

INVESTMENT REPORT SUPPLY CHAIN OF

ELECTRICAL EQUIPMENT

MANUFACTURING INDUSTRY

VIETNAM

9M/2022

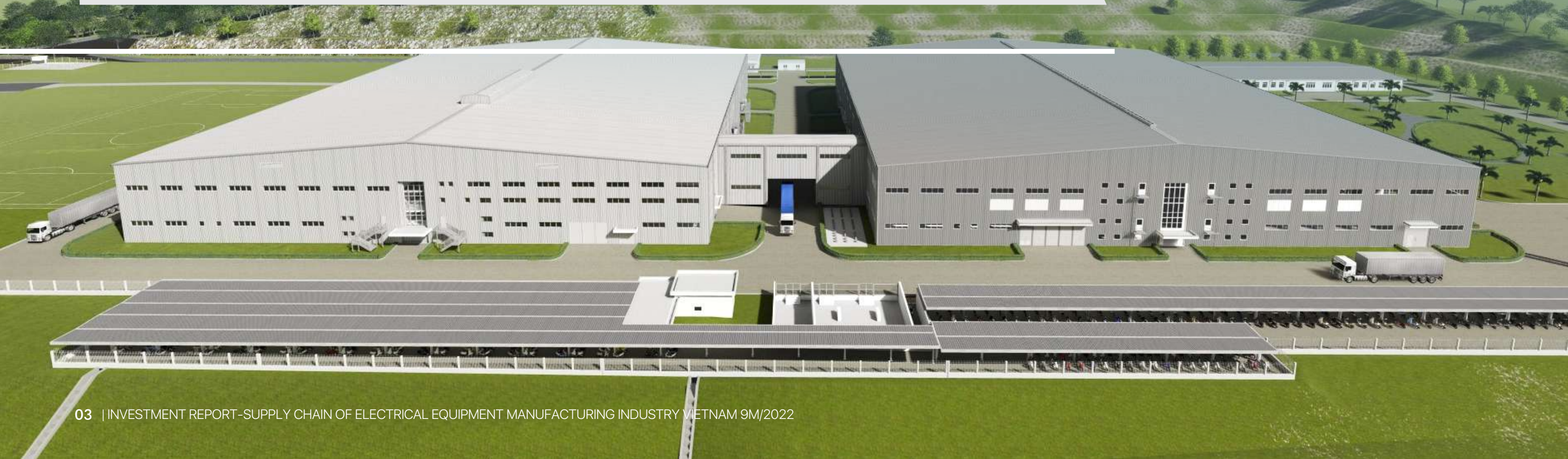
**All data included in the Report has been updated up to September 30th 2022.
The projects images were supplied by NewCC, Pebsteel, Atad Steel and Dai Dung Corporation*

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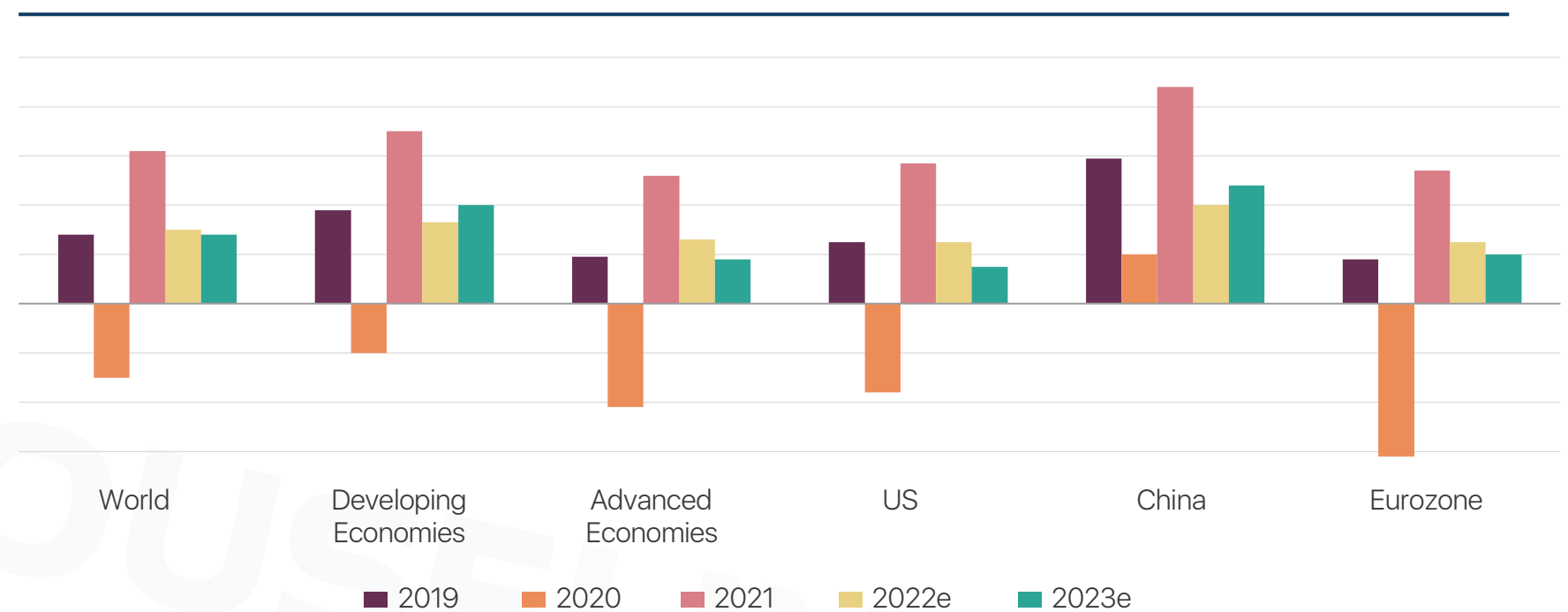
I. WORLD SOCIO ECONOMIC OVERVIEW



1. Gross domestic product growth (GDP)

The Year of 2022 is the year that world economy suffers many negative impacts. The consequences caused by the Covid-19 epidemic, the energy and food crisis caused by the Russian – Ukraine war, which pushed up prices and inflation rate, China is still carrying out the blockade measures to prevent the epidemic, which has made the economy during the 9 months of 2022 very bleak. Facing these economic risks, most of the experts forecasts the economy cannot be recovered in the next quarter, global economic growth still has many challenges in terms of politics, epidemics, inflation, ... In that context, the latest forecast of global GDP growth in 2022 will only fluctuate between 2,4%-3,2%.

GDP GROWTH RATE THROUGH YEARS (%)

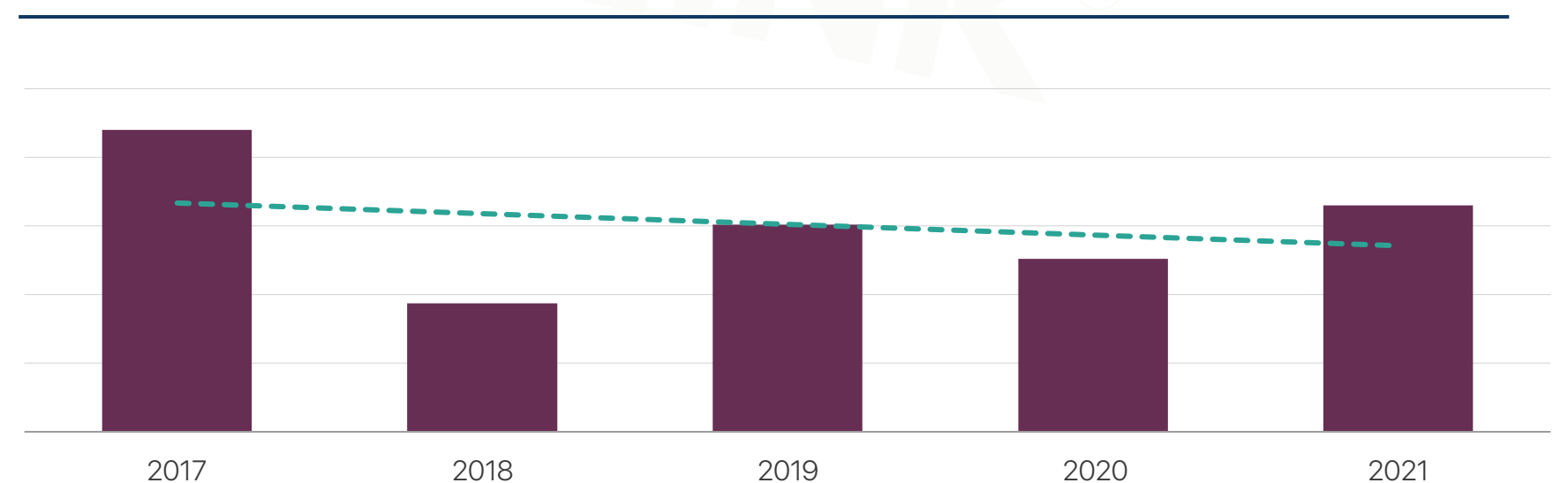


Source: Euromonitor

2. GDP Growth rate through years (%)

World FDI is on a downward trend from 2017 to 2021. In 2021, global FDI flows increased by 30% compared to 2020. However, in 2022, global FDI is quite gloomy compared to 2021 due to the impact of uncertainly on investor behavior, risks from supply chain disruptions and the increasing of raw material costs and other risks from political and economic conflicts in the world. Global FDI is forecasted to be flat or down compared to 2021.

FDI INFLOWS IN THE WORLD 2017-2021 (BIL USD)

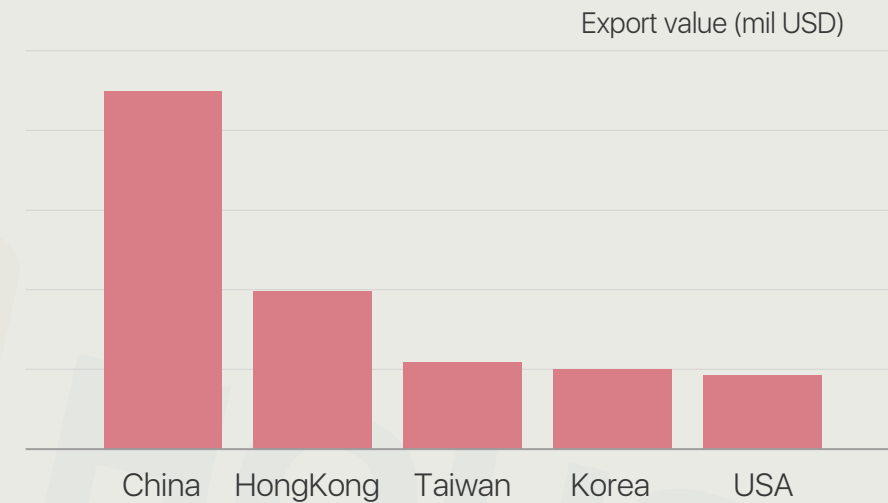


Source: World Bank

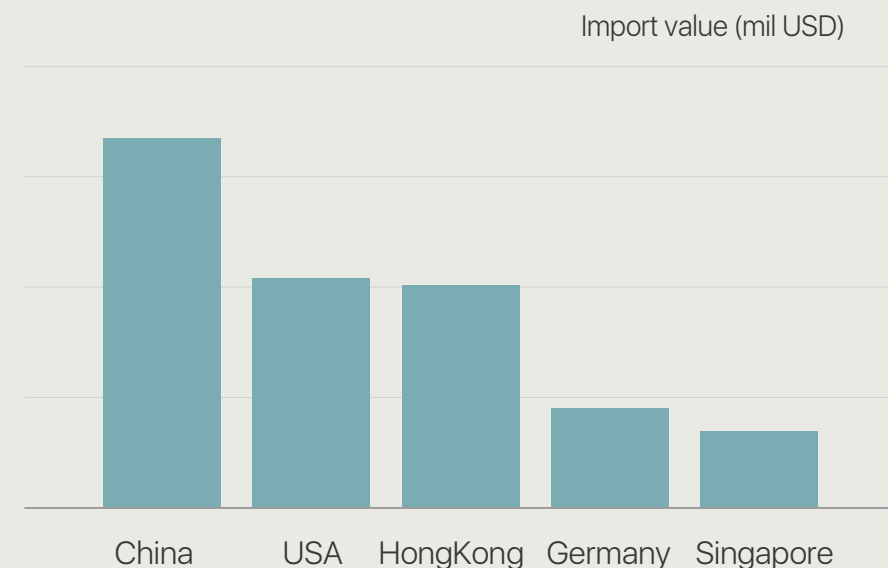
3. Production and import-export status of electrical equipment industry

China is the largest exporter of electrical equipment in 2021 with 898,9 million USD, followed by Hong Kong with 395,5 million USD. In 6 years (2016 – 2021), China has always maintained the leading position in the export market of the electrical equipment industry. Besides, in terms of import market, in the five years of 2016 – 2020, the US is the leading country in the import market of electrical equipment, but by 2021, China has surpassed and become the world's largest importer of electrical equipment.

