

V. Operational Highlights

5.1 Business Activities

5.1.1 Business Scope

A. Business Scope

Business Scope	Sales %
Industrial Products	54%
Home Appliances	15%
Construction	6%
Others	25%
Total	100%

B. Products and service nowadays

a. Industrial Products Business

- Medium to large voltage motor (100-100,000 HP)
- Low voltage permanent-magnet motor (3-120HP) & Induction motor (1/4-300HP)
- Motor for electric vehicle(1-270 HP)
- Gear reducer
- Medium to large voltage inverter (200-12,000HP)
- Circuit breaker (50-1600AF/2.5Ka-100kA)
- Magnetic Contactor(7-630A)

b. System Automation

- Servo system
- Programmable Logic Controller (PLC)
- Human Machine Interface (HMI)
- System integration for robot

c. Home appliance and air conditioner

- Air-conditioning (air conditioner, chiller)
- Large size home appliance (fridge, washer, TV)
- Small size home appliance (inverter DC fan, air purifier, vacuum, blender, microwave, oven)

d. Mechanical & Electrical Construction

- Electrical and mechanical engineering (provide project management, design, procurement, construction and maintenance service)
- Electric equipment (switchboard, generator set, power distribution equipment, management, design and construction service for energy distribution system)
- IDC construction
- Charging station for electric vehicle

e. Other

- Electric vehicle
- Photovoltaics
- EMS
- Electrical and mechanical management system
- Energy saving and intelligent supervisor service for air quality

C. New products development

a. Industrial Products Business:

High Power Density Induction Motor, North America general purpose motor, NEMA Premium Crusher Duty Motor, medium voltage Exd explosion-proof motors, the development of the large sized motor with high pole for water circulating pump in power plant and water resource, the induction motor with the largest power, density and voltage, IE3 high-temperature exhausting motor, high voltage explosion-proof motor, JIS IE4 motor, GBI IM motor, CNS IE3 Exd T4, smart motor and auto motor, IE3/4 high efficient IMD, Integrated Motor Drive, IE4 permanent-magnet moto, ammonia refrigerant resistance induction motor, Forced Ventilation(IC416) Ex nA tD Explosion-Proof Motor, CNS IE3 Exd T4 explosion-proof motor (6/8 poles,) Steel rolling motor.

b. Home-appliances business:

In line with the core values of "energy conservation, emissions reduction, intelligence and automation" for new product development, the home appliances business division has developed entire-range air conditioners and fully smart home appliances, Offer complete solutions for cloud-end applications. Set up environmental sensing network by combining the environmental temperature/humidity sensors of the company's air conditioners, refrigerators, and dehumidifiers, plus addition of human body-sensing, PM 2.5, and VOC components, according to product features. Establish smart Internet-access modules to furnish home appliances with remote monitoring function by integrating smart communications structure and developing TaiSEIA technology. Provide optimal environment air management. In the establishment of energy information system (EIS), carry out optimal power-demand control and -operation management via the combination of distributed treatment of controllers and combination of graphic-control software and the Internet. Application in social care, public construction, and BEMS and HEMS, leading to materialization of low-carbon society. In the light of the restriction from government, CSPF, the technology and system of domestic and commercial air-conditioner will be upgraded and integrated. Other projects underway:

- I. All variable-frequency home appliance attain the government's grade-1 CSPF in air-conditioning seasonal performance factor and employs high-performance energy-saving R32 refrigerant, enhancing performance and lowering carbon emission, to contribute to slowdown of global warming.
- II. In order to meet the new MEPS (minimum energy performance standard) implemented by the government in 2018 and retain their grade level, existing refrigerators with first-grade performance must enhance their performance by 39%. TECO invests in molds for home appliances and develop energy-conserving refrigerators with performance exceeding the new grade-1 standard, as well as brand new appearance and functions quite different from Japanese brands. One model, a 600 liter/three-door refrigerator, boasting variable temperature, has been eligible for government subsidy after passing screening by Bureau of Energy, the Ministry of Economic Affairs, in Dec. 2017.
- III. R&D on VRF (variable refrigerant flow) system for parallel-connection variable-frequency external unit, with entire series conforming to grade-1 CSPF energy performance, meeting the demands of green buildings and high-class business offices.
- IV. R&D on 500 RT variable-frequency centrifugal chiller, which has been adopted by Taoyuan International Airport for II stage expansion project, serving as a best track record for future promotion.
- V. R&D on 8 RT and 10 RT direct-current variable-frequency water-cooling packaged air conditioner, the first such model capable of attaining grade-1 CSPF energy performance, which has been granted Taiwan Excellence Awards. It is the optimal choice for medium- and small-sized central air conditioners for use in factories and restaurants.

c. Solar business undertakes the project and construction of solar power generation, and supply the procurement and installation service.

d. The power business division integrates the group's multiple industrial products, maximizing synergy effect. For engineering business, the company focuses on the provision of engineering services featuring smart application, green energy, energy conservation, and energy storage, in an extensive range, such as luxury houses, biotech/dedicated cancer hospitals, hi-tech factory buildings, large-scale public exhibition halls;

major transportation and aviation projects, and Internet data centers (IDC). In line with the development of offshore wind power and green energy, dedicate to engineering works for onshore substation and develop high-quality smart green-energy and energy-conserving products, such as "smart generator," "power distribution board," "smart micro grid," so as to create new development momentum.

5.1.2 Industry Overview

A. Industrial Product Business

With industrial motors featuring extensive applications and steady demand on the global market, Taiwan's industrial motor is a major export item for heavy-electricity products, thanks to the excellent evaluation it enjoys. Under the energy-conservation and carbon abatement policy of governments worldwide, the development of industrial motor centers on high efficiency, environmental protection, and low carbon emission. TECO dedicates to developing energy and material saving products, and meets the trend of downsizing simultaneously. In addition, when vehicle suppliers announce to stop production of gasoline engine car, the development of EV motor becomes the target. Due to the trend of energy saving, carbon reduction, environment protection, and automation. By the advantage of combining motor and inverter, TECO provides system solution projects. Providing high efficient, energy saving system and products is the target of System and Automation Products Group.

