives and 11,000 tonnes of PET Rigid Film.

Our marketing strategy balanced production and sales by focusing on our North American customers as our key focus while continuing to supply our export customers. In building customer relationships, we strategically selected specific product grades to expand our customer base. We also formed partnerships for new products through research and development. In North America, we focused on high-growth, high-profit margin segments across customers of different sizes. For the export market, we set up regional bonded warehouses and storage stations in Europe starting in the second half of 2019 to support the company's capacity expansions. In 2020, our goal is to sell 10,000 metric tons of polyolefin products per month in Europe. In addition, we continue focus on growth in Mexico,

Aerial Bird View of Point Comfort Complex, TX

Central America and South America by taking advantage of low freight costs.

Looking forward to 2020, the probability of the US economy falling into a recession is low and consumer spending is still expected to maintain momentum. Overall, the US economy is expected to be stable. However, other major economies, including the EU and China, have shown a downward trend. Although the U.S. and China have signed the first-phase of a trade agreement, the subsequent negotiations are still very variable. When coupled with the uncertainties of Britain's withdrawal from the EU, and the recent spread of new coronavirus influenza, China's Gross Domestic Product (GDP) growth rate in the first quarter has declined. The rapid decline has significantly reduced the possibility of global growth with the risk of further economic slowdown. Therefore, the outlook for 2020 is still not optimistic. Overall, we remain cautious as we continue to pursue the continuing cost advantage in U.S. petrochemical industry.

For FPC USA's phase 4 expansion, the High Density Polyethylene III plant, Olefins III plant, and polyolefin packaging plant completed construction and were put into operation in the second half of year 2019. The Low Density Polyethylene and Ethylene Glycol II plants are expected to startup in middle of year 2020. Completing the remaining expansion projects on schedule is a priority for FPC USA.

We have always had a core management goal of ensuring sustainable operation and growth. Achieving this goal depends on our ongoing efforts to emphasize environmental and safety management, human resources management, employee skills enhancement, new product development, and increase our sales and service capabilities – with a focus on long-term customers who demand excellent product quality and services.

We fully expect that these marketing and operational efforts will strengthen our presence globally, grow our market share and further increase profitability.

Other Investments

In addition to these four major corporations, the Formosa Plastics Group has many other affiliates.

Our domestic affiliates include:

NanYa Technology Corp., Nan Ya Printed Circuit Board Corporation, Formosa Sumco Technology Corp., Formosa Taffeta Co., Formosa Advanced Technologies Co., Formosa Heavy Industries Corp., Mailiao Power Corp., Formosa Daikin Advanced Chemicals Co., Ltd., Formosa Asahi Spandex Co., Hwa Ya Power Corp., PFG Fiber Glass Corp., Formosa Environmental Technology Corp., Formosa Idemitsu Petrochemical Corp., Formosa BP Chemicals Corp., Formosa FCFC Carpet Corp., Formosa Oil (Asia Pacific) Corp., Formosa Plastics Transport Corp., Formosa Plastics Marine Corp., Nan Ya Photonics Inc., Formosa Biomedical Technology Corp., Formosa Technology Corp., Formosa Lithium Iron Oxide Corp.,

Our overseas affiliates include:

Formosa Plastics Corporation, U.S.A., Nan Ya Plastics Corporation, USA, Nan Ya Plastics Corporation, America, Formosa Ha Tinh Steel Corporation and P. T. Indonesia Nan Ya Indah Plastics Corporation. FPG's investments in Mainland China include Formosa Plastics Corporation, Nan Ya Plastics and Formosa Chemicals & Fibre Corporation.

Formosa Heavy Industries Corporation

Fuxin Special Steel Company

Non-Profit Organization—Medical Care

Chang Gung Memorial Hospital

Chang Gung Memorial Hospital International Medical Center

Scan QR code to watch the video

The Cross-sector alliances between CGMH Proton and Radiation Therapy Center and NAR Labs National Space Organization.

In order to achieve the goals of "Raising the quality of service and controlling the reasonable medical cost", Chang Gung Medical Foundation has kept evaluating the circumstance and demand in Taiwan, and get to the bottom of every question to rationalize the patient – centered care, innovate the environment, provision the best quality of medical care, maximize the benefit of limited resource, and steadily improve the qualities of medical service of Taiwan for the past forty years.