TOP 5 MAJOR EXPORT MARKETS FOR ELECTRICAL EQUIPMENT IN 2021

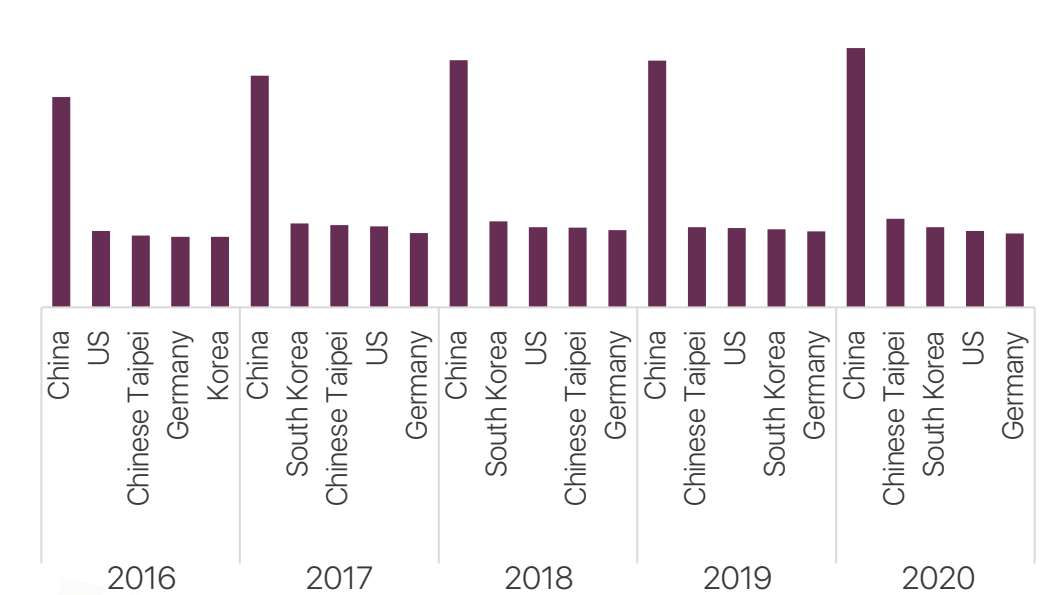


TOP 5 IMPORT MARKETS OF ELECTRICAL EQUIPMENT INDUSTRY IN 2021



Source: Trademap

TOP 5 EXPORTING COUNTRIES OF ELECTRICAL EQUIPMENT INDUSTRY IN 2016-2020 (BIL USD)



TOP 5 IMPORTING COUNTRIES OF ELECTRICAL EQUIPMENT INDUSTRY IN 2016-2020 (BIL USD)

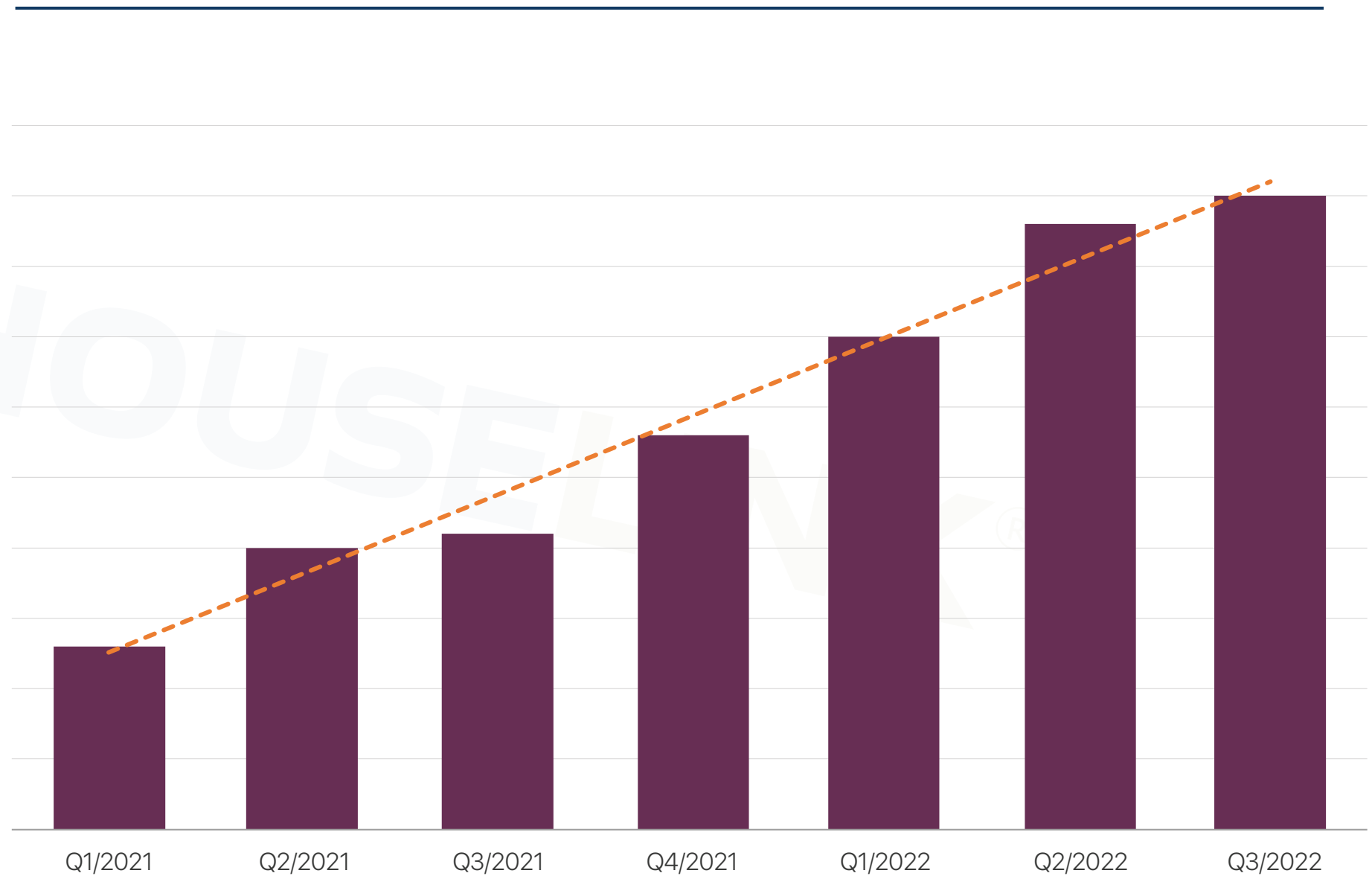


Source: OEC

4. Some other economic indicators

Due to the impact of the Covid-19 epidemic and the conflict between Russia and Ukraine have caused the price of energy and goods to be increased. World inflation in the third quarter of 2022 increased to 9%. Bright spots for global economic growth will appear in emerging economies of North Africa and Asia such as India, Indonesia, Vietnam, the Philippines, etc. The advantages of Asia economies are strong internal economic drivers, effective regional free trade agreements, efficient supply chains and stable foreign capital flows.