System Automation products are critical for industrial automation, as low-voltage switches which offer basic control and protection functions for control loop of power distribution or motors and inverters which enable motors to attain the requirement of speed control and torsion control, plus energy conservation, for application in various process. In line with the current of industrial IoT (Internet of Things), electric-control products are furnished with the function of high-speed Internet access, whenever possible, facilitating not remote monitoring but also massive data collection and analysis, which leads to improvement of process. In recent years, in addition to application in Industry 4.0, servo products have been gradually applied in daily-life care, such as service-oriented robots and long-term care for the elderly, foraying into the emerging markets of smart home and city.

B. Home-appliances industry

Energy conservation, environmental protection, and smart application are main appeals in product development nowadays, such as application of DC variable-frequency technology and environment-friendly refrigerants in air conditioners with grade-1 CSPF energy performance which can best highlight the corporate value of "energy conservation." In emission reduction, TECO produces the first indigenous air conditioner with R32 refrigerant, contributing to the effort combating global warming. In "smart application and automation," it integrates its energy-conservation experience in developing energy management system (EMSP) and integrates whole-series products conforming to the development trend on the market.

C. Solar power generation industry:

In order to materialize "nuclear-free homeland" vision, the government plans to raise the share of renewable energy to 205 (27 GW) by 2025, including 20 GW solar energy. It will be mandatory for major power consumers with contract capacity topping 800 watts to install green energy devices, with capacity at least 10% of their contract capacity. It will push installation of rooftop solar panels, with targeted capacity reaching 2 GW by 2020.

5.1.3 Research and Development

A. The company spent NT\$1,281,206 thousand on R&D in 2017. R&D expense is booked as NT\$402,652 thousand as of the issue deadline in 2018.

a. Industrial Motors Category

1. High Power Density Induction Motor
2. NEMA Premium Crusher Duty Motor

3. 2000A High Current Capacity Motorized Brush Lifting System for Wound Rotor Induction Motor

b. System Automation Category

1. IP66 protection class inverter product development
2. Network communication applications inverter product development
3. PMSM(Permanent-magnet synchronous motor) control algorithm technical development
4. AFE(Active Front End) technical development
5. High-frequency signal injecting method technical development
6. Slim-type servo drive product development
7. High-frequency response and economical servo drive product development
8. Automated parameter tuning for motor technical development
9. On-line/ Off-line auto-tuning of control gains for servo drive technical development
10. EtherCAT/CANopen communication applications technical development
11. Sensorless control of SynRM(Synchronous Reluctance Motor) technical development
12. Flux-weakening control of servo motor technical development
13. Functional safety certification technical development
14. SOC(System On Chip) technical development
15. AGV control platform technical development

c. Renewable energy- green energy

1. OEM & ODM for electric vehicle motor

d. Freezing and Air-Conditioning Category

1. High CSPF(Cooling Seasonal Performance Factor) inverter air conditioner (split/multi split)
2. New refrigerant R32 inverter air conditioner
3. Inverter air conditioner with intelligent mobile control
4. Energy-saving inverter refrigerator
5. High EF(Energy Factor) refrigerator
6. Air conditioner for elevator
7. Energy saving management system for air conditioner
8. Intelligent cloud centrifugal chiller
9. Packaged air conditioner
10. Commercial air-cooled split conditioner
11. Multi split VRF(Variable Refrigerant Flow) inverter air conditioner with high CSPF(Cooling Seasonal Performance Factor)
12. High efficiency inverter centrifugal chiller
13. Air handling unit
14. Air conditioner for train

5.1.4 Long-term and Short-term Development

In heavy electric machinery, create new sales mode, enhancing sales profits and sustaining sales growth. In the long run, dedicated to the goal of selling total solutions for dynamic system and planning the roadmap for TECO "power transmission system." For short-term business development plan, focus on associated sales and service-oriented sales, so as to meet customers' demands for integrated transmission systems. In execution strategy, seeking continuing development of overseas bases, including Wuxi plant, Jiangxi plant, Qingdao plant, the Middle East operation, and TECO Turkey, in line with global deployment, and tapping emerging markets, such as Iran, India, the Philippines, Turkey, Africa, and Russia. For associated sales, focus on transmission equipment, food machinery, plastic machinery, rubber manufacturing, air compressor, petroleum/ natural gas, and air conditioning, in addition to foraying into new application fields, such as applications in shipping and rolling stock. For service-oriented sales, offer integrated service with the establishment of rapid maintenance center, capable of offering customers instant maintenance, technological transformation, and replacement services. Under the global current of industrial automation, provide systematic products featuring high efficiency, energy conservation, and precision system control, so as to meet the demands for industrial power safety, automation, and energy conservation. To respond the trend of IIOT, TECO has started to integrate the selling of electrification, maximize the profit of strategy, and strengthen the customer mastery. Furthermore, TECO can create more potential opportunity on resource integration, so that reach selling target fastly.