Established in 1976, Chang Gung Memorial Hospital (CGMH) is now in its 44rd year of operation. Adhering to the belief of "What is Taken from the society is to be used in advancing the interests of the Society", we have overcome numerous obstacles during that timeframe. By integrating teaching, research, services and sound management,we have created an institution that serves the public as we strive toward upgrading the level of medical care and enhancing the well-being of the society.

Teaching

As a teaching hospital, we have launched cooperative programs with Major medical schools in the country to provide their interns with clinical training. We have also developed a highly respected resident training system designed to nurture highly competent attending physicians in different specialties. In 2019, 137 residents finished their training program at CGMH for promotion to Attending Physician. Over the years CGMH has graduated over 4,010 students to achieve excellent Performance in their respective careers in the medical profession.

Research

To encourage R&D, we provide funding for clinical research, basic Medical research and international studies for our medical, nursing, technical and administrative staffs. In 2019 we conducted more then 3,105 medical research projects under the commission of the National Science Council and the Department of Health. In addition, we provided Funding of NTD 3.95 billion, published nearly 2,757 papers in domestic and International journals and supported international studies for 38 research staff personnel.

Services

As one of the biggest general hospitals in Taiwan, both our facilities and our level of health care are on par with first-rate hospitals around the world. By the end of 2019, we offered 9,000 beds with health care services provided by over 23,900 employees. In 2019 we served over 9.48 million outpatients and admitted almost 324,000 patients for inpatient services.

Management

To achieve the goal of enhancing service quality and controlling Medical costs within reasonable limits, for over 43 years we have Constantly evaluated local conditions and needs, inquiring into the root of every problem. With patients at the center of our mission, we have embraced innovations allowing us to provide the best possible medical care,to make the most of limited resources and to enhance the quality health service in the country.

In terms of management, we follow the belief of Founder Wang and the spirit of 'inquire into the root of the matter and aim at the sovereign good'. In terms of service, one out of every three people in Taiwan has been a patient of CGMH. In terms of teaching,one out of every four doctors in Taiwan has been trained by CGMH. In terms of research,we publish over 2,700 papers a year in world leading medical journals We search for excellence in every aspect, establishing CGMH in the world arena.

In recent years, rapid changes in Taiwan's society and economic environment have increased the public's need for quality medical care. The change in the country's national health insurance policy presented Significant challenges to medical

Vision Center for Children With Special Needs

institutions. Chang Gung Memorial Hospital's spirit of social responsibility drives us to adopt every countermeasure possible to reduce the impacts and burdens of these changes as much as possible. As a result, 2019 operational income growth remained stable.Further, patients and the community have recognized the hospital's devotion to providing service and quality medical care.

Following the Founder, Mr. Yung-Ching Wang's idea, Chang Gung Medical Foundation has dedicated ourselves in consolidating work flows, human resources and facilities with technology to assist the operation and improve the quality of medical service. We have also made efforts to implement Electronic Medical Record and Smart Hospital policies in order to enhance medical information security, becoming the first private medical system to acquire ISO 27001 Certification. Chang Gung Medical Foundation will continue the use of Informatization as a systematic strategic tool, becoming a tech-savvy and information-based organization.

Linkou Chang Gung Memorial Hospital has become the first hospital to pass the Stage 7 field certification on the Electronic Medical Record Adoption Model (EMRAM) of Healthcare Information and Management Systems Society (HIMSS). The level of Informatization is highly appreciated and approved by the committee representatives of third party verification entities.

The Electronic Medical Record is to use a paperless and structural medical record system to provide information during the process of medical care, helping patients to be treated safely, keeping us aiming for excellence to make sure that the patients and their family will get the best medical service.

Since 2004, Chang Gung Medical Foundation has started implementing Electronic Medical Record to assure the quality of recording, preserving, using and maintaining the medical records in the foundation. We also follow the "Methodology of Preparing and Managing Electronic Medical Record in Medical Institutions" to implement paperless medical records, reaching the 100% paperless target in the end (excluding forms from outside entities and documents that require patients' signatures).

