



## SECTOR BRIEF CAMBODIA:

# Electrical and Electronic Equipment Industry



### Introduction

Cambodia's first Electrical and Electronic Equipment (EEE) company was established in 2005 to manufacture construction wires, power cables, aluminium overhead wires and telecommunication cables. As of April 2023, there are 99 EEE companies registered with so-called Qualified Investment Projects (QIPs) in Cambodia, most of them in assembly, including major players such as Sumitronics, Minebea, WCFO, Nidec, Hana, Yazaki and SVI. Very few of these companies source material inputs from domestic suppliers, the majority obtaining inputs – i.e. wires, cables, diodes, transistors and electrical transformers – abroad, mostly from China, Japan, and Thailand. The main reason for the lack of domestic sourcing is the difficulty of suppliers to meet product quality standards demanded by buyers. In terms of scope, scale and complexity of EEE production, Cambodia still faces some challenges catching up with other countries in the region.

In 2020, Cambodia counted approximately 54,000 people working in electrical and electronics manufacturing, which represents about 1.43% of the country's total employment. For comparison, the industry employed 600,000 persons in Thailand (1.57% of the workforce) and more than a million in Vietnam (1.78% of the workforce). In addition, approximately 47% of the workers were women. By 2027, the Cambodian government aims to create more than 16,000 additional jobs in the industry.

The growth of the EEE industry has largely been made possible by extensive foreign capital inflows into the country. These important foreign investments can be attributed to low wages, international trade agreements, and Special Economic Zones (SEZs) at strategic locations. These features make Cambodia a particularly attractive location for low value-added and labour-intensive production, such as (sub) assembly. Most EEE companies are located in the Royal Group Phnom Penh Special Economic Zone (PPSEZ), near ports such as the Sihanoukville Special Economic Zone, or in industrial border zones with Thailand and Vietnam – such as Giga Special Economic Zone Bavet – where favourable tariffs and tax incentives are offered to companies.