For home appliances, in the long run, the company aspires to become the leading brand in Taiwan and actively penetrate overseas market. Household refrigerators embrace TECO's patented variable-frequency technology, which has been applied to all models with 200L capacity or larger. In response to the government plan for further enhancing the energy performance of refrigerators in 2018, make entire series meet the new energy-performance requirement in the year, including variable-frequency refrigerators with grade-1 energy performance and rollout of wind-cooling frost-free ice tanks and refrigerator with mirror-glass exterior. Entire series of washing machine meets the double energy- and water-conservation market and models with capacity exceeding 14 kg are furnished with variable-frequency function, to be followed by rollout of variable-frequency washing machines with small 10-12 kg capacity. Tapping new markets of clean room for medical-care and electronic industries and high-tier air handling unit. Taking advantage of key components and parts of major compressor suppliers, develop water-cooling variable-frequency packaged air conditioner with grade-1 CSPF (cooling seasonal performance factor) energy performance, the first such model in Taiwan, and foray into the realm of variable-frequency medium- and high-voltage centrifugal chiller, aiming at large-scale public engineering projects and energy-conservation replacement market. Copy Taiwan's successful experience in actively expanding the presence in Southeast Asian and mainland Chinese markets. As for liquid crystal products, actively augment share in Taiwan's 4 K market by improving and integrating cross-Strait supply chain, expanding product lineup, raising functions and specifications, and significantly augmenting product quality and supply stability. Due to increased living standards, online business and home-delivery business boom, low-temperature foods multiply, population concentrates in urban areas, leading to emergence of cold-chain logistics. According to the study of the Industrial Technology Research Institute (ITRI), annual output value of low-temperature foods in Taiwan hits NT\$280 billion and output value of cold-chain logistics reaches NT\$50 billion, including over NT\$8 billion for low-temperature logistics. TECO Group will take advantage of refrigerating and heat-insulation technologies, plus IT smart monitoring, in meeting needs of various customers for logistics and home-delivery services, tapping the new blue ocean of low-temperature logistics, whose potential is very promising.

Adhering to the concept of "quality and innovation" and backed by abundance engineering experience in electric machinery of buildings, MRT, and high-speed rail, the power division has spared no effort in soliciting engineering businesses in the fields of large commercial buildings, MRT, and rail. In recent years, the division has managed to land businesses for a number of major projects, including construction of IDC central offices and IDC centers for some cloud-end Internet firms, foraying into the booming cloud-end industry. In addition, it successfully tapped emerging business opportunities for smart energy conservation and overseas markets.

Concerning solar energy, in line with the government's goal raising the share of renewable energy to 20% (27 GW) by 2025, in order to materialize "nuclear-free homeland" vision, and the policy mandating installation of green-energy devices by major power consumers with capacity at least 10% of their contract capacity, the group will install rooftop solar panels on its factory buildings and tap the domestic market, whose potential tops 18.7 GW, worth NT\$935 billion, by 2025.

5.2 Market and Sales Overview

5.2.1 Market Analysis

A. Sales (Service) Region

The company is shipping industrial products to such major regions as America, Europe, Australia, Japan, China and Taiwan, and targets to extend the reach to the Middle East, India and Turkey. Home appliances are shipped mainly to the domestic market, with minor markets including Australia, Southeast Asia, Singapore, and Japan. M&E Construction also positively develops Vietnam and Indonesia markets. The business mode of PV ESCO is mainly in Taiwan.

B. Market Share (%) of Major Product Categories

(1) Industrial Product

The company boasts 50% domestic market share in general purpose sector; regarding overseas market, TECO takes over high market share in North America, South East Asia and Australia. TECO also offers customers custom motor featuring special usage and specifications, with the capacity reaching 30,000 horsepower in induction motors, ranking Top 5 around the world.

(2) Home Appliances and Air Conditioner

The company is one of the top three makers of home appliances and air conditioners in Taiwan, with market share reaching 9% for household air conditioners, 14% for refrigerators, 15% for washing machines, 10% for LCD, and 35% for commercial-use air conditioners.

(3) Control Device

The company is Top 2 producer of circuit breaker, widely used in power distribution and machinery market. Domestic market share is around 20%.

C. Market Trend of Major Product Categories

(1) Industrial Products

TECO originated from motor production, which has remained a core part of the company's operation, offering the dynamism for Taiwan's industrial development. According to the analysis of the International Energy Agency (IEA), industrial machinery with motor as core drive is the industrial equipment with the largest power consumption, such as machine tool, pump, air compressor, and wind turbine, accounting for 46% of the world's total power consumption. In Taiwan, motor accounts for 68% of industrial power consumption. For motor manufacturers, the development of high-efficiency motors is not only out of market consideration but also corporate social responsibility. Therefore, TECO dedicates to the development of energy-conserving products, as evidenced by the rollout of high-efficiency motors conforming to IE3 requirement in July 2014, even before implementation of the standard by the government in 2016. At present, TECO has provided many customers IE4 motors, notably for rubber and plastic industry with the largest power consumption, even though the government has yet to implement the standard.

In the IE3 era, in addition to its own energy performance, motor has been increasingly coupled with inverter to expand energy-conserving benefit of the system. Therefore, with its price gap with induction motors gradually narrowing, permanent-magnet motors have become increasingly popular on the market, thanks to their higher efficiency. In general, with environment-protection and energy-conservation demands becoming ever higher, combination motor-inverter market has been growing rapidly. The CEMEP (the European Committee of Manufacturers of Electrical Machines and Power Electronics) forecasts that the market share of combination motor-inverter will top 45% by 2020, up from 22% in 2012.

The aspect of heavy-electric products, the company will continue intensifying integration of marketing and production, in order to boost market share and cut cost, development new products, and develop, via concerted effort of domestic and overseas companies under the group, OEM markets and emerging

markets, in addition to aggressively soliciting orders for domestic and overseas civil-engineering works, so as to achieve the high-growth target. To tap the global business opportunities related to energy conservation and carbon abatement. To adapt to the trend of system sale, TECO launched transmission system solution of I+M+G (I: Inverter, M: motor, G: gear reducer), and expects to provide customers with connected sequence of service enhancing customer's satisfaction.

(2) Home Appliances

Growth of market demand for home appliances is limited, since they are mature products. In addition to existing products, the company will develop or introduce new products with high added value or key components/parts, such as smart appliance, full series of large-size (39" ~65") 4k2k LCD TV, LED TV, inverter refrigerator with high EF value, multi-temperature-layer refrigerator, flexible multi-unit inverter air conditioner, remote-control SAA(Smart Appliance Alliance), energy-saving air conditioner with power consumption display, HEPA(air conditioner with medical level filter), and other home appliances with health appeal. The purpose is to expand sales channel and increase revenue and profit with differentiated products.