The entire foundation has reduced the total cost of 180,000,000 and may preserve the time to care the patients, improving the efficiency and quality of medical work flow. We have also drawn the "Medical Records Hierarchical Preservation Policy" to regulate the preservation, read, and replication process, ensuring the proper protection of patients' privacy and the rights to access medical service.

In the area of organ management,we continue to promote the Concept of organ donation and perform organ transplants. In 2019 CGMH received organ donations form 110 people and performed organ transplants that included 112 cornea cases, 10 heart cases, 11 lung case 94 kidney cases(include 31 case of vivo transplant), 221 liver cases(include 168 case of vivo transplant). The hospitals also handled 2 anatomical pathology cases, and 6 body donations.

CGMH has also been active in providing advanced social services. In 2019, CGMH provided relief to over 4.02 million patients, CGMH have taken an active part in Social welfare such as Charity project of sport medicine, Mobile health care project for rural schools in Yilan County, The protection of children and youths program, Health care system of communities in Yunlin County, Telemedicine service, Medical volunteer programs by employees, etc.representing An outlay over NTD 846 million from our social service fund.

Our facilities have expanded our service area and fulfilled the aspiration of Founder Wang to care for both the young and the elderly. For example, recognizing the specialty services for children in Taiwan were inadequate compared with those offered in other advanced nations, CGMH established children's hospitals in Linkou and Kaohsiung in 1993 and 1995, respectively. These hospitals have trained pediatricians of various sub-specialties and treated numerous acutely or critically ill children in these regions.

In addition,in 2003 we established a hospital for patients with Chronic illnesses and a nursing home in response to the aging population in Taiwan, where over 12.5% of the population is over the age of 65 and face a lack of long-term care facilities. Other efforts to address this issue included the establishment of a health culture village to provide the elderly with proper and comforting care. Given that medical resources in Taiwan were relatively scarce in the Chiayi and Yunlin district,in that community we built Chiayi and Yunlin branch that opened in December 2001 and December 2009.

For the proper care of cancer patients and to protect people health, we invest billions of dollars to set up the Asian first and largest Proton radiation therapy center at Linkou Y.C.WANG Center for Advanced Medicine. Had started service since Nov 2015； We have also set up YUNG-CHING Premier Ccancer Therapy Center and provided proton radiation therapy at Kaohsiung branch since Oct 2018. In the view of Founder Wang,after five thousand years of development Chinese medicine is an invaluable asset that reflects the amalgamation of wisdom and experience of our ancestors and warrants being carried forward.thus, in 1996 we became the first among large medical centers to set up a Chinese medicine department at our Linkou medical center and started at our other centers. In practice, we will unite the concepts of Chinese medicine with modern scientific techniques and methods of Western medicine to care for the health of the public.

CGMH has rated No. 1 of most Yearning Enterprise of Medical and Biotechnology for three years in a row in Taiwan.

