

# **Accelerating Vietnam's Industrial Transformation**

**Achievements, Challenges,  
and Strategic Pathways  
to Vision 2045**



全球南方研究中心  
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# Summary

Since the launch of the Đổi Mới (Renovation) reform in 1986, Vietnam has deeply integrated into global value chains to drive the rapid growth of export-oriented industrialization. Over four decades, the country has achieved notable development outcomes, including sustained economic growth, declining poverty, structural transformation, infrastructure modernization, and deep global integration. Its power and electronics industries have emerged as emblematic examples of its industrial progress.

In recent years, Vietnam has set the goal of reaching high-income status by 2045 and accelerated the shift of its industrial model from processing and assembly to a knowledge- and innovation-driven growth pattern. This transformation presents both opportunities and challenges. On the one hand, the digital revolution offers Vietnam an effective pathway to leapfrog traditional stages of development, and the green transition is emerging as a new engine of competitiveness. Vietnam also benefits from its geographical advantages—bordering China and located at the heart of ASEAN, its comparative edge in human capital, and a strong legacy of institutional reform. On the other hand, Vietnam’s productivity lags behind that of regional peers, with its workforce still concentrated in low-productivity sectors. The demographic dividend is narrowing, gradually eroding its labor advantage. Its exports are increasingly exposed to trade protectionism and geopolitical shocks, and institutional capacity remains insufficient to support the transition towards a developmental state.

Looking ahead, accelerating Vietnam’s industrial transformation could be pursued through the following approaches: First, enhancing the foundations of a developmental state that integrates political stability, policy coherence, and performance-based governance. Second, strengthening strategic coordination and foresight capacity by aligning sectoral and regional priorities under the Vision 2045 framework. Third, deeply integrating AI-driven decision-making mechanisms with digital transformation to modernize national governance and industrial systems. Fourth, promoting industrial upgrading by combining strategic technology acquisition with the development of innovation-driven ecosystems. Fifth, modernizing infrastructure for high-value industrialization, with a focus on developing smart power systems, upgrading urban transit, and establishing smart ports and logistics hubs. Sixth, developing a future-ready workforce by reforming the education system, forging public-private training partnerships, establishing centers of excellence, and

positioning Vietnam as a regional education and upskilling hub. Seventh, deepening high-quality international cooperation by creating innovation-oriented free trade zones, strengthening strategic partnerships with countries such as Singapore and China, and advancing ASEAN integration beyond trade to areas such as digital connectivity, green standards, labor mobility, and cross-border education.

# CONTENTS

<b>1. The Evolution of Vietnam’s Industrialization</b>	<b>1</b>
1.1 Key Stages of Industrialization	1
1.2 Notable Achievements	2
<b>2. Seizing New Opportunities and Confronting Emerging Challenges</b>	<b>3</b>
2.1 Strategic Opportunities for Vietnam’s Next Economic Leap	3
2.2 Present Challenges	4
<b>3. Case Studies</b>	<b>9</b>
3.1 Power Sector	9
3.2 Electronics Sector	11
<b>4. Policy Recommendations for Accelerating Vietnam’s Industrialization</b>	<b>14</b>
4.1 Build the Developmental State for Economic Takeoff	14
4.2 Strengthen Strategic Coordination and Foresight Capacity	15
4.3 Institutionalize AI-Driven Policy and Governance Innovation and Accelerate AI-Enabled Digital Transformation	16

4.4 Upgrade Technology and Industrial Ecosystems	16
4.5 Modernize Infrastructure for High-Value Industrialization	16
4.6 Develop a Future-Ready Workforce	17
4.7 Deepen Global Integration and Strategic Partnerships	17
References	18

# Acronyms and Abbreviations

<b>ADB</b>	Asian Development Bank
<b>AFTA</b>	ASEAN Free Trade Area
<b>AI</b>	Artificial Intelligence
<b>ALP</b>	Aggregate Labor Productivity
<b>APO</b>	Asian Productivity Organization
<b>ASEAN</b>	Association of Southeast Asian Nations
<b>CPTPP</b>	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
<b>EVFTA</b>	EU-Vietnam Free Trade Agreement
<b>FDI</b>	Foreign Direct Investment
<b>FIT</b>	Feed-in Tariff
<b>FTZ</b>	Free Trade Zone
<b>GDP</b>	Gross Domestic Product
<b>GSO</b>	General Statistics Office of Vietnam
<b>ICT</b>	Information and Communication Technology
<b>ILO</b>	International Labour Organization
<b>MOIT</b>	Ministry of Industry and Trade
<b>MNC</b>	Multinational Corporation
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PDP8</b>	Power Development Plan VIII
<b>PPP</b>	Purchasing Power Parity
<b>R&amp;D</b>	Research and Development
<b>RCEP</b>	Regional Comprehensive Economic Partnership
<b>SEZ</b>	Special Economic Zone
<b>SOE</b>	State-Owned Enterprise
<b>STEM</b>	Science, Technology, Engineering, and Mathematics
<b>UN</b>	United Nations
<b>UNCTAD</b>	United Nations Trade and Development
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>UNDESA</b>	United Nations Department of Economic and Social Affairs
<b>UNIDO</b>	United Nations Industrial Development Organization
<b>WDI</b>	World Development Indicators
<b>WEF</b>	World Economic Forum
<b>WTO</b>	World Trade Organization

# **Accelerating Vietnam's Industrial Transformation: Achievements, Challenges, and Strategic Pathways to Vision 2045**

Over nearly four decades of reform since 1986, Vietnam has undergone a profound transformation—from an impoverished, centrally planned economy into one of the most dynamic, rapidly industrializing, and globally integrated economies in the developing world. Looking ahead, Vietnam's ambition to reach high-income status by 2045 presents both opportunities and challenges.

This report is structured into four sections. First, it offers a concise yet comprehensive overview of Vietnam's industrialization under reform. Second, it analyzes the key drivers, bottlenecks, and emerging risks that could influence Vietnam's development. Third, it presents case studies of Vietnam's power and electronics industries. Finally, it proposes actionable policy recommendations to help Vietnam transition towards a higher value-added, innovation-driven, and resilient economy.

# 1.

## THE EVOLUTION OF VIETNAM'S INDUSTRIALIZATION

### 1.1

#### Key Stages of Industrialization

Vietnam's industrialization journey since the Đổi Mới reforms can be broadly divided into five phases. Each phase has been influenced not only by market liberalization and globalization but also by the evolution of institutional capacity, competitive decentralization, and adaptive policy learning, which are elaborated below.