Meanwhile, the company has been constantly rolling out new models for industry-use air-conditioning and freezing products, such as package air conditioner, central air conditioning equipment, flooded water chiller, centrifugal water chiller, inverter multi-evaporator VRF air conditioner, and train air conditioner, thereby creating optimal and the most comfortable workplace for domestic and overseas industries. The company also offers various air-conditioning and freezing engineering service with cutting-edge technology, to help with industrial upgrading.

Along with the development of new technologies and the increasing convenience of the Internet, information products have integrated with home appliances, giving birth to information appliances. The company will marry its decades-long experience for home appliances with cutting-edge information technologies of the members of the group in developing information appliances suited to market needs, thereby creating even larger profits for shareholders.

Besides domestic market, the company has also made major inroads into the international market, following years of strenuous effort, especially for LCD TV and air conditioner which have enjoyed very good sales to Southeast Asia, Australia, and Europe. In the future, along with increase in national income and the advent of the information age, the company will continue to launch various even more human-friendly new products, so as to meet market demand.

(3) Solar Power Business

Concerning solar energy, in line with the government's goal raising the share of renewable energy to 20% (27 GW) by 2025, in order to materialize "nuclear-free homeland" vision, and the policy mandating installation of green-energy devices by major power consumers with capacity at least 10% of their contract capacity, the group will install rooftop solar panels on its factory buildings and tap the domestic market, whose potential tops 18.7 GW, worth NT\$935 billion, by 2025.

D. Favorable and Unfavorable Factors in the Long-range Future and Countermeasures

(1) Industrial Product

The company's industrial product has won very good reputation, in terms of quality and function, in the industry. It has established a far-reaching operation network on both domestic and overseas fronts, including production and marketing bases in the U.S., China, and Southeast Asia, and marketing offices in Japan, Europe, and Australia. However, rapid change in the business climate and the transformation of economic conditions and industrial structure has posed major challenge to the company's future development. The company will seek sustained development on niche basis cultivated over the past years, to cope with rapid change in the business environment.

Favorable and unfavorable factors for industrial product business, along with countermeasures follow:

A. Strong sales network

TECO has several sales points globally. After making effort several years, TECO gains high market share in different regions. In addition, the biggest distribution channel would be OEM (Original

Equipment Manufacturer) and EPC (Engineering 、 Procurement 、 Construction). Therefore, forming a strategic alliance with target local OEM and EPC would be the main way to increase market share. TECO also directly sale to end user and retailer, smaller size sales channel. Therefore, if TECO would like to expand the U.S. and Europe market, cooperation with local large size OEM and EPC is a necessary strategy.

B. Solution projects and after service

Providing solution projects for specific industry, product mantainance, efficiency evaluation, complete repair and mantainance can upgrade the add value of motor and ensure the sales of motor. Therefore, the international peers, such as ABB and Siemens, make an effort to integrate system.

C. M&A

Many renowned international brands are actively seeking mergers and acquisitions, for the sake of expanding capacity and sales channels, in addition to extending the magnitude and depth of products and establishing motor-related product lines (such as generator, driver, inverter, and gear reducer, etc.), facilitating provision of more complete engineering solutions, and enhancing market shares of motors and related products. Meanwhile, M&A can pave the way for entry into new market, raising brand visibility and awareness on the market. For some M&A targets, TECO will first seek cooperation to augment market share and sales.

Favorable and unfavorable factors for industrial product business, along with countermeasures follow:

a. Favorable factors

- R&D and self made ability, good in tailor made
- Leading position in production scale and market share
- Reliable in quality and good brand image
- Complete product offering line, getting certification of every motor with special demand
- Complete sales channel globally

b. Unfavorable factors

- Market saturation leading to price competition among machinery firms and increasingly rigorous demand for price and delivery by buyers
- Transplantation of traditional machinery firms to China and other countries
- Tier 1 motor suppliers promote scope by solid capital and M&A
- Due to the low entry barrier of small sized motor, loacal player in various countries are able to produce. Low price competition results into decreasing market share, and TECO takes stress of dumping from China player.
- Tier 1 motor suppliers sell system or total solution. In fact, more and more customers expect to buy total solution with motor.
- The strategy between motor and set maker would affect order taking.

c. Countermeasures

- Reduce cost, shorten delivery schedule, enhance competitive edge, and boost market share.
- Accelerate new-product development, develop products with high added value, and establish a production system featuring cross-strait division of labor.
- Increase overseas marketing offices and establish an effective service network.
- Strive for emerging business opportunities related to environmental production and energy conservation.
- Join hands with foreign engineering firms in soliciting project orders.

(2) Home Appliances and Air-Conditioning Business

a. Favorable factors

- TECO's home-appliances division has constantly rolled out innovative high-performance products, taking advantage of the company's good brand image, synergy resulting from resource sharing of the group, and its variable-frequency drive technology, which was transformed via re-platform from heavy-electricity variable-frequency drive technology. At the juncture of its 60th anniversary, TECO's home appliances have entered a new era.
- Roll out, one step ahead of peers, around-the-clock service and grasp channel, to augment competitive edge. Establish inverter common platform for products, enabling precision variable-frequency drive for various motor compressors and coordinate the control logics of different products, such as air conditioner, refrigerator, and washing machine, creating dynamism for innovation for the creation of new products and new functions. In addition, commit to the satisfaction of consumers in service quality and stock of materials.
- Dedicate to the pushing of R32 coolant and green manufacturing, becoming the only company producing R32 coolant in Taiwan, safeguarding Taiwan's carbon-repellant environment. For energy conservation and carbon abatement, pioneer the mapping of the blueprint of home-appliances green factory in Taiwan. Put in place a gold-medal dealership system, successfully augmenting the satisfaction of dealers.
- Join "smart home-appliances industry R&D alliance," integrating communications technology of smart home appliances and Internet digital-communications products of emerging products.
- Roll out, leading peers, models with first-grade energy performance conforming to MIT label.
- Pioneer the rollout of cloud-end smart air conditioners, in order to tap IOT (Internet of things) business opportunities.