Non-Profit Organization—Education

Chang Gung University

Chang Gung University Campus

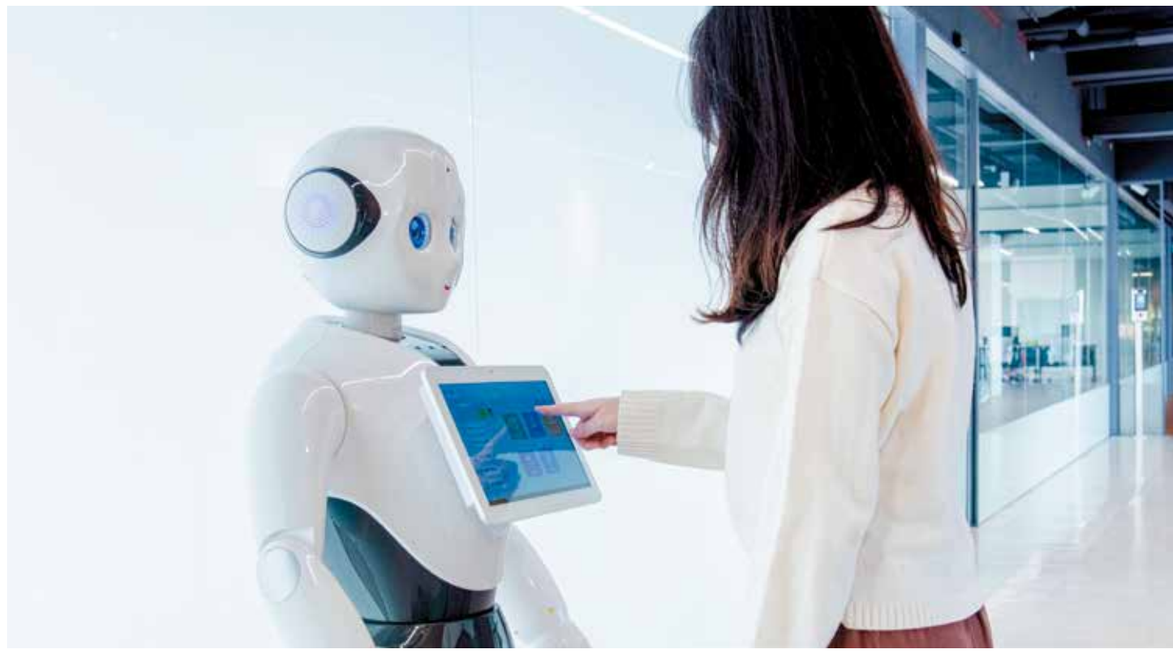
From the very beginning of the establishment, Chang Gung University has been planning long-term curricula and academic research programs under the educational motto of "Diligence, Perseverance, Frugality, and Trustworthiness". These endeavors have helped the university achieve its goal of "combining theory and practice in education programs". In addition, efforts have been made in pursuit of excellence in instructions and academic research and long-term promotion for holistic education of its students.

Chang Gung University was established in April 1987 under the name of Chang Gung Medical College, with the aim of preparing future outstanding medical professionals. In order to support the economic development of the nation, Chang Gung Medical College later introduced the engineering and management programs to prepare young talents in these fields, and was renamed to Chang Gung College of Medicine and Technology. In August 1997, the Ministry of Education formally approved the name change to Chang Gung University. At present, Chang Gung University has three colleges: Colleges of Medicine, Engineering and Management and includes 19 departments, 1 bachelor's degree program, 23 master's programs, 7 master's degree programs, 12 doctoral programs, and 1 doctoral degree program.

There are 582 full-time and 611 part-time faculties and preceptors currently. CGU has 6,834 students, including 5,095 undergraduate students and 1,739 postgraduate students. In addition to classroom learning, students are required to participate in various internships and cooperation programs with Formosa Plastics Group, Chang Gung Memorial Hospitals and other institutions in order to achieve the goal of "combining theory and practice". There are plenty of opportunities for various practical training or work-study programs available to students during semester breaks. These programs are designed to allow them to gain working experience and to develop proper working ethics before graduation. The university has also introduced over 32 academic programs, including the Biotechnology Management Program, the Long-term Care Industry Program, the Program of Information Security with Medical Applications, the Reliability Science and Technologies Program, the Clinical Trials Research Program, the Program of IOT and Bioelectronics Applications, the Smart Manufacturing Program, and the Artificial Intelligence Program, just to name a few. These programs are also available to the students who desire to develop additional expertise or secondary specialty in addition to their major programs. Graduates of Chang Gung University have proved their abilities and competence at work or during their advanced studies; they also are well liked by their employers because of their devotion and ethics displayed in the workplace.