WORLD INFLATION INDEX EVERY QUARTER OF 2021-2022



Source: Statista



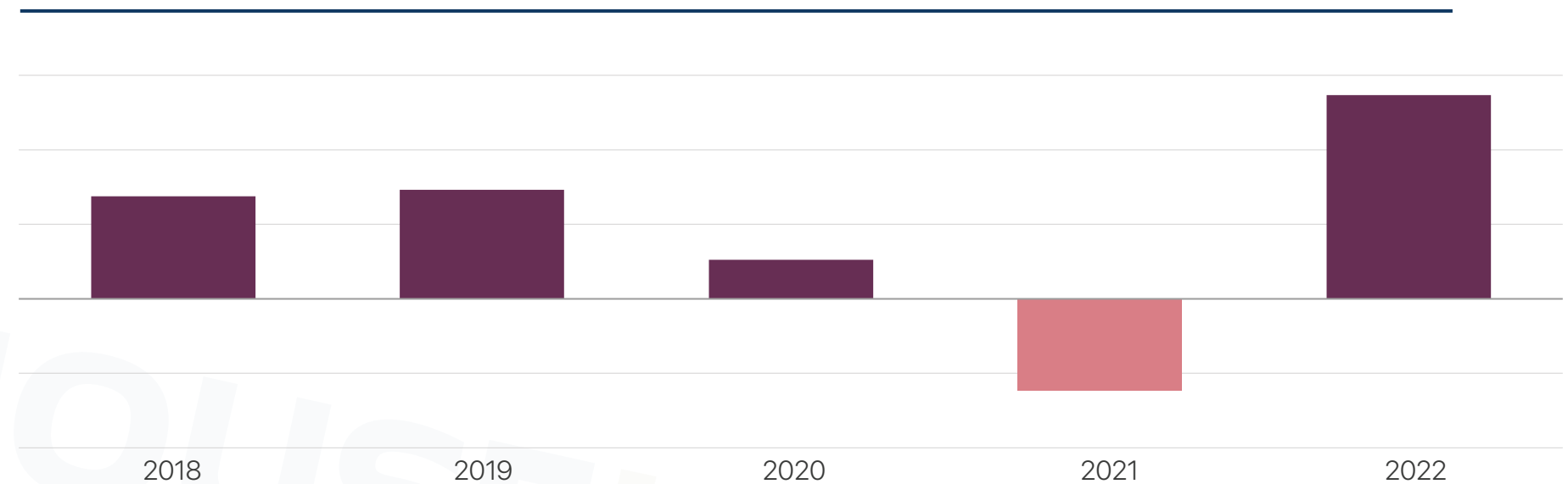
II. VIETNAM SOCIO ECONOMIC OVERVIEW

1. Some key general economic indicators

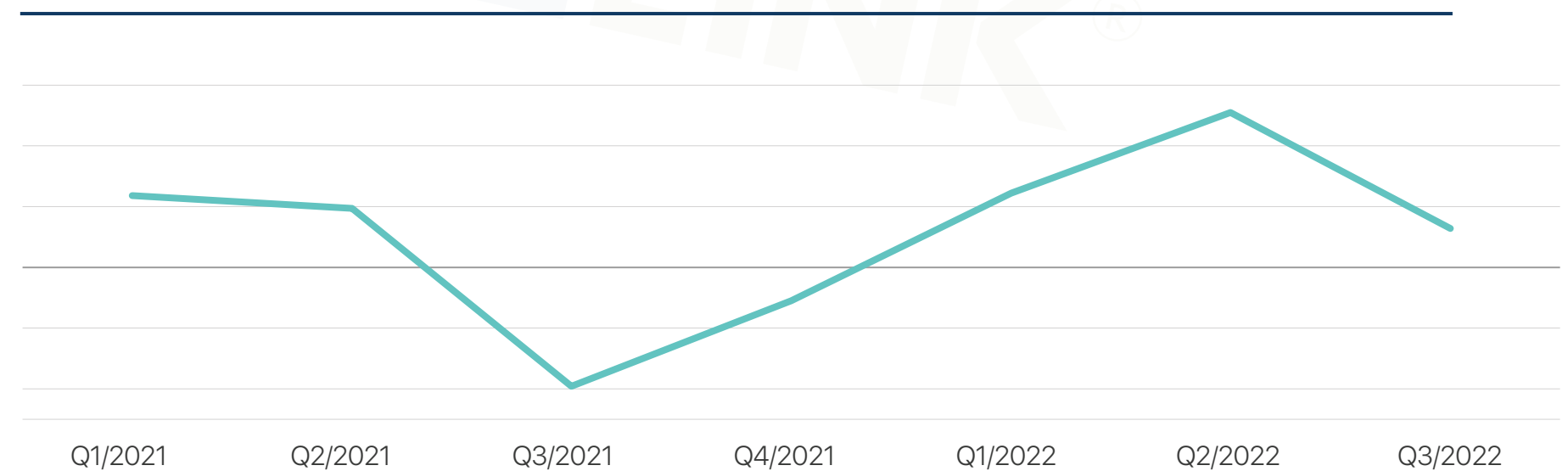
GDP growth in the third quarter of 2022 is estimated to increase sharply by 13.67% over the same period last year according to the General Statistics Office (GSO). This is the highest Q3 growth rate over the past decade. In the context of complicated world situation with inflation shocks in many countries at the beginning of 2022 and Vietnam is just in the early stages of post-pandemic growth, the growth figure is very impressive, showing that the economy is thriving very clearly.

The index of industrial production (IIP) of the electrical equipment industry has improved significantly since the third quarter of 2021. The peak was in the second quarter of 2022, the IIP index increased at 25.5%. In Q3/2022, IIP index decreased compared to Q2 but expected to increase again in Q4.

GDP GROWTH IN THE THIRD QUARTER OF THE YEAR



INDEX OF ELECTRICAL EQUIPMENT PRODUCTION BY QUARTER IN THE YEARS 2021-2022

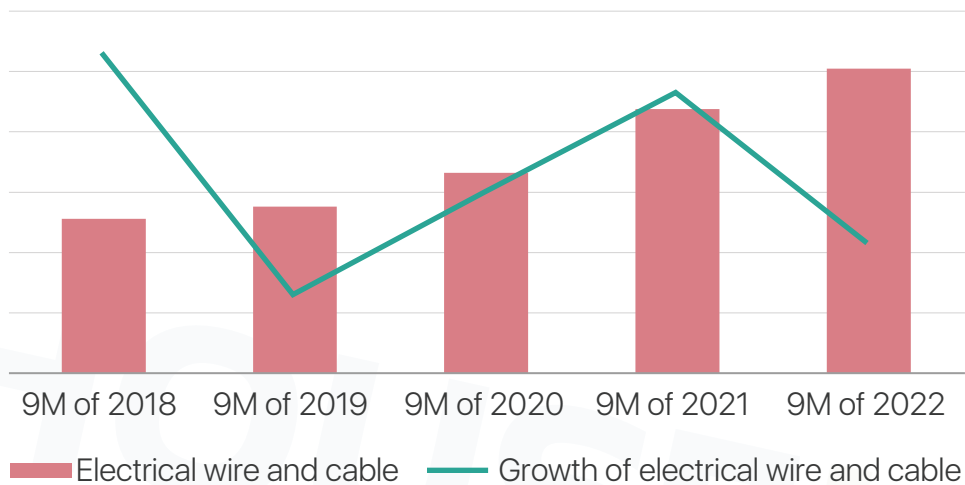


2. Import and export of some electrical equipment products

In the electrical equipment industry, electric wires and cables are among the most exported products. The export value of electric wire and cable products is still showing a clear growth trend. In 9 months of 2022, the export value of this product has a slight increase compared to the same period in 2021. China and the US are two major export markets of Vietnam in this industry.

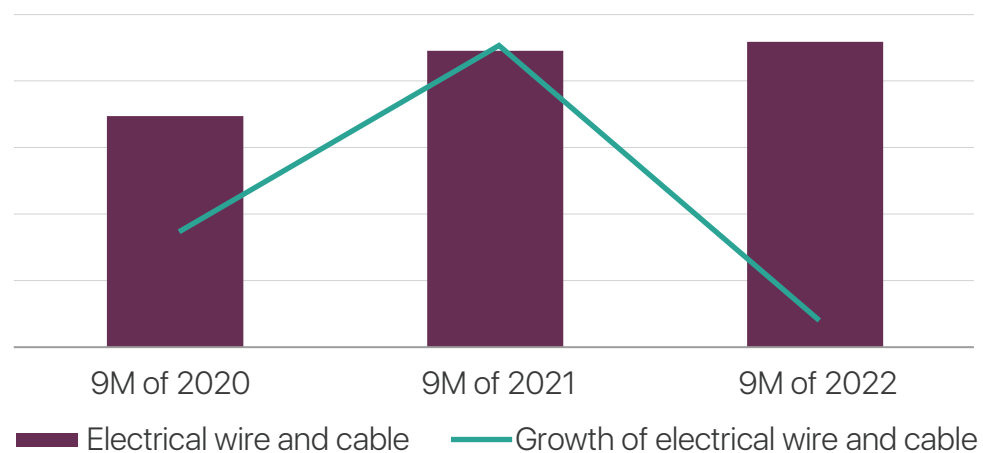
Regarding imports, businesses still import many types of electric wires and cables. Import value has continuously increased over time, the main import market is still from China (accounting for 43,9%).

GROWTH VALUE AND EXPORT OF ELECTRICAL WIRE AND CABLE IN 9 MONTHS OF THE YEAR



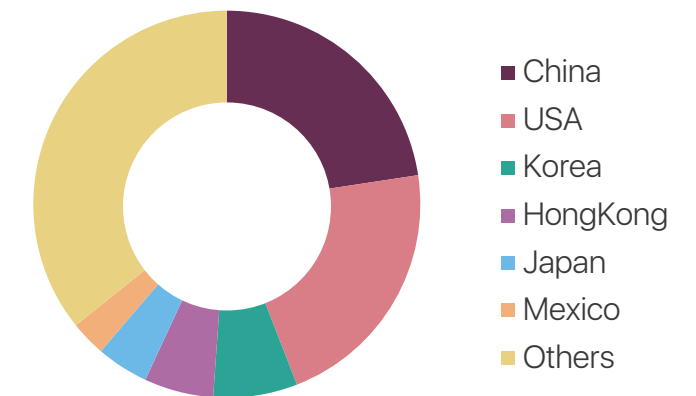
Source: GSO

GROWTH VALUE AND IMPORT OF ELECTRICAL WIRE AND CABLE IN 9 MONTHS OF THE YEAR



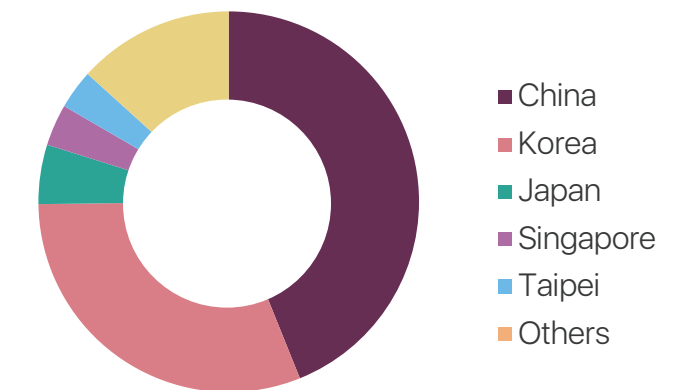
Source: GSO

THE SHARE OF VIETNAM'S ELECTRICAL EQUIPMENT EXPORTS BY COUNTRY AND REGION IN 2020 (%)



Source: OEC

PROPORTION OF IMPORTED ELECTRICAL EQUIPMENT OF VIETNAM BY COUNTRY AND TERRITORY IN 2020 (%)

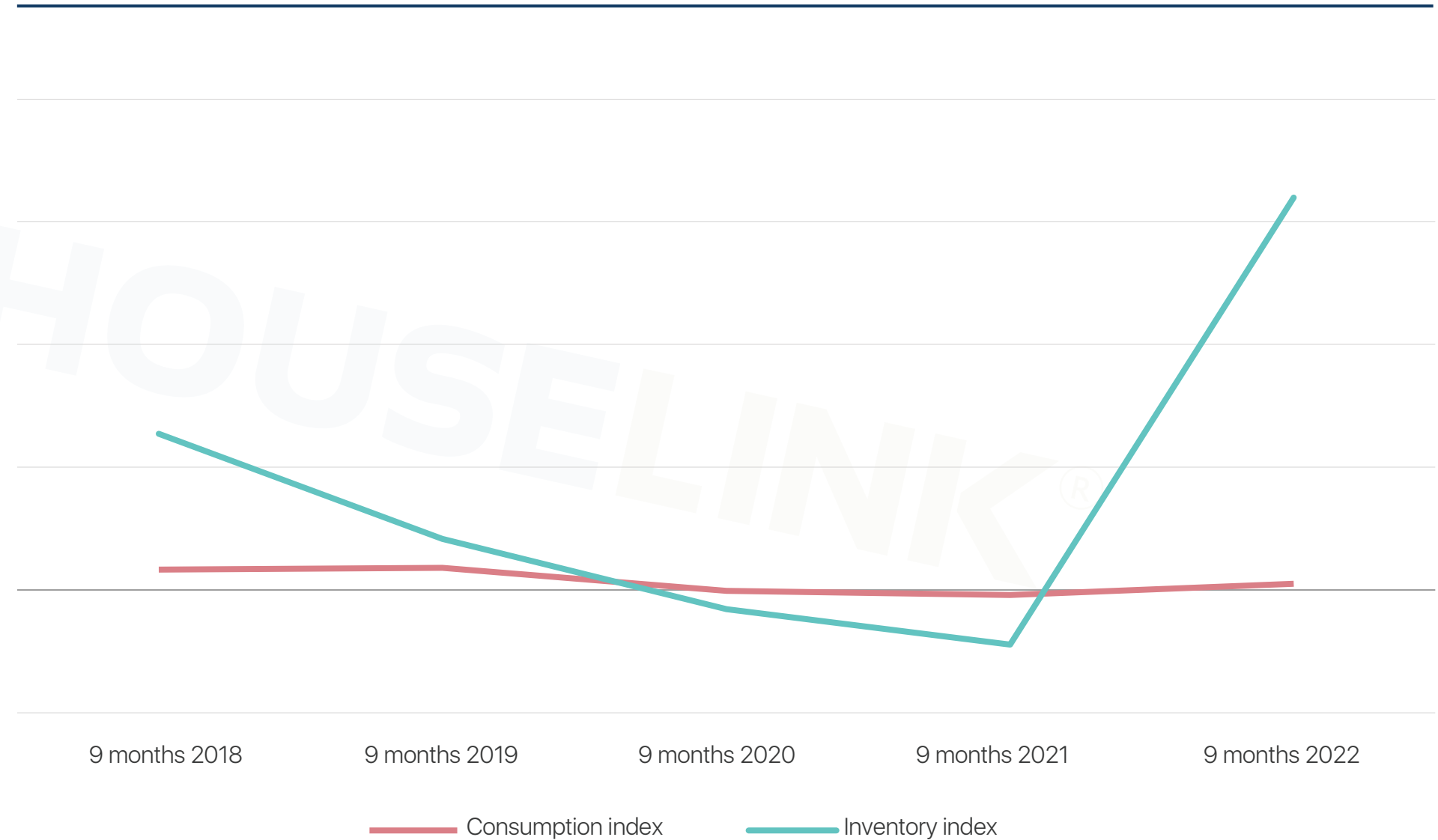


Source: OEC

CONSUMPTION INDEX AND INVENTORY INDEX OF ELECTRICAL EQUIPMENT INDUSTRY IN THE THIRD QUARTER OF THE YEARS

3. Some other production indicators

In the period of 2020-2021 when the covid pandemic had swept across the world, trade between countries also became difficult, causing the consumption index was drop sharply and the inventory index increased. Especially in 9 months of 2022, the inventories increased by 159,9%. This shows that the orders of the electrical equipment industry are slowing down.