The first phase (1986–1995) laid the foundation for a market economy. Key reforms included land-use rights for farmers, expanded autonomy for state-owned enterprises (SOEs), macroeconomic stabilization, and gradual liberalization. However, outdated infrastructure and limited market access constrained the industrial momentum.

The second phase (1996–2005) focused on opening up and global integration. Vietnam joined the ASEAN Free Trade Area (AFTA) and signed the U.S.-Vietnam Bilateral Trade Agreement, while the Enterprise Law stimulated private sector dynamism. Industrial zones and export-processing areas multiplied, but technological backwardness and weak domestic linkages persisted.

The third phase (2006–2015) was catalyzed by World Trade Organization (WTO) accession, which unleashed a new wave of foreign direct investment (FDI), especially in electronics and high-value manufacturing. Export-led growth accelerated,

infrastructure boomed, and SOE reforms gained traction. Yet, domestic value-added remained low, and the economy exhibited excessive reliance on foreign capital and know-how.

The fourth phase (2016–2025) has emphasized quality growth—promoting private sector leadership, workforce upskilling, and green and digital transformation. Science, technology, engineering, and mathematics (STEM) education, fintech, and renewable energy have expanded, but challenges such as skills shortages, interagency fragmentation, and urban congestion continue to hamper development in hubs like Hanoi and Ho Chi Minh City.

The fifth and upcoming phase (2025–2045) envisions a shift towards innovation-led, digitally integrated, and sustainable industrialization. Reforms are underway to restructure government, enhance research and development (R&D), develop smart infrastructure, and strengthen supply chain resilience. However, geopolitical headwinds, global protectionism, and institutional inertia will test Vietnam's capacity to adapt.

Across all five phases, competition among provinces, top-down reinforcement of successful local experiments, and real-time performance monitoring (via regional gross domestic product (GDP) growth, FDI attraction, and Provincial Competitiveness Index rankings) have become integral drivers of reform progress and industrial upgrading.

## 1.2

### Notable Achievements

Vietnam’s development trajectory aligns closely with the principles of New Structural Economics, which emphasize leveraging a country’s evolving comparative advantages while simultaneously building the infrastructure and institutional capacity required for structural transformation (Lin, 2012). Vietnam’s accomplishments over the past four decades reflect not only the outcomes of this strategic approach but also the deliberate policy choices and sustained development efforts that translated comparative advantages into tangible economic gains.

The notable achievements of Vietnam’s economic reform during this period are evident across five key dimensions: sustained economic growth, poverty reduction, structural transformation, infrastructure modernization, and deep global

integration. Vietnam’s economic growth during the reform period has been both robust and resilient, with annual GDP growth averaging above 6.5% between 1986 and 2024. Even during the COVID-19 pandemic, growth remained positive—exceeding 2.5% in 2020–2021—before rebounding sharply to 8.0% in 2022. The poverty rate—measured as the headcount ratio at US\$3 a day (2021 PPP)—declined sharply from nearly 57.5% in 1992 to just 1.6% in 2023. Among the key drivers of Vietnam’s robust economic growth and rapid poverty reduction are the synergistic effects of its strong, coordinated efforts in infrastructure modernization, deepening global integration, and accelerating structural transformation. Table 1 presents selected performance indicators across these areas during the reform period, highlighting Vietnam’s remarkable progress—particularly in comparison with its ASEAN peers at similar development stages: Indonesia, the Philippines, and Thailand.

**TABLE 1**

**Electricity Generation, Exports, and Employment in Vietnam and Selected ASEAN Countries, 1986–2024**

Year & indicator change	Vietnam	Indonesia	The Philippines	Thailand
<b>Electricity generation (Billion kWh)</b>				
1986	5.5	18.4	21.0	24.7
2024	306.3	375.1	125.9	199.6
2024/1986 Multiplier	55.7	20.4	6.0	8.1
<b>Exports of goods and services (US\$ billion)</b>				
1986	1.7	16.4	6.3	11
2024	405.5	309.7	119.0	369
2024/1986 Multiplier	238.5	18.9	18.9	33
<b>Share of agriculture in total employment (%)</b>				
1990	71.9	56.0	44.1	64.0
2023	26.9	27.9	21.6	30.0
1990–2023 Change	–45.0	–28.1	–22.5	–34.0
<b>Share of industry in total employment (%)</b>				
1990	7.0	10.2	9.9	10.2
2023	23.3	13.7	7.3	16.0
1990–2023 Change	+16.3	+3.5	–2.6	+5.8

Sources: Our World in Data for electricity generation; World Development Indicators (WDI) for exports; and Asian Productivity Organization (APO) for employment shares.

## 2.

# SEIZING NEW OPPORTUNITIES AND CONFRONTING EMERGING CHALLENGES

As Vietnam strives to achieve high-income status by 2045, it stands at a pivotal inflection point. After nearly four decades of reform, the country is ready to move beyond traditional industrialization towards a new phase driven by digital transformation, green growth, and institutional modernization. Realizing this vision hinges on Vietnam's ability to effectively address challenges related to productivity, demographic shifts, trade protectionism, and institutional capacity.

### 2.1

#### Strategic Opportunities for Vietnam's Next Economic Leap

First, the rapid advance of the digital revolution, powered by artificial intelligence (AI), offers Vietnam a pathway to leapfrog traditional stages of development. With a digitally literate population, a highly open economy, and a growing innovation ecosystem, the country is well-positioned to emerge as a regional hub for smart manufacturing, digital services, and AI-driven platforms.

Second, the green transformation provides a new engine of competitiveness. As global markets tighten carbon standards and prioritize low-emission production, Vietnam can lead a "green industrial revolution" in ASEAN—leveraging renewable energy, circular economy models,

and climate-aligned finance to strengthen export resilience and attract sustainable investment.

Third, Vietnam borders China and is located at the heart of ASEAN. Participation in high-standard free trade agreements such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), Regional Comprehensive Economic Partnership (RCEP), and EU–Vietnam Free Trade Agreement (EVFTA) further expands global market access and reduces trade risks.

Fourth, human capital remains Vietnam's most enduring comparative advantage. With a population exceeding 100 million, high literacy, and growing international exposure, the country can cultivate a globally competitive, innovation-ready workforce—provided that education, vocational training, and management capacity continue to modernize. This strong demographic and skills base also positions Vietnam favorably on both the demand and supply sides for building strategic industries—from advanced manufacturing to financial technology and life sciences.