AI Innovation Research Center

Graduate Institute of Clinical Medical Sciences Student's Laboratory



AI Innovation Research Center - AI Enabled Usher

With annual research funding exceeding 1.4 billion dollars, Chang Gung University's interdisciplinary research focuses on molecular medicine, healthy aging, radiation medicine, reliability sciences and technologies, artificial intelligence, emerging viral infections, clinical informatics and medical statistics, molecular and clinical immunology, biomedical engineering, and green technology, with the core research fields in biotechnology and medicine. In addition, several university-level and college-level research centers, key laboratories, and technology platforms have been set up to carry out comprehensive fundamental and applied research and development in proteomics, genomics, bioinformatics, and metabolomics, etc. Our research results have gained both domestic and international recognition. For example, Distinguished Chair Professor Fu-Chan Wei won the Presidential Science Prize. Chair Professor Yu-Sun Chang won the 63rd Academic Award of the Ministry of Education. The R&D Technology Exhibition of the 2019 Global Science and Technology Leaders Forum which was hosted by the Ministry of Science and Technology featured our research on mechanocardiogram. The Molecular Medicine Research Center continued participating in the US Cancer Moonshot Program. The Research Center for Emerging Viral Infections signed a technology transfer contract with the Sun-Biotech, a Singapore-based vaccine company, to develop new vaccine against the Enterovirus. The Institute for Radiological Research signed a memorandum of agreement (MOA) with the Linkou Chang Gung Memorial Hospital and the NARLabs' National Space Organization.

Chang Gung University places emphasis on the equal development of morality and literacy, professional abilities integration between the individual and groups, and harmony between body and mind. Students are expected to develop into well-balanced individuals by following the "Learning by doing" philosophy. Besides, indicators including caring and giving, teamwork, humanity and art, self reflection, self discipline, and innovation and progress, etc. are used to measure the effect of holistic education. These endeavors are made to ensure our students to transform into individuals who have balanced development in all aspects, have moral integrity, and maintain their principles.

Chang Gung University aims to develop into a top-notch university with distinctive global vision. The University will keep enhancing teaching and research in various fields, continue working on industrial innovation, and facilitate academic exchanges with international institutions in response to social demands and trends. In addition, the university will persist on edification of its students by encouraging them to care for humanity and to devote themselves to serve. The university's mission is to educate good young generation to develop sound personality, to acquire specialized knowledge and skills, to possess excellent learning capabilities, and to believe in lifelong learning.

Microscope center - Transmission electron microscope

Non-Profit Organization—Education

Chang Gung University of Science and Technology

Formosa Biomedical Technology Corporation's (FBTC) " I - Health Monitoring System "

The Chang Gung University of Science and Technology began in 1988 as a two-year nursing junior college. It was founded by Mr. Yung-Ching Wang and named after his father. The University, with the aims of elevating the quality of medical and nursing practices and fostering nursing professionals in Taiwan, commits itself to nurturing in its students such qualities as endurance, reliability, diligence and sincerity. Indeed, these four words are the motto of the University.

In 1989, an evening nursing degree program was launched, followed by a five-year junior nursing program in 1991. In 1996, the two-year Child Care and Education Program was established. In 2000, the Department of Information Management was created. Two years later, in 2002, the school was upgraded by the Ministry of Education from a Junior College to an Institute of Technology. In order to respond to a growing demand for medical and nursing services in the Chiayi and Yunlin areas, the additional Chiayi Campus was established in January 2003. In 2006, two new departments were established: the Department of Cosmetic Science on the original Linko campus, and the Department of Respiratory Care on the Chiayi Campus. To cope with a rapidly growing elderly population and to meet the changing needs of senior citizens, the Department of Geriatric Care and Management was founded in September 2008. In the same year, the Graduate School of Nursing (Chiayi Campus) was also launched. The Department of Nutrition and Health was founded a year later, in 2009. In August 2011, Chang Gung Institute of technology CGIT was transitioned to Chang Gung University of Science and Technology (CGUST). Graduate Institute of Health Care was founded in 2012, Graduate Institute of Health Industry Technology was founded in 2013, and the following year, Graduate Institute of Nursing (Linkou Campus) was inaugurated in 2014. In June 2017, the Ministry of Education approved to merge the Gerontological Care and Management and Graduate Institute of Health Care to form the Department of Gerontology and Health Care Management since August, 2018.

The University educational scope has been broadened gradually, and its growth clearly reflects the soundness of the University central tenet. Currently, the University employs 273 full-time teachers, and 6,437 students are enrolled. With additional expansion of excellent academic programs over the years, the University seek to nurture best professionals in the field of health care industry.