Source: GSO

III. STATUS OF INVESTMENT PROJECTS IN THE ELECTRICAL EQUIPMENT INDUSTRY

In this section, we synthesize and analyze newly registered FDI (projects with investment capital is greater than or equal to 2 million USD) in the electrical equipment industry from 2013 to 2022 and located inside and outside the industrial park.

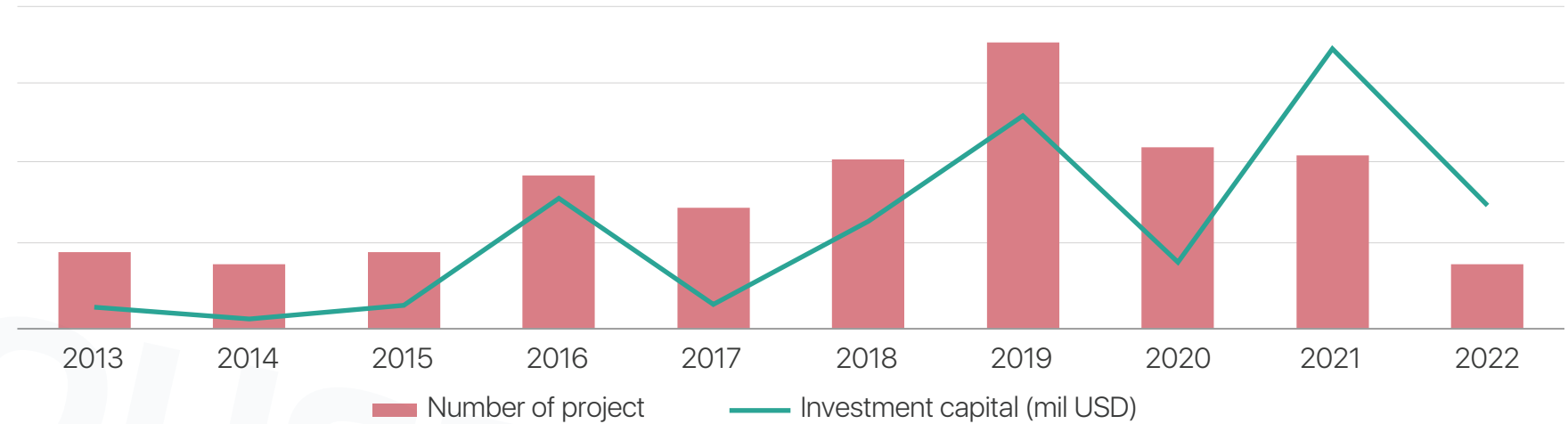
1. Investment overview in electrical equipment industry

“Investment in the electrical equipment industry showed a continuous increase before 2020 but decreased during the period of the Covid-19 epidemic, so far there is no sign of a full recovery. ”

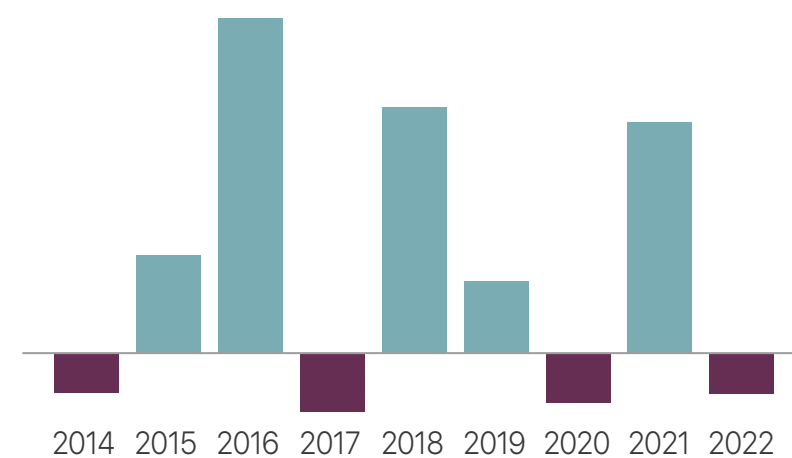
Before the Covid-19 epidemic, the number of electrical equipment projects entering the Vietnam market tended to grow positively, peaking in 2019. Since the time of epidemic, the number of newly registered projects has tended to decrease significantly and continuously. The year 2022 has passed 9 months, the negative influences from economic and political shocks in the world have led to anxiety of investors, thereby making the number of electrical equipment projects invested in Vietnam market is still quite low (equal to only 37% of the one in 2021). We consider that by 2023, the economic shocks will not be completely resolved, global GDP and FDI inflows are unlikely to grow significantly, which will affect the attraction of investment capital to Vietnam’s electrical equipment industry.

In terms of total investment capital, Vietnam’s electronics industry market records 5.5 billion USD in total registered capital and 339 total projects from 2013 to present and heavily depended on the big players in the industry, especially from FDI capital sources. The good news is in 2019 and 2021 recorded many large-scale capital investment projects. The capital flow over the years has fluctuated strongly, not in a clear increasing direction like the number of projects, but in general, there is an increasing trend. Crucially, DDI capital projects in recent years tend to be more flourish, both in 100% DDI capital projects and DDI-FDI capital joint ventures.

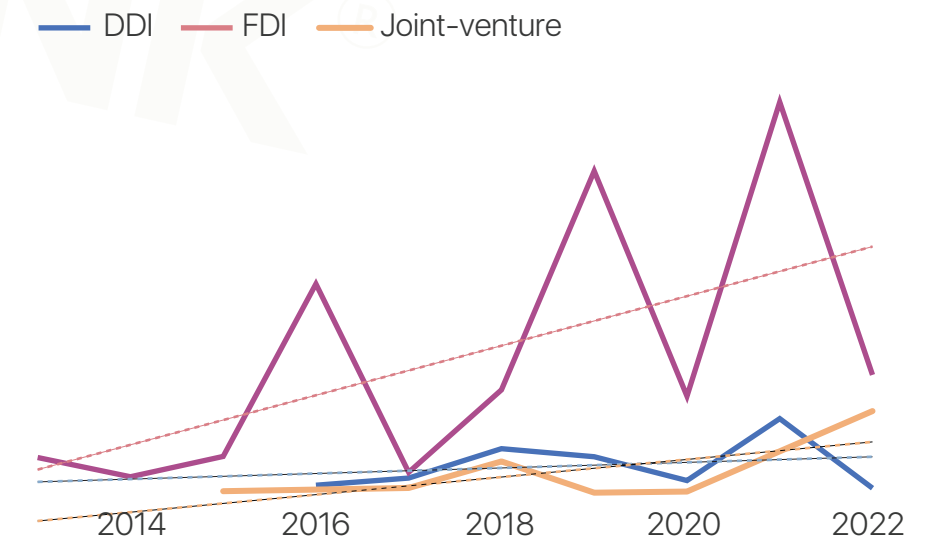
INVESTMENT SITUATION OF ELECTRICAL EQUIPMENT INDUSTRY PROJECTS FROM 2013 TO PRESENT



REGISTERED CAPITAL YEAR-OVER-YEAR CHANGE



REGISTERED CAPITAL

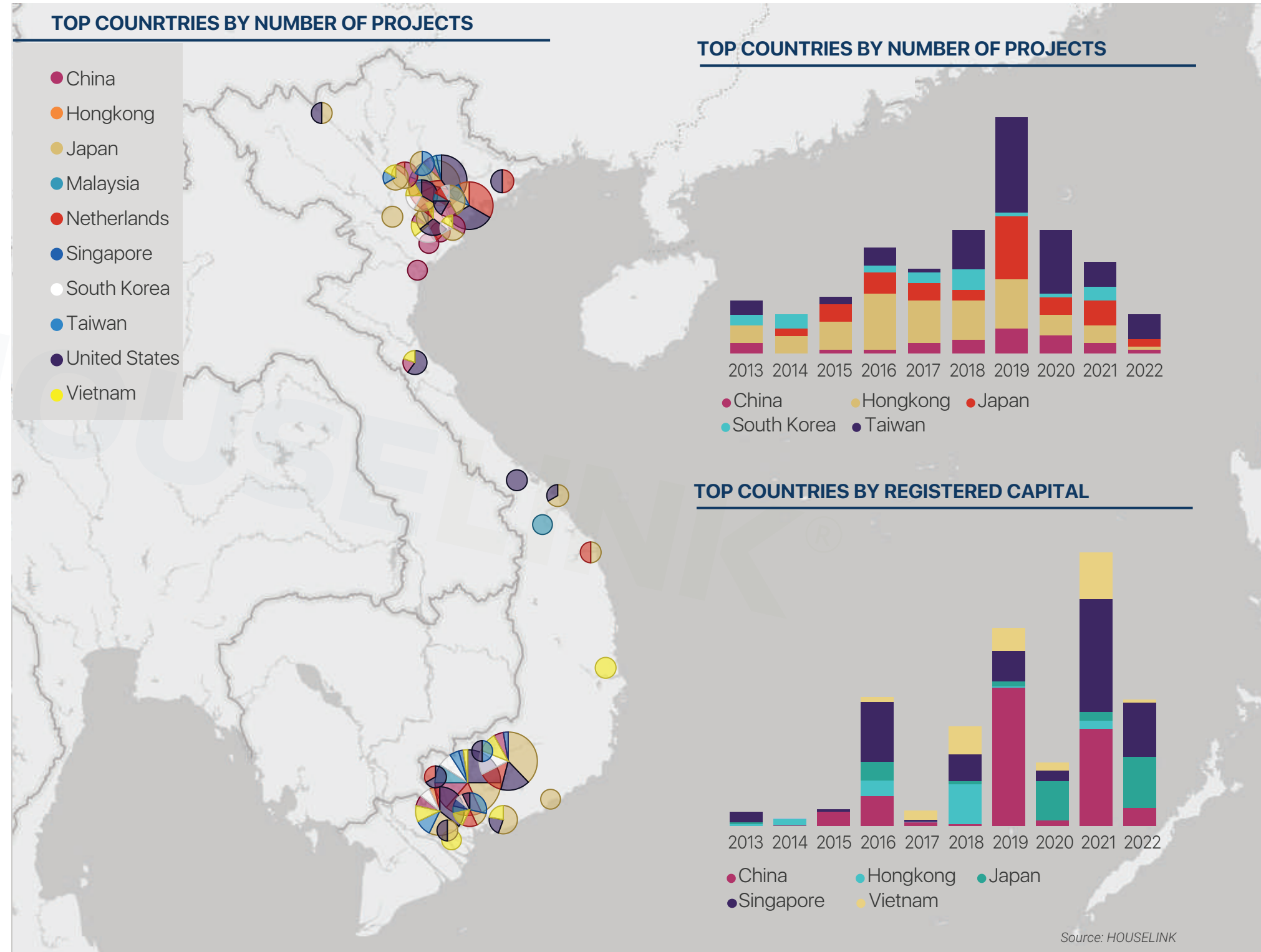


Source: HOUSELINK

“ In recent years, Vietnam has begun to attract electrical equipment projects from diversified countries and territories. ”

During the journey of investing in the electrical equipment industry from 2013 up to now, we have recorded several countries which are in the top investors in Vietnam like: Korea, Hong Kong, China, Singapore, etc. Most of these countries are East Asian and Southeast Asian countries. The United States and the Netherlands are also in the top countries investing in electrical equipment projects. Among the above countries, the most prominent are investment projects from China and Korea, which always account for a large proportion in the market share of electrical equipment projects invested in the Vietnam market.