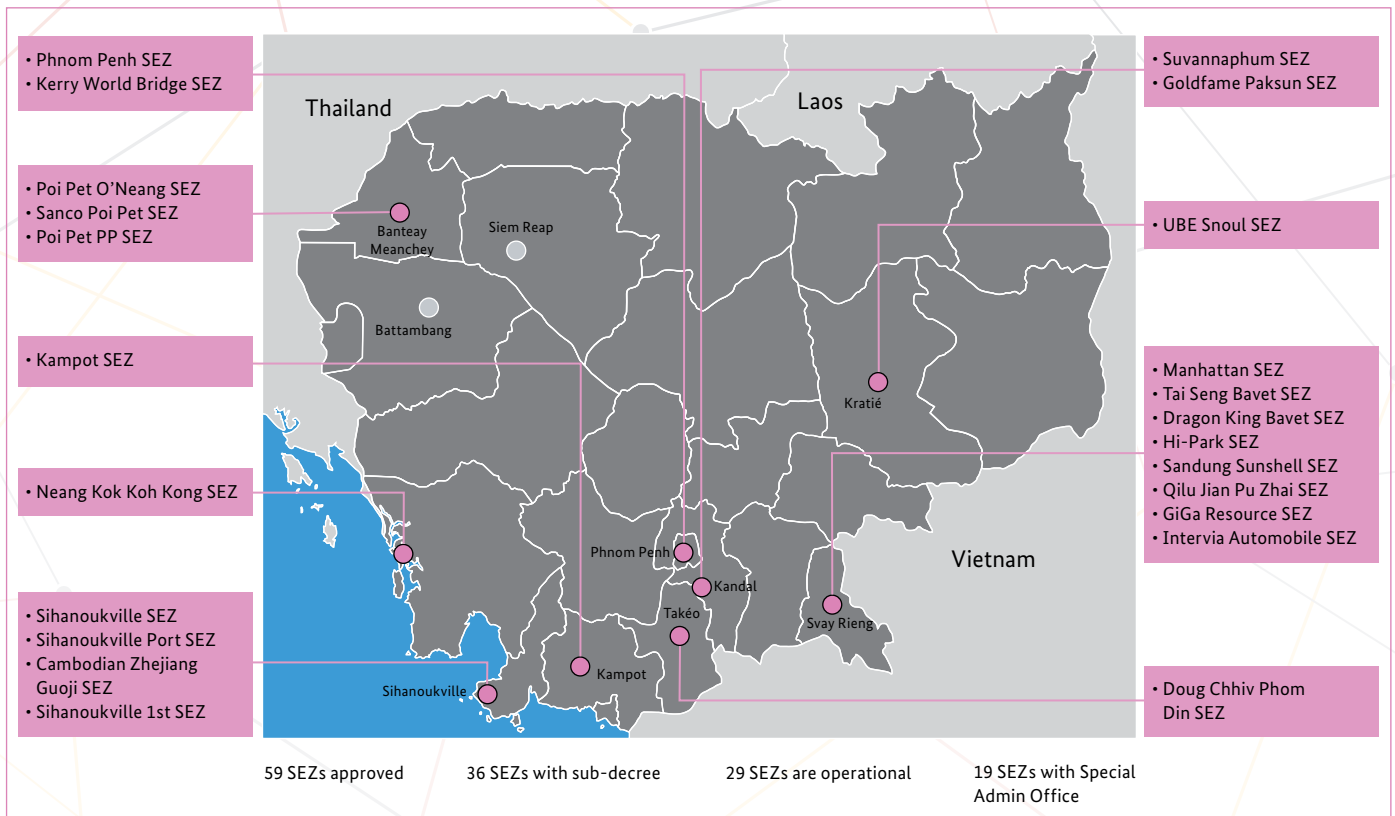


Figure 1: Map of Cambodian SEZs

### Definition of the Electrical and Electronic Equipment (EEE) Industry

The electrical and electronic sector is highly complex with a large range of products and definitions varying according to the applied terminology. According to European Union's (EU) regulations, Electrical and Electronic Equipment is divided into four subsectors: Electronic components, Consumer electronics, Industrial electronics, and Electrical products. This study offers a particular focus on Harmonized System (HS) code 85: Electrical Machinery and Equipment and Parts Thereof; Sound Recorders and Reproducers, Television Recorders and Reproducers, Parts and Accessories. In part, HS codes 84 (e.g. data processing) and 90 (e.g. optical devices) also count towards the EEE industry, but will be omitted here as EEE products only make up a small share of these respective codes.

## Overview of the Industry

### Manufacturing and Assembly

Large foreign multinational companies are the main players in Cambodia's EEE sector. They invest in assembly plants in the country, in industry sub-sectors such as electronic components and equipment (Sumitronics), optic fibre connection assembly (WCFO), and industrial electronics and micro-electronics (SVI).

Other smaller local manufacturers are also present; they cover a wide range of products, from solar photovoltaic cells to wires and switchboards.

Both large and small producers in Cambodia are benefitting from competitive advantages, such as a young workforce that is on average more cost-competitive compared to neighbouring Thailand and Vietnam. At the same time, they benefit from Cambodia's strategic location within ASEAN in proximity to the fast-growing manufacturing and assembly hubs in these two countries. Favourable international conditions such as a shifting geopolitical balance, as well as trade agreements and trade preferences with key electronics export markets mark a third factor for choosing Cambodia as an attractive destination for manufacturing and assembly.

Despite these advantages, however, one of the current structural limits of Cambodia's EEE industry is the lack of domestic production and processing facilities for primary components, such as copper to make cables and rubber to make their insulation. Thus, all primary products and inputs need to be imported, with China acting as Cambodia's main supplier of these inputs. In order to address this challenge, the Cambodian government has announced plans to upskill the country's EEE production capacity, moving from simple components and sub-assembly – e.g. cables and connectors, printed circuit board assembly – in the short-term, to higher value-added components in the longer term.