Fifth, Vietnam's reform legacy offers a firm launchpad for institutional upgrading. The ongoing shift from "fence-breaking improvisation" to coordinated, rule-based governance reflects rising state capacity for strategic planning. Expanding industrial parks, improving infrastructure, and reform-minded leadership are converging to foster an innovation-driven growth model.

## 2.2

### Present Challenges

#### 2.2.1 Productivity Gaps

Despite rapid economic growth and an expanding industrial base, there is room for improvement in Vietnam’s productivity gains.

First, Vietnam lags behind its regional peers in labor productivity. As shown in Table 2, Vietnam’s overall labor productivity (US\$7,810 per worker) is only about one-third of Malaysia’s and one-eighth of the Republic of Korea’s (ROK). Even among ASEAN peers at comparable development stages, such as the Philippines (with productivity 1.2 times that of Vietnam) and Indonesia (with productivity 1.3 times that of Vietnam), Vietnam still trails.

Second, the labor productivity gap is even wider in the manufacturing sector—Vietnam’s principal

growth engine. Manufacturing labor productivity is less than one-fourth of Malaysia’s or China’s level, and just one-thirteenth of the ROK’s, reflecting limited technological depth and low value-added intensity within Vietnam’s industrial base (Table 2). Data from the table also indicate that Vietnam’s industrial growth has been largely scale-driven rather than efficiency-driven. The productivity differential between manufacturing and the total economy is minimal (US\$7,986 per worker vs. US\$7,810 per worker), unlike in the peer economies, where manufacturing productivity is typically 1.3–1.6 times higher than the total economic level.

Third, Vietnam’s workforce remains heavily concentrated in low-productivity sectors. As shown in Table 3, the five largest employing sectors—agriculture, manufacturing, trade, construction, and accommodation—account for 80% of total employment, yet their average labor productivity is only about US\$5,400 per worker,

**TABLE 2**

**Labor Productivity in Vietnam and Selected Asian Countries, 2023**

	Labor productivity (US\$ per worker)		Vietnam=1.0		Manufacturing / Total economy (Total Economy=1.0)
	Total economy	Manufacturing	Total economy	Manufacturing	
Vietnam	7,810	7,986	1.0	1.0	1.02
The Philippines	9,389	20,937	1.2	2.6	2.2
Indonesia	9,899	13,455	1.3	1.7	1.4
Malaysia	24,496	35,383	3.1	4.4	1.4
Singapore	131,615	182,890	16.9	22.9	1.4
China	25,157	34,967	3.2	4.4	1.4
ROK	63,477	103,543	8.1	13.0	1.6
Japan	62,784	84,139	8.0	10.5	1.3

Source: APO.

Note: Labor productivity is calculated as GDP (current US\$) divided by the number of employed workers.

**TABLE 3****Vietnam's Employment and Labor Productivity by Sector, 2024**

	Employment (thousand)	Labor productivity (US\$ thousand per worker)	Employment share (%)	Sectoral labor productivity/ Total economy labor productivity (%)
<b>TOTAL</b>	<b>51,860</b>	<b>8.0</b>	<b>100</b>	<b>100</b>
Agriculture, forestry and fishing	13,671	3.6	26.4	45
Manufacturing	12,223	8.1	23.6	102
Wholesale and retail trade; re- pair of motor vehicles	7,821	5.1	15.1	65
Construction	4,635	5.4	8.9	68
Accommodation and food service activities	3,124	3.2	6.0	41
<b>Top Five Sectors by Employment Share</b>	<b>41,473</b>	<b>5.4</b>	<b>80.0</b>	<b>68</b>
Transportation and storage	2,104	9.7	4.1	122
Education and training	2,020	8.0	3.9	100
Socio-political organizations and public services	1,364	6.2	2.6	77
Other service activities	1,212	2.3	2.3	29
Human health and social work activities	644	16.5	1.2	207
Financial, banking and insur- ance activities	499	40.0	1.0	502
Administrative and support ser- vice activities	417	11.9	0.8	150
Professional, scientific and tech- nical activities	416	21.1	0.8	265
Real estate activities	340	43.2	0.7	543
Information and communication	337	42.9	0.6	539
Arts, entertainment and recre- ation	296	8.7	0.6	109
Mining and quarrying	179	66.8	0.3	839
Water supply, sewerage and waste management	166	12.2	0.3	153
Electricity, gas, steam and air conditioning supply	163	102.2	0.3	1,284

Source: General Statistics Office of Vietnam (GSO).

Note: The exchange rate for converting labor productivity from VND to US\$ is the average market rate for 2024, which was 25,000 VND/US\$.

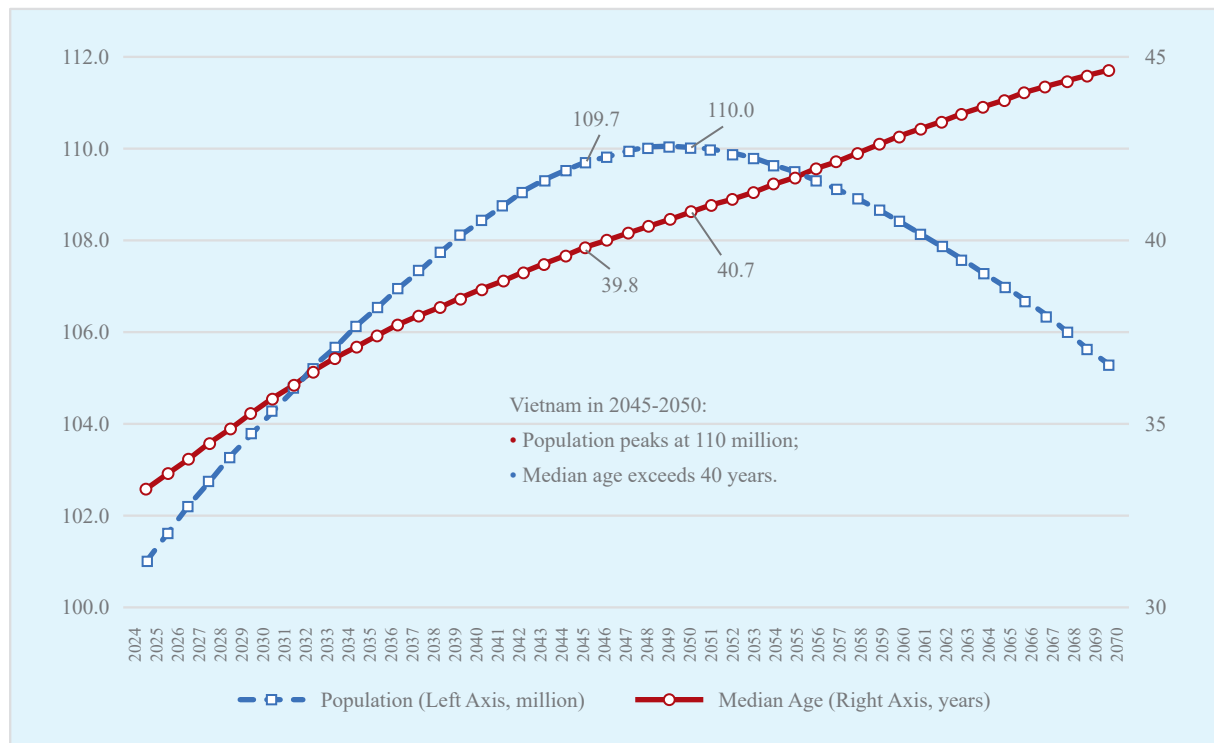
or 68% of the national average. This highlights the necessity of raising productivity within these sectors while continuing to reallocate labor to higher-value industries such as information and communication technology (ICT), finance, and energy to sustain aggregate labor productivity (ALP) growth in the coming decade.