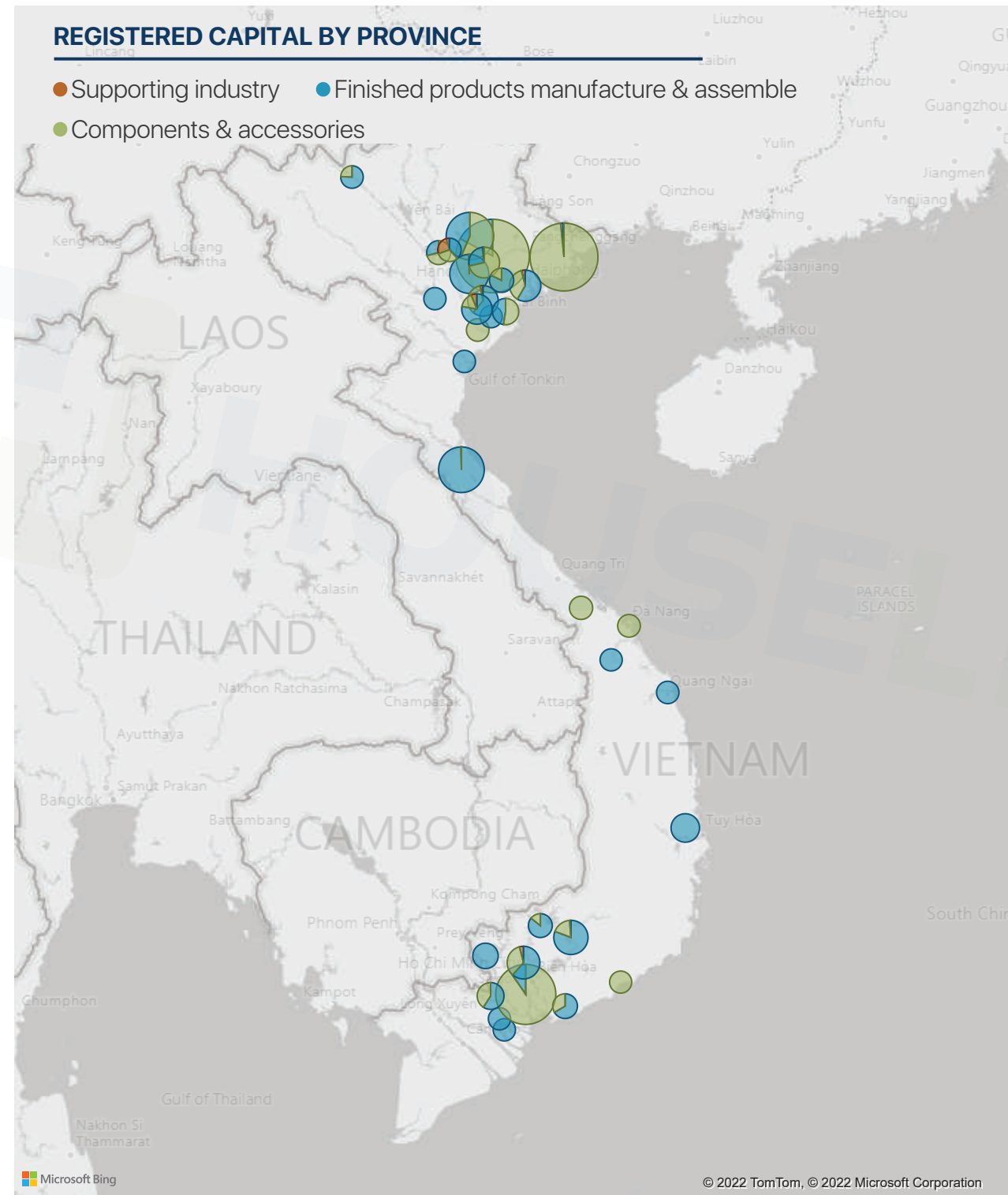
In terms of registered capital, large capital projects come from many prominent countries such as Hong Kong, China, Singapore, and Japan. In 2022, China is leading both in terms of investment capital and number of projects, followed by Singapore and Hong Kong. In which, projects from Singapore investors have a steady increase in investment capital over the year, even in 2022 while projects from other origins tend to decrease compared to previous years. However, in fact, as our study, the mother company of these projects have more than 40% of Chinese origins if calculated by the number of projects, and if we calculate the registered capital, the Chinese investors account for more than 80%. Although domestic investors cannot overwhelm foreign investors, they still have a prominent position in the rankings (ranked 4th in terms of registered capital) in recent years.



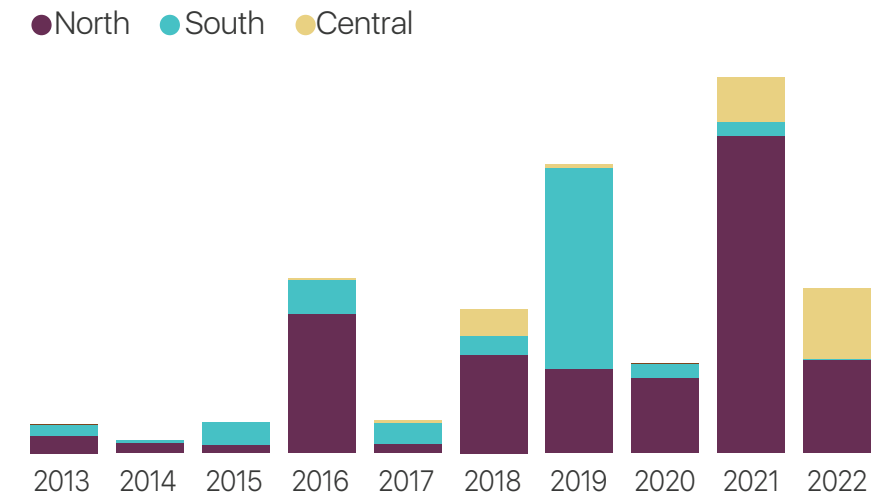
“The North attracts the largest scale of registered investment capital and the most projects among three regions, especially in the provinces and cities of the Red River Delta economic region.”

In term of the scale of registered investment capital

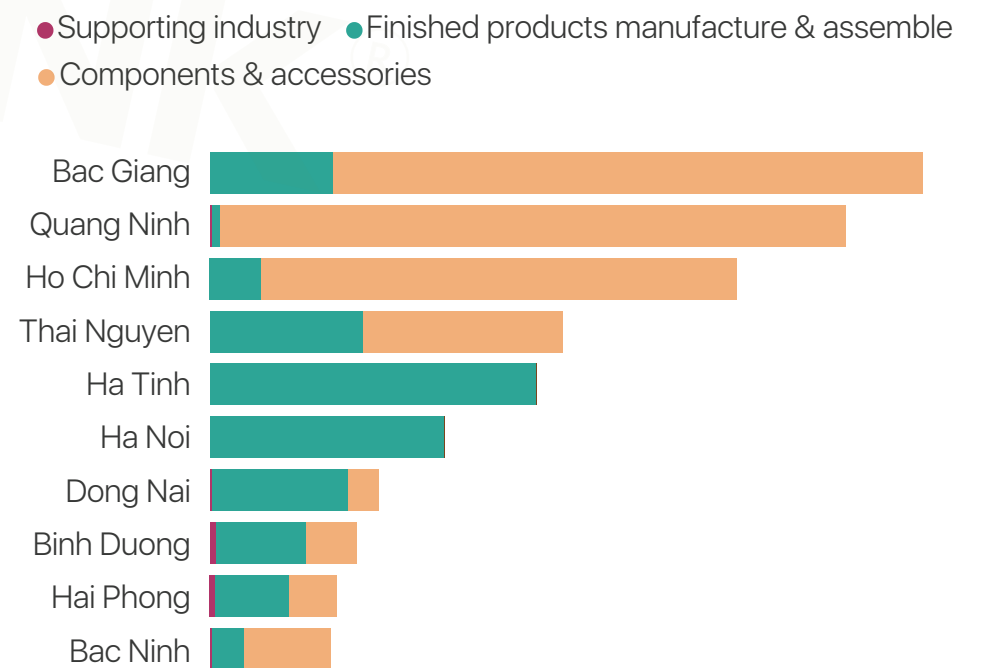
The registered capital in the electrical equipment industry, especially in large scale projects, is mainly located in the Northern provinces over most of the years. Except in 2019, the amount of capital poured mostly into the Southern provinces. Prominent provinces are Bac Giang, Quang Ninh and Ho Chi Minh city. The Central region has a significant project as Vines factory project in Ha Tinh. In which, processing and assembly projects account for the largest amount of capital.



REGISTERED CAPITAL BY REGION



TOP PROVINCES WITH HIGHEST REGISTERED CAPITAL

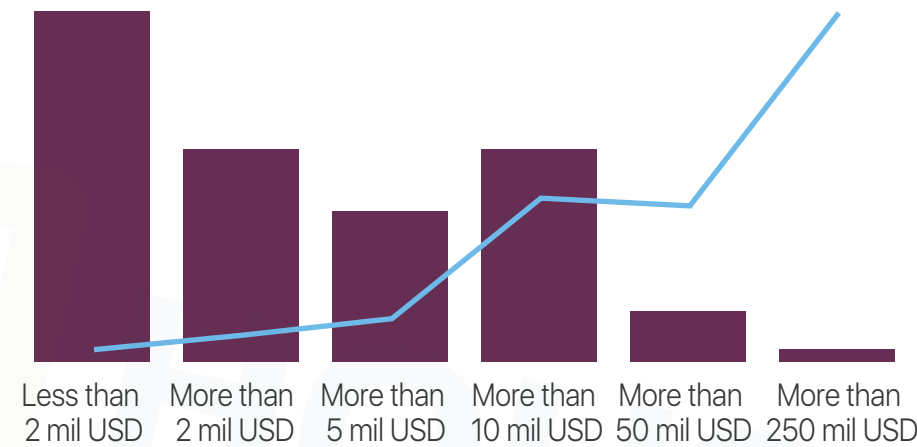


We have classified investment capital according to different groups. And assuming that before the Covid-19 pandemic, most capital groups tended to increase but decrease in the two years (2020 and 2021). In 2022, by the end of September, most capital groups have not been able to recover. The largest proportion of capital groups are projects under 2 million USD. In addition, the projects which in the group of 10 million USD to 50 million USD also account for a high proportion. Although there are not too many projects but some over 50 million USD projects have also begun to appear and increase in recent years.

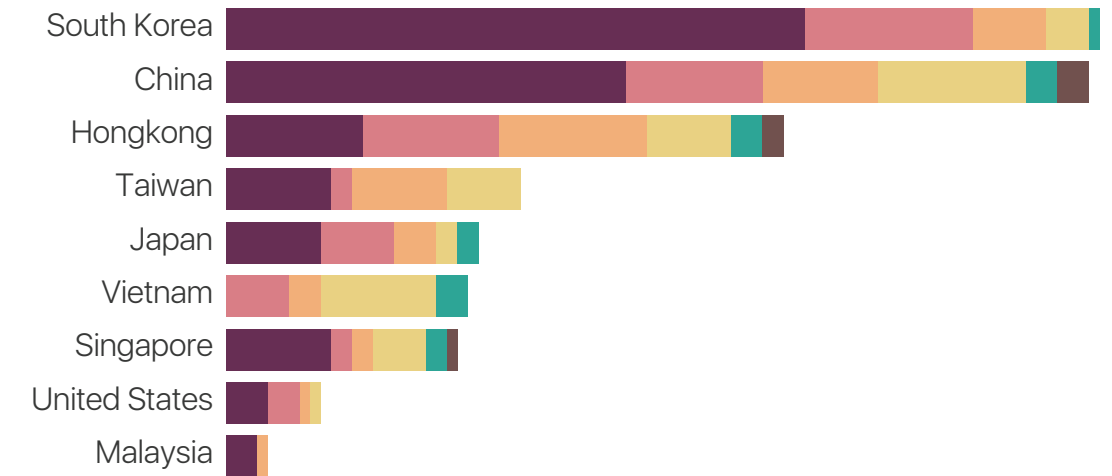
Vietnam is tending to develop solar cell projects (accounting for large investment capital share). Solar panel projects with large investment capital scale are located mainly in Northern provinces such as Bac Giang, Quang Ninh, Thai Nguyen.