b. Unfavorable factors

- To over the Japanese myth among Taiwanese people, TECO has no other choice but augment its product technologies and thereby compete with Japan's common models, boosting production cost.
- Home appliances/household air conditioning market has saturated, featuring acute competition and low margin.
- WTO membership entails tariff cuts, bringing in competition from renowned brands of Japan, the U.S., Korea, and China.
- The Taiwanese market is limited in scale and it's difficult to develop the global branding, due to high expense for marketing own brands and insufficient price competitiveness.
- Competition from hypermarkets and chain sales channels impacts the traditional channel of agents.
- The current of bilateral or regional free-trade agreements in recent years has posed major challenge to Taiwan.

c. Countermeasures

- Make transformation in the direction of the Internet, expand online sales, develop high-performance IoT cloud-end fashion home appliances, dedicate to the pushing of marketing 4.0, so as to appeal to white-collar workers aged under 4.0.
- Expand the professional ability of research and marketing, keep innovation.
- Expand product lineup and cut cost via OEM (original equipment manufacturer) strategic alliance, thereby raising market share.
- Create the edge combining Taiwan's innovation and the large-scale cost advantage of mainland China's hardware, via SKD assembly in China.
- Grasp product development trend in domestic and overseas markets via the operation of product

panel and new-product review sessions, thereby introducing innovative products timely.

(3) Solar Energy Business

a. Favorable factors

- Policy of "Nuclear-free homeland" support for the renewable energy development. Taiwan market is quite potential.
- TECO's factories are good beginning for the solar power, and they are experience and real result.
- In Taiwan, TECO has good brand image, and quality is reliable. It would be beneficial to develop Taiwan market.

b. Unfavorable factors

- Market of solar power is full of keen competition. The request for quality improves, however request for cost decrease.
- Absence of grid expansion plan by the government and Taipower may lead to saturation of grid-connection capacity in Taiwan, putting a damper on the development of renewable energy.

c. Countermeasures

- Target mainly customers with demands for high quality and sustainable development, via the utilization of strategic alliance.
- Suggest the government and Taipower to expand grids at government-sponsored seminar on promotion of renewable energy, citing the restriction on PV-power generation by saturated grids in Japan.

5.2.2 The Production Procedures of Main Products

Industrial Products:

Products	Use	Production Process
High-efficiency motors, single-phase motors, low- and high-voltage 3-phase motors, synchronous motors, explosion-proof motors, brake motors, variable-pole motors, gear-reducing motors, crane motors, high-temperature exhaust gas fan motors, inverter-duty motors, high-thrust motors, steel-cased motors, aluminum-cased motors, eddy-current motors, wound rotor motors, submersible motors, DC motors, ventilation blowers, wind-powered generators.	Provision of power for industrial production	Casting, Stamping, Electrical Engineering, Mechanical Engineering, Design, Planning, Assembly, Integration
Electric vehicle power motioned permanent magnetic motor, Electric vehicle power motioned induction motor, permanent magnetic motor, AC/permanent magnetic servo motor, IE3/4 high efficient IMD, Integrated Motor Drive	Industrial and electric vehicle used	Stamping, Electrical Engineering, Engineering, Magnet, Design, Planning, Assembly, Integration

ECO Energy Products:

Products	Use	Production Process
Solar energy system	Decentralized power supply	In-grid photovoltaic system, photovoltaic charging system, machinery-electricity integration, system design, power, site planning, assembly, service.

Home Appliances & Air Conditioners:

Products	Use	Production Process
CSPF-first class air conditioner , new environment-friendly coolant inverter duty air conditioner (one to one and VRF type), smart air conditioner, energy-saving inverter duty refrigerator, high EF-value refrigerator, direct-drive inverter duty washing machine, dehumidifier, clothes dryer, small home appliances, home-delivery low-temperature table trolley, elevator air conditioner, cooling device for machine tool, low-temperature logistics freezer, heat-dissipation module for PC	Household, commercial, industrial use	Design, planning, assembly, and peripheral
LED TVs, DVD Players, Recordable DVD players, Stereo Systems	Home Entertainment	Design, Planning, Assembly
Chillers for centralized air-conditioning systems, package air conditioners, split-type air conditioners, inverter multi-evaporator VRF air conditioner, train air-conditioning systems, centrifugal chiller	Commercial, Industrial Applications; Transportation systems	Design, Planning, Assembly, Integration

5.2.3 Main Material

	Main Material	Main Source	Supply
Motor	Silicon Steel	At home and abroad	Centralized Procurement by season
	Aluminum Ingot	At home and abroad	Centralized Procurement by season
	Rod Iron	At home and abroad	Procurement by Contract
	Copper Wire	At home and abroad	Procurement by Contract and Order Placing
	Bearing	At home and abroad	Procurement by Contract
	Engine	Abroad	Procurement by Contract
	GAS Insulated Switchgear	Abroad	Procurement by Contract

5.2.4 Major Suppliers and Clients

A. Major Suppliers Information for the Last Two Calendar Years

None

B. Major Clients (each commanding 10%-plus share of annual order volume) Information for the Last Two Calendar Years

None

5.2.4 Production over the Last Two Years

Unit: Units; NT\$thousand

Output	Year	2016			2017		
		Capacity	Quantity	Amount	Capacity	Quantity	Amount
Major Products							
Motor		1,343,571	1,074,182	11,569,305	1,328,030	1,210,881	12,353,709
System Automation		12,357,589	8,002,746	4,600,082	12,407,514	7,623,587	4,757,588
Home Appliance		361,910	312,567	4,329,808	380,661	275,704	4,163,978
Others		909,935	909,935	3,757,114	594,435	594,435	2,466,566
Total		14,973,005	10,299,430	24,256,309	14,710,640	9,704,607	23,741,841