## Foreign Direct Investment (FDI)

A major wave of FDI in Cambodian electronic and electrical assembly started in 2011 when large Japanese corporations opened production units in Cambodia as part of their risk-minimizing 'Thailand Plus One Strategy'. Until then, Cambodia's role as an EEE exporter had been negligible. As of 2022, cumulative investment reached \$450 million, encompassing 79 Qualified Investment Projects (QIPs). Currently, all FDI in Cambodia's EEE industry still originates from other Asian countries with China and Japan being the top investors by far, followed by Thailand and Taiwan. More than 85% of this foreign investment is related to the manufacturing and assembly of electronic parts, small-size motors and wire harnesses. FDI in other sectors, such as automotive and auto components, has also spurred growth of the local electrical and electronic equipment industry. For example, car manufacturer Ford made a \$21 million investment in a car assembly plant in Pursat which was inaugurated in June 2022. The total investment of the registered vehicle assembly plants in Cambodia currently amounts to \$78.4 million.

Moreover, there are promising signs of upskilling EEE production through FDI in other areas as well, as new solar panel plants are opening in the country. Investors are likely attempting to capitalise on the 24-month period of import tariff suspension for solar panels produced in Cambodia (along with 3 other ASEAN countries) declared by the US government in May 2022, as part of its drive towards diversification of supply of solar panels.

## European Presence

International and European brand presence is limited but noticeable, with well-established brands such as Panasonic, Schneider Electric and Siemens maintaining sales offices in the capital Phnom Penh. European presence is limited mostly to distribution, relying on a network of local partners who distribute their imported products. Schneider Electric is distributed by Euro Electrical and Global Camstar while GGear Group is LG's exclusive partner in the country. Local distributors are numerous and vary in size. They supply a large variety of products, from white goods and lighting to electrical equipment and electronic accessories. Mega Electrical, GGear Group, and Triangle are some of the largest Cambodian distributors. Often, these brands cannot compete in price with their Chinese counterparts and are therefore establishing themselves in the fast-growing premium channel.

## International Trade and Domestic Sales

In 2022, Cambodia imported electrical and electronic equipment worth a total of \$1.46 billion while exporting equivalent products worth \$1.99 billion, registering a trade surplus in the sector for the very first time. This sizeable surplus of \$538 million testifies to the potential of this industry as a mainstream exporting revenue stream for the Cambodian economy. This is supported by a significant increase in the sector's share of total Cambodian exports from 5.6% in 2021 to 8.9% in 2022 and in its rising share

of imports from 4.1% to 4.9% over the same period, highlighting its growing relevance compared to other sectors.

### Yazaki benefits from the "Thailand Plus One Strategy"

Thailand-Plus-One refers to a business strategy in which Japanese firms in Thailand move the production processes of labour-intensive parts to the neighbouring countries with cheaper labour cost.

As it is difficult to automate the assembly of wire harnesses and labour costs have surged in Thailand, Yazaki Corporation decided to move into Cambodia in 2012. They opened a \$24 million wire harness factory in Koh Kong, a Cambodian province bordering Thailand. Since then, the Japanese automotive component maker is producing wire harnesses with high efficiency. These vital components supply power to the various devices spread throughout the car and relay data from sensors to the control unit.

As tariffs under the ASEAN Economic Community (AEC) have been repealed, electrical wires and tapes are imported from Thailand duty-free and assembled into wire harnesses. These are then transported back to Thailand with a Yazaki truck that shuttles between Thailand and Cambodia once a day. The manager of Koh Kong factory is Thai, technical assistance and worker training are provided by Thai staff. This is significantly cheaper than sending engineers from Japan and makes it easier to resolve problems because of Thailand's close proximity. Today, Yazaki Corp employs over 3,000 staff in Cambodia.

## Exports

Since 2014, Cambodian international exports of electrical equipment and electronic components under Harmonized System (HS) Code 85 have been increasing rapidly, surging from \$321 million in 2015 to \$1.99 billion in 2022 at a Compound Annual Growth Rate (CAGR) of 25.6%. This export growth has been primarily driven by less complex products such as wire harnesses, lighting cables, and light-emitting diodes (LEDs).