### 2.2.2 Demographic Transition

Vietnam is currently in a highly favorable demographic phase, with a population exceeding 100 million that remains relatively young. Yet this window of opportunity is expected to last for only about two more decades. As shown in Figure 1, the median age is projected to rise from 33 years in 2024 to around 40 years by 2050, when the population peaks at approximately 110 million before entering a gradual decline. Subsequently,

Vietnam will see negative demographic growth. This trajectory suggests that Vietnam’s labor abundance will steadily diminish, posing significant risks to both growth potential and labor availability.

To sustain growth momentum, Vietnam needs to transition from labor-quantity-driven to productivity- and innovation-driven growth. Without rapid gains in productivity, skills upgrading, and social-security reform, the country risks entering an aging phase before achieving high-income status. Future growth needs to rest on human-capital quality, technological upgrading, and productivity enhancement rather than workforce expansion. Effectively harnessing the remaining demographic dividend will be crucial to maintaining Vietnam’s economic dynamism through the 2040s and beyond.



**FIGURE 1**  
Vietnam’s Population and Median Age Trends, 2024–2070

Source: United Nations Department of Economic and Social Affairs (UNDESA).

### 2.2.3 Trade Protectionism Risks

Vietnam’s export-led growth model faces increasing external shocks and trade tensions. In response to its trade deficit with Vietnam, the United States imposed reciprocal tariffs in July 2025—20% on Vietnamese merchandise exports and 40% on goods transshipped through Vietnam. This development underscores Vietnam’s over-reliance on a single export market and an assembly-based export structure, leaving the economy vulnerable to shifts in global trade policies and geopolitical frictions.

Vietnam’s dependence on the U.S. market continues to rise. Vietnam’s exports to the United States nearly doubled—from US\$61.4 billion in 2019 to US\$119.3 billion in 2024—while imports from the U.S. remained almost unchanged (Table 4).

Consequently, the U.S. share of Vietnam’s total exports rose from 23.2% to 29.6%, and the trade surplus more than doubled, from US\$ 47 billion to US\$104.3 billion. This growing imbalance makes Vietnam increasingly vulnerable to U.S. trade protectionism, particularly in electronics, furniture, textiles, and apparel, which dominate its export structure.

To mitigate these risks, Vietnam could consider diversifying export markets, broadening its industrial base, and strengthening domestic supplier networks. The long-term strategic pivot should focus on shifting from a volume-based, assembly-oriented model towards a knowledge- and innovation-driven growth model, enhancing resilience, technological depth, and autonomy within global value chains.

**TABLE 4**

**Vietnam’s Trade in Goods, 2019–2024**

Year and indicator change	Exports (US\$ billion)	Imports (US\$ billion)	Trade balance (US\$ billion)
<b>Trade with the World</b>			
2019	264.6	253.4	11.2
2024	403.2	379.1	24.1
2024/2019 Multiplier	1.5	1.5	2.2
<b>Trade with the United States</b>			
2019	61.4	14.4	47
2024	119.3	15.0	104.3
2024/2019 Multiplier	1.9	1.0	2.2

Source: ASEAN Statistics.

#### 2.2.4 Limitations in Institutional Capacity

Despite important progress since Đổi Mới, Vietnam's institutional capacity remains insufficient for a developmental-state transformation—one capable of steering long-term industrial upgrading, orchestrating cross-sector coordination, and embedding private enterprises in national development priorities.

Vietnam's strategic implementation capacity faces challenges in the following areas: inadequate coordination between central and local levels; overreliance on cost-based competitiveness—land, labor, and fiscal incentives—rather than productivity, technology, and innovation; and siloed sectoral and provincial planning, preventing the emergence of cohesive industrial

clusters and vertically integrated supply chains.

To move to a higher growth trajectory, Vietnam could consider strengthening the institutional foundations of a developmental state—anchored in whole-of-government coordination, evidence-based planning, and embedded partnerships with the private sector. This requires shifting from ad hoc improvisation to strategic discipline, from fragmented policy efforts to systemic coherence, and from administrative control to transformative governance. Only through such institutional modernization can Vietnam transform its current growth momentum into a resilient, innovation-driven trajectory, capable of realizing its Vision 2045 aspiration of becoming a high-income, advanced industrial nation.

# 3.

## CASE STUDIES

To gain deeper insights into Vietnam’s reform-enabled achievements and the challenges it needs to overcome to realize its Vision 2045 goal of becoming a high-income nation, this section examines two emblematic cases. The power sector illustrates Vietnam’s progress in infrastructure modernization amid the global green transition, while the electronics industry captures the opportunities and challenges arising from the digital revolution and evolving global value chains in an era of heightened geopolitical uncertainty.

### 3.1 Power Sector

Vietnam’s power sector epitomizes the nation’s rapid transformation since Đổi Mới. Four decades ago, electricity scarcity symbolized underdevelopment; today, Vietnam is ASEAN’s second-largest power producer, generating 306.3 billion kWh in 2024, up from 5.5 billion kWh in 1985—a sixtyfold increase. This expansion has powered industrialization, exports, and higher living standards. Yet, as Vietnam advances towards its Vision 2045 and net-zero 2050 goals, it faces a dual challenge: ensuring energy security while managing a fast and fair clean-energy transition.