CAPITAL AMOUNT SEGMENTS

● No. of projects ● Registered capital

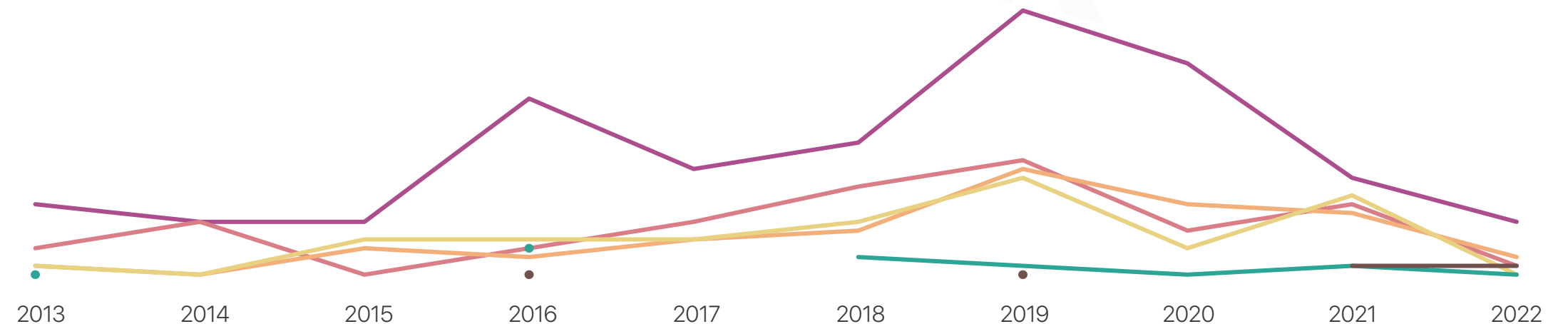


CAPITAL AMOUNT SEGMENTS



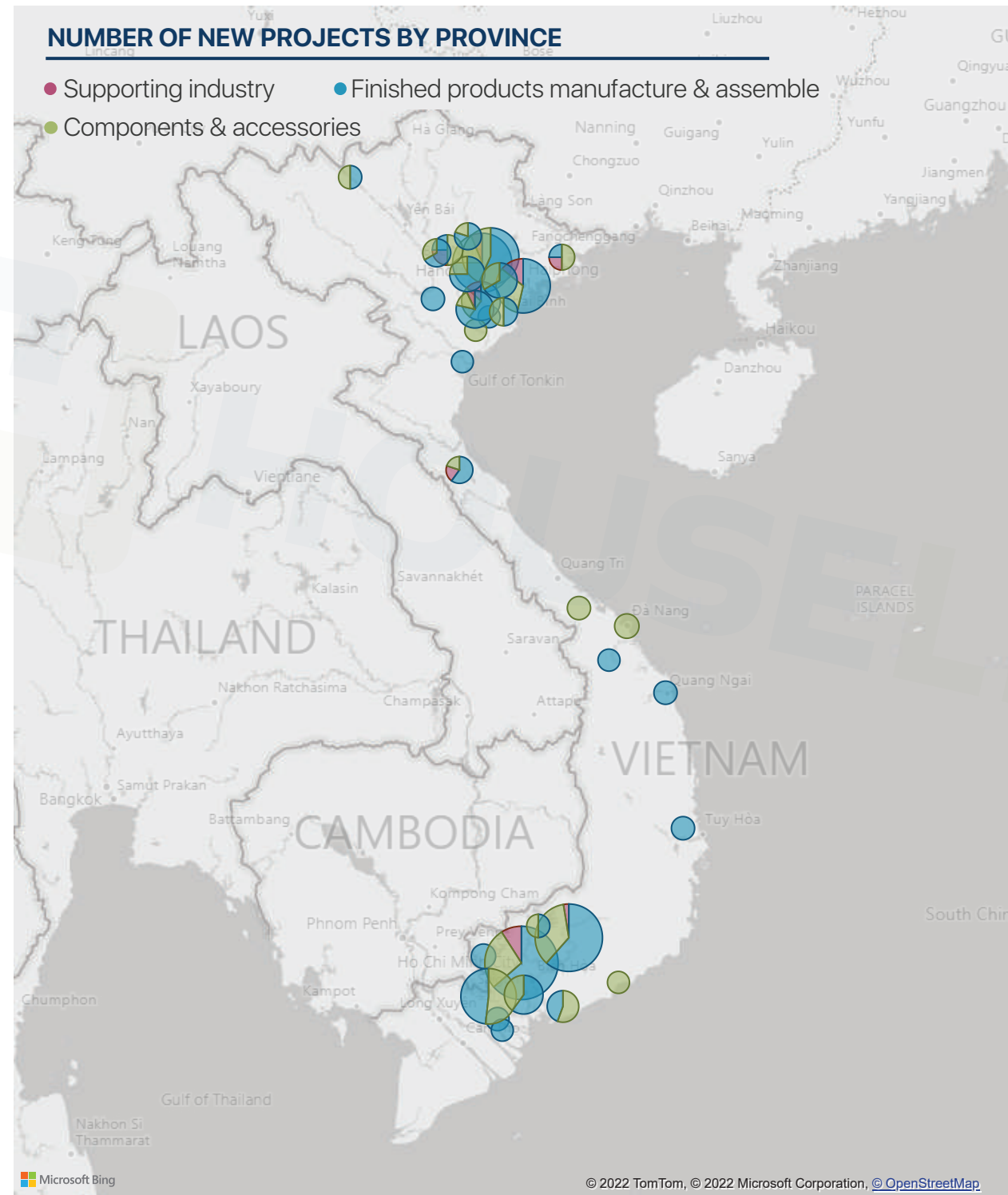
CAPITAL AMOUNT SEGMENTS

● Less than 2 mil USD ● More than 2 mil USD ● More than 5 mil USD ● More than 10 mil USD ● More than 50 mil USD ● More than 250 mil USD

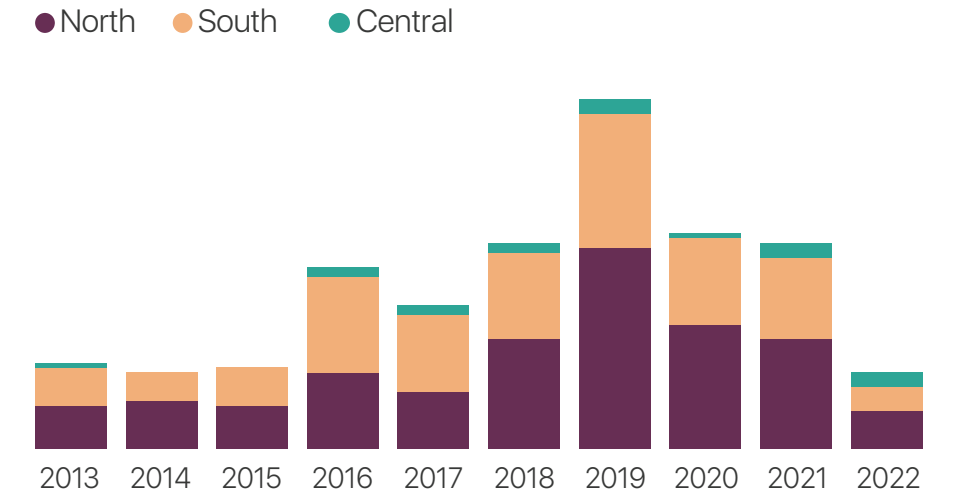


In terms of the number of investment projects

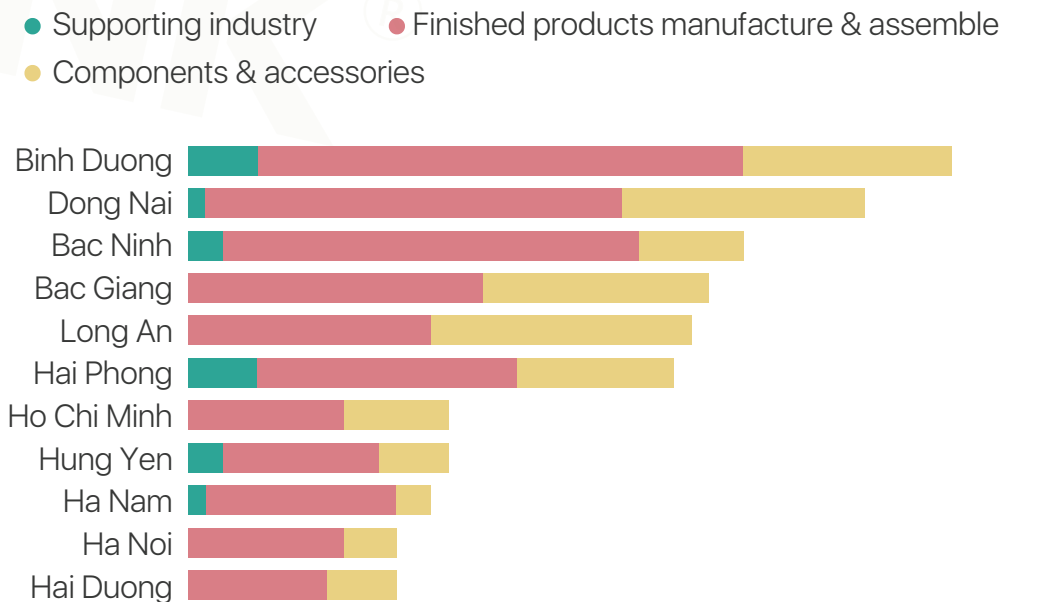
The North is the region with the highest concentration of electrical equipment projects followed by the South and the projects has scattered distribution in the Central. Since the Covid-19 epidemic appeared, the number of projects has decreased sharply and there is no prospect of recovery in 2022. Some of the provinces and cities that attract many projects in the electrical equipment industry include Binh Duong, Dong Nai, Bac Ninh, Bac Giang and Long An. We can observe that among the top 5 provinces that attract the most projects, 3 are from the South. This shows that in terms of attracting the number of investment projects, there is not a clear distinction between the North and the South. But in the South, there are a few main provinces, while in the North, investment locations are selected and distributed more widely.