With an increase in export value by a staggering 85% compared to 2021, the year 2022 stands out in particular. This being said, 2021 had already seen a substantial increase (42%) compared to 2020 despite the COVID-19 pandemic. Main export markets in 2021 included the USA with a share of 50.7% of total exports, followed by Thailand (14.5%), Japan (11.9%), Mainland China (6.7%), Hong Kong (4%) and South Korea (3.3%).

The rise of the USA as the key export market for Cambodian EEE products can be explained by a mix of factors, including Cambodia's increasing edge over manufacturing competitors due to a positive management of the COVID-19 pandemic and supply chain disruptions, increased overall global demand for electronics since

the pandemic with the USA as a key consumer market, and the USA's suspension of import duties for solar panels and related electronics from Cambodia as part of its China de-coupling strategy.

The European Union on the other hand still plays a relatively minor role with an offtake share of only 2.1%. Germany alone accounts for 0.48% (\$5.2 million), making it the largest European importer by far since 2017.

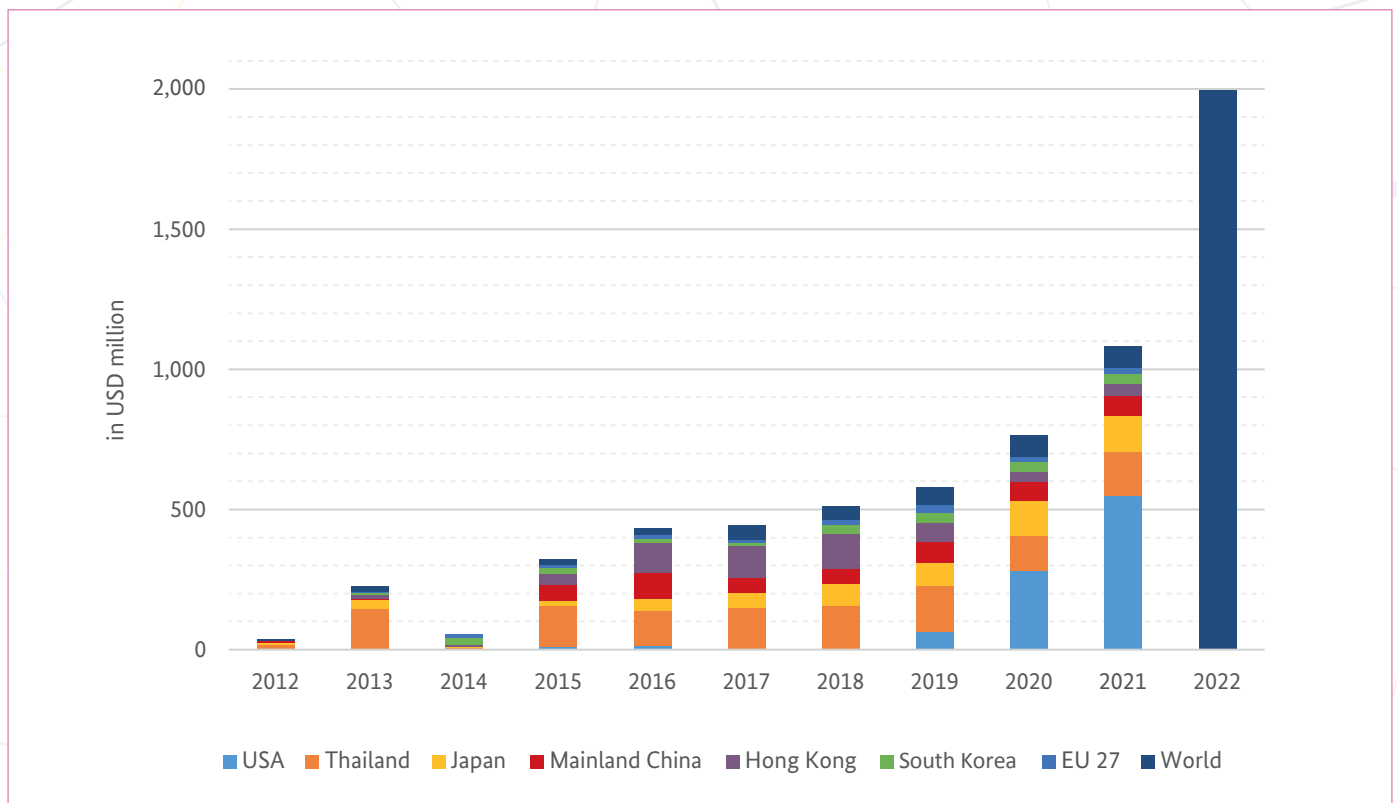


Figure 2: Cambodia's top 6 export destinations plus EU 27 under HS Code 85

As of 2021, the top three Cambodian export commodity groups in the EEE sector are:

- 1. Insulated wire, cable, and other insulated electric conductors (HS Code 8544)**  
Export value: \$425.4 million, representing 39.3% of EEE exports  
Main buyers: USA (40%), Japan (26.3%), Thailand (22%), South Korea (7.7%)
- 2. Diodes, Transistors and Similar Semi-conductor Devices (HS Code 8541)**  
Export value: \$273.2 million, representing 25.3% of EEE exports  
Main buyers: USA (94%), Vietnam (2.3%), India (1.3%), Mainland China (1%)
- 3. Electric motors and generators (HS Code 8501)**  
Export value: \$84.5 million, representing 7.8% of EEE exports  
Main buyers: Mainland China (25.7%), Thailand (20.4%), Hong Kong (16.3%), Japan (9.2%)

In contrast to the EU 27, the United States are Cambodia's top EEE importer, but focus on low value-added products such as wires, cables, diodes and transistors. More complex products like electric motors and generators are mostly sent to Asia, where China, Thailand, and Japan are the main buyers.

## Imports

Cambodia imported \$1.46 billion worth of electrical and electronic equipment in 2022, a relevant increase from \$1.19 billion in 2021. Mainland China is Cambodia's main supplier with a share of 61.9%, followed by Thailand (17.6%), Vietnam (6.3%), Japan (2.8%) and South Korea (2.1%). Again, the European Union is a relatively small partner for Cambodia with EEE import shares fluctuating between 5.3% (2016) and 1.5% (2021). Germany currently supplies 0.55% of these products under HS Code 85, worth \$6.5 million in 2021.

As of 2021, the top three Cambodian import commodity groups in the EEE sector are:

- 1. Insulated wire, cable, and other insulated electric conductors (HS Code 8544)**  
Import value: \$305.4 million, representing 25.6% of EEE imports  
Main suppliers: Mainland China (54.1%), Thailand (30.4%), Vietnam (7.7%), South Korea (4%)
- 2. Electrical Apparatus for Switching or Protecting Electrical Circuits (HS Code 8536)**  
Import value: \$118 million, representing 9.9% of EEE imports  
Main suppliers: Mainland China (53.2%), Thailand (15.3%), Japan (12.7%), Vietnam (3.1%)