The University is a health sciences university that places an equal emphasis on both research and teaching performance. Founded to support commitment to humanity and integrity, its vision is to be, in every aspect of health care, the highest-quality school and the source of the highest-quality nurses entering the field. In order to develop in its students the spirit of diligence and endurance, and to enable them,

Geriatric Health Education

Cognition Promotion Area-Playing Table Games

Muscle Endurance Training Area

in both theory and practice, to apply that spirit for the benefit of society, the University has cooperated with Chang Gung Memorial Hospital, the Formosa Plastics Group, and 334 other organizations to provide students with a wealth of internship opportunities. The students are thus offered chances to accumulate work experience and hone their skills. This strategy is designed to help students achieve the educational goal of combining work experience with classroom knowledge in a solid way, thus placing them in an advantageous position in today' s competitive job market.

Moreover, the University has implemented a mandatory boarding school policy in order to pursue integrate school education with guidance and discipline. Based upon the belief that ethical and moral education is developed in daily life, the policy aims to promote all-rounded development of students, cultivate students to become good-tempered and modest, respect for life, and concern for society. The students are envisioned as professionals endowed with love and patience.

Within the aspect of academic research, the University encourages teachers to participate in research projects in cooperation with the government, Chang Gung Memorial Hospital, and the Formosa Plastics Group. Efforts in cooperative research projects with other industries are strongly encouraged as well. In the academic year of 2019 alone, the university received 209 Industry-University Collaboration Projects with total grant of nearly NTD 154,930,000 . The results are listed as followed. Grant of NTD 41,858,357 from the Ministry of Science and Technology for 46 research projects, and a grant of NTD 33,346,655 from governmental offices for 60 research projects. In addition, grants totaling NTD 79,722,841 were accumulated by 103 cooperative projects between the University and the private sector.

In response to the rapid changes in society, the University is dedicated to improving its administration, with personnel as its central consideration. Moreover, the learning environment is being improved to support the ideal of providing quality health care for the general public. In the future, the aim of "being the best" will continue to guide the development of the University administration, teaching, research, industry cooperation, and student development. The Chang Gung University of Science and Technology continuously strives to foster top-quality professionals who provide the best professional education.

Oral Hygiene Care

Non-Profit Organization—Education

Ming Chi University of Technology

Ming Chi University of Technology Campus

In the 1960's while both the industrial and economic developments were taking off in Taiwan, there was a lack of mid-level professionals in the industries. In response to the developmental needs, Mr. Y. C. Wang and Mr. Y. Z. Wang, the founders of Formosa Plastics Group, donated the funds for the establishment of the University in December 1963 in order to strengthen the cultivation of talents.

The University is located on the hillside of Kueizi Village in Taishan District, New Taipei City and was originally named "Ming Chi Institute of Technology." The campus occupies an area of 62 hectares with vast green areas and beautiful yet tranquil sceneries. More than 200 years ago, during the reign of Emperor Chienlong in the Ching Dynasty, the "Ming Chi Academy," founded by a Tributary Scholar, Mr. Hu Cho-yu in Southern Fukien, was located in the vicinity of the University. At that time the Academy was a center of intellectual and cultural hub and was also the cultural origin of northern Taiwan. This university was named "Ming Chi" with an aim to encourage the faculty and the students to learn from the virtuous elders and to embrace heritage and vision as their own mission.

With the exceptional operational performances and in response to the need for talents due to the economic development and the industrial advancement in Taiwan, the School was approved in 1999 for its transformation into "Ming Chi Institute of Technology." After being awarded Excellence by the annual evaluation conducted by the Ministry of Education (MOE) for six consecutive years, the Institute was approved again in 2004 for its further transformation into "Ming Chi University of Technology." The University currently hosts 4,572 students (4,055 students in the day division and 517 students in the continuing education division), 194 faculty members, and 114 staff members. The University includes the College of Engineering, College of Environmental Resources, and College of Management and Design, offering 11 Masters' programs, two Ph.D. program and 10 departments. All the departments and graduate institutes have passed the certifications of IEET (Institute of Engineering Education Taiwan) and ACCSB (Accreditation of Chinese Collegiate School of Business), showing that the University's educational system is on the international track.