NUMBER OF NEW PROJECTS BY REGION



TOP PROVINCES WITH HIGHEST NUMBER OF NEW PROJECTS

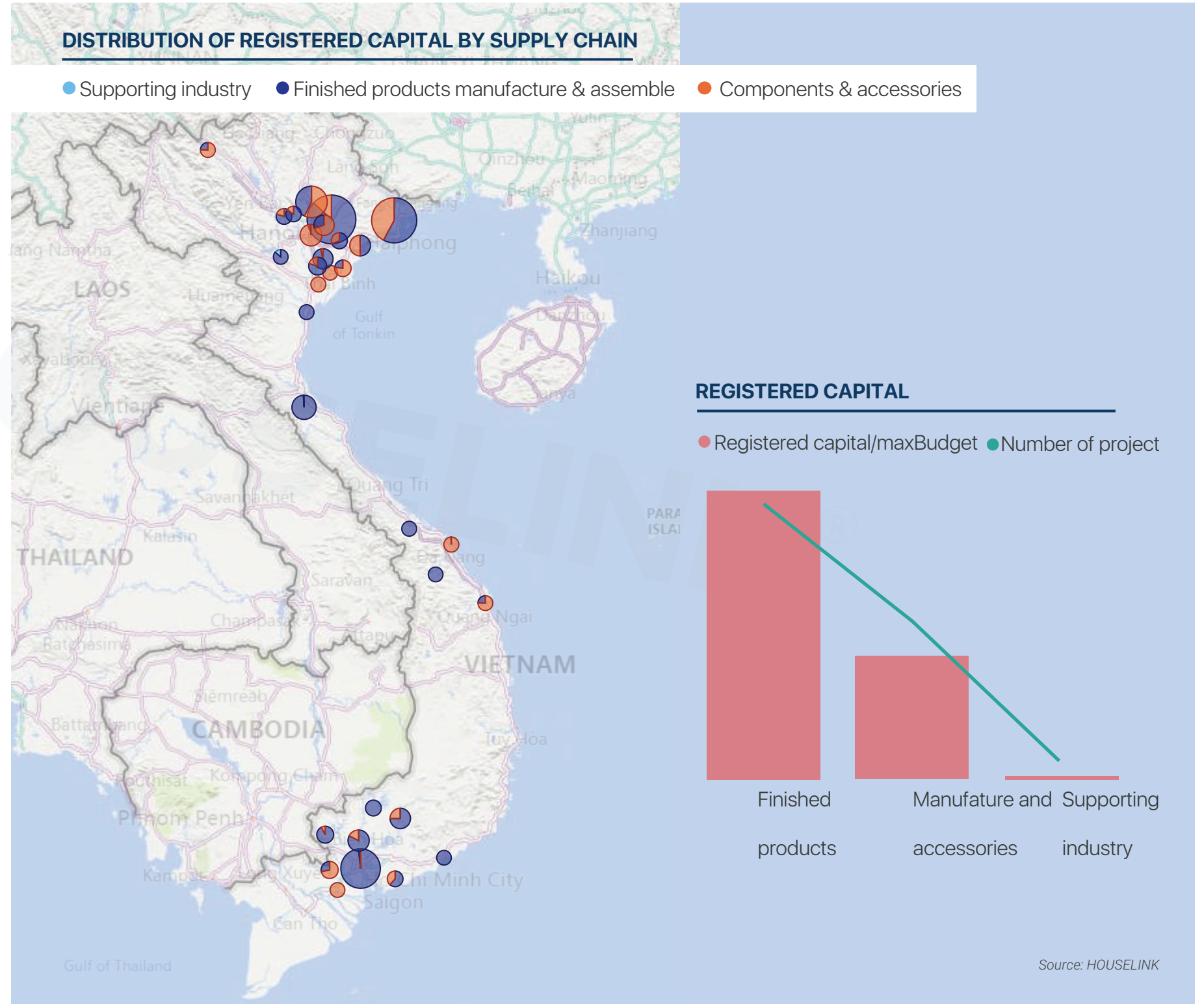


2. Supply chain of investment in the electrical equipment industry in Vietnam

“The investment supply chain has not yet completed, most of the investment projects are processing and assembly type.”

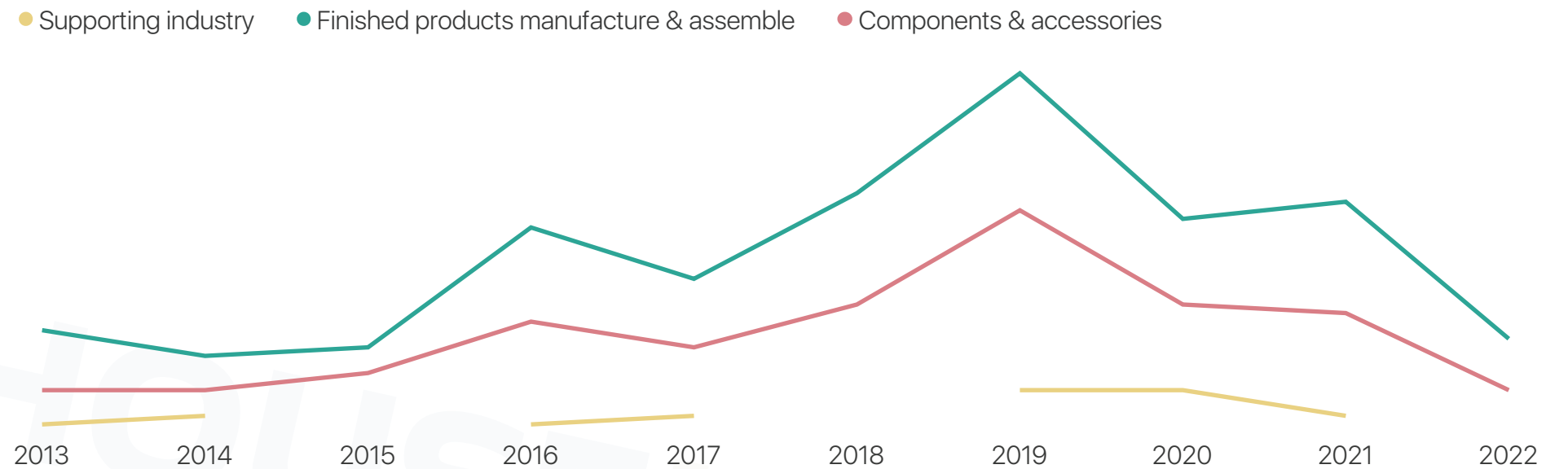
From 2013 until now, the supply chain of investment in the electrical equipment industry in Vietnam currently mainly focuses on the processing and assembly type, the components, parts productions ranks the 2nd, the supporting industry segment has not received much attention. In which, the outstanding projects are processing and assembly, account for the large share in our electrical equipment industry both in terms of quantity and registered capital (206 projects and 4,08 billion USD). This is the current situation not only of the electrical equipment industry, but in most industries, investment projects in Vietnam are mainly in the field of processing and assembly. Raw materials are mainly imported from abroad.

Parts and components production projects are concentrated in the Northern market, the projects here are relatively large. Looking at the map below, currently the Northern market is attracting the most capital sources, where there are projects located in all stages of the industry supply chain, especially the processing- assembly and production of components-parts. In the South, investment capital still mainly comes from processing and assembly projects. We consider that the supply chains in all three regions are incomplete, especially in the support and repair industries.

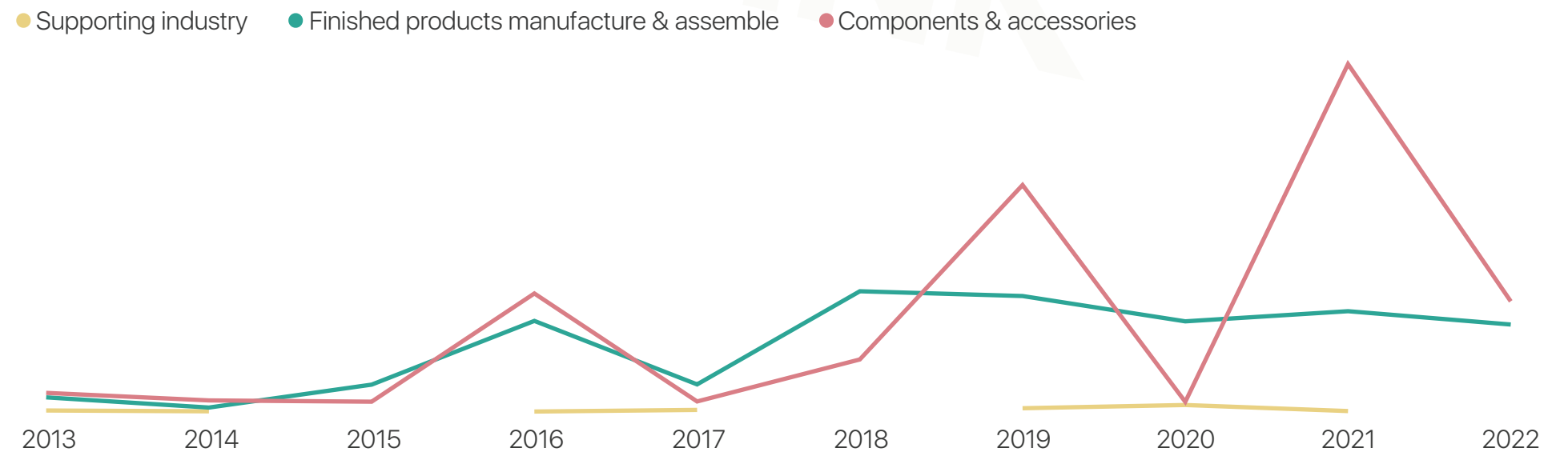


Looking at the increasing and decreasing amplitude over the years, we see that the number of processing-assembly and manufacturing components and parts projects tends to increase at the time before the pandemic. However, with the appearance of the epidemic, as well as the decline of global GDP and FDI flow, it has clearly affected the decrease in the number of investment projects in the electrical equipment industry in Vietnam market in recent years. Crucially in 2022, this decrease is grave for processing and assembly projects (in the past 9 months, the amount of capital attracting investment was equal only 27% last year). Components and parts production projects also recorded a decrease, but it was not too serious (after 9 months, the attracted capital accounted for 90% of last year). Projects in the supporting and repair industries are mostly flat, there is no obvious prominence, but it still maintains the investment over the years.

NUMBER OF PROJECTS BY POSITION IN SUPPLY CHAIN



REGISTERED CAPITAL BY POSITION IN SUPPLY CHAIN



3. Infrastructure features of the industrial park attract electrical equipment industry

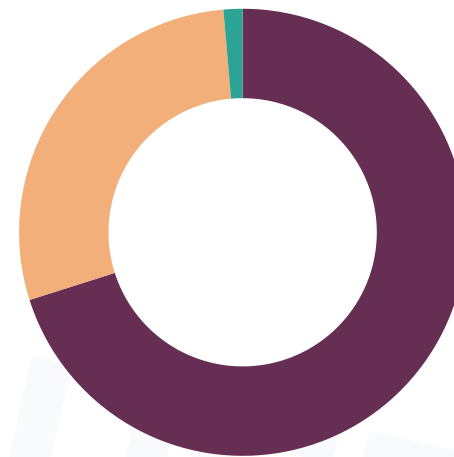
In this section, we group the distances from the industrial park to the nearest highway into 3 groups as below:

- Group 1: < 30km
- Group 2: 30-70 km
- Group 3: > 70km

After studying we find that 70% of the industrial park chosen by many investors in the electrical equipment industry are located very close to the highway (Group 1). Location is one of the most important conditions for choosing an investment location. The early completion of infrastructure, especially key expressway projects, will make an important contribution to investment projects attraction ability in the electrical equipment industry.