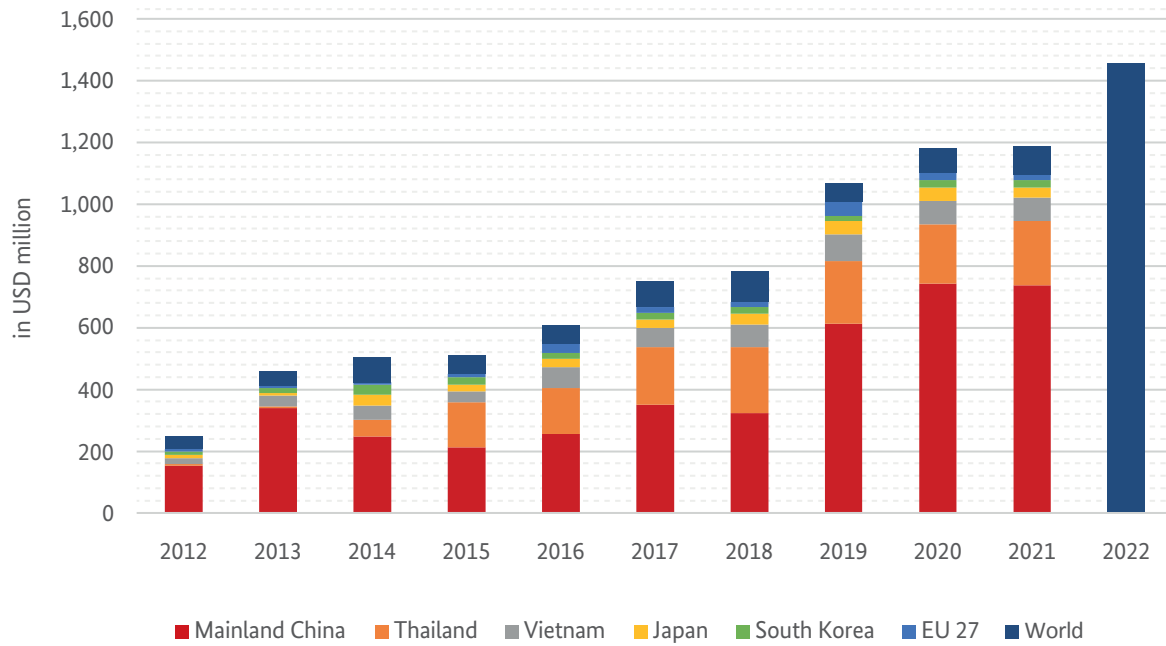


Figure 3: Cambodia's top-5 suppliers plus EU 27 under HS Code 85

### 3. Bases for Electric Control or the Distribution of Electricity (HS Code 8537)

Import value: \$91.1 million, representing 7.6% of EEE imports  
Main suppliers: Mainland China (79.4%), Thailand (2.7%), Vietnam (2.5%)

Products under HS Code 8544 (wires / wire harnesses) are both Cambodia's major import and export EEE commodity. Imports originate mainly from China and Thailand, whereas exports are shipped mostly to the USA and Japan, adding value of \$120 million through labour-intensive assembly. The value added for HS Code 8541 (diodes) is \$182.9 million, and for HS Code 8501 (small-size motors) \$44.5 million, respectively.

While the rather simple products above generate a trade surplus, the more complex products under HS Codes 8536 (electrical apparatuses) and 8537 (electric control & distribution) generate trade deficits of \$95.1 million and \$87 million, respectively, with the latter registering almost no exports at all. This suggests domestic usage and consumption almost entirely for HS 8537 and predominantly for HS 8536.

#### Domestic Sales

The demand for EEE products in Cambodia is growing fast. Being a major pillar of the Cambodian economy, the construction sector accounts for a large portion of demand for wires, cables, electrical ignition equipment and electrical transformers. Increasing energy generation and consumption have also created local demand for grid / high-grid / high-voltage equipment, as well as solar panels, inverters, batteries, generators, and circuit breakers. Furthermore, car assembly – such as the Ford assembly plant inaugurated in Pursat in 2022 – are major customers for radios, electronic parts, batteries, alternators, and generators.

However, informal consultations with major electronics suppliers reveal that almost all of Cambodia's locally-made EEE products are destined for export. This is hard to verify, as data on domestic sales is hard to obtain in Cambodia. The sectors mentioned above may, however, prove to become customers for locally manufactured EEE products in the future.

#### Enhancing the stability of electrical supply in the capital

Fueled by strong economic growth, power demand in the Cambodian capital Phnom Penh has been increasing rapidly in recent years. This has led to bottlenecks in the supply of electricity due to the limited transmission and distribution capacity in the city's electrical grid. In order to address this challenge, the Japan International Cooperation Agency (JICA) has funded Japanese ODA Loan projects to expand transmission and distribution lines in Phnom Penh, as well as construct additional substations in the same areas. Phase 1 of the project was completed in May 2022 while the phase 2 is under implementation to be completed in 2025.

Construction work has been carried out by a number of companies from all across the region, selecting the electrical equipment to be used for construction according to specified requirements in consultation with the implementing agencies. While the procurement process of the projects does not exclude electrical equipment manufactured locally in Cambodia, as of now, all EEE equipment is procured from abroad, highlighting the relatively recent emergence of the sector in Cambodia.