By 2024, Vietnam’s electricity mix showcased

both success and strain. Coal accounted for 49% of generation, renewables for 44%, and gas for 7% (Table 5). Hydropower remains the backbone, supplying one-third of total output, while solar (8.5%) and wind (4%)—negligible a decade earlier—have expanded rapidly. Supported by feed-in tariffs (FITs) and foreign investment, Vietnam has emerged as a regional leader in clean-energy deployment.

However, the pace of renewable expansion has outpaced system readiness. Grid congestion, renewable curtailment, and regulatory inconsistencies have shaken investor confidence. The next phase of development must therefore shift from quantity to quality, emphasizing system flexibility, smart-grid management, and energy storage to absorb variable renewable supply.

Power Development Plan VIII (PDP8) provides Vietnam’s roadmap to 2050. It calls for increasing national capacity from 80 GW in 2024 to 150 GW by 2030, and up to 350 GW by 2050, underpinned by renewable energy, digitalization, and regional integration. More than an infrastructure plan, PDP8 reframes electricity as both a domestic enabler of growth and a strategic export commodity—a lever of regional influence and a pillar of ASEAN’s low-carbon future.

Vietnam’s energy transition faces structural and institutional constraints. Hydropower potential is nearing saturation, while climate

**TABLE 5**
**Vietnam's Power Sector: Output and Installed Capacity, 2024**

Energy category	Output		Installed capacity (GW)
	Quantity (billion kWh)	Share (%)	
Coal	149.35	48.8	28
Gas	21.63	7.1	7
Oil	0.11	0.03	<0.5
Renewables	135.2	0.4	44.0
Hydropower	95.84	31.3	24
Solar	26.02	8.5	16
Wind	12.53	4.1	3.5
Bioenergy	0.85	0.3	0.5
Total	306.33	100.0	~80

Sources: KPMG Vietnam 2025; Our World in Data.

variability threatens reliability. Reaching PDP8 targets will require over US\$130 billion in investment by 2030 (PDP8 2025)—demanding diversified financing and stronger private-sector participation. Transmission bottlenecks, policy volatility, and weak inter-agency coordination continue to undermine efficiency. Managing a just coal transition—which calls for fair treatment for affected workers and communities—adds further complexity.

To transform rather than simply expand, Vietnam's energy strategy can rest on five pillars: Redefining energy strategy—prioritize flexibility, digitalization, and large-scale deployment of offshore wind and nuclear power; Reforming governance—enact a Renewable Energy Law, modernize pricing, and ensure transparent, predictable regulation; Strengthening coordination—establish a National Energy Transition Steering Committee

to align planning, investment, and monitoring; Investing in people—build expertise in digital operations, engineering, and green finance to sustain a skilled energy workforce; Deepening international partnerships—work with partners such as the International Energy Agency (IEA) and the International Renewable Energy Agency (IRENA) to mobilize technology and capital.

Vietnam's power sector now stands at a critical crossroads. The challenge ahead is not how much energy Vietnam can produce, but how intelligently, cleanly, and inclusively it can deliver it. If PDP8 is implemented with coherence and strategic discipline, Vietnam can move from a capacity-driven model to a smart, sustainable, and regionally integrated energy system, consolidating its place as a leader in Asia's green transformation.

## 3.2

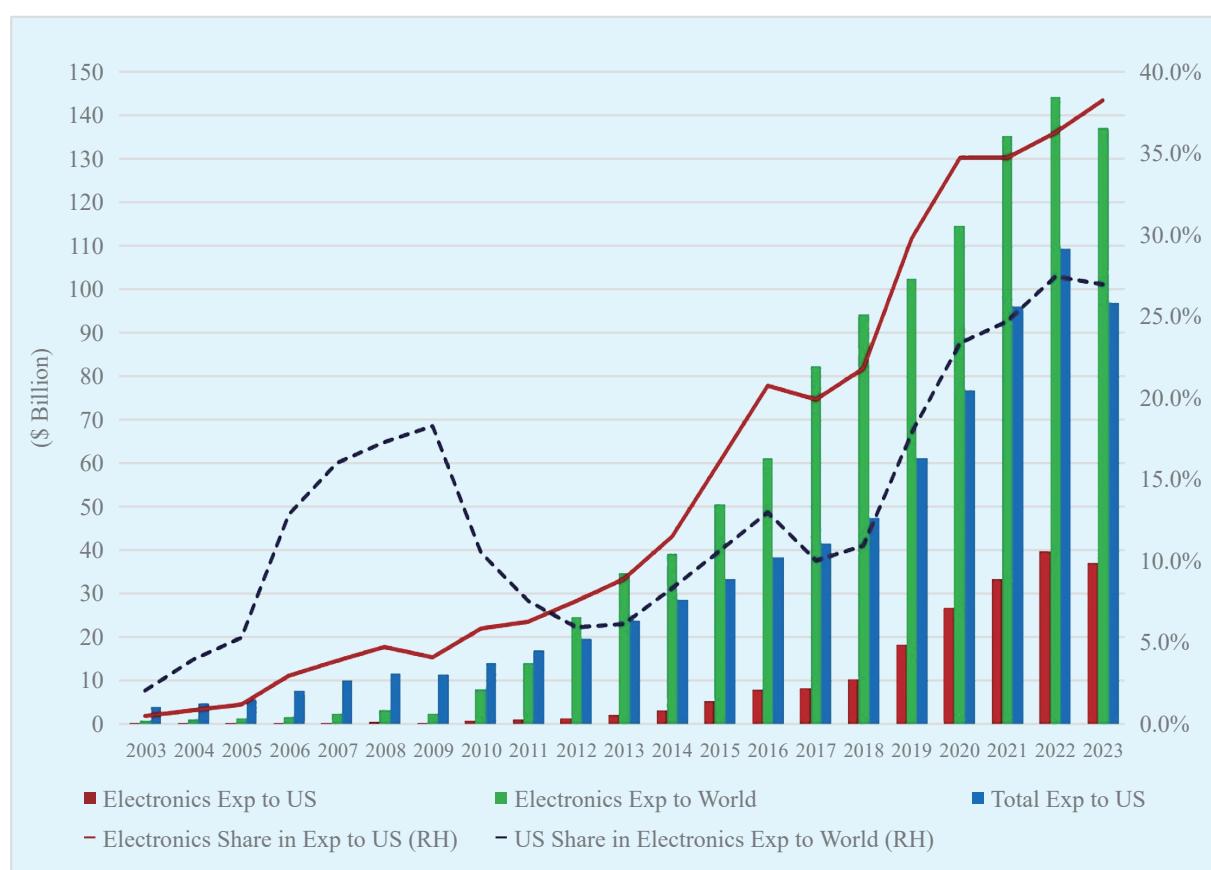
### Electronics Sector

Vietnam's electronics industry has become a pillar of industrialization, symbolizing the nation's transition from low-tech assembly to high-value manufacturing. Anchored by major foreign investors such as Intel, Samsung, and LG, the sector's export value reached US\$145 billion in 2023, accounting for over one-third of total exports (Figure 2). This growth demonstrates Vietnam's agility in capturing global value chain shifts—but also exposes vulnerabilities to external shocks and trade policy shifts, particularly U.S. protectionism.