Due to the fact that all the units of MCUT received top rankings and the school was ranked number one nationwide in the 2011 MOE Evaluation of Technological Universities, MCUT was approved to self-evaluate since 2016 instead of being evaluated by the MOE. In that year, MCUT passed the MOE evaluation on technological university affairs and self-evaluation on colleges. According to the data collected from Web of Science, MCUT ranked the third among all the technological universities and colleges in the year of 2019 in producing SCI/ SSCI papers per author, including assistant professors and above, and ranked number one among all private technological universities nationwide. Surface and Coatings Technology in 2019 announced that MCUT ranked number seven worldwide in terms of the cumulative number of articles published in that journal from years 2016 to 2018. In 2018, the Institutional Research Center was established to develop a data-based decision-making model to implement efficient

Semiconductor Processing Lab

and effective school management systems and pursue sustainable school administration. The average amount of subsidies per student at MCUT received from the MOE (including MOE grants, Teaching Excellence Program funds, and Higher Education Sprout Project grants) has led other funded technological universities for years. MCUT, which has been awarded certificates of information security management system (ISMS) ISO-27001, and environmental management system (EMS) ISO-14001 every year, is an outstanding technological university with excellent traditions and achievements.

The motto of the University is "Diligence, Perseverance, Frugality and Trustworthiness." In terms of "Diligence and Perseverance," we expect the students not only to work hard but also to do the right and useful things. Students are encouraged to build their wisdom and enhance self-confidence through the accumulation of such useful experiences. When students live simple and honest lives, they can concentrate on the pursuit of their life goals. Based on this foundation and equipped with the professional knowledge and skills, all our students are expected to become useful members of the society. Since its founding, faculty members and students have lived continuously on campus. Through this shared on-campus living, we can encourage students to maintain a regular life, strong body and mind, while fostering grounded characteristics and good moral character. The Mindfulness Center was established in 2016. A selective course of Mindfulness for general education was offered to help students boost their concentration and observation. In 2018, the general education course "Design Thinking" was offered to guide students to develop interdisciplinary skills, to inspire their creative thinking, and to lay the foundation for them to explore practical problems and solve problems in the future. In 2019, MCUT was awarded the "Excellent Green Procurement Performance" school by the Environmental Protection Department, New Taipei City. Moreover, since teachers also live on campus, they can better guide students and live up to the standards of propagating the doctrines of the ancient sages, who would not only teach but also clarify any doubts.

In order to take both theory and practice into account, and to help students develop the spirits of self-supporting, hard working, and endurance, the University practices the teaching model integrating regular classes and internship in four years. Students are arranged to take turns participating in the full time practical internship program for one year in the Formosa Plastics Group taking part in the co-op practical training program. This allows the students to receive wages from the practical work so that they could reduce the financial burden of their families and complete their studies. Through the internship and practical work, students are able to learn the techniques relevant to their professions as well as the practical management skills, and from the physical works students are also able to experience the meaning of diligence, perseverance, frugality and trustworthiness and develop the attitude of being down-to-earth and always getting to the bottom of everything. The overseas internship system is unprecedented. Presently the practical training program has expanded to various industries and companies in the U.S., Switzerland, Mainland China, Indonesia and Vietnam. The amount of students working overseas has accumulated to 593 till now. Moreover, Ming Chi has been selected to establish a project office to facilitate nationwide vocational schools in offering co-op practical training programs. The practical training program has expanded to various types of industries with over 150 companies participating in the program. Students' performances are highly accredited in the industry. The University has also received lots of recognition of "Excellent Performances in Industry-Education Cooperation" evaluated and selected by the Chinese Institute of Engineers. The discrepancies between education and the employment in the business field are effectively eliminated, realizing the educational goals in connecting industries and education. According to the 2019 university ranking released by Global Views Magazine, Ming Chi ranked number one in the technology category of comprehensive universities among all other private technology universities. The Ming Chi alumni of the past years have received positive affirmation from the academic, industrial, and business fields. In addition, to continue the founder's spirit of caring the financially/physically challenged, Ming Chi has been offering scholarships of NTD 140 million accumulated until now.