## Policy Framework

The electrical and electronic equipment industry is subject to both general laws and regulations pertaining to the private sector, as well as broader policies that define national priorities and strategies for action.

Manufacturers of electrical and electronic products for the Cambodian market are required to apply for a three-year Product Registration License at the Institute of Standards of Cambodia (ISC). Cambodian mandatory standards and their international IEC equivalents for electrical and electronic products under HS Codes 85 (and also 84 and 94) are regulated in the Ministerial Regulations (Prakas) No. 115 (2/2004), No. 1003 (9/2006), and No. 1302 (12/2006).

The recently amended *Law on Investment* (2021) streamlines Cambodia's investment environment and – among 18 other industries – explicitly mentions electrical and electronic industries as being entitled to conditional investment incentives under the Qualified Investment Projects (QIPs) mentioned above. These incentives include an exemption from income tax for 3–9 years and VAT exemptions for the purchase of locally produced production inputs, to name a few options.

In the development plans of the Cambodian government the EEE sector is referenced in two key documents: On a broader level, electronic and electric equipment assembly is part of the first of five industrial priority sectors defined by Cambodia's overall *Industrial Development Policy (IDP) 2015–2025* in preparation of Cambodia's graduation from its Least Developed Country (LDC) status. Increasing technical skills training and the establishment of technical secondary schools are the key medium to long term strategies for the EEE sector defined in the policy.

Specific to the sector, a recent high-level strategy named *Automotive and Electronics Sectors Development Roadmap* aims to develop the automotive and electronics sectors into the new growth engines of Cambodia. According to the roadmap, the



Engineer checking solar cell electrics.

government aims to create more than 26,000 new jobs in the electronic (16,000) and automotive (10,000) sectors and to raise exports of the electronics sector by around \$1.6 billion by 2027. The Kingdom will first focus on expanding output in simple components and sub-assembly, including cables and connectors, and printed circuit board (PCB) assembly, before moving up the value chain in the mid-term and turning Cambodia into an integrated electronics production hub, including final assembly, in the long run.

However, it is premature to assess to what extent these plans by the Cambodian government to become an established and more sophisticated EEE manufacturer will come to fruition. First, the government needs to tackle the two endemic weaknesses of local manufacturing: the low skill levels in the local workforce and the high energy costs.

## Business Opportunities

Depending on the degree of success achieved in the future development of Cambodia's electrical and electronic equipment industry, a number of business opportunities for European companies can be identified in the country, as outlined below.

### Sourcing from Cambodia

So far, Asian and North American competition dominates the local market. There is very little trade of EEE products between Cambodia and the EU 27 and most related investments in Cambodia are made by other Asian countries. Nevertheless, as the largest importer of EEE products worldwide, the USA have discovered Cambodia as a supplier in 2019 and their related imports from the country have increased almost tenfold since then.

Given the partial similarities between the American and European EEE manufacturing industry, this roaring success story of sourcing from Cambodia may provide a model for European economies, particularly Germany, to replicate. Germany is the world's fifth largest exporter and fourth largest importer of EEE products, and it could benefit from Cambodia's EEE growth strategy, drawing on experiences from Vietnam, where it imported \$2.5 billion worth of EEE products in 2021.

### Sales Offices and Local Distribution

The Cambodian market for electrical and electronic products is divided into highly price-competitive products coming mostly from China with varying (medium/mediocre) qualities and premium products for clients who are willing to pay more for a higher quality. According to several well-established EEE companies operating in the Kingdom, high quality brands such as Schneider Electric and Bosch are in high demand by both industrial and end customers.

With a steady rise in household income, higher quality end consumer products are likely to get increased attention in Cambodia, where the ownership rate of most consumer devices other than cell phones is still relatively low. For example, household appliances such as microwaves, toasters, coffee makers, etc. have not yet

found their way into most Cambodian kitchens, potentially offering good opportunities. As highlighted in the chapter on international trade, related exports from the EU to Cambodia so far remain relatively low, averaging around \$20 million annually in recent years.

Establishing a sales office or partnering with local distributors such as ATS, GGear Group, Mega-Electrical, Euro-Electrical, and Triangle are possible options to enter the Cambodian market.