While the electronics industry's export growth has been remarkable, it also faces challenges.

Between 2017 and 2022, export value increased 1.8 times, yet profit growth slowed, returning to its 2017 level only by 2022 (Figure 3). Over 2019–2022, the fixed asset value per worker remained below the economy-wide average and declined slightly, while the number of firms in the sector showed slowing growth (Table 6). These patterns underscore Vietnam's limited value-added capture and the relatively slow pace of capital-intensive upgrading (reflected in asset investment per worker) as well as weak development of supporting industries (indicated by growth of the number of enterprises).

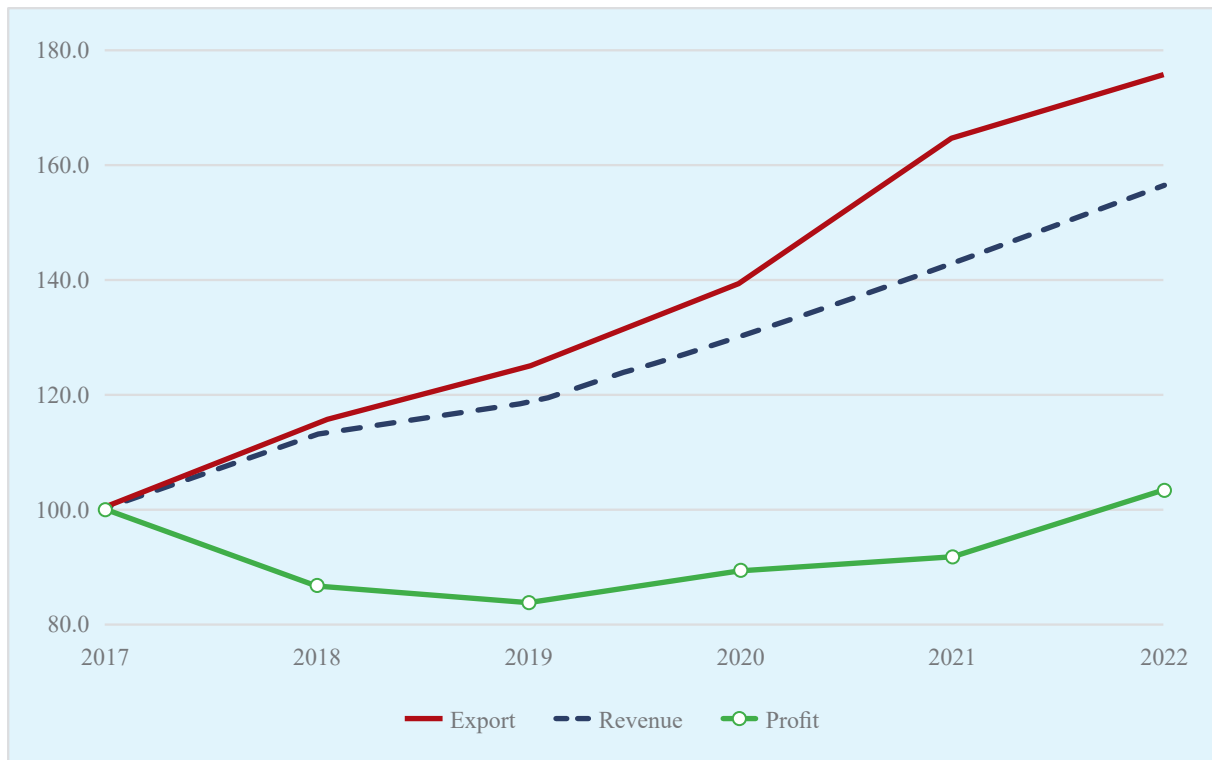
In response, Vietnam has articulated a strategy to make strenuous efforts not only to strengthen supporting industries and innovation but also to



**FIGURE 2**

**Vietnam's Electronics Exports, 2003–2023**

Source: ASEAN Statistics.



**FIGURE 3**  
**Growth Trajectories of Vietnam’s Electronics Industry, 2017–2022**

Source: GSO.

Note: 2017=100

seize emerging opportunities for technological upgrading and diversification driven by frontier technologies. The global transition towards AI, semiconductors, and smart manufacturing presents both disruption and opportunity. Vietnam’s digitally literate workforce and robust FDI ecosystem offer a strong foundation to move up the value chain—into semiconductor packaging, embedded systems, and AI-integrated components.

In particular, the National Semiconductor Strategy (MOIT, 2025) sets out ambitious goals: training 50,000 engineers, expanding R&D centers (for example, Samsung’s US\$220 million facility in Hanoi), and developing high-tech parks in Hoa Lac, Da Nang, and Ho Chi Minh City. These initiatives aim to shift Vietnam’s electronics industry

from export-driven expansion to innovation-led value creation, consistent with Vision 2045.

In sum, Vietnam’s electronics industry represents both its greatest industrial success and its deepest vulnerability. Sustaining momentum may require robust coordinated efforts along the five directions: upgrading technology and productivity to strengthen domestic competitiveness; developing supporting industries to increase local value-added; expanding and modernizing the skilled labor base; harnessing emerging opportunities in semiconductors and AI; and diversifying export markets to reduce exposure to geopolitical and trade risks. The industry’s next transformation will depend on whether Vietnam can evolve from a global assembler into an innovator of technology and value.