DISTANCE TO THE NEAREST HIGHWAY

● Group 1 ● Group 2 ● Group 3

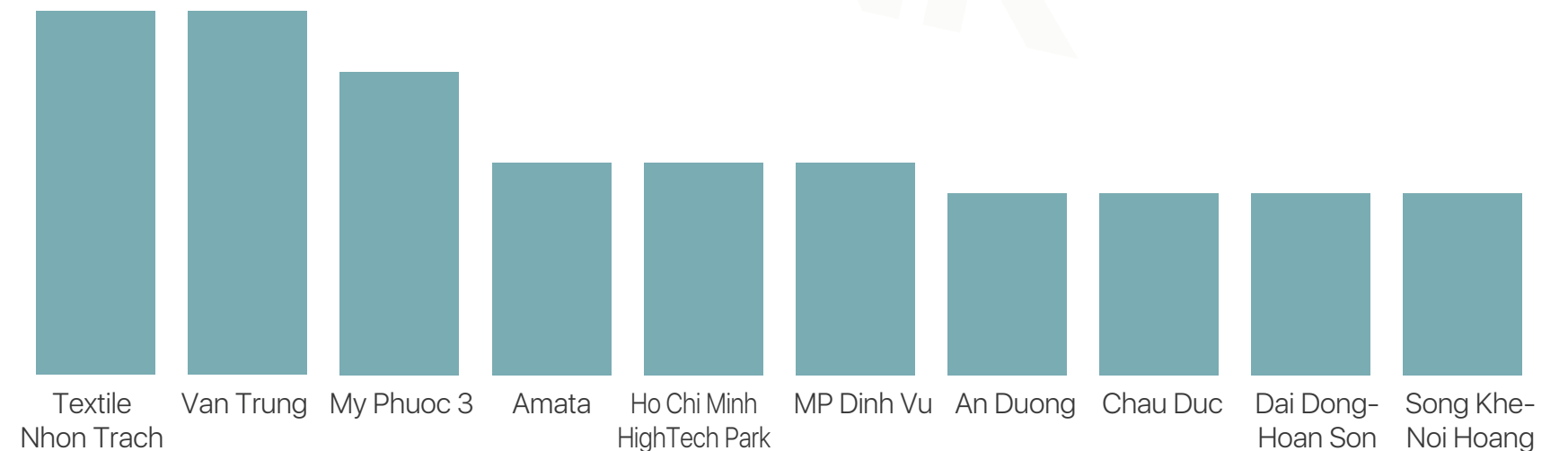


DOES THE INDUSTRIAL PARK HAVE WAREHOUSES FOR RENT

● Has warehouses for rent ● Does not have warehouses for rent



TOP INDUSTRIAL PARKS ATTRACTING ELECTRICAL EQUIPMENT PROJECTS



4. Some typical projects



SHENGYANG-DUNG QUAT TEXTILE FACTORY

Location Vietnam-Singapore Industrial Park, Tinh Phong Commune, Son Tinh District, Quang Ngai province, Vietnam.
Investor SHENGYANG (VIETNAM) TEXTILE CO., LTD
Design and Build NEW CC CONSTRUCTION CONSULTANTS CO., LTD.
Contact (+84) 028 38641262 newcc@newcc.com.vn



LONG SON THERMAL POWER PLANT

Project scale 42.000 m2 - 1.600 tons
Location Ba Ria - Vietnam
Contractor DAI DUNG METALLIC MANUFACTURE CONSTRUCTION AND TRADE CORPORATION
Contact +84 28 3868 1689 sales@daidung.vn



MANH PHUONG ELECTRICITY FACTORY PROJECT

Project type Electric
Project scale 26,000 m2
Location Long An Province, Vietnam
Investor Manh Phuong Company
Contractor ATAD STEEL STRUCTURE CORPORATION
Contact +84 28 3926 0666 sales@atad.vn



ELECTRIC LIGHTING EQUIPMENT MANUFACTURING PLANT

Investment type FDI
Project scale 22,270 m2
Location Protrade Ascendas IP, Binh Duong, Vietnam
P.E.B Contractor PEB STEEL BUILDINGS CO., LTD
Contact (+84) 908 883 531 marketing@pebsteel.com.vn



LOGITEM NEW WAREHOUSE PROJECT TAN DONG HIEP

Project scale 9000 m2
Location Tan Dong Hiep B Industrial Park, Tan Dong Hiep Ward, Di An Town, Binh Duong Province, Vietnam.
Investor LOGITEM VIETNAM CORP
Design and Build NEW CC CONSTRUCTION CONSULTANTS CO., LTD.
Contact (+84) 028 38641262 newcc@newcc.com.vn



CAINIAO P.A.T LOGISTICS PARK

Project scale 110.000 m2
Location Long An - Vietnam
Contractor DAI DUNG METALLIC MANUFACTURE CONSTRUCTION AND TRADE CORPORATION
Contact +84 28 3868 1689 sales@daidung.vn




VINA ELECTRIC FACTORY PROJECT

Project type Electric
Project scale 51,000 m2
Location Bac Ninh Province, Vietnam
Investor Vina Electric Company
Contractor ATAD STEEL STRUCTURE CORPORATION
Contact +84 28 3926 0666 sales@atad.vn



ELECTRONICS MANUFACTURING FACTORY

Investment type FDI
Project scale 14,583 m2
Location Nhon Trach 3 IP, Dong Nai, Vietnam
P.E.B Contractor PEB STEEL BUILDINGS CO., LTD
Contact (+84) 908 883 531 marketing@pebsteel.com.vn

An aerial photograph of a vast industrial complex, likely a steel mill or power plant. The facility is characterized by numerous large buildings with blue roofs, some with curved, ribbed structures. The complex is surrounded by greenery and a body of water in the distance. The sky is overcast.

IV. ELECTRICAL EQUIPMENT PROJECTS ABOUT TO TAKE SHAPE IN THE FUTURE

1. Investment project allocation

Based on project data with an investment greater than or equal 2 million USD (equivalent to 48 billion VND) from foreign direct investment (FDI) and domestic direct investment (DDI) sources on the HOUSELINK platform in the field of electrical equipment manufacturing; We synthesize, analyze data, and make reports on projects that are under construction and are in the process of preparation (project preparation, design, contractor selection). All projects have been verified by HOUSELINK.

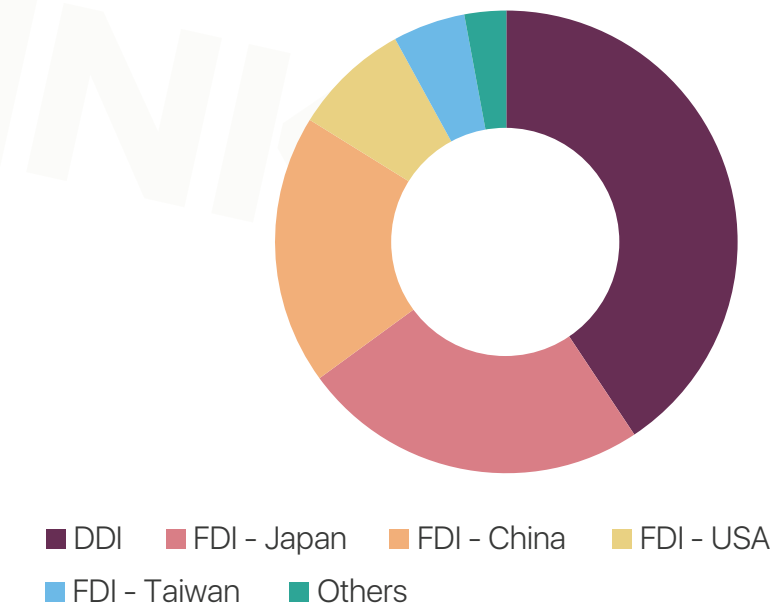
According to our data, most of the upcoming projects are concentrated in the North (account for 62% of the total project numbers), 23% of the projects are about to be implemented in the South and about 15% of the projects are about to be implemented in the Central region. In the future the North market will continue to be an attractive market for electronics projects. Especially, most of them are projects in the preparation stage, have not yet called for bidding and have not selected a main contractor.

PROJECT ALLOCATION (PER NUMBER OF PROJECTS)



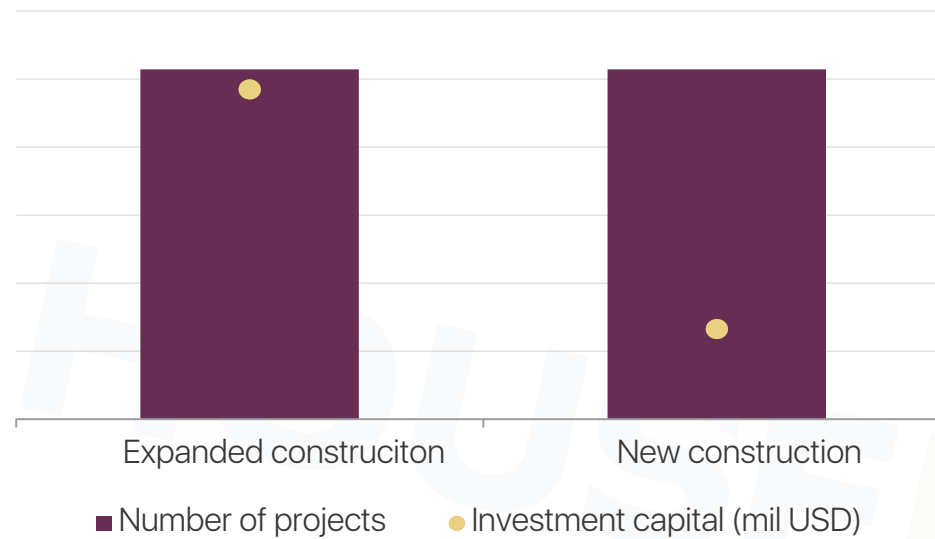
Projects to be built in the future are invested by both FDI and DDI. Based on the investment capital data, we found that DDI projects account for the largest proportion (41%), followed by FDI-Japan (24%) and FDI-China (19%).

INVESTMENT TYPES (PER TOTAL INVESTMENT CAPITAL)

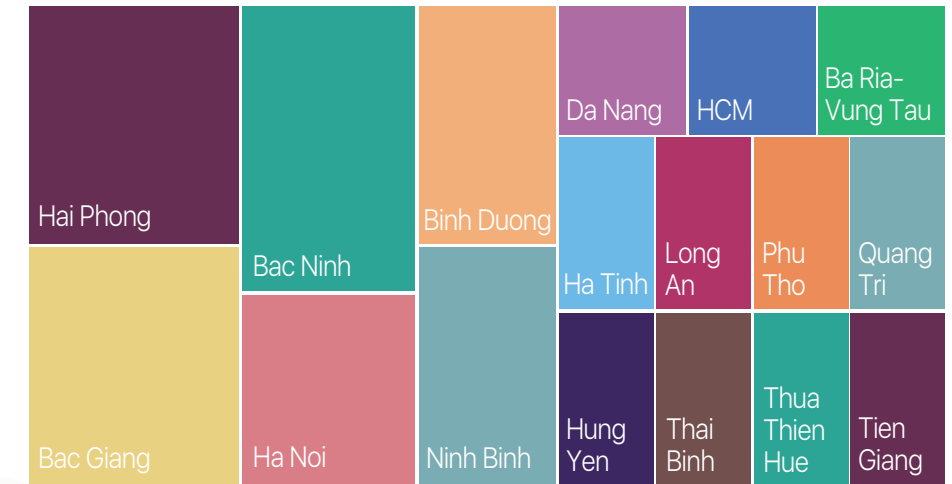


In terms of construction type, in addition to expansion projects of existing investors, Vietnam also attracts a lot of attention from new investors in the electrical equipment industry. Although the number is not too much, the difference between new construction and expansion projects in terms of quantity is not too large, which has partly helped diversify the electrical equipment market in Vietnam in the future. Although Vietnam have attracted new investors, the project size of these investors is not too large. Meanwhile, expansion construction projects have a much higher investment scale. Therefore, we believe that this situation occurs mainly due to difficult factors caused by economic risks and global politics that have created barriers in attracting new investors to Vietnam during this time.

TYPE OF PROJECTS CONSTRUCTION



TOP PROVINCES ATTRACTED PROJECTS
(PER NUMBER OF PROJECTS)



Source: HOUSELINK

2. Top outstanding projects under preparation

VINES CELL PIN FACTORY NO.2 – VINGROUP – GOTION

RANG DONG LED LIGHT FACTORY

JA SOLAR SILIC MANUFACTURING EXPANSION FACTORY

ET SOLAR MODULES MANUFATURING FACTORY

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