### Training, Skills and Capacity building

Despite its abundant young labour force, Cambodia is lacking skilled workers and engineers due to a weakness in its educational system, leading to weak capabilities in research and development. The workforce is often unable to meet the needs of private companies, including manufacturers of mechanical and electrical equipment, auto and motorcycle parts, and other electronics. While it is currently expected that private companies recruit and train their employees themselves, European education institutes could step in to support the training of electrical engineers through partnerships with local universities. One example from the similar field of mechanical engineering is the Cambodia-Japan Digitalised Manufacturing Centre (CJDM) at the Royal University of Phnom Penh, which has partnered with German-Japanese DMG MORI Academy to provide highly specialized training courses in engineering and manufacturing. Such cooperation could also be extended to environmental engineering to boost e-waste recycling in Cambodia. The country also presents opportunities in its growing technical and vocational education and training (TVET) sector. TVET institutes that specialise in the training of electrotechnicians would benefit Cambodia's capacity for maintaining electrical installations and performing high-quality assembly works.

### E-waste Recycling

The rapid development of the Cambodian consumer economy has led to a significant increase in e-waste, including TVs, PCs, refrigerators, air conditioners and washing machines (4 million tonnes in 2020), increasing by 10% each year. An informal network of waste pickers plays an important role in collecting recyclable materials from e-waste, often from open dump sites. Valuable components are collected and exported, whereas non-valuable waste is disposed in landfills with other industrial waste.

Following a change in the notification process, e-waste will soon have to be declared separately from EEE items for repair or refurbishment when shipped abroad. This requirement constitutes an opportunity for European investors. Benefiting from the very little competition in this segment, setting-up a specialised e-waste recycling plant or EEE repair factory could attract large shipments of e-waste and used EEE products from Europe.

Trading second-hand machinery for e-waste recycling has also potential in the country. As new machineries found in Europe are mostly too expensive for developing countries, Cambodia can be a destination to give a second life to European used recycling machines, similar to other machines where this has already happened.

### Vehicle Repair and After Sales

One of the reasons for the limited presence of European car brands in Cambodia is the lack of spare parts and after sales services, making repair services scarce. Setting up an after sales service with a wide range of EEE equipment for vehicles available could attract clients and encourage Cambodians to buy more European cars. However, the recent withdrawal of German car manufacturers from car sales in the Kingdom due to prevalent grey vehicle imports as well as the relatively small market size require careful planning of such activities.

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#### Relevant business associations in Cambodia:

- European Chamber of Commerce  
<https://www.eurocham-cambodia.org>
- Cambodia Chamber of Commerce  
<https://www.ccc.org.kh/>
- International Business Chamber of Cambodia  
<https://ibccambodia.com/about>
- Japanese Business Association of Cambodia  
<https://jbac.info/>
- Korean Chamber of Commerce  
<http://kochamcambodia.org/eng/>

#### Sources and useful links:

- Council for the Development of Cambodia (CDC)  
<https://cdc.gov.kh/home/electronics/>
- Phnom Penh Special Economic Zone (PPSEZ)  
<https://www.ppsez.com/en/home>
- Organisation for Economic Cooperation and Development (OECD) <https://oec.world/en/profile/hs/electrical-machinery-and-electronics>
- UN Comtrade Database <https://comtradeplus.un.org/>
- Cambodia Development Resource Institute (2019) Cambodia in the Electronic and Electrical Global Value Chains  
[https://cdri.org.kh/storage/pdf/wp119e\\_1617247939.pdf](https://cdri.org.kh/storage/pdf/wp119e_1617247939.pdf)
- Cambodia's Industrial Development Policy (IDP) 2015–2025 [https://www.eurocham-cambodia.org/uploads/97dae-idp\\_19may15\\_com\\_official.pdf](https://www.eurocham-cambodia.org/uploads/97dae-idp_19may15_com_official.pdf)
- Royal Government of Cambodia (2022) Cambodia Electronics and Automotive Sector Development Roadmap
- Cambodia Academy of Digital Technology  
<https://www.cadt.edu.kh/>

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