**TABLE 6**

Selected Indicators on Electronics Industry, Manufacturing Sector, and Total Economy of Vietnam, 2019–2022

Indicator	Sector	2019	2022	Compound annual growth rate	Total economy=100	
				2019–2022	2019	2022
Firm number (thousand)	Total Economy	669	736	3.2	100.0	100.0
	Manufacturing	110	115	1.4	16.4	15.6
	Electronics Industry	2.5	2.5	-0.1	0.4	0.3
Employment (thousand workers)	Total Economy	15,152	15,342	0.4	100.0	100.0
	Manufacturing	7,558	7,654	0.4	49.9	49.9
	Electronics Industry	756	829	3.1	5.0	5.4
Fixed asset (US\$ billion)	Total Economy	656.0	762.9	5.2	100.0	100.0
	Manufacturing	168.3	194.7	5.0	25.7	25.5
	Electronics Industry	24.2	25.6	1.9	3.7	3.4
Fixed Asset per Worker (thousand US\$)	Total Economy	43.3	49.7	4.7	100.0	100.0
	Manufacturing	22.3	25.4	4.5	51.4	51.2
	Electronics Industry	32.1	30.9	-1.2	74.0	62.1
Monthly wage (US\$)	Total Economy	405	494	6.9	100	100
	Manufacturing	372	455	7.0	92	92
	Electronics Industry	435	540	7.5	108	109

Source: GSO.

# 4.

## POLICY RECOMMENDATIONS FOR ACCELERATING VIETNAM'S INDUSTRIALIZATION

Building on the preceding analysis, this section outlines seven strategic and actionable levers to accelerate Vietnam's industrial upgrading and position the country as a high-income, innovation-driven economy by 2045.

### 4.1

#### Build the Developmental State for Economic Takeoff

Vietnam's next transformation may require efforts to further build a developmental state—one that combines political stability, policy coherence, and performance-based governance to drive national transformation. To escape the middle-income trap and achieve economic takeoff, it is suggested that Vietnam actively advance reform efforts along three interlinked value dimensions, with robust leverage of digital and AI transformation (Figure 4).

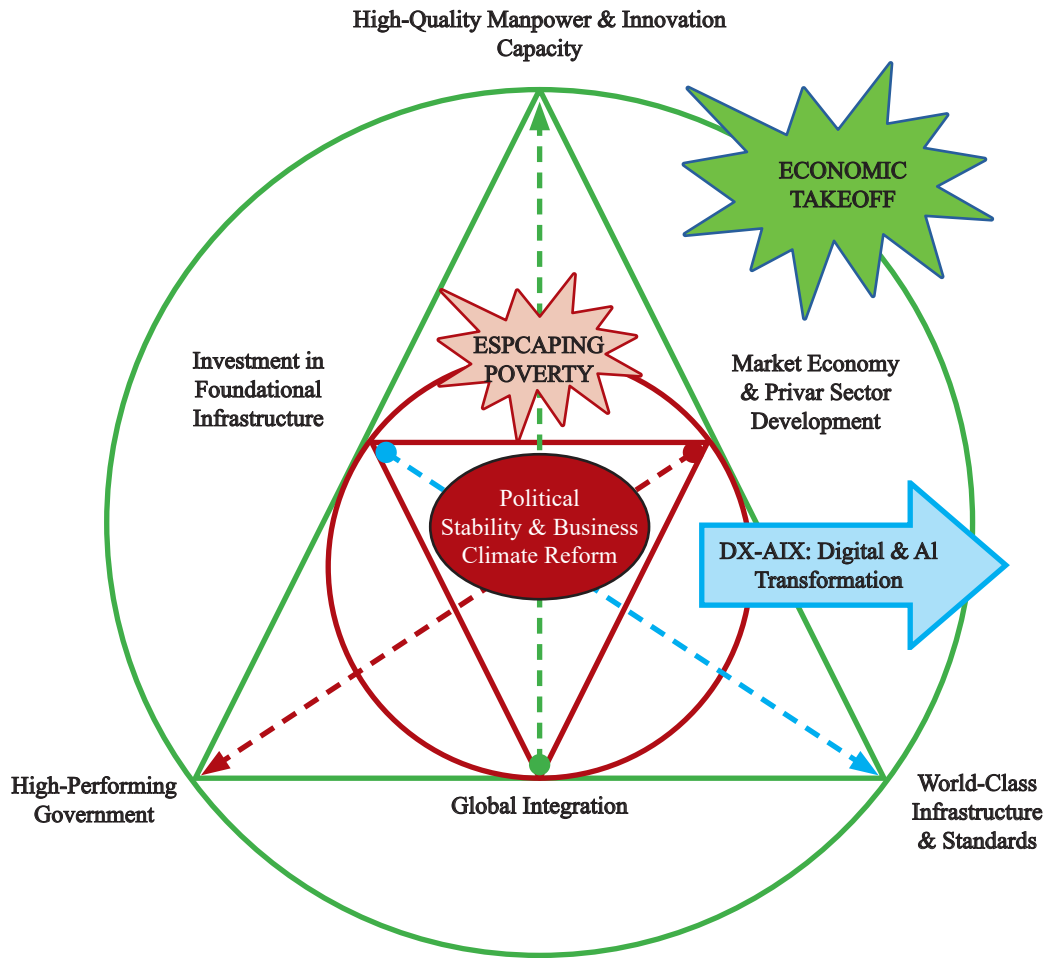
Dimension 1—From market promotion to high-performing government. Vietnam's earlier success was anchored in market liberalization and private sector promotion. The next phase may demand building a high-performing, mission-oriented government capable of strategic coordination, disciplined implementation, and policy learning. Strengthening merit-based institutions, performance accountability, and cross-ministerial coordination is essential to transform fragmented

administration into cohesive state capability.

Dimension 2 – From foundational infrastructure to world-class infrastructure and standards. It is suggested that Vietnam aims for quality and excellence, moving beyond the focus on quantity and access. This means modernizing infrastructure—energy, transport, digital, and regulatory—towards world-class standards that attract high-value industries and enable seamless global connectivity. Strategic public investment could be guided by AI-driven planning, sustainability benchmarks, and technological integration.

Dimension 3 – From global integration to high-quality manpower and innovation capacity. Integration into global markets has fueled Vietnam's industrial rise; to sustain this momentum, a deeper focus on capacity building may be considered. It is recommended that the current focus shifts towards human capital excellence, research capacity, and innovation ecosystems. Investing in education, technical skills, and R&D linkages between universities and industries will nurture indigenous innovation and technological leadership.

Together, these reforms will redefine Vietnam's state capacity. A truly developmental state will not only maintain stability and business confidence but also mobilize collective effort for transformation, ensuring Vietnam's ascent towards a high-income, innovation-driven economy by 2045.