5.2.5 Shipments and Sales over the Last Two Years

Unit: Units; NT\$thousand

Shipments & Sales	Year	2016				2017			
		Local		Export		Local		Export	
		Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount
Major Products									
Motor & System Automation		1,538,689	6,578,052	3,393,508	21,142,887	1,504,931	6,722,392	3,223,947	20,978,791
Home Appliance & Air Conditioner		873,687	7,189,917	105,554	611,487	857,501	6,819,674	100,710	531,898
Construction			2,466,811				3,141,743		
Other			9,567,638		2,367,045		9,888,890		2,859,133
Total		2,412,375	25,802,418	3,499,062	24,121,418	2,362,431	26,572,700	3,324,657	24,369,821

5.3 Human Resources

Year	2016		2017		March 31 2018	
	TECO	Global	TECO	Global	TECO	Global
Number of Employees	2,406	14,647	2,410	15,271	2,348	14,914
Average Age	41.9	39.4	42.3	39.3	42.5	39.0
Average Years of Service	13.6	9.4	13.9	9.6	14.0	9.4
Masters above	15.3	8.0	15.2	7.8	15.0	7.4
Bachelor's Degree	51.0	49.9	51.5	49.5	51.7	49.8
Senior High School	27.3	31.0	27.2	31.9	27.4	30.9
Below Senior High School	6.4	11.1	6.1	10.8	5.9	11.9

5.4 Information on Outlays for Environmental Protection

Explain in the recent one year up to the publication of the yearbook, the total amount of the company's loss (including compensation) from pollution and fines, plus possible outlay from countermeasures.

5.4.1 Loss resulted from polluting environment

None

5.4.2 Countermeasures

A. Improvement measures planned

a. Improvement plan for environmental-protection equipment

Installation of new environmental-protection equipment, waste reduction by strengthening the maintenance of existing equipment and improvement of production process, improvement of workplace, promotion of energy conservation, recycle and reuse of waste water, and reuse of waste materials, so as to prevent emission of pollutants and comply with legal requirements

b. Plan for management improvement

Continue pushing ISO14001 environment management system, pinpoint sections in the operational process (covering the entire product life which includes production, sales, the usage of product, and its disposal) which produce impact on the environment and improve the emission of pollutants, thereby alleviating the environmental impact and augmenting environmental performance.

Continue pushing OHSAS 18001 vocational safety and hygiene management system and the passage of the certification of CNS 15506 by the Council of Labor Affairs; incorporate safety and hygiene management into the corporate management culture; regularly hold environmental-protection and safety/hygiene training, fire-fighting drill and drill emergency response; regularly inspect operating environment and physical examination of employees, so as to lower the hazards of risk of workplace and prevent the occurrence of vocational disaster.

c. Continue pushing the program for checking and reduction greenhouse-gas emission

In response to global climate change, the company began to check greenhouse-gas emission in 2005 and passed external greenhouse gas inspection (ISO 14064-1) in 2012. The company started to push energy-conservation and carbon-abatement program, in 2006, especially power usage in the second category, which has been participated all the factories and staff units. The company has also established energy-conservation task force and hired experts to help with diagnosis and offer advices for the execution of the program.

TECO has been dedicating to the materialization of the strategic vision of “energy conservation, emissions reduction, intelligence and automation,” which calls for the production of energy-saving and environment-friendly products, via efforts in the fields of R&D, production, materials, process technology, and marketing. We also focus on green energy in business expansion and even organize various sci-tech and humanistic events via the foundation, in order to substantiate eco value and induce the company to develop in the direction of sustainability.

d. TECO Corporate Social Responsibility Report

Sustainable development for enterprise is an indispensable mindset for corporate management in the new century. At the time when enterprises are facing rigorous challenges, they need to rethink the direction and strategy for their sustainable development and manifest their management performance via report on corporate social responsibilities. The report covers information on the three major aspects of economy, society, and environment, so as to improve external image and help communicate with stakeholders. Corporate social responsibility is the fifth information report unrelated to financial performance publicized by TECO in 2014, with the purpose of manifesting the company’s methods, achievements, and related strategies and goals of the company in fulfilling social responsibilities in a transparent and open manner for the social public and stakeholders. The report mainly covers various acts and performance figures concerning corporate governance, environmental protection, social participation, and concern for employees, clients, and consumers.

e. Projected capital outlay for environmental protection in the next three years

(a) Planned procurement of anti-pollution equipment and outlays

i. Plans in next three years

2018	2019	2020
Maintenance, improvement, or installation of air pollution-abatement equipment	Maintenance, improvement, or installation of air pollution-abatement equipment	Maintenance, improvement, or installation of air pollution-abatement equipment
Replacement of the consumption materials of activated carbon, filtering net, and filtering ball	Replacement of the consumption materials of activated carbon, filtering net, and filtering ball	Replacement of the consumption materials of activated carbon, filtering net, and filtering ball
Energy Monitor	Energy Monitor	Energy Monitor
Clean caking of oil in kitchen	Installation of energy-saving light and light-pervious window awning	Examination and founding of gas storage tank and heavy oil steam boiler. Improving surroundings
Transfer to ECO friendly paint and its equipment	Clean caking of oil in kitchen	Installation of energy-saving light and light-pervious window awning
Improvement of waste-water equipment	Improvement of waste-water equipment	Pipeline for waste-water

ii. Projected outlays (Unit: NT\$thousand)