Beginning from the academic year 2004, the University started to recruit aboriginal students in the four-year college in order to extend our concerns for the aboriginal students. The University has funded the aboriginal students up to NTD 430 million. This program has gained much appreciation from the aborigines and acclamation from the public in the society. Moreover, in coordination with the needs in lifetime learning and returning education for technical training, the University

Functional Atmospheric Plasma Lab.

provides assistance for the enterprises in employee training as well as career guidance for young adults of the society. Meanwhile, in order to satisfy the needs of the alumni and members of the society in continuing education, the Division of Continuing Education was established. This Division has offered continuing education credit courses, in-service courses, and community university courses for the residents of Taishan District, on-the-job master program as well as industry-university cooperation program. In 2016, Dual Award Master's Degree Program was offered between Ming Chi and University of Cincinnati. Further in 2017, Ming Chi together with National Taiwan University of Science and Technology set up dual award Ph.D.' s degree program. The "Steel Industry Program" was offered in the same year by Ming Chi, Formosa Ha Tinh Steel, and Da Nang University. In 2019, Dual Award Master' s Degree Program was offered between Ming Chi and Northern Illinois University. MCUT has signed more than eighty sister school partnership agreements with overseas schools striving toward a goal of globalization.

After the institute was upgraded to the university level, in addition to the usual devotion in the maintenance of the existing educational beliefs and practice, the University also focuses on "Industry-University Collaboration." The University has frequently been honored by the Chinese Institute of Engineers for its excellent practices in industry-university collaboration. The iAuto team from Taiwan, consisting of Ming Chi University of Technology, National Taiwan University, L. L. iAuto Technology LTD, the Formosa Plastics Transport Corporation, and Industrial Technology Research Institute, took the runner-up prize in the 2019 Dubai World Challenge for Self-Driving Transport. According to the statistics released by the Ministry of Science and Technology (MOST), Ming Chi has ranked number three for consecutive years among the private technology universities in the category of the average amount of funding per project director. MCUT ranked number three in 2018 among all technological universities and colleges nationwide for securing the average amount of intellectual property rights per project director, including assistant professors and above. In the same year, MCUT also ranked the third among all the technological universities and colleges nationwide in the average amount of conducting public and private Industry-University Collaboration projects per project holder, including assistant professors and above. Those honors demonstrate the fruitful results of developing collaborative relationships with industry partners. In recent years, by means of continually integrating the resources of various colleges, nine research centers have been established: the Biochemical Engineering R&D Center, the Center for Plasma and Thin Film Technologies, the Chinese Herbal Medicine Center, the Battery Research Center of Green Energy, Organic Electronics Research Center and Center for Reliability Engineering, Research Center for Intelligent Medical Devices, Artificial Intelligence and Data Science Research Center, and Center for Environmental Sustainability and Human Health. The faculty and students are always encouraged to participate in practical researches and to provide industry-education services for the enterprises. With the development of internship opportunities, the industry-university collaboration relations are actively being built. Via the diverse channels of intern students, guidance teachers, specific research centers, the Industry-University Collaboration Center, and the Innovation and Incubation Center, we are able to achieve close cooperation with the industries and improve the quality and quantity of the research, and further contribute the research results to the industries. While the educational functions as well as the advancement of technological power in the industries are achieved, a win-win situation is also created.

Education is the foundation of a nation and its importance is hardly surmountable. Ming Chi looks for "perfection" in every aspect including school administration, research, industry cooperation, and the development of personal integrity of the students. We seek the best for everything we do, and pursue self-improvement at all the times. We hope to contribute to help the entire economic development of the industry through the cultivation of professionals with sound personality, and set our goal for a new model for the vocational education in Taiwan.

HEADQUARTERS

No.201, Dunhua N. Rd., Songshan Dist.,
Taipei City 10508, Taiwan (R.O.C.)
Tel : 886-2-27122211
Fax : 886-2-27178412
http: //www.fpg.com.tw

FORMOSA PLASTICS CORPORATION, U.S.A.

9 Peach Tree Hill Road,
Livingston. NJ 07039, USA
Tel : 1-973-992-2090
http : //www.fpcusa.com

2020.6.2900.34