**FIGURE 4**

Strategic Priorities for the Developmental State to Propel Vietnam's Economic Takeoff

Source: Vu 2025.

## 4.2 Strengthen Strategic Coordination and Foresight Capacity

Vietnam could strengthen strategic coherence and long-term foresight in its transformation. A whole-of-government coordination system could be institutionalized to align sectoral and regional priorities under a unified Vision 2045 framework. This entails: 1) establishing a National Development Strategy Command Center (NDSCC) to orchestrate inter-ministerial coordination, monitor implementation, and

ensure accountability; 2) launching participatory foresight exercises that engage government, business, academia, and civil society to co-create transformation roadmaps for 20–30 priority sectors—including electronics, semiconductors, digital services, and green manufacturing; and 3) using these roadmaps to define clear 2045 destinations, interim milestones, key enablers, and institutional responsibilities. Efforts could be made to embed a culture of foresight, collaboration, and adaptive learning across the policy ecosystem.

## 4.3

### **Institutionalize AI-Driven Policy and Governance Innovation & Accelerate AI-Enabled Digital Transformation**

AI is reshaping governance and productivity worldwide. Vietnam could integrate AI-driven policymaking and digital transformation to modernize both state and industry. A Regulatory Intelligence Platform within the NDSCC could employ AI to: 1) conduct continuous legal and policy reviews assessing clarity, coherence, and alignment with national goals; 2) benchmark against countries at more advanced stages of development; and 3) publish annual Legal Readiness Reports to enhance transparency and investor confidence.

In parallel, a National AI Transformation and Industrial Upgrading Initiative can advance four pillars. 1) Empowering businesses: Support AI, GenAI, and Agent-AI adoption through pilot projects (“AI Smart Factory,” “AI Logistics”) and academia-industry collaboration. 2) AI-enabled government: Deploy Agent AI for service delivery and compliance; build integrated data platforms; and pilot AI-powered smart-city governance. 3) AI-ready workforce: Integrate AI and data science education nationwide; scale reskilling and apprenticeship programs. 4) AI innovation ecosystem: Establish AI research hubs, regulatory sandboxes, and ethical cross-border frameworks. Together, these measures would transform governance from reactive compliance to proactive, data-driven adaptation, making AI a general-purpose enabler of institutional excellence.

## 4.4

### **Upgrade Technology and Industrial Ecosystems**

Industrial upgrading requires combining strategic technology acquisition with innovation-driven ecosystems. A National Technology Acquisition and Innovation Acceleration Program can pursue: 1) Strategic technology sourcing: Target cost-effective, mature technologies from partners such as China, the ROK, and the EU in priority areas (semiconductors, renewable energy and agri-tech). 2) Technology transfer and localization: Expand FDI incentives for joint ventures and local supplier integration. 3) Applied Innovation: Foster university–industry collaboration for adaptation, prototyping, and commercialization. 4) Knowledge exchange networks: Create structured exchanges and “technology scouts” for global learning. 5) R&D incentives: Align tax and grant frameworks with regional benchmarks.

The proposed Vietnam Advanced Remanufacturing and Technology Centre (VARTC)—modeled after Singapore’s A\*STAR Advanced Remanufacturing and Technology Centre—would connect multinational corporations (MNCs), small and medium-sized enterprises (SMEs), and researchers to accelerate Industry 4.0 adoption.

## 4.5

### **Modernize Infrastructure for High-Value Industrialization**

Infrastructure modernization serves as the strategic backbone of Vietnam’s next industrial era. Three priorities stand out: 1) Smart Power Systems: Scale renewable generation, deploy AI-driven grids and energy storage, and ensure reliable, affordable electricity for advanced manufacturing and data centers. 2) Urban Transit Modernization: Expand metro networks in

Hanoi and Ho Chi Minh City, integrate industrial corridors, and reduce congestion and emissions. 3) Smart Ports and Logistics Hubs: Upgrade Hai Phong, Cai Mep–Thi Vai, and Long Thanh into AI-enabled multimodal gateways; digitalize supply chains and customs operations.

Effective execution will depend less on capital and more on governance effectiveness—including reliability, transparent procurement, project-management consultancy models, and independent oversight.

### 4.6 Develop a Future-Ready Workforce

Vietnam's demographic window offers a decisive opportunity to convert population advantage into innovation capital. A Comprehensive Workforce Transformation Program can: 1) reform education to embed STEM, AI, and sustainability skills from early levels; 2) forge public–private training partnerships with MNCs and domestic enterprises; 3) establish centers of excellence in AI, advanced manufacturing, and entrepreneurship near major industrial parks; and 4) position Vietnam as a regional education and upskilling hub for ASEAN's digital and

green workforce. By reframing human capital as a strategic asset, Vietnam can nurture a skilled, adaptive, and innovation-ready labor force—the foundation of Vision 2045.

### 4.7 Deepen Global Integration and Strategic Partnerships

To sustain growth amid global realignment, Vietnam could deepen high-quality international partnerships and upgrade its integration model. Below are suggested priorities for action: 1) Develop innovation-oriented Free Trade Zones (FTZs) that pilot regulatory reform, green and digital industries, and AI-enabled governance, integrating industrial, logistics, education, and research functions within unified ecosystems. 2) Strengthen collaboration with Singapore on logistics, fintech, green regulation, and talent development—anchoring institutional modernization. 3) Leverage China's technological ecosystem for pragmatic technology transfer, industrial upgrading, and co-exporting models to emerging markets. 4) Advance ASEAN integration beyond trade to digital connectivity, green standards, labor mobility, and cross-border education—positioning Vietnam as a regional rule-shaper and innovation hub.

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## Introduction to the Global South Research Center

The Global South Research Center (GSRC) was announced by Chinese President Xi Jinping at the Conference Marking the 70th Anniversary of the Five Principles of Peaceful Coexistence in June 2024, and formally launched in March 2025.

The GSRC is an international research platform involving experts and scholars from South and North countries and international organizations. The GSRC's primary responsibilities are to consolidate research resources from around the world, particularly from Global South countries and relevant international and regional organizations, and to carry out research, consultation, and exchange activities concerning key and major issues related to the development and cooperation of the Global South.

The GSRC establishes a Council, chaired by the Minister of the Development Research Center of the State Council (DRC) Lu Hao. The Secretariat of the Council is hosted at the Center for International Knowledge on Development (CIKD).

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