2018	2019	2020
\$ 25,021	\$ 25,258	\$ 20,445

(b) Expected improvements

- i. Cut emission of air pollutants and waste water to the level in compliance with legal requirement.
- ii. Push cut on industrial waste by reducing output of waste materials, strengthening mechanism for the recycle of waste materials, implementing control for emission reduction.
- iii. Establish energy-conservation and carbon-abatement task force, which will pinpoint equipment with larger energy consumption and areas with higher power consumption, as well as formulate feasible energy conservation programs after consulting experts/scholars and push their execution, thereby slashing carbon emission.
- iv. Push to cut emission of greenhouse gas and dedicate to the development of energy-conserving environment-friendly products, to alleviate the impact on the environment and fulfill corporate social responsibility.
- v. Install high-efficiency power-saving lighting to enhance the efficiency of existing lighting equipment and adopt proper power deployment and control circuit to save power.
- vi. Carry out risk evaluation for workplace, so as to assure the provision of a safe workplace.

f. Expected effect of improvement

(a) Effect on net profits

- i. Avoidance of loss from fines
- ii. Avoidance of loss from suspension of operation
- iii. Avoidance of disputes for environmental pollution
- iv. Cut production cost via reduction of environmental-protection outlays, thanks to waste abatement and pollution prevention.

(b) Effect on competitiveness status

- i. Augment the corporate image and meet the expectation of related parties.
- ii. Comply with the global environmental-protection current, avoid trade barriers, and boost sales opportunities.

B. Failure to adopt countermeasures

- a. Failure to adopt improvement measures: Nil
- b. State of pollution: Nil
- c. Possible loss and compensation amount: Nil

5.4.3 Workplace and Protection Measures for the Personal Safety of Employees

A. The safety and hygiene management system was verified and passage of performance certification.

The safety and hygiene management system of various plants (Plant Chung-Li, Plant Kuan-Yin, and Plant Hu-Kou) has passed the “OHSAS 18001,” “Taiwan Occupational Safety & Health Management System (CNS15506),” and its following check.

B. Special environmental-protection and safety/hygiene units are presented at the headquarters, every department, and factory.

Complying with “Enforcement Rules of the Occupational Safety and Health Act”, specialized units and staffers are instituted to handle affairs related to environmental protection and safety/hygiene and practices related to safety/hygiene affairs are carried out regularly, according to legal requirement.

C. Environmental-protection and safety/hygiene training are conducted regularly:

New employees and employees shifted to new positions must undertake safety/hygiene training courses, whose duration and contents comply with legal requirement. Only trained personnel with necessary licenses can operate dangerous machines or equipment, such as overhead traveling crane, forklift, organic solvent, boiler, and high-pressure gases. Specialized staffers or technicians all must undertake retraining regularly.

D. Workplace safety

In addition to the Occupational Safety and Health Act for machinery equipment and norms for use and safe utilization of personal protective gears, the company has managerial staffers carry out safety inspection regularly, to assure compliance by employees to safety norms in their operation and detect points of further improvement, thereby fostering the safety awareness among all employees and achieve safety protection better than legal requirement, to assure safety of workplace.

E. Pushing Globally Harmonized System of Classification & Labeling of Chemicals

To highlight dangerous and hazardous substances, safety labels for materials have been installed in workplaces, where updated information on safety data sheet (SDS) is available as reference for employees. Change in raw materials and production process cannot be made before the review, collection of information on safety data sheet (SDS), and completion of training of related employees in accordance with the company’s management measures.

F. Detection of operating environment

According to “Enforcement Measures for Detecting Laborers’ Operating Environment,” detect the operating environment for chemical and physical elements, with the former including carbon dioxide, dust particle, and organic solution, and the latter including noise and overall temperature index. Entrust qualified operating-environment detecting institutions to carry out the detection periodically, to assure compliance of the operating environment with law/regulation.

G. Fire-fighting drill and emergency-response drill for special workplaces are held regularly:

Ordinary fire-fighting drill takes place every half a year and covers such training items as team organization, practice, response to emergency, and post-accident handling. Emergency-response drill for special workplaces is conducted every year, in order to train employees' capability in handling accidents.

H. Health care and management

Employee health is the largest assets of the company. The Company respectively exercised health examination for regular task and special dangerous task according to "Labor Safety and Health Act". Organize health classes, publicize health information and organize health-improvement activities. Continue pushing employees to stress self-health management and create a safe and comfortable working environment, so as to enhance employees' health and physical strength and further extend the concept to their families.

I. Carry out the event of environmental-protection and industrial-safety month

TECO carries out the event of environmental-protection and industrial-safety month in June and August every year, consisting of various activities, including hanging of event banners and posting of posters on environmental protection and industrial safety, holding of training on environmental protection and industrial safety and awarded answers for questions, a blending of education and fun for all staffers, so as to augment staffers' knowledge of environmental protection and industrial safety and arouse their awareness of environmental protection and industrial safety, on top of plant inspection by external experts, for enhancing the performance for the execution of environmental protection and industrial safety.

5.5 Labor Relations

5.5.1 The company's various employee welfare measures, advanced study, training, and retirement system, along with their execution, as well as labor-management agreements and various employee-benefit protection measures follow:

A. Employee welfare measures

The company has high regard for employee welfare and work safety constantly, as evidenced by the setup of employee welfare committee back in 1964, which handles various employee welfare measures, so that employees can share the profits of the company. The company's welfare measures follow:

a. Employee welfares provided by the company

- (a) Marriage and funeral subsidy
- (b) Physical examination for employees
- (c) Company uniform
- (d) Dividend sharing and stock option
- (e) Year-end bonus
- (f) Pension fund
- (g) Meal subsidy
- (h) Labor insurance, health insurance, group insurance, pension hand over and accident insurance
- (i) Preferential rates for purchase of the company's products

b. Welfare measures provided by the employee welfare committee

- (a) Subsidy for travel, marriage, funeral, and hospitalization
- (b) Group parties
- (c) Birthday gift
- (d) Childbirth subsidy
- (e) Gifts for three major festivals
- (f) Scholarship for employees' children
- (g) Other employee welfares

B. Advanced study, education, and training

The company appropriates 0.1% of its annual revenue for employee training, which is included in the annual corporate plan, holding regular courses on professional and management knowledge for employees at various positions and cultivating excellent talents with aggressive working attitude and innovative concept, according to training plans for various stages for their career.

In 2017, the company held courses on executive training, common knowledge, professional capability, and company policy, which boasted 13,170 persons of attendance, on top of 313 persons of attendance for outside courses. Every employee received 21.81 hours of training on average.

C. Retirement system and its implementation

The company has formulated "measures for labor retirement," in compliance with legal requirements, according to which the company appropriate a certain amount of fund to be deposited into a specialized account at the Central Trust of China for care of employees after their retirement. For employees who embrace labor-pension system after July 1, 2005, the company appropriates a sum equivalent to 6% of their monthly pays, set according to an official pay scale, to their individual accounts at the Labor Insurance Bureau every month.

D. Labor-management agreements and protection measures for employee benefits

The company has enjoyed harmonious labor-management relationship, thanks to open-minded management style of executives and the understanding of company policy by laborers.

The company set up TECO employee welfare committee in April 1964, in charge of various employee welfare affairs, which was followed by the establishment of TECO labor union in July, 1974. In March 1980, the company's factories initiated labor-management meeting, in order to boost working efficiency, improve labor conditions, and bridge the opinions of management and labor. The company has reported to the regulator for the establishment of those organizations, which have been functioning normally over the past years.

To safeguard the interests of both labor and management and assure their harmonious relationship, the company signed a group contract with representatives of the labor union on December 28, 1981, which was then forwarded to and approved by the regulator.

In 1999, the company was granted the "national good labor-management relationship business award" and "exemplary labor-management meeting award" by the Council of Labor Affairs and the "good labor-management relationship award" by the Taoyuan County government. In 2009, it passed the certification for healthy workplace by the Bureau of Health Promotion and in 2010 it was granted the award of "national manpower innovation" by the Council of Labor Affairs and "excellent award for healthy workplace" by Taipei city government, in 2012 it was awarded "2012 Corporate Citizen Award" by Common Wealth and was awarded "Happy Corporate Award" by Taiwan City Government in 2013, as well as "Employment Award" by Taoyuan County in 2015, in acknowledgement of the company's effort in achieving a harmonious and co-prosperous relationship between labor and management.

E. Guidelines for employee behavior or ethics

- a. To uphold the working order at workplace and clearly define the rights and obligations of labor and management, the company has formulated “employee working rules,” which has been approved by the regulator and publicized as the guidance for the company in employee management. The rules set out clear regulations on employees’ position, title, employment, leave, service, salary, reward and punishment, evaluation, promotion, welfare, layoff, compensation for vocational injuries, and retirement. The company expects every employee to do his/her best to contribute to the achievement of the company’s business goal and enhance his/her ethical standard. It, therefore, has formulated “behavioral guidelines,” with major contents including:
- (a) The staff in the implementation of the company's business, should avoid by means of its position in the company as of to themselves, spouse, parent, child or any other person to obtain improper benefits.
- (b) The company’s internal information (or information related to the company’s interest or business), be it in the aspect of technology, finance, or business, is the company’s business secret, for which employees have the obligation of confidentiality and cannot leak it to any outside party. In addition, after leaving the company, employees still have to abide by the confidentiality obligation according to the principle of integrity and refrain from leaking the company’s secrets or utilize them in engaging in illegal competition.
- (c) Stake with customers: Employees should obey the law and related regulation of the company to avoid inappropriate present under any other’s name or in any way. Trading with customers and suppliers sincerely fairly and transparently with steady, professional attitude.
- (d) Political donation: Employees should not donate to or sponsor via other means political candidates under the name of the company or its affiliated institutions.
- (e) Charitable donation: When making any charitable donation or sponsorship, staffers should check the outlet and purpose of such donation and sponsorship to make sure it doesn’t become bribery in disguise.
- (f) Obligation of reporting and informing: The company encourages open communication with staffers and third parties, who can report or inform management or human-resources unit for any question, finding, unfair treatment at worksites, or violation of the guidelines, without vicious fabrication, though. The company will handle such reporting or informing confidentially and protect those who take part in the investigation.

Subjects of the reporting or informing should not revenge or threaten the informants, who can report any revenge, threat, or harassment to human-resources unit upon which the company will act instantly.

5.5.2 Status of the company’s staffers related to financial-information transparency in securing certificates designated by the regulator.

License	Number of People	
	Financial Accounting	Auditing
CPA	3	1
US CPA	1	
CFA	1	
CIA	1	1
Investment trust and consulting representative	5	

5.5.3 The company had not incurred any loss from labor-management dispute as of the date for the publication of the annual report and expects no such loss in the future.

5.6 Important Contracts

Agreement	Counterparty	Period	Major contents	Restrictions
1. Agency contract	EXPLUS and others, totaling 837 companies	One year after the starting of shipment, should any party fail to notify contrary opinion three months before the ending of the contract, the contract will be extended by one year automatically, an arrangement which will be repeated afterwards.	Rights and obligations for agency for home appliances, electric motor, and air conditioners.	Nil
2. Works Contract	E United Group	Based upon counterparty's schedule since 2017 1st quarter	New construction of E United Group 1. hydroelectric engineering 2. air conditioning engineering 3. electrical bus bar 4. Construction of switchboard in substation 5. Construction of emergency power generation	Nil
3. Joint venture agreement	Tong-An Invesment and Motech Industries, Inc.	The contract comes into effect since Jan. 5.2017 to termination approved by 3 parties; or one party inform the others to terminate based upon the contract	Joint venture of 3 parties, SPV company for soler power construction